

ENGINEERING SERVICES AGREEMENT

THIS IS AN AGREEMENT made as of _____, 2024, between the LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT (**OWNER**) and Palmer Engineering, 1040 Monarch Street, Suite 210, Lexington, Kentucky 40513 (**CONSULTANT**). **OWNER** intends to proceed with the Wolf Run Watershed Management Plan Update as described in the attached Exhibit A, “**RFP #53-2023.**”

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. Project Phase

After written authorization to proceed, **CONSULTANT** shall:

- 1.2.1.** Notify the **OWNER** in writing of its authorized representative who shall act as Project Engineer and liaison representative between the **CONSULTANT** and the **OWNER**.
- 1.2.2.** The **CONSULTANT** **must perform all duties** necessary to fully complete the deliverables described in attached Exhibit A "Wolf Run Watershed Management Plan Update RFP #53-2023" (including Appendices A & B), and attached Exhibit C the "Proposal of Engineering Services and Related Matters" (the **CONSULTANT's** response to RFP #53-2023)"

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.**

- 1.2.3** The **CONSULTANT** shall provide written documentation of all meetings and be responsible for incorporating all comments and changes resulting therefrom in final work product.
- 1.2.4.** The **CONSULTANT** shall post all initial draft work products on the project document management portal. If the project document management portal is not

functional on the draft posting date, the **CONSULTANT** shall submit five (5) copies (hardcover) of all initial draft final work products for this **PROJECT**. 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**.

- 1.2.5. 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 post all draft final work products on the project document management portal. If the project document management portal is not functional on the draft posting date, the **CONSULTANT** shall five (5) copies (hardcover). 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 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.
- 1.2.6 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 render in writing decisions pertaining thereto 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 with respect to the services to be rendered under this Agreement. 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 Contractor(s).
- 3.6. Furnish or direct **CONSULTANT** to provide, necessary 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. See attached Exhibit C "Proposal of Engineering Services and Related Matters" for the 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/Final Task Order 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**/Final Task Order within ninety (90) days of the time specified therein, **OWNER** shall have the option of cancelling the **PROJECT**/Final Task Order or otherwise adjusting the scope of the services or work and any related fees.
 - 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** 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 reasonably attempt to resolve the delay. If the parties cannot mutually agree to an extension of time or an adjustment, Section 6.5 under "DISPUTES" of this Agreement shall apply. If the above type of delay would prevent complete performance of the **PROJECT**/Final Task Order within ninety (90) days of the time specified therein, **OWNER** shall have the option of cancelling the **PROJECT**/Final Task Order or otherwise adjusting the scope of the services or work and any related fees.

SECTION 5 - PAYMENTS TO CONSULTANT

5.1. Methods of Payment for Services of CONSULTANT.

5.1.1. For Basic Services

OWNER shall issue a purchase order for in the amount of \$100,000 for work performed under this Agreement by **CONSULTANT** or its sub-consultant/s per **EXHIBIT C**.

5.2. Times of Payment

5.2.1. CONSULTANT shall submit 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 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 himself with and shall at all times comply with 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.
- 6.3.4.** The **CONSULTANT** understands that this Agreement is being paid in whole or in part by a federal grant (PON2 129 240000129) awarded to the **OWNER** by the Kentucky Division of Water (23-07). The Commonwealth of Kentucky Contract is attached hereto and incorporated herein by reference as **EXHIBIT A**.

6.4. Successors and Assigns

- 6.4.1.** **CONSULTANT** binds itself and his partners, successors, executors, administrators, assigns and legal representatives to this Agreement in respect to all covenants, agreements, and obligations of this Agreement. **CONSULTANT** shall not assign any interest, obligation or benefit in this Agreement. **CONSULTANT** shall not assign any interest, obligation or benefit in this Agreement nor transfer any interest in the same, whether by assignment or novation, without prior written consent of **OWNER**.
- 6.4.2.** The **CONSULTANT** shall not subcontract more than fifty percent (50%) of the work, based upon dollar value of the work. The **CONSULTANT** shall obtain written approval prior to subletting or assigning any services contained in this Agreement, and consent to sublet or assign any part of this Agreement shall not be construed to relieve the **CONSULTANT** of any responsibility for compliance with the provisions of this Agreement.
- 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 & 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

The **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.

The **CONSULTANT** shall be responsible for the accuracy of all work, even though raw data, reports, Drawings and Specifications have been accepted by the **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 the **OWNER**, the **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 the **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 except the **OWNER** without prior approval of the **OWNER** unless required by law

6.8. Access to Records

The **CONSULTANT** and his 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 five (5) 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 five (5) years after the date of final payment may be grounds for the **OWNER** to disqualify the **CONSULTANT** from consideration for future consultant engineering Agreements, and **CONSULTANT** agrees to indemnify **OWNER**, as provided in Section 6.9.2. due to **CONSULTANT'S** failure to maintain records as required by this Section.

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. 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.

6.9.4. INSURANCE REQUIREMENTS

6.9.4.1. 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.

6.9.4.2. 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.

6.9.4.3. 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.

6.9.5. 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**.

6.9.6. DEFINITION OF DEFAULT

CONSULTANT understands and agrees that the failure to comply with any of these 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.

7.2.1. 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 Jennifer Carey, P.E., Director of the Division of Environmental Services (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, and C** 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 A

**REQUEST FOR PROPOSALS FOR
WOLF RUN WATERSHED MANAGEMENT PLAN UPDATE**

RFP#53-2023



Lexington-Fayette Urban County Government

Request for Proposals

The Lexington-Fayette Urban County Government hereby requests proposals for **RFP #53-2023 Update to Wolf Run Watershed Management Plan** to be provided in accordance with terms, conditions and specifications established herein.

Sealed proposals will be received through Ion Wave until **2:00 PM**, prevailing local time, on **January 12, 2024**. All forms and information requested in RFP must be included and attached in Response Attachments tab in Ion Wave.

Proposals received after the date and time set for opening proposals will not be accepted. It is the sole responsibility of the Proposer to assure that his/her proposal is submitted in Ion Wave before the date and time set for opening proposals.

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

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

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.

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.

AMERICAN RESCUE PLAN ACT

AMENDMENT 1 — CERTIFICATION OF COMPLIANCE FOR EXPENDITURES USING FEDERAL FUNDS, INCLUDING THE AMERICAN RESCUE PLAN ACT

The Lexington-Fayette Urban County Government (“LFUCG”) may use Federal funding to pay for the goods and/or services that are the subject matter of this bid. That Federal funding may include funds received by LFUCG under the American Rescue Plan Act of 2021. Expenditures using Federal funds require evidence of the contractor’s compliance with Federal law. Therefore, by the signature below of an authorized company representative, you certify that the information below is understood, agreed, and correct. 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.

The bidder (hereafter “bidder,” or “contractor”) agrees and understands that in addition to all conditions stated within the attached bid documents, the following conditions will also apply to any Agreement entered between bidder and LFUCG, if LFUCG uses Federal funds, including but not limited to funding received by LFUCG under the American Rescue Plan Act (“ARPA”), toward payment of goods and/or services referenced in this bid. The bidder also agrees and understands that if there is a conflict between the terms included elsewhere in this Request for Proposal and the terms of this Amendment 1, then the terms of Amendment 1 shall control. The bidder further certifies that it can and will comply with these conditions, if this bid is accepted and an Agreement is executed:

1. Any Agreement executed as a result of acceptance of this bid may be governed in accordance with 2 CFR Part 200 and all other applicable Federal law and regulations and guidance issued by the U.S. Department of the Treasury.

2. Pursuant to 24 CFR § 85.43, any Agreement executed as a result of acceptance of this bid can be terminated if the contractor fails to comply with any term of the award. This Agreement may be terminated for convenience in accordance with 24 CFR § 85.44 upon written notice by LFUCG. Either party may terminate this Agreement with thirty (30) days written notice to the other party, in which case the Agreement shall terminate on the thirtieth day. In the event of termination, the contractor shall be entitled to that portion of total compensation due under this Agreement as the services rendered bears to the services required. However, if LFUCG suspects a breach of the terms of the Agreement and/or that the contractor is violating the terms of any applicable law governing the use of Federal funds, LFUCG may suspend the contractor’s ability to receive payment by giving thirty (30) days’ advance written notice. Further, either party may terminate this Agreement for cause shown with thirty (30) days written notice, which shall explain the party’s cause for the termination. If the parties do not reach a settlement before the end of the 30 days, then the Agreement shall terminate on the thirtieth day. In the event of a breach, LFUCG reserves the right to pursue any and all applicable legal, equitable, and/or administrative remedies against the contractor.

3. The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The contractor will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following:

- (1) 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

apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

- (2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.
- (3) The contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.
- (4) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- (5) The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- (6) The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- (7) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part, and the contractor may be declared ineligible for further government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- (8) The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance.

Provided, however, that in the event a contractor becomes involved in or is threatened with litigation with a subcontractor or vendor as a result of such direction by the administering agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

4. If fulfillment of the contract requires the contractor to employ mechanic's or laborers, the contractor further agrees that it can and will comply with the following:

- (1) *Overtime requirements: No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such a workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such a workweek.*

- (2) *Violation: liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory) for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this section.*
- (3) *Withholding for unpaid wages and liquidated damages. LFUCG shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this section.*
- (4) *Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower-tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower-tier subcontractor with the clauses set forth in paragraphs (1) through (4) of this section.*

5. The contractor shall comply with all applicable standards, orders, or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. § 7401 et seq.

6. The contractor shall report each violation to LFUCG and understands and agrees that LFUCG will, in turn, report each violation as required to assure notification to the Treasury Department and the appropriate Environmental Protection Agency Regional Office.

7. The contractor shall include these requirements in numerical paragraphs 5 and 6 in each subcontract exceeding \$100,000 financed in whole or in part with Federal funding.

8. The contractor shall comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. § 1251 et seq.

9. The contractor shall report each violation to LFUCG and understands and agrees that LFUCG will, in turn, report each violation as required to assure notification to the Treasury Department and the appropriate Environmental Protection Agency Regional Office.

10. The contractor shall include these requirements in numerical paragraphs 8 and 9 in each subcontract exceeding \$100,000 financed in whole or in part with Federal funds.

11. The contractor shall comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. § 1251 et seq.

12. The contractor shall report each violation to LFUCG and understands and agrees that LFUCG will, in turn, report each violation as required to assure notification to the Treasury Department and the appropriate Environmental Protection Agency regional office.

13. The contractor shall include these requirements in numerical paragraphs 11 and 12 in each subcontract exceeding \$100,000 financed in whole or in part with American Rescue Plan Act funds.

14. The contractor shall include this language in any subcontract it executes to fulfill the terms of this bid: “the sub-grantee, contractor, subcontractor, successor, transferee, and assignee shall comply with Title VI of the Civil Rights Act of 1964, which prohibits recipients of federal financial assistance from excluding from a program or activity, denying benefits of, or otherwise discriminating against a person on the basis of race, color, or national origin (42 U.S.C. § 2000d et seq.), as implemented by the Department of the Treasury’s Title VI regulations, 31 CFR Part 22, which are herein incorporated by reference and made a part of this contract (or agreement). Title VI also includes protection to persons with ‘Limited English Proficiency’ in any program or activity receiving federal financial assistance, 42 U.S.C. § 2000d et seq., as implemented by the Department of the Treasury’s Title VI regulations, 31 CFR Part 22, and herein incorporated by reference and made a part of this contract or agreement.”

15. *Contractors who apply or bid for an award of \$100,000 or more shall file the required certification that it will not and has not used federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency. Each tier certifies to the tier above that it will not and has not used federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any federal contract, grant, or any other award covered by 31 U.S.C. § 1352. Each tier shall also disclose any lobbying with non-federal funds that takes place in connection with obtaining any federal award. Such disclosures are forwarded from tier to tier, up to the recipient. The required certification is included here:*

- a. The undersigned certifies, to the best of his or her knowledge and belief, that:
 - (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
 - (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, “Disclosure Form to Report Lobbying,” in accordance with its instructions.
 - (3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.
- b. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

16. The contractor acknowledges and certifies that it has not been debarred or suspended and further acknowledges and agrees that it must comply with regulations regarding debarred or suspended entities in accordance with 24 CFR § 570.489(l). Funds may not be provided to excluded or disqualified persons.

17. The contractor agrees and certifies that to the greatest extent practicable, it will prefer the purchase, acquisition, and use of all applicable goods, products or materials produced in the United States, in

conformity with 2 CFR 200.322 and/or section 70914 of Public Law No. 117-58, §§ 70901-52, also known as the Infrastructure Investment and Jobs Act, whichever is applicable.

18. The contractor agrees and certifies that all activities performed pursuant to any Agreement entered as a result of the contractor's bid, and all goods and services procured under that Agreement, shall comply with 2 C.F.R. § 200.216 (Prohibition on certain telecommunications and video surveillance services and equipment) and 2 C.F.R. 200 § 200..323 (Procurement of recovered materials), to the extent either section is applicable.

19. If this bid involves construction work for a project totaling \$10 million or more, then the contractor further agrees that all laborers and mechanics, etc., employed in the construction of the public facility project assisted with funds provided under this Agreement, whether employed by contractor, or contractor's contractors, or subcontractors, shall be paid wages complying with the Davis-Bacon Act (40 U.S.C. 3141-3144). Contractor agrees that all of contractor's contractors and subcontractors will pay laborers and mechanics the prevailing wage as determined by the Secretary of Labor and that said laborers and mechanics will be paid not less than once a week. The contractor agrees to comply with the Copeland Anti- Kick Back Act (18 U.S.C. § 874) and its implementing regulations of the U.S. Department of Labor at 29 CFR part 3 and part 5. The contractor further agrees to comply with the applicable provisions of the Contract Work Hours and Safety Standards Act (40 U.S.C. Section 327-333), and the applicable provisions of the Fair Labor Standards Act of 1938, as amended (29 U.S.C. et seq.). Contractor further agrees that it will report all suspected or reported violations of any of the laws identified in this paragraph to LFUCG.

Signature

Date

SELECTION CRITERIA:

Project Team Outline (20 Points): Provide complete information that explains the relationship between team members and their respective roles and expected contributions to this project. The project team includes the lead plus any key members such as environmental experts, engineers, sub-consultants, etc. who are critical for the consideration by the evaluation team.

Statement of Qualifications (30 Points): Describe the project team's experience, within the past 8 years, related to watershed and regional scale planning, stormwater management planning, environmental restoration, and projects working with a broad range of stakeholders. Submit a summary page on previous approved plans and a website link.

Approach and Methodology (30 Points): Create and submit a timeline for this project (not to exceed 24 months). Include additional tasks and/or remove any tasks stated above that consultant deems unnecessary that will improve the project, reduce costs and time, or provide value-added options.

Proposed Cost for Services (15 Points): Fill in the table with cost per task and include any notes or additional tasks with associated cost.

Degree of local employment (5 Points): the level of local employment to be used by the person or firm in performance of this contract.

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.

Bidders

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

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 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.
- 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 MWDBE 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 Bynes	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@nwbo.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 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.

NOTE: Failure to submit any of the documentation requested in this section may 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

Company Representative

Date

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 bid, 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 Bid 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. Contractor understands and agrees that its employees, agents, or subcontractors are not employees of LFUCG for any purpose whatsoever. Contractor 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. Contractor [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. Contractor agrees that it shall cease and desist from any unauthorized use immediately upon being notified by LFUCG.

Signature

Date

**RISK MANAGEMENT PROVISIONS
INSURANCE AND INDEMNIFICATION**

INDEMNIFICATION AND HOLD HARMLESS PROVISION

- (1) It is understood and agreed by the parties that Contractor 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 Contractor or its employees, agents, servants, owners, principals, licensees, assigns or subcontractors of any tier (hereinafter "CONTRACTOR") 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) CONTRACTOR 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 CONTRACTOR'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 CONTRACTOR; and (b) not caused solely by the active negligence or willful misconduct of LFUCG.
- (3) In the event LFUCG is alleged to be liable based upon the above, CONTRACTOR 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.
- (4) These provisions shall in no way be limited by any financial responsibility or insurance requirements, and shall survive the termination of this agreement.
- (5) LFUCG is a political subdivision of the Commonwealth of Kentucky. CONTRACTOR acknowledges and agrees that LFUCG is unable to provide indemnity or otherwise save, hold harmless, or defend the CONTRACTOR in any manner.
- (6) Notwithstanding, the foregoing with respect to any professional services performed by CONTRACTOR hereunder (and to the fullest extent permitted by law), CONTRACTOR 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 CONTRACTOR in the performance of this agreement.

FINANCIAL RESPONSIBILITY

BIDDER/CONTRACTOR understands and agrees that it shall demonstrate the ability to assure compliance with the above Indemnity provisions and these other risk management provisions prior to final acceptance of its bid and the commencement of any work or provision of goods.

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

BIDDER/CONTRACTOR 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 hereunder by CONTRACTOR. The cost of such insurance shall be included in any bid:

<u>Coverage</u>	<u>Limits</u>
General Liability aggregate (Insurance Services Office Form CG 00 01)	\$1 million per occurrence, \$2 million or \$2 million combined single limit
Auto Liability	\$1 million per occurrence
Worker's Compensation	Statutory
Employer's Liability	\$100,000
Professional (E&O Liability)	\$1 million per claim

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 (DOI). 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. 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.
- d. 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 BIDDER/CONTRACTOR'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

Safety and Loss Control

CONTRACTOR 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

BIDDER/CONTRACTOR 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

CONTRACTOR 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

BIDDER/CONTRACTOR 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 BIDDER/CONTRACTOR for any such insurance premiums purchased, or suspending or terminating the work.

ENGINEERING SERVICES AGREEMENT

THIS IS AN AGREEMENT made as of _____, 2022, 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 # (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 # (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 #).
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 #, **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 #, 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 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:

<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:

BY: _____
LINDA GORTON, MAYOR

BY: _____

DRAFT

EXHIBIT B

Certificate of Insurance

and

Evidence of Insurability

DRAFT

EXHIBIT C

Proposal of Engineering Services

and

Related Matters

DRAFT

EXHIBIT D

Further Description of Basic Engineering Services

and

Related Services

DRAFT

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.*

Appendix C

LFUCG Watershed-Focused Monitoring QAPP

REQUEST FOR PROPOSALS
RFP #53-2023
WOLF RUN WATERSHED MANAGEMENT PLAN UPDATE

SUMMARY

Lexington-Fayette Urban County Government (LFUCG)'s Division of Environmental Services (DES) has received a FY23 EPA §319 grant (PON2 129 2400000129; KDOW Project Number 23-07) to update the Wolf Run Watershed Management Plan (2013) using Kentucky Division of Water Guidance (2022) (Appendix A). LFUCG is requesting proposals to update this plan based on the below overview and scope of work.

The Wolf Run Watershed, Hydrologic Unit Code (HUC) number 05100205270-070, is a 10.18 square mile (6,514 acre) watershed located entirely within Fayette County, Kentucky. The Wolf Run Watershed drains into Town Branch, which flows into South Elkhorn Creek and on to the Kentucky River. Wolf Run and Vaughn's Branch are the two main tributaries in the watershed.

The Wolf Run Watershed Management Plan (WRWMP) was approved by the EPA in 2013, and since the completion of this plan, 30-40 of the identified projects have been implemented and recommended studies completed. One goal of the WMP Update is to use the results from LFUCG Watershed-Focused Monitoring Program, complete two additional wet weather monitoring events, and compare original water quality data to the recently-collected data to see if these projects have made an improvement in the water quality of the watershed. In addition, the new water quality monitoring information will be used to update the pollutant load calculation worksheets and determine if any additional projects need to be added to the WRWMP BMP Table. Several other studies, such as the Urban Tree Canopy Report (UTC, 2022) should also be used to identify additional small scale projects with the watershed. New water quality maps and BMP implementation maps will be created and this information will be shared through an interactive map on-line (similar to the tool created for the West Hickman Watershed). The end goal is to add this updated BMP Table as an approved addendum to the WRWMP, 2013.

Completed projects and studies from the 2013 WRWMP shall be identified, removed from the active BMP table, and placed in an addendum. Each completed BMP shall include baseline information, including but not limited to, who completed the BMP, timeline, cost, links to the project/study, ongoing maintenance activities, etc.

The Wolf Run Watershed has a very active non-profit group, Friends of Wolf Run (FOWR), which started in 1997. This group already has a large outreach within the community, and LFUCG will work closely with them to engage the public in this update. Specifically, this group will be used to assist in running and advertising the Wolf Run Watershed Council meetings, advertising the project scope and timeline, gathering additional project ideas for the BMP Table, and reviewing the educational material produced. The Wolf Run Watershed Council (WRWC) will meet, at a minimum, quarterly to review project scope, timelines, any draft materials produced, and gather input on educational material and additional projects for the BMP Table.

SCOPE OF WORK

Complete an updated KDOW and EPA §319-approved WMP for the Wolf Run Watershed.

Task 1: Project Management and Coordination

The consultant will organize, manage, and coordinate the services required to perform the scope of work. The consultant will provide project management to facilitate efficient progress on the project and will maintain ongoing, clear communication with the LFUCG project manager. A project schedule / timeline shall be created and agreed upon during the kick-off meeting. This is an EPA §319-funded project with goals, objectives and timelines (Appendix B).

1.1 Kick-Off Meeting

The consultant will facilitate a kick-off meeting, in-person, to review the scope of work, confirm the goals and limitations of the project, set a schedule, discuss critical issues, and discuss the project's purpose and need. This meeting will occur with appropriate LFUCG Departments and assigned personnel.

1.2 Ongoing Communication

At a minimum, monthly project updates will be provided via email to the LFUCG project manager.

1.3 Public Engagement

The consultant will attend, in person, Wolf Run Watershed Council Meetings to give an update on the plan progress and to collect input on BMPs. The schedule for these meetings are unknown at the moment, however, plan for six (6) evening meetings.

Friends of Wolf Run will have a direct contract with LFUCG to assist in hosting and publicizing these meetings.

1.4 Kentucky Division of Water

The consultant should plan on two meetings with KDOW to discuss questions, comments, concerns, etc. regarding the plan update.

Task 1 Deliverables

- Kick-Off meeting agenda and meeting summary, with approved project schedule / timeline.
- Monthly invoices and progress reports on each task.
- Slide presentations to be given during watershed council meetings.
- Meeting summaries from meetings held with KDOW staff.

Task 2: Review 2013 Watershed Management Plan

Identify chapters and sections of each chapter to be updated. This is not a comprehensive update; therefore, items that have not significantly changed should not be updated. Below are areas that should be reviewed for update, but this is not a comprehensive list. How these changes will be incorporated into the WMP will be discussed once a consultant is identified.

- Cover Page
- Chapter 1 - Introduction
 - Update as needed
- Chapter II - Watershed Information
 - No updated needed
- Chapter III - Monitoring

- Add information on additional monitoring completed to date.
- Chapter IV - Analysis
 - Updated Watershed Concentrations & Pollutant Loads and Reduction Targets per tasks below.
- Chapter V - BMP Selection
 - This is anticipated to be a completely updated chapter per tasks below.
- Chapter VI - Strategy for Success
 - BMP Implementation Table – Update per tasks below
 - Summary of BMPs – Update as needed
 - Funding Source – Update as needed
- Chapter VII - Implementation Oversight
 - Review and update, if needed

Task 3: Water Quality Data

- Complete two (2) wet weather sampling events using protocols, locations, and QAPP from LFUCG’s Watershed-Focused Monitoring Program (Appendix C).
- Use current data, as available, to estimate pollutant loads and load reduction needed
 - Third Rock will be completing QA/QC on the 2022/2023 water quality data collected during the LFUCG Watershed-Focused Monitoring Program. This data will be available in February 2024.
- Create maps showing current water quality information.

Task 4: Identify Solutions

- Use current data to identify critical areas
- Develop BMPs to achieve load reductions
 - This will include BMPs from 2013 action items, as well as identification of new BMPs to achieve load reductions.
 - These BMPs shall be ranked in order of priority (see West Hickman Watershed Management Plan <https://www.lexingtonky.gov/watershed-planning> as an example).
- Incorporate the Third Rock 2013 to 2023 data comparison into the identified solutions. This data will be available by April 2024.
- Update implementation schedule with new BMPs
- Create an online map with BMP information (refer to West Hickman Watershed BMP map on Hickman Creek Conservancy webpage <https://www.hickmancreek.org/WHWP>).
- Develop interim milestones to track implementation of management measures
- Develop criteria to measure progress toward meeting watershed goals

Task 5: Capturing Implemented BMPs

Create an addendum highlighting BMPs that have been implemented or studies completed from the 2013 plan. Each completed BMP is to have its own project information page that includes photos, if available, who completed the BMP, timeline, cost, links to the project/study, ongoing maintenance, etc.

Task 6: Final Approved Plan

Prepare a document that is approved by Kentucky Division of Water and EPA and that will be §319(h)-funding eligible. Respond to comments by KDOW and EPA as required (assume 6 months of review/question and response with agencies).

SUBMITTAL REQUIREMENTS

Interested consultants are required to have experience developing a WMP that has been approved by KDOW and EPA.

Project Team Outline (20 Points): Provide complete information that explains the relationship between team members and their respective roles and expected contributions to this project. The project team includes the lead plus any key members such as environmental experts, engineers, sub-consultants, etc. who are critical for the consideration by the evaluation team.

Statement of Qualifications (30 Points): Describe the project team's experience, within the past 8 years, related to watershed and regional scale planning, stormwater management planning, environmental restoration, and projects working with a broad range of stakeholders. Submit a summary page on previous approved plans and a website link.

Approach and Methodology (30 Points): Create and submit a timeline for this project (not to exceed 24 months). Include additional tasks and/or remove any tasks stated above that consultant deems unnecessary that will improve the project, reduce costs and time, or provide value-added options.

Proposed Cost for Services (15 Points): Fill in the table on the next page with cost per task and include any notes or additional tasks with associated cost.

Degree of Local Employment (5 Points): Please provide the level of local employment that will be used in the performance of this work as a percentage of the total work.

Table of Proposed Costs by Task

Task	Proposed Cost	Team Member Responsible	Notes
Task 1: Project Management and Coordination			
Task 2: Review 2013 Watershed Management Plan			
Task 3: Water Quality Data			
Task 4: Identify Solutions			
Task 5: Capturing Implemented BMPs			
Task 6: Final Approved Plan			
Additional Tasks or Task Reduction			

Appendix A

Kentucky Division of Water Guidance

Watershed Plan Update Guidance:

Watershed Plans are designed to be dynamic and living documents. The KY Division of Water encourages partners to provide amendments to reflect lessons learned and project adjustments. There are two ways to update a watershed plan: (1) a full update of A-I Criteria for the watershed or (2) an update to the BMP Implementation plan based on updated sampling.

1. Approval process for a complete update of A-I Criteria for a watershed

<input type="checkbox"/>	The following items must be submitted to DOW for review: <ul style="list-style-type: none"> • Watershed Plan that includes A-I Criteria • Data Package: <ul style="list-style-type: none"> ○ Spreadsheet of all results ○ Field Sheets ○ Load Reduction Calculations
<input type="checkbox"/>	Upon submission to KY DOW, an internal review of A-I Criteria will take place <ul style="list-style-type: none"> <input type="checkbox"/> Section Supervisor review, comment or approval <input type="checkbox"/> Assigned TA review, comment or approval <input type="checkbox"/> GIS & Data Analysis review, comment or approval <input type="checkbox"/> Water Quality Branch, Intensive survey view, comment or approval
<input type="checkbox"/>	After internal review, any comments must be sent to project partner for response.
<input type="checkbox"/>	Upon receiving response to comments or concerns, KY DOW may approve the updated full watershed plan
<input type="checkbox"/>	The updated DOW approved A-I Criteria watershed plan shall be sent to EPA for approval
<input type="checkbox"/>	EPA has 30 days to review submitted watershed plans and submit comments or approval
<input type="checkbox"/>	Upon receiving EPA approval, the full updated watershed plan may apply for 319 Implementation funding



2. Approval process for an update to the BMP Implementation Plan

<input type="checkbox"/>	The following items must be submitted to DOW for review: <ul style="list-style-type: none">• Updated BMP Implementation plan as an Addendum to the Watershed Plan• If applicable, a data Package:<ul style="list-style-type: none">○ Spreadsheet of all results○ Field Sheets○ Load Reduction Calculations
<input type="checkbox"/>	Upon submission to KY DOW, an internal review of data and BMP Plan will take place <ul style="list-style-type: none"><input type="checkbox"/> Section Supervisor review, comment or approval<input type="checkbox"/> Assigned TA review, comment or approval<input type="checkbox"/> GIS & Data Analysis review, comment or approval<input type="checkbox"/> Water Quality Branch, Intensive survey view, comment or approval
<input type="checkbox"/>	After internal review, all comments shall be sent to project partner for response.
<input type="checkbox"/>	Upon receiving response to comments or concerns, KY DOW may approve the Addendum to the Watershed Plan
<input type="checkbox"/>	Once approved, the Addendum and updated BMP are eligible for 319 Implementation Funding.



Appendix B

Commonwealth of Kentucky Contract for Wolf Run Watershed Water Quality Basins and Update



Commonwealth of Kentucky

CONTRACT

DOC ID NUMBER:

PON2 129 2400000129

Version: 1

Record Date:

Document Description: Wolf Run Watershed Water Quality Basins and Update

 Cited Authority: PL319
Federal Clean Water Act

Reason for Modification:

Issuer Contact:

 Name: MICHAEL REED
 Phone: 502-782-7046
 E-mail: Mike.Reed@ky.gov

Vendor Name:	Vendor No.	KY0032969
LEXINGTON FAYETTE URBAN CO GOVERNMENT	Vendor Contact	
	Name:	Demetria Kimball Mehlhorn
200 EAST MAIN STREET	Phone:	8594252554
	Email:	dkimball@lexingtonky.gov
LEXINGTON	KY 40507	

Effective From: 11/01/2023

Effective To: 09/30/2027

Line Item	Delivery Date	Quantity	Unit	Description	Unit Price	Contract Amount	Total Price
1		0.00000		Wolf Run Watershed Water Quality Basins and Update	\$0.000000	\$320,000.00	\$320,000.00

Extended Description:

Through this project, LFUCG will improve water quality within the Wolf Run Watershed through implementing Best Management Practices (BMPs) and Chapter 7 as recommended by the Wolf Run Watershed Management Plan (WRWMP, 2013). BMP #48 will improve warm water habitat and reduce nonpoint source (NPS) pollution from entering Wolf Run Creek through retrofitting the Regency Road Detention Basin. BMP #49 will improve warm water habitat and reduce NPS pollution from entering Wolf Run Creek through creation of a detention basin, as suggested in the Southland Association's Green Infrastructure Feasibility Study. Implementing Chapter 7 recommendations to update the BMP Table when significant changes have occurred, and new monitoring data has been collected will allow continued momentum in this watershed and new projects to be identified.

Shipping Information:	Billing Information:
Division of Water 300 Sower Blvd, 3rd Floor	Division of Water 300 Sower Blvd, 3rd Floor
Frankfort KY 40601	Frankfort KY 40601

TOTAL CONTRACT AMOUNT:	\$320,000.00
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Memorandum of Agreement Terms and Conditions
Revised October 2020

This Memorandum of Agreement (MOA) is entered into, by and between the Commonwealth of Kentucky, Energy and Environment Cabinet, Department for Environmental Protection, Division of Water (“the Commonwealth”) and the Lexington Fayette Urban County Government (LFUCG) (“the Contractor”) to establish an agreement for the implementation of the “Wolf Run Watershed Water Quality Basins and Update” project. The initial MOA is effective from November 1, 2023 through September 30, 2027.

I. Scope of Services:

Through this project, LFUCG will improve water quality within the Wolf Run Watershed through implementing Best Management Practices (BMPs) and Chapter 7 as recommended by the Wolf Run Watershed Management Plan (WRWMP, 2013). BMP #48 will improve warm water habitat and reduce nonpoint source (NPS) pollution from entering Wolf Run Creek through retrofitting the Regency Road Detention Basin. BMP #49 will improve warm water habitat and reduce NPS pollution from entering Wolf Run Creek through creation of a detention basin, as suggested in the Southland Association’s Green Infrastructure Feasibility Study. Implementing Chapter 7 recommendations to update the BMP Table when significant changes have occurred, and new monitoring data has been collected will allow continued momentum in this watershed and new projects to be identified.

LFUCG shall complete the following goals, objectives and activities.

Goal: Improve warm water habitat and reduce NPS pollution from entering Wolf Run Creek through retrofitting the Regency Road Detention Basin (BMP #48 in the WRWMP, 2013).

Objective: Reduce stormwater runoff and pollutant levels through infiltration or storage (WRWMP Objective 2.1).

Activities:

LFUCG will remove the concrete channels (500 LF) from existing commercial stormwater basin and, if possible, naturalize channels to encourage infiltration and dispersal of stormwater flows across more of the basin bottom.

Objective: Reduce nutrients entering Wolf Run Creek (WRWMP Objective 4.2).

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Activities:

Install native plants and trees in the water quality basin to filter and absorb excess nutrients.

Objective: Reduce temperature of stormwater discharge (WRWMP Objective 4.1).

Activities:

Install native trees in water quality basin and upstream watershed, where possible.

Objective: Create passive recreational and educational opportunities (WRWMP Objective 4.3).

Activities:

Determine if existing chain-link fence may be removed to create public access to basin. Hold one on-site meeting, to engage local stakeholders, to comment on draft project design.

Create and install educational signage. Topics could include, but are not limited to, how native plants work, habitat creation within basin, and/or how citizens can help the environment.

If the fence is removed, benches will be placed at the edges of the basin to provide an outdoor setting for lunches and breaks for nearby offices.

Remove invasive species and replant with native species to promote pollinator species.

Objective: Determine effectiveness of project (WRWMP Objective 5.2).

Activities:

Complete two pre- and post-construction water quality monitoring events, per LFUCG 2017 approved Watershed-Focused Monitoring Program QAPP.

Publish results at appropriate locations, including but not limited to the following webpages: LFUCG Wolf Run Watershed, KY River Watershed Watch, and/or Friends of Wolf Run.

Goal: Improve Warm Water Habitat and Reduce Non-Point Source Pollution from Entering Wolf Run Creek through creation of a detention basin, as suggested in the Southland Association's Green Infrastructure Feasibility Study (BMP #49 in the WRWMP, 2013).

Objective: Reduce pollutant levels through stormwater treatment, storage or redirection (WRWMP Objective 5.1).

Activities:

Divert stormwater from a drainage channel parallel to the railroad tracks into a constructed filtration basin on Derby Drive, and discharge the filtered flow back into the storm sewer parallel to Regency Road.

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Investigate and install, if funding allows, best value-added BMP (structural or chemical) to reduce fine sediment from railroad tracks.

Objective: Reduce nutrients entering Wolf Run Creek (WRWMP Objective 4.2).

Activities:

Install native plants and trees in water quality basin to filter and absorb excess nutrients.

Objective: Reduce temperature of stormwater discharge (WRWMP Objective 4.1).

Activities:

Install native trees in water quality basin and upstream watershed, where possible.

Objective: Create passive recreational and educational opportunities (WRWMP Objective 4.3).

Activities:

Hold one on-site meeting, to engage local stakeholders, to comment on draft project design.

Create and install educational signage. Topics could include, but are not limited to, how native plants work, habitat creation within basin, and/or how citizens can help the environment.

Remove invasive species and replant with native species to promote pollinator species.

Objective: Determine effectiveness of project (WRWMP Objective 5.2).

Activities:

Complete two pre- and post-construction water quality monitoring events, per LFUCG 2017 approved Watershed-Focused Monitoring Program QAPP.

Publish results at appropriate locations, including but not limited to the following webpages: LFUCG Wolf Run Watershed, KY River Watershed Watch, and/or Friends of Wolf Run.

Goal: Implement Chapter 7 Recommendations of the WRWMP (2013) to update the BMP Table when significant changes have occurred and new monitoring data has been collected by following Division of Water (DOW) NPS & Basin Team Section Watershed Plan Update Guidance (2022).

Objective: Implement water quality monitoring.

Activities:

Complete two instream wet weather monitoring activities, per LFUCG 2017 approved Watershed-Focused Monitoring Program Quality Assurance Project Plan (QAPP).

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Objective: Update pollutant load reduction spreadsheet.

Activities:

- Compile all existing water quality data from 2013 to present.
- Update pollutant load reduction tables from WRWMP 2013.
- Compare pollutant load tables from 2013 to present.
- Determine additional BMPs, if any, needed to achieve water quality standards/ benchmarks.
- Update Water Quality Maps.

Objective: Update WRWMP BMP Table.

Activities:

- Reconvene Wolf Run Watershed Council (WRWC) and meet, at a minimum, every quarter during grant.
- Update WRWMP BMP Table using information from Goal Objective 3.2 and following Chapter 6 of the Kentucky (KY) Watershed Planning Guidebook.
- Update WRWMP BMP Maps.
- Create an addendum in the WRWMP showing all projects completed to date.

Plan of Work

The overall goal of implementing water quality projects recommended in the WRWMP (2013) and by updating the BMP Table in the WRWMP is to continue the momentum to improve water quality that the residents, professionals, and government officials have created over the years of dedication to the Wolf Run Watershed. This will be achieved through several activities noted above and detailed below.

One project the WRWMP BMP Table (#48) recommends is to retrofit a commercial basin that drains 22 acres of professional office area. There is 500LF of concrete channel running through this basin, 280LF is classified as an ephemeral stream, and the entire concrete channel will be removed and a more natural drainage waterway within the detention basin will be created. This drainage channel will not be a full stream restoration due to constraints and integrity of the detention basin; however, by removing the concrete channels, it will encourage infiltration, dispersal of stormwater flows across more of the basin bottom, and filtration through native plants and trees. The basin is currently turf mowed, but through this retrofit process, the grass and any invasive species will be removed and native plants and trees installed. In addition, evaluation of the necessity of the chain-link fence will occur. If possible, this fence will be removed and benches will be placed at the edges of the basin to provide an outdoor setting for passive recreation.

LFUCG Division of Water Quality (DWQ) completed a portion of WRWMP BMP #49 - Southland Association's Green Infrastructure Feasibility Study (aka Southland Area Storm Drainage Project) in 2018. One project the Southland Study recommended was

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to divert stormwater from a drainage channel parallel to the railroad tracks (3,200 LF) into a filtration basin to capture pollutants, specifically sediment, from this drainage area (21 acres). There is a storm sewer system that captures this drainage area 75 feet from LFUCG-owned water quality lots off Derby Drive. This project proposes to divert this stormwater onto city property, thru an existing utility easement, and allow it to migrate through a filtration basin prior to it flowing back into the stormwater system off Regency Road. This property is within a small neighborhood and to enhance the look, along with function, flowering native plants and trees will be installed for color and to encourage pollinator species to use this area. Additionally, educational signage will be installed and this area will be used for BMP tours, a geocaching location, passive recreation (bird watching), etc.

To determine effectiveness of these two BMPs, pre- and post–construction monitoring at the instream outfall on Southland Drive will occur during 4 wet weather events (2 pre and 2 post). These monitoring events will follow the QAPP approved for the LFUCG Watershed-Focused Monitoring Program. The results will be incorporated into the updated WRWMP, 2013, discussed below.

Public input and education is a large part of the detention basin projects. As a part of this grant, the WRWC will be reactivated to meet, at a minimum, on a quarterly basis to discuss design ideas, educational signs, and monitoring results. The public will be invited to attend these meetings through advertisement in various platforms and outlets, such as, but not limited to, Facebook (Live Green Lexington, Friends of Wolf Run, etc.), Council Member Newsletters, Next Door, and email.

While the Council is reconvened, it is also an ideal time to update the BMP Table of the WRWMP using the Watershed Plan Update Guidance (KDOW 2022). The WRWC will also work closely with other stakeholders in the watershed, including but not limited to, Friends of Wolf Run, University of Kentucky, Kentucky River Watershed Watch, etc., to assist in updating this BMP Table.

Since the completion of the approved WRWMP, 2013, 30-40 projects have been implemented and recommended studies completed. In addition, the LFUCG Watershed-Focused Monitoring Program is completing an instream sampling within the Wolf Run Watershed in 2022-2023. The results from this monitoring program, and two additional wet weather monitoring events, will be used to compare to the original water quality data to see if these projects have made an improvement in the watershed. Not only will this comparison be made, the new water quality monitoring information will be used to update the pollutant load calculation worksheets and determine if any additional projects need to be added to the WRWMP BMP Table. Several other studies, such as the Urban Tree Canopy Report (UTC, 2022) will also be used to identify additional small scale projects with the watershed. The BMP Table will also be updated by removing the projects completed to date and creating an addendum to the WRWMP with project information. In addition, water quality maps and BMP implementation maps will be

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updated. This information will be shared through an interactive map on-line (similar to the tool created for the West Hickman Watershed). The end goal is to add this updated BMP Table as an approved addendum to the WRWMP, 2013.

Through the purchasing process, LFUCG will contract with a qualified engineering firm to complete all required work associated with the two detention basin projects and the BMP Table update. In addition, LFUCG will hire Friends of Wolf Run to assist in advertising and running on-site public input meetings and Wolf Run Watershed Council meetings.

Quality Assurance Project Plan (QAPP)

This section is only applicable if monitoring or sampling occurs during this project.

LFUCG will develop and submit to the Cabinet for review and approval, a QAPP for the environmental monitoring activities associated with the project described in this Agreement. No project monitoring activities will occur until the QAPP has been reviewed and approved by the Cabinet. LFUCG will ensure that all environmental monitoring activities in this Agreement will be conducted in accordance with the approved QAPP. The approved QAPP will be incorporated into this Agreement by reference.

The Kentucky Division of Water (DOW) requires submittal of a data package after each sampling period, which should include Chain-of-Custody forms, field notes, calibration records of all instrumentation, and a raw data file as submitted from the laboratory. The package will also include relevant notes from field work identifying issues encountered, action needed or changes made to the sampling plan or QAPP. All issues or changes must also be communicated to DOW nonpoint source staff as soon as possible.

A final summary of overall project quality assurance will be submitted at the end of the project. The final Quality Assurance (QA) report should explain and detail the quality processes and controls used in sampling, both by the laboratory and in the field. Examples of QA report content are listed below. The report should summarize the sampling results and outline any and all deficiencies or discrepancies in the data collection and analysis process.

Examples of a QA report content are:

Types and results of quality control samples; field blanks, field splits, field duplicates. Discussion of how the Quality Control (QC) samples met the precision, accuracy, completeness, bias data quality objectives from the QAPP. Explanation of data qualifiers and how it affected the data results (data that is flagged by the laboratory). Corrective action taken for any data quality issues.

Best Management Practices Implementation Plan

This section is only applicable if BMP's occur during this project.

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LFUCG shall develop and submit to the Cabinet for review and approval, a Best Management Practices (BMP) Implementation Plan for all BMP implementation activities associated with the project described in this Agreement. No BMP implementation activities shall occur until the BMP Implementation Plan has been approved by the Cabinet. LFUCG shall ensure that all BMP implementation activities in this Agreement shall be conducted in accordance with the approved BMP Implementation Plan. The approved BMP Implementation Plan shall be incorporated into this Agreement by reference.

The BMP Implementation Plan shall include: (1) a list of BMP technologies to be installed; (2) a description of the technology selection process, to include the estimated cost, relative treatment efficiency, and the minimum operation and maintenance required for the BMP to operate efficiently; (3) a description of how BMPs shall be targeted to specific locations and if locations are known, a map(s) clearly showing the location where the BMP technologies shall be demonstrated; (4) a means of notifying the Division of Water, Nonpoint Point Source (NPS) Section prior to BMP implementation; (5) a financial plan of action, which describes how financial assistance shall be provided for technology demonstration; (6) the type of maintenance agreement to be made with the landowner; and (7) a statement that ensures that all agricultural or forestry BMPs will be consistent with the Kentucky Agriculture Water Quality Act and/or the Forest Conservation Act.

Education Materials

LFUCG shall ensure that all materials to be used in school-based education shall conform to the Kentucky Academic Standards for Assessment. When materials are submitted, the corresponding section of the Kentucky Academic Standards must be cited.

LFUCG shall ensure that all outreach materials conform to the North American Association for Environmental Education’s (NAAEE) *Environmental Education Materials: Guidelines for Excellence* (www.NAAEE.org).

Geographic Information System (GIS) Activities

LFUCG shall ensure that all geospatial data created shall be consistent with Federal Geographic Data Committee (FGDC) endorsed standards. Information on these standards shall be obtained from the web site “www.fgdc.gov” under the topics of “standards” and “publications”.

Animal Feeding Operation (AFO) Activities

LFUCG shall ensure that any AFO receiving financial assistance from 319(h) funds will implement a nutrient management plan. An AFO is defined by 40 C.F.R. § 122.23(b) as any lot or facility (other than an aquatic animal production facility) where i) animals (other than aquatic animals) have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12 month period, and ii) where crops,

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vegetation forage growth, or post-harvest residues are not sustained over any portion of the lot or facility.

Training

All personnel involved in monitoring activities that are performed by LFUCG or sub-contractor will be provided (or required to develop) standard operating procedures (SOPs), and will be trained in sampling techniques by DOW staff. This training will be a part of the NPS project conditions, and will not incur any additional cost to the vendor.

Measures of Success

LFUCG staff will:

Goal: Improve Warm Water Habitat and Reduce Non-Point Source Pollution from entering Wolf Run Creek through Retrofitting the Regency Road Detention Basin (BMP #48 in the WRWMP, 2013).

Objective: Reduce stormwater runoff and pollutant levels through infiltration or storage.

Measures of Success:

- In-Stream Water Quality Monitoring Results
- Pre, Mid & Post Construction Photo Documentation
- Square Feet (SqFt) of Native Plants Installed
- Numbers of Trees Installed

Objective: Reduce nutrients entering Wolf Run Creek.

Measures of Success:

- In-Stream Water Quality Monitoring Results
- Pre, Mid & Post Construction Photo Documentation
- SqFt of Native Plants Installed
- Numbers of Trees Installed

Objective: Reduce temperature of stormwater discharge.

Measures of Success:

- In-Stream Water Quality Monitoring Results
- SqFt of Native Plants Installed
- Numbers of Trees Installed

Objective: Create passive recreational and educational opportunities.

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Measures of Success:

SqFt of Native Plants Installed
 Numbers of Trees Installed
 Numbers of Educational Signs Installed
 Attendance at Public Meetings
 Updated WRWMP BMP Table
 Update WRWMP Water Quality & BMP Maps
 Create online interactive map with BMP information

Objective: Determine effectiveness of project.

Measures of Success:

In-Stream Water Quality Monitoring Results
 Pre, Mid & Post Construction Photo Documentation

Goal: Improve Warm Water Habitat and Reduce Non-Point Source Pollution from Entering Wolf Run Creek through creation of a detention basin, as suggested in the Southland Association's Green Infrastructure Feasibility Study (BMP #49 in the WRWMP, 2013).

Objective: Reduce pollutant levels through stormwater treatment, storage or redirection.

Measures of Success:

In-Stream Water Quality Monitoring Results
 Pre, Mid & Post Construction Photo Documentation
 SqFt of Native Plants Installed
 Numbers of Trees Installed

Objective: Reduce nutrients entering Wolf Run Creek.

Measures of Success:

In-Stream Water Quality Monitoring Results
 Pre, Mid & Post Construction Photo Documentation
 SqFt of Native Plants Installed
 Numbers of Trees Installed

Objective: Reduce temperature of stormwater discharge.

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Measures of Success:

In-Stream Water Quality Monitoring Results
 SqFt of Native Plants Installed
 Numbers of Trees Installed

Objective: Create passive recreational and educational opportunities.

Measures of Success:

SqFt of Native Plants Installed
 Numbers of Trees Installed
 Numbers of Educational Signs Installed
 Attendance at Public Meetings
 Updated WRWMP BMP Table
 Update WRWMP Water Quality & BMP Maps
 Create online interactive map with BMP information

Objective: Determine effectiveness of project.

Measures of Success:

In-Stream Water Quality Monitoring Results
 Pre, Mid & Post Construction Photo Documentation

Goal: Implement Chapter 7 Recommendations of the WRWMP (2013) to update the BMP Table when significant changes have occurred and new monitoring data has been collected by following DOW NPS & Basin Team Section Watershed Plan Update Guidance (2022).

Objective: Implement water quality monitoring.

Measures of Success:

In-Stream Water Quality Monitoring Results
 Pre, Mid & Post Construction Photo Documentation

Objective: Update pollutant load reduction spreadsheet.

Measures of Success:

In-Stream Water Quality Monitoring Results
 Update WRWMP Water Quality & BMP Maps

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Objective: Update WRWMP BMP Table

Measures of Success:

Updated WRWMP BMP Table
 Update WRWMP Water Quality & BMP Maps
 Create online interactive map with BMP information

Reports

LFUCG shall:

Provide a quarterly programmatic report. The report shall cover progress to date, any problems encountered and actions taken and any anticipated activity and work products expected during the next quarter as outlined in the Project Status Report Template below. Provide a final report detailing activities and deliverables completed during the agreement period. The final report is due 30 days after the end of the project. All reports shall be submitted electronically to the Commonwealth within specified timeframes listed above and in the format included in the Project Status Report Template.

Project Status Report Template

Grant Recipient Name: Lexington Fayette Urban County Government

Project Name: Wolf Run Watershed Water Quality Basins and Update

Principal Investigator/Project Manager: Demetria Kimball Mehlhorn

Reporting Period: (month & year)

Accomplishments, publicity, news:

(Provide an update on project activities, any publicity on the project, including links to articles)

Performance outcome data/metrics:

(Provide updates on specific activity targets, project timelines and/or metrics from the grant agreement)

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Problems, issues, variances from plan:

(Provide updates on any problems with project activities, timelines, any variances from the original work plan)

Project Status Report Template

Section 319(h) Nonpoint Source Project Progress Report

Reporting Period:--/--/-- to --/--/--/ Grant: PPG –BG-00D21423 State: Kentucky

Project Name: Wolf Run Watershed Water Quality Basins and Update

Contractor: LFUCG

Federal amount: \$320,000

Budget Period Start Date: 11/1/23 End Date: 9/30/27 Total Project Cost: \$533,333

Expended this Period: \$_____ Total Expenditures to Date: \$_____

Waterbody/Watershed Identification: Kentucky

NPS Category: Sedimentation/Siltation, Suspended Solids, Pathogens/Bacteria, Pesticides, Oil and Grease, Nutrients

Purpose Statement: The goal of this project is to improve water quality within the Wolf Run Watershed through implementing Best Management Practices (BMPs) and Chapter 7 as recommended by the Wolf Run Watershed Management Plan (WRWMP, 2013).

LFUCG's Milestones

All milestones will begin on November 1, 2023 and end on September 30, 2027.

Develop and submit materials to Division of Water for review and comment. Duration of Contract

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Submit advanced written notice to Nonpoint Source (NPS) Program staff for all educational public meetings, field days, workshops, etc. Duration of Contract

Submit draft news articles, brochures, newsletter articles and other educational outreach materials to NPS Program staff for approval - includes drafts of flyers and postcards inviting public to meetings and events. Duration of Contract

Submit an Annual Load Reduction Report to NPS program staff if requested. Duration of Contract

Notice to Proceed & Council Acceptance. November 2023 – November 2024

Obtain Consulting Engineer through LFUCG Procurement Process for Engineering Services. November 2023 – January 2024

Start gathering information and contacts for public involvement. November 2023 – January 2024

Quarterly Wolf Run Watershed Council Meetings, Duration of Contract

Update Webpage with project information as available. Duration of Contract

Develop and submit a BMP Implementation Plan for DOW staff approval. January 2024 – February 2024

Submit Approved LFUCG Watershed-Focused Monitoring QAPP with updated Wolf Run Sampling Location, if needed, to DOW. February 2024

Create preliminary design plans and hold public input meeting. February 2024 – June 2024

Complete two rounds of wet weather in-stream water quality monitoring. March 2024 – May 2024

Meet with permitting agencies on stream permitting requirements. March 2024

Update pollutant load reduction calculation sheet. May 2024 – July 2024

Submit preliminary design plans for review to DOW NPS staff, LFUCG staff, utilities, and Wolf Run Watershed Council. June 2024

Submit Pollutant Load Reduction Information to DOW and share with WRWC. July 2024

Create addendum to WRWMP of completed projects. July 2024 – July 2025

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Prepare design plans for permit submittals. July 2024 – September 2024

Submit required permit applications. September 2024

Prepare final design plans, specifications, quantity take-offs, and construction cost estimates. October 2024 – January 2025

Update WRWMP BMP Table & Maps. October 2024 – July 2025

Obtain Construction Contractor through LFUCG Bid Procurement Process for Construction Contracts. January 2025 – March 2025

Design & Submit Educational Signage to KDOW NPS staff and WRWC for review and approval. January 2025 – March 2025

Construct Improvements. April 2025 – September 2026

Submit WRWMP Completed Projects Addendum & Updated BMP Table to KDOW. August 2025 – November 2025

Install Education Signage. March 2026 – May 2026

Project Completion Tour. September 2026

Complete two post-construction monitoring events. May 2026 – September 2026

Prepare and Submit Draft Final Report. August 2027

Incorporate any changes and submit Approved Final Report. September 2027

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Signature Date

Notifications

All notices, requests, demands, waivers, and other communications given as provided in this Agreement shall be in writing and sent to the following:

LFUCG
 Attn: Demetria Kimball Mehlhorn
 200 East Main Street, 9th Floor
 Lexington, Kentucky 40507
 859-425-2554
 dkimball@lexingtonky.gov
 Vendor UEI Number: VM1GLHWZXA96

Division of Water
 Attn: Mike Reed
 300 Sower Blvd., Third Floor NW/29
 Frankfort, Kentucky 40601
 502-782-6892
 Mike.Reed@ky.gov

II. Pricing:

The Commonwealth shall reimburse LFUCG up to \$320,000 for services and activities as outlined in the Program Budget table below.

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Program Budget

Categories	The Commonwealth	Cost Share/ In-kind Match	Total
Personnel	\$0	\$0	\$0
Fringe Benefits	\$0	\$0	\$0
Travel	\$0	\$0	\$0
Equipment	\$0	\$0	\$0
Supplies	\$0	\$6,000	\$6,000
Construction	\$0	\$0	\$0
Other	\$0	\$0	\$0
Total Direct Charges	\$0	\$6,000	\$6,000
Indirect Charges (up to 10% of the Commonwealth's Total Direct Charges) **	\$0	\$0	\$0
Contractual	\$320,000	\$207,333	\$527,333
Total	\$320,000	\$213,333	\$533,333
Program Income	\$0	\$0	\$0

A detailed budget template provided by the Commonwealth shall be completed and submitted to DOW prior to the start of the project and before the start of each fiscal year

INDIRECT COST:

If the contractor is receiving state funds the contractor may not charge indirect costs in excess of ten (10) percent of total direct costs. An indirect rate **shall not** be charged on contractual expenditures. Indirect charges exceeding the ten (10) percent shall be considered as cost share provided by the contractor.

If the contractor is receiving federal funds the Contractor shall use the indirect rate corresponding with the agreement the contractor has with the federal entity or ten (10) percent. The contractor shall provide a copy of the indirect agreement prior to the federal funds being awarded.

III. Invoicing

LFUCG shall:

Invoice the Commonwealth quarterly for authorized expenditures by budget line item.

The invoice must indicate:

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1. The Document ID number, which can be found at the top of the MOA/PSC. The Document ID number can be recognized by the beginning letters "PON2" or "SC"
2. Invoice number
3. Invoice date
4. Dates of service covered
5. Current expenditures with each item listed separately
6. Cumulative expenditures to date
7. Current cost share or match, if identified in the Program Budget
8. Cumulative cost share or match
9. Include a copy of the transaction detail report if available and/or receipt

Backup documentation must be maintained for each invoice, as required by the record retention schedule in Kentucky's Administrative Regulation 725 KAR 1:061 and/ or 2CFR 200.334 through 200.338. The backup documentation can either be submitted with the invoice or kept for inspection by the Commonwealth, if or when requested.

Examples of backup documentation may include:

1. Personnel – payroll spreadsheet showing time worked within the invoice period. Spreadsheet shall contain salary information, name of employee or some identifiable number, percent of time applied to grant, along with the number of hours and fringe benefits per person.
2. Fringe – include in payroll spreadsheet.
3. Travel – travel voucher or invoices showing airfare, hotel expenses, etc. Mileage will be paid based on rate established through a travel policy by the recipient. If no rate has been established, the recipient may use the state or federal mileage rate.
4. Equipment – receipt marked paid (an invoice shall be submitted after equipment is paid for).
5. Supplies – receipt marked paid (an invoice shall be submitted after supplies are paid for).
6. Contractual – invoice and documentation that item has been paid (recipient shall verify invoice).
7. Construction – invoices, receipts marked paid and any other documents that properly verify expenses.
8. Indirect costs – will be verified not to exceed the allowable rate established in the MOA.

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9. Other – invoice and documentation that item has been paid (recipient shall verify invoice).

In the event that LFUCG incurs no expenses within a reporting timeframe, LFUCG shall submit an invoice for zero (0) dollars or provide a “notice of no expenses,” based on the Commonwealth’s requirements.

Final Invoice: The final invoice should be clearly marked as “FINAL INVOICE” to indicate that all funds that will be expended, have been expended.

Where to submit invoices:

All invoices shall be submitted via email to:

Division of Water
 Attn: Mike Reed
 300 Sower Blvd., Third Floor NW/29
 Frankfort, Kentucky 40601
 502-782-6892
 Mike.Reed@ky.gov

In the subject line of the email list:

Project Number 23-07, Invoice #

IV. Assurances:

Award Number: FFY-2023 Performance Partnership Grant–PPG BG - 00D21423, CFDA 66.605.

The parties shall abide by all terms of the award:

LFUCG agrees to comply with the current EPA general terms and conditions available at

<https://www.epa.gov/grants/epa-general-terms-and-conditions-effective-october-1-2019-or-later>

The following is a list of statutory, regulatory, and Executive Order requirements for subrecipients on EPA funded projects per 2 CFR 200.331(a) (2). As a subrecipient of EPA funding, you must agree to abide by the applicable requirements listed below.

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1. Nondiscrimination Laws and Social Policies

Most EPA financial assistance recipients are subject to the laws and policies described below. This list of nondiscrimination and social policy requirements is for informational purposes only and is not intended to provide guidance on compliance in the context of a particular EPA assistance agreement.

Disadvantaged Business Enterprises

EPA regulations at 40 CFR Part 33, "Participation by Disadvantaged Business Enterprises in U.S. Environmental Protection Agency Programs" set forth requirements for making good faith efforts to ensure that Disadvantaged Business Enterprises, including Minority Business Enterprises and Women's Business Enterprises receive a fair share of contracts awarded with funds provided by EPA financial assistance agreements. These requirements apply to subrecipients in accordance with 40 CFR 33.102 and the definition of "Recipient" in 40 CFR 33.103.

2. Financial Management Policies

These policies apply to transactions financed by EPA financial assistance funds and apply to both pass-through entities and subrecipients on the basis of either regulatory requirement or the General Terms and Conditions (T&C) of the pass-through entity's agreement with EPA.

Federal Funding Accountability and Transparency Act

As set forth in the General Condition of the pass-through entity's agreement with EPA entitled "Reporting Subawards and Executive Compensation" the pass-through entity must ensure that subrecipients comply with Federal Funding Accountability and Transparency Act (FFATA) reporting requirements.

Suspension and Debarment

The pass-through entities responsibilities are described at 2 CFR Part 180, Subpart C and the "Debarment and Suspension" T&C of the pass-through entity's agreement with EPA. These requirements, which include checking SAM to ensure that potential contractors, subrecipients and their principals and agents are not suspended, debarred or otherwise ineligible to participate in Federal assistance programs also apply to subrecipients. It is important to note that in addition to being precluded from all first tier contracts and all contracts requiring EPA approval in accordance with 2 CFR 180.220 under 2 CFR 1532.220 suspended or debarred parties may not receive EPA funded contracts in excess of \$25,000 at any tier. Also, at 2 CFR 1532.995 EPA has identified activities that suspended or debarred parties may not perform as a "Principal" in EPA financial assistance agreements and subawards.

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New Restriction on Lobbying, 40 CFR Part 34

Subrecipients must submit certification and disclosure forms required by 40 CFR 34.110 and the “Lobbying and Litigation” T&C for subawards in excess of \$100,000.

Uniform Grant Guidance Requirements (UGG)

Subrecipients must comply with 2 CFR Part 200 requirements when they award procurement contracts, make subawards, and incur other costs borne by EPA financial assistance.

3. Environmental Authorities

These requirements typically apply when an EPA funded project involves construction, remediation of contamination in water, soil, or buildings, and similar activities which alter the physical environment. Other environmental laws may apply to a project independent of EPA funding. Financial assistance for research, training, technical assistance and related outreach, environmental education, program operations, or installation of pollution control equipment on vehicles or vessels, are generally not affected by these requirements. Note that this list of environmental authorities is for informational purposes only and is not intended to provide guidance on compliance in the context of a particular EPA assistance agreement.

Clean Air Act and Clean Water Act

Section 306 of the Clean Air Act (CAA) and section 508 of the Clean Water Act (CWA), as implemented by Executive Order 11738 (1973), prohibit performance of Federal assistance agreements at facilities disqualified due to certain violations of the CAA or CWA. Disqualified facilities are listed in the System for Award Management. Subrecipients are required to check SAM, to determine if facilities that will be used to perform contracts or subawards are listed in SAM.

National Environmental Policy Act

Where applicable, the National Environmental Policy Act (NEPA) requires federal agencies to conduct an environmental review of their proposed actions, with a view toward ensuring informed decision-making and public input. EPA’s NEPA regulations are at 40 CFR Part 6, and note that certain EPA actions are exempt from NEPA. Pass-through entities and subrecipients may be required to assist EPA with NEPA compliance, where appropriate.

National Historic Preservation Act

Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and to provide the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on such undertakings. Under the ACHP’s regulations, consultations generally occur in the first instance with state and/or tribal historic preservation officials, with direct ACHP involvement

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in certain cases. EPA funded projects with the potential to affect historic properties – i.e., properties listed in or eligible for listing in the National Register of Historic Places – may implicate this statute. This may include, for instance, EPA-funded projects that involve alteration of structures (e.g., asbestos abatement) that are historic properties or construction/remediation on culturally sensitive lands. Pass-through entities should work with their Project Officer to ensure that subrecipients are available to work with EPA on any required consultation process with the State or Tribal Historic Preservation Office prior to commencing the project to ensure compliance with section 106 of the NHPA.

Protection of Wetlands, Executive Order 11990 (1973), as amended

EPA funded projects involving new construction in wetlands may implicate this Executive Order. The terms and conditions of the EPA assistance agreement may require pass-through entities to ensure that subrecipients assist EPA in determining whether a proposed project will be located in (or affect) a wetland, and if so, evaluating practicable alternative locations for the project or other mitigation.

Coastal Zone Management Act

This statute requires EPA to ensure that Agency funded activities in coastal areas are consistent with state coastal zone management plans that have been approved by the Department of Commerce. Pass-through entities and subrecipients should consult directly with the state Coastal Zone Management agency during the planning stages to ensure that the EPA funded project will be consistent with the state’s coastal zone management plan.

Coastal Barriers Resources Act

This statute restricts federal financial assistance that would encourage development in the Coastal Barriers Resources System, a collection of undeveloped and ecologically sensitive barrier formations along the Atlantic and Gulf Coasts of the United States, and the shore areas of the Great Lakes, and adjacent wetlands, marshes, estuaries, inlets, and near-shore waters. During the planning phase of a proposed project located in the Coastal Barriers Resources System, pass-through entities and subrecipients should consult with the state Coastal Zone Management agency to determine whether a proposed project will have an effect on the system, and if so, the alternative sites or mitigating measures that must be incorporated in the project's design.

Wild and Scenic Rivers Act

This statute prohibits federal assistance for water resource projects that would have direct and adverse effects on, invade, or unreasonably diminish, the special values of a congressionally designated wild and scenic river. Pass-through entities and subrecipients should consult with appropriate state or federal (National Park Service or Bureau of Land Management) agency to determine whether the project or any alternatives under consideration may affect a designated river.

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Endangered Species Act (ESA)

This statute requires Federal agencies to ensure that their activities are not likely to jeopardize endangered species, adversely modify designated critical habitats, or incidentally take (injure or kill) endangered animals without authorization, in consultation with the appropriate federal wildlife agency (the U.S. Fish and Wildlife Service or National Marine Fisheries Service) as described in 50 CFR Part 402. The ESA consultation process is triggered when an action "may affect" ESA-protected species or critical habitat. Pass-through entities and subrecipients should coordinate with EPA to ensure consultation occurs where appropriate."

Safe Drinking Water Act

Precludes the use of EPA financial assistance for projects that would contaminate sole source aquifers. Pass-through entities and subrecipients must contact state officials to determine whether a sole source aquifer is in the vicinity of the proposed project. If a sole source aquifer is in the project planning area, then the assistance recipient, in consultation with state ground water officials, must conduct investigations to determine if the aquifer could be contaminated by the project. If the project could potentially affect ground water supplies, the assistance recipient, in consultation with ground water officials, must elect an alternative site or devise adequate mitigating measures.

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**Memorandum of Agreement Standard Terms and Conditions
Revised January 2023**

1.00 Effective Date

All Memorandum of Agreements are not effective until the Secretary of the Finance and Administration Cabinet or his authorized designee has approved the agreement and until the agreement has been submitted to the government contract review committee. However, in accordance with KRS 45A.700, memoranda of agreement in aggregate amounts of \$50,000 or less are exempt from review by the committee and need only be filed with the committee within 30 days of their effective date for informational purposes.

KRS 45A.695(7) provides that payments on personal service contracts and memoranda of agreement shall not be authorized for services rendered after government contract review committee disapproval, unless the decision of the committee is overridden by the Secretary of the Finance and Administration Cabinet or agency head, if the agency has been granted delegation authority by the Secretary.

2.00 EEO Requirements

The Equal Employment Opportunity Act of 1978 applies to All State government projects with an estimated value exceeding \$500,000. The contractor shall comply with all terms and conditions of the Act.

3.00 Cancellation Clause

Both parties shall have the right to terminate and cancel this contract at any time not to exceed thirty (30) days' written notice served on the Contractor by registered or certified mail.

4.00 Funding Out Provision

The state agency may terminate this agreement if funds are not appropriated to the contracting agency or are not otherwise available for the purpose of making payments without incurring any obligation for payment after the date of termination, regardless of the terms of the agreement. The state agency shall provide the Contractor thirty (30) calendar day's written notice of termination of the agreement due to lack of available funding.

5.00 Reduction in Contract Worker Hours

The Kentucky General Assembly may allow for a reduction in contract worker hours in conjunction with a budget balancing measure for some professional and non-professional

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service contracts. If under such authority the agency is required by Executive Order or otherwise to reduce contract hours, the agreement will be reduced by the amount specified in that document. If the contract funding is reduced, then the scope of work related to the contract may also be reduced commensurate with the reduction in funding. This reduction of the scope shall be agreeable to both parties and shall not be considered a breach of contract.

6.00 Access to Records

The state agency certifies that it is in compliance with the provisions of KRS 45A.695, "Access to contractor's books, documents, papers, records, or other evidence directly pertinent to the contract." The Contractor, as defined in KRS 45A.030, agrees that the contracting agency, the Finance and Administration Cabinet, the Auditor of Public Accounts, and the Legislative Research Commission, or their duly authorized representatives, shall have access to any books, documents, papers, records, or other evidence, which are directly pertinent to this agreement for the purpose of financial audit or program review. The Contractor also recognizes that any books, documents, papers, records, or other evidence, received during a financial audit or program review shall be subject to the Kentucky Open Records Act, KRS 61.870 to 61.884. Records and other prequalification information confidentially disclosed as part of the bid process shall not be deemed as directly pertinent to the agreement and shall be exempt from disclosure as provided in KRS 61.878(1)(c).

7.00 Violation of tax and employment laws

KRS 45A.485 requires the Contractor and all subcontractors performing work under the contract to reveal to the Commonwealth any final determination of a violation by the Contractor within the previous five (5) year period of the provisions of KRS chapters 136, 139, 141, 337, 338, 341, and 342. These statutes relate to corporate and utility tax, sales and use tax, income tax, wages and hours laws, occupational safety and health laws, unemployment insurance laws, and workers compensation insurance laws, respectively. Disclosure of any violations is required prior to the award of any state contract and throughout the duration the contract.

Failure to disclose violations, shall be grounds for the Commonwealth's disqualification of a contractor or subcontractor from eligibility for future state contracts for a period of two (2) years.

To comply with KRS 45A.485, the Contractor and all subcontractors performing work

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under this contract shall report any such final determination(s) of any violation(s) within the previous five (5) years to the Commonwealth by providing a list of the following information regarding any violation(s): (1) specific KRS violated, (2) date of any final determination of a violation, and (3) state agency which issued the final determination.

A list of any disclosures made prior to award of a contract shall be attached to the contract.

The Contractor affirms that it has not violated any of the provisions of the above statutes within the previous five (5) year period, aside from violations explicitly disclosed and attached to this contract. Contractor further affirms that it will (1) communicate the above KRS 45A.485 disclosure requirements to any subcontractors and (2) disclose any subcontractor violations it becomes aware of to the Commonwealth.

8.00 Discrimination

This section applies only to agreements disbursing federal funds, in whole or part, when the terms for receiving those funds mandate its inclusion. Discrimination (because of race, religion, color, national origin, sex, sexual orientation, gender identity, age, or disability) is prohibited. During the performance of this agreement, the Contractor agrees as follows:

The Contractor will not discriminate against any employee or applicant for employment because of race, religion, color, national origin, sex, sexual orientation, gender identity or age. The Contractor further agrees to comply with the provisions of the Americans with Disabilities Act (ADA), Public Law 101-336, and applicable federal regulations relating thereto prohibiting discrimination against otherwise qualified disabled individuals under any program or activity. The Contractor agrees to provide, upon request, needed reasonable accommodations. The Contractor will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, religion, color, national origin, sex, sexual orientation, gender identity, age or disability. 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 compensations; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this non-discrimination clause.

In all solicitations or advertisements for employees placed by or on behalf of the Contractor, the Contractor will, state that all qualified applicants will receive consideration

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for employment without regard to race, religion, color, national origin, sex, sexual orientation, gender identity, age or disability.

The Contractor will send to each labor union or representative of workers with which he/she has a collective bargaining agreement or other contract or understanding, a notice advising the said labor union or workers' representative of the Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment. The Contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance.

The Contractor will comply with all provisions of Executive Order No. 11246 of September 24, 1965 as amended, and of the rules, regulations and relevant orders of the Secretary of Labor.

The Contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, as amended, and by the rules, regulations and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and orders.

In the event of the Contractor's noncompliance with the nondiscrimination clauses of this agreement or with any of the said rules, regulations or orders, this agreement may be cancelled, terminated or suspended in whole or in part and the Contractor may be declared ineligible for further government contracts or federally-assisted construction contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, as amended, and such other sanctions may be imposed and remedies invoked as provided in or as otherwise provided by law.

The Contractor will include the provisions of paragraphs (1) through (7) of section 202 of Executive Order 11246 in every subcontract or purchase order unless exempted by rules, regulations or orders of the Secretary of Labor, issued pursuant to section 204 of Executive Order No. 11246 of September 24, 1965, as amended, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions including sanctions for noncompliance; provided, however, that in the event a Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the agency,

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the contractor may request the United States to enter into such litigation to protect the interests of the United States.

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Approvals

This contract is subject to the terms and conditions stated herein. By affixing signatures below, the parties verify that they are authorized to enter into this contract and that they accept and consent to be bound by the terms and conditions stated herein. In addition, the parties agree that (i) electronic approvals may serve as electronic signatures, and (ii) this contract may be executed in any number of counterparts, each of which when executed and delivered shall constitute a duplicate original, but all counterparts together shall constitute a single contract.

AGREED TO BY:

LEXINGTON FAYETTE URBAN COUNTY GOVERNMENT:


 Linda Gorton, Mayor

9/28/2023
 Date

DEPT. FOR ENVIRONMENTAL PROTECTION:


 Anthony R. Hatton, Commissioner

10/2/2023
 Date

ENERGY AND ENVIRONMENT CABINET:


 Rebecca W. Goodman, Secretary

10/2/2023
 Date

APPROVED AS TO FORM AND LEGALITY:


 Joseph A. Newberg, General Counsel
 Office of Legal Services

10/2/2023
 Date

Appendix C

LFUCG Watershed-Focused Monitoring QAPP



MATTHEW G. BEVIN
GOVERNOR

CHARLES G. SNAVELY
SECRETARY

**ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION**

AARON B. KEATLEY
COMMISSIONER

300 SOWER BOULEVARD
FRANKFORT, KENTUCKY 40601

August 18, 2017

Mr. Steven Evans
Third Rock Consultants, LLC
2526 Regency Rd Ste 180
Lexington, KY 40503

Re: Approval for Quality Assurance Project Plan (QAPP) for the 2017 LFUCG Watershed-Focused Monitoring Plan, Revision 2.0


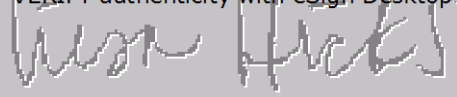
Mr. Evans,

This letter will serve as the approval for the above mentioned QAPP.

Please direct any questions regarding the QAPP to Lisa Hicks, ph. 502-782-6972, email lisa.hicks@ky.gov.

Thank you for your submittal, and let me know if I can be of further assistance.

Regards,

E-Signed by Lisa Hicks
VERIFY authenticity with eSign Desktop. 


Lisa Hicks
Quality Assurance Officer
Kentucky Division of Water



Quality Assurance Project Plan (QAPP)



Lexington-Fayette Urban County Government Watershed-Focused Monitoring Plan

Prepared By:

Third Rock Consultants, LLC
2526 Regency Road, Suite 180
Lexington, KY 40503
859-977-2000

Prepared For:

Lexington-Fayette Urban County Government
Division of Water Quality
125 Lisle Industrial Ave, Suite 180
Lexington, KY 40511
859-425-2400

Effective Date: June 1, 2016
Revision No. 2, August 1, 2017

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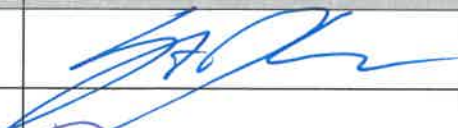

1 PROJECT MANAGEMENT

1.1 Title and Approval Sheet

Action By	Signature	Date
Steven Evans Prepared, QAPP Author		
Richard Walker Reviewed, MS4 Program Manager		
Dr. David Price Reviewed, DWQ Laboratory Supervisor		
Richard Lamey Reviewed, DWQ Compliance and Monitoring Manager		
Jennifer Carey Reviewed, DWQ MS4 / Water Quality Manager		
Lisa Hicks Approved, KDOW Quality Assurance Officer		
Abigail Rains Reviewed, KDOW MS4 Program Coordinator		

1 PROJECT MANAGEMENT

1.1 Title and Approval Sheet

Action By	Signature	Date
Steven Evans Prepared, QAPP Author		8/21/2017
Richard Walker Reviewed, MS4 Program Manager	Richard W. Walker	8/22/17
Dr. David Price Reviewed, DWQ Laboratory Supervisor		8/21/2017
Richard Lamey Reviewed, DWQ Compliance and Monitoring Manager	Richard Lamey	8.22.17
Jennifer Carey Reviewed, DWQ MS4 / Water Quality Manager	Jennifer M. Carey	8/22/17
Lisa Hicks Approved, KDOW Quality Assurance Officer		
Abigail Rains Reviewed, KDOW MS4 Program Coordinator		

1.2 Revision History

Date of Revision	Page(s)/Section(s) Revised	Revision Explanation
April 1, 2016	all	New document
June 15, 2016	<p>p. 11, Section 1.7.1-2</p> <p>p. 15, Section 1.7.6</p> <p>p. 16, Table 1</p> <p>p. 24, Section 1.10.2</p> <p>p. 27, Table 8</p> <p>p. 40, 49-50, Sections 2.2.4, 2.6</p> <p>p. 47, Section 2.3.3</p> <p>p. 48, Section 2.4</p>	<ul style="list-style-type: none"> • Corrected Index periods for headwater habitat and macro surveys • "TMDL implementation <i>efforts for the MS4.</i>" • Revised index periods • 'Draft lab results submitted to LFUCG, KDOW, and volunteer samplers...' • Corrected sampling site numbers • Multimeter calibration the day before or the day of sampling. • The laboratory should assume that the duplicate was sampled with the earliest sample for hold time purposes. • Remove reference to KDOW 2008.
August 1, 2017	<p>p. 8-9, Section 1.5</p> <p>p. 12, Section 1.7.3</p> <p>p. 14, Section 1.7.4</p> <p>p. 19, Table 5 and 6</p> <p>p. 20, Table 7</p> <p>p. 21, Section 1.8.3</p> <p>p. 27, Table 8</p> <p>p. 29, Section 2.1</p> <p>p. 50, Table 21</p>	<ul style="list-style-type: none"> • Minor editing throughout • Personnel and lab changes • Field phosphate replaced with laboratory total phosphorus for Phase 1. Fluoride added. Detergents analyzed in laboratory. • Microbial source tracking samples storage and laboratory changes • Revision of benchmarks and action levels • Removal of phosphate, addition of fluoride • Field duplicates in Phase 2 only • Correction of numbers per watershed • Updating microbial source tracking procedures • Removal of phosphate

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1.4 Distribution List

The following individuals will receive the approved Quality Assurance Project Plan (QAPP) and any subsequent revisions.

Kentucky Division of Water
200 Fair Oaks Lane, 4th Floor
Frankfort, KY 40601
(502) 564-3410
Abigail Rains, MS4 Program Coordinator
Abigail.Rains@ky.gov
Lisa Hicks, Quality Assurance Officer
Lisa.Hicks@ky.gov

LFUCG Division of Water Quality
125 Lisle Industrial Avenue, Suite 180
Lexington, KY 40511
(859) 425-2400
Jennifer Carey, MS4 / Water Quality
Manager
jcarey@lexingtonky.gov
Richard Lamey, Compliance and
Monitoring Manager
richard@lexingtonky.gov

LFUCG Division of Environmental
Services
200 East Main Street, 9th Floor
Lexington, KY 40507
(859) 425-2554
Demetria Mehlhorn, Program Manager
dkimball@lexingtonky.gov

LFUCG Town Branch WWTP
Laboratory
301 Lisle Industrial Avenue
Lexington, KY 40511-2061
(859) 425-2415
Dr. David Price, Laboratory Supervisor
dprice@lexingtonky.gov

Tetra Tech, Inc.
424 Lewis Hargett Circle, Suite 110
Lexington, KY 40503
(859) 223-8000
Richard Walker, Program Manager
richard.walker@tetrattech.com

Third Rock Consultants, LLC
2526 Regency Road, Suite 180
Lexington, KY 40503
(859) 977-2000
Jennifer Shelby, Data Manager
jshelby@thirdrockconsultants.com
Bert Remley, Chief Biologist
bremley@thirdrockconsultants.com

Kentucky River Watershed Watch
P.O. Box 1248
Frankfort, KY 40602
(859) 940-8234
Ken Cooke, Chair
ken.cooke@kbcnet1.com

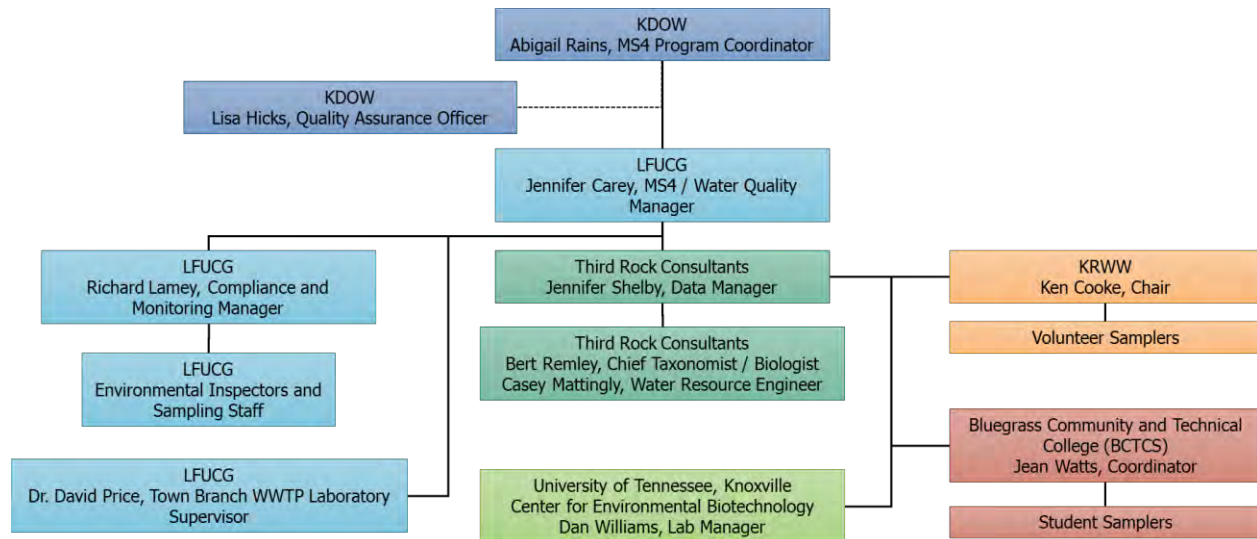
Bluegrass Community and
Technical College
470 Cooper Drive
Lexington, KY 40506
(859) 246-6448
Jean Watts, Environmental Science
Technology Coordinator
jean.watts@kctcs.edu

University of Tennessee, Knoxville
Center for Environmental
Biotechnology
676 Dabney Hall
1416 Circle Drive
Knoxville TN 37996
(865) 974-8072
Dan Williams, Lab Manager
dwilli34@utk.edu

1.5 Project / Task Organization

The key personnel of project team are summarized in Figure 1 as well as the lines of authority with regards to the execution of the project. The roles and responsibilities of specific personnel are summarized below.

FIGURE 1 – ORGANIZATIONAL CHART



Abigail Rains, Kentucky Division of Water MS4 Program Coordinator, is responsible for ensuring that the monitoring performed under this project is in compliance with the MS4 permit.

Lisa Hicks, Kentucky Division of Water QA Officer, will be responsible for reviewing and approving the QA Project Plan. She may provide technical input on proposed sampling design, analytical methodologies, and data review.

Jennifer Carey, LFUCG MS4 / Water Quality Manager, will have overall responsibility for assigning appropriate personnel to complete the tasks included in this plan. She will ensure that the project budget is adhered to. She will communicate with the Division of Water MS4 Program Coordinator on work accomplished in this plan and any problems or deviations that need to be resolved.

Richard Lamey, LFUCG Compliance and Monitoring Manager, will have the overall responsibility for the Environmental Inspectors involved in the water quality monitoring and discharge prevention investigations. He will also ensure that sufficient LFUCG staff is present to conduct designated sampling events.

Dr. David Price, LFUCG Town Branch WWTP Laboratory Supervisor, will be responsible for assigning appropriate laboratory staff to perform the analyses specified in this plan.

He will also be responsible for the preparation of sampling kits, and calibration of field sampling equipment.

Jennifer Shelby, Third Rock Consultants Data Manager and QA Manager, will be responsible for writing and/or coordinating development of the QAPP. She will ensure that monitoring training and sampling events are coordinated as specified in the QAPP. She will review and approve all data generated for the project and may prepare QA reports as required by the project. She will also be responsible for managing the data generated.

Bert Remley, Third Rock Consultants Chief Taxonomist / Biologist, will be responsible for biological sampling coordination and identification. He will either identify all biological samples collected or will assign appropriate laboratory staff to perform the identification of biological samples collected. He will be responsible for QA of all biological data generated from both the field and laboratory. He will report to Third Rock Consultants Data Manager and QA Manager.

Casey Mattingly, Third Rock Consultants Water Resource Engineer, will be responsible for stage-discharge curve development. He will oversee the field surveys efforts to support the curves and ensure that the stage-discharge curves are validated against the USGS gages in each watershed.

Ken Cooke, Kentucky River Watershed Watch Chair, will be responsible for recruiting volunteers and coordinating sampler training and attendance for water quality monitoring events.

Jean Watts, Bluegrass Community and Technical College Environmental Science Technology Coordinator, will be responsible for coordinating student volunteer training, sampling events, and submission of data to the Data Manager.

Dan Williams, University of Tennessee, Knoxville Center for Environmental Biotechnology Lab Manager, will be responsible for performance of microbial source tracking.

1.6 Project Background and Overview

The Phase I MS4 Permit for LFUCG (KPDES No. KYS00002 AI No. 74551) was issued on May 1, 2015 with a five-year duration period effective June 1, 2015. One of the requirements of this permit is as follows:

“LFUCG shall begin to change its monitoring program to a watershed-focused monitoring program. In order to facilitate this process, monitoring should be conducted on a watershed basis with additional monitoring stations sampled for water chemistry, macroinvertebrates, microbial source tracking, hydrogeomorphic

characterization, and habitat assessment. This monitoring program shall be submitted to the Division of Water within one year of the permit effective date.”

This Watershed-Focused Monitoring Plan (WFMP) Quality Assurance Project Plan (QAPP) has been developed to meet this permit requirement. It was developed through a collaborative series of public meetings to obtain public input from stakeholders to ensure the monitoring would meet multiple watershed planning objectives.

The overall goal for this WFMP QAPP is to generate data of sufficient quality and resolution to facilitate the identification and remediation of sources of recreational and aquatic habitat impairments to streams within the Urban Service Boundary. This goal may be sub-divided into the following objectives:

- Characterize and rank stream corridor habitat and hydro-geomorphic function
- Characterize the pollutant load of streams, tributaries, and major outfalls
- Enhance illicit discharge identification in prioritized subwatersheds
- Engage volunteers and the scientific community in data collection efforts (when feasible and appropriate)
- Lay foundation for watershed based plans and TMDL implementation

The study area for the WFMP is the seven major watersheds that drain the Urban Service Area of LFUCG. These watersheds include Cane Run, East Hickman, West Hickman, North Elkhorn, South Elkhorn, Town Branch, and Wolf Run. The portion of these watersheds within the Urban Service Area is assessed under this plan. Monitoring activities would focus on one of these watersheds per year before rotating to another watershed. Five key monitoring elements will be performed in each watershed as briefly outlined below:

1. Stream Corridor Characterization
 - Habitat Assessments by Rapid Bioassessment Protocol (RBP)
 - Substrate Characterization by Visual Estimation
 - Volunteer Biological Assessment
2. Stream Biology
 - Macroinvertebrate Collection and Identification
3. Water Quality Monitoring
 - Stage-Discharge Rating Curves
 - Phase 1: Field Screening at Instream and All Major Outfall Sites
 - Phase 2: Laboratory Testing at Instream and Flowing Major Outfall Sites
4. Discharge Prevention Investigation
 - Storm Network Tracing
 - Optical Brightener
 - Microbial Source Tracking

5. Priority Area Upland Visual Assessment
 - Neighborhood Source Assessment
 - Potential Pollutant Generator Investigations

1.7 Project / Task Description and Schedule

1.7.1 Stream Corridor Characterization

Stream corridor characterizations will be conducted at approximately half mile intervals of each reach of perennial stream by trained students and volunteers. On average, 49 characterizations will be made per watershed. During the characterization, visual assessments will be made of habitat, hydrogeomorphology, and macroinvertebrates.

Habitat parameters, including riffle and pool substrates, stream channelization, riparian conditions, and in-stream cover will be assessed visually. Habitat characteristics are scored on a high gradient habitat assessment field data sheet modified from US EPA 841-B-99-002 (Barbour et al., 1999). The habitat score is compared to regional criteria for the Bluegrass Bioregion based on stream size (headwater or wadeable) to determine a habitat rating for each site. The assessments will occur during the sampling index periods for each reach (headwater streams from March 1 to May 31; wadeable streams from May 1 to September 30).

The hydrogeomorphic assessment will be performed by a visual estimation of the percentage of silt, sand, gravel, cobble, boulders, and bedrock within the reach's riffles, runs, and pools.

Macroinvertebrates will be rapidly assessed in an effort to identify potential locations of more sensitive taxa (mayflies, caddisflies, and stoneflies). Identifications will be performed generally to the order level with the level of effort recorded on the datasheet. The 2015 KDOW volunteer biological assessment protocol will be utilized.

1.7.2 Stream Biology

Macroinvertebrates are sampled by approved biologists, during their respective sampling index periods (for headwater streams it is March 1 through May 31; for wadeable streams the index period is May 1 through September 30). Benthic macroinvertebrate samples are not collected during periods of excessively high or low flow or within two weeks of a known scouring flow event. On average, five macroinvertebrate sites will be sampled per watershed.

The macroinvertebrate community will be sampled using the recommended methods developed by KDOW (2015). These sampling methods involve the collection of two separate samples, a semi-quantitative riffle sample and qualitative multi-habitat sample,

at each station. Samples will be preserved in 95% ethanol and returned to the laboratory for processing and identification.

Random 300-specimen subsamples are removed from the riffle samples using methods described by KDOW (2015). All organisms are identified to the lowest possible taxonomic level and recorded on laboratory data sheets. Macroinvertebrate results are analyzed to calculate a Macroinvertebrate Biotic Index (MBI) rating for each watershed station using appropriate metrics (KDOW 2015, Pond *et al.*, 2003). The MBI score is then compared to regional criteria for the Bluegrass Bioregion to arrive at a narrative water quality rating based on stream size (headwater or wadeable).

1.7.3 Water Quality Monitoring

Water quality monitoring will be performed in two phases: Phase 1 will serve as a field screening effort and Phase 2 will serve as a pollutant load characterization effort. During both phases, water depth, dissolved oxygen (DO), pH, water temperature (TEMP), specific conductance (COND), *E. coli*, total phosphorus (TP), total suspended solids (TSS), ammonia (NH₃), nitrate (NO₃), fluoride (FL), detergents (DTRG), and chlorine (CHL) will be measured. Monitoring will be performed by trained volunteers and LFUCG staff.

Prior to Phase 1 and Phase 2 monitoring, sufficient data will be collected for all water quality sites such that flow can be calculated based on water depth measured in a defined stream cross-section at each site. Geomorphic assessment data, including cross-section survey, limited longitudinal profile survey, and pebble counts will be gathered at each site and a staff gauge will be installed to measure water depth within each surveyed cross-section. Following monitoring, flows will be predicted for the measured water depths using a resistance equation (such as Manning's equation), the cross-section survey data, slope measured from the longitudinal profile survey, and an estimate of stream roughness based on the pebble count data. The USGS gauge in each watershed will be utilized to validate flow estimates for a given monitoring event.

Phase 1 is a field screening effort consisting of four events performed during dry weather (at least 72 consecutive hours of dry weather prior to sampling): two events during August to September of the year prior and two events in January to March of the monitoring year. On average, twelve stream sites will be sampled per watershed. Additionally, all major outfalls will be sampled during Phase 1. In streams, flow will be estimated using the recorded depth at the staff gauge. At major outfalls, flow will be estimated using water depth measurements and channel dimensions. DO, pH, TEMP, and COND will be measured in the field using a water quality multi-meter. NH₃ and CHL will be measured in the field using Hanna Checker units. DTRG will be measured in the field or lab using CHEMets. Grab samples will be collected and transported to the laboratory for analysis of *E. coli*, FL, TSS, TP, and NO₃. All samples will be preserved according to method specifications and transported to the Town Branch WWTP Laboratory for analysis within method holding times and temperature requirements. To

accommodate the large number of sites, a sampling event may span two consecutive days if no rainfall is forecasted or occurs over this time. If the Town Branch WWTP Laboratory reaches its capacity to perform the analyses, another certified laboratory who reads and signs this QAPP may be used.

Phase 2 will consist of ten sampling events performed during the Primary Contact Recreation period (May 1 to September 30) on a set day of the week, regardless of weather conditions. On average, twelve stream sites will be sampled per watershed. Additionally, major outfalls found to be routinely flowing during Phase 1 (*i.e.*, two or more of the four events) will be sampled during Phase 2. In streams, flow will be estimated using the recorded depth at the staff gauge. At major outfalls, flow will be estimated using water depth measurements and channel dimensions. DO, pH, TEMP, and COND will be measured in the field using a water quality multi-meter. CHL will be measured in the field using Hanna Checker units. Grab samples will be collected and transported to the laboratory for analysis of *E. coli*, FL, TSS, NO₃, TP, DTRG, and NH₃. All samples will be preserved according to method specifications and transported to the Town Branch WWTP Laboratory for analysis within method holding times and temperature requirements.

1.7.4 Discharge Prevention Investigation

Discharge prevention investigations utilizes multiple methods to trace and identify the source of water quality measurements above action limits.

When monitoring results exceed action limits, Environmental Inspectors with the LFUCG Division of Water Quality will be notified and they will begin investigating the source of the discharge. The Inspectors will begin at the monitoring site with the actionable result(s) to confirm the previously measured result(s) and will then trace high results through the stream and stormwater network working bridge-to-bridge or manhole-to-manhole to identify and isolate sources. Where the flow is found to be intermittent, caulk dams, sandbagging, or off-hours sampling may be utilized to isolate the source. The parameters utilized to trigger the investigation will be sampled as well as other similar parameters necessary to characterize the source.

Optical brightener surveys will be utilized to investigate high sources of *E. coli* and ammonia where investigations do not clearly determine the source. Traps will be deployed in outfalls with continuous or intermittent flow and retrieved after three days of dry weather. The traps will be viewed under UV light and compared against known controls to determine the presence / absence of human source contributions. Two events will be conducted in each watershed from August to September by contractors.

For microbial source tracking, DNA markers of general, human, and ruminant fecal contributions will be analyzed using quantitative polymerase chain reaction (qPCR). During the first eight Phase 2 water quality sampling events (May to August), the Town

Branch WWTP Laboratory will retain filters from collected samples and freeze them. In September, DNA from 20 filters in this sample set linked to high *E.coli* and ammonia for sites and events of interest will be shipped to the University of Tennessee laboratory, extracted and analyzed to identify fecal sources.

1.7.5 Priority Area Upland Visual Assessment

Visual assessments using methods from Center for Watershed Protection's "*Unified Subwatershed and Site Reconnaissance: A User's Manual*" (2004) will be conducted to evaluate potential sources of pollution within neighborhoods and to investigate areas of potential discharge generators. Assessments will begin in areas upstream of water quality sites found to have routinely high pollutant levels and expand to additional areas if time permits. One week will be spent on each of these assessments in October to December by contractors.

For neighborhoods, visual assessments of at least three representative properties will be attempted within each neighborhood or homeowners' association for indicators of nutrients, oil and grease, trash / litter, bacteria, and sediment. The assessment will include yard and lawn conditions; driveways, sidewalks, and curbs; rooftops, and common areas.

For potential pollutant generators, including unpermitted or lower risk commercial or industrial operations, properties will be visually assessed for indicators of sediment, organic material, and litter. The assessment will include vehicle operations, outdoor materials, waste management, physical plant, turf / landscaping, and stormwater infrastructure.

1.7.6 Deliverables

The results of these monitoring activities will be conveyed through multiple deliverable types including reports, maps, and data analysis.

- For the stream corridor characterization, six summary maps will be generated. These maps will prioritize the stream reaches visually according to 1) instream habitat, 2) channel erosion / deposition, 3) channel stability, 4) riparian zone, 5) total habitat score as compared with KDOW criteria, and 6) substrate characterization.
- Macroinvertebrate scores will be presented on a map as compared with KDOW Criteria and compared to the total habitat scores assessed in the stream corridor characterization. A table of results will also be developed.
- Water quality results will be compared with benchmarks to evaluate where pollutant reductions are needed and maps of priority areas will be generated.

- Discharge prevention investigation results will be utilized to identify specific discharge sources or localized areas for Best Management Practice (BMP) implementation and this information will be conveyed via maps.
- Neighborhoods and potential pollutant generators located in priority areas will be ranked and presented through tables and maps.

The results will be used to compute and assess pollutant loading and will be summarized in a comprehensive, technical Watershed-Focused Monitoring Program Report prepared for each watershed.

These monitoring results may also be used to initiate development a comprehensive Watershed Based Plan in the year following the completion of the monitoring. The results of the Watershed-Focused Monitoring Program may also be used in conjunction with TMDL implementation efforts for the MS4.

1.7.7 Project Schedule Time Line

Table 1 (page 16) summarizes the project schedule for the monitoring conducted in each watershed. The schedule for monitoring each watershed is summarized in Table 2 (page 16).

It is expected that the laboratory will send results with a turnaround time of 14 days. An initial review of the monitoring water quality data will be conducted within 14 days of receipt and distributed to the watershed working group, which consists of the program management team along with staff and volunteers conducting the monitoring and sampling activities. Review of other monitoring activities will be conducted within the allotted time period for the sampling activity to allow for re-sampling if necessary. The Watershed-Focused Monitoring Program Report will be generated by March 31 of the year subsequent to the completion of the monitoring. The expected reporting dates of other monitoring activities are detailed in Table 1.

1.8 Data Quality Objectives (DQOs) and Criteria for Measurement Data

Data quality is determined primarily based on data quality objectives (DQOs) and data quality indicators (DQIs). DQOs are qualitative and quantitative statements that indicate the objectives or goals for the data. Data Quality Indicators (DQIs) are qualitative and quantitative measures of data that indicate whether the data is of sufficient quality to meet the DQOs. The specific DQOs and DQIs for this project are stated in the following sections.

The overall Quality Assurance / Quality Control (QA/QC) objective for the WFMP QAPP is to generate data of sufficient quality and resolution to facilitate the identification and remediation of sources of recreational and aquatic habitat impairments to streams within the Urban Service Boundary. This goal may be sub-divided into the following objectives:

- Characterize and rank stream corridor habitat and hydro-geomorphic function
- Characterize the pollutant load of streams, tributaries, and major outfalls
- Enhance illicit discharge identification in prioritized subwatersheds
- Engage volunteers and the scientific community in data collection efforts (when feasible and appropriate)
- Lay foundation for watershed based plans and TMDL implementation

1.8.1 Data Quality Objectives (DQO)

The data quality objectives in this WFMP QAPP are related primarily to the field sampling. The laboratory DQOs are included, but comprehensive laboratory DQOs, including number of laboratory duplicates, known samples, etc., are stated in individual laboratory Standard Operating Procedures (SOPs) and not in this monitoring program QAPP. This plan is intended to focus on field sampling activities while establishing minimum objectives relating to laboratory quality. The data quality objectives for the respective field sampling activities are listed in Table 3 (page 18).

1.8.2 Action Limits / Levels

1. Biological Metrics

In order to evaluate the habitat assessment and macroinvertebrate sampling results, the KDOW has developed metrics and narrative classification ratings to indicate whether the designated use of warmwater aquatic habitat is supported or the aquatic community is adversely impacted. The criteria are summarized in Table 4 (page 18).

TABLE 3 – SUMMARY OF DATA QUALITY OBJECTIVES

Sampling Activity	Objective
Habitat Assessment	Provide a semi-quantified evaluation of the general habitat of the stream
Substrate Characterization	A basic evaluation of the composition of stream bed substrate which may be used to evaluate habitat availability and restoration potential
Macroinvertebrate Presence / Absence Screening	Identify potential locations for sensitive taxa missed during the macroinvertebrate collections and provide public education on the impacts to the aquatic ecosystem
Macroinvertebrate Collection and Identification	Calculation of the Macroinvertebrate Bioassessment Index (MBI). Macroinvertebrates have varying tolerances for water pollution and serve as long-term indicators of water quality
<i>In situ</i> Measurements and Field Screening	Indicate general measures of water quality at the time of sample collection during dry weather conditions
Grab Sampling	Compare pollutant concentrations to benchmarks, quantify pollutant loading of streams, tributaries, and major outfalls
Hydrogeomorphic Assessment	Will enable flow calculation by water depth at all water quality sites
Storm Network Tracing	Trace high pollutant concentrations to point sources where possible
Optical Brightener	Determine the presence / absence of human source contributions to high areas of <i>E. coli</i> or ammonia
Microbial Source Tracking	Determine fecal source contributions to high areas of <i>E. coli</i> or ammonia
Neighborhood Source Assessment	Identify and rank potential pollutant producing behaviors and restoration opportunities in neighborhoods upstream of high pollutant concentrations.
Potential Pollutant Generator Investigations	Identify potential pollutant sources and restoration opportunities from regulated or non-regulated commercial or industrial facilities.

TABLE 4 – BIOLOGICAL WARMWATER AQUATIC HABITAT CRITERIA FOR THE BLUEGRASS BIOREGION

Narrative Rating	Warmwater Aquatic Habitat Criteria			
	Habitat (RBP Score)		Macroinvertebrates (MBI Score)	
	Wadeable > 5.0 mi ²	Headwater < 5.0 mi ²	Wadeable > 5.0 mi ²	Headwater < 5.0 mi ²
Excellent	N/A	N/A	≥ 70	≥ 58
Good	≥ 130	≥ 156	61-69	51-57
Fair	114-129	142-155	41-60	39-50
Poor	≤ 113	≤ 141	21-40	19-38
Very Poor	N/A	N/A	≤ 20	≤ 18

2. *Water Quality*

The regulatory statute for surface waters in Kentucky is found in 401 KAR 10:031. The statute provides minimum water quality standards for all surface waters as well as specific standards that apply to particular designated uses. For this project, the applicable designated uses include warmwater aquatic habitat (WAH) and primary contact recreation (PCR). Where regulatory criteria exist, such standards are utilized as benchmarks. Where no such criteria exist, non-regulatory benchmarks are utilized for data evaluation purposes only. Because of the sampling frequency of this monitoring program, instantaneous or acute water quality criteria is used to evaluate results when

multiple criteria are present. Table 5 summarizes the criteria used to evaluate water quality data.

TABLE 5 – WATER QUALITY BENCHMARKS

Parameter	Water Quality Benchmark
PCR Regulatory Water Quality Standard	
<i>E. coli</i> ¹	Instantaneous: <240 CFU/100mL; 30-day geometric mean: <130 CFU/100mL
WAH Regulatory Water Quality Standard	
Total Residual Chlorine	0.019 mg/L
pH	Between 6.0 and 9.0 SU, and not to fluctuate more than 1.0 SU over 24 hours
Temperature	< 31.7°C (89°F)
Flow	Not altered to a degree that will adversely affect the aquatic community
Dissolved oxygen	> 5.0 mg/L as a 24-hour average; or > 4.0 mg/L for instantaneous
Specific Conductance	Indigenous aquatic community is not adversely affected
Total Suspended Solids	Indigenous aquatic community is not adversely affected
Nutrients	Not elevated to a level that results in an eutrophication problem
Un-ionized Ammonia ²	<0.05 mg/L
WAH Non-regulatory Reference Point	
Specific Conductance	<300 µS/cm
Total Phosphorus as P	<0.5 mg/L
Nitrate as N	<2.0 mg/L
Ammonia as N	<0.5 mg/L
Detergents	>0.5 mg/L
Chlorine	<0.5 mg/L
Fluoride	<0.5 mg/L
Total Suspended Solids	<80 mg/L

NOTE: PCR = primary contact recreation, WAH = warmwater aquatic habitat,

¹Geometric mean based on not less than five samples taken during a 30-day period. Instantaneous standard is not to be exceeded in 20% or more of all samples taken during a 30-day period. If less than five samples are taken in a month, this standard applies.

²Un-ionized ammonia shall be determined from values for total ammonia-N, in mg/L, pH and temperature, by means of the following equations: Un-ionized ammonia (mg/L) = 1.2*{total ammonia (mg/L as N)/[1+10^(pH_a - pH)]}, where pH_a = 0.0902 + [2730/(273.2+T_c)] and where T_c = temperature, °C.

3. Discharge Prevention Investigation

Discharge prevention investigation action limits determine the levels at which illicit discharge investigations are triggered, as well as levels that are used for source categorization purposes. The action levels are summarized in Table 6.

TABLE 6 – DISCHARGE PREVENTION INVESTIGATION ACTION LEVELS

Parameter	Limits	Parameter	Limits
<i>E. coli</i>	>1000 MPN/100 mL	Fluoride	>0.5 mg/L
Total Suspended Solids	>80 mg/L	Ammonia	>0.5 mg/L
Conductivity	>1000 µS/cm	Detergents	>0.5 mg/L
Chlorine	>0.5 mg/L	pH	<6 SU or >9 SU
Temperature	>90°F or >32.2°C	Dissolved Oxygen	< 4 mg/L

1.8.3 Measurement and Performance Criteria / Acceptance Criteria

Measurement performance criteria are used in new data collection efforts, acceptance criteria are utilized for secondary or existing data use. Measurement criteria are usually stated in quantitative terms, such as limits on method detection limits, bias, or limits of overall variability of study results.

Measurement and performance criteria can be stated as data quality indicators (DQIs); the primary indicators are precision, bias, representativeness, comparability, completeness, and sensitivity. The performance criteria are summarized in Table 7.

TABLE 7 – ACCEPTANCE CRITERIA FOR FIELD MEASUREMENTS AND LABORATORY CHEMISTRIES

Parameter	Units	Field / Lab Method	Accuracy (% R or ±)	Precision ¹ (% RPD)	Sensitivity (Reporting Limit)
<i>In situ</i> Measurements					
Flow – Instream	cfs	Water Depth	±0.1 feet	N/A	0.01 ft/sec
Flow – Outfall	cfs	Water Depth / Channel Dimensions	±0.25 inches	N/A	0.01 ft/sec
Dissolved Oxygen	mg/L	<i>In situ</i>	±0.2	20	±0.2
pH	SU	<i>In situ</i>	±0.5	20	±0.5
Specific Conductance	µS/cm	<i>In situ</i>	±1	20	±1
Temperature, Water	°F	<i>In situ</i>	±0.1	20	±0.1
Field Chemistry Kits					
Ammonia as N	mg/L	Hanna Checker	±0.10	20	0.01 – 3.00
Chlorine, Total	mg/L	Hanna Checker	±0.05	20	0.01 – 3.50
Detergents	mg/L	CHEMets Test Kit	Variable ²	Variable ²	0.0 – 3.0 ²
Laboratory Chemistries					
<i>Escherichia coli</i>	MPN/100mL	SM 9223 B	N/A	20	1
Total Suspended Solids	mg/L	SM 2540 D	95-105	20	2
Phosphorus, Total as P	mg/L	SM 4500-P E	80-120	20	0.033
Ammonia as N	mg/L	HACH 10205	80-120	20	0.05
Nitrate as N	mg/L	EPA 300.0 or HACH 10206	80-120	20	0.10
Fluoride (SPADNS)	mg/L	SM 4500 F	80-120	20	0.03

¹ Indicates minimum laboratory precision for water quality parameters

² Visual comparators with increments of 0, 0.25, 0.5, 0.75, 1.0, 1.5, 2.0, and 3.0 mg/L.

For Stream Corridor Characterizations, 10% of habitat assessments and substrate characterizations will be duplicated by trained biologists. For volunteer results with different narrative rating scores or vastly different individual parameters scores, field photographs will be utilized to evaluate the habitat assessment scores for all assessment performed by that individual. Results may be amended or rejected based on best professional judgment subsequent to this review.

For Stream Biology, the macroinvertebrate collection quality is assured by annual training, audit, and certification by KDOW. A collection check sheet shall also be used to document

the habitats sampled in the field. Field photographs are used to document accuracy for habitat assessment. For macroinvertebrate laboratory identification, sorting and taxonomic quality checks will be utilized to document precision.

Field duplicates will be collected or measured for *in situ* measurements, field chemistries, and water quality grab samples at 5% of sites during Phase 2. Laboratory duplicates will also be performed. Internal laboratory QC samples will be analyzed to determine if the project accuracy standards, listed in Table 7 above are met. The "±" values listed in Table 7 for the *in situ* measurements are the minimum requirements of field equipment to be used in this project.

Representativeness is also ensured by collection under the specified sampling conditions and index period. Comparability with other water quality data for the area has been pursued through compliance with the use of Kentucky Division of Water procedures or standardized SOPs. It is assumed that all sites will be sampled for this project unless field conditions are such that prerequisite conditions are not present or interferences prevent representative sample collection. It must be thoroughly documented if a sample cannot be collected. If samples are rejected or sites cannot be sampled, re-sampling shall not be performed under this project.

For grab sampling and *in situ* measurements, the sensitivity levels necessary for this program are specified in Table 7 above. For volunteer biological assessments macroinvertebrates are identified to order. For macroinvertebrate sampling, all organisms are to be identified to the lowest possible taxonomic level (genus or species as the key permits) in order to properly calculate the associated metrics.

1.9 Special Training Requirements

Documentation of training will be maintained by the Data Manager. The minimum training requirements for the project tasks are as follows:

1.9.1 Stream Corridor Characterization

In order to perform Stream Corridor Characterizations, samplers must meet the following qualifications:

- Complete Kentucky Watershed Watch volunteer training for biological (WWSOP03000) and habitat assessments (WWSOP04000), or the equivalent.
- Read and understand of the associated protocols and this QAPP.
- LFUCG training and certification on Stream Corridor Characterization

1.9.2 Stream Biology

In order to perform the habitat assessments and macroinvertebrate collection and identification for the stream biology surveys, KDOW specifies the minimum training requirements:

- Graduation from a college or university with a bachelor's degree in a biological, environmental, or natural science, which includes at least thirty credit hours in the biological sciences.
- Three years of professional experience in research, environmental impact assessment, or related environmental program areas. Graduate work in the biological, environmental, or natural sciences can substitute for the required experience on a year-for-year basis.
- Proficiency in the identification of macroinvertebrates to the genus level (for macroinvertebrate identification).
- Annual training certificate and audit for macroinvertebrate collection from the KDOW.
- Annual signed affidavit that the QAPP and SOPs have been reviewed.
- Proper / valid state collecting permits.

1.9.3 Water Quality Monitoring

Stage-discharge curve development and surveying will be performed under the direction and guidance of a licensed engineer.

In order to perform field collection of water quality samples, samplers must meet one of the following qualifications:

- Reading and understanding of the associated protocols and this QAPP
- LFUCG training and certification
- One of the following:
 - Complete KRWW training for field water chemistry assessment (WWSOP01000) and stream grab sample collection (WWSOP02000) and certification
 - Minimum of one year of professional experience in water sample collection, research, environmental impact assessment, or related environmental program areas. Degree in the biological, environmental, or natural sciences can substitute for the required experience.

1.9.4 Discharge Prevention Investigations

Storm Network Tracing shall be performed by LFUCG Environmental Inspectors. For the optical brightener survey, field investigators must read and understand this QAPP and associated protocols.

1.9.4 Upland Visual Assessments

In order to perform priority area upland visual assessments, field investigators must read and understand this QAPP and associated protocols.

1.10 Documentation and Records

In order to provide quality data that meets the project objectives, traceability and maintenance of documentation and records is essential. All records relating to the collection, analysis, or reporting data associated with the project shall be made available upon request by the KDOW. A summary of such documentation is included below.

1.10.1 Field Documentation and Records

Proper documentation of all field activities is essential to ensure that data quality objectives are achieved. Field crews are expected to document unusual or anomalous conditions that may later be useful for data interpretation and analysis. The forms described below are those that will be utilized in the sampling effort.

Data collected for this project will be recorded in field notebooks, standardized forms, or directly entered into electronic databases. All data recorded in field notebooks are to be scanned and maintained electronically in project files. The following standardized field forms will be utilized in the sampling effort:

- High-Gradient Habitat Assessment Field Data Sheet
- Substrate Characterization/Macroinvertebrate Screening Field Sheet
- Aquatic Biology Sample Chain-of-Custody
- Macroinvertebrate Collection Check Sheet
- Reference Reach Field Book
- Pebble Count Field Data Sheet
- Photo Log Data Sheet
- Water Quality Chain-of-Custody
- Calibration and Maintenance Logs
- Illicit Discharge Investigation Form
- Optical Brightener Data Sheet
- Neighborhood Source Assessment Field Data Sheet
- Potential Generator Investigation Form

These field forms are provided in Appendix A. All field standard operating procedures are provided in Appendix B.

Field documentation may include photography or video to document current field conditions. Photographs will also be used to document habitat assessments. All

photographs and videos will be retained electronically for the duration of the permit or five years.

1.10.2 Laboratory Documentation and Records

Draft water quality laboratory results will be submitted in an Excel spreadsheet to LFUCG, KDOW, and volunteer samplers no later than 14 days after receipt of the laboratory results. Full results including a quality control review and data package will be submitted with the Watershed-Focused Monitoring Program Report. The chemical laboratory data package will include the laboratory results, completed chain(s)-of-custody, lists of qualifiers associated with the data, and a report of the quality control results.

Biological data including macroinvertebrate results, habitat assessments, and metric calculations, will be submitted via an Excel spreadsheet. The biological laboratory data package will include site photographs, habitat assessment scores, macroinvertebrate presence/absence results, macroinvertebrate sample results, macroinvertebrate benchsheets, metric scores, quality control datasheets, completed chain(s)-of-custody, calibration logs, collection check sheets, and qualifications of the field personnel. The biological laboratory data package will be included in the Watershed-Focused Monitoring Program Report. All chemical and biological data will be archived electronically for the longer of the duration of the permit or five years.

All laboratory forms and standard operating procedures are attached in Appendix C.

1.10.3 QA Reports

This QAPP will be distributed to all individuals on the distribution list, subsequent to updating. A list of changes between revisions will be maintained in the document.

Quality assurance reports will be submitted to LFUCG with the Watershed-Focused Monitoring Program Report. For chemical laboratory data, the report will document all the quality controls associated with the analysis of the collected samples along with a narrative description of the results and a list of all data qualifiers, and will be provided to the KDOW on request. Macroinvertebrate laboratory quality assurance documentation will include completion of Macroinvertebrate Sample Sorting Efficiency Form, Macroinvertebrate Sample Taxonomy Precision Form, and Macroinvertebrate Sample Taxonomic and Enumeration Efficiency Form.

Field *in situ* measurements are to be recorded on the datasheet, chain-of-custody, or in a field notebook. Equipment calibration and maintenance logs are to be documented and recorded per procedure specifications. Any field issues and corresponding corrective actions will be discussed in the quality assurance section of the Watershed-Focused Monitoring Program Report. All field data will ultimately be submitted in the chemical or biological data packages. However, all field notes, including the location and frequency

of QC sampling, *in situ* measurements, and calibration and maintenance logbooks will be retained for the longer of the duration of the permit or five years.

2 DATA ACQUISITION

2.1 Sampling Experimental Design

A systematic sampling design has been utilized for these activities, wherein the sample locations and parameters have been selected based upon permit requirements and evaluation needs.

A total of nine major watersheds are located in Fayette County. Seven of these watersheds, including Town Branch, Wolf Run, Cane Run, North Elkhorn Creek, East Hickman Creek, West Hickman Creek and South Elkhorn Creek, drain a portion of the Urban Service Area. This monitoring plan addresses only the portions of the watersheds that drain the Urban Service Area.

Monitoring activities will focus on one of these watersheds per year before rotating to another watershed.

The five key monitoring elements chosen for this project are intended to characterize and rank the stream corridor habitat and hydrogeomorphic function, characterize pollutants in the streams and stormwater system, and to determine specific locations and land uses generating these pollutants.

Stream corridor characterizations are designed to evaluate representative segments of all streams in the Urban Service Area. Perennial streams were broken into approximately half mile segments or at major tributaries or roadways. These locations are shown in Exhibits 1 – 7 (Appendix D), and summarized in Table 8 (page 27) for each watershed. It is critical that one characterization is conducted in each of these locations reaches, but additional characterizations may be performed at intervals of 100 meters within each reach if participation allows. Habitat assessments will be conducted by the rapid bioassessment protocol to allow for results to be compared to KDOW criteria. Hydrogeomorphic assessments will be conducted in reach riffles, runs, and pools by visual estimation of the percentage of silt, sand, gravel, cobble, boulder, and bedrock. This is intended to provide a rapid evaluation that may identify substrates that are poorly suited for macroinvertebrate colonization, siltation problem areas, or areas that might benefit from stream restoration. The rapid assessment of the macroinvertebrate community to order level will be conducted in each segment to identify potential locations of more pollution sensitive taxa (mayflies, stoneflies, and caddisflies).

The number of benthic macroinvertebrates sampled in each watershed is shown in Exhibits 8 to 14 (Appendix D) and summarized for each watershed in Table 8 (page 27). These sites were chosen to determine if the macroinvertebrate community is similar to the routinely monitored site at the mouth of each watershed. Macroinvertebrate results are utilized to calculate a Macroinvertebrate Biotic Index (MBI) rating which provides a

water quality rating when compared to regional criteria. Individual macroinvertebrate sampling site locations are described in Appendix E.

TABLE 8 – SAMPLING SITE SUMMARY BY WATERSHED

Watershed	Year	Stream Corridor Characterization		Macro-invertebrate		Water Quality	
		Head.	Wade.	Head.	Wade.	Instream	Major Outfalls*
Cane Run	2016-17	30	3	2	1	11	53
South Elkhorn	2017-18	39	2	4	1	15	63
West Hickman	2018-19	52	8	3	2	17	80
East Hickman	2019-20	25	4	4	1	12	45
Town Branch	2020-21	20	6	2	3	12	53
North Elkhorn	2021-22	57	0	1	3	11	35
Wolf Run	2022-23	27	3	4	1	13	32

*Estimated number of major outfalls. Exact number will be revised during visual assessments conducted prior to Phase 1 screening.

Stage-discharge surveys will be conducted at water quality sites prior to the first monitoring event in order to facilitate volunteer participation and increase the speed of sampling during monitoring events.

For water quality monitoring, two phases are scheduled. Monitoring will occur at water quality sites and major outfalls, as summarized in Table 8. Parameters are summarized in Table 9. The location of these sites and outfalls are described in Appendix E and water quality sites are shown on Exhibits 15 to 21 (Appendix D). The exact number of Major Outfalls will be revised during a visual assessment of all outfalls in the watershed conducted prior to Phase 1 screening. A Major Outfall is defined by the MS4 permit as an LFUCG-owned outfall that is:

1. A pipe with an inside diameter of 36" or the cross-sectional equivalent,
2. An open conveyance with drainage area 50 acres or greater,
3. A pipe with an inside diameter of 12" or the cross-sectional equivalent and draining an industrial land use, or
4. An open conveyance with drainage area 2 acres or greater and draining an industrial land use.

During Phase 1, instream water quality sites as well as all major outfalls are evaluated to address the MS4 permit requirement to evaluate the discharge load associated with major outfalls for TMDL-related pollutants. Field water quality kits are utilized during this phase for most parameters to reduce costs. The monitoring is conducted under dry weather conditions to facilitate identification of illicit sources. Two events are scheduled in August to September of the prior year to evaluate summer flow under lower groundwater tables and two are scheduled in January to March when the groundwater levels are higher. Nutrient levels will be monitored by analysis of TP, NH₃, and NO₃ levels. CHL, FL, and

DTRG will be measured to detect anthropomorphic influences. *E.coli* will be sampled to detect bacterial inputs to each watershed. TSS will be measured to detect potential sediment inputs within each watershed. *In-situ* measurements (DO, pH, TEMP, and COND) will be sampled to document general water quality conditions. Water depth is recorded to generate flow, a variable essential in calculating pollutant loading. Where possible parameters will be analyzed using field kits (*e.g.*, Hanna Checkers) to lower costs.

TABLE 9 – WATER QUALITY AND DISCHARGE PREVENTION INVESTIGATION PARAMETERS

Parameter	WQ Phase 1	WQ Phase 2	Discharge Prevention Investigation
Frequency (# Events)	4 ¹	10 ²	Phase 1 & 2 triggers
Visual Assessments	N - Field Notes	N - Field Notes	C
Flow	C – Water Depth	C – Water Depth / Dimensions	C – Water Depth
pH	C – <i>In situ</i>	C – <i>In situ</i>	C – <i>In situ</i>
Specific Conductance	C – <i>In situ</i>	C – <i>In situ</i>	N – <i>In situ</i>
Dissolved Oxygen	C – <i>In situ</i>	C – <i>In situ</i>	N – <i>In situ</i>
Temperature, Water	N – <i>In situ</i>	N – <i>In situ</i>	N – <i>In situ</i>
Ammonia	C – Field Kit	C – Grab	C – Field Kit
Chlorine, Total	N – Field Kit	N – Field Kit	C – Field Kit
Detergents	N – Field Kit or Lab	N – Field Kit or Lab	C – Field Kit or Lab
Fluoride	N – Grab	N – Grab	C – Field Kit or Grab
Total Phosphorus	C – Grab	C – Grab	N – Grab
<i>Escherichia coli</i>	C – Grab	C – Grab	C – Grab
Total Suspended Solids	C – Grab	C – Grab	C – Grab
Nitrate as N	C – Grab	C – Grab	N – Grab
Microbial Source Tracking ³	-	C – Selected Filters	-

NOTE: C = Critical parameter, N = Non-critical parameter

¹ 72-hour antecedent dry period

² Bi-weekly, set day of the week during the Primary Contact Recreation Period

³ Filters will be stored by laboratory

During Phase 2, instream water quality sites are monitored, but only major outfalls found to be flowing during at least two of the four events during Phase 1 events are monitored in Phase 2. Phase 2 is intended to provide more accurate calculations of the annual loading. Phase 2 water quality monitoring will be performed during ten events during the Primary Contact Recreation period (May 1 to September 30) to document pollutant levels during this period. Sampling will be performed on a set day of the week, regardless of weather conditions, to facilitate volunteer involvement, and to capture a range of flow conditions for annual load calculations. Similar parameters are sampled during Phase 2 as were in Phase 1. In addition to the parameters analyzed in the laboratory during Phase 1 (*E. coli*, FL, TSS, TP, and NO₃), DTRG and NH₃ will be analyzed in the laboratory instead of the field to improve accuracy.

As summarized in Table 9, CHL, DTRG, and TEMP are non-critical samples, but all other samples are critical to the decision-making process.

The Discharge Prevention Investigations are designed to follow up on the water quality monitoring by identifying specific sources of pollution. When Phase 1 or Phase 2 results exceed action limits, Environmental Inspectors with the LFUCG Division of Water Quality will be notified and they will begin investigating source of discharge. Inspectors will confirm results, then trace high results through the stream and stormwater network to identify and isolate source of impairment using illicit discharge detection and elimination protocols. Optical brightener surveys will be utilized to investigate high sources of *E. coli* and ammonia where investigations do not clearly determine the source. Microbial source tracking via qPCR markers to identify the relative contribution of bacteria sources at key locations. The ABAC qPCR marker is for general Bacteroides bacteria signal from animals and humans, not specific to a particular host. The HuBac qPCR marker is for Bacteroides bacterial signals associated with human hosts. The BoBac qPCR marker is for Bacteroides bacterial signals associate with ruminants.

Priority Upland Visual Assessments will be conducted in areas that have routinely high pollutant levels, and will be visually inspected in an effort to determine source of pollutants within neighborhoods, and potential discharge generators. These assessments will occur during one week in October and December. At least three properties within a neighborhood will be assessed for sources of pollution (nutrients, oil and grease, trash/litter, bacteria, sediments), and will include lawn conditions, driveways, sidewalks, curbs, rooftops, and common areas. Potential discharges will be assessed for indicators of sediment, organic material, and litter by inspecting vehicle operations, waste management, physical plant, landscaping, and stormwater infrastructure. These areas will be ranked and location presented on exhibits.

2.2 Sampling Procedures and Requirements

The following paragraphs provide a summary of the sampling methods and equipment associated with each of the monitoring activities. For a complete discussion of the sampling methods, consult the SOPs listed in Table 10, page 30. During all monitoring activities, the sampler personnel are to bring the following materials at a minimum: waterproof field notebook, pencils, ink pens, sampling protocols, appropriate field forms, gloves, waders or boots, and a digital camera. Other equipment or materials specific to each sampling type are recorded in the sections that follow.

TABLE 10 – STANDARD OPERATING PROCEDURES

Sampling Activity	Standard Operating Procedures
Visual Substrate Characterization	KDOW. 2011. Methods for Assessing Habitat in Wadeable Waters. DOWSOP03024
Macroinvertebrate Visual Assessment	KWW. 2015. <i>Kentucky Watershed Watch Biological Stream Assessment High Gradient Standard Operating Procedure WWSOP03000</i>
Macroinvertebrate Collection and Identification	KDOW. 2015. <i>Methods for Collecting Macroinvertebrate Samples As Required For TMDL Alternative Studies and/or Watershed-Based Plans</i> . Kentucky Department for Environmental Protection, Division of Water, Frankfort, Kentucky. DOWSOP03039
Habitat Assessment	LFUCG. 2015. MON-02: <i>Standard Operating Procedure for Habitat Assessment</i> . KWW. 2015. <i>Kentucky Watershed Watch High Gradient Stream Habitat Assessment Standard Operating Procedure WWSOP04000</i>
<i>In situ</i> Measurements	LFUCG. 2015. IDDE-02: <i>Standard Operating Procedure for In situ Water Quality Measurements and Meter Calibration</i> . KWW. 2015. <i>Kentucky Watershed Watch Field Water Chemistry Assessment Standard Operating Procedure WWSOP01000</i>
Grab Sampling	LFUCG. 2015. IDDE-03: <i>Standard Operating Procedure for Sampling Surface Waters</i> . KWW. 2015. <i>Kentucky Watershed Watch Stream Grab Sample Collection Standard Operating Procedure WWSOP02000</i>
Phase 1 and Phase 2 Water Quality Sampling	LFUCG. 2015. IDDE-02: <i>Standard Operating Procedure for In situ Water Quality Measurements and Meter Calibration</i> . LFUCG. 2015. IDDE-03: <i>Standard Operating Procedure for Sampling Surface Waters</i> . LFUCG. 2015. IDDE-04: <i>Standard Operating Procedure for Flow Estimation at Outfalls</i> . LFUCG. 2015. IDDE-05: <i>Standard Operating Procedure for Ammonia by Hanna Checker</i> . LFUCG. 2015. IDDE-06: <i>Standard Operating Procedure for Chlorine by Hanna Checker</i> . LFUCG. 2015. IDDE-09: <i>Standard Operating Procedure for Detergents by CHEMets</i> .
Discharge Prevention Investigations	LFUCG. 2015. IDDE-01: <i>Illicit Discharge Detection and Elimination (IDDE) Protocol</i> .
Optical Brightener Surveys	LFUCG. 2016. MON-03: <i>Standard Operating Procedure for Optical Brightener</i>
Priority Area Upland Visual Assessment	Center for Watershed Protection. 2004. <i>Unified Sub-watershed and Site Reconnaissance: A User's Manual</i> .

2.2.1 Stream Corridor Characterization

During stream corridor characterizations three types of survey activities will take be performed: habitat assessments, substrate characterization, and macroinvertebrate screening.

Equipment

Table 11, page 31, indicates the sampling equipment to be utilized in Stream Corridor Characterization.

Method

Habitat assessments include a visual assessment of ten habitat parameters that characterize the stream "micro scale" habitat, the "macro scale" features, and the riparian and bank structure features that are most often influential in affecting the other parameters. LFUCG's method (MON-02) follows the USEPA's *Rapid Bioassessment*

Protocols for Use in Wadeable Streams and Rivers (Barbour *et al.* 1999) and KDOW's *Methods for Assessing Habitat in Wadeable Waters* (KDOW 2011a). Each of the parameters is evaluated on a "Condition Category" scale from 0 to 20. The categories within this scale include "Optimal" (scores 20 to 16), "Suboptimal" (scores 15 to 11), "Marginal" (scores 10 to 6), and "Poor" (scores 5 to 0). The score for each parameter is summed to produce a final habitat score (maximum 200).

TABLE 11 – STREAM CORRIDOR CHARACTERIZATION SAMPLING EQUIPMENT

D-frame dip net	High gradient Habitat Assessment
Two Tupperware tubs for sorting pans	Data Sheet
Forceps	Substrate Characterization /
Digital camera	Macroinvertebrate Screening Field
Ruler (mm) or Gravelometer	Sheet
Photo Log Data Sheet	

For parameters 1 to 5, the habitat assessment should evaluate a composite of the entire biological sampling reach. For parameters 6 to 10, an area beginning approximately 100-m upstream of the sampling reach through the sampling reach should be evaluated as a composite. When determining left and right bank, face downstream. For parameters 8 to 10, each bank is scored independently from 10 to 0. At each sampling site, results will be recorded on the High-Gradient Habitat Assessment Field Data Sheet. Photographs will be taken to document the following at each site:

- Sampling zone
- Upstream
- Downstream
- Typical in-stream habitats

The individual scores for each parameter are described on the field data sheet. Table 12, page 32, summarizes each of the ten parameters assessed. Full descriptions can be found in the sampling procedure.

Each photo will be labeled with the stream name, location, station number, sampling date, and the features documented in the photo. This data is to be submitted in a photo log with results of the assessment.

Substrate characterization will be conducted by visual estimation of substrate size within the assessment reach following Kentucky Division of Water's *Methods for Assessing Habitat in Wadeable Waters* (KDOW 2011a). Visual estimates of substrates will involve estimating the percentage of riffle, run, and pool habitat (See Figure 2) within the assessment reach and recording it at the top of the columns on the Substrate Characterization/Macroinvertebrate Screening Field Sheet. Substrates will be visually assessed using a ruler or gravelometer to help gauge substrate particle size within each

of these locations. Substrate particle size categories are presented in Table 13, page 33. The percent composition of each substrate size is recorded on the datasheet by riffle/run/pool. Reach totals are calculated in office by weighting the percentage of each substrate by the amount of riffle / run / pool present.

TABLE 12 – SUMMARY OF HABITAT ASSESSMENT PARAMETERS

#	Parameter Name	Description
1	Epifaunal Substrate / Available Cover	Relative quantity and the variety of stable structures, such as cobble, boulders, fallen trees, logs, branches, root mats, undercut banks, aquatic vegetation, etc., that provide refugia, feeding opportunities, and sites for spawning and nursery functions.
2	Embeddedness	The extent to which rocks and snags are covered or sunken into the silt, sand, mud, or biofilms (algal, fungal, or bacterial mats) of the stream bottom.
3	Velocity / Depth Regime	Presence of the following patterns of velocity and depth: 1) slow-deep, 2) slow-shallow, 3) fast-deep, and 4) fast-shallow.
4	Sediment Deposition	The amount of sediment that has accumulated in pools and changes that have occurred to the stream bottom as a result of deposition. This may cause the formation of islands, point bars, or shoals. It could also cause runs and pools to fill.
5	Channel Flow Status	The degree to which the channel is filled with water. The score will change with the seasons. Estimate the percentage of the channel that is wet using the low water mark.
6	Channel Alteration	Channel alteration is present when 1) artificial embankments, rip-rap, and other forms of bank stabilization or structures are present, 2) the stream is very straight for significant distances, 3) dams and bridges are present that obstruct flow, and/or 4) dredging or other substrate mining activities are occurring or have occurred.
7	Frequency of Riffles (or Bends)	Estimate riffle frequency by determining the ratio of distance between riffles divided by the width of the stream. An average of the riffle ratios is determined for biological monitoring stations and the upstream segment.
8	Bank Stability	Whether the stream banks are eroded or have the potential to erode. Each bank is scored independently from 10-0.
9	Bank Vegetative Protection	Each bank is scored independently from 10-0. Determine what vegetative types (trees, understory shrubs, herbs, and non-woody plants) are present on each bank. Native vegetation scores higher than invasive or non-native vegetation.
10	Riparian Vegetative Zone Width	The width of the natural vegetation from the edge of the stream bank through the riparian zone. Each bank is scored independently from 10-0. When determining final scores, the age and density of the riparian vegetation should be evaluated (<i>e.g.</i> , A score of 9, instead of 10, should be given to a riparian zone that is over 20 m in width, but is dominated by 5-10 year old hardwood trees).

FIGURE 2 – RIFFLE, RUN, AND POOL IDENTIFICATION IN A STREAM

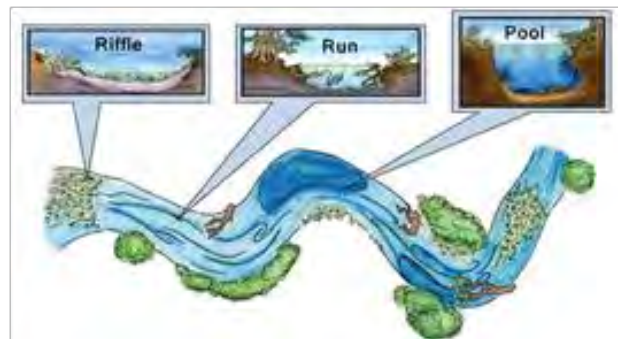


Image from Missouri Department of Conservation, Texas Parks and Wildlife Department, The Meadows Center for Water and the Environment, Rudolph Rosen

TABLE 13 – PARTICLE SIZE SUMMARY

Particle	Size (mm)	General Description
Silt / Clay	<0.062	Mud, smaller than pen tip
Sand	0.062 - 2	Smaller than BB
Gravel	2-64	Bigger than BB, smaller than fist
Cobble	64 - 256	Bigger than fist, smaller than head
Boulder	256 - 2048	Bigger than head, smaller than 7 feet
Bedrock	bedrock	Solid rock

Macroinvertebrate screening during stream corridor characterization surveys will at minimum evaluate riffles, pools, and margins (i.e. emergent vegetation) in an effort to identify pollution intolerant taxa such as stoneflies, mayflies, and caddisflies. If students or volunteers are performing the screening, they should follow the *Kentucky Watershed Watch Biological Assessment High Gradient Standard Operating Procedure* (WWSOP03000). Various habitat types will be sampled using a D-frame net throughout a 100-meter-long sampling reach. Other habitat types may be sampled by simply collecting by hand and “swishing” in a pan of clean water to dislodge macroinvertebrates. Equipment needed for macroinvertebrate screening includes D-frame net, and two sorting pans. A summary of sampling methods for macroinvertebrate screening is provided in Table 14, page 34, and further defined below:

- Riffles – place dipnet into the middle of the riffle and kick 0.25 m² area upstream of the net. Leaves, large rocks and sticks are hand washed into the net. Four replicates are sampled from various riffles within the reach.
- Undercut Banks/Root Mats – place large root mat into the dipnet and shake vigorously. For undercut banks jabs without root mats jabs are employed
- Aquatic vegetation – submerged and emergent vegetation are sampled by thrusting the net into the vegetation for approximately one meter and then sweeping the disturbed area with the net
- Bedrock/Slabrock – place edge of dipnet flush with the substrate and kick an area of approximately 0.1 m² upstream of the net.
- Leaf Packs – collect conditioned leaf packs by hand from each type of area present (i.e. riffle/run/pool) and place into the dipnet.
- Large Submerged Wood – jab 0.5 meter section of a large submerged piece of wood. The sampled wood should be 10 to 20 feet in length and 2 to 6 inches in diameter.

- Silt/Sand/Fine Gravel – sample is collected by scooping substrates up by hand and placed into collection pan.

TABLE 14 – MACROINVERTEBRATE SCREENING METHODS

Technique	Sampling Device	Composited Replicates
0.25 m ² riffle kick	D-frame dipnet	4 x 0.25 m ²
Undercut banks/root mats	D-frame dipnet	
Aquatic vegetation	D-frame dipnet	1 meter sweep
Bedrock or slabrock kick	D-frame dipnet	0.1m ² kick
Leaf packs	Swish in pan	Handful from each type (riffle/run/pool)
Large submerged wood	D-frame dipnet	0.5 m jab
Silt, sand, and fine gravel	Scoop with hands	1 handfull

As samples are collected they are composited into the first of two collection pans. Nets are swished into the pan and inspected for organisms, any organisms found are placed into the second collection pan. Large debris in the first collection pan is inspected for organisms and discarded. Macroinvertebrates are picked from the first pan into the second pan without transferring debris. After all organisms are removed from the first pan contents are discarded and the pan is filled with clean stream water for processing additional samples. Once sampling is concluded and all organisms are placed in a second pan they are counted and identified using the Kentucky Water Watch Benthic Macroinvertebrate Identification Key. This information is recorded on the Substrate Characterization/Macroinvertebrate Screening Field Sheet.

2.2.2 Macroinvertebrate Sampling

Sampling for benthic macroinvertebrates will be conducted according to the Kentucky Division of Water's *Methods for Collecting Macroinvertebrate Samples as Required for TMDL Alternative Studies and/or Watershed-Based Plans* (KDOW 2015). All streams found in Fayette County are high gradient streams. Macroinvertebrates will be sampled at five sites throughout the watersheds of East Hickman, West Hickman, South Elkhorn, Town Branch, and Wolf Run. Macroinvertebrate samples will be collected at three sites in the Cane Run watershed, and four sites in North Elkhorn. The equipment and methods specific to these collection efforts are described below.

Equipment

Table 15, page 35, indicates the sampling equipment to be utilized during benthic macroinvertebrate sampling.

TABLE 15 – BENTHIC MACROINVERTEBRATE SAMPLING EQUIPMENT

600µm mesh, 0.25 meter wide rectangular net or kick seine	Fine-tipped forceps
800 x 900µm D-frame dip net	95% ethyl alcohol
U.S. Number 10 sieve	White picking pans
U.S. Number 30 sieve	Sample jars and labels
Two - 600µm mesh wash buckets	Water quality multi-meter
Medium-sized bucket	Field notebook
300µm nitrex sampler/mesh	Chain-of-Custody
	Collection Check Sheet

Method

A collection event consists of a composited semi-quantitative sample and a composited multi-habitat sample. Semi-quantitative samples are collected from a known area in order to indicate the macroinvertebrate community in the most productive habitat in the stream niche (*i.e.*, riffle). Multi-habitat samples are intended to identify other taxa present in the stream that may not be collected in the semi-quantitative sampling. These two sample types must be kept separate for effective diagnosis of impairment. A summary of the collection techniques used for wadeable and headwater streams is shown in Table 16 and further described in the following sections.

TABLE 16 – SUMMARY OF SAMPLING METHODS FOR MACROINVERTEBRATES

Technique	Sampling Device	Habitat	Replicates Composited for Wadeable Sites	Replicates Composited for Headwater Sites
Semi-Quantitative				
1m ² kicknet / seine	Kicknet / seine and wash bucket	Riffle	4 x 0.25m ² from thalweg or mid-riffle of at least 2 separated riffles	4 x 0.25m ² from thalweg of at least 2 separated riffles
Multi-Habitat Sweep				
Undercut banks / roots	D-frame or triangular dip net and wash bucket	All applicable	3 from each riffle, run, and pool	3 from each riffle, run, and pool
Sticks / wood			N/A	3
Emergent vegetation			3	N/A
Bedrock / slabrock			3	N/A
<i>J. americana</i> beds			3	N/A
Leaf packs		Riffle, Run, Pool	3 from each riffle, run, and pool	3 from each riffle, run, and pool
Silt, sand, fine gravel	US #10 Sieve	Margins	3	3
<i>Aufwuchs</i> sample	300 µm nitrex sampler / mesh	Riffle, Run, Pool	3	N/A
Rock pick	Fine-tipped forceps and wash bucket		15 total (5 from each riffle, run, and pool)	5 small boulders from pools only
Wood sample			10 - 20 linear feet, 2 - 6 in diameter	7 linear feet, 2 - 6 in diameter

It is important to keep in-stream habitat intended for benthic macroinvertebrate sampling intact and undisturbed until the single and multi-habitat samples have been collected. Therefore, field personnel will avoid walking through areas designated for collection of benthic macroinvertebrates until sampling has been completed. Failure to use caution could result in sample degradation.

After collections are completed, large sticks and leaves are washed into a 600µm sieve bucket in the field, inspected for organisms and discarded. Rocks will be elutriated and hand washed into a bucket and 600µm sieve. This process is repeated until a manageable amount of debris and organisms (relative to size of sample container) can be preserved for laboratory sorting. Samples may be partially field picked using a white pan and fine-tipped forceps. The sample container is preserved with 95% ethanol. While at the sampling location, all macroinvertebrate samples will receive a label. The label will be placed in the sample jar (labels placed in the jar will be written in No. 2 pencil on waterproof paper) and written directly on some portion of the jar. The label will include the site number, stream name, location, type of sample (*e.g.*, multi-habitat, riffle kick), date sampled, and the collectors' initials.

After sampling has been completed, all sampling gear will be thoroughly cleaned to remove all benthic macroinvertebrates so that specimens are not carried to the next site. The equipment shall be examined prior to sampling at the next site to ensure that no benthic macroinvertebrates are present.

DO, COND, pH, and TEMP will be measured *in situ* with a water quality multi-meter at the time of the survey. Results will be recorded in the field notebook.

Semi-Quantitative

In both headwater and wadeable streams, semi-quantitative sampling consists of taking four (4) 0.25m² quadrat kick net samples from mid-riffle or the thalweg. This is accomplished using a 0.25 m², 600µm mesh kick net, dislodging benthos by vigorously disturbing the 0.25 m² (20 x 20 in.) of substrate in front of the net. Large rocks will be hand washed into the net. The contents of the net are then washed and all four samples are composited to yield a 1m² semi-quantitative sample. The composited sample is partially field processed using a U.S. No. 30 sieve (600µm) and wash bucket. Large stones, leaves and sticks are individually rinsed and inspected for organisms and then discarded. Small stones and sediment are removed by elutriation using the wash bucket and U.S. No. 30 sieve. This sample must be kept separate from all other sub-habitat collections.

Multi-Habitat

This method involves sampling a variety of non-riffle habitats with the aid of an 800 x 900µm mesh triangular or D-frame dip net. The habitats sampled and the number or size

of replicates differs for headwater and wadeable sites, as shown in Table 16, page 35. Each of these sub-habitat samples are composited into one multi-habitat sample for each site. The sub-habitats are fully described in the procedure and summarized below:

- Undercut Banks / Root Mats - large root wads and undercut banks in riffle, run and pool areas, if present, are each sampled separately with three (3) replicates each.
- Marginal Emergent Vegetation - Three 1-meter sweep replicates are required to be sampled for wadeable sites and may be sampled for headwater if present.
- Bedrock or Slab-Rock Habitats - Disturb approximately 0.1m² of area to dislodge attached organisms.
- Justicia americana Beds - A 1m section with three replicates is required to be sampled for wadeable sites and may be sampled for headwater if present.
- Leaf Packs - "Conditioned" (*i.e.*, not new-fall material) material when possible. Samples are taken from a diversity of habitats (*i.e.*, riffles, runs and pools). Three replicates from each habitat are to be conducted for both headwater and wadeable sites.
- Silt, Sand, and Fine Gravel - A U.S. No. 10 sieve is used to sort larger invertebrates (*e.g.*, mussels, burrowing mayflies, dragonfly larvae) from silt, sand and fine gravel to an approximate depth of 5 cm. A variety of collection sites are sampled in order to obtain three (3) replicates in each substrate type where available.
- Aufwuchs Sample - Rocks, sticks, leaves, filamentous algae and moss. Three replicates are to be conducted only for wadeable sites.
- Rock Picking - 15 rocks (large cobble/small boulders; 5 each from riffle, run and pool) in wadeable streams and 5 small boulders from pools only in headwater streams.
- Wood Sample - For wadeable streams, pieces of submerged wood, ranging from roughly 3 to 6 meters (10 to 20 linear feet) and ranging from 5–15 cm (2–6 inches) in diameter. For headwater streams only 2 linear meters (7 linear feet) are sampled.

2.2.3 Stage-Discharge Surveys

Stage-discharge curves will be developed for all water quality sites such that a flow can be calculated based on water depth. Hydrogeomorphic assessment data including longitudinal profiles, cross-sectional areas, and pebble counts will be gathered from each site and a staff gage will be installed to measure water depth at each site.

Equipment

Table 17 indicates the sampling equipment to be utilized during benthic macroinvertebrate sampling.

TABLE 17 – STAGE-DISCHARGE SURVEY EQUIPMENT LIST

50- or 100-ft surveying tape	Staff Gage
Laser level	Mounting bolts / screws
Tripod	Ruler (mm) or Gravelometer
Surveying rod	Reference Reach Field Book
Portable Drill	Pebble Count Data Sheet
Metal Fence Post	Field notebook

Method

Cross-sections to be surveyed will be located within riffle features. Points will be taken frequently at horizontal stations within each cross-section such that the surveying indicates all significant breaks in slope and provides a thorough characterization of each cross-section (refer to USFS, 1994 for surveying procedures). Data may be recorded in RiverMorph™ software using a Rugged Reader Pocket PC or in a field notebook. Surveying precision shall be +/- 0.01 ft for vertical readings and +/- 0.1 ft for horizontal readings. Notes related to observed changes at various elevations within the cross-section will be made. To get the longitudinal slope, the distance and elevation between the head of the cross-sectional riffle and the nearest upstream riffle will be compared. The longitudinal distance will be measure with a tape measure in the stream thalweg.

Pebble counts will be collected in riffles within the stream where the longitudinal profiles are taken at each of the instream water quality monitoring sites. For pebble counts, particle sampling will be completed along evenly spaced transects over the active bed width and consist of at least 100 particles (refer to Rosgen, 2008 and Bunte and Steven, 2001 for pebble count procedures). Equipment used will include a ruler (mm) or gravelometer (gravel template), with the gravelometer being preferred. Data may be recorded in RiverMorph™ software using a Rugged Reader Pocket PC or on a Pebble Count Datasheet (see Appendix A). Precision for pebble count readings will be such that each data point measures within +/- 1 units of the narrative particle description or +/- 0.5 phi units on the gravelometer.

A staff gage will be installed at the site in the cross-sectional riffle if possible using a metal fence post or at a nearby crossing. The staff gage will be surveyed to relate the water depth at the staff gage to the cross-sectional water depth.

Flows will be predicted at 0.1 ft intervals for the measured cross-section using Manning's equation, the slope measured from the longitudinal profile, and the roughness value generated using the Limerinos equation and D84 pebble size. The USGS gage in each watershed will be utilized to validate flow estimates generated by these curves as well as a measured flow at the time of surveying.

2.2.4 Water Quality Monitoring

Water quality monitoring will be performed in two phases: a field screening effort (Phase 1) and a pollution load characterization effort (Phase 2). Water quality monitoring will involve three types of sampling: *in situ* measurements, stream flow or major outfall flow measurement, and grab sampling. During both phases flow, DO, pH, TEMP, COND, *E. coli*, FL, TP, TSS, NH3, NO3, DTRG, and CHL will be measured. The main difference between the two phases is the number of sites and the use of field test kits (Hanna Checker) for NH3 and DTRG (optional) in Phase 1, versus grab sampling for NH3 and DTRG for laboratory testing in Phase 2.

For both phases water quality meter *in situ* measurements will be conducted according to LFUCG's IDDE-02: *Standard Operating Procedure for In situ Water Quality Measurements and Meter Calibration*, which follows KDOW's procedure (2009a). For field chemical tests sampling will be conducted according to LFUCG's IDDE-05: *Standard Operating Procedure for Ammonia by Hanna Checker*, IDDE-06: *Standard Operating Procedure for Chlorine by Hanna Checker*, and IDDE-09: *Standard Operating Procedure for Detergents by CHEMets*. Stream flow will be calculated by measuring staff gauge depth and using information generated from stage-discharge surveys to calculate flow. Outfall flow will be measured using LFUCG's IDDE-04: *Standard Operating Procedure for Flow Estimation at Outfalls*. Grab sampling for both Phase 1 and Phase 2 will be conducted according to LFUCG's IDDE-03: *Standard Operating Procedure for Sampling Surface Waters*, which follows KDOW's procedure (2011b).

The equipment and methods specific to these collection efforts are described below.

Equipment

Table 18 and 19, page 39, describes the sampling equipment and supplies to be utilized during water quality monitoring.

TABLE 18 – PHASE 1 WATER QUALITY MONITORING EQUIPMENT AND SUPPLIES

General	Flow (Water Depth)	<i>In-Situ</i> Measurement	Grab Sampling
Camera Sharpie marker Field notebook Pencil Chain-of-Custody Powderless latex or nitrile gloves	Equipment Tape measure (100 feet in 1/10ft increments) Wood Folding Ruler	Equipment Multi-probe Water Quality Meter Ammonia Hanna Checker Kit Total Chlorine Hanna Checker Kit Detergents CHEMets Test Kit Supplies AAA batteries	Supplies Sample coolers Ice Plastic food storage bags Sample jars and preservatives Deionized water Packing tape Waste containers

TABLE 19 – PHASE 2 WATER QUALITY MONITORING EQUIPMENT AND SUPPLIES

General	Flow (Water Depth)	<i>In-Situ</i> Measurement	Grab Sampling
Camera Sharpie marker Field notebook Pencil Chain-of-Custody Powderless latex or nitrile gloves	Equipment Tape measure (100 feet in 1/10ft increments) Wood Folding Ruler	Equipment Multi-probe Water Quality Meter Total Chlorine Hanna Checker Kit Supplies AAA batteries	Supplies Sample coolers Ice Plastic food storage bags Sample jars and preservatives Deionized water Packing tape Waste containers

All equipment is maintained and calibrated according to user manuals, procedures, and/or manufacturer specifications at a frequency recommended by or exceeding the manufacturer. Calibration standards are to be poured into a separate container for use and discarded when done, not re-used. All calibration and maintenance data is to be recorded in a logbook associated with each piece of equipment.

Prior to conducting *in situ* measurements, the probe will be rinsed with deionized water to remove contamination. The probe will be rinsed and immersed for storage in clean water between sites.

Multi-probe water quality meters are to be calibrated against check standards according to instrument manuals and SOPs the day before or the day of sampling. For multi-meters, this includes pH (4.01, 7.0 and 10.0 SU), conductivity (around 700 or 1,000 μ S/cm), and

dissolved oxygen (saturated air). Results and maintenance are to be recorded in the calibration and maintenance logbooks. Battery power should also be verified with backup batteries carried in the field.

For Hanna Checkers, meter calibration is to be verified semi-annually at a minimum with check standards for each parameter. Results and maintenance are to be recorded in the calibration and maintenance logbooks. Battery power should also be verified with backup batteries carried in the field. Expiration dates of reagents will also be verified prior to field sampling.

After every test conducted, all equipment and supplies shall be properly rinsed with deionized water.

Methods

All samplers are required to wear Personal Protective Equipment (PPE) while conducting testing.

Phase 1

Phase 1 field screening will take place during four sampling events performed during dry weather conditions (at least 72 consecutive hours of dry weather prior to sampling): two events during August to September of the year prior and two events in January to March of the monitoring year. The first two events in August to September will be conducted by Kentucky River Watershed Watch or student volunteers in two person teams. The second two events will be conducted in January to March by LFUCG staff. Sampling should only be conducted if flow is present (not dry or pooled). If no flow is present, it should be noted on the Chain-of-Custody.

The samplers will approach the site from downstream, ensuring that no disturbed streambed sediment contaminates the measurements. *In situ* water quality meter measurements are to be conducted first, then field chemical tests and grab sampling, progressing upstream of disturbance. Flow should be measured last if measurements will cause disturbance. Measurements and samples are to be collected in the centroid of the flow (thalweg) in a well-mixed location at mid-depth.

For *in situ* water quality meter measurements, the probe should not be deployed directly in riffles, as this will cause DO to appear higher than it is. The instrument will be allowed to equilibrate to environmental conditions for approximately 1-2 minutes. Record results on the Chain-of-Custody.

For grab sampling and field chemical tests, samplers will put on powderless latex or nitrile gloves for protection prior to sampling. When sampling, point the mouth of sample container upstream / against the flow. Submerge the entire bottle and fill it with water.

Care will be taken not to displace the preservative since sample bottles are pre-prepared. If the stream is too shallow to fill the bottle while submerged, fill as much as possible while submerged, ensuring the minimal amount for analysis is obtained. Disposable luer lock syringes may be utilized to obtain the remaining volume. Rinse the caps with sample water prior to capping the bottle.

Often the depth of water at an outfall is too shallow to sample directly. To obtain samples for *in situ* measurements and grab samples at an outfall, the sampler may use a disposable luer lock syringe. Be careful not to disturb sediments or benthic growth in the pipe or stream.

For major outfalls if the outfall is flowing freely without obstructions (*i.e.*, there is no accumulation of sediment or debris and the outfall is not submerged or pooled), then the flow may be estimated by recording the outfall material (concrete, corrugated metal, PVC, etc.), shape (*i.e.*, circular, elliptical, box, etc.), internal dimensions (height and width), and water depth (and water width for elliptical outfalls). If the outfall is not flowing freely, the dimensions may be noted and the velocity measured via the "float" method under SOP MON-01.

For instream sites, the flow is calculated by recording the water depth at the staff gauge.

When results exceed action limits, Environmental Inspectors with the LFUCG Division of Water Quality will be notified and they will initiate a Discharge Prevention Investigation. This is discussed further in Section 2.2.5.

WARNING: The detergents test generates waste that is considered hazardous. This waste must be collected and disposed of properly. All waste will be disposed of in two containers, one labeled with "For Detergents Only" and one for all other field wastes. Any solid waste materials are placed in trash bags.

When hazardous waste containers are full, they are stored in the Flammable Liquid Safety Cabinet at the Town Branch WWTP Laboratory, which is emptied of the waste material contents as often as necessary. In accordance with OSHA's regulation for chemical handling and disposal, LFUCG contracts with Safety Kleen to dispose of the waste materials permanently. A document manifesting the transfer of ownership of the waste materials from LFUCG to Safety Kleen is filed for records.

Phase 2

Most Phase 2 field methods are similar to the Phase 1 methods mentioned above. Phase 2 field screening will be conducted during ten events during the Primary Contact Recreation period (May 1 thru September 30). Phase 2 sampling will be conducted at instream sites and at major outfalls that were flowing during at least two of the four

Phase 1 events. Sampling will be performed on a set day of the week, regardless of weather conditions. Phase 2 sampling will be conducted by one of the following groups or a combination of these groups: volunteers, LFUCG staff, Tetra Tech staff, and/or Third Rock staff.

Subsequent to sampling, the date of the previous rainfall, the amount of rainfall, and the presence of rain during the sampling will be noted for each sampling event.

Replicate measurements and duplicate samples are to be made at 5% of sites per sampling event in Phase 2.

2.2.5 Discharge Prevention Investigation

Equipment

Equipment for discharge prevention investigations, including optical brightener surveys, are detailed in their respective SOPs (IDDE-01, MON-03).

Methods

The Discharge Prevention Investigations will be conducted when Phase 1 or Phase 2 results exceed action limits by notifying Environmental Inspectors with the LFUCG Division of Water Quality. The inspectors will begin investigating the source of discharge. Notification of action limit exceedances will follow the following procedures.

The Phase 1 or Phase 2 field investigator will call LexCall at 3-1-1 to report a "spill/non-emergency" and provide the following information:

1. Identification (volunteer sampling crew)
2. Location (Site)
3. Parameter
4. Concentration above action limit
5. Time sampled

The LexCall interface will forward the information to the LFUCG Compliance and Monitoring Supervisors for assignment to an Environmental Inspector. This Environmental Inspector will begin at the monitoring site with the actionable result(s) and will confirm the previously measured result(s). Investigators will then trace high results through the stream and/or stormwater system, working bridge-to-bridge or manhole-to-manhole to identify and isolate sources using IDDE-01: *Illicit Discharge Detection and Elimination (IDDE) Protocol*. For intermittent flow situations, caulk dams, sandbagging, or off-hours sampling may be utilized to isolate the source. Parameters that exceeded action limits, and similar parameters, will be sampled to characterize the source. Results will be documented in ACCELA and forwarded to the Data Manager. If the location had previously been investigated after a previous sampling event, the

Environmental Inspectors may use best professional judgment to determine whether an additional tracing effort is necessary to help identify the problem.

Optical brightener surveys will be utilized to investigate high sources of *E. coli* and ammonia where investigations do not clearly determine the source during two events in August to September. Optical brightener surveys will be conducted following methods detailed in DWQ-MON-03 *Standard Operating Procedure for Optical Brightener*. Traps will be deployed in selected outfalls based upon Phase 1 and 2 results, and should have an antecedent dry period of at least 48 hours before deployment. Traps will be deployed in outfalls with continuous or intermittent flow and retrieved after three days of dry weather. The traps will be viewed under UV light and compared against known controls to determine the presence/absence of human source contributions.

For microbial source tracking, the Town Branch WWTP Laboratory will filter at least 100 mL of unpreserved sample during the first eight Phase 2 water quality sampling events (May to August) at each site. These filters will be placed in re-sealable bags, labeled with permanent marker, and stored in a freezer (-4°C).

In September, the project team will select 20 of the filters from this library, linked to high *E.coli* and ammonia for sites and events of interest, for analysis. These will be sent to the University of Tennessee to extract the DNA from these filters and perform quantitative polymerase chain reaction (qPCR) for ABAC, HuBac, and BoBac qPCR Bacteroides markers.

2.2.6 Priority Area Upland Visual Assessment

Equipment

Equipment required for priority area assessments are camera, GPS unit, field notebook, pencil, and clipboard.

Methods

Visual assessments will be conducted in areas upstream of water quality sites found to have routinely high pollutant levels. Visual assessments will be conducted using methods from the Center for Watershed Protection's *Unified Subwatershed and Site Reconnaissance: A User's Manual* (2004). Assessments will be conducted to determine potential sources of pollution and discharge generators. Assessments will be conducted during one week in October and December by Third Rock personnel.

Assessments will be targeted in areas of high pollutant levels. If time allows additional areas will be addressed.

2.3 Sample Handling and Custody Requirements

Sample handling and custody procedures for grab samples are to comply with "Sample Control and Management" (KDOW 2009b) as well as LFUCG's IDDE-03: *Standard Operating Procedure for Sampling Surface Waters*. Sample handling and custody for macroinvertebrate samples are to comply with the KDOW procedures corresponding with these sampling methods.

2.3.1 Sample Preservation, Packing, and Transport

The sampler is responsible for sample handling in the field and transporting of samples to the laboratory. The sampler will collect the sample in the appropriately identified collection containers with the correct preservative, as applicable, and ensure that the container lid is secured tightly to prevent leakage and/or outside contamination. Sample containers for chemical analysis shall be placed in plastic food storage bags and then immediately in a cooler on ice to reach and maintain a temperature of $4 \pm 2^{\circ}\text{C}$ for transport to the laboratory. Sample bottles shall be placed in the cooler with lid side up. The containers, preservatives, and hold times for each parameter are to meet the requirements of Table 20. The sampler will ensure that the Chain-of-Custody (COC) is completely and accurately filled out.

Sample coolers should be of adequate size to allow ice to surround all sample bottles. It is the responsibility of the sampler to ensure that coolers are properly packed in the field and that they have sufficient cooler space on their vehicle for their daily sample load. Coolers shall be secured during transport such that significant disturbance of the samples is avoided.

TABLE 20 – COLLECTION CONTAINERS, PRESERVATIVES, AND HOLD TIMES

Containers	Preservation	Parameters	Maximum Hold Time
Plastic, 4 oz	Cool 4°C , $\text{Na}_2\text{S}_2\text{O}_3$ (No Cl_2)	<i>E. coli</i>	6 hours
Plastic, 250 ml	Cool 4°C	DTRG, NO3	48 hours
		TSS	7 days
		FL, NH3, TP	28 days

Upon receipt at the laboratory, the sample custodian shall review the COC for completeness and accuracy. Anomalies shall be documented. The laboratory shall measure and record the sample temperature upon receipt, and record any discrepancies with the samples and/or bottle damage on the COC.

2.3.2 Chain-of-Custody

Chain-of-custody forms will be completed for all samples collected in the field and will follow each sample throughout sample processing. A COC is a controlled document used to record sample information, to ensure the traceability of sample handling, and to ensure possession is maintained from the time of collection through analysis and final disposition.

A sample is considered in custody if it is:

- In the individual's physical possession,
- In the individual's sight,
- Secured in a tamper-proof way by that individual, or secured in an area restricted to authorized personnel.

The sampling technician shall maintain possession of the sample until custody is transferred to the laboratory or another party. The COC shall accompany the sample from the time of collection until it is relinquished. Field custody is relinquished by signature, with date and time, of the sampling technician in the designated area on the COC.

All information shall be documented on the COC in black or blue waterproof permanent ink including field physical measurements and custody information. The sampling technician shall initiate sample custody at the time the sample is collected. Field custody documentation shall include:

- Verification of Sample Identification
- Number of Sample Bottles Collected
- Collection Date
- Collection Time
- Collector's Signature
- Description of Sampling Location or Site Identifier

Examples of COC forms are included in Appendix A.

2.3.3 Site Identification

A unique sample identification system is used to aid in the electronic database management for the results. Samplers are responsible for recording the unique sample identification, as well as the date and time of the collection on each sample bottle. The unique sampling event code for instream sites follows the following format:

SAMPLE ID = WW-##

Where:

WW is the Watershed Code

CR= Cane Run, EH= East Hickman,
SE= South Elkhorn, TB= Town Branch,
WR= Wolf Run

NE= North Elkhorn
WH= West Hickman, or

is Unique Site Identifier
01-99 or DD= Duplicate

As indicated above, duplicate and split samples are to be indicated as such in the unique site identifier ("DD"). The time of collection will not be indicated on the chain-of-custody for duplicate samples so that the laboratory is blind as to the sampling location it corresponds with. The laboratory should assume that the duplicate was sampled with the earliest sample collected for hold time purposes. This information shall be emailed to the Data Manager.

Major outfall sample identification system includes a unique numerical code for each watershed followed by a unique site identifier. Major outfall sampling event codes follow the following format:

SAMPLE ID = WW###

Where:

WW is a numeric code associated with a specific watershed in which the major outfall is located:

15= Cane Run,	20= East Hickman,	30= North Elkhorn
35= South Elkhorn,	40= Town Branch,	45= West Hickman
50= Wolf Run		

remaining three numbers are a Unique Site Identifier (000-999).

2.4 Analytical Methods Requirements

All analytical methods must be United States Environmental Protection Agency (EPA) approved methods, with the exception of field screening methods. Screening methods are intended to provide inexpensive results for immediate action.

Detection limits for all parameters must be at a sensitivity level to compare to Kentucky's water quality standards. Each method and reporting limit, by parameter, are found in Table 7, page 20.

All laboratory standard operating procedures are attached in Appendix C. Grab samples collected during water quality monitoring will be analyzed by the Town Branch WWTP Laboratory except for the microbial source tracking samples which are analyzed by University of Tennessee.

If during the laboratory analysis quality controls fail or contamination occurs, the data is to be reported with qualifiers. No re-sampling will occur as a result of qualified or rejected data.

Third Rock's macroinvertebrate identification laboratory will follow laboratory protocols for benthic macroinvertebrate sample processing, identification, and data reporting per KDOW (2015) with the following exceptions:

- All samples will be logged into Third Rock's Macroinvertebrate Laboratory Information Management System (MacLIMS) upon receipt.
- Sample identification date will be maintained in MacLIMS.
- Taxonomic QA/QC dates (if applicable) will be noted on individual QA/QC forms and maintained electronically in the Project File.
- Initials of the applicable party completing each task associated with sorting, identification, or quality control will be noted electronically in MacLIMS or on associated QA/QC forms.
- QA checks will be documented on applicable forms and maintained in associated project files. These forms include the Macroinvertebrate Sample Sorting Efficiency Form, Macroinvertebrate Sample Taxonomy Precision Form, and Macroinvertebrate Sample Taxonomic and Enumeration Efficiency Form.

2.5 Quality Control Requirements

2.5.1 Field Water Quality Monitoring Quality Control

Field quality control checks for water quality monitoring are collected at a frequency of one duplicate per 20 sites sampled (5%) for each Phase 2 sampling event. Field duplicates will be collected by LFUCG staff. Based on the number of sites to be sampled on each event, bottles will be distributed to a set number of field teams for collection of a duplicate sample.

At field duplicate sites, two separate samples are to be collected for each parameter. The samples are to be collected at the same time and at the same location. One sample will be labeled as usual, and the other sample will have the site name indicated as a "duplicate". On a form separate from the COC or in an email to the data manager, the site from which the duplicates were collected are to be documented. The laboratory should assume that the duplicate was sampled with the earliest sample for hold time purposes.

Field replicates of *in situ* measurements and field test kits are also to be made at the same site at which field duplicates are collected.

2.5.3 Macroinvertebrate Quality Controls

According to the specifications listed in KDOW 2015, the following quality controls of macroinvertebrate identification will be applied for this project:

Field personnel must be trained by KDOW in macroinvertebrate collection procedures annually. Additionally, field crews will be audited by KDOW personnel once a year.

Ten percent (10%) of all sorting pans will be checked by a second sorter to assure that samples have been picked thoroughly. These samples will be randomly selected. This check is documented on the Taxonomic and Enumeration Efficiency Form.

Five percent (5%) of all identified samples will be re-identified to insure QA/QC by a second taxonomist. These samples will be randomly selected, and documented on the Macroinvertebrate Sample Taxonomy Precision Form and Macroinvertebrate Sample Taxonomic and Enumeration Form. Ninety percent (90%) or greater taxonomic agreement between taxonomists is the target success criteria. If there is less than 90% agreement between the taxonomists, then taxonomy must be reconciled by both taxonomists and a third taxonomist, if necessary.

All macroinvertebrate data entry for all sites will be chosen for data entry QA/QC. Data entry errors will be corrected as they are encountered. Data entry will be 95% correct to pass quality assurance. If patterns of data entry error exist and data entry error rate is less than 95%, all sample sites will be checked for specific errors.

2.5.4 Laboratory Quality Controls

Laboratory quality controls will be analyzed as specified in the SOPs listed in Appendix C. These controls include method blanks, matrix spikes, calibration check samples, laboratory replicates, and other method-specified controls. The frequencies of analysis for these standards are all specified by the individual methods.

2.6 Requirements for Equipment and Supplies

Laboratory instrumentation will be maintained according to the methods listed in Table 7, page 20, and the associated SOPs in Appendix C. Field sampling equipment will be maintained according to the SOPs listed in Table 10, page 30, and summarized in Table 21, page 50. The record of inspection, calibration, and maintenance will be recorded in an instrument logbook maintained by the sampler. For sampling nets and bottles, inspection will ensure that the items are free from contamination, in good condition, and adequate for use.

LFUCG Staff or Town Branch WWTP Laboratory Personnel will ensure that field multi-meters are calibrated according to manufacturer's instructions the day before or the day of sampling. The multi-meters will be calibrated using a three-point pH calibration, where possible, and a one-point conductivity calibration. Dissolved oxygen is calibrated

using saturated air and the barometric pressure of the sampling location. All results are recorded in the instrument logbook.

TABLE 21 – FIELD EQUIPMENT CALIBRATION AND MAINTENANCE

Equipment Name / Type	Purpose	Inspect Before Each Collection Event	Calibration Frequency	Calibration Standard or Type	Person(s) Responsible
Multiprobe Water Quality Meter	pH, Conductivity, Dissolved Oxygen, Temperature	Overall condition/ battery power	Within 24 hours of use	pH (4, 7, 10) Cond (300 – 1200) DO (Sat. Air) Turb (0, 100)	Sampling Coordinator / Sampler
Hanna Checkers	Ammonia, Chlorine	Overall condition/ battery power/ reagents not expired	Semi-Annually	Certified Cal. Stds for each checker	Sampler
Macroinvertebrate Sampling Nets	Macroinvertebrate Sampling	Overall condition/ no holes	N/A	N/A	Sampler
Sample Bottles	Sample Collection	Good condition	N/A	N/A	Sampler

Hanna Checkers are calibrated semi-annually using the calibration standards associated with each parameter. All results are recorded in the instrument logbook.

Overall condition and battery power will be inspected on all equipment prior to use. Additionally, extra batteries or fuses should be kept in the field vehicle in case of power failure.

All calibration standards and reagents will be reviewed prior to use to ensure that they have not reached the expiration date.

2.7 Data Acquisition Requirements for Non-Direct Measurements

For the purpose of this project, the following sources of non-direct measurements will be utilized:

- USGS Gage Data
- Precipitation Data (Various Sources)
- Previous MS4 Permit Compliance Monitoring

Antecedent dry periods will be evaluated using local precipitation data. The UKAg Weather Center (<http://www.gwx.ca.uky.edu/>) will be the primary source for precipitation data in evaluating the antecedent dry period. Historic daily precipitation levels will be obtained from stations in Fayette County at either Weather Underground (<http://www.wunderground.com/>), Kentucky Mesonet (<http://www.kymesonet.org/>), USGS stream gages (<http://waterdata.usgs.gov/KY/nwis/>), or NOAA (<http://www.noaa.gov/>).

Data previously collected under the LFUCG MS4 monitoring program may be used in data comparisons, as these data were collected under similar protocols.

2.8 Data Management Requirements

For Stream Corridor Characterizations, student samplers will be responsible for submitting data to the Bluegrass Community and Technical College (BCTC) Environmental Science Technology Coordinator. The BCTC Environmental Science Technology Coordinator will then submit electronic copies of the field data to the Data Manager. Excel spreadsheets will be utilized to document results. Photos should be documented such that files can be linked to the site identification number.

Macroinvertebrate and habitat data will be collected in the field and recorded in field notebooks, on field data sheets, or on COCs. The field samplers are responsible to ensure that all hard copies are scanned and saved electronically in Third Rock's project files. Additionally, hard copies are to be stored in the project files. Third Rock's Chief Taxonomist / Biologist will be responsible for reviewing all field results, ensuring that macroinvertebrates are properly sorted and identified, ensuring that all applicable metrics are properly calculated, and submitting the results to the Data Manager.

Data collected for calculation of stage-discharge rating curves will be recorded on field data sheets and field reference reach notebooks. The surveyors will be responsible to ensure that all hard copies are scanned and saved electronically in Third Rock's project files. Additionally, hard copies are to be stored in the project files. The Third Rock Data Manager will be responsible for reviewing all field results.

Data collected during water quality sampling will be recorded on COCs. The samplers will submit COCs to the Town Branch WWTP Laboratory when delivering water samples for analysis. Town Branch WWTP Laboratory will enter this data along with the laboratory results into a spreadsheet, and send electronic copies of all laboratory reports as well as PDFs of all original COCs and laboratory forms to the Data Manager. These will be stored in Third Rock's files. The electronic files will be reviewed and information including the field duplicate site, precipitation levels, and field measurements will be entered by the Data Manager. All results will be reviewed and any outlier results will be investigated by the Data Manager and the laboratory.

All macroinvertebrate, habitat, and water quality data will be submitted by the Data Manager to LFUCG's Accela database managers for final storage. The Accela database stores the data as condition assessments associated with individual sites. Results will also be published in the Watershed-Focused Monitoring Program Report.

Field data generated during discharge prevention investigations will be reviewed for accuracy by the Lead Environmental Inspectors. The data will be entered into Accela for final storage and data management. To facilitate reporting, a spreadsheet may also be maintained in addition to the Accela storage. Results will also be published in the Watershed-Focused Monitoring Program Report.

During priority upland visual assessments data will be recorded in field notebooks, and on field data sheets. The field surveyors will be responsible to ensure that all hard copies are scanned and saved electronically in Third Rock's project files. Additionally, hard copies are to be stored in the project files. Third Rock's Data Manager will be responsible for reviewing all field results, and ensuring field data sheet completeness. Results will be summarized in tables, exhibits, and Watershed-Focused Monitoring Program Report.

3 ASSESSMENTS

Assessment and response actions are necessary to ensure that this QAPP will be implemented as approved. For a general summary of these assessments see Table 22.

TABLE 22 – DATA ASSESSMENT AND MANAGEMENT REPORTS

Type	Frequency	Purpose	Parties Responsible For		Reporting Method
			Performing	Responding	
QAPP Revision	As necessary	Address non-conformances or errors in the QAPP	Project Team Members	Data Manager	Distribution of Amended QAPP
KDOW Audit	As requested	Ensure conformance to project objectives	KDOW	Parties of concern	Corrective Action Response
Laboratory Demonstration of Performance	Annually, at minimum	Ensure analyst is capable of performing the method to specifications	Laboratory QA Director	Laboratory Analysts	Internal lab documentation
Laboratory On-Site Audit	Once per five Years	Maintaining Kentucky Wastewater Laboratory Certification	KDOW	Laboratory Analysts	KDOW Audit Report
Laboratory Internal Audits	Annually, at minimum	Ensure conformance to methods, regulations, and procedures	Laboratory QA Director	Laboratory Analysts	Internal Lab Documentation
Field Testing Kit Demonstration of Performance	Prior to First Sampling Event	Ensure field sampler is capable of performing field tests to the method specifications	Data Manager	Field Samplers	Certified Sampler List
Field Biology Training and Audit	Annually	Evaluate quality of habitat assessments and macroinvertebrate collection	KDOW	Third Rock Biologists	Training Certificate and Audit Form
Analytical Results Review	Subsequent to each sampling event	Evaluate the conformance of laboratory data to project DQOs	Data Manager	Laboratory QA Director	Email
Annual Quality Review	Annually	Evaluate the quality assurance and compare the data produced to project DQIs	Data Manager	All Program Team Members	Annual Monitoring Report

If at any time a project team member finds an error or non-conformance in the QAPP, the QAPP will be revised and redistributed to those on the distribution list subsequent to approval.

To ensure conformance with this QAPP and the applicable regulations, certifications, and methods by which the laboratories operate, the laboratories will perform several assessment measures. To ensure that analysts are capable of performing the requested analytical methods to specifications, each analyst must acceptably demonstrate this ability prior to conducting sample analyses. The analyst must conduct four replicate analyses of a known standard and achieve precision and accuracy equal to or better than

the acceptance ranges for laboratory duplicates and laboratory control samples, respectively. The laboratory QA Director or his appointee on an annual basis will perform internal audits. The findings of the audits, both positive and negative, will be documented, and the corrective response to the cited deviations will be made. Corrective actions will be submitted to the auditing body for review and approval.

Prior to initial sampling, all water quality field samplers shall undergo a field testing kit demonstration of performance. The samplers shall prove competence in achieving results within specified limits using known sample volumes prior to field sampling. Only samplers who have demonstrated performance will be listed as LFUCG certified samplers.

Upon receipt of the results, a review of the laboratory and field data shall be performed by the Data Manager or his designee to ensure that the project DQOs have been satisfied. Email shall be utilized to communicate the results found in these evaluations. The quality of the data collected shall be reviewed and summarized in the Watershed-Focused Monitoring Program Report.

4 REVIEW, EVALUATION AND REPORTING REQUIREMENTS

Data verification, data validation, and data usability are each terms used to describe data review and evaluation. Data verification is the review of data sets for completeness, correctness, and conformance/compliance for a specific data set against the method, procedural, or contractual specifications. Data validation is an analyte and sample-specific process that determines the quality of a specific data set relative to its end use. Validation notes any deviations from the QAPP. Data usability is a determination of the adequacy of the data based on verification and validation, to ensure the QAPP criteria are met.

4.1 Validation and Verification Methods

The EPA guidance document *Guidance on Environmental Data Verification and Validation* (EPA QA/G-8) (EPA 2002) guides the overall process by which data will be validated and verified.

The sampler will perform data review for all field data initially before submitting to the laboratory. Upon submission to the laboratory, the laboratory will review the COC for completeness and document any non-conformances on the COC.

For the chemical laboratory data, the laboratory analyst will initially conduct the review, and the data will be peer reviewed by another analyst or capable reviewer. Data will be reviewed according to the laboratory QA Manual and the method specific SOP for data entry, calculations, and transformations as well review of quality control criteria. If deviations are noted, corrective actions will be taken with verification of both the reviewer and the original data collector. If consensus cannot be reached, the data will be rejected. During verification and validation of the data, all data that does not meet the DQIs listed in this QAPP will be qualified or rejected. A list of the type of qualifiers that may be applied to this data is listed in Table 23, page 56. Laboratory codes that correspond to these general types are listed in the laboratory procedures in Appendix D. All qualified data will be evaluated according to the actions listed.

If results are rejected, the laboratory should re-analyze the samples if possible. Re-sampling will not be conducted for the rejected parameters.

The Data Manager will document non-conformances in the data via email and in Watershed-Focused Monitoring Program Report. This review will be submitted to the KDOW in the annual reports. The Data Manager will be responsible for making any final decisions concerning data quality and acceptability.

TABLE 23 – DATA QUALIFIERS AND RESPONSE

Definition	Action To Be Taken
Analyte detected in associated method blank	Reject results. Indicates all, or a portion of, the amount found in a sample may be due to laboratory sources.
Diluted out	Accept results. Indicates a dilution to overcome matrix effects caused other analytes of interest to be diluted out of range. Normal quantitation is not available.
Holding time exceeded	Reject results. Method-required holding time is exceeded.
Estimated value	Accept results when used to indicate result is below the project reporting limit, but above the Method Detection Limit (MDL).
Matrix spike and/or matrix spike duplicate recovery outside acceptance limits	Accept results if associated Laboratory Control Sample is acceptable (No qualifier). Indicates matrix is adversely affecting the extraction or digestion of the analyte. If the Matrix Spike recovery is below acceptable limits, it may be likely that the reported results for the associated samples may be underestimated. Conversely, if the Matrix Spike results are high, it may be likely that the reported results for the associated samples may be overestimated.
Laboratory control sample outside acceptance limits	Reject or qualify results. Indicates that the laboratory system is out of control. Qualification should indicate the result is estimated.
Sample received exceeding proper temperature or preservation criteria	Reject results. Indicates preservatives or temperature requirements have not been met and the bias on the sample result is unknown.
Analyzed but not detected in sample	Accept results. Indicates that the result is less than the reporting limit.
Analyte exceeded calibration range	Accept results. Only reported in instances in which the calibration curve is exceeded and the sample cannot be reanalyzed.
Laboratory replicate / duplicate precision outside of acceptance limits	Reject or qualify results, unless it occurs on a matrix spike duplicate or due to low recoveries with high relative percent difference. Indicates precision is outside of normal acceptance criteria due to lack of homogeneity or other factors. Qualification should indicate the result is estimated.
Calibration criteria exceeded	Reject results. Indicates that the laboratory system is out of control.

All final reports will receive an internal peer review to evaluate the content, calculations, and data analysis in the report. The reports will also undergo an internal grammatical review to look for grammatical errors and formatting. Lastly, the final report will receive a review from the MS4 / Water Quality Manager prior to submission to the KDOW to ensure that all project objectives are achieved.

4.2 Reconciliation with Project Requirements

In each Watershed-Focused Monitoring Program Report, descriptions of all relevant background information, summary, waterbody details, monitoring results, recommended solutions, and implementation plans will be detailed. Included in this document will be an overall assessment of the data quality and the uncertainty involved in the results.

5 REFERENCES AND CITATIONS

401 KAR 10:031 Energy and Environment Cabinet, Department for Environmental Protection, Surface Water Standards.

Barbour, M.T., J. Gerritsen, B.D. Snyder, and J.B. Stribling. 1999. Rapid Bioassessment Protocols for Use in Streams and Wadeable Rivers: Periphyton, Benthic Macroinvertebrates and Fish. Second Edition. EPA 841-B-99-002. USEPA, Office of Water, Washington, D.C.

Bunte, Kristin; Abt, Steven R. 2001. Sampling surface and subsurface particle-size distributions in wadable gravel-and cobble-bed streams for analyses in sediment transport, hydraulics, and streambed monitoring. Gen. Tech. Rep. RMRS-GTR-74. Fort Collins,CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 428 p.

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--. 2009b. Sample Control and Management Standard Operating Procedure. Kentucky Department for Environmental Protection, Division of Water, Frankfort, Kentucky. DOWSOP03001

--. 2010b. Measuring Stream Discharge Standard Operating Procedure. Kentucky Department for Environmental Protection, Division of Water, Frankfort, Kentucky. DOWSOP03019

--. 2011a. Methods for Assessing Habitat in Wadeable Waters. Kentucky Department for Environmental Protection, Division of Water, Frankfort, Kentucky. DOWSOP03024

--. 2011b. Sampling the Surface Water Quality in Lotic Systems. Kentucky Department for Environmental Protection, Division of Water, Frankfort, Kentucky. DOWSOP03015

--. 2015. Methods for Collecting Macroinvertebrate Samples As Required For TMDL Alternative Studies and/or Watershed-Based Plans. Kentucky Department for Environmental Protection, Division of Water, Frankfort, Kentucky. DOWSOP03039

Pond, G.J.; S.M. Call; J.F. Brumley; M.C. Compton. 2003. The Kentucky Macroinvertebrate Bioassessment Index. Kentucky Department for Environmental Protection, Division of Water, Frankfort, Kentucky.

Rosgen, D.L. 2008. River Stability Field Guide. Wildland Hydrology, Pagosa Springs, CO.

6 APPENDICES

All documentation listed below may be provided electronically upon request.

A: Field Forms

- High-Gradient Habitat Assessment Field Data Sheet
- Substrate Characterization /Macroinvertebrate Screening Field Sheet
- Photo Log Data Sheet
- Aquatic Biology Sample Chain-of-Custody
- Headwater Macroinvertebrate Collection Check Sheet for High-Gradient Streams
- Wadeable Macroinvertebrate Collection Check Sheet for High-Gradient Streams
- Pebble Count Field Data Sheet
- Phase 1 & 2 Water Quality Chain-of-Custodies
- Calibration and Maintenance Logs
- Outfall Reconnaissance Inventory/Sample Collection-Field Sheet
- Illicit Discharge Investigation Form
- Optical Brightener Field Data Sheet
- Upland Visual Assessment Field Data Sheets

B: Field Methods

- KDOW. 2015. *Methods for Collecting Macroinvertebrate Samples As Required For TMDL Alternative Studies and/or Watershed-Based Plans*. Kentucky Department for Environmental Protection, Division of Water, Frankfort, Kentucky. DOWSOP03039
- LFUCG. 2015. *MON-02: SOP for Habitat Assessment*.
- LFUCG. 2016. *MON-02: SOP for Optical Brightener*.
- LFUCG. 2015. *IDDE-01: Illicit Discharge Detection and Elimination (IDDE) Protocol*.
- LFUCG. 2015. *IDDE-02: SOP for In situ Water Quality Measurements and Meter Calibration*.
- LFUCG. 2015. *IDDE-03: SOP for Sampling Surface Waters*.
- LFUCG. 2015. *IDDE-04: SOP for Flow Estimation at Outfalls*.
- LFUCG. 2015. *IDDE-05: SOP for Ammonia by Hanna Checker*.
- LFUCG. 2015. *IDDE-06: SOP for Chlorine by Hanna Checker*.
- LFUCG. 2015. *IDDE-09: SOP for Detergents by CHEMets*.
- KWW. 2014. *Kentucky Watershed Watch Field Water Chemistry Assessment Standard Operating Procedure*, WWSOP01000

C: Laboratory Forms and Methods

Forms

- Macroinvertebrate Sample Sort Efficiency Form

- Macroinvertebrate Sample Taxonomy Precision Form
- Macroinvertebrate Sample Taxonomic and Enumeration Form
- Town Branch Dissolved Oxygen Meter Calibration Form
- Town Branch pH Meter Calibration Form

Methods

- KDOW. 2015. *Methods for Collecting Macroinvertebrate Samples As Required For TMDL Alternative Studies and/or Watershed-Based Plans*. Kentucky Department for Environmental Protection, Division of Water, Frankfort, Kentucky. DOWSOP03039
- LFUCG DWQ Town Branch Laboratory. 2014a. *Quality Assurance Plan (QAP)*.
- LFUCG DWQ Town Branch Laboratory. 2014b. *Standard Operating Procedures (SOPs) for the LFUCG Town Branch Laboratory*.

D: Maps

Stream Corridor Characterization Reaches:

- Exhibit 1: East Hickman Creek
- Exhibit 2: West Hickman Creek
- Exhibit 3: South Elkhorn Creek
- Exhibit 4: Wolf Run
- Exhibit 5: Cane Run
- Exhibit 6: Town Branch
- Exhibit 7: North Elkhorn

Instream Sites:

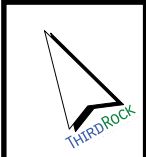
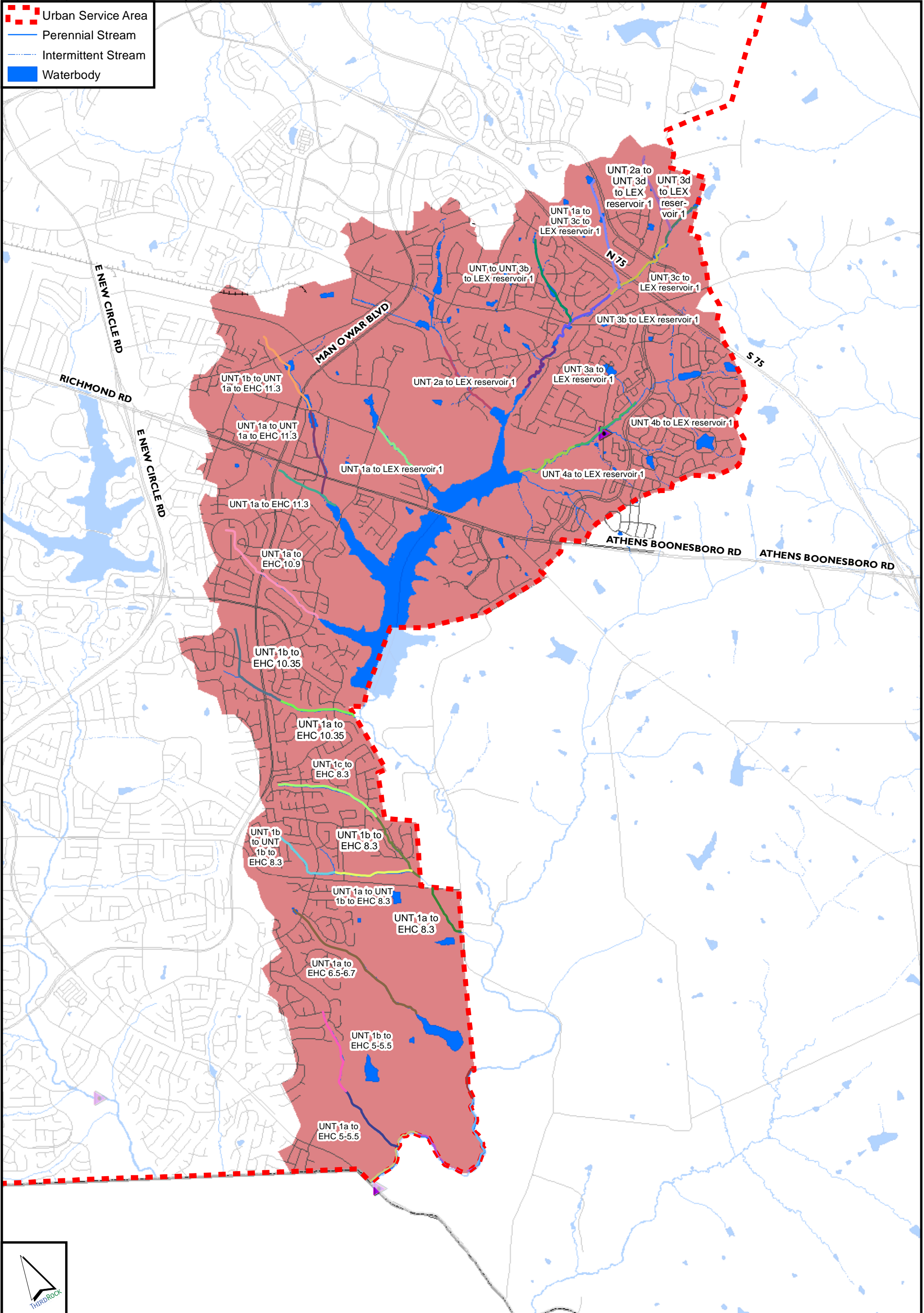
- Exhibit 8: East Hickman
- Exhibit 9: West Hickman
- Exhibit 10: South Elkhorn
- Exhibit 11: Wolf Run
- Exhibit 12: Cane Run
- Exhibit 13: Town Branch
- Exhibit 14: North Elkhorn

Major Outfalls:

- Exhibit 15: East Hickman
- Exhibit 16: West Hickman
- Exhibit 17: South Elkhorn
- Exhibit 18: Wolf Run
- Exhibit 19: Cane Run
- Exhibit 20: Town Branch
- Exhibit 21: North Elkhorn

E: Monitoring Locations

- Urban Service Area
- Perennial Stream
- Intermittent Stream
- Waterbody







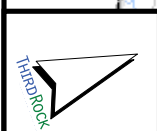
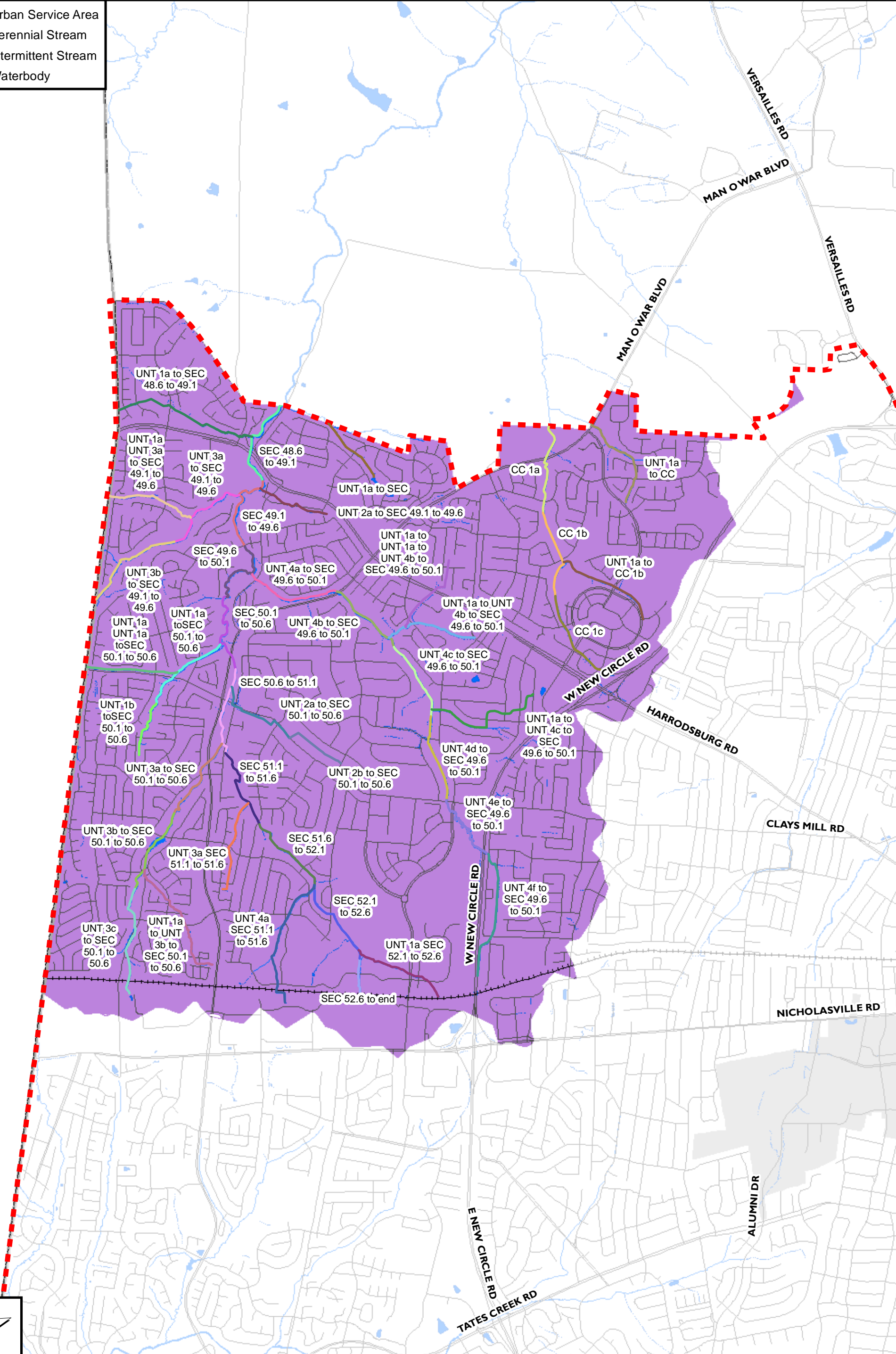
Watershed Focused Monitoring
Lexington Urban Service Area
Fayette County, Kentucky

Exhibit I
East Hickman Creek

Stream Corridor
Characterization Reaches
Fayette County,
Kentucky

0 1,250 2,500
Feet

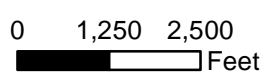
-  Urban Service Area
-  Perennial Stream
-  Intermittent Stream
-  Waterbody







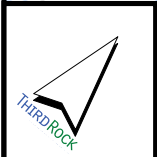
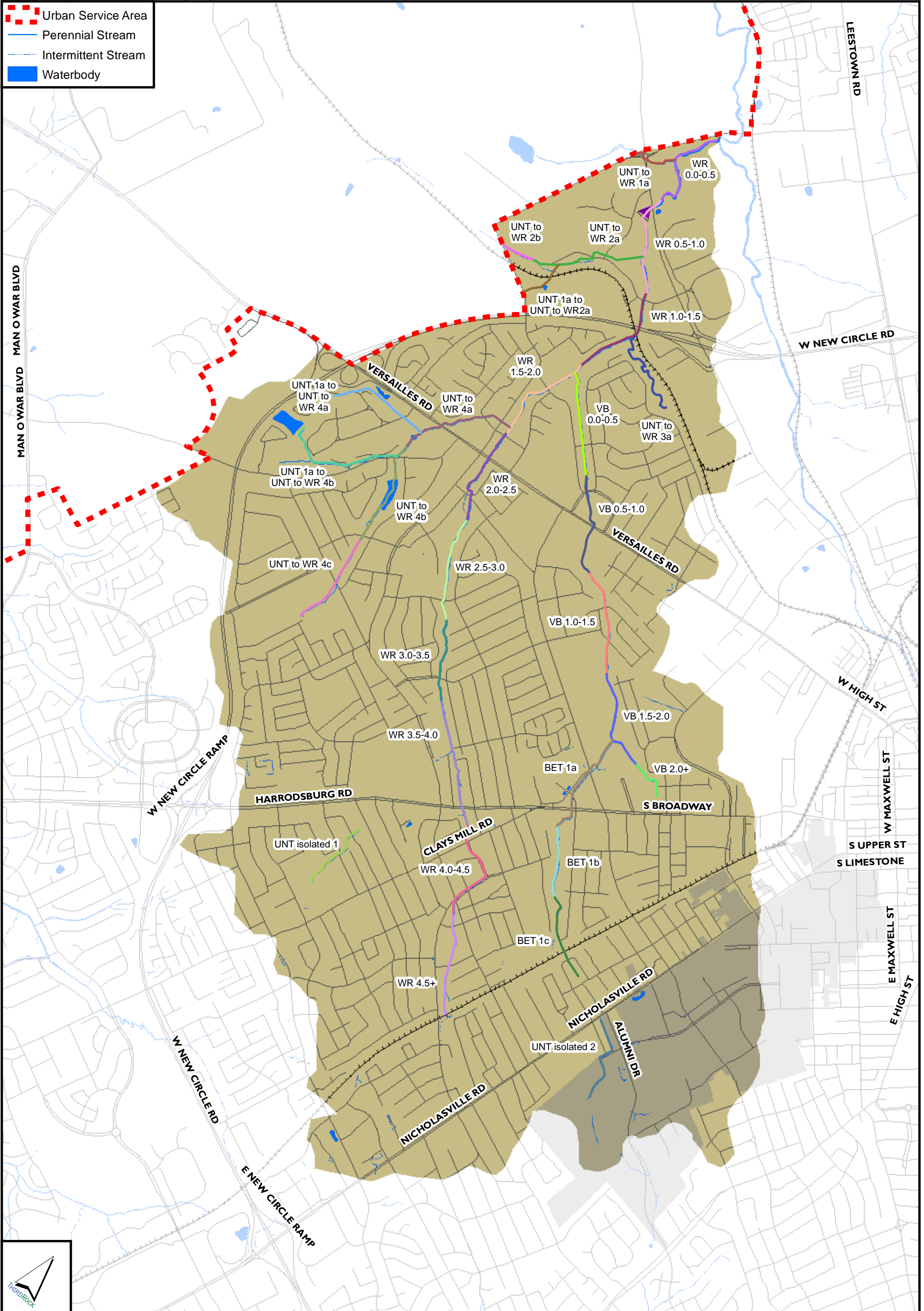
Watershed Focused Monitoring
Lexington Urban Service Area
Fayette County, Kentucky

Exhibit 3
South Elkhorn Creek

Stream Corridor
Characterization Reaches
Fayette County,
Kentucky



-  Urban Service Area
-  Perennial Stream
-  Intermittent Stream
-  Waterbody







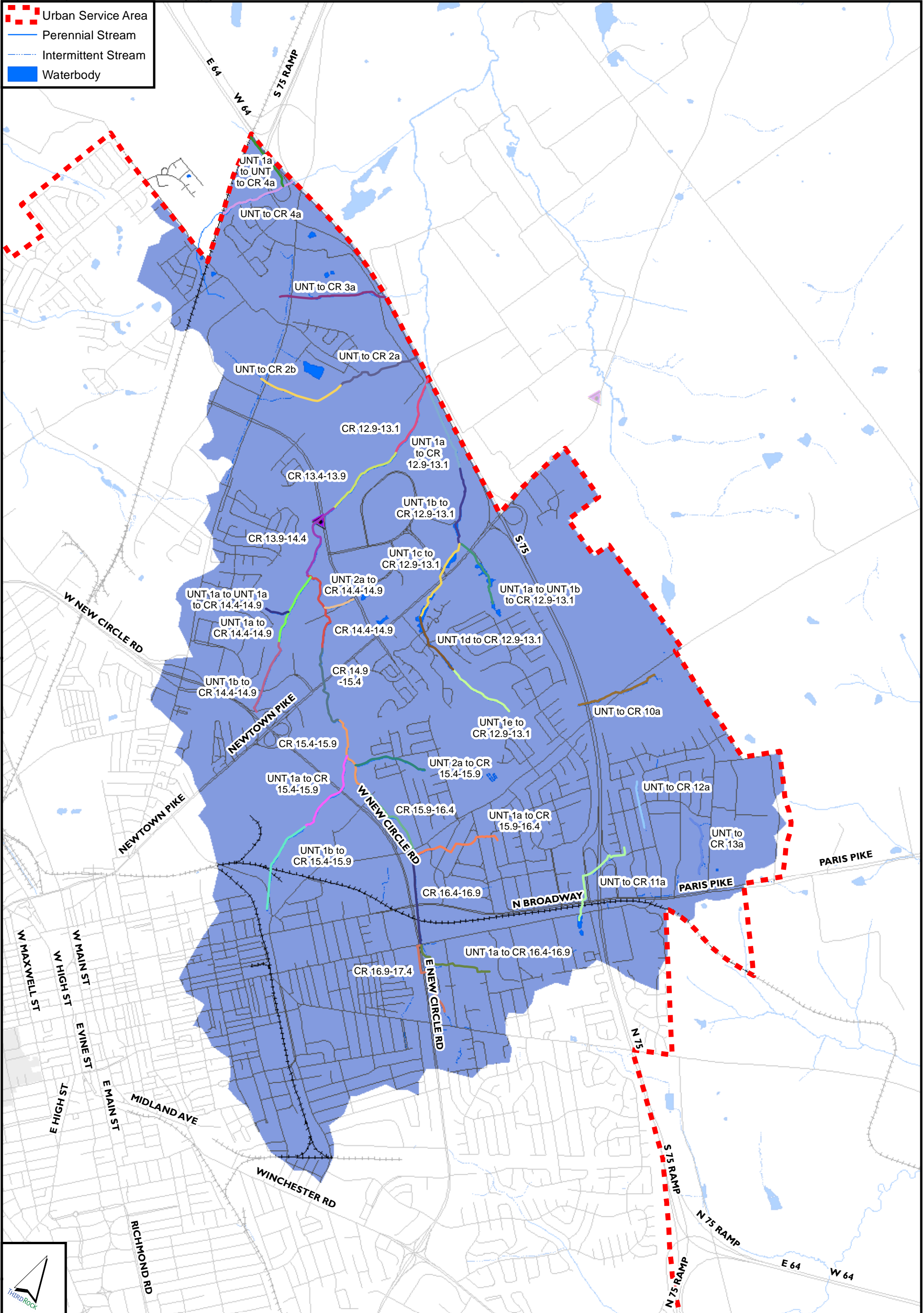
Watershed Focused Monitoring
Lexington Urban Service Area
Fayette County, Kentucky

0 1,250 2,500
Feet

Exhibit 4
Wolf Run

Stream Corridor
Characterization Reaches
Fayette County,
Kentucky

-  Urban Service Area
-  Perennial Stream
-  Intermittent Stream
-  Waterbody







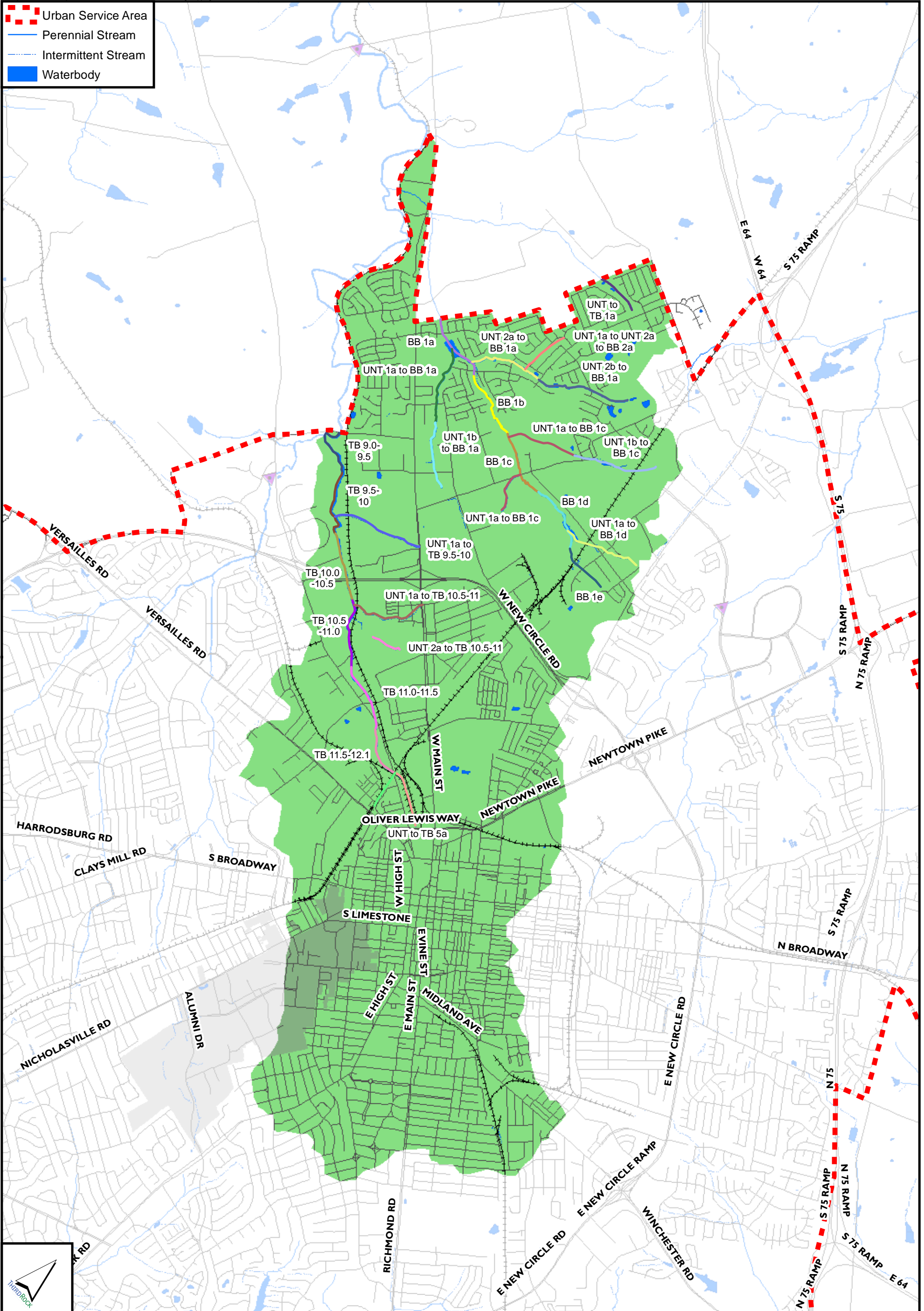
Watershed Focused Monitoring
 Lexington Urban Service Area
 Fayette County, Kentucky

0 1,250 2,500
 Feet

Exhibit 5
 Cane Run

Stream Corridor
 Characterization Reaches
 Fayette County,
 Kentucky

-  Urban Service Area
-  Perennial Stream
-  Intermittent Stream
-  Waterbody

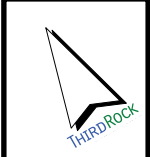
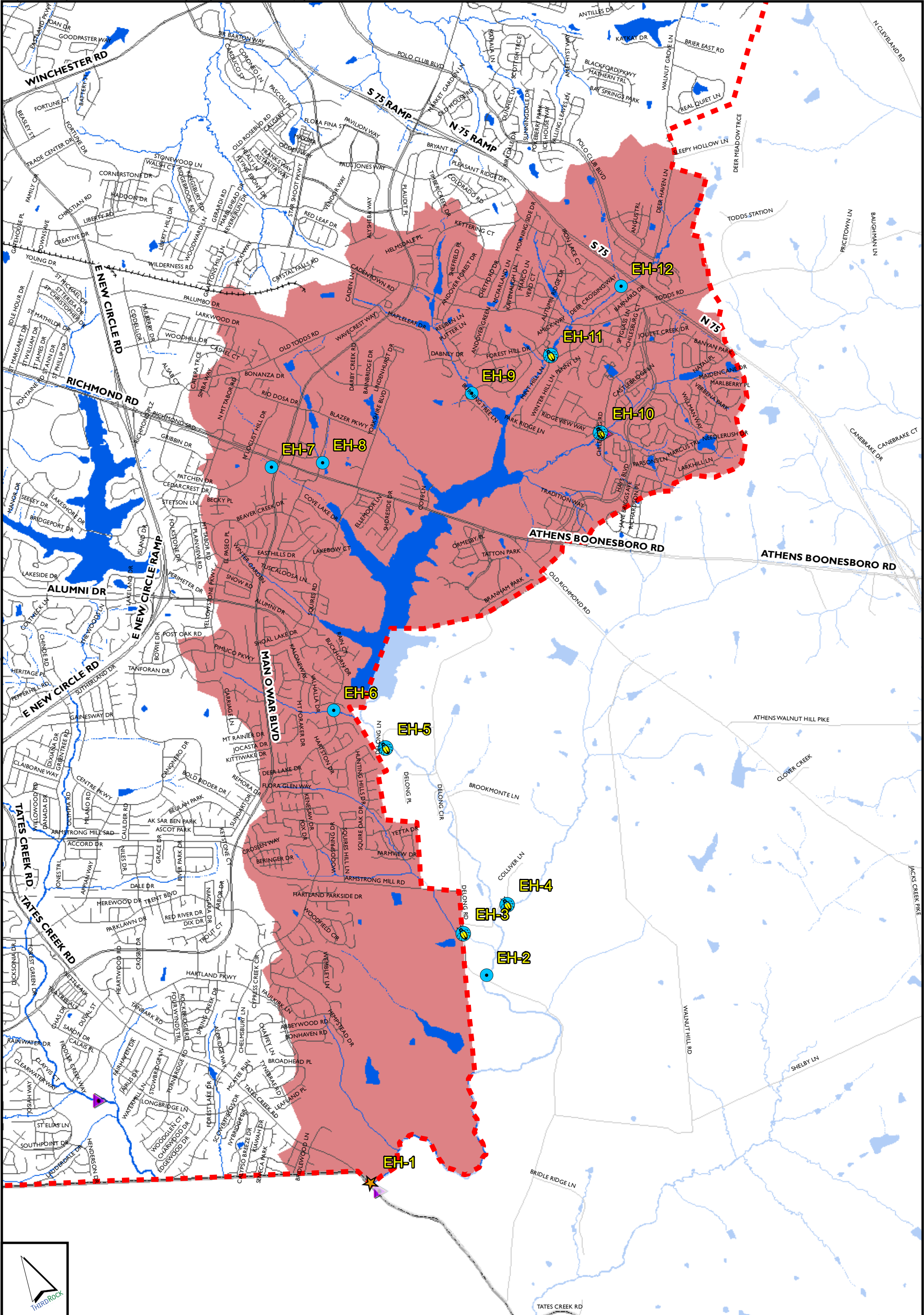


Watershed Focused Monitoring
Lexington Urban Service Area
Fayette County, Kentucky

Exhibit 6
Town Branch

Stream Corridor
Characterization Reaches
Fayette County,
Kentucky



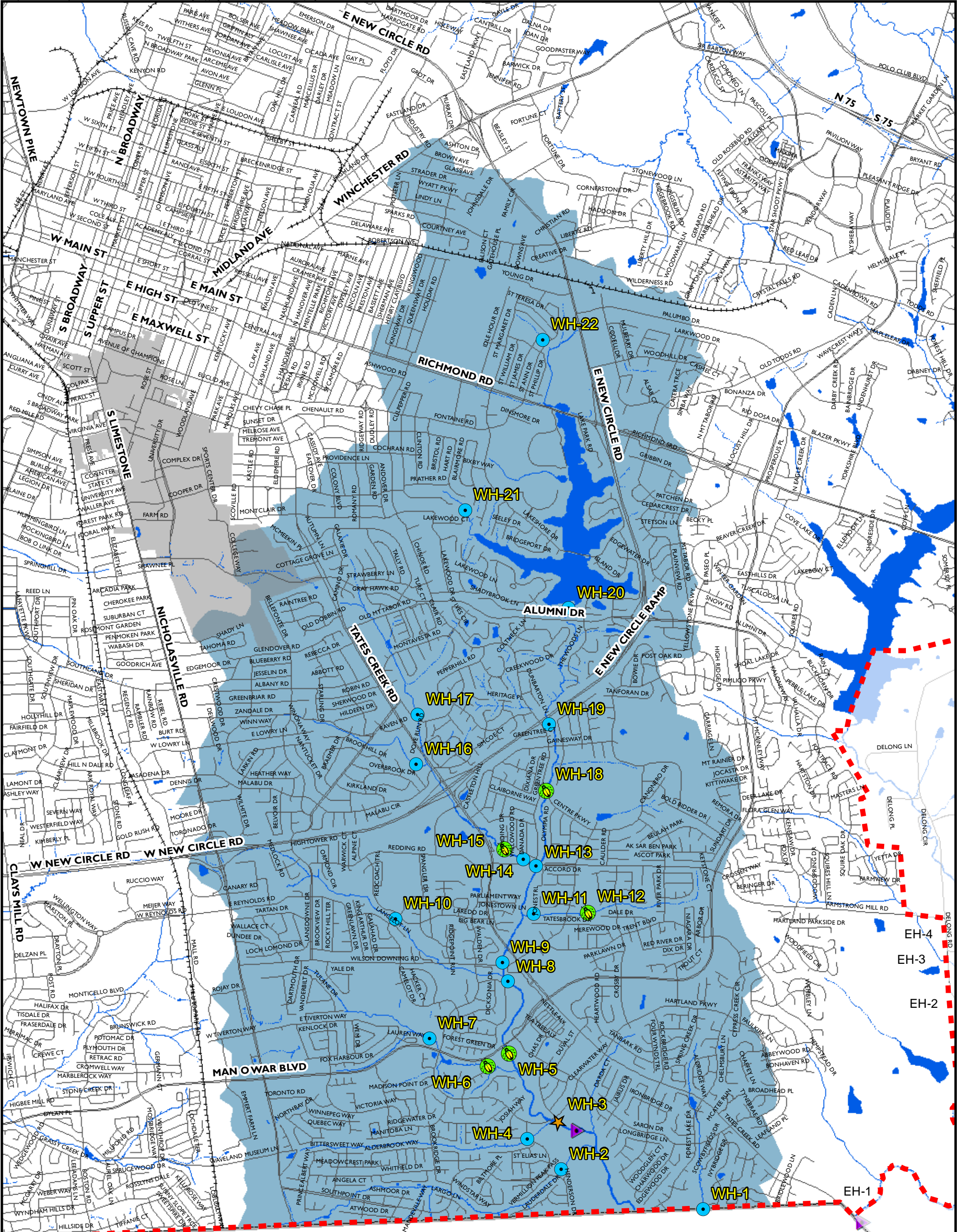


**Watershed Focused Monitoring
Lexington Urban Service Area
Fayette County, Kentucky**

0 1,250 2,500
Feet

- | | | |
|---------------|------------------|---------------------|
| MS4 Site | USGS Station | Waterbody |
| Macro Site | Railroad | Urban Service Area |
| Macro+WQ Site | Street | County Boundary |
| WQ Site | Perennial Stream | Intermittent Stream |

**Exhibit 8
Instream Sites
East Hickman Creek**

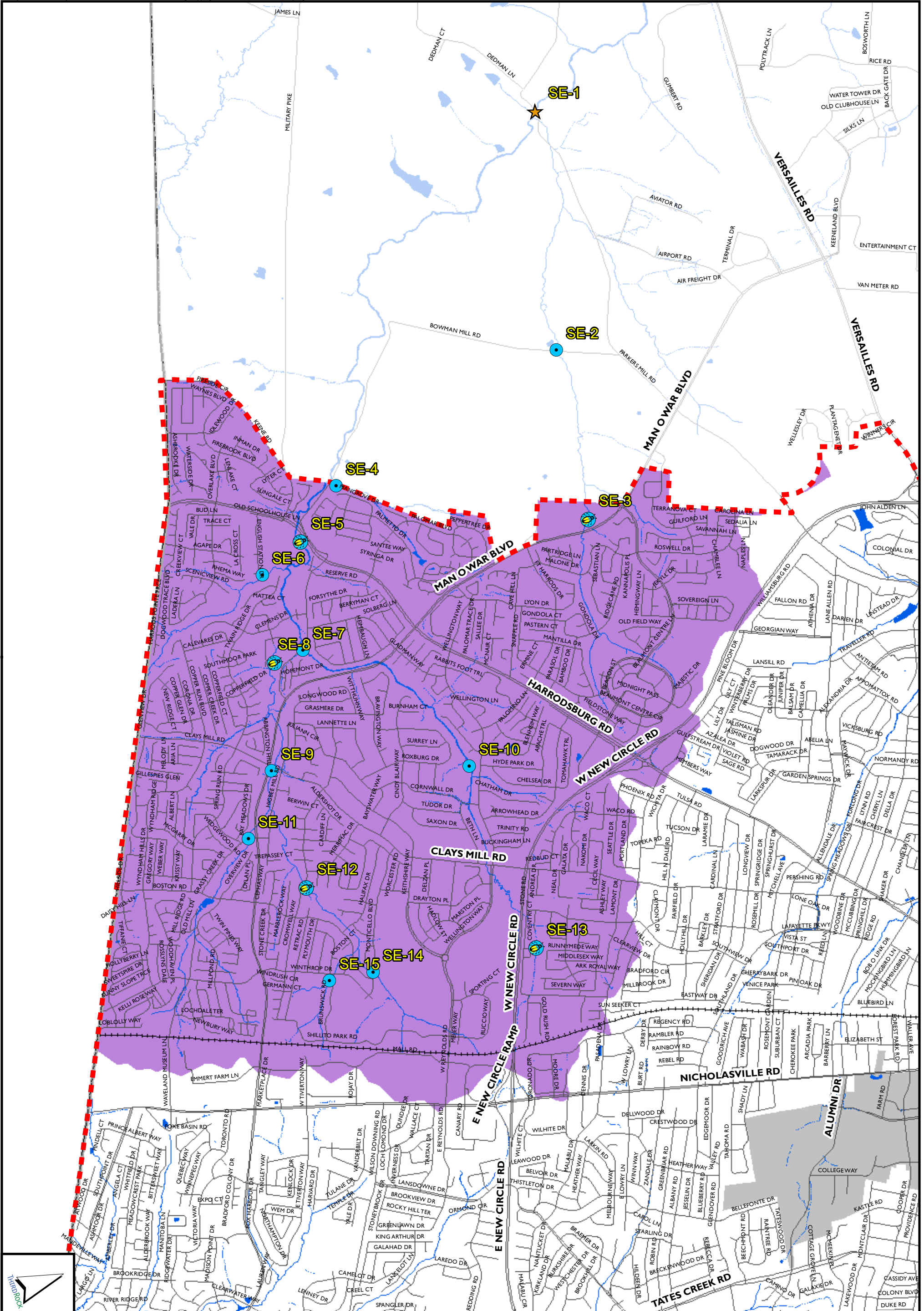


**Watershed Focused Monitoring
Lexington Urban Service Area
Fayette County, Kentucky**

0 1,250 2,500
Feet

- MS4 Site
- USGS Station
- Waterbody
- Macro Site
- Railroad
- Urban Service Area
- Macro+WQ Site
- Street
- County Boundary
- WQ Site
- Perennial Stream
- Intermittent Stream

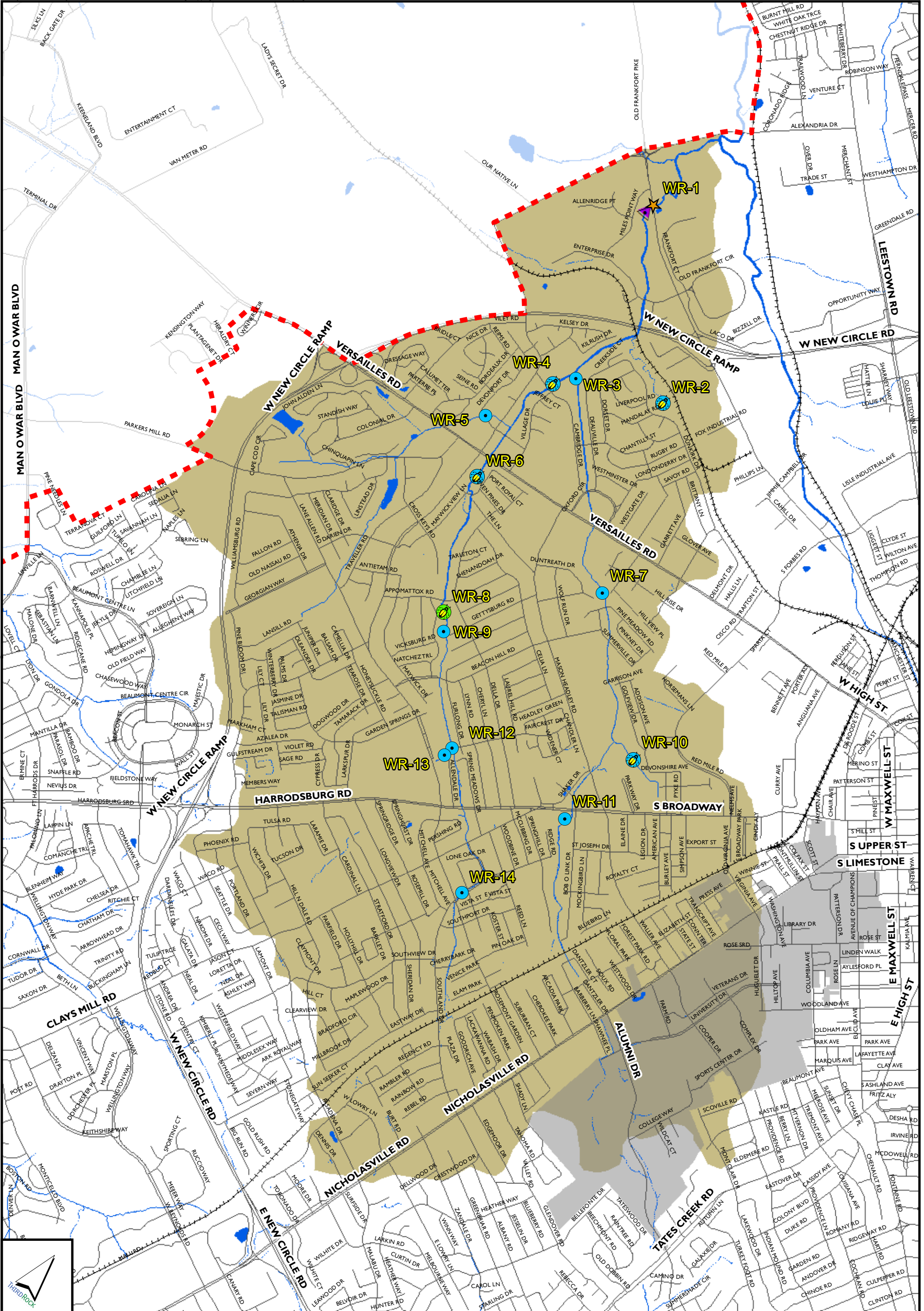
**Exhibit 9
Instream Sites
West Hickman Creek**



**Watershed Focused Monitoring
Lexington Urban Service Area
Fayette County, Kentucky**

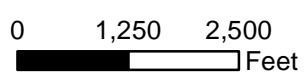
- MS4 Site
- Macro Site
- Macro+WQ Site
- WQ Site
- USGS Station
- Railroad
- Street
- Perennial Stream
- Intermittent Stream
- Waterbody
- Urban Service Area
- County Boundary

**Exhibit 10
Instream Sites
South Elkhorn Creek**

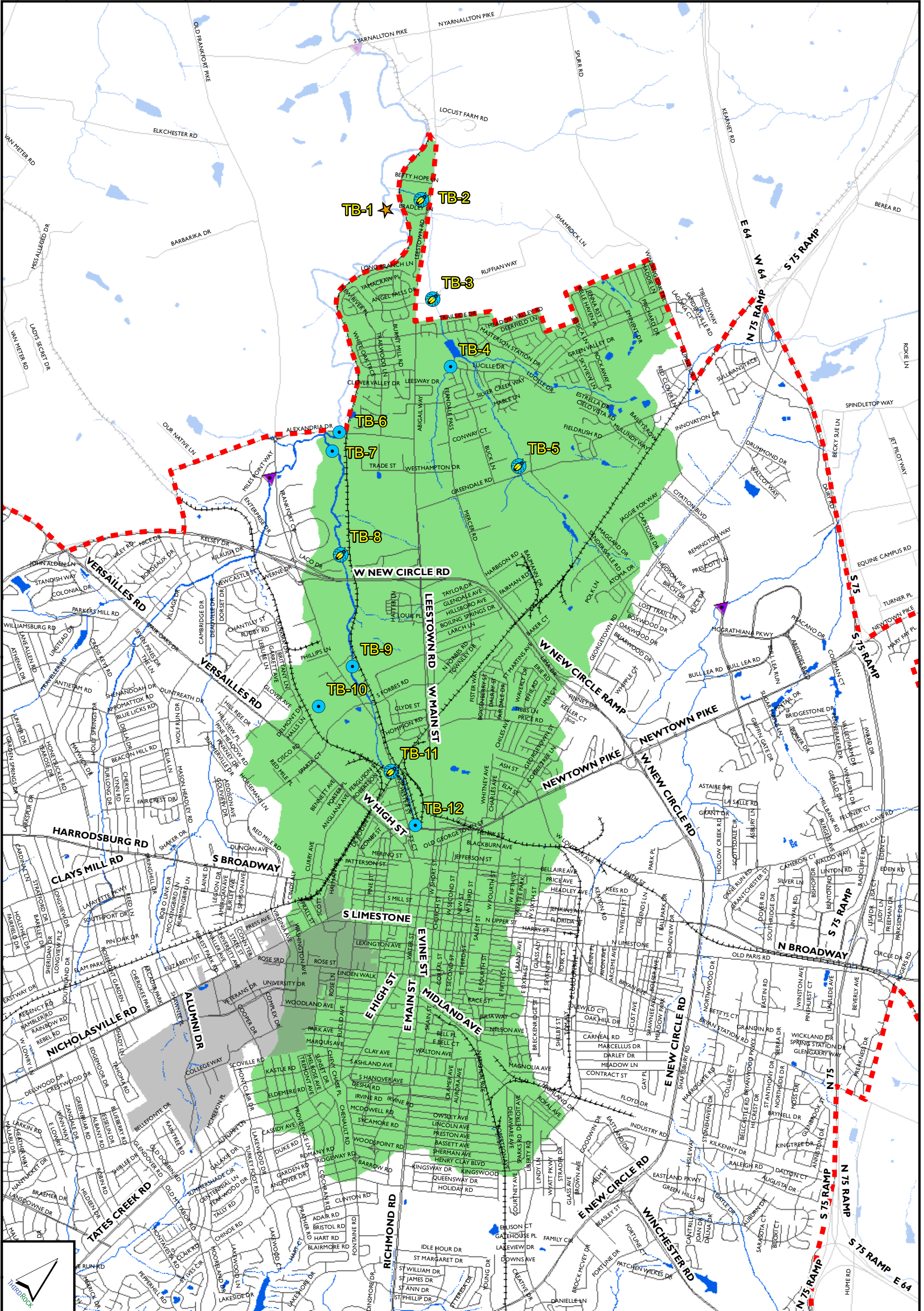


**Watershed Focused Monitoring
Lexington Urban Service Area
Fayette County, Kentucky**

- MS4 Site
- Macro Site
- Macro+WQ Site
- WQ Site
- USGS Station
- Railroad
- Street
- Perennial Stream
- Intermittent Stream
- Waterbody
- Urban Service Area
- County Boundary



**Exhibit 11
Instream Sites
Wolf Run**

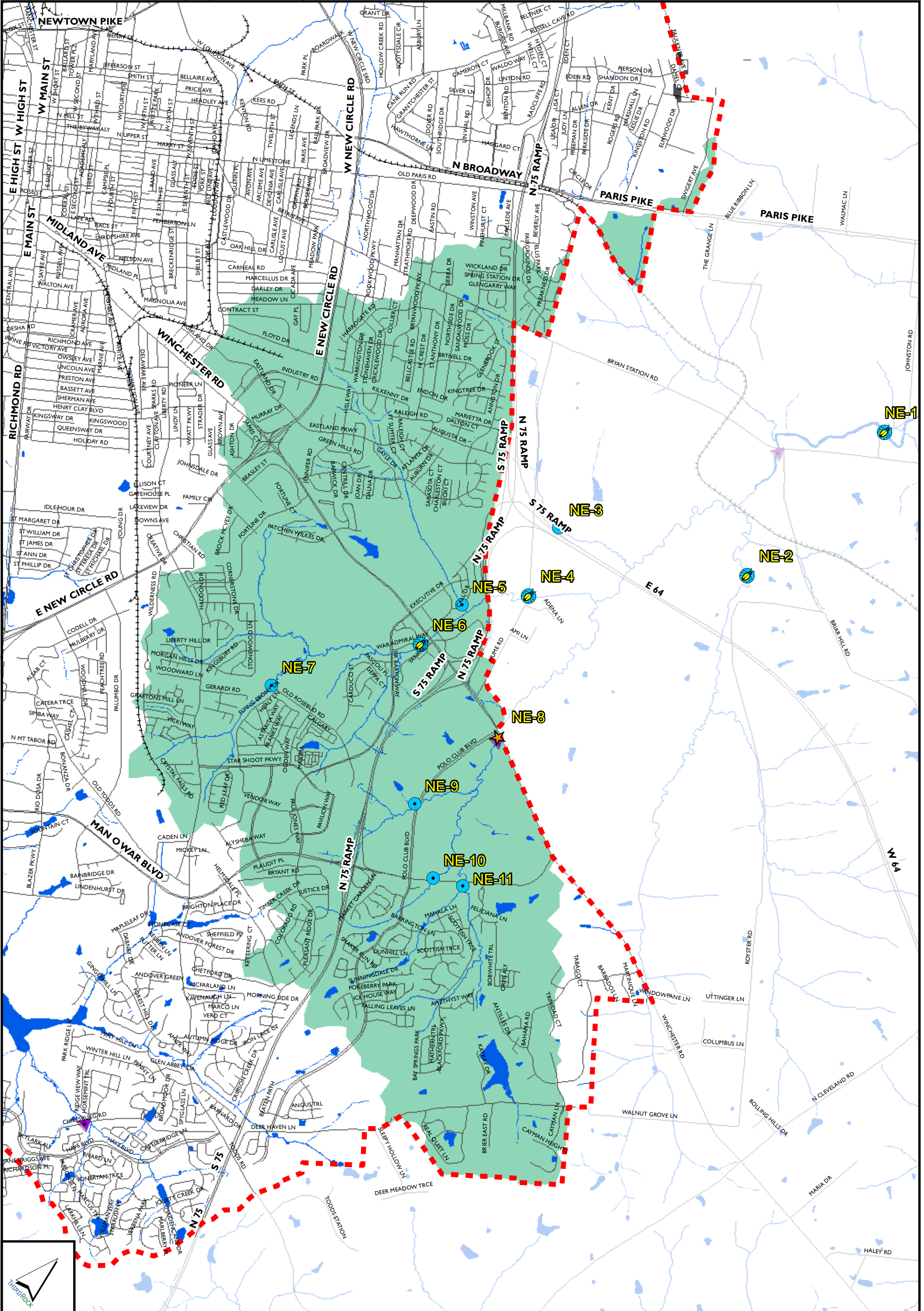


**Watershed Focused Monitoring
Lexington Urban Service Area
Fayette County, Kentucky**

- MS4 Site
- Macro Site
- Macro+WQ Site
- WQ Site
- USGS Station
- Railroad
- Street
- Perennial Stream
- Intermittent Stream
- Waterbody
- Urban Service Area
- County Boundary













**Exhibit 13
Instream Sites
Town Branch**

0 1,250 2,500 5,000
Feet

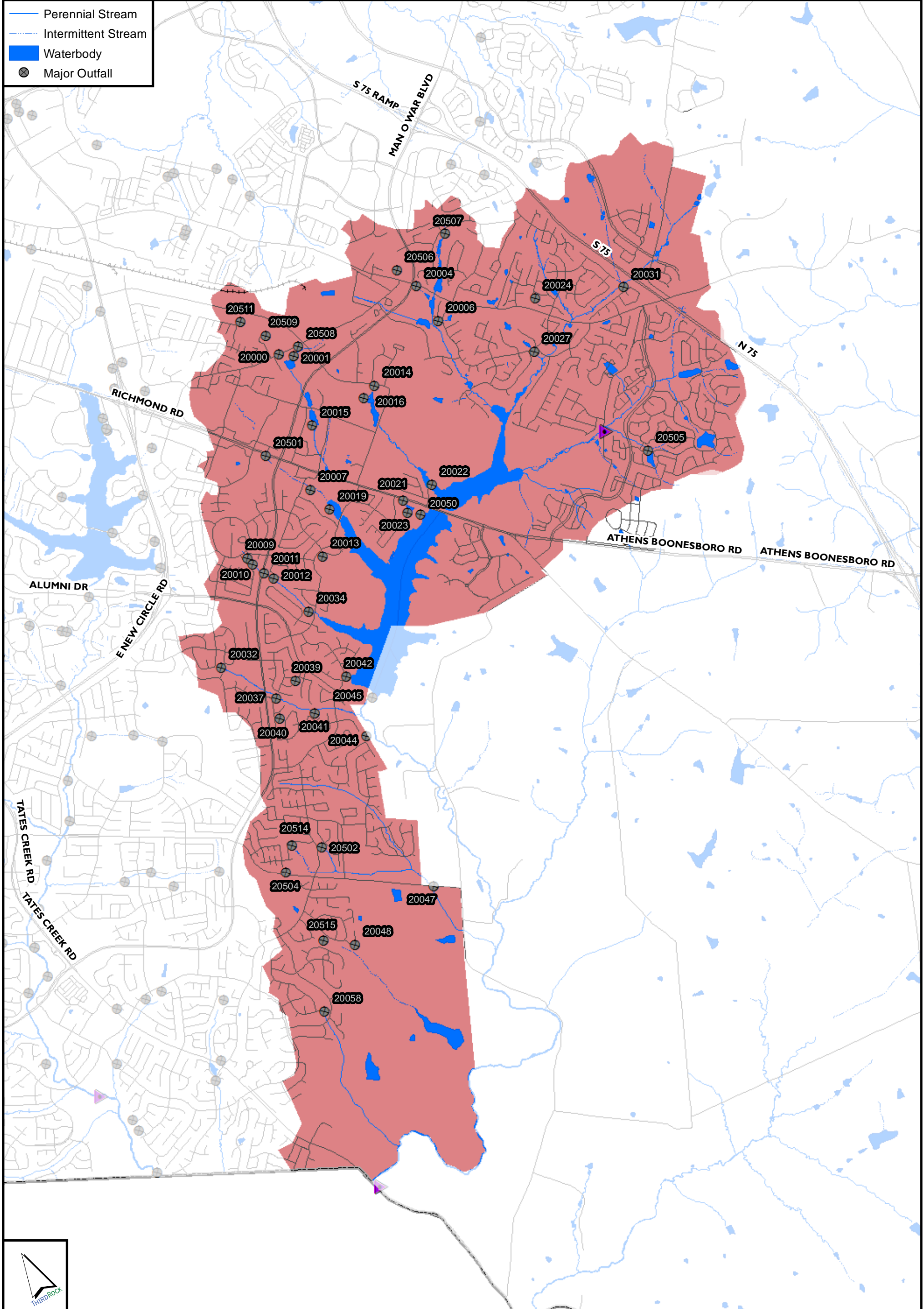


**Watershed Focused Monitoring
Lexington Urban Service Area
Fayette County, Kentucky**

0 1,250 2,500
Feet

-  MS4 Site
-  USGS Station
-  Waterbody
-  Macro Site
-  Railroad
-  Urban Service Area
-  Macro+WQ Site
-  Street
-  County Boundary
-  WQ Site
-  Perennial Stream
-  Intermittent Stream

**Exhibit I4
Instream Sites
North Elkhorn Creek**



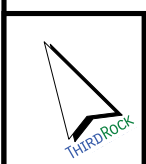
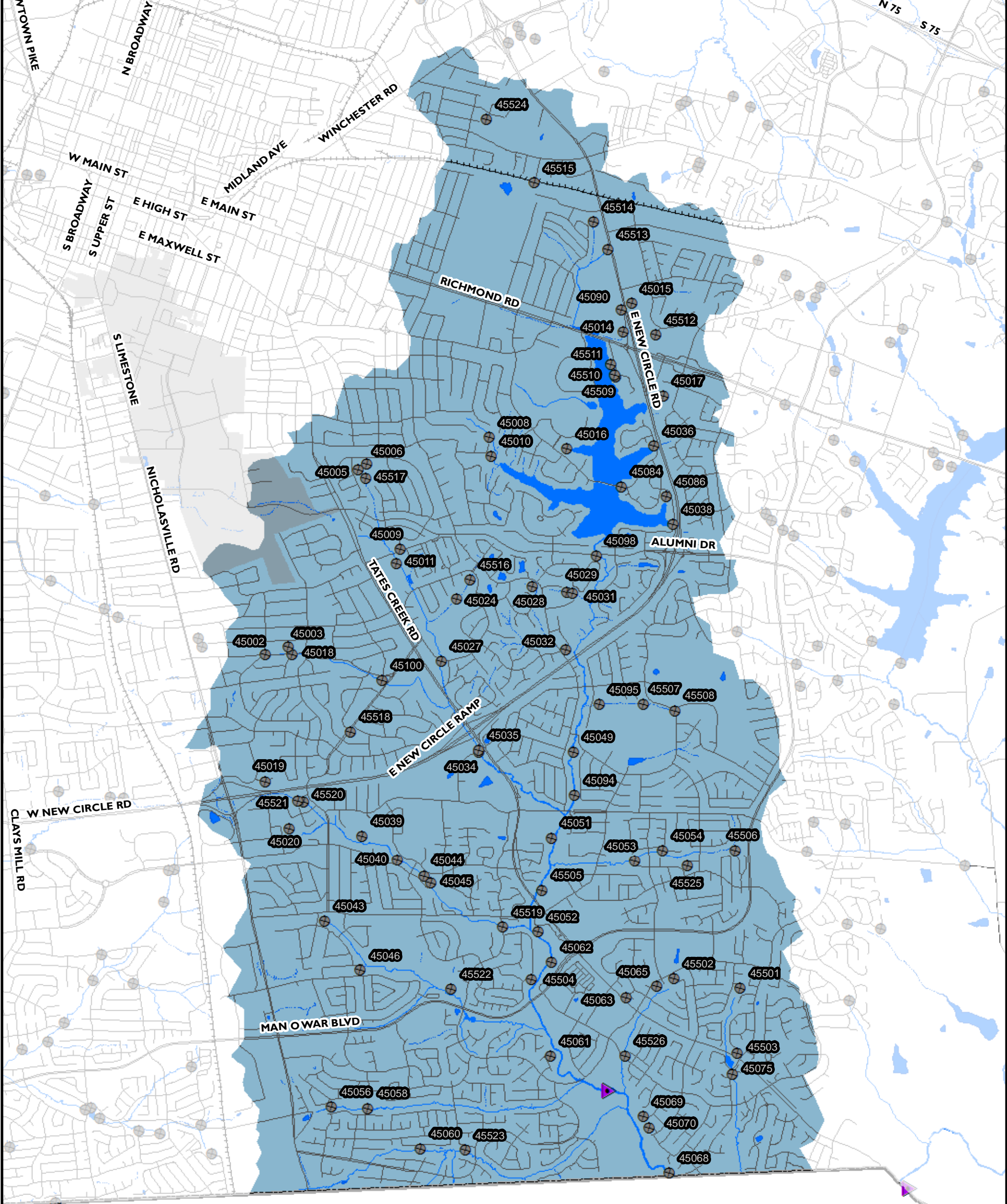
Watershed Focused Monitoring
Lexington Urban Service Area
Fayette County, Kentucky

Exhibit 15
East Hickman Creek

Major Outfalls
Fayette County,
Kentucky

0 1,250 2,500
Feet

- Perennial Stream
- Intermittent Stream
- Waterbody
- Major Outfall

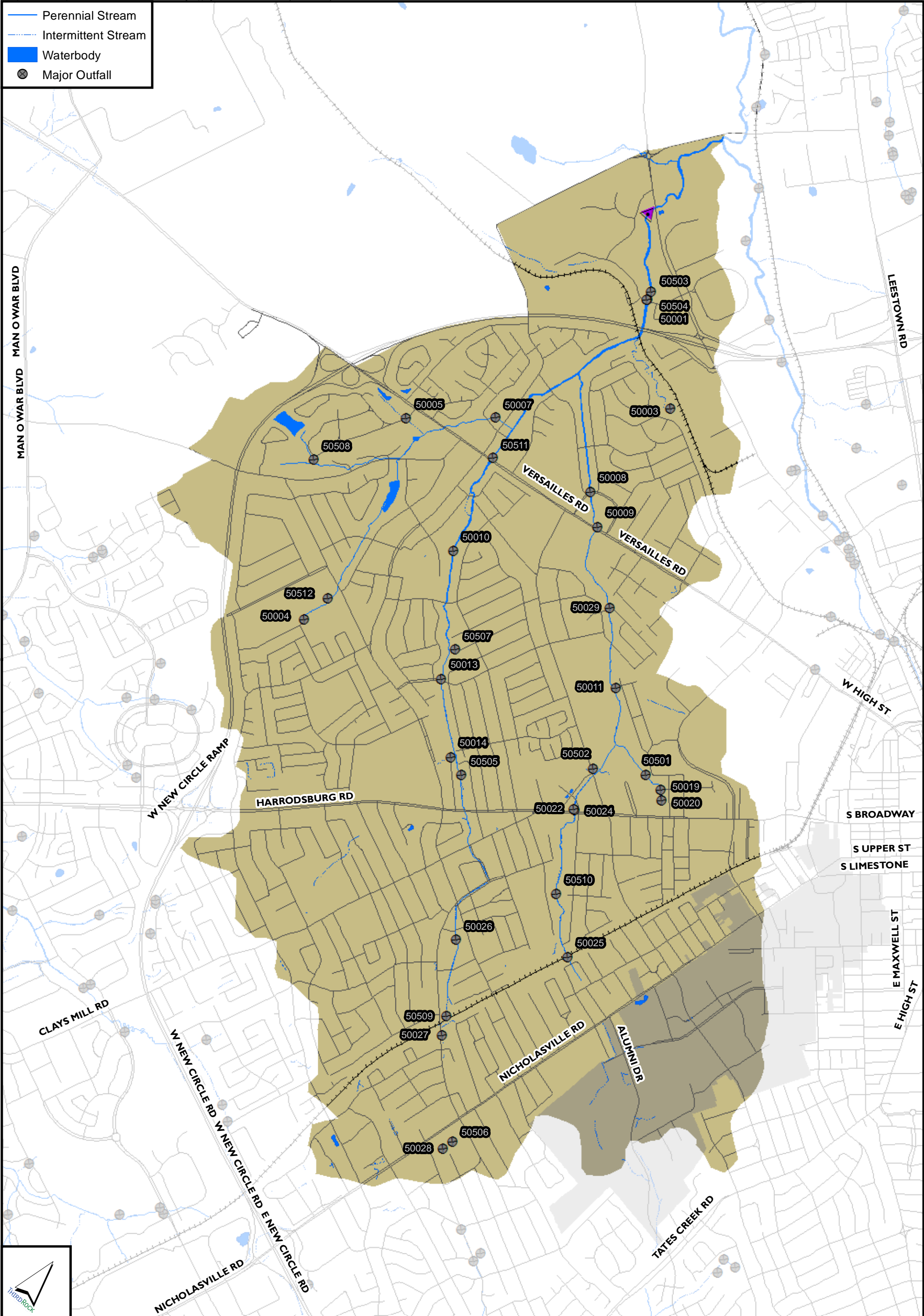


Watershed Focused Monitoring
Lexington Urban Service Area
Fayette County, Kentucky

Exhibit 16
West Hickman Creek

Major Outfalls
Fayette County,
Kentucky

- Perennial Stream
- - - Intermittent Stream
- Waterbody
- ⊗ Major Outfall



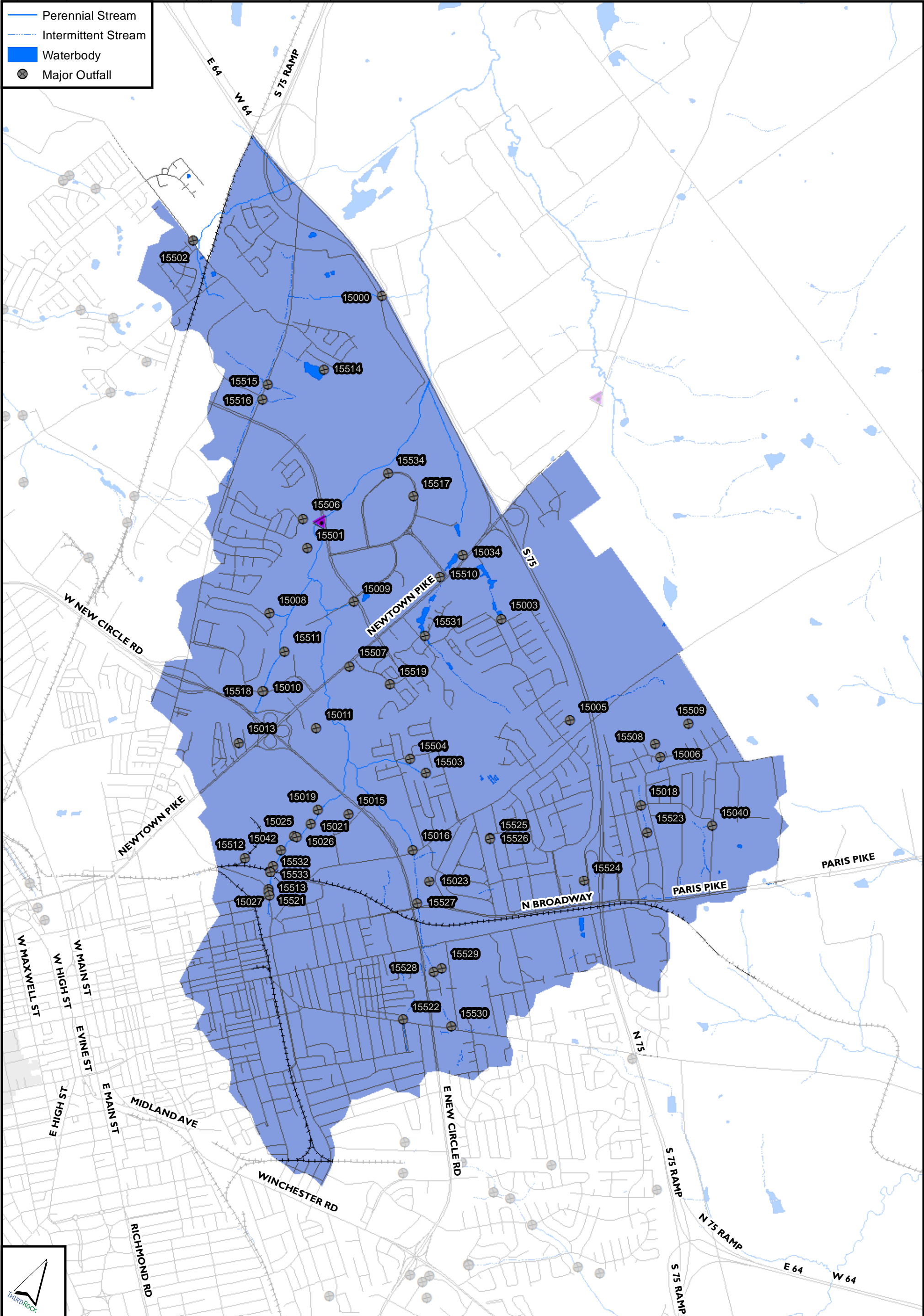
Watershed Focused Monitoring
Lexington Urban Service Area
Fayette County, Kentucky

Exhibit 18
Wolf Run

Major Outfalls
Fayette County,
Kentucky

0 1,250 2,500
Feet

- Perennial Stream
- - - Intermittent Stream
- Waterbody
- Major Outfall



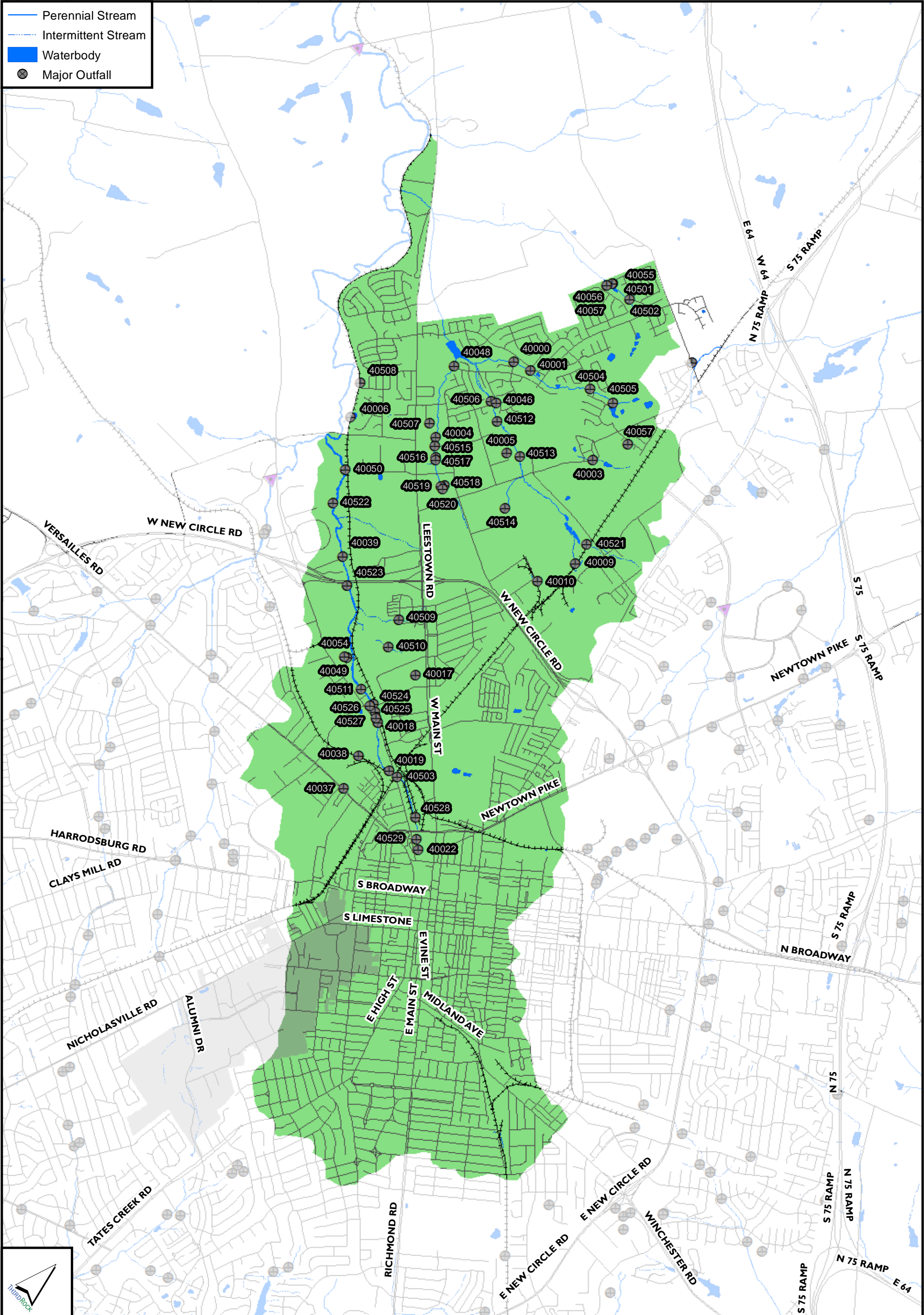
Watershed Focused Monitoring
 Lexington Urban Service Area
 Fayette County, Kentucky

0 1,250 2,500
 Feet

Exhibit 19
 Cane Run

Major Outfalls
 Fayette County,
 Kentucky

- Perennial Stream
- - - Intermittent Stream
- Waterbody
- ⊕ Major Outfall

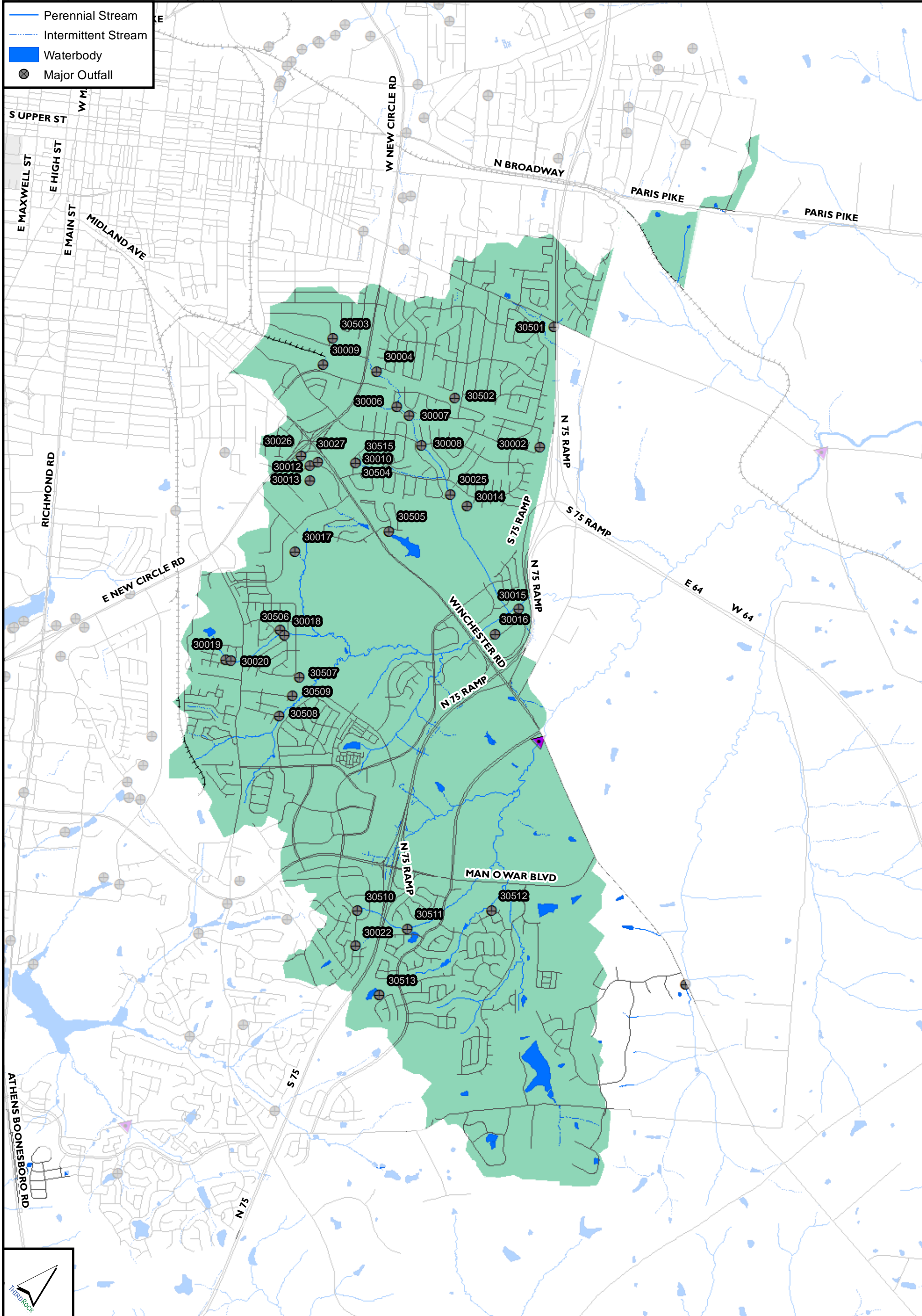


Watershed Focused Monitoring
 Lexington Urban Service Area
 Fayette County, Kentucky

0 1,250 2,500 5,000
 Feet

Exhibit 20
 Town Branch

Major Outfalls
 Fayette County,
 Kentucky



Watershed Focused Monitoring
 Lexington Urban Service Area
 Fayette County, Kentucky

Exhibit 21
 North Elkhorn Creek

Major Outfalls
 Fayette County,
 Kentucky

0 1,250 2,500
 Feet

Cane Run Watershed Focused Monitoring Locations

Site Id	Location	Sampling Type	Latitude	Longitude
CR-1	Cane Run at I-75	MACRO+WQ	38.107090	-84.499634
CR-2	Cane Run upstream of UNT at RM 12.9 near Lower Pump Station	WQ	38.104565	-84.498776
CR-3	UNT to Cane Run at RM 12.9 at Coldstream Park Trail	WQ	38.103625	-84.495076
CR-4	UNT to Cane Run at RM 12.9 downstream of Pisacano Dr	MACRO	38.099624	-84.489882
CR-5	Cane Run at Citation Blvd	BASE	38.092322	-84.501381
CR-6	Highlands Spring near Citation Blvd	WQ	38.091291	-84.503276
CR-7	UNT to Cane Run behind Eastern State Hospital	WQ	38.084584	-84.499572
CR-8	Cane Run at Newtown Pike	MACRO+WQ	38.080261	-84.492350
CR-9	UNT to Cane Run at 15.7 at LexMark	WQ	38.075682	-84.484965
CR-10	Cane Run at LexMark	WQ	38.074671	-84.484741
CR-11	UNT to Cane Run at 15.6 at LexMark	WQ	38.074155	-84.485888
CR-12	UNT to Cane Run at 15.6 u/s of RJ Corman Railroad near Loudon	WQ	38.064165	-84.487503

East Hickman Watershed Focused Monitoring Locations

Site Id	Location	Sampling Type	Latitude	Longitude
EH-1	East Hickman at Tates Creek Road	BASE	37.938570	-84.478790
EH-2	East Hickman Creek at DeLong Road	WQ	37.949904	-84.454745
EH-3	DeLong Tributary at DeLong Road	MACRO+WQ	37.954342	-84.454701
EH-4	UNT to East Hickman Creek at Colliver Ln	MACRO+WQ	37.954647	-84.448543
EH-5	East Hickman Creek at DeLong Ln	MACRO+WQ	37.972934	-84.451769
EH-6	Squires Road Tributary at Burkhorn Dr	WQ	37.978371	-84.454848
EH-7	UNT to Richmond Road Tributary behind Walmart	WQ	38.000909	-84.446924
EH-8	Richmond Road Tributary upstream of Richmond Rd	WQ	37.998877	-84.441456
EH-9	Cadentown Branch at Gingermill Ln	WQ	37.997587	-84.422167
EH-10	UNT to East Hickman Cr at Chilesburg Rd	MACRO+WQ	37.988410	-84.411390
EH-11	Andover Creek at golf cart path off Amick Way	MACRO+WQ	37.996950	-84.411910
EH-12	Andover Creek at Autumn Ridge Park	WQ	37.999280	-84.400670

North Elkhorn Watershed Focused Monitoring Locations

Site Id	Location	Sampling Type	Latitude	Longitude
NE-1	North Elkhorn Creek at Johnston Rd (KY3327)	MACRO+WQ	38.084566	-84.406570
NE-2	David Fork at Private Drive Bridge off of Royster Rd	MACRO+WQ	38.066467	-84.405250
NE-3	UNT off Private Dr off of Hume Road near I-64 Interchange	WQ	38.056855	-84.424101
NE-4	Bryan Station Cr at Hume Rd	MACRO+WQ	38.050574	-84.420704
NE-5	UNT to Bryan Station Cr at Call Dr	WQ	38.045601	-84.425197
NE-6	Bryan Station Cr u/s of Winchester Rd off horse cemetery trail	MACRO+WQ	38.040331	-84.425096
NE-7	Bryan Station Creek at Old Rosebud Rd	WQ	38.027836	-84.433365
NE-8	North Elkhorn Creek at Winchester Road	BASE	38.039790	-84.411120
NE-9	UNT to North Elkhorn at Polo Club Blvd	WQ	38.030052	-84.412093
NE-10	UNT to North Elkhorn at Man-O-War	WQ	38.026676	-84.404341
NE-11	North Elkhorn Creek at Man-O-War Blvd	WQ	38.028170	-84.401350

South Elkhorn Watershed Focused Monitoring Locations

Site Id	Location	Sampling Type	Latitude	Longitude
SE-1	South Elkhorn at Parkers Mill Road	BASE	38.025930	-84.617830
SE-2	Cave Creek at Bowman Mill Road	WQ	38.020876	-84.593757
SE-3	Cave Creek at Man-O-War Blvd	MACRO+WQ	38.018599	-84.576001
SE-4	Bowman Mill Tributary at Mouth	WQ	37.999981	-84.588218
SE-5	South Elkhorn upstream of Harrodsburg Road	MACRO+WQ	37.995606	-84.583966
SE-6	Drive-In Tributary near Rhema Way	WQ	37.991775	-84.582051
SE-7	Stonewall Estates Tributary us Old Higbee Mill Rd	WQ	37.992812	-84.573243
SE-8	South Elkhorn Creek ds Steamboat Road Trib	MACRO+WQ	37.990226	-84.573022
SE-9	South Elkhorn us Clays Mill Road	WQ	37.986989	-84.562537
SE-10	Stonewall Estates Trib at Stonewall Elem, ds Indian Hills Trib	WQ	38.002500	-84.556000
SE-11	Clemens Run at Grassy Creek Dr	WQ	37.983310	-84.556685
SE-12	South Elkhorn us Cromwell Way	MACRO+WQ	37.986390	-84.549834
SE-13	Stonewall Estates Tributary us of Wellington Way	MACRO+WQ	38.001453	-84.543922
SE-14	South Elkhorn at Monticello Blvd	WQ	37.989248	-84.539180
SE-15	UNT to South Elkhorn at Brunswick Rd in Shilitto Park	WQ	37.985618	-84.539896

Town Branch Watershed Focused Monitoring Locations

Site Id	Location	Sampling Type	Latitude	Longitude
TB-1	Near Bracktown	BASE	38.094230	-84.569680
TB-2	Bracktown Branch downstream of Leestown Road	MACRO+WQ	38.097539	-84.567491
TB-3	Bracktown Branch btwn Ruffian Way and Masterson Station Dr	MACRO+WQ	38.091402	-84.556891
TB-4	UNT to Bracktown Branch at Lucille Dr terminus	WQ	38.088014	-84.548792
TB-5	Branchtown Branch at Greendale Rd	MACRO+WQ	38.086146	-84.533102
TB-6	TB, WR D/S	WQ	38.074896	-84.552422
TB-7	Above Wolf Run	WQ	38.073040	-84.551220
TB-8	TB PLANT D/S	MACRO+WQ	38.066343	-84.540471
TB-9	Above WWTP	WQ	38.059360	-84.528670
TB-10	McConnell Springs	WQ	38.053976	-84.527825
TB-11	collect at mouth of outfall	MACRO+WQ	38.054895	-84.515048
TB-12	downstream of bridge 10 feet	WQ	38.052933	-84.507736

West Hickman Watershed Focused Monitoring Locations

Site Id	Location	Sampling Type	Latitude	Longitude
WH-1	Forest Lake Tributary at Ivy Bridge Road	WQ	37.945732	-84.493492
WH-2	Southpoint Tributary at Veterans Park	WQ	37.955363	-84.505411
WH-3	West Hickman Creek at Veterans Park Bridge	BASE	37.959320	-84.503050
WH-4	Emmett Creek at Southpoint Drive	WQ	37.959315	-84.507082
WH-5	West Hickman Creek downstream of Man-O-War	MACRO	37.966949	-84.504001
WH-6	Tiverton Way Tributary at Watertrace Drive Terminus	MACRO	37.966895	-84.506891
WH-7	Tiverton Way Tributary at Man-O-War	WQ	37.971749	-84.511111
WH-8	Wilson Downing Tributary at Belleau Woods Park	WQ	37.972736	-84.499957
WH-9	West Hickman Creek at Wilson Downing Road	WQ	37.974460	-84.499420
WH-10	Lansdowne Tributary at Camelot Drive	WQ	37.982813	-84.507618
WH-11	Mill Creek at Appian Crossing Way	WQ	37.976926	-84.493459
WH-12	Mill Creek at Mill Creek Elementary School	MACRO	37.974530	-84.487974
WH-13	West Hickman Creek at Armstrong Mill Road	WQ	37.980598	-84.490483
WH-14	Tates Creek at Armstrong Mill Road	WQ	37.981734	-84.491374
WH-15	Lansdowne Drive Tributary Upstream of Armstrong Mill	MACRO	37.983393	-84.492707
WH-16	Lansdowne Tributary at Lansdowne Shopping Center	WQ	37.994143	-84.496654
WH-17	Tates Creek at Montavesta Road	WQ	37.998019	-84.493658
WH-18	West Hickman Creek at Centre Parkway	MACRO	37.986126	-84.485158
WH-19	West Hickman Creek at New Circle Road	WQ	37.991261	-84.481026
WH-20	West Hickman Creek at Reservoir Spillway	WQ	37.999610	-84.472370
WH-21	UNT to Reservoir at Lakewood Court	WQ	38.012097	-84.477112
WH-22	UNT to Idle Hour Tributary at St Ann Drive	WQ	38.022094	-84.459508

Wolf Run Watershed Focused Monitoring Locations

Site Id	Location	Sampling Type	Latitude	Longitude
WR-1	Wolf Run at Old Frankfort Pike	BASE	38.067280	-84.554240
WR-2	McConnel Run at Preston Cave	MACRO+WQ	38.057347	-84.542568
WR-3	Vaughns Branch at Valley Park	WQ	38.054800	-84.549700
WR-4	Wolf Run at Valley Park u/s of Vaughns Branch	MACRO+WQ	38.053500	-84.550900
WR-5	Cardinal Run at Devonport Dr	WQ	38.048900	-84.553600
WR-6	Wolf Run at Wolf Run Park	MACRO+WQ	38.045340	-84.550740
WR-7	Vaughns Branch at Tazwell Dr	WQ	38.044800	-84.536000
WR-8	Wolf Run upstream of Appomattox Road	MACRO	38.036802	-84.545388
WR-9	Gardenside Spring off of Gettysburg Road	WQ	38.035787	-84.544333
WR-10	Vaughns Branch at Picadome Golf Course	MACRO+WQ	38.037439	-84.524675
WR-11	Big Elm Tributary u/s Harrodsburg Rd	WQ	38.031370	-84.525921
WR-12	Wolf Run at Faircrest Dr	WQ	38.030100	-84.537300
WR-13	Spirng Creek at Wolf Run	WQ	38.029400	-84.537400
WR-14	Wolf Run at Lafayette Pkwy	WQ	38.023000	-84.528600

Cane Run Watershed Major Outfall Locations

Site ID	Address	Shape	Size (in.)	Material	#Outfalls	Latitude	Longitude
15000	2850 Georgetown Rd	Box	216x60	RCP	1	38.11038756	-84.50797585
15003	1695 Costigan Dr	Round	54	RCP	1	38.09215898	-84.48009587
15005	1896 Feltner Ct	Round	56	RCP	1	38.08776389	-84.46846122
15006	2339 Pierson Dr	Elliptical	30x52	RCP	1	38.08886931	-84.45832987
15008	1071 Redwood Dr	Round	54	RCP	1	38.08293574	-84.50146154
15009	1490 Bull Lea Rd	Round	48	CMP	1	38.08728685	-84.49444425
15010	897 Nandino Blvd	Round	48	RCP	1	38.07701878	-84.49799315
15011	775 Newtown Ct	Round	36	RCP	1	38.07662259	-84.49113954
15013	639 Kennedy Rd	Round	36	RCP	1	38.07229602	-84.49744218
15015	1499 Boardwalk Dr	Round	52	RCP	1	38.07174636	-84.48366279
15016	1501 Russell Cave Rd	Round	36	RCP	1	38.07189642	-84.475915
15018	601 Allen Dr	Elliptical	48x72	CMP	1	38.08457742	-84.45750843
15019	740 W New Circle Rd	Round	36	RCP	1	38.07080284	-84.48667654
15021	740 W New Circle Rd	Round	48	RCP	1	38.06949246	-84.48654117
15023	438 Cane Run Rd	Round	54	RCP	1	38.0702779	-84.47267832
15025	740 W New Circle Rd	Round	36	RCP	1	38.06796351	-84.48710984
15026	740 W New Circle Rd	Round	36	RCP	1	38.06792484	-84.48742138
15027	251 W Loudon Ave	Box	60x144	RCP	1	38.06258336	-84.48657047
15034	1875 Newtown Pk	Round	24	CMP	1	38.09518199	-84.48693535
15040	525 Kingston Rd	Round	36	RCP	2	38.08609231	-84.44999867
15042	1699 McGrathiana Pkwy	Round	36	RCP	1	38.06636528	-84.48790848
15501	1875 Newtown Pk	Round	48	RCP	1	38.08916926	-84.50149141
15502	2811 Spurr Rd	Round	36	RCP	3	38.10646968	-84.52809889
15503	1560 La Salle Dr	Round	48	RCP	1	38.07795335	-84.47881045
15504	1560 La Salle Dr	Round	48	RCP	1	38.07829846	-84.48096741
15506	1980 Alice Dr	Round	48	RCP	1	38.09111684	-84.50338465
15507	760 Newtown Springs Dr	Round	48	RCP	1	38.082422	-84.49133656
15508	2200 Russell Cave Rd	Round	36	RCP	1	38.08962052	-84.45951753
15509	2200 Russell Cave Rd	Round	36	RCP	1	38.09249853	-84.4574876
15510	1500 Aristides Blvd	Round	36	HDPE	1	38.0926478	-84.48784855
15511	1033 Rushwood Ct	Round	36	RCP	1	38.08078717	-84.49804132
15512	740 W. New Circle Rd	Round	72	RCP	1	38.06431763	-84.49077472
15513	251 W. Loudon Ave	Round	15	RCP	1	38.06301242	-84.48691804
15514	2450 Georgetown Rd	Round	48	RCP	1	38.10270272	-84.50937177
15515	2400 Georgetown Rd	Round	48	RCP	1	38.09925963	-84.51366098
15516	2400 Georgetown Rd	Round	54	RCP	1	38.09798905	-84.51339325
15517	1699 McGrathiana Pkwy	Round	36	RCP	1	38.09733433	-84.49455681
15518	897 Nandino Blvd	Round	18	RCP	1	38.07704423	-84.49793602
15519	624 Saunders Springs Way	Round	36	RCP	1	38.08284119	-84.48675529
15521	251 W. Loudon Ave	Round	15	RCP	1	38.06280094	-84.48678749
15522	1443 Bryan Ave	Round	15	RCP	1	38.05922445	-84.46786188
15523	550 Parkside Dr	Box	31x50	RCP	1	38.08289847	-84.45552826
15524	1975 Haggard Ct	Round	42	RCP	1	38.07678062	-84.45873231
15525	564 Southridge Dr	Round	42	RCP	1	38.07596282	-84.46951847
15526	564 Southridge Dr	Round	36	CMP	1	38.07589394	-84.46944342
15527	1601 N Broadway	Round	15	RCP	1	38.06821158	-84.47271421
15528	175 Bryan Center Dr	Round	44	CMP	1	38.06393856	-84.46756403
15529	1624 Old Paris Rd	Elliptical	24x42	RCP	1	38.06457586	-84.46702486
15530	1651 Bryan Station	Round	48	RCP	1	38.06077917	-84.46313716
15531	1710 Newtown Pike	Round	36	RCP	1	38.08777667	-84.48612606
15532	1065 W. Loudon Ave	Round	12	RCP	1	38.06492766	-84.48777487
15533	1051 W. Loudon Ave	Round	18	RCP	1	38.06435016	-84.48766351
15534	1745 McGrathiana Pkwy	-	-	-	-	38.09792385	-84.49809446

East Hickman Watershed Major Outfall Locations

Site ID	Address	Shape	Size (in.)	Material	#Outfalls	Latitude	Longitude
20000	389 Pinewood Ct	Box	48x46	RCP	1	38.00945998	-84.43988065
20001	2490 Old Todds Rd	Round	36	CMP	1	38.00862942	-84.43845079
20004	3112 Althrop Way	Round	36	CMP	1	38.00859636	-84.42180196
20006	3188 Stonecase Dr	Round	36	RCP	1	38.00478345	-84.42158607
20007	3351 Cove Lake Dr	Round	54	RCP	1	37.99706776	-84.44455513
20009	2804 Easthills Ct	Round	54	RCP	1	37.99445717	-84.45498086
20010	609 Easthills Ct	Round	48	RCP	1	37.99374251	-84.45483485
20011	3012 Tuscaloosa Ln	Round	36	RCP	1	37.99250118	-84.45423066
20012	3000 Tuscaloosa Ln	Round	36	RCP	1	37.9916018	-84.45354026
20013	440 Squires Rd	Round	48	RCP	1	37.99111807	-84.44721418
20014	2900 Palumbo Dr	Round	42	RCP	1	38.00250667	-84.43188009
20015	160 Prosperous Pl	Round	48	RCP	1	38.00217967	-84.44061481
20016	3475 Blazer Pkwy	Box	30x22	RCP	1	38.00197983	-84.43372713
20019	3359 Cove Lake Dr	Round	54	RCP	1	37.99456542	-84.44371308
20021	150 Shoreside Dr	Elliptical	40x46	RCP	1	37.99183444	-84.43570583
20022	3725 Richmond Rd	Round	48	RCP	1	37.99182935	-84.43188039
20023	150 Shoreside Dr	Elliptical	38x42	RCP	1	37.99070379	-84.43594236
20024	1000 Vero Ct	Round	48	RCP	1	38.00210844	-84.41034742
20027	700 Andover Village Dr	Round	72	RCP	1	37.99782114	-84.41358209
20031	3913 Barnard Dr	Round	42	RCP	1	37.9988792	-84.40063662
20032	3221 Mammoth Dr	Round	36	RCP	1	37.98685689	-84.46416508
20034	625 Squires Rd	Round	16	RCP	1	37.9873133	-84.45190195
20037	2901 Mt McKinley Way	Round	42	RCP	1	37.9817872	-84.4602789
20039	3225 Valhalla Dr	Round	36	RCP	1	37.98227365	-84.45727804
20040	2945 Mt McKinley Way	Round	42	RCP	1	37.97997724	-84.46117308
20041	3332 Smokey Mountain Ct	Round	48	RCP	2	37.97875642	-84.45726675
20042	3296 Buckhorn Dr	Round	36	RCP	1	37.98025702	-84.45186292
20044	3285 Featherston Dr	Round	24, 24, 15	RCP	3	37.97455749	-84.45324385
20045	3720 Buckhorn Dr	Round	48	RCP	1	37.97734496	-84.4503894
20047	2500 Armstrong Mill Rd	Box	72x108	RCP	1	37.9592608	-84.45527351
20048	3628 Timberwood Ln	Round	36	RCP	1	37.95817262	-84.466738
20050	3720 Richmond Rd	Round	15	RCP	1	37.98996216	-84.43473745
20058	4893 Wyndhurst Rd	Round	36, 42	RCP	2	37.95416557	-84.47374957
20501	3180 Richmond Rd	Box	96x96	RCP	1	38.00187104	-84.44716206
20502	3500 Kenesaw Dr	Round	12	RCP	1	37.96766843	-84.46440021
20503	4441 Athens Boonesboro Rd	Round	48	RCP	1	37.97834139	-84.41526077
20504	2261 Armstrong Mill Rd	Round	18	PVC	1	37.96720926	-84.46951168
20505	4437 Marcus Trl	Round	36	RCP	1	37.98452413	-84.40773616
20506	3050 Helmsdale Pl	Round	36	RCP	1	38.01079685	-84.42281032
20507	3225 Brighton Pl	Round	48	RCP	1	38.0115135	-84.41579729
20508	2700 Palumbo Dr	Round	42	RCP	1	38.00918486	-84.43740566
20509	488 Chelsea Woods Dr	Round	36, 36	RCP	2	38.01155003	-84.44006241
20511	457 Larkwood Dr	Round	15	RCP	1	38.01388061	-84.44182375
20514	2311 Armstrong Mill Dr	Round	48	RCP	1	37.96911223	-84.46731124
20515	2360 Woodfield Cir	Round	42	RCP	1	37.95993344	-84.46970102

North Elkhorn Watershed Major Outfall Locations

Site ID	Address	Shape	Size (in.)	Material	#Outfalls	Latitude	Longitude
30002	1465 Huntsville Dr	Round	48	RCP	1	38.05761757	-84.43577355
30004	701 Dartmoor Ct	Round	48	RCP	1	38.05143543	-84.45498699
30006	1825 Hisle Way	Round	36	RCP	1	38.05060659	-84.4504573
30007	1842 Chatsworth Dr	Round	42	RCP	1	38.05085217	-84.44869391
30008	1600 Eastland Pkwy	Round	42	RCP	1	38.04988163	-84.44521526
30009	1201 Industry Rd	Round	72	CMP	1	38.04825209	-84.45973274
30010	1713 Jennifer Rd	Round	48	RCP	1	38.04437046	-84.44896981
30012	975 Beasley St	Round	56	RCP	2	38.04116936	-84.45219657
30013	975 Beasley St	Round	30	RCP	1	38.04026367	-84.45102528
30014	2255 Eastland Pkwy	Round	36	RCP	1	38.04919136	-84.4365595
30015	2211 Elkhorn Rd	Round	42	RCP	1	38.04622336	-84.4238509
30016	2261 Elkhorn Rd	Round	36	RCP	1	38.04306401	-84.42357039
30017	2432 Fortune Dr	Round	48	RCP	1	38.03482476	-84.44615387
30018	2216 Walsh Ct	Round	42	RCP	1	38.02901028	-84.43998348
30019	709 Morgan Hills Dr	Round	48	RCP	1	38.02352543	-84.44247289
30020	725 Morgan Hills Dr	Round	42	RCP	1	38.02381633	-84.44200981
30022	1543 Kilkenny Dr	Round	48	RCP	1	38.01443659	-84.40823118
30025	1703 Auburn Cir	Elliptical	36x48	CMP	1	38.0487641	-84.43884402
30026	976 Beasley St	Round	48	RCP	1	38.04115961	-84.45375902
30027	974 Beasley St	Round	60	RCP	1	38.04192509	-84.45194301
30501	1960 Bryan Station	Round	48	RCP	1	38.06600599	-84.44490435
30502	645 Bellcastle Rd	Round	36	RCP	1	38.05499128	-84.44667966
30503	1047 Contract St	Round	42	RCP	1	38.05054137	-84.46117939
30504	1713 Jennifer Rd	Round	24	RCP	1	38.04438596	-84.44894071
30505	1811 Winchester Rd	Round	36	RCP	1	38.04237717	-84.4405569
30506	869 Burkewood Dr	Round	12	RCP	1	38.02899659	-84.44074288
30507	2303 Stonewood Ln	Round	42	RCP	1	38.02737601	-84.43529007
30508	913 Revere Run Rd	Round	30	RCP	1	38.02363796	-84.43353724
30509	945 Gerardi Rd	Round	42	RCP	1	38.02580216	-84.43424348
30510	2080 Bryant Rd	Round	56	RCP	1	38.01681454	-84.41107105
30511	2980 Polo Club Blvd	Round	36	CMP	1	38.0189818	-84.40556862
30512	6660 Man O' War	Round	36	RCP	1	38.0256917	-84.4005724
30513	3280 Sweet Clover Ln	Round	36	RCP	1	38.01301598	-84.40219526
30514	2723 Martinique Ln	-	-	-	-	38.03404053	-84.37916451
30515	1713 Jennifer Rd	Round	54	RCP	1	38.04433725	-84.44891428

South Elkhorn Watershed Major Outfall Locations

Site ID	Address	Shape	Size (in.)	Material	#Outfalls	Latitude	Longitude
35002	3201 Beaumont Centre Ln	Round	36	RCP	1	38.01842213	-84.5618675
35004	3384 Lyon Dr	Round	36	CMP	1	38.01477412	-84.5678785
35010	4049 Palmetto Dr	Flume	48x8	RCP	1	38.00424343	-84.57913748
35012	2651 Bowman Mill Rd	Box	54x108	RCP	1	37.99949723	-84.58893657
35013	2500 Lenlake Ct	Round	42	RCP	1	37.99154719	-84.59223364
35014	1977 Mt Joy Pl	Elliptical	46x54	RCP	1	38.00114893	-84.56552929
35015	1973 Favell Ct	Round	42	RCP	1	37.99894502	-84.56855743
35027	644 Wellington Way	Elliptical	24x56	RCP	2	38.00193921	-84.54828202
35029	601 Wellington Way	Round	48	RCP	2	38.00082454	-84.53170324
35034	4208 Heathmoor Ct	Round	36	RCP	1	37.98774261	-84.5682253
35035	1280 Higbee Mill Rd	Round	36	RCP	1	37.98609821	-84.56114543
35036	1400 Clays Mill Rd	Box	78x780	RCP	1	37.98727257	-84.56304015
35037	4353 Clemens Dr	Round	36	RCP	1	37.98487358	-84.57965418
35038	1412 Glenview Dr	Round	42	RCP	1	37.98079295	-84.57724412
35040	3451 Winthrop Dr	Round	42	RCP	1	37.98640175	-84.54096504
35041	3500 Cephas Ct	Round	36	RCP	1	37.98566912	-84.55225704
35049	3600 W Reynolds Rd	Round	36	RCP	1	37.99339761	-84.53139189
35051	2125 Twain Ridge Rd	Round	36	RCP	1	37.99330001	-84.58109489
35054	448 Kimberly Pl	Box	36x95	RCP	1	38.00413097	-84.53764995
35057	3521 Birkenhead Ct	Round	36	RCP	1	37.98619234	-84.55519705
35058	508 Monticello Blvd	Round	42	RCP	2	37.98994048	-84.54243369
35501	2252 Savannah Ln	Round	48	RCP	1	38.02427248	-84.57186129
35502	2240 Savannah Ln	Round	48	RCP	1	38.02494065	-84.57144265
35503	2233 Guilford Ln	Round	54	RCP	1	38.02503271	-84.57165385
35504	3293 Malone Dr	Round	48	RCP	1	38.01689312	-84.5717102
35505	3155 Beaumont Centre Cir	Round/ Elliptical	42x36;36	RCP	2	38.02065208	-84.55688086
35506	3199 Beaumont Centre Cir	Round	52	CMP	1	38.01957336	-84.5599623
35507	3199 Beaumont Centre Cir	Round	36	RCP	1	38.02174348	-84.5615261
35508	3401 Beaumont Centre Cir	Round	42	RCP	1	38.01499152	-84.55805068
35509	3401 Beaumont Centre Cir	Round	48	CMP	3	38.01470767	-84.55676787
35510	2249 Lovell Ct	Round	48	RCP	1	38.01727915	-84.57459025
35511	2209 Silktree Ct	Round	36	RCP	1	38.00878634	-84.58097892
35512	2451 Bowman Mill Rd	Round	38	RCP	1	37.99686723	-84.58684446
35513	801 Blenheim Ct	Round	42	CMP	1	38.00234389	-84.55750157
35514	648 Wellington Way	Elliptical	32x52	RCP	1	38.00142085	-84.54856414
35515	601 Wellington Way	Round	36	RCP	1	38.00099793	-84.54341116
35516	529 Cromwell Way	Round	36	RCP	1	37.98642171	-84.54969291
35517	546 Halifax Dr	Round	38	RCP	1	37.98833701	-84.54470811
35518	300 W Reynolds Rd	Round	52	RCP	1	37.99323002	-84.53083808
35519	300 W Reynolds Rd	Round	42	RCP	1	37.99122729	-84.53364498
35520	730 Millpond Rd	Round	42	RCP	1	37.97762029	-84.55156602
35521	750 Millpond Rd	Round	36	RCP	1	37.97884498	-84.5517504
35522	3801 Boston Rd	Round	48	RCP	1	37.97893846	-84.5524322
35523	3765 Winthrop Dr	Round	48	RCP	3	37.97393498	-84.54665301
35524	3765 Winthrop Dr	Round	48	RCP	1	37.97501362	-84.54845044
35525	337 Silverbell Tr	Round	48	RCP	2	37.97011579	-84.54286539
35526	4240 Heathmoor Ct	Round	36	RCP	1	37.98655913	-84.56836082
35527	1505 Man O' War	Round	42	RCP	1	38.02278605	-84.5768684
35528	1948 Westmeath Pl	Round	36	RCP	1	38.00126112	-84.56516104
35529	2121 Sallee Dr	Round	38	RCP	1	38.00657074	-84.56624887
35530	3598 Rabbits Foot Tr	Round	42	RCP	1	38.00511245	-84.56277988
35531	3598 Rabbits Foot Tr	Round	54	RCP	1	38.00664615	-84.56103743
35532	3125 Chatham Dr	Round	24	RCP	1	38.00593998	-84.55157013
35533	2949 Waco Rd	Round	40	RCP	1	38.00900536	-84.54852221

South Elkhorn Watershed Major Outfall Locations (Continued)

Site ID	Address	Shape	Size (in.)	Material	#Outfalls	Latitude	Longitude
35534	3005 Crab Apple Ct	Round	42	RCP	1	38.00719204	-84.54723354
35535	716 Dardanelles Dr	Round	36	RCP	1	38.00920675	-84.54870276
35536	727 Stone Rd	Round	42	RCP	1	38.0014682	-84.53297264
35537	4856 Waterside Dr	Round	36	RCP	2	37.9886352	-84.59420834
35538	4832 Waterside Dr	Round	36	RCP	2	37.98919502	-84.59646568
35539	1065 Moylan Ln	Round	56	RCP	1	37.97939019	-84.56169882
35540	904 Redberry Cir	Round	32	RCP	1	37.97322178	-84.56034421
35541	3860 Lochdale Ter	Round	54	RCP	1	37.97279742	-84.54227406
35542	3680 Winthrop Dr	Round	60	RCP	1	37.97761861	-84.54001805

Town Branch Watershed Major Outfall Locations

Site ID	Address	Shape	Size (in.)	Material	#Outfalls	Latitude	Longitude
40000	328 Masterson Station Dr	Round	48	RCP	1	38.09298995	-84.5440977
40001	334 Masterson Station Dr	Round	60	RCP	1	38.09363837	-84.54167674
40003	1055 Greendale Rd	Round	36	RCP	2	38.09209715	-84.52759234
40004	101 Mercer Ct	Round	42	CMP	3	38.08177744	-84.54367467
40005	2053 Buck Ln	Round	24	RCP	2	38.08602507	-84.53585553
40006	395 Alexandria Dr	Round	58	RCP	1	38.0766979	-84.55323664
40009	1661 Jaggie Fox Way	Round	42	RCP	1	38.0835025	-84.51919229
40010	1601 Baumann Rd	Elliptical	60x72	CMP	1	38.07935009	-84.52084839
40017	120 Lisle Industrial Ave	Box	44x87	RCP	1	38.06347596	-84.52268458
40018	190 Manchester St	Round	42	RCP	1	38.05730714	-84.52147556
40019	1158 Manchester St	Elliptical	28x36	CMP	1	38.05477379	-84.5158767
40022	142 Manchester St	Box	60x96	RCP	3	38.05140572	-84.50568619
40037	1155 Versailles Rd	Elliptical	36x64	RCP	1	38.05008215	-84.51823038
40038	1270 Manchester St	Round	48x54	CMP	1	38.05352267	-84.52004364
40039	601 Bizzell Dr	Round	36	rCP	1	38.0662458	-84.54054953
40046	2704 Mable Ln	Round	36	RCP	1	38.08877823	-84.54159478
40047	2980 Majestic View Walk	Round	48	RCP	1	38.10539641	-84.54312251
40048	189 Lucille Dr	Round	36	RCP	1	38.08819136	-84.54889354
40049	1631 Old Frankfort Pk	Round	24	RCP	1	38.05937311	-84.53076862
40050	172 Trade St	Round	56	RCP	1	38.07263379	-84.54859941
40054	416 Sandersville Rd	Round	24	RCP	1	38.05959307	-84.53049133
40055	400 Masterson Station Dr	Round	36	RCP	1	38.10601054	-84.54276126
40056	2921 Summerfield Dr	Round	36	RCP	1	38.10539903	-84.5431017
40057	145 Masterson Station Dr	Round	56	RCP	1	38.09586225	-84.52590699
40501	3076 Sandersville Rd	Round	36	RCP	1	38.10597993	-84.5427765
40502	3076 Sandersville Rd	Round	52	RCP	1	38.10612097	-84.5397101
40503	1115 Manchester St	Elliptical	24x36	RCP	2	38.05499061	-84.51456667
40504	652 Skyview Ln	Round	36	RCP	1	38.09684574	-84.53466164
40505	717 Lucille Dr	Round	48	RCP	1	38.09761988	-84.5313066
40506	353 Spring Valley Dr	Round	36	RCP	1	38.08846671	-84.54230205
40507	2601 Leestown Rd	Round	36, 24	RCP	2	38.08224012	-84.54562204
40508	281 Chestnut Ridge Dr	Round	36	RCP	1	38.07983666	-84.55562653
40509	158 Hatter Ln	Round	72	RCP	1	38.06610702	-84.52953641
40510	195 Lisle Industrial Ave	Round	56	HDPE	1	38.06342438	-84.52779021
40511	1345 Old Frankfort Pk	Round	72	CMP	1	38.05842051	-84.52621422
40512	574 Horton Ct	Round	24	RCP	1	38.08758261	-84.53979647
40513	2516 Sandersville Rd	Round	24	RCP	1	38.0868036	-84.5343883
40514	440 Greendale Rd	Round	12	RCP	1	38.08205884	-84.5307356
40515	100 Mercer Ct	Round	36	RCP	1	38.0810491	-84.54295189
40516	2048 Mercer Rd	Round	24	HDPE	1	38.08034683	-84.54182607
40517	2048 Mercer Rd	Round	18	HDPE	1	38.08018514	-84.54157516
40518	2008 Mercer Rd	Round	24	RCP	1	38.07906774	-84.53832292
40519	2008 Mercer Rd	Round	36	RCP	1	38.07870999	-84.53860794
40520	2008 Mercer Rd	Round	48	CMP	1	38.0786178	-84.5381349
40521	2300 Sandersville Rd	Round	32	RCP	1	38.08568437	-84.51999682
40522	669 Byrd Thurman	Round	30	RCP	1	38.06930347	-84.54654703
40523	1631 Old Frankfort Pike	Round	24	RCP	1	38.06461398	-84.53742566
40524	181 S Forbes	Round	22	RCP	1	38.05826427	-84.52368768
40525	1265 Manchester St	Round	14	RCP	1	38.05781794	-84.52271578
40526	1295 Manchester St	Elliptical	30x15	RCP	2	38.05787387	-84.52381777
40527	1265 Manchester St	Round	24	RCP	1	38.05747471	-84.52213895
40528	903 Manchester St	Box	36x36	RCP	2	38.05348016	-84.50901863
40529	809 Manchester St	Round	36	RCP	1	38.05200896	-84.50692514

West Hickman Watershed Major Outfall Locations

Site ID	Address	Shape	Size (in.)	Material	#Outfalls	Latitude	Longitude
45002	268 Zandale Dr	Elliptical	36x58	CMP	2	38.00546844	-84.5104067
45003	336 Greenbriar Rd	Box	36x60	RCP	2	38.0050788	-84.50777865
45005	612 Galaxie Dr	Round	48	RCP	1	38.01543559	-84.4914798
45006	956 Turkeyfoot Rd	Box	52x96	RCP	1	38.0155041	-84.49034244
45008	1891 Blairmore Ct	Round	42	RCP	1	38.01216747	-84.47717171
45009	812 Turkeyfoot Rd	Round	48	RCP	1	38.00764896	-84.49180244
45010	1574 Lakewood Ct	Round	36	RCP	1	38.01070283	-84.4780665
45011	260 Old Mt Tabor Rd	Round	48	RCP	1	38.0066917	-84.49295061
45014	2397 E New Circle Rd Ramp	Box	92x120	RCP	2	38.0143789	-84.45866073
45015	245 Codell Dr	Box	36x84	RCP	2	38.01611968	-84.45631023
45016	503 Laketower Dr	Round	42	RCP	1	38.00797514	-84.47039155
45017	200 Patchen Dr	Box	48x54	RCP	1	38.00781107	-84.45833658
45018	300 Zandale Dr	Elliptical	34x58	RCP	2	38.00438971	-84.50784997
45019	2650 Wilhite Ct	Round	60	RCP	1	37.99591411	-84.51734122
45020	3240 Loch Ness Dr	Round	72	RCP	1	37.99137561	-84.51767548
45024	3190 Monavesta Rd	Round	36	RCP	1	38.00142319	-84.48910327
45027	3310 Monavesta Rd	Round	36	RCP	1	37.99739841	-84.49401322
45028	1025 Chinoe Rd	Round	48	RCP	1	37.99912738	-84.48127236
45029	3538 Cheddington Ln	Round	84	CMP	1	37.99719201	-84.47825988
45031	1050 Chinoe Rd	Round	36	RCP	1	37.99686175	-84.47782206
45032	1132 Chinoe Rd	Round	54	RCP	1	37.99289077	-84.48155361
45034	3050 Kirklevington Dr	Round	54	RCP	1	37.98891591	-84.49541176
45035	3051 Kirklevington Dr	Round	36	RCP	1	37.98905768	-84.49528993
45036	660 Lakeshore Dr	Round	54	RCP	1	38.00439368	-84.4619625
45038	899 Edgewater Dr	Round	48	RCP	1	37.99770054	-84.46448187
45039	3434 Greenlawn Dr	Round	24	CMP	1	37.98762833	-84.5111025
45040	387 Lancelot Ln	Round	36	RCP	1	37.98427873	-84.50901624
45043	205 Tulane Dr	Box	48x72	RCP	1	37.98281339	-84.51935446
45044	443 Lancelot Dr	Round	36	RCP	1	37.98190102	-84.50742103
45045	3395 Spangler Dr	Elliptical	36x45	RCP	2	37.98109325	-84.50718053
45046	372 Harvard Dr	Round/Elliptical	60/41x5	RCP/CMP	2	37.97756347	-84.51865038
45049	3500 Greentree Rd	Round	36	RCP	1	37.98482829	-84.48639697
45051	1100 Armstong Mill Rd	Round	42	RCP	1	37.97930468	-84.49320689
45052	4071 Wilson Downing Rd	Round	72	CMP	1	37.97277914	-84.49963768
45053	1265 Dale Dr	Round	36	RCP	1	37.97393768	-84.48651699
45054	1304 Ox Hill Dr	Round	48	RCP	1	37.97350425	-84.48327471
45056	4081 Foxe Basin Rd	Round	42	RCP	1	37.968511	-84.52886178
45058	221 Bittersweet Way	Round	36	RCP	1	37.9668228	-84.52547798
45060	456 Amberley Dr	Round	42	RCP	1	37.96150652	-84.52265098
45061	729 Clayvis Ct	Round	36	RCP	1	37.9628602	-84.50524121
45062	4131 Tates Creek Centre	Round	56	CMP	1	37.9699004	-84.49994869
45063	4417 Lancaster Ct	Round	36	RCP	1	37.9640354	-84.49481914
45065	1105 Ledgebrook Ct	Round	36	RCP	1	37.96351044	-84.49132434
45068	801 Edgewood Dr	Flume	D:120,T:62,B:40	Concrete	1	37.94891859	-84.50030271
45069	4516 Longbridge Ln	Round	48	CMP	1	37.95426715	-84.49971052
45070	4505 Brookglen Pl	Round	54	RCP	1	37.9531949	-84.49974544
45075	1074 Forest Lake Dr	Round	84	CMP	1	37.95361877	-84.4888781
45084	600 Lakeshore Dr	Box	120x140	RCP	1	38.00277125	-84.46728776
45086	863 Edgewater Dr	Round	42	RCP	1	38.00008852	-84.46358459
45090	2397 Richmond Rd	Box	72x72	RCP	1	38.01606767	-84.45768151
45094	3565 Olympia Rd	Round	42	RCP	1	37.98148021	-84.48862564
45095	1111 Centre Pkwy	Round	54	RCP	2	37.98729737	-84.48136253
45098	3621 Barrow Woods Ln	Round	36	RCP	1	37.99865081	-84.47348691
45100	790 Zandale Dr	Box	60x42	RCP	1	37.99852498	-84.50069338

West Hickman Watershed Major Outfall Locations (Continued)

Site ID	Address	Shape	Size (in.)	Material	#Outfalls	Latitude	Longitude
45501	4809 Laurel Creek Cir	Round	36	RCP	2	37.95976516	-84.48341926
45502	1232 Four Wynds Trl	Round	15	RCP	1	37.96338791	-84.4892014
45503	1105 Aldridge Way	Round	8	RCP	1	37.95502093	-84.48725406
45504	3770 Forest Green Dr	Round	12	RCP	1	37.96942336	-84.5028723
45505	3751 Appian Way	Round	42	RCP	1	37.97574863	-84.49695099
45506	3500 Arbor Dr	Round	36	RCP	1	37.97040176	-84.47632432
45507	3430 Pimlico Pkwy	Round	60	RCP	1	37.9854144	-84.47703571
45508	3474 Pimlico Pkwy	Round	24	RCP	1	37.98356859	-84.47444914
45509	2300 Richmond Rd	Round	40	RCP	1	38.01128053	-84.4618671
45510	2300 Richmond Rd	Round	36	RCP	1	38.01147041	-84.46178201
45511	2300 Richmond Rd	Round	40	RCP	1	38.01244651	-84.4615793
45512	205 Codell Dr	Round	24	RCP	1	38.01271057	-84.45570019
45513	212 St Ann Dr	Round	48	RCP	1	38.02124047	-84.45557191
45514	1440 E New Circle	Round	36	RCP	1	38.0239565	-84.45544193
45515	1815 Richmond Rd	Round	36	RCP	1	38.02943523	-84.45898502
45516	3190 Montavesta Rd	Round	48	RCP	1	38.0023143	-84.48683098
45517	956 Turkey Foot Rd	Round	36	RCP	1	38.01448965	-84.49118865
45518	700 Kirkland Dr	Round	56	RCP	1	37.99599475	-84.50652447
45519	604 Pebble Creek Dr	Round	36	RCP	1	37.97464896	-84.50270723
45520	3467 Lansdowne	Round	42	RCP	1	37.99270118	-84.51482771
45521	266 Argonne Cir	Round	48	RCP	1	37.99304696	-84.51538041
45522	3885 Belleau Wood Dr	Round	36	RCP	1	37.9721853	-84.51099027
45523	453 Southpoint Dr	Round	28	RCP	1	37.95944561	-84.51850583
45524	1728 Wyatt Pkwy	Round	36	RCP	1	38.03629249	-84.46000876
45525	1365 Dale Dr	Round	36	RCP	1	37.97131452	-84.48177759
45526	4484 Saron Dr	Round	36	RCP	1	37.95961919	-84.4980624

Wolf Run Watershed Major Outfall Locations

Site ID	Address	Shape	Size (in.)	Material	#Outfalls	Latitude	Longitude
50001	751 Enterprise Dr	Round	48	RCP	1	38.06193608	-84.54978485
50003	1937 Dunkirk Dr	Cave	240	Natural	1	38.05727045	-84.54217185
50004	1050 Georgian Way	Octagonal	36x48x72	RCP	1	38.03025613	-84.55457395
50005	1208 Colonial Dr	Round	26	RCP	3	38.04519573	-84.55897552
50007	1321 Alexandria Dr	Round	42	RCP	1	38.04915206	-84.5531784
50008	1923 Oxford Cir	Round	48	RCP	1	38.04944029	-84.54285055
50009	1828 Versailles Rd	Box	120x120	RCP	2	38.0479611	-84.54041196
50010	1036 Della Dr	Round	28	RCP	1	38.04035012	-84.54854567
50011	802 Golfview Dr	Round	60	RCP	1	38.04040531	-84.53032259
50013	1920 Beacon Hill Rd	Box	48x120	RCP	1	38.03320578	-84.54222782
50014	805 Allendale Dr	Box	48x144	RCP	1	38.02953728	-84.53728653
50019	1215 Duncan Ave	Round	36	RCP	1	38.03704867	-84.52170798
50020	1215 Duncan Ave	Box	48x114	RCP	1	38.03654118	-84.52106987
50022	1451 Harrodsburg Rd	Box	60x174	RCP	1	38.03224396	-84.52622894
50024	1451 Harrodsburg Rd	Round	36	RCP	1	38.03225728	-84.5263301
50025	312 Dantzer Ct	Box	36x120	RCP	1	38.02427588	-84.51848244
50026	90 Southport Dr	Round	36	RCP	2	38.02030325	-84.52681642
50027	287 Southland Dr	Box	36x96	RCP	1	38.01470954	-84.52245361
50028	2134 Nicholasville Rd	Box	36x60	RCP	1	38.00885576	-84.51603722
50029	1493 Pine Meadow Rd	Round	36	RCP	1	38.04427169	-84.53515584
50501	500 Addison Ave	Round	24	CMP	1	38.03716639	-84.52351789
50502	469 Parkway Dr	Round	30	RCP	1	38.03517155	-84.52732214
50503	731 Enterprise Dr	Round	48	RCP	1	38.0624702	-84.54994297
50504	751 Enterprise Dr	Round	36	HDPE	1	38.06194566	-84.5497189
50505	842 Spring Meadows Dr	Round	36	RCP	1	38.02911913	-84.53561133
50506	2128 Nicholasville Rd	Box	88x36	RCP	1	38.00964648	-84.5158692
50507	1835 Yorktown Rd	Round	16	RCP	1	38.03531732	-84.54297316
50508	1299 Standish Way	Round	36	RCP	1	38.03900906	-84.56280898
50509	301 Southland Dr	Round	60	RCP	1	38.0158862	-84.52321
50510	396 Bob O Link Dr	Round	24	RCP	1	38.02705681	-84.52271966
50511	2233 Versailles Rd	Round	48	CMP	1	38.04694354	-84.5510737
50512	1050 Lane Allen Rd	Round	36	RCP	1	38.0323997	-84.55419057

EXHIBIT B

CERTIFICATE OF INSURANCE

EXHIBIT C

PROPOSAL OF ENGINEERING SERVICES

AND RELATED MATTERS

Response to Request for Proposals

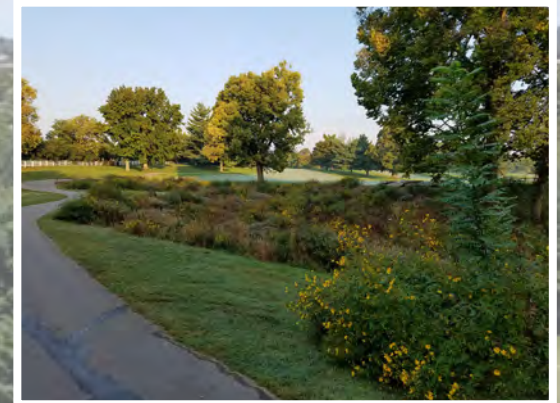
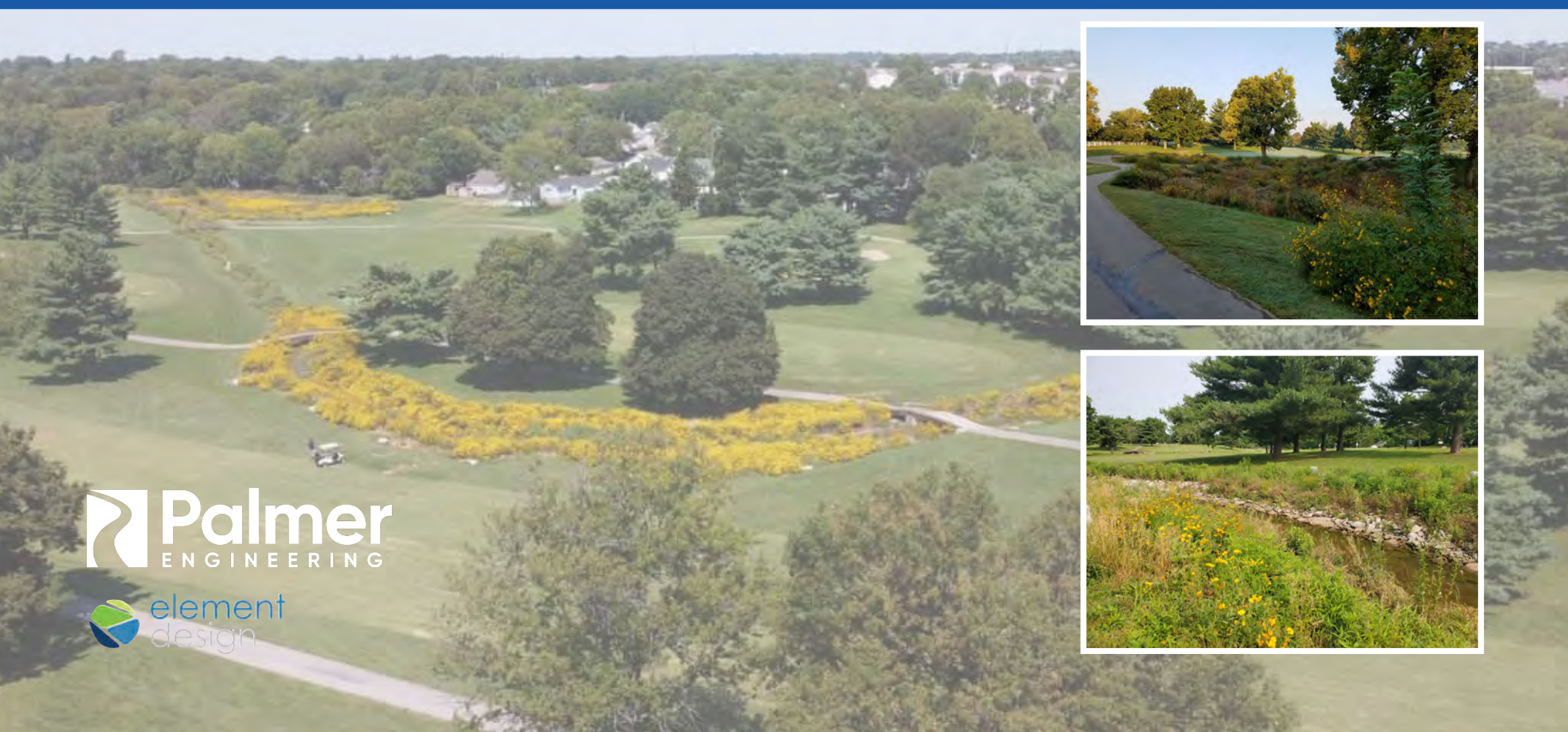
RFP#53-2023 - Update to Wolf Run Watershed Management Plan

Lexington-Fayette Urban County Government



LEXINGTON

January 12, 2024



 **Palmer**
ENGINEERING

 **element**
design



January 12, 2024

Mr. Brian Marcum
Lexington-Fayette Urban County Government
200 East Main Street
Lexington, KY 40507

RE: **RFP#53-2023 Update to Wolf Run Watershed Management Plan**

Dear Mr. Brian Marcum,

In response to the Request for Proposals for the Update to Wolf Run Watershed Management Plan, Palmer Engineering and its design team wish to express interest in providing engineering and environmental services to LFUCG for the project mentioned above. We have an experienced team ready to conduct an integrated approach to address the challenges and protect resources within the Wolf Run Watershed.

Established in 1969, Palmer Engineering has significant experience providing engineering and environmental services throughout Central Kentucky. Headquartered in Winchester, Kentucky, Palmer Engineering has 10 offices in five states with 112 employees. The work for this project will be completed out of our Lexington, Kentucky office. Palmer has enlisted element design, a certified woman-owned business located in Lexington, Kentucky, to assist with project completion. Our record of performance on previous successful projects with LFUCG, as well as other local and state agencies such as the City of Winchester, Louisville MSD, Kentucky Transportation Cabinet, and Sanitation District No. 1 of Northern Kentucky, demonstrate our experience with providing water quality and stormwater solutions.

The Palmer Engineering project team comprises experienced engineers, biologists, environmental scientists, and a GIS specialist. Palmer Engineering offers a diverse team with significant applicable experience. I serve as the Project Manager. I have significant experience working on projects for LFUCG and was the Project Manager of the West Hickman Watershed Management Plan and McDougal and Castleman Creek Watershed Management Plan.

Thank you for the opportunity to present our professional qualifications. Our team's commitment to quality, exemplary service, familiarity with the project requirements, readily available personnel, expertise, and performance on past and current projects culminate in the logical team for this project. If selected for this project, Palmer Engineering will ensure the development of an updated plan that addresses indicated pollutants, while incorporating the community input. If you have any questions, please call me at (859) 389-9293.

Sincerely,

A handwritten signature in blue ink that reads "Stephanie Blain".

Stephanie Blain, PE, LEED AP
Project Manager

1040 Monarch Street ■ Suite 210 ■ Lexington, KY 40513

Phone: 859-589-9293 ■ Fax: 859-744-1266 ■ E-mail: palmer@palmernet.com ■ Web Site: www.palmernet.com



Company Profile

RFP#53-2023 - Update to Wolf Run Watershed Management Plan

Palmer Engineering Company (Palmer), incorporated on February 25, 1969, is a civil/structural engineering, environmental, and surveying consulting firm. Over the past 55 years, Palmer's professional associates have earned clients' respect and trust by consistently delivering solutions-oriented, exemplary service in a responsive and financially-accountable manner. As a result, Palmer has successfully completed more than 15,000 projects for approximately 1,000 clients. Departments of Transportation, Local Public Agencies, and Municipalities constitute Palmer's largest business sectors. With headquarters in Winchester, Kentucky, and nine other offices in Lexington, Louisville, and Fort Mitchell, Kentucky; Cincinnati and Medina, Ohio; Nashville, Tennessee; Teays Valley, West Virginia; and Orlando and Tallahassee, Florida, the firm has 112 employees, including 44 registered professional engineers, 2 registered structural engineers, 8 registered land surveyors, and 11 engineers-in-training available to provide the highest quality engineering and environmental services.



Company Services

- Watershed management planning
- Storm water management with hydrologic and hydraulic analysis
- Public involvement
- Stakeholder engagement and coordination
- Cost estimation and project prioritization
- Environmental services--including EIS writing and coordination, USACE/KDOW Permitting, Phase I site assessments, aquatic ecosystems (wetlands, fisheries), highway noise, air quality analysis, socio-economic analysis; and cultural analysis
- Green infrastructure
- Feasibility and comprehensive studies
- Water supply and distribution systems
- Water storage tanks
- Water supply/treatment systems and pumping stations
- Sanitary sewer collection systems
- Sanitary sewer treatment systems and pumping stations
- Sanitary sewer facilities planning
- Structural inspection and rehabilitation, including fracture critical members of long-span bridges and pier stability/scour analysis
- Surveying services (land and cadastral surveys, horizontal and vertical control for photo-grammetry, GIS, GPS)
- Construction layout, management, and inspection
- Corridor studies for other utility systems
- Highway design of streets, arterials, bridges, and culverts
- Site development for building construction
- Instrumentation and settlement analysis
- Pavement design, analysis, and repair/rehabilitation
- Planning reports and capacity analysis of roadways
- Residential and commercial development
- Resident project representation
- Structural design of bridges, piers, and culverts
- Traffic engineering and transportation services--including urban transportation planning and travel demand forecasting, traffic impact analysis, traffic simulations, interchange justification studies, corridor access management, context-sensitive solutions, highway capacity analysis, feasibility studies, advanced planning reports, traffic counting services, and bicycle planning services

Company Commitment and Project Team

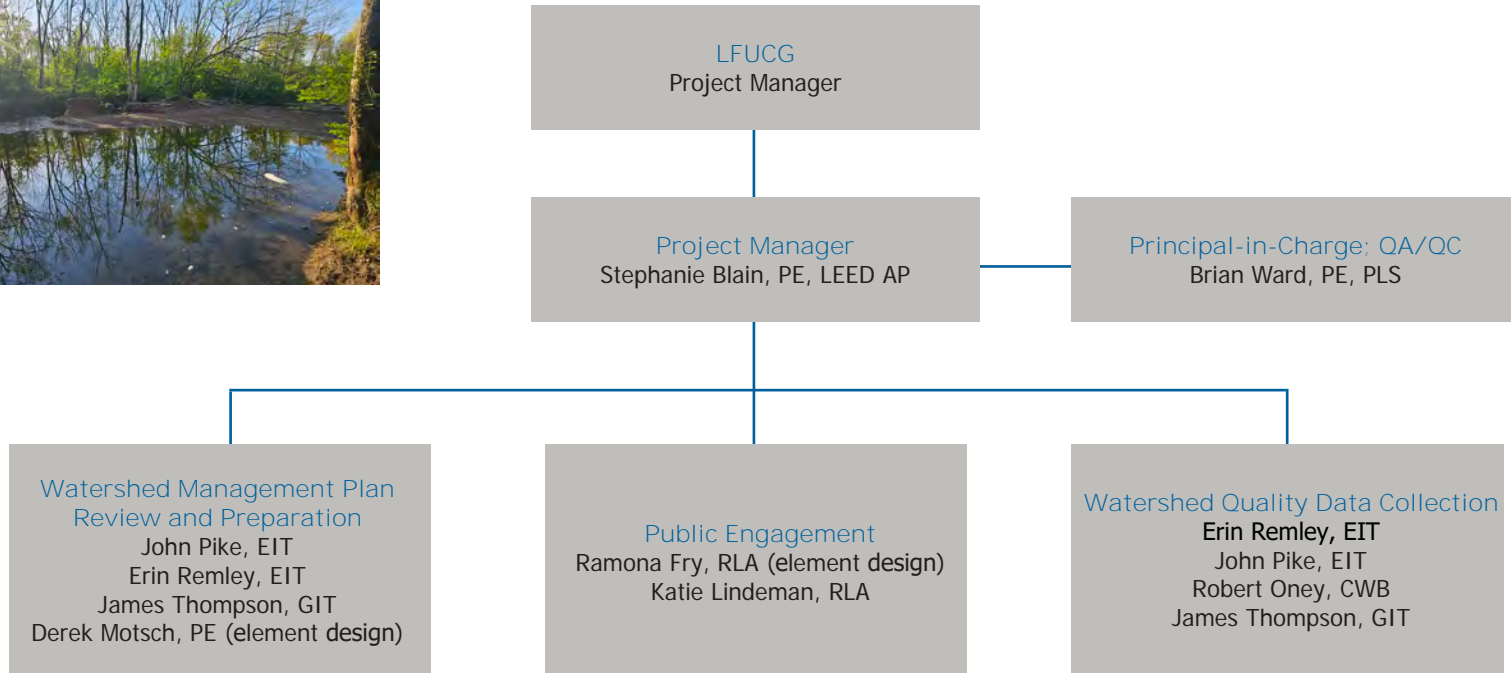
Palmer is a multi-discipline engineering firm that offers a variety of personnel to meet the project needs. Palmer's team for this project will be led by **Stephanie Blain, PE, LEED AP** supported by a team of professionals who have the expertise necessary to complete the watershed management plan. Working out of the same office in Lexington, Stephanie can have a hands-on approach with staff working on the project day-to-day. Palmer has teamed with element design, a certified woman-owned business, to assist with the completion of the project. Palmer and element design worked together to prepare the West Hickman Watershed Management Plan for LFUCG. Palmer currently has prepared three watershed management plans. Two have been approved by KDOW and the EPA, with the third currently under review. A proven track record, previous experience with watershed management plans, and responsiveness make the Palmer Team the ideal candidate for this project. All work for the project will be completed in Fayette County.



LEXINGTON

Project Team Organizational Chart

RFP#53-2023 - Update to Wolf Run Watershed Management Plan



All work is planned to be completed by the Palmer Team in Lexington, Kentucky.





Stephanie Blain, PE, LEED AP Project Manager & Principal Project Engineer



Experience
18 years

Location
Lexington, KY

Education
University of Kentucky
BS, Civil Engineering, 2007

Registrations
PE--KY 28304-2011
LEED AP--2009

Stephanie was named the 2021 NSPE National Young Engineer of the Year after being selected as the Kentucky winner.

Stephanie joined [Palmer Engineering](#) in 2006. She serves as Project Manager on various water quality, watershed management, and municipal design projects. She has experience with being involved in projects from the preliminary planning aspects through construction completion, performing all aspects of design, permitting, coordination, and acquisition. Project experience includes:

[Wolf Run Water Quality Improvements Project, Lexington, KY for LFUCG](#) - Project Engineer/Manager for the Wolf Run Water Quality Project which includes stream restoration on Big Elm and Vaughn's Branch, Picadome Golf Course sinkhole retrofit, and Cross Keys Park Pond water quality retrofit. The Cross Keys Park Pond Retrofit incorporates several complementary project elements to transform the degraded surface water into a water quality feature, which improves downstream water quality while providing aquatic habitat for fish, amphibians, and aquatic organisms. This was accomplished through native plantings, wetland creation, construction of a sediment forebay, and removal of built-up sediment from the existing pond. Features were included to encourage connection to nature, through an ADA compliant walking path and two water feature access points. Responsibilities included providing multiple concepts for client consideration, public meetings with neighborhood residents, native plant research and specification, earthworks quantities, and design plan preparation. Responsibilities for the stream restoration and sinkhole retrofit included providing quality assurance and quality control reviews.

[McDougal and Castleman Creek Watershed Management Plan for LaRue County Fiscal Court, LaRue County, KY](#) - McDougal and Castleman Creek watersheds are located in LaRue County and includes the City of Hodgenville. Palmer Engineering aided the LaRue County Fiscal Court in securing the funding for the project with the award of a Section 319 Non-Point Source Grant. Oversaw public engagement, data management, pollutant load calculations, and preparation of the Final Watershed Management Plan. The plan was prepared and submitted to KDOW within 14 months of Notice to Proceed.

[West Hickman Watershed Management Plan for LFUCG, Fayette County, KY](#) - Project Manager for the development of the 22 square mile urban watershed of West Hickman Creek located in Fayette County, Kentucky. The project includes the development of a comprehensive watershed management plan for approval by the Kentucky Division of Water (KDOW) and EPA, that will make the West Hickman Creek watershed eligible for §319(h) grant funding. By utilizing the existing data available for this watershed and data being collected through LFUCG and Kentucky Division of Water, Palmer is working with stakeholders to create a realistic plan that will successfully guide implementation throughout the watershed. Project includes utilizing completed assessments to suggest goals/objectives to the stakeholders; developing indicators/targets of these goals/objectives; identifying load reductions required to meet water quality standards and goals/objectives; and development best management practices to achieve load reductions.

[Campbell Jr. High Bioretention Basin, Winchester, KY for City of Winchester](#) - Project Manager for preliminary engineering study, §319(h) grant application, and construction drawings for the Campbell Jr. High Bioretention Basin. The project was a prioritized project in the Lower Howards Creek Watershed Management Plan, also prepared by Palmer Engineering, that will both improve water quality and reduce downstream peak flows. Led permitting efforts with KDOW and USACE to secure 401/404 and Floodplain Construction Permits. Oversaw PCSWMM modeling, construction drawing preparation, and project bidding. The project will be constructed in Summer 2023 during summer break to limit impact to school operations.

[Lansdowne-Merrick Neighborhood Stormwater Feasibility Study, LFUCG Stormwater Quality Incentive Grant](#) - Palmer Engineering Project Manager for a LFUCG Stormwater Incentive Grant through the Hickman Creek Conservancy to aim to review the feasibility of various BMPs for implementation within a targeted subwatershed. Oversaw preparation of the 2D Hydraulic and Hydrologic model to evaluate how proposed BMP options, including detention basin retrofit and bank stabilization, will impact downstream flooding conditions where an unnamed tributary meets West Hickman Creek before passing through a culvert under New Circle Road. Oversaw the preparation of a feasibility study which laid out high level engineering concepts to Lansdowne-Merrick neighbors to inspire them to invest in stormwater BMPs on their properties and in their neighborhood.



John Pike, EIT

Watershed Management Plan Review, Preparation, and Data Collection

Experience
3 years

Location
Lexington, KY

Education
University of Kentucky
MS, Civil Engineering - Water Resources, 2021
BS, Civil Engineering, 2019



Registrations
EIT--KY-16258

John volunteers as a LFUCG Greenspace Trustee and serves as the Hickman Creek Conservancy Executive Director.

John joined [Palmer Engineering](#) in 2021 after graduation from University of Kentucky. His graduate studies included the successful defense of his thesis "Investigation of Nitrate Transfer in Karst Basins during Storm Events Using Submersible Underwater Nutrient Analyzers." John immediately followed his passion for water resources at Palmer with quick mastery of stormwater drainage design with Autodesk Storm and Sanitary Analysis and PCSWMM software. John has broad experience in water quality projects from the preliminary planning aspects through construction completion, performing all aspects of design and permitting. Project experience includes:

[McDougal and Castleman Creek Watershed Management Plan, LaRue County KY, for LaRue Fiscal Court](#) - Design Engineer and primary author for planning of McDougal and Castleman Creek, which make up 50 square miles of urban and rural land use. Responsible for review of existing conditions of the watershed and developing GIS mapping to showcase findings. Performed extensive review of existing water quality data to draw conclusions on which pollutants were present in the watershed, in which area, and from what potential pollutant sources. Developed water quality benchmarks based on state standards and reference watersheds, then calculated yearly pollutant loading and percent reduction required to meet benchmark levels. Recommended a list of 24 BMP types and 42 action items to successfully implement each BMP, based on a list of 18 objectives for the watershed chosen by community stakeholders. Identified potential funding sources for the watershed. Established a timeline for future evaluation and update of the plan based on post-implementation water quality monitoring and future funding opportunities.

[Lansdowne-Merrick Neighborhood Stormwater Feasibility Study, LFUCG Stormwater Quality Incentive Grant](#) - Prepared 2D Hydraulic and Hydrologic model to evaluate how proposed BMP options, including detention basin retrofit and bank stabilization, will impact downstream flooding conditions where an unnamed tributary meets West Hickman Creek before passing through a culvert under New Circle Road. Authored a feasibility study which taught high level engineering concepts to Lansdowne-Merrick neighbors to inspire them to invest in stormwater BMPs on their properties and in their neighborhood.

[West Hickman Watershed Management Plan, Fayette County, KY for LFUCG](#) - Design Engineer and author for planning of a 22 square mile urban watershed. The project includes the development of a comprehensive watershed management plan for approval by the Kentucky Division of Water (KDOW) and EPA that will make the West Hickman Creek watershed eligible for §319(h) grant funding. By utilizing the existing data available for this watershed and data being collected through LFUCG and Kentucky Division of Water, Palmer worked with stakeholders to create a realistic plan that will successfully guide implementation throughout the watershed. Project included utilizing completed assessments to suggest goals/objectives to the stakeholders; developing indicators/targets of these goals/objectives; identifying load reductions required to meet water quality standards and goals/objectives; and development best management practices to achieve load reductions. The Veterans Park dam removal project was highlighted as a priority BMP in the plan.

[Campbell Jr. High Bioretention Basin, Winchester, KY for City of Winchester](#) - Design Engineer for development of the in-stream Campbell Jr. High Bioretention Basin. This basin was graded to maximize water quantity and quality benefit while also providing natural steps for students to walk down in to the basin as an educational experience. The basin was designed around existing sanitary sewer which ran below the basin and stream channel. Unique planting zones were mapped out to best match vegetation with the function of each part of the bank, floodplain and slope while also highlighting the beauty of natural flora.

[Town Branch Emergency Culvert Repair, City of Winchester](#) - Design Engineer for the emergency demolition of a 10' by 4' underground storm sewer culvert in Downtown Winchester. The culvert collapsed in two locations surrounded by urban development. Large portions of collapsed concrete were safely and quickly removed without any damage to the surrounding area. Hydraulic modeling was performed to ensure the replacement design was sufficient to convey stormwater without any future emergencies.

[Forest and Fitzgerald Storm and Sanitary Improvements Project, Erlanger, KY for Sanitation District No. 1 of Northern Kentucky](#)- Design Engineer for the rehabilitation of two in-stream detention basins in Erlanger, Kentucky. Responsibilities include 2D hydraulic and hydrologic modeling of proposed detention basins and stream channel to measure impact on the floodplain. This project was unique because it required special consideration to avoid conflict with existing and proposed storm and sanitary sewer. Special care was taken to ensure existing stream bank conditions were improved through use of turf reinforcement mats.

Robert Oney, CWB

Watershed Quality Data Collection




Experience
21 years

Location
Lexington, KY

Education
Eastern Kentucky University
BS, Wildlife Management, 2002

Registrations
Nationally Certified Wildlife Biologist



Robert joined [Palmer Engineering](#) in March 2022. He has more than two decades of experience in ecological and environmental services. During that time, he has conducted ecological field investigation on a variety of projects from transportation, private development, natural resource extraction, jurisdictional waters determination, 404, 402, and 401 permitting, and stream/wetland delineation, restoration, and enhancement projects.

[Pond Creek Streambank Stabilization Project--Clean Water Act Permitting for the, Pike County Fiscal Court](#) - Senior Environmental biologist. Conducted office and field investigations for potential jurisdictional waters of the United States that would be impacted by the project, developed impact summary information and authored the permit applications and supporting documents for both the Kentucky Division of Water and the U.S. Army Corps of Engineers, lead site visit with state and federal regulatory personnel.

[US 641 Reconstruction--Annual Monitoring Report, Calloway County, KY for KYTC](#) - Senior Environmental biologist. Conducted site assessments to document vegetation regeneration and stream bank stabilization of erosional areas identified prior to construction and exposed area created during construction. The project area was from south of Murray to the Kentucky State Line. Authored the Year-One monitoring report to document both the pre-construction and existing conditions of the Middle Fork of the Clarks River and two of its tributaries that required relocations to complete the project.

[KY 11--Stream Mitigation and Monitoring Report, Fleming County, KY for KYTC](#) - Environmental biologist, assisted senior biologist with detailed stream assessment and classification of Cassidy Creek. Conducted macroinvertebrate sampling and identification; MBI core metrics calculation; in-stream habitat assessment, collected and analyzed water chemistry data; and assisted with report preparation to assess stream quality and rating. The purpose and need of the assessment were to determine the appropriate stream mitigation measures for impacts to Cassidy Creek.

[Minnie to Harold Connector--Section 2--Stream Mitigation Report, Floyd County, KY for KYTC](#) - Environmental Biologist; Assisted senior biologist with detailed stream assessments and classification of Tackett Branch, a perennial stream, and its unnamed intermittent and ephemeral tributaries for the proposed excess material site. The purpose and need of the assessment were to determine the appropriate stream mitigation measures for permanent impacts to affected streams.

Erin Remley, EIT

Watershed Management Plan Review, Preparation, and Data Collection




Experience
2 years

Location
Lexington, KY

Education
University of Kentucky
BS Biosystems Engineering, 2022

Registrations
EIT--KY-16452



Erin joined [Palmer Engineering](#) in 2022 after graduation from the University of Kentucky. Her experience includes:

[McDougal and Castleman Creek Watershed Management Plan, LaRue County, KY for LaRue County Fiscal Court](#) - Project Engineer. Conducted field assessments of the McDougal and Castleman Creek (MCCW) watersheds to identify sources of pollutant loads. Used field observations to make recommendations for best management practices appropriate for pollutant load reduction in an agricultural area. Assisted in the preparation of presentations to convey the project progress to community members and contributed to the writing of the watershed management plan. This watershed management plan is on track to be approved by February 2024.

[Turner Commons Site Development Environmental Permitting, Lexington, Fayette County, KY for Darren Turner](#) - Project Engineer. Involved in preparation and coordination of permitting for a site development requiring the installation of a wet pond. Conducted Rapid Bioassessment Protocol and habitat assessments of an unnamed tributary of Town Branch Creek with the purpose of collecting information for environmental permitting. Led permitting efforts for USACE and KDOW to obtain 401/404 and stream construction permits.

[Arlington Place Residential Development Environmental Permitting, Richmond, Madison County, KY for Taylor-Fraizer-Blanton LLC](#) - Project Engineer. Involved in the permitting and design of stream impacts necessary for a new residential development. Design efforts included recommendations for the restoration of the stream bed after the removal of a triple culvert. Additionally, conducted Rapid Bioassessment Protocol and habitat assessments of Tate Creek with the purpose of collecting information for environmental permitting. Finally led permitting efforts for USACE and KDOW to obtain 401/404 and stream construction permits for multiple streams on the development property.

Katie Lindeman, PLA Public Engagement



Experience
21 years

Location
Lexington, KY

Education
University of Kentucky
BS, Landscape Architecture, 2002

Registrations
LA--KY808



Mrs. Lindeman is a Registered Landscape Architect with over 20 years experience in landscape architecture, master planning, site design, construction administration, and construction inspection. She has a variety of experience on projects including campus master planning, streetscape design, park and athletic facilities, pedestrian and bike trail design, landscape plans, primary and secondary education facilities, stream and watershed restoration, sanitary construction inspection, and corridor management planning within the public and private sectors. While not a full time employee of [Palmer Engineering](#), Mrs. Lindeman assists Palmer on a variety of projects through a contract labor agreement. Her project experience includes:

[West Hickman Trail, Lexington, KY for LFUCG](#) - Project Manager for the Landscape Design portion of the trail project that included tree plantings and stream bank restoration of a severely eroded bank adjacent to an existing bridge abutment. The project was completed as a subconsultant to Banks Engineering for the trail improvements near West Hickman Creek. Responsible for plant selections, landscape and planting plans, and construction oversight for plant installations.

[Kentucky Horse Park, Restoration of Cane Run Watershed, Lexington, KY for University of Kentucky](#) - Cane Run Creek flows through the Kentucky Horse Park and was in poor condition due to severe bank erosion. In conjunction with the University of Kentucky, planting plans were created to help stabilize the eroded stream bank in a small portion of the park. Duties included the planning and design of different plant zones to be planted on the stream bank and in the riparian zone to help stabilize the stream bank and prevent further erosion. A new mulched trail system was also designed along the stream with interpretive signage about streambank stabilization.

[Coldstream Stream Restoration, Bioswale, and Wetlands, Lexington, KY for LFUCG](#) - Worked on the development of construction drawings and illustrative educational boards for the restoration of a portion of Cane Run Stream. This work was required as a part of the Consent Decree Agreement between Lexington and the EPA to fix problems with the cities stormwater and sanitary sewer systems. The project included the establishment of wetlands, wetland step pools, and bioswales to help treat stormwater runoff and create new habitat in the area. Work on this project was completed while employed by CDP Engineers.

Ramona Fry, RLA, ASLA, LEED AP BD+C Public Engagement



Experience
23 years

Location
Lexington, KY

Education
University of Kentucky
BS, Landscape Architecture, 1999

Registrations
LA--KY-661; OH-1701415



Ramona is a registered Landscape Architect with over 22 years of experience in project design and management. Her professional experience includes master planning, site design and development, preparation of construction documents and contract administration, with a great emphasis in Parks & Recreation work. Ramona's recent clients include the Lexington / Fayette Urban County Government (LFUCG), the Commonwealth of Kentucky Finance Cabinet, the University of Kentucky, Berea College, the Kentucky Community and Technical College System (KCTCS), and the Kentucky Horse Park. Relevant project experience includes:

[LFUCG West Hickman Watershed Management Plan](#)

[LFUCG Lower Can Run Architectural & Site Improvements at the Legacy Trail](#)

[LFUCG Lexington Senior Center](#)

[LFUCG Shillito Park Playground Renovation](#)

[LFUCG Family Care Center Courtyard Renovation](#)

[LFUCG Davis Park Master Plan Update & Implementation](#)

[LFUCG Canine Facility Site Feasibility Study](#)

[LFUCG Phoenix Park Multi-Generational Playscape](#)

[LFUCG Masterson Station & Jacobson Parks Spraygrounds](#)

[LFUCG Thompson Road Park Renovation](#)

[LFUCG Ecton Park Restroom Replacement & ADA Upgrades](#)

[LFUCG Woodland Park Restroom & Concessions Building](#)

[Rupp Arena Renovation & Central Bank Center](#)

[Good Foods Co-op Stormwater Management](#)



Statement of Qualifications

RFP#53-2023 - Update to Wolf Run Watershed Management Plan

Palmer has substantial experience in the watershed planning and water quality sector over the last eight years. Palmer currently has two watershed management plans approved by Kentucky Division of Water and the USEPA. The third plan was submitted to the Kentucky Division of Water and USEPA for approval in January 2024 with approval expected in February 2024. Two of the three plans were completed within the last eight years. Each of these provided different circumstances, which make Palmer uniquely qualified for this project:

- **Lower Howards Creek Watershed Management Plan, Clark County, Kentucky**
 - Developed as a Supplemental Environmental Project to the Consent Decree with the EPA
 - Been utilized to obtain approximately \$450,000 in funding for the community with most recent Section 319 grant completed in December 2023
 - Approved by the EPA in January 2014
 - <https://eec.ky.gov/Environmental-Protection/Water/Outreach/BasinCoordination/WBPKentucky/LowerHowardsWBP.pdf>
- **West Hickman Watershed Management Plan, Fayette County, Kentucky**
 - Developed completely with local funding, but to EPA requirements
 - Completed during COVID-19 pandemic requiring non-traditional public engagement through interactive online maps
 - Approved by the EPA in June 2023
 - <https://eec.ky.gov/Environmental-Protection/Water/Outreach/BasinCoordination/WBPKentucky/WestHickmanWBP.pdf>
- **McDougal and Castleman Creek Watershed Management Plan, LaRue County, Kentucky**
 - Developed under a 2022 Section 319 Grant with the LaRue County Fiscal Court
 - Plan submitted to KDOW and EPA for approval within 14 months of Notice to Proceed
 - Anticipated approval by the EPA in February 2024
 - <https://files.palmer.net.com/url/nrdqwscfej6hhcg>

Additional details about these projects are provided on the following pages. In addition to these projects, Palmer also lead the design team for a Section 319 Grant in the Wolf Run Watershed that involved the implementation of two prioritized projects within the previously approved plan. The projects at the Picadome Golf Course and Cross Keys Park are detailed on the following pages as well. The proposed Project Manager, [Stephanie Blain](#), has either lead each of these projects or played a vital role in their completion. She has mentored and trained [John Pike](#) and [Erin Remley](#) since both graduated from the University of Kentucky, where they have shown a passion for water quality.

Beyond these projects, Palmer has an array of project experience that includes stormwater management, environmental restoration, and projects working with a wide range of stakeholders. Palmer routinely works for other local municipalities such as the City of Winchester, City of Elizabethtown, and Sanitation District No. 1 of Northern Kentucky on a variety of stormwater projects. Examples of projects worked on with these municipalities are shown to the right. Additionally, as a subconsultant to earthcycle design, Palmer is working on the Lansdowne Merrick Stormwater Feasibility Study. The project is funded through a LFUCG Water Quality Incentive Grant awarded to the Hickman Creek Conservancy. The project goals are to review the feasibility of various BMPs for implementation within a targeted subwatershed. This project looked at several stormwater management solutions, including basin modifications, that could reduce stormwater velocities to limit erosion and provide water quality benefits. A series of public meetings were held to get input for the neighborhood stakeholders. The stakeholder coordination required active communication and significant public education to try to clarify the intent for water quality and set reasonable expectations for area residents.





Lower Howards Creek Watershed Management Plan

Clark County, Kentucky

Project Manager

Stephanie Blain, PE, LEED AP

Common Team Members

Stephanie Blain, PE, LEED AP

Brian Ward, PE, PLS

Agency

Duke Dryden

150 N Main Street

Winchester, KY 40391

859-744-5434

duke@wmutilities.com

Dates

2011-2014

Project Elements

Water Quality Data Collection

Watershed Management Plan

Development

Project Evaluation and Assessment

Involvement and Coordination with

Property Owners

Coordination with Local, State, and

Federal Agencies

Project Description

Winchester Municipal Utilities (WMU) contracted Palmer Engineering to provide consulting services for the development of a Watershed Management Plan in Lower Howards Creek Watershed in Clark County, Winchester, Kentucky. The Lower Howards Creek Watershed Management Plan (LHCWMP) was developed as the Supplemental Environmental Project (SEP) mandated by the Environmental Protection Agency in the Consent Decree with WMU and the City of Winchester, having the objective of securing significant environmental or public health protection and improvements. Although not funded, the LHCWMP was prepared in accordance with the 319(h) grant guidelines outlined in the Watershed Planning Guidebook for Kentucky Communities. The LHCWMP has been utilized to obtain a 319(h) grant of over \$450,000 for improvements within the watershed.



The following were primary tasks performed by the project team:

1. Identification of stakeholders in conjunction with state and local officials and civic and environmental groups;
2. Public notification of the creation of the LHCWMP and an invitation to comment or get involved;
3. Public meetings with stakeholders to explain project objectives, enlist support, identify problem areas and potential pollutant sources, and develop indicators and prioritization process;
4. Collection of existing watershed data, including physical & natural features, population and land use, and previous studies & water quality sampling results;
5. Biological assessments of LHC and tributaries;
6. Phase 1 and Phase 2 water quality monitoring and sampling as defined in the State of Kentucky's Watershed Planning Guidebook for Kentucky Communities;
7. Identification of pollutant sources through field investigation, water quality testing, and existing available data;
8. Establishment of benchmark concentrations and comparisons for each parameter;
9. Estimation of pollutant loads and target reductions;
10. Identification of Best Management Practices (BMPs) and feasibility analysis of selected measures;
11. Estimation of technical and financial assistance needed to implement identified BMPs;
12. Schedule for implementation of BMPs;
13. Identification of measureable milestones for BMP implementation;
14. Development of monitoring objectives to evaluate the effectiveness in achieving water quality standards;
15. Development of the written LHCWMP to be maintained for public use; and
16. Presentation of LHCWMP and progress reports with political leaders, stakeholders, civic and environmental groups, and the general public.

The objective of the LHCWMP was to meet the requirements of the SEP by providing direction to the community from sampling and gathering data; prioritizing projects within the watershed; and producing a plan for the community that can lead to measurable results to improve water quality, watershed conditions, and enhance future funding opportunities for projects within the watershed.



West Hickman Watershed Management Plan

Fayette and Jessamine Counties, Kentucky

Project Manager

Stephanie Blain, PE, LEED AP

Common Team Members

Stephanie Blain, PE, LEED AP

John Pike, EIT

Brian Ward, PE, PLS

David White, RLA (element design)

Ramona Fry, RLA (element design)

Agency

Demetria Kimball Mehlhorn

LFUCG Division of Environmental Services

859-425-2554

dkimball@lexingtonky.gov

Dates

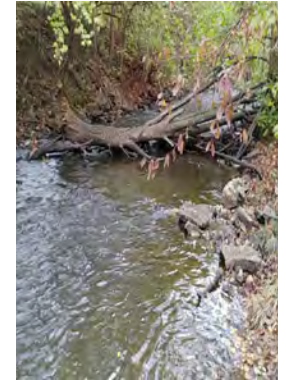
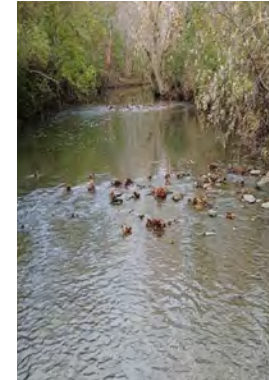
2019-2023

Project Elements

Watershed Assessment and Planning
Water Quality Considerations
Data Management
Funding Coordination
Project Prioritization

Project Description

West Hickman Creek watershed is located in south central Lexington, Fayette County, and northeastern Jessamine County, Kentucky. Its watershed area is almost entirely urban within Fayette County, with more rural land uses in Jessamine County. Lexington hosts approximately 6 miles of stream length and 20 square miles of watershed while Jessamine County contains approximately 2 miles of stream and 2 square miles of watershed. LFUCG contracted Palmer Engineering to prepare the West Hickman Watershed Management Plan (WHWMP). Development of this plan began in response to citizens' interest in the watershed and water quality. The WHWMP presents the collaborative culmination of an extensive data collection utilizing data from the LFUCG Watershed-Focused Monitoring Program and analysis effort, pollutant loading calculation, recruitment of partners and stakeholders in watershed interests, and remediation strategy development. This document is intended to address the nine minimum elements required in the EPA's Handbook for *Developing Watershed Plans to Restore and Protect Our Waters* (USEPA 2008).



To direct BMP selection, the project team, with the assistance of stakeholders, established goals and objectives for the West Hickman Watershed (WHW). Based on the existing watershed data, sampling results, stakeholder input, and engineering judgment, the following four goals were prioritized as most important for WHW:

1. Improve water quality for aquatic life and recreational uses.
2. Improve stream and riparian zone habitat to support a healthy aquatic and terrestrial ecosystem.
3. Increase environmental awareness in the community, and provide educational resources about improving the watershed to area residents.
4. Improve aesthetic appeal of the stream corridors and waterways to encourage engagement with nature.

Goal selection provided a broad plan of action, but identified priorities that were not strictly measurable or tangible. A total of 13 measurable Objectives were selected to assist in achieving the above-identified goals. To implement these Objectives, a total of 152 BMPs are proposed across the 18 sub-watersheds. BMPs ranged from low-cost options such as tree planting to full-scale stream restorations and basin retrofits. Prioritization of the BMPs was completed in two steps. First by subwatershed, then by BMP type. These were combined for each BMP in each subwatershed to rank every suggested BMP, providing a numeric score for easy comparison. The full plan has been approved by KDOW and the USEPA as of summer 2023.

Community involvement has been vital for successful implementation to ensure that proposed BMPs align with the needs of the community. Early on in this process the community actively attended meetings to provide feedback. The final meeting before the COVID-19 shutdown in January 2020 had over 50 attendees. COVID-19 restrictions presented the challenge of virtual communication, which was addressed by public zoom meetings and innovative online survey mapping. Palmer Engineering has developed an interactive online map of all proposed BMPs. BMPs are displayed with a symbol for one of the following categories: basin retrofit, tree planting, wetland, stream restoration, sanitary sewer investigation, riparian vegetation, stream restoration/bank stabilization, green BMP, fecal matter control, bank stabilization, dam removal, riparian vegetation and bank stabilization, stream restoration/wetland and trash removal. Each project can be selected on the map to provide coordinates and more details on how the BMP will be implemented and the expected results.



McDougal and Castleman Creek Watershed Management Plan LaRue County, Kentucky

Project Manager

Stephanie Blain, PE, LEED AP

Common Team Members

Stephanie Blain, PE, LEED AP

John Pike, EIT

Erin Remley, EIT

Brian Ward, PE, PLS

Agency

Blake Durrett

LaRue County Fiscal Court

270-358-4400

blake@laruecountyky.gov

Dates

2022-Present

Project Elements

Watershed Assessment and Planning

Public Coordination

Water Quality Data Analysis

BMP Identification and Project

Prioritization

GIS Mapping

Project Description

McDougal and Castleman Creek watersheds are located in LaRue County and include the City of Hodgenville. These watersheds include a mix of urban and rural land uses, and include 50 square miles of drainage area. These watersheds were prioritized because they are Zone III of the KDOW Source Water Assessment and Protection Program. Development of this plan began in response to the Judge Executive's goals of providing direction for water quality improvements in the county and expand access to funding opportunities. Palmer Engineering aided the LaRue County Fiscal Court in securing the funding for the project with the award of a Section 319 Non-Point Source Grant.

The watershed management process involved an extensive review of the existing conditions of the watershed and existing management materials. GIS mapping was utilized to develop visual representations of the existing conditions, and show which parts of the watershed should be prioritized for water quality improvement. Palmer Engineering led community engagement efforts by hosting four public watershed council meetings. The project team analyzed water quality data from 32 sampling events at 17 stream sites. Sampling data was used to calculate pollutant loading in each sub-watershed and estimated reduction required to meet benchmark levels. BMPs were recommended based on feedback from the community and history of successful BMP implementation in similar watersheds. A total of 24 BMPs were recommended with 42 specific action items to follow for successful BMP implementation. Each action item includes a responsible party, total cost, funding sources, prioritization, measureable milestones and potential load reduction. The quantity and concentration of these BMPs was planned to fully achieve desired pollutant load reductions. The project team laid out a timeline for future evaluation of the plan, future water quality monitoring, and assessment of BMP implementation over the past 10 years.

The project was awarded a 2022 Section 319 Non-Point Source Grant through the Kentucky Division of Water. Palmer Engineering received Notice to Proceed on November 1, 2022 and the completed Watershed Management was submitted to Kentucky Division of Water on December 22, 2023. Due to early and consistent communication with the Technical Advisor at the Kentucky Division of Water, the Watershed Management Plan it is anticipated that the plan will gain full approval in February 2024.





Wolf Run Water Quality Improvement Project

Fayette County, Kentucky

Project Manager

Stephanie Blain, PE, LEED AP

Common Team Members

Stephanie Blain, PE, LEED AP

Brian Ward, PE, PLS

Kelly Whittington, PLS

Craig Palmer, PLS

Agency

Demetria Kimball Mehlhorn
LFUCG Division of Environmental
Services

859-425-2554

dkimball@lexingtonky.gov

Dates

2015-2018

Project Elements

Stream Restoration
Topographic Survey
Detailed Design Plan Preparation
Construction Oversight
Permit Preparation and Submittals
Stakeholder Coordination
Bank Stabilization

Project Description

Palmer Engineering, assisted by Geotechnology and Redwing Ecological, completed this project, which included the Cross Keys Park Pond Water Quality Retrofit and Picadome Golf Course Stream Restoration, which were both prioritized project within the Wolf Run Watershed Based Plan. The Cross Keys Park Pond Retrofit incorporated several project elements to transform the degraded surface water into a water quality feature. Improvements included development of a wetland, creation of a sediment forebay, native plantings, and invasive species removal. The Picadome Golf Course Stream Restoration included stream restoration on Big Elm and Vaughn's Branch, sinkhole retrofit, and the creation of two wetlands/water quality basins.

Due to the existing lateral constraints and the overall size of the stream channel, restoration activities were accomplished primarily through in-channel activities for the Picadome portion of the project. These activities included the establishment of riffles to provide grade control and aquatic habitat and the installation of in-stream structures such as cross vanes and J-hooks to provide horizontal stability and habitat diversity.

Public and stakeholder coordination was a vital part of the Cross Keys part of the project. The residents in this area consider the park an extension of their backyards. Public meetings were held to inform the residents and allow for input and questions. The project team also coordinated directly with the Wolf Run Watershed Council throughout the planning process. A volunteer planting day was held in September 2016 for interested parties to become further involved in the project. Two access points were incorporated into the design to encourage engagement with nature.

The following were included in the project scope: development of multiple concepts for client consideration; public meetings with neighborhood residents and community groups; coordination with Parks personnel on providing a solution that would work with their operations; hydrologic and hydraulic modeling; geotechnical exploration and dam stability analysis; preparing construction drawings and specifications; coordination with state, federal and local agencies on permit approvals and extensions; bidding assistance; and construction administration. A portion of this project was funded through a Federal 319(h) grant awarded to LFUCG by KDOW. These projects were prioritized in the Wolf Run Watershed Based Plan.





Project Approach

RFP#53-2023 - Update to Wolf Run Watershed Management Plan

The Palmer Team, led by Project Manager **Stephanie Blain**, will follow the Watershed Planning Guidebook for Kentucky Communities by Kentucky Waterways Alliance and Kentucky Division of Water and the EPA 9 Element Watershed Based Plan Component Checklist (A-I Criteria) to develop a complete update of the Wolf Run Watershed Management Plan. Palmer Engineering utilized the Guidebook and EPA Checklist to prepare the Lower Howards Creek Watershed Management Plan, West Hickman Watershed Management Plan, and McDougal and Castleman Creek Watershed Management Plan. The first two of these plans were approved by KDOW and EPA and are eligible for Section 319(h) funding. The McDougal and Castleman Creek Plan is currently under review by the KDOW and EPA. **Brian Ward** will provide guidance from a senior level and be involved in quality assurance and quality control (QA/QC) of the entire project. A Notice to Proceed Date of February 1, 2024, was assumed for the schedule presented. If the Notice to Proceed date falls after February 1, 2024, the project schedule may need to be adjusted.

Task 1: Project Management and Coordination

Duration of Contract

Palmer understands that active and engaging public coordination has been part of the recipe of success that helped create and implement the 2013 Wolf Run Watershed Management Plan. Palmer will rely on the recent experience of watershed-related public coordination and the expertise of LFUCG and Friends of Wolf Run for continued momentum in the Wolf Run watershed. Palmer will maintain ongoing, clear communication with the LFUCG Project Manager and develop a project schedule before the kick-off meeting. Palmer is familiar with the specific requirements of an EPA Section 319-funded project

and will perform all tasks needed to satisfy these requirements.

1.1 Kick-Off Meeting

Palmer will conduct an in-person kickoff meeting to thoroughly examine the scope of work, validate the project's goals and limitations, establish a timeline, address critical issues, and deliberate on the project's purpose and requirements. This meeting will involve relevant LFUCG Departments and designated personnel.

1.2 Ongoing Communication

Updates will be delivered monthly or more frequently if required, through email, phone discussions, or face-to-face meetings with the LFUCG Project Manager.



1.3 Public Engagement

Palmer is committed to participating in six Wolf Run Watershed Council Meetings in person to provide updates on the plan's progress and gather input on BMPs. As soon as the anticipated dates for these meetings are determined, Palmer will proactively plan the presentation of specific project milestones for each meeting. element design, a certified woman-owned business, will assist in the public

engagement. element design has a long history of working with LFUCG and can assist in creating exhibits that are educational and easier for the general public to comprehend.

1.4 Kentucky Division of Water

If necessary, Palmer will conduct two meetings with KDOW to address questions, comments, concerns, and other matters related to the plan update.

Task 2: Review 2013 Watershed Management Plan

February 2024 to May 2024

In accordance with the chapter outline outlined in Task 2 of the RFP, the Palmer Team will thoroughly examine the complete 2013 version of the Wolf Run Watershed Management Plan, identifying opportunities to enhance the existing plan and sustain progress in the watershed. Chapter I will undergo updates to provide readers of the 2024 version with a comprehensive understanding of the advancements made from 2013 to 2024 and beyond. Chapter III will incorporate additional details on water quality monitoring conducted by LFUCG and Palmer Engineering. Chapter IV will reflect the latest versions of pollutant load and load reduction calculations from Task 3, delving into the changes in pollutant load from 2013 to 2024. Chapter V will incorporate new BMP recommendations determined in Task 4, referencing Task 5, which will be appended as an addendum.

Chapter VI will be refreshed with new BMPs, action items, and funding opportunities for 2024 and the coming years. Chapter VII will be subject to review and updates to capitalize on opportunities that enhance the potential for future success in Wolf Run. In collaboration with LFUCG, Palmer will determine

the most effective method for integrating these chapter changes into the WMP, potentially maintaining a record of each major change for stakeholder clarity regarding updates in the 2024 version. For the purpose of the cost proposal, it is assumed that the previous plan can be provided in Word document format and that maps can be provided in ArcGIS.



Task 3: Water Quality Data February 2024 – July 2024

The Palmer Team will complete the three bulleted items under Task 3 in the request for proposal, which includes the following tasks:

3.1 Wet Weather Sampling

Palmer will conduct two (2) wet weather sampling events in accordance with the procedures and locations specified in the LFUCG Watershed-Focused Monitoring Program. Leveraging the team’s expertise gained from executing water quality sampling in the Lower Howards Creek Watershed Management Plan, where the project team collected all sampling data, **Erin Remley** will oversee these field sampling activities. Her experience assisting with administrating the LFUCG Watershed-Focused Monitoring Program makes her well-suited for this responsibility.



3.2 Pollutant Loading and Load Reduction Calculations

Use newly sampled and existing 2022/2023 water

quality data from Third Rock to update the pollutant loading calculation sheet from the existing Wolf Run Plan. These loading calculation updates will shed light on the impact the 30-40 implemented BMPs have had on the Wolf Run Watershed. **John Pike** will be responsible for data management and calculations due to his experience performing the same duties for the McDougal and Castleman Creek Watersheds.

3.3 GIS Mapping

New GIS Mapping will be developed to showcase the results of pollutant loading calculations. These maps will be shared with WRWC. **James Thompson** will be responsible for developing these maps due to his prior professional work experience developing GIS Mapping in a water quality context.

Task 4: Identify Solutions July 2024 – July 2025

Palmer will perform the steps to identify critical areas in Wolf Run, develop and rank an updated list of BMPs, and develop an interactive online map showcasing the new proposed BMP list. The experience implementing prioritized projects in Wolf Run and identifying projects in West Hickman may make Palmer uniquely qualified to perform this task.

Develop BMPs to achieve load reductions: Palmer will assess the existing list of BMPs outlined in the 2013 Wolf Run Plan, evaluating the successes stemming from implementing 30-40 BMPs in the watershed. The goal is to identify any gaps or newly developed BMPs for incorporation into the list. Proposals for specific BMPs will be made across the watershed, including details on their locations and quantities. The chosen locations for BMP implementation will strategically focus on critical areas pinpointed in the Task 3 pollutant loading analysis. The recommended quantity of BMPs will, at a minimum, be sufficient to bring each sub-watershed to benchmark levels.

John Pike and **James Thompson**, the same team responsible for the West Hickman interactive map, will collaborate to develop an interactive online

map. Successful BMP implementation will hinge on considerations such as stakeholder coordination, long-term maintenance, and construction effectiveness. Milestones will be established to monitor the progress of these management measures as each BMP is installed. Criteria for evaluation will be formulated based on water quality data, the number of BMPs implemented, and the time elapsed since the last plan update, providing a comprehensive measure of progress toward achieving watershed goals.

Task 5: Capturing Implemented BMPs July 2024 – July 2025

Palmer will conduct a comprehensive evaluation of each implemented BMP or study within the watershed. Each completed BMP will be assigned its own project information page containing written descriptions, photos, details on stakeholders involved, technical assistance utilized, timeline of implementation, associated costs, funding mechanisms, relevant links, measurable milestones, and estimated load reduction.

Task 6: Final Approved Plan August 2025 – November 2025 (April 2025 for review/question response with agencies)

Building upon the outcomes of Task 2 for the written components of the Watershed Management Plan and Tasks 3, 4, and 5 for data collection, calculations, and BMP recommendations, Palmer will compile an updated Wolf Run Watershed Management Plan. Adhering to the EPA 9 Element Watershed-Based Plan Component Checklist (A-I Criteria) is essential to meet all requirements. The finalized plan will encompass core Chapters I – VII and a comprehensive addendum featuring completed projects. A preliminary version of the plan will be shared with LFUCG and WRWC, and feedback from stakeholders will be integrated before submission to KDOW. Palmer will maintain coordination with KDOW until the final plan is prepared for submission to the EPA for approval.

Table of Proposed Costs by Task

Task	Proposed Cost	Team Member Responsible	Notes
Task 1: Project Management and Coordination	\$21,400	Stephanie Blain	
Task 2: Review 2013 Watershed Management Plan	\$5,665	Stephanie Blain	-Proposal cost assumes original Word document and ArcGIS files will be provided
Task 3: Water Quality Data	\$25,900	Stephanie Blain	-Includes a \$10,000 allowance for processing water quality samples at local laboratory
Task 4: Identify Solutions	\$35,190	Stephanie Blain	
Task 5: Capturing Implemented BMPs	\$10,980	Stephanie Blain	-Proposal cost assumes locations BMPs that have have been implemented will be provided
Task 6: Final Approved Plan	\$20,740	Stephanie Blain	
Additional Tasks or Task Reduction			

AMERICAN RESCUE PLAN ACT

AMENDMENT 1 — CERTIFICATION OF COMPLIANCE FOR EXPENDITURES USING FEDERAL FUNDS, INCLUDING THE AMERICAN RESCUE PLAN ACT

The Lexington-Fayette Urban County Government (“LFUCG”) may use Federal funding to pay for the goods and/or services that are the subject matter of this bid. That Federal funding may include funds received by LFUCG under the American Rescue Plan Act of 2021. Expenditures using Federal funds require evidence of the contractor’s compliance with Federal law. Therefore, by the signature below of an authorized company representative, you certify that the information below is understood, agreed, and correct. 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.

The bidder (hereafter “bidder,” or “contractor”) agrees and understands that in addition to all conditions stated within the attached bid documents, the following conditions will also apply to any Agreement entered between bidder and LFUCG, if LFUCG uses Federal funds, including but not limited to funding received by LFUCG under the American Rescue Plan Act (“ARPA”), toward payment of goods and/or services referenced in this bid. The bidder also agrees and understands that if there is a conflict between the terms included elsewhere in this Request for Proposal and the terms of this Amendment 1, then the terms of Amendment 1 shall control. The bidder further certifies that it can and will comply with these conditions, if this bid is accepted and an Agreement is executed:

1. Any Agreement executed as a result of acceptance of this bid may be governed in accordance with 2 CFR Part 200 and all other applicable Federal law and regulations and guidance issued by the U.S. Department of the Treasury.

2. Pursuant to 24 CFR § 85.43, any Agreement executed as a result of acceptance of this bid can be terminated if the contractor fails to comply with any term of the award. This Agreement may be terminated for convenience in accordance with 24 CFR § 85.44 upon written notice by LFUCG. Either party may terminate this Agreement with thirty (30) days written notice to the other party, in which case the Agreement shall terminate on the thirtieth day. In the event of termination, the contractor shall be entitled to that portion of total compensation due under this Agreement as the services rendered bears to the services required. However, if LFUCG suspects a breach of the terms of the Agreement and/or that the contractor is violating the terms of any applicable law governing the use of Federal funds, LFUCG may suspend the contractor’s ability to receive payment by giving thirty (30) days’ advance written notice. Further, either party may terminate this Agreement for cause shown with thirty (30) days written notice, which shall explain the party’s cause for the termination. If the parties do not reach a settlement before the end of the 30 days, then the Agreement shall terminate on the thirtieth day. In the event of a breach, LFUCG reserves the right to pursue any and all applicable legal, equitable, and/or administrative remedies against the contractor.

3. The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The contractor will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following:

- (1) 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

apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

- (2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.
- (3) The contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.
- (4) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- (5) The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- (6) The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- (7) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part, and the contractor may be declared ineligible for further government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- (8) The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance.

Provided, however, that in the event a contractor becomes involved in or is threatened with litigation with a subcontractor or vendor as a result of such direction by the administering agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

4. If fulfillment of the contract requires the contractor to employ mechanic's or laborers, the contractor further agrees that it can and will comply with the following:

- (1) *Overtime requirements: No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such a workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such a workweek.*

- (2) *Violation: liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory) for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this section.*
- (3) *Withholding for unpaid wages and liquidated damages. LFUCG shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this section.*
- (4) *Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower-tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower-tier subcontractor with the clauses set forth in paragraphs (1) through (4) of this section.*

5. The contractor shall comply with all applicable standards, orders, or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. § 7401 et seq.

6. The contractor shall report each violation to LFUCG and understands and agrees that LFUCG will, in turn, report each violation as required to assure notification to the Treasury Department and the appropriate Environmental Protection Agency Regional Office.

7. The contractor shall include these requirements in numerical paragraphs 5 and 6 in each subcontract exceeding \$100,000 financed in whole or in part with Federal funding.

8. The contractor shall comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. § 1251 et seq.

9. The contractor shall report each violation to LFUCG and understands and agrees that LFUCG will, in turn, report each violation as required to assure notification to the Treasury Department and the appropriate Environmental Protection Agency Regional Office.

10. The contractor shall include these requirements in numerical paragraphs 8 and 9 in each subcontract exceeding \$100,000 financed in whole or in part with Federal funds.

11. The contractor shall comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. § 1251 et seq.

12. The contractor shall report each violation to LFUCG and understands and agrees that LFUCG will, in turn, report each violation as required to assure notification to the Treasury Department and the appropriate Environmental Protection Agency regional office.

13. The contractor shall include these requirements in numerical paragraphs 11 and 12 in each subcontract exceeding \$100,000 financed in whole or in part with American Rescue Plan Act funds.

14. The contractor shall include this language in any subcontract it executes to fulfill the terms of this bid: “the sub-grantee, contractor, subcontractor, successor, transferee, and assignee shall comply with Title VI of the Civil Rights Act of 1964, which prohibits recipients of federal financial assistance from excluding from a program or activity, denying benefits of, or otherwise discriminating against a person on the basis of race, color, or national origin (42 U.S.C. § 2000d et seq.), as implemented by the Department of the Treasury’s Title VI regulations, 31 CFR Part 22, which are herein incorporated by reference and made a part of this contract (or agreement). Title VI also includes protection to persons with ‘Limited English Proficiency’ in any program or activity receiving federal financial assistance, 42 U.S.C. § 2000d et seq., as implemented by the Department of the Treasury’s Title VI regulations, 31 CFR Part 22, and herein incorporated by reference and made a part of this contract or agreement.”

15. *Contractors who apply or bid for an award of \$100,000 or more shall file the required certification that it will not and has not used federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency. Each tier certifies to the tier above that it will not and has not used federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any federal contract, grant, or any other award covered by 31 U.S.C. § 1352. Each tier shall also disclose any lobbying with non-federal funds that takes place in connection with obtaining any federal award. Such disclosures are forwarded from tier to tier, up to the recipient. The required certification is included here:*

- a. The undersigned certifies, to the best of his or her knowledge and belief, that:
 - (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
 - (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, “Disclosure Form to Report Lobbying,” in accordance with its instructions.
 - (3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.
- b. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

16. The contractor acknowledges and certifies that it has not been debarred or suspended and further acknowledges and agrees that it must comply with regulations regarding debarred or suspended entities in accordance with 24 CFR § 570.489(l). Funds may not be provided to excluded or disqualified persons.

17. The contractor agrees and certifies that to the greatest extent practicable, it will prefer the purchase, acquisition, and use of all applicable goods, products or materials produced in the United States, in

conformity with 2 CFR 200.322 and/or section 70914 of Public Law No. 117-58, §§ 70901-52, also known as the Infrastructure Investment and Jobs Act, whichever is applicable.

18. The contractor agrees and certifies that all activities performed pursuant to any Agreement entered as a result of the contractor's bid, and all goods and services procured under that Agreement, shall comply with 2 C.F.R. § 200.216 (Prohibition on certain telecommunications and video surveillance services and equipment) and 2 C.F.R. 200 § 200.323 (Procurement of recovered materials), to the extent either section is applicable.

19. If this bid involves construction work for a project totaling \$10 million or more, then the contractor further agrees that all laborers and mechanics, etc., employed in the construction of the public facility project assisted with funds provided under this Agreement, whether employed by contractor, or contractor's contractors, or subcontractors, shall be paid wages complying with the Davis-Bacon Act (40 U.S.C. 3141-3144). Contractor agrees that all of contractor's contractors and subcontractors will pay laborers and mechanics the prevailing wage as determined by the Secretary of Labor and that said laborers and mechanics will be paid not less than once a week. The contractor agrees to comply with the Copeland Anti- Kick Back Act (18 U.S.C. § 874) and its implementing regulations of the U.S. Department of Labor at 29 CFR part 3 and part 5. The contractor further agrees to comply with the applicable provisions of the Contract Work Hours and Safety Standards Act (40 U.S.C. Section 327-333), and the applicable provisions of the Fair Labor Standards Act of 1938, as amended (29 U.S.C. et seq.). Contractor further agrees that it will report all suspected or reported violations of any of the laws identified in this paragraph to LFUCG.



Signature

01/12/2024

Date

AFFIDAVIT

Comes the Affiant, David Lindeman, PE, PLS, and after being first duly sworn, states under penalty of perjury as follows:

1. His/her name is David Lindeman, PE, PLS and he/she is the individual submitting the proposal or is the authorized representative of Palmer Engineering, 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 Kentucky

COUNTY OF Clark

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

by David Lindeman, PE, PLS on this the 12th day

of January, 2024.

My Commission expires: 02/02/2025


ID# KYNP22859
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.

Bidders

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

Palmer Engineering

Name of Business

WORKFORCE ANALYSIS FORM

Name of Organization: Palmer Engineering Company

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	7	7															
Professionals	56	48	7											1			
Superintendents																	
Supervisors	9	9															
Foremen																	
Technicians	37	27	7							3							
Protective																	
Para-																	
Office/Clerical	8		8														
Skilled Craft																	
Service/Maintena																	
Total:	117	91	22							3				1			

Prepared by: *Joseph L. Hill, CPA / CFO* Date: 01 / 09 / 24
 (Name and Title)

Revised 2015-Dec-15

Firm Submitting Proposal: Palmer Engineering

Complete Address: 1040 Monarch Street, Ste 210, Lexington, KY 40513
Street City Zip

Contact Name: David Lindeman Title: President and CEO

Telephone Number: 859-389-9293 Fax Number: 859-744-1266

Email address: dlindeman@palmernet.com



LFUCG MWDBE PARTICIPATION FORM

Bid/RFP/Quote Reference # 53-2023

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. Element Design Ramona Fry 366 South Broadway Lexington, KY 40508 Phone: 859-389-6533 ramona@element-site.com	WBE	Public Engagement and Pollutanat Load Calculation	TBD	Minimum of 10%
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.

Palmer Engineering
Company

01/12/24
Date


Company Representative

President and CEO
Title



MWDBE QUOTE SUMMARY FORM
 Bid/RFP/Quote Reference # 53-2023

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.

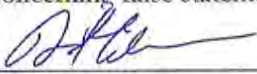
Company Name Palmer Engineering	Contact Person Stephanie Blain, PE, LEED AP
Address/Phone/Email 1040 Monarch Street, Suite 210 Lexington, KY 40513 859-389-9293; sblain@palmernet.com	Bid Package / Bid Date 53-2023/01-12-2024

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
366 South Broadway Lexington, KY 40508	Ramona Fry	859-389-6533 ramona@element-site.com	01/08/24	Pollutant Load Calculation & Public Engagement	Phone	Minimum 10% of fees	Female	No

(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.

Palmer Engineering
 Company
01/12/2024
 Date


 Company Representative
 President and CEO
 Title

LFUCG STATEMENT OF GOOD FAITH EFFORTS

Bid/RFP/Quote # 53-2023

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.

Palmer Engineering
Company
01/12/24
Date


Company Representative
President and CEO
Title

Stephanie Blain

From: Stephanie Blain
Sent: Tuesday, January 2, 2024 9:13 AM
To: 'jjackson@jacksongroupco.com'
Subject: Current LFUCG Proposals
Attachments: RFPpackage 52-2023.pdf; RFPpackage 53-2023.pdf

Good morning Jeremy,

Would you be interested in teaming with us on either or both of the attached projects for LFUCG?

Thanks,

Stephanie I. Blain, PE, LEED AP
Palmer Engineering
1040 Monarch Street, Suite 210
Lexington, KY 40513
Office: (859) 389-9293
Direct: (859) 355-1352
Email: sblain@palmernet.com

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 bid, 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 Bid 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. Contractor understands and agrees that its employees, agents, or subcontractors are not employees of LFUCG for any purpose whatsoever. Contractor 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. Contractor [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. Contractor agrees that it shall cease and desist from any unauthorized use immediately upon being notified by LFUCG.



Signature

01/12/24

Date

AFFIRMATIVE ACTION

POLICY STATEMENT

It is the policy of Palmer Engineering Company (PEC) to support and promote equal employment opportunity. As president and CEO of PEC, I am committed to a hiring and promotion program that assures all qualified persons without regard to race, color, religion, sex (includes sexual harassment), national origin, disability, age (40 years or more) and veteran status (Vietnam Era, Desert Storm/Shield or disabled) the opportunity for work and advancement. Further, I totally support and defend the Affirmative Action Plan of this company.



David Lindeman, President

January 2, 2024

January 2, 1986
Revised/Updated January 2, 2024

PALMER ENGINEERING COMPANY AFFIRMATIVE ACTION PLAN

The following Affirmative Action Plan has been adopted by our company to take affirmative action to afford Equal Employment Opportunity to any and all qualified persons without regard to race, religion, sex, color, handicap, veteran, or national origin.

1. The purpose of this Affirmative Action Program is to comply with Executive Order No. 11246 regarding direct Government Contracts. All personnel having responsibility for hiring, promoting, laying off or disciplining employees will read and be familiar with this Affirmative Action Plan.
2. The Equal Employment Opportunity responsibility is designated to Jennifer Lisle, who for the purpose of this plan, will be this company's Equal Employment Opportunity Officer, and is charged with the responsibility of securing compliance and advising corporate officials of progress.
3. The provisions of the Specifications concerning EEO will be revised annually by the EEO Officer to insure that the requirements are met and receive proper attention.
4. When work has commenced on a new project, the following shall be done:
 - A. The project manager will be informed on EEO matters concerning the particular project by the EEO Officer. This may also be done after a contract is received, before the new project starts.
 - B. Necessary steps will be taken to insure that provisions are incorporated in applicable subcontracts as outlined in "Contractor's Agreement", Section 202, Paragraph 1 thru 7, Executive Order No. 11246.
 - C. Each subcontractor will be furnished a copy of this Affirmative Action Plan and our EEO policy. They will be requested in writing to acknowledge to this company in writing that they understand our Policy, and their obligations to take affirmative action.

- D. Project managers and all supervisory personnel who employ or cause to be employed, to include field office personnel, will be asked to endorse a copy of this Policy and the Program as outlined herein to the effect that they have read same, and that they understand its contents, and that same will be complied with regarding matters within their control.
 - E. Other organizations or works with whom we have agreements or understandings will be advised of the respective project and will be asked, in writing to advise this company in writing whether or not their policies and practices are consistent with these requirements. If a negative reply is received, and all other attempts to negotiate have failed, the matter will then be taken up with the proper Federal, State, or Local Authorities for further compliance and/or ruling.
 - F. A copy of both the Policy and Program will be posted on the bulletin board where it will be viewed easily by all employees, and applicants for employment.
 - G. An EEO poster will be posted on the bulletin board.
5. Project managers and the EEO Officer shall review and discuss composition of on-site employment with supervisors to indicate that this is the desire of management to carry out its Policy and Program. This subject will also be a topic for discussion regularly in job meetings of supervisory personnel.
 6. Where applicable, it will be made known publicly that applications for employment are desired of all qualified persons regardless of race, religion, sex, color, handicap, veteran, or national origin.
 7. Only recruitment sources, which state in writing that they acknowledge our EEO Policy and refer on that basis, will be used.
 8. All notices in newspapers, etc., for prospective employees will contain the phrase "Equal Opportunity Employer".
 9. This company is committed to the inclusion of non-discriminatory provisions on agreements, and that workmen will be referred hereunder without regard to race, religion, sex, color, handicap, veteran, or national origin.
 10. Capable unskilled or semi-skilled workmen are to be upgraded to skilled or semi-skilled positions without regard to race, religion, sex, color, handicap, veteran, or national origin.

11. Interviews with prospective employees, subcontractors, and Joint Ventures will be made without regard to race, religion, sex, color, handicap, veteran, or national origin.
12. An immediate re-evaluation of qualifications of lower echelon minority groups will be made to insure equal consideration for job progression based on standards and qualifications which should be no higher or no lower than those established for any other group.
13. The company will insure that all services and benefits offered by this company will be made available to all employees regardless of race, religion, sex, color, handicap, veteran, or national origin.
14. The EEO Officer will periodically review all employment records of all employees in order to assure promotion and advance without regard to race, religion, sex, color, handicap, veteran, or national origin.
15. Discharge of employees for cause, ability or work performance shall not be influenced by an employee's race, religion, sex, color, handicap, veteran, or national origin. Layoffs due to lack of work shall not be based on race, religion, sex, color, handicap, veteran, or national origin.

PALMER ENGINEERING COMPANY



David Lindeman, President

January 2, 1979
Revised January 2, 2024

NOTICE

Jennifer Lisle, Chief Financial Officer, is hereby re-appointed Equal Employment Opportunity Officer.

Anyone who feels he or she has been discriminated against for any reason shall report the infraction to Ms. Lisle, who shall process the claim in accordance with rules and regulations as established by Secretary of Labor and Executive Order No. 11246, September 24, 1965.

Said notice to be posted on employee's bulletin board.

PALMER ENGINEERING COMPANY



David Lindeman, President



1040 Monarch Street, Suite 210
Lexington, KY 40513
859-389-9293
www.palmernet.com

Table of Proposed Costs by Task

Task	Proposed Cost	Team Member Responsible	Notes
Task 1: Project Management and Coordination	\$12,505	Stephanie Blain	-Revised scope on 01/30/2024 based on reduced public engagement and some virtual meetings
Task 2: Review 2013 Watershed Management Plan	\$5,665	Stephanie Blain	-Proposal cost assumes original Word document and ArcGIS files will be provided if available
Task 3: Water Quality Data	\$25,900	Stephanie Blain	-Includes a \$10,000 allowance for processing water quality samples at local laboratory
Task 4: Identify Solutions	\$35,190	Stephanie Blain	
Task 5: Capturing Implemented BMPs	\$0	Stephanie Blain	-Revised scope to remove task on 01/30/2024
Task 6: Final Approved Plan	\$20,740	Stephanie Blain	
Additional Tasks or Task Reduction			

Total Lump Sum Fee = \$100,000