# PROFESSIONAL SERVICES AGREEMENT

THIS IS AN AGREEMENT made as of WWW 25, 2017, between the LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT (OWNER) and ADS ENVIRONMENTAL, 1300 Meridian Street, Suite 3000, Huntsville Alabama (CONSULTANT).

340 The Bridge Street, Suite 204
WITNESSETH:

WHEREAS, OWNER previously accepted bids for sewer monitoring services through Bid #20-2014 Sewer Monitoring and Alarm Equipment; and

WHEREAS, OWNER previously awarded an agreement to CONSULTANT by Resolution # 275-2014, said agreement being attached hereto and incorporated herein as EXHIBIT B; and

WHEREAS, based on the highly complex, technical, and proprietary character of the equipment and components installed to perform the sewer monitoring services, CONSULTANT is the sole source provider for the ongoing maintenance and monitoring services necessary to continue the work desired under Bid #20-2014; and

WHEREAS, OWNER intends to continue with sewer monitoring and alarm equipment maintenance services as set forth in EXHIBIT A SSO MONITOR MAINTENANCE SERVICES, which is attached hereto and incorporated herein, said services having previously been performed by CONSULTANT pursuant to the agreement awarded under Bid #20-2014 (EXHIBIT B) (the "PROJECT").

NOW, THEREFORE, OWNER and CONSULTANT in consideration of their mutual covenants herein agree in respect of the performance of the sole source sewer monitoring and alarm equipment maintenance services described in EXHIBIT A by CONSULTANT and the payment for those services by OWNER as set forth below.

CONSULTANT shall provide SSO Monitoring Network services for OWNER, fully consistent with the terms and conditions found in EXHIBITS A- D, in all phases of the PROJECT to which this Agreement applies, serve as OWNER's 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 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 Manager 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 "O&M of SSO Monitoring Network for LFUCG", and attached EXHIBIT B the "Consultant's Response to Bid # 20-2014," EXHIBIT C current "Certificate of Insurance," and then EXHIBIT D "Technical Specifications and Further Description of Basic Professional Services and Related Services".

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 B**, and then **EXHIBIT D**.

- 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 submit two (2) copies (hardcover) of all initial, draft, and final work products for this PROJECT. The copies of the initial, draft, and 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, and final versions for all work products for this PROJECT. Two (2) copies (hardcover) and one electronic copy (pdf format) of the all final work products for this PROJECT, including all appendices, shall be provided to the OWNER.
- 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.

#### **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 project deliverables / reports 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 but should not proceed until written authorization is provided by the owner.
- **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 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.
- 4.2. This agreement may be renewed annually only upon approval by the OWNER's Urban County Council consistent with the terms of this Agreement. The renewal will be directly related to performance evaluations and the timely achievement of target performance measures. The performance evaluation criteria will be established and discussed at the beginning of each annual contract period. If requested by the Urban County Council, the CONSULTANT shall present a summary of findings and accomplishments to them near the time of renewal at no additional cost to the OWNER.
- 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

By full execution of this agreement, the OWNER authorizes the CONSULTANT to continue providing SSO Monitor maintenance Services consistent with services already provided under Bid #20-2014 for the fee described in EXHIBIT A.

#### 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 or set by the proposal. 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 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 Statues, 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 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 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 Professional Service 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

(1) It is understood and agreed by the parties that **CONSULTANT** hereby assumes the entire responsibility and liability for any and all damages to persons or property caused by or resulting from or arising out of any act or omission on the

part of CONSULTANT or its employees, agents, servants, owners, principals, licensees, assigns or subcontractors of any tier under or in connection with this agreement and/or the provision of goods or services and the performance or failure to perform any work required thereby.

- (2) CONSULTANT shall indemnify, save, hold harmless and defend 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 CONSULTANT; and (b) not caused solely by the active negligence or willful misconduct of OWNER.
- (3) Notwithstanding, the foregoing, with respect to any professional services performed by CONSULTANT hereunder (and to the fullest extent permitted by law), CONSULTANT shall indemnify, save, hold harmless and defend 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.
- (4) 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.
- (5) These provisions shall in no way be limited by any financial responsibility or insurance requirements, and shall survive the termination of this agreement.
- (6) 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 CONSULTANT in any manner.

#### 6.9.3 FINANCIAL RESPONSIBILITY

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

#### 6.9.4 INSURANCE REQUIREMENTS

#### 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 or services hereunder by CONSULTANT:

Coverage	<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	\$2 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. 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. OWNER 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 OWNER.
- c. The General Liability Policy shall include a Products and Completed Operations endorsement or Premises and Operations Liability endorsement unless it is deemed not to apply by OWNER.

- d. The General Liability Policy shall include a Pollution liability and/or Environmental Casualty endorsement unless it is deemed not to apply by LFUCG.
- e. The General Liability Policy shall have a Professional Liability endorsement (including Errors and Omissions) for any services performed pursuant to the contract, and/or a separate Professional Liability Policy shall be obtained unless it is deemed not to apply by OWNER.
- f. 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.
- 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. 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. 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.

#### 6.9.6. VERIFICATION OF COVERAGE

**CONSULTANT** agrees to furnish **OWNER** 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 **OWNER** copies of all insurance policies, including all endorsements. See **EXHIBIT C**.

#### 6.9.7. RIGHT TO REVIEW, AUDIT, AND INSPECT

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

#### 6.9.8. SAFETY AND LOSS CONTROL

CONSULTANT understands and agrees that OWNER is in no way responsible for the safety and property of CONSULTANT or its personnel. CONSULTANT shall comply with all applicable federal, state, and local safety standards related to the performance of its work or services under this Agreement and take reasonably necessary action to protect the life, health and safety and property of its personnel, the public, and OWNER in the locations and areas in which CONSULTANT is performing services under the Agreement.

#### **6.9.9. DEFAULT**

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

#### **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, 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.

IN WITNESS WHEREOF, the parties hereto have made and executed this Agreement as of the day and year first above written. OWNER: **CONSULTANT:** ADS Envieonmental Services LEXINGTON-FAYETTE URBAN **COUNTY GOVERNMENT** ATTEST URBAN COUNTY COUNCIL CLERK State of Mabama COUNTY OF FAYETTE Madison The foregoing Agreement was subscribed, sworn to and acknowledged before me by Victic L. Geschschap , as the duly authorized representative for and on behalf of ADS Environmental on this the 1911 day of April \_\_\_\_, 2017. My commission expires: Aug. 14, 2019



February 16, 2017

Roy Burgher
O&M Specialist
Hazen and Sawyer
444 Lewis Hargett Cir, Ste 260
Lexington, KY 40503

Subject:

**O&M** of SSO Monitoring Network for LFUCG

Dear Roy:

ADS Environmental Services (ADS) is pleased to provide you with this proposal to operate and maintain the existing SSO monitoring network owned by LFUCG for a period of 60 months.

As requested, this proposal includes field maintenance, data collection, real-time alarming, and web-based data access for the 18 ADS SSO monitors that are currently installed. Please find the attached pricing table, which summarizes the pricing for the proposed services.

We look forward to continuing our partnership, and providing you with new and innovative ways to support your collection system management. Please do not hesitate to call me at (859) 512-8204 should you have any questions.

Sincerely,

**ADS Environmental Services** 

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Robert Grob

Senior Account Manager

Enclosure

# Scope of Work LFUCG - SSO Monitoring Network

- A. <u>Comprehensive Maintenance Service</u>. As part of this program, ADS will perform the following services on 18 ADS SSO monitors in the LFUCG (Owner's) network. Maintenance services include but are not limited to the following:
  - 1. **Diagnostics:** Remote diagnostic inspection of all equipment using the most current procedures and programs from the local ADS office in Erlanger, KY.
  - 2. Repair: Repair and preventative maintenance services necessary to keep the equipment operating in accordance with the manufacturer's design specifications. The types of services to be performed under this Agreement include but are not limited to the following:
    - Communication link failure
    - Sensor cleaning or replacement
    - Battery replacement
  - 3. Service Schedule: The field service shall accommodate the Owner's normal operating hours of 8:00 a.m. to 5:00 p.m. Monday through Friday
  - 4. Cellular Telemetry: This scope includes monthly wireless communication fees provided by ADS under this contract. ADS will troubleshoot any communication issues arising from the cellular modems included in the SSO monitor hardware.
  - 5. Quarterly Calibration: ADS will perform quarterly monitor calibrations under this contract.

    Calibration will include manual measurement of flow depth to compare to measurement made by the monitor and sensor. Corrections and/or repairs will be performed as part of the calibrations.
  - **6. Exclusions:** The types of services that are excluded under the maintenance service program:
    - changes or alterations in specifications:
    - painting or refinishing or furnishing materials therefore except as damaged by ADS during service work;
    - vandalism or damage caused by third parties;
    - equipment repair or replacement outside manufacturer's design specifications
- B. <u>Data Collection Services</u>. As part of this program, ADS will provide data collection services via cellular telemetry for the 18 existing ADS SSO monitors in the Owner's network. Data will be collected daily and made available through the ADS Flowview web based interface. Direct alarming will be made available for each of the SSO monitors in the network based on user defined parameters.
- C. <u>Web-based Data Access</u>. As part of this program ADS will provide access to all data and alarming via the ADS Flowview web based interface.

Flowview web based system: Owner and designated personnel shall be provided with login credentials in order to access SSO monitor data over the internet. Typical functionality includes:

- User defined weekly and monthly Hydrographs for each site;
- Tabular data in both monthly summary form and native interval form;
- Detailed site reports with digital photographs;
- Monthly service reports
- Direct data collection available 24/7
- Direct data export

#### Attachment A - Fee Schedule

# LFUCG - SSO Monitoring Network

Description	Qty	Units	Unit Price	Total
SSO Monitor Maintenance Services:  Maintenance Services, Data Collection, Alarming and Web Based Data Access for 18 ADS SSO Monitors for 60 months	1080	Per unit per month	\$399.00	\$430,920.00
Total 60 Month Program				\$430,920.00
Monthly Fee	60	Months	\$7,182.00	

# Optional Services (As Requested by LFUCG):

Description	Qty	Units	Unit Price
ADS ECHO depth-only sewer monitoring and alarm equipment purchase	1	Each	\$1,995.00
ADS ECHO depth-only sewer monitoring and alarm equipment installation	1	Each	\$675.00
ADS Triton+ area-velocity flow monitoring and alarming equipment purchase	1	Each	\$5,100.00
ADS Triton+ area-velocity flow monitoring and alarming equipment installation	1	Each	\$675.00
ADS Triton+ area-velocity flow monitoring and alarming equipment Maintenance Services, Data Collection. Alarming and Web Based Data Access	1	Per unit per month	\$600.00
ADS monitoring equipment removal and reinstallation – as directed	1	Each	\$255.00

#### **Pricing Assumptions:**

- Monthly invoicing, payment terms net 30;
- No prevailing wage or W/MBE required;
- Standard ADS safety and installation methodology (2-man crews);
- Standard traffic control requirements (cones & simple signage);



February 10, 2017

To: Chase Azevedo, LFUCG DWQ Municipal Engineer Senior

From: Jon Schubarth, Hazen and Sawyer

cc: Charlie Martin, LFUCG DWQ Director

Rod Chervus, LFUCG DWQ Collection and Conveyance Manager

Roy Burgher, Hazen and Sawyer Seth Bradley, Hazen and Sawyer

Project: Sewer Monitoring and Alarm Equipment Renewal - Sole Source

Re: Recommendation of Award of Change Order

In March 2014, the Lexington Fayette Urban County Government (LFUCG) received bids for the sewer monitoring and alarm equipment and service project. This project identified eighteen (18) sanitary sewer manholes in which monitoring and alarm equipment would be installed to better inform initiation of wet weather surveys throughout the LFUCG sanitary sewer collection system. The scope of work included the following:

- Furnish and Install Sewer Monitoring and Alarm Equipment
- Equipment Maintenance
- Cellular Service
- Website Hosting

LFUCG awarded the contract for this project to ADS Environmental Services LLC (ADS) in June 2014. The maintenance portion of the contract (including cellular service and website hosting) was for one (1) year with two (2) additional annual renewals at \$81,288.00 per year. At LFUCG's discretion, the two (2) additional annual renewals were executed and the current contract is set to expire in June 2017. As part of this contract, the Triton flow monitors and all the ADS field equipment installed are now the property of LFUCG.

Therefore, in response to the approaching expriation of the existing ADS contract, Hazen requested that ADS provide a proposal to extend their current contract for one (1) year with four (4) additional annual renewals for continued maintence (including cellular service and website hosting) of the sewer monitoring and alarm equipment. It was further requested that ADS provide updates for all the unit prices in their current contract. The attached ADS proposal is for five (5) years of continued operation and maintenance at a total cost of \$430,920.00; which is \$86,184.00 per year. This amount represents a 6.0% increase over the annual operation and maintenance cost in the current contract, but will remain at this cost for the 5-year period.

Given that ADS is the sole supplier and only authorized distributor of this equipment and it's components, they are uniquely qualified to provide continued maintenance, cellular service, and website hosting. Because of the high quality and complex technical nature of the equipment components, only ADS manufactured sensors and batteries may be used with ADS flow monitors. ADS is the only service provider certified on the installation, repair, or replacement of it's equipment and parts. Repairs to ADS



equipment by any third party will void any Intrinsically Safe (IS) certification and/or warranty applicable to the ADS equipment.

Based on ADS's proposal and for the reasons stated above, Hazen recommends that DWQ issue a change order (sole source) to ADS to extend their current contract for one (1) year with four (4) additional annual renewals at a rate of \$7,182.00 per month (\$86,184.00 per year). After an additional five (5) years, the flow meters would be very close to the end of their useful life and may likely require replacement.



# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 01/04/2017

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

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to

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# PART VIII

# SEWER MONITORING AND ALARM EQUIPMENT

# BID #20-2014

# TECHNICAL SPECIFICATIONS

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# TECHNICAL SPECIFICATIONS SECTION 1 GENERAL SCOPE & SPECIAL PROVISIONS

The Lexington Fayette Urban County Government (LFUCG) is accepting bids from Equipment Suppliers to provide Sewer Monitoring Equipment at select LFUCG sanitary sewer manholes.

LFUCG provides wastewater collection and conveyance services to the general LFUCG Urban Services Area (USA), as well as limited areas outside the USA. LFUCG has established operational procedures for the continued operation of its wastewater collection system during wet weather periods. LFUCG's operational procedures identified fourteen (14) sanitary sewer manholes in which monitoring and alarm equipment will be installed in accordance with the Contract Documents.

# 1.01 GENERAL DESCRIPTION OF SERVICES TO BE PERFORMED UNDER THIS CONTRACT

- A. The purpose of this section is to define the manholes in which the monitoring and alarm equipment will be installed to allow continual monitoring of LFUCG's wastewater collection system during wet weather periods.
- B. The Equipment Supplier shall be required to furnish all materials, labor, and equipment, for installation of the monitoring and alarm equipment.
- C. These Contract Documents are intended to provide the basis for proper completion of the Sewer Monitoring and Alarm Equipment for LFUCG. Anything not expressly set forth but which is reasonably implied or necessary for proper performance of these services shall be included.
- D. Installation of the Sewer Monitoring and Alarm Equipment shall be scheduled with the Owner seven (7) days in advance at each site.
- E. LFUCG will be represented by a representative of the Division of Water Quality (DWQ) including the Wastewater Collection and Conveyance Manager, the Sewer Line Maintenance Superintendent, the Municipal Engineer Senior, the Construction Manager, or designated representative (Engineer or On- Site Supervisor), said representative shall be authorized to initiate and/or oversee services under this Contract.
- F. Section 2 of these Specifications lists the address of each manhole, a general description of the installation required, and a summary of the main components necessary for the installation. Any item or material not listed in the Bid Schedule shall be considered incidental to the Work.
- G. Field Verification: Equipment Supplier shall field verify existing conditions prior to ordering materials.

#### 1.02 SCOPE OF WORK

This Contract provides for the following Sewer Monitoring and Alarm Equipment:

- A. Furnishing and installation of items as listed in the Bid Schedule of this document. The installation shall be in accordance with the intent and direction of the Specifications, allowing for field modifications as site conditions dictate.
- B. The Equipment Supplier shall submit a unit price bid which shall include all aspects of site specific installation of the monitoring and alarm equipment and performance testing of the installed equipment.

#### 1.03 GENERAL CONDITIONS

- A. The scope of the Sewer Monitoring and Alarm Equipment described in this Specification does not guarantee the amount of work or quantities of work to be performed.
- B. LFUCG may add or remove Sewer Monitoring and Alarm Equipment from the list at any time during the term of this Contract by notifying Equipment Supplier of said changes.
- C. Payment for furnishing and installation services provided on this Contract shall be by unit price.
- D. The Equipment Supplier is responsible for providing all labor, tools, and equipment necessary to perform the work described.
- E. LFUCG inspectors shall monitor the work performed by Equipment Supplier.

#### 1.04 DESIGNATION OF PARTIES

All references in the Specifications and Contract Documents to "Owner" shall mean the Lexington-Fayette Urban County Government (LFUCG); all references to "Engineer" shall mean the LFUCG Division of Water Quality (DWQ) or authorized DWQ representative.

#### 1.05 ACCESS TO AND INSPECTION OF WORK

The Owner and/or Owner's representatives shall at all times have full access to the sites for inspection of the work accomplished under this Contract.

#### 1.06 UTILITIES REQUIRED BY EQUIPMENT SUPPLIER

All water, electric current and/or utility service required by the Equipment Supplier in performance of these services shall be furnished at his own expense.

#### 1.07 WORK ON PRIVATE PROPERTY

- A. Private property is defined as property other than that belonging to LFUCG. Highway rights-of-way, public parks, schoolyards, and other such properties shall be considered public access areas for the purpose of this paragraph.
- B. In connection with this Contract, the Equipment Supplier shall confine his equipment and operations of his workmen to public access areas and rights-of-way provided by the Owner, and shall take every precaution to avoid damage to the buildings, grounds, and facilities of the owners of private property. The Equipment Supplier shall be responsible for any damages to public and/or private property resulting from any work under this Contract. Other responsibilities involving access to work shall be as provided for in the General Conditions.
- C. Fences, walls, hedges, shrubs, i.e. any and all landscaping etc., shall be carefully preserved, and/or replaced if damaged when work is completed. Grassed areas, if damaged, shall be graded, fertilized, seeded, and covered with straw when work is completed.
- D. A representative of the contactor shall notify private property owners via a letter of impending work on private property five (5) days in advance of equipment installation. The Equipment Supplier must give LFUCG seven (7) days advance notification of when work is to begin on private property. The Contractor shall provide LFUCG with a copy of all notification letters sent to private property owners.

#### 1.08 RIGHT-OF-WAY REQUIREMENTS

It shall be the Equipment Suppliers responsibility to notify the LFUCG Police Department's Safety Officer at (859) 258-3600 prior to performing any work which might interfere with traffic or compromise public welfare or safety. The Equipment Supplier shall also be responsible for notifying the Division of Public Information and the Division of Traffic Engineering of any roadway blockages or traffic delays. Access to all existing subdivisions and private residences shall also be maintained unless otherwise directed.

#### 1.09 MAINTENANCE RECORDS

The Equipment Supplier shall keep accurate records on the Sewer Monitoring and Alarm Equipment. The Equipment Supplier shall document all work on as-built drawings and/or material lists.

#### 1.10 COMPLIANCE WITH SAFETY REGULATIONS

The equipment items furnished shall comply with all governing federal and state laws regarding safety, including all requirements of the Occupation and Safety Act of 1970 (OSHA). It shall be the Equipment Supplier's responsibility to provide signs, traffic control devices, and obtain any required permits throughout the duration of this Contract and is to be included in the cost of work to be done. Equipment Supplier shall abide by county and state regulations governing utility work. Traffic control shall be provided according to the Kentucky Department of Highways Manual on Uniform Traffic Control devices for Streets and Highways.

# 1.11 IDENTIFICATION REQUIREMENTS

- A. The Equipment Supplier shall be required to have workers and all equipment clearly identified.
- B. It shall be the Equipment Supplier's responsibility to provide identification (ID) cards for all employees. The ID cards must have a photo of the employee, the company name, emergency phone number and Contract expiration date. The ID cards shall be exposed at all times.
- C. All company equipment and vehicles shall have the company name and an emergency number clearly displayed.

#### 1.12 EMERGENCIES

The Equipment Supplier shall provide the Engineer with an emergency telephone number where he or his representative may be reached on a twenty-four (24) hour, daily basis.

#### 1.13 COMMUNICATIONS

The Equipment Supplier shall provide, for the duration of the Contract, for the Engineer and/or the Owner's representative(s) a means of direct communication acceptable to the Owner. The Owner will provide the Equipment Supplier with the Sewer Line Maintenance Superintendent cell phone number, as well as an on call list for after regular work hours in case of an emergency and/or if assistance is needed from the LFUCG on call personal.

#### 1.14 DAILY CLEAN UP

At the end of each day, the Equipment Supplier shall ensure that the individual work sites where he has performed services are free of trash and miscellaneous debris, as directed by the Owner or Engineer. Any wastewater spills shall be reported and cleaned in accordance with Section 4.

# 1.15 FEDERAL, STATE, AND LOCAL LAWS

Equipment Supplier shall procure all necessary permits and/or certifications to provide the Sewer Monitoring and Alarm Equipment. Further, it shall be the Equipment Supplier's responsibility to research, understand, and comply with all federal, state, and local laws, codes, regulations, ordinances, etc., which relate to performing the work as described within this Contract.

#### 1.16 LOCATION OF WORK SITES

In general, the work sites contained in this Contract are separated by moderate to large distances. It shall be the Equipment Supplier's responsibility to locate all work sites.

# TECHNICAL SPECIFICATIONS SECTION 2 DETAILED SERVICE DESCRIPTIONS

#### 2.01 GENERAL INFORMATION

The intent of this Sewer Monitoring and Alarm Equipment Contract is to ensure that the listed manhole locations are equipped with fully functional sewer monitoring and alarm equipment.

#### 2.02 DETAILED SERVICE DESCRIPTIONS

The designated manhole locations on Table 2-1 shall be installed to the following descriptions and Specifications.

Table 2-1 SSO Alarm Sites

1 able 2-1 SSO Alarm Sites			
Address	Manhole #		
1502 Russell Cave Rd	CR4_15		
3297 Featherston Dr	EH3_377		
Gardenside Park(Yorktown Rd)	WR2_102		
Wolf Run Park - Maywick View Lane	WR2_91		
787 Tyrus Ct	WH1_16		
3665 Niles Ct	WH2_419Z		
3402 Greentree Rd	WH3_658		
2309 The Woods Lane	WH6_645		
3544 Creekwood Dr	WH6_98		
3501 Kirklevington Dr	WH3_56		
3501 Laredo Dr	WH2_181		
3134 Montavesta Rd	WH5_45A		
2300 Richmond Rd	WH7_35A		
204 St Ann Dr	WH7_280A		

#### Additive Alternates

Address	Manhole #
722 N. Broadway	CR3_51
441 Park Ave.	TB5_14
1100 Nicholasville Rd.	TB5_102A
782 Allendale Dr.	WR5_9

#### **END OF SECTION**

# TECHNICAL SPECIFICATIONS SECTION 3 BASIS OF MEASUREMENT AND PAYMENT

#### 3.01 SCOPE

- A. The Equipment Supplier shall furnish all necessary labor, machinery, tools, apparatus, materials, equipment, service, other necessary supplies, and perform any work without additional compensation, except where specifically set out in these Specifications, at the not-to-exceed unit prices.
- B. It shall be the Equipment Supplier's responsibility to provide signs, traffic control devices during the performance of installing Sewer Monitoring and Alarm Equipment and is to be included in the cost of work to be done.
- C. It shall be the Equipment Supplier's responsibility to repair any damage to public and/or private property caused by the Equipment Supplier and said repairs shall be included and are not a separate pay item.
- D. All Sewer Monitoring and Alarm Equipment bid items shall be per unit prices as set forth in the Bid Schedule.
- E. Section 2 of these Specifications lists a general description of the Work required and a summary of the main components necessary for the Work. Any item or material not listed in the Bid Schedule shall be considered incidental to the Work.
- F. This Section (Section 3) describes measurements and payments of bid items only. For detailed Specifications refer to appropriate sections of the Specifications.

#### **END OF SECTION**

# TECHNICAL SPECIFICATIONS SECTION 4 SEWAGE SPILL PROCEDURES

#### 4.01 SEWAGE SPILL PROCEDURES

The following list is a chronological checklist of things that need to be completed when experiencing a sewage overflow or spill. Understand that this checklist is intended only to provide **minimal** procedures for a general sanitary sewer overflow occurrence. Each overflow occurrence is situation-dependent and additional steps may be required to ensure proper cleanup.

- A. Immediately call Environmental Response Team (ERT), Pump Station Supervisor, Collection and Conveyance Manager (CCM), Fire Non-Emergency Dispatch, Health Department, and Kentucky Division of Water (KDOW):
  - 1. ERT: 1 (800) 928-2380 or (502) 564-2380 ERT will assign an Incident Number that you will need to record.
  - 2. Sewer Line Maintenance Superintendent: Robert Clay (859) 425-2448 or (859) 983-0616 (cell)
  - 3. CCM: Rod Chervus (859) 425-2408 or (859) 983-8402 (cell)
  - 4. **Health Department Officer:** (859) 335-7071 You will need to report the following regarding the incident:
    - a. Estimated spill volume (in gallons)
    - b. Time of the spill and duration
    - c. Location (street address)
- B. The Environmental and Public Protection Cabinet (EPPC) of the Commonwealth of Kentucky must be notified via email within 24-48 hours. Be sure to include the Incident Number. Electronic Submittal address is:

https://dep.gateway.kygov/eportal/default.aspx.

- C. Immediate notification of the situation to Fire Non-Emergency Dispatch at (859) 231-5600. Inform the Haz Mat Platoon Leader for Unit 220 that there is a sewer bypass that "may" present an environmental hazard and whether <u>DWQ</u> is handing or <u>DWQ</u> needs help from Haz Mat.
- D. Immediately contain the overflow and prevent untreated sewage from entering waterways (i.e. creeks, rivers, lakes, stormwater system, etc.) by building a temporary barrier or containment using sandbags, soil, metal or wood curbing, etc.
- E. Remove sewage from containment area. This can be done numerous ways, see below for examples of how to remove sewage:
  - 1. Use vacuum truck to remove water from containment area
  - 2. Using barrier, direct flow back into sanitary sewer manhole

- F. Remove any visible debris (e.g. toilet paper, condoms, etc.) from area and properly dispose of by transferring to the on-site pump station maintenance personnel.
- G. Use lime or some type of disinfectant in pervious areas such as soil, mulch, and grass.
- H. Once sewage has been contained and removed, the impervious areas (pavement, concrete, etc.) should be rinsed. The water used to rinse the impervious area will also need to be removed by the previous methods described.
- I. A copy of the Electronic Submittal should be faxed to the Division of Fish and Wildlife at (502) 564-3178.
- J. An "after the event" summary should be electronically provided to LFUCG's Division Director, Charles Martin (chmartin@lfucg.com).

#### **END OF SECTION**

# TECHNICAL SPECIFICATIONS SECTION 5

# 02680 - SEWER MONITORING AND ALARM EQUIPMENT

#### PART ONE - GENERAL

#### 1.0 GENERAL SUMMARY

The intent of this Equipment Supplier Contract is to ensure Sanitary Sewer Overflows (SSOs) Alarm Systems within the LFUCG Collection System are installed per the directions specified, maintained during the term of this Contract, and hosting of a website that is available for LFUCG personnel to log onto to monitor, receive alarms, and download data. The equipment provided will become the property of LFUCG. The Equipment Supplier shall provide and install all equipment on a per unit price. Additionally, the Equipment Supplier shall maintain the equipment, provide cellular service, and host a website where LFUCG personnel can log on to monitor the equipment, receive alarms, and download the data specified. This service shall be based on an annual price per unit.

#### 1.01 GENERAL REQUIREMENTS

- A. Equipment General. The equipment supplied for this project shall consist of a durable wireless monitor / data logger equipped to connect to up to two industry standard float switch devices and a pressure transducer.
- B. A depth sensor which records actual depth readings for level calculation. The wireless communications platform instantly notifies LFUCG personnel and their designees of high depth conditions and system overflows via email and/or text messaging without the need for any special software.
- C. The equipment shall be equipped with a rugged, light-weight submersible housing and be capable be housed in a NEMA 4X box mounted outside the manhole with the cables installed in the manhole. The length of cable required for each installation shall be determined by the Equipment Supplier.
- D. The equipment shall incorporate a wireless monitoring system that is scalable and expandable. The systems shall operate automatically without user assistance and no software programming or development required.
- E. The equipment provided under these Contract Documents shall be on a unit price basis including installation and an annual fee per unit for maintenance, cellular service, and website hosting and maintenance. All equipment shall become the property of LFUCG. The maintenance portion of this Contract shall be for one (1) year with two (2) additional renewals at the discretion of LFUCG.

- F. The equipment provided shall be warrantied for the life of the Contract (1 year).
- G. Equipment shall be able to continuously determine depth of liquid level in the manhole via a pressure transducer and support up to two floats for system overflow determination.
- H. Equipment shall have the ability to add flow rate determination at a later date if requested by LFUCG, using LFUCG supplied formula or adding additional area velocity sensor to system.
- I. Equipment must have the ability to alarm at surcharge, via the pressure transducer, (2' over the crown of the pipe or 3' below the manhole cover) and at overflow of the manhole, via the float(s).
- J. Equipment must be able to be interrogated using the web-based software for up to the minute reporting on conditions.
- K. Equipment to have the ability to add rain gauge collection (either integrated or a separate unit).
- L. Equipment must be able to transmit via cellular communication with the antenna submerged or elevated out of the water in a protective enclosure.
- M. Equipment must be able to send out alarms both by text messages and email notification.
- N. Equipment must have a battery life of a minimum of 12 months.
- O. Equipment must have the ability to operate with both either AC current or DC current.

#### 1.02 SERVICES REQUIRED

- A. All tests shall be performed in accordance with the requirements of the General Conditions and LFUCG Standards and Specifications. The following pre-qualifications are required:
  - 1. Pilot Study Program: Equipment Supplier shall have participated in a Pilot Study Program with LFUCG with a 95% success rate of functionality and reporting.
  - 2. Equipment Supplier must be able to sell LFUCG the equipment specified and provide a warranty for the life of the Contract on the equipment.
  - 3. Equipment Supplier must be able to install the equipment in locations designated by LFUCG per the Specifications provided on a per unit basis.
  - Equipment Supplier must provide cellular service for transmission of the alarm system data back to the Equipment Suppliers hosting facilities for storage, alarming, and retrieval of the data thru a web-based system for LFUCG.

- 5. Equipment Supplier must be able to provide hosting capabilities for alarming, collection of data, sending text messages and email notifications, and providing reports to LFUCG.
- 6. Equipment Supplier must be able to provide a software package that is web-based for LFUCG to log on to, monitor, receive alarms from, and retrieve data.
- 7. Equipment Supplier must be able to respond within 48 hours after notification of maintenance issues to correct problems.
- 8. Equipment Supplier must be able to perform quarterly field inspections of the equipment and provide a written report to LFUCG.

#### 1.03 SUBMITTALS

- A. In addition to the procedures and requirements set forth in the General Conditions the Equipment Supplier shall obtain from the equipment manufacturer and submit the following:
  - 1. Shop Drawings
  - 2. Reports of any Certified Shop and Field Maintenance report forms
  - 3. Operation and Maintenance Manuals
- B. Each submittal shall be identified by the applicable Specification section.

# 1.04 SHOP DRAWINGS

- A. Each submittal shall be complete in all respects, incorporating all information and data listed herein and all additional information required for evaluation of the proposed equipment's compliance with the Contract Documents.
- B. Partial, incomplete, or illegible submittals will be returned to the Equipment Supplier without review for resubmittal.
- C. Shop Drawings for each equipment component selected shall include but not be limited to:
  - 1. Standard manufacturers printed Specification sheet(s) showing critical Specifications including the following:
    - a. Monitor housing
    - b. Connectors
    - c. Sensors
    - d. Mounting
    - e. Power supply
    - f. Communication
    - g. Remote (telemetered) data access
    - h. Antenna

- i. Memory
- j. Clock
- k. Data recording
- 1. Alarming
- m. Status and diagnostics
- n. Firmware upgrades
- o. Monitor temperature range
- 2. Standard manufacturer's printed warranty statement of the equipment showing single source responsibility by the equipment manufacturer.
- 3. Phone numbers of products support contacts and locations.
- D. The Shop Drawing information shall be complete and organized in such a way that LFUCG / Engineer can determine if the requirements of these Specifications are being met. Copies of technical bulletins, technical data sheets from "soft-cover" catalogs, and similar information which is highlighted or somehow identifies the specific equipment items the Equipment Supplier intends to provide are acceptable and shall be submitted.

# 1.05 OPERATION AND MAINTENANCE MANUALS

- A. The Equipment Supplier shall submit operation and maintenance (O&M) manuals in accordance with the procedures and requirements set forth in the General Conditions.
- B. Furnish five (5) sets of identical bound instruction manuals covering operating procedures, lubrication, and maintenance requirements of all equipment furnished under this Specification. Include wiring diagrams, drawings, product data sheets, parts lists, and other necessary data. Number or otherwise clearly identify all parts to facilitate ordering of replacements. Exclude data not pertinent to this installation.

# 1.06 TOOLS, SUPPLIES, AND SPARE PARTS

A. The Equipment Supplier shall have sufficient parts inventory to maintain over-the-counter availability of at least 90% of any required part and 100% availability within 48 hours.

# 1.07 SERVICE OF MANUFACTURER'S REPRESENTATIVE

- A. The Equipment Supplier shall provide training for LFUCG personnel. Training shall be conducted by the manufacturer's factory trained specialists who shall instruct LFUCG's personnel in operation and maintenance of all equipment provided under this Specification.
- B. Training for the equipment shall be performed at a site to be specified by LFUCG. Training shall include thorough explanation and demonstration of how to configure the equipment within the collection system.
- C. Training shall be conducted in Lexington, Fayette County, Kentucky at a location determined by the LFUCG. Training shall be bid as one day training from 9 am until 4 pm with one hour lunch break.

- D. Training shall consist of one typical installation with no less than a standard manufacturer's crew that would be required to install a typical installation.
- E. At a minimum, software training shall also include data retrieval, standard maintenance, typical trouble shooting, and proper procedures.
- F. The equipment manufacturer shall have a local authorized dealer who can provide factory trained service, the required stock of replacement parts, technical assistance, and warranty administration for all components supplied by the Equipment Supplier.

#### 1.08 IDENTIFICATION

A. Each set of equipment shall be identified with the identification number specified by LFUCG. A unique number such as a serial number shall be securely affixed in a conspicuous place on the unit and easily identified.

#### 1.09 WARRANTY TERMS

A. The equipment manufacturer's and Equipment Supplier's standard warranty shall in no event be for a period of less than one (1) year from date of initial start-up of the system and shall include repair labor, travel expense necessary for repairs at the jobsite, and expendables (service items made unusable by the defect) used during the course of repair. Submittals received without written warranties as specified shall be rejected in their entirety.

#### PART TWO - PRODUCTS

#### 2.01 MANUFACTURERS

- A. The equipment covered by this Specification is intended to be standard equipment of proven performance as manufactured by a reputable manufacturer. Equipment shall be designed, constructed and installed in accordance with the best practices of the trade, and shall operate satisfactorily.
- B. Consideration will be given only to the equipment of those manufacturers who have met the stipulations of Paragraph 1.02 above and have furnished comparable sewer monitoring equipment for at least two similar installations that have been in regular successful operation for not less than five (5) years.
- C. The Equipment Supplier shall furnish evidence of this experience and data on the equipment's operation at these installations to the LFUCG / Engineer upon request.

#### 2.02 GENERAL DESCRIPTION

A. In addition to the aforementioned criteria, the equipment utilized for this project shall consist of a durable wireless monitor / data logger equipped to connect to up to two industry standard float switch devices and a pressure transducer.

# 2.03 SEWER DEPTH MONITOR

The sewer monitoring equipment shall be installed inside sewer manholes (or other designated chambers) and conform to the following minimum specifications:

- A. Monitor Housing: Must be IP 67 rated Waterproof and submersible up to 10 feet. Weight shall not exceed 22 pounds (monitor and battery).
- B. Connectors: U.S. MIL-C-26482 Series 1 Type hard anodized aluminum (or equivalent) with interfacial seals to afford maximum corrosion protection and life expectancy.
- C. Sensors: Pressure sensor shall be constructed of solid machined PVC/ stainless steel, shall have an operating range of 0.25 feet to 34.5 feet, accurate to +/- 0.5% of full scale, and have a resolution of 0.025% of full scale. Float switches shall be Connery™ Control Duty 2900 Mercury Series, or equivalent, single pole/ double throw with a temperature range of 32 to 170° F and an actuation point of 5 degrees above/ below horizontal.
- D. Mounting: Integral mounting flange or suspension brackets on top of canister, with holes sufficient to attach to a wall or other metal mounting handle.
- E. Power Supply: Complete unit (fitted with floats, pressure sensor and wireless modem) shall operate on nominal 6 volt supply or extended alkaline battery provided by Equipment Manufacturer and consume less than 6ma under normal (standby) operation. Normal operation will be to use a non-rechargeable alkaline battery pack. Battery life shall be a minimum of 12 months under continuous operation and up to 24 months under extended (power saving) operation mode.
- F. Communications: Each unit shall be delivered with one standard RS232 serial port for local on-site communication. For remote (telemetered) access, each unit shall be fitted with either an internal CDMA 1XRTT or GSM/GPRS modem manufactured by the Equipment Supplier. To reduce battery use, the equipment shall support a power saving mode whereby the equipment can be programmed to shut down the wireless modem during non-data transmitting intervals. During the power saving mode, the equipment shall ignore incoming connect requests, however shall continue to perform all measurement and alarming functions.
- G. Remote (Telemetered) Data Access: The equipment shall continuously be online and available to answer incoming requests (unless power savings are implemented). Equipment fitted with wireless modems shall remain connected to the GSM/GPRS or cellular network, and shall self-monitor their connection and perform connection refreshes as required to be ready to service incoming connection requests.
- H. Antenna: The antenna shall be a ruggedized and suitable for direct burial into a road surface or under grass or other fill materials. No special equipment shall be required for installation. Under no circumstances shall the roadway or surface be penetrated more than 3" for antenna installation.
- Memory: Minimum 512 Kbytes memory. Memory shall support a circular buffer with the oldest data only being written over once the memory is filled. Capacity shall be sufficient to retain up to sixty (60) days of un-transmitted data before being overwritten.(using 15 minute sample rate and all sensors configured)

- J. Clock: Equipment shall employ a battery backed crystal controlled real-time clock.
- K. Data recording: Shall support data recording rates at standard intervals of 1, 2, 2.5, 5, 15 and 30 minutes or 1, 2, 12 or 24 hours.
- L. Alarming: Shall support user definable dual depth thresholds for the purpose of remote alarming. Alarms shall be based on float triggers and/or set points based on pressure sensor readings. Float inputs shall be configurable to mitigate false alarms caused by waves through the use of user defined dwell times. Equipment shall automatically generate and notify up to 3 different addresses via SMS text message and/or email immediately upon exceeding alarm threshold(s), and also on Return to Normal. Alarm acknowledgements must be available to the web view and allows electronic signatures (or equivalent) to identify respondent.
- M. Status and Diagnostics: The equipment shall be capable of automatically sending in daily status messages as well as annunciating low battery and other diagnostic information. Status and sensor based diagnostics can also be performed by contacting the monitor using manufacturers field software. Readout shall be provided online and in the field to display wireless signal strength, battery voltage, and IP address.
- N. Firmware Upgrades: All upgrades can be done remotely, either via wireless or land line. Upgrades can also be done locally using serial connection.
- O. Monitor Temperature range: Shall function within specifications between 0 and 60° C (32° and 140° F).

# 2.04 SOFTWARE GENERAL SUMMARY

H. The Equipment Supplier shall maintain the equipment for an annual fee per unit, provide cellular service for the equipment, and provide software and hosting services for a web-based system where LFUCG personnel and their designees can log on to and monitor the alarms and download information from the system. This service shall be based on an annual fee per unit.

# 2.05.1 SOFTWARE

#### A. General

- 1. The Equipment Supplier shall install and maintain all software required for the scope of services.
- 2. The Equipment Supplier software shall be developed by a company with at least 5 years of experience manufacturing products for this application.
- 3. The Equipment Supplier software shall operate on a Microsoft® Windows XP or Windows Vista platform.

- 4. The Equipment Supplier shall be responsible for all system maintenance, data uploads, database maintenance, and software defect repairs.
- 5. The Equipment Supplier shall provide at least three references of other users of the proposed software, if requested.

# Web-Based Data Management

- The Equipment Supplier shall be responsible for purchasing any computers, third-party software licenses, hosting the application, maintaining the physical system, ensuring network security, and providing reliable access to the system.
- 2. The web-based software system supplied by Equipment Supplier shall meet the following minimum specifications:
  - a. Equipment Supplier shall supply a software system that is accessible using Microsoft® Internet Explorer version 6.0 or greater and available to any personnel requiring access.
  - b. The Equipment Supplier shall host all data in a central database to ensure that any modifications to the central data are available to all other users of the system.

#### 3. User Security

- a. The software system shall have unique password security for each user. Each user shall be permitted to perform only authorized functions.
- b. Functions that can be restricted by permissions shall include, at a minimum, alarm acknowledgement, reporting, viewing specific data types, viewing data and information from specified locations, telecommunications, and any system configuration (such as adding new users).

#### 4. Data Viewing

- a. The software system shall have the ability, at a minimum, to display data for each site in the following formats:
  - Hydrograph a time series graph of multiple data types with the ability to segment data based on intervals (e.g. weekly) over the user specified time period;
  - 2) Scattergraph a depth to velocity graph for the specified time period with the ability to select a data point to see the actual value for that data point;
  - 3) Tabular both tables for viewing and a CSV format for download shall be available; and
  - 4) Uptime Chart a chart to view and evaluate the amount of data available for each day for single or multiple data entities for single or multiple monitors.

# 5. Telecommunications

a. The software system shall allow an authorized user to collect data directly from

telemetered monitors via the Internet. The software system shall automatically collect data from all telemetered sites at a minimum each day and whenever an alarm occurs.

b. The LFUCG shall have the ability to issue a data collection command in order to obtain data in near real time.

# 6. Temporary Monitor Data Upload

a. The system shall allow for upload of temporary (non-telemetered) flow data to the central database. Temporary flow data shall be available for each site with the same graph and tabular data viewing and export features as telemetered sites.

# 7. Multiple Data Type Support

a. Final and Original Data: The software system shall allow for the upload of final edited data and shall maintain a copy of both the final and the original data after upload.

### 8. User Viewing Permissions

a. The software system shall have the ability to configure users to only view authorized data sets. For example, a user restricted to final data viewing would not be permitted to view any original data in any graph or report.

# 9. Automated Data Verification and Correction

- a. The software system shall automatically detect and mark or repair data anomalies (also called automated editing or data scrubbing) that are common to sewer flow data. Automatically edited data shall not replace or delete any original data.
- b. The software system shall have the ability to configure users to view data and information only from individual monitoring sites.

#### 10. Data Exports

- a. The software system shall allow the user to export data to an Excel/CSV format.
- b. One or multiple monitoring locations shall be able to be selected.
- c. The user shall be able to select the data averaging type and define whether to include time stamps for missing data.
- d. The user shall be able to have the missing time stamp data exported as a blank or a user-defined value.

#### 11. Report Types

- a. The system shall support the following types of configurable reports:
  - Alarm report providing information about all alarms generated by the monitoring system including alarm type, alarm status and users who have acknowledged the alarms;

- Confirmations report providing a list of manual measurements taken at a monitoring location within a specific date range;
- Data Collect Summary report providing the number of successful and failed attempts and the percentage of successful attempts to collect the data from selected monitoring locations;
- 4) Severe rain report showing which installed rain gauges had severe rain events during a user-specified time period (where rain gauges are included in the network);
- 5) Excess report showing all monitoring locations that exceeded flow rate thresholds defined by the LFUCG. Duration of time that threshold was exceeded and the volume of the excess flow on a per monitor basis shall be provided;
- 6) Capacity trend reports indicating the average and maximum capacity used for each monitoring location for the last 24 hours, compared with a user specified time range, as a percentage of the theoretical capacity for each site;
- 7) Surcharge trend reports indicating the percentage of time that each site was in a surcharge condition (depth greater than full pipe) over the last 24 hours, past 30 days or past 90 days, compared with a user specified time range; and
- 8) Percentage-full trend reports indicating percentage of full pipe trending over the last 24 hours, 30 days or past 90 days, compared with a user specified time range.

# 12. Reporting Data Types

a. Reports shall use final data for any calculations; if final data is not available then the system shall use automatically edited data on the report to minimize possible reporting gaps.

# 13. Stored Report Preferences

- a. The system shall allow users with authorization to save report preferences by name for future use.
- b. The system shall allow a user to modify the report parameters of a named report they created. Viewing of reports shall be restricted by security permissions.
- Users authorized to view reports shall be able to view but not modify the named reports of another user.
- d. Named reports shall be available for automatic email generation at a user specified interval.

# 14. Alarming and Alarm Types

- a. At a minimum, the system shall provide alarming for the following types of common flow conditions:
  - 1) High depth

- 2) High-High depth
- 3) Loss of Flow
- 4) Manhole Overflow
- 5) Rain Exceeding Threshold (where rain gauges are included in the network)

### 15. Alarm Configuration

- a. The Equipment Supplier shall submit with their bid their approach to minimize false alarms, including both software approaches and procedures for resolution of alarm related issues.
- b. The Equipment Supplier shall ensure that each site is configured and verified individually to minimize false alarms.
- c. The software shall take into account the typical diurnal pattern for each site.
- 16. Alarm Acknowledgement -Dampening of alarms activated at less than 5 minute intervals
  - a. The system shall allow authorized users to acknowledge an alarm condition.
  - b. The acknowledgement time shall be recorded along with the user who acknowledged the alarm and any comments by the user.
  - Acknowledged alarms shall be distinguished from normal conditions as well as from active alarms.

# 17. Alarm Notification and Escalation

- a. The system shall have an audible notification when new alarms occur.
- b. The software shall provide a method for escalating alarms to pagers and email if an alarm is not acknowledged after a specified period of time.
- c. The software shall allow a user to receive alarm escalation messages for each alarm type from each site.
- d. The software shall allow escalation of alarm messages based on individual worker shifts.

#### 18. Logs and Reports

- a. The software shall log any diagnostic events, such as sensor related events or battery warnings, which are reported by the hardware.
- Logs shall have features allowing for queries based on type of event or alarm, time span, and location.
- c. The system shall be able to email configured event, alarm or trend reports based on the description in the Stored Report Preferences section of this document (#13 above).

# 19. Dynamic Geographic Information Display

- The system shall use GIS information supplied by LFUCG for the purpose of providing a map display of all monitoring locations.
- b. The map shall indicate the alarming condition of each alarm configured in the system. The map shall have the ability to zoom in and out to view additional details in the supplied GIS information.
- c. The flow monitor site icon on the map shall provide a direct link to flow monitor data for that site.

#### 20. Attachments

- a. The software shall allow for files (such as images and documents) to attach to monitoring locations.
- Files shall either be private (restricted to authorized users) or publicly available to all users.

# 21. Training and Support

- a. The Equipment Supplier shall provide training on the use of the software to the LFUCG.
- b. The Equipment Supplier shall provide telephone support to the LFUCG using personnel experienced in troubleshooting problems with the specified software.

# PART 3 - EXECUTION

#### 3.01 INSTALLATION

A. The Equipment Supplier shall be responsible for delivering the monitor systems to LFUCG after all testing and monitor startup.

**END OF SECTION**