ENGINEERING SERVICES AGREEMENT

THIS IS AN AGREEMENT made as of _____, 2018, between the **LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT**, an urban county government of the Commonwealth of Kentucky pursuant to KRS Chapter 67A ("**OWNER**") and Strand Associates, Inc. with offices located at 1525 Bull Lea Road, Suite 100, Lexington, KY 40511 ("**CONSULTANT**"). **OWNER** intends to proceed with the Engineering Services for Investigation/Design Services for Town Branch WWTP Aeration Improvements Project as described in the attached **EXHIBIT A**, Scope of Engineering Services and Related Matters RFP #10-2018 (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 RMP Implementation Plan-WWTP Reliability Upgrade Town Branch WWTP-3 Aeration Basins 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 #10-2018 (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 #10-2018).
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 #10-2018, **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 #10-2018, 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 pay **CONSULTANT** a lump sum amount not to exceed $298,000.00. As defined in Exhibit D.

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 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 its partners, successors, assigns and legal representatives to this Agreement. **CONSULTANT** shall not assign any interest in this Agreement without prior written consent of **OWNER. OWNER'S** consent shall not relieve the **CONSULTANT** of any responsibility for compliance with the provisions of this Agreement.

6.4.2. **In no event shall** the **CONSULTANT** subcontract more than fifty percent (50%) of the work, based upon dollar value of the work.

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

6.5. Disputes

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

6.6. Accuracy of Consultant's Work

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

6.7. Security Clause

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

6.8. Access to Records

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

6.9. Risk Management Provisions, Insurance and Indemnification

6.9.1. DEFINITIONS

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

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

a. **CONSULTANT** means the consultant and its employees, agents, servants, owners, principals, licensees, assigns and subcontractors of any tier.

b. **OWNER** means the Lexington-Fayette Urban County Government and its elected and appointed officials, employees, agents, boards, assigns, volunteers, and successors in interest.

6.9.2. INDEMNIFICATION AND HOLD HARMLESS PROVISION

a. It is understood and agreed by the parties that **CONSULTANT** hereby assumes the entire responsibility and liability for any and all damages to persons or property caused by or resulting from or arising out of any act or omission on the part of **CONSULTANT** or its employees, agents, servants, owners, principals, licensees, assigns or subcontractors of any tier (hereinafter "**CONSULTANT**") under or in connection with this agreement and/or the provision of goods or services and the performance or failure to perform any work required thereby.

b. **CONSULTANT** shall indemnify, save, hold harmless and defend the Lexington-Fayette Urban County Government and its elected and appointed officials, employees, agents, volunteers, and successors in interest (hereinafter "**OWNER**") from and against all liability, damages, and losses, including but not limited to, demands, claims, obligations, causes of action, judgments, penalties, fines, liens, costs, expenses, interest, defense costs and reasonable attorney's fees that are in any way incidental to or connected with, or that arise or are alleged to have arisen, directly or indirectly, from or by **CONSULTANT**'s performance or breach of the agreement and/or the provision of goods or services provided that: (a) it is attributable to personal injury, bodily injury, sickness, or death, or to injury to or destruction of property (including the loss of use resulting therefrom), or to or from the negligent acts, errors or omissions or willful misconduct of the **CONSULTANT**; and (b) not caused solely by the active negligence or willful misconduct of **OWNER**.

c. Notwithstanding, the foregoing, with respect to any professional services performed by **CONSULTANT** hereunder (and to the fullest extent permitted by law), **CONSULTANT** shall indemnify, save, hold harmless and defend **OWNER** from and against any and all liability, damages and losses, including but not limited to, demands, claims, obligations, causes of action, judgments, penalties, fines, liens, costs, expenses, interest, defense costs and reasonable attorney's fees, for any damage due to death or injury to any person or injury to any property (including the loss of use resulting therefrom) to the extent arising out of, pertaining to or relating to the negligence, recklessness or willful misconduct of **CONSULTANT** in the performance of this agreement.

d. In the event **OWNER** is alleged to be liable based upon the above, **CONSULTANT** shall defend such allegations and shall bear all costs, fees and expenses of such defense, including but not limited to, all reasonable attorneys' fees and expenses, court costs, and expert witness fees and expenses, using attorneys approved in writing by **OWNER**, which approval shall not be unreasonably withheld.

e. These provisions shall in no way be limited by any financial responsibility or insurance requirements, and shall survive the termination of this agreement.

f. **OWNER** is a political subdivision of the Commonwealth of Kentucky. **CONSULTANT** acknowledges and agrees that **OWNER** is unable to provide indemnity or otherwise save, hold harmless, or defend the **CONSULTANT** in any manner.

6.9.3. DAMAGES RELATED TO NONPERFORMANCE OR DELAY BY CONSULTANT

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

6.9.4. FINANCIAL RESPONSIBILITY

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

6.9.5. INSURANCE REQUIREMENTS

6.9.5.1. Required Insurance Coverage

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

Coverage	Limits
General Liability	$1 million per occurrence,

(Insurance Services Office Form CG 00 01)	$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

BY: _____
JIM GRAY, MAYOR

ATTEST:

_____
URBAN COUNTY COUNCIL CLERK

CONSULTANT:
_____

BY: _____

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF FAYETTE)

The foregoing Agreement was subscribed, sworn to and acknowledged before me by _____, as the duly authorized representative for and on behalf of _____, on this the ____ day of _____, 2017.

My commission expires: _____.

_____
NOTARY PUBLIC

EXHIBIT A

Scope of Engineering

Services and Related Matters

RFP #10-2018

Investigation / Design Services for Town Branch WWTP
Aeration Improvements Project

Lexington – Fayette Urban County Government (LFUCG) Division of Water Quality

The Lexington-Fayette Urban County Government is accepting proposals from interested consulting engineering firms for the Investigation / Design Services for Town Branch Wastewater Treatment Plant (WWTP) Aeration Improvements Project.

1. General Project Description

The CONSULTANT shall perform professional services as hereinafter stated which shall include but is not limited to customary civil, structural, mechanical, geotechnical, electrical engineering, and programming services as related to the Investigation / Design for Town Branch WWTP Aeration Improvements Project.

Per the *Group Two Sanitary Sewer System and WWTP Remedial Measures Plan*, the intent of the Town Branch WWTP Aeration Improvements Project is to replace equipment that has surpassed its useful life therefore increasing reliability and lowering operating cost by improving efficiency. **Construction of the Town Branch WWTP Aeration Improvements Project must be complete by December 31, 2021.**

As stated in the *Group Two Sanitary Sewer System and WWTP Remedial Measures Plan* the current aeration system consists of twenty (20) aeration tanks and four (4) 1,250HP roots single stage centrifugal blowers. Tanks 1-12 each have volumes of 328,000 gallons while tanks 13-20 have volumes of 669,000 gallons each. All tanks, except 5-8 and 11-12, have been converted to fine bubble diffusers. The air for the aeration basins is supplied by four (4) 1,250HP roots single state centrifugal blowers. The fine bubble diffusers provide higher transfer efficiency allowing the current oxygen demand to be met with a single blower except during extremely hot days. There is a 150HP blower used for channel aeration on extremely hot days to remove the demand from the larger blowers. The blowers are over 25 years old and require frequent maintenance and repairs.

All four main blowers and the small channel blower needs to be replaced; much degradation has continued over the last 3 years. The evaluation completed through this RFP will look at current aeration needs as compared to the future needs defined in the Scope of Work. All associated aeration equipment is over 25 years old and will be replaced. The fine bubble diffusers with associated piping; two aeration influent gates (rehab); the ~~influent~~ effluent gates for tanks 1-12 (replace); the effluent gates for the 2 effluent channels (rehab); the influent gate for tank 20 (replace); gates for tanks 15-19 (rehab) and the 2 gates for the twin sixties (replace); foam spray system along with pump and strainer; drain valves; air valves and controls (this includes rehab/upgrading the auto DO system); all effluent weirs; sump pumps; and motor control centers with related electrical upgrades need to be replaced. The stainless aeration piping will be evaluated; the current known condition is good.

Also related to the Aeration System the consultant will need to look at odor control. In 2000, most channels were covered and a system was designed to pull odorous air out of the channels. The odorous air is filtered and sent through the existing blowers. An odor control

unit for the channel air will need to be selected. The air will not be sent through the new blowers.

As the project progresses and equipment is selected, blower building improvements will be detailed. Upgrades for the building will include heating and ventilation in the building and basement; new roof; new lighting inside and out; bathroom renovations; new overhead crane; and new doors and windows.

Funding for this project is 100% sewer fund revenue, no federal fund involvement is expected.

2. Scope of Work: Aeration Improvements Project

The Aeration Improvements Project can be split up into four categories; blower evaluations; aeration system and related equipment; odor control; and building improvements. Through these four categories, the consultant will evaluate the most efficient way to ensure meeting the aeration needs of the future while replacing equipment that has surpassed its useful life to increase reliability while lowering operating cost by improving efficiency. The construction of project must be completed by **December 31, 2021**.

Blower Evaluations/Design

The aeration needs and blower design will be evaluated for our current aeration needs. For future needs the consultant will review the recommended plan attached at Appendix A. The design criteria for future aeration needs is based on the recommended plan from the DRAFT *Town Branch Phosphorus Removal Study* completed by Strand Associates in April 2005. As new blowers are chosen to meet our current needs the turn down of the blowers to be able to meet future needs will have to be considered.

Aeration System and Related Equipment

Needed upgrades and improvements for the aeration system will include replacing the fine bubble diffusers, all aeration piping, aeration tank effluent gates, foam spray system, drain valves, sump pumps, air valves and DO /controls. The motor control centers and other electrical equipment and controls related to the aeration system will also be replaced.

Odor Control

The current odor control will be evaluated and replaced. In 2000 an odor control project covered the primary channels and the odorous air is blown through a filter to be used as the influent air for the existing blowers. This will not be allowed with the new system. An odor control unit will need to be evaluated, designed, and installed.

Building Improvements

Building improvements will include heating and ventilation (in the building and the basement and tunnels), new roof, new lighting inside and out, bathroom renovations, new doors, new windows and concrete repair outside on the aeration walkways.

A. Task 1: Existing Aeration Process Review

(1) Interview Town Branch Wastewater Treatment Plant Operations and Management staff for input regarding the current process equipment control and functionality related to the Aeration System; Including the building, odor control and related equipment.

(2) Collect any other supporting data needed for design decisions.

B. Task 2: Develop Equipment/Process Replacement Concepts and Schedules for the four distinct areas of the project; Blower Evaluations/Design, Aeration System and Related Equipment, Odor Control, and Building Improvements.

(1) Blower Evaluations/Design

a. Prepare a conceptual layout for each concept evaluated along with design calculations.

b. Conduct a 20-year life cycle and present worth analysis for each conceptual design evaluated.

c. Prepare preliminary cost estimates and implementation schedules for all conceptual designs.

(2) Aeration System and Related Equipment

a. Prepare a conceptual layout for each concept evaluated along with design calculations.

b. Conduct a 20-year life cycle and present worth analysis for each conceptual design evaluated.

c. Prepare preliminary cost estimates and implementation schedules for all conceptual designs.

(3) Odor Control

a. Prepare a conceptual layout for each concept evaluated along with design calculations.

b. Conduct a 20-year life cycle and present worth analysis for each conceptual design evaluated.

c. Prepare preliminary cost estimates and implementation schedules for all conceptual designs.

(4) Building Improvements

a. Prepare a conceptual layout for each concept evaluated along with design calculations.

b. Conduct a 20-year life cycle and present worth analysis for each conceptual design evaluated.

c. Prepare preliminary cost estimates and implementation schedules for all conceptual designs.

(5) Present Preliminary Engineering Report to Treatment Plant Management Staff for a review of all conceptual designs and receive guidance for progress towards the final design.

(6) LFUCG will respond in writing to the preliminary Engineering Report, providing authorization for work under Task 3.

C. Task 3: Detailed Design

(1) Conduct detailed design progress meetings at 25%, 50%, 75% and 90% completion. The dates for these progress meetings will be decided on during the first pre-design meeting. Progress reports and drawings will be submitted one week before the Lexington-Fayette Urban County Government review and comment. (3 copies)

(2) Conduct and present any related design calculations to support the new equipment/process.

(3) Furnish detailed cost estimates for probable cost and revise the 20-year life cycle and present worth analysis for the 50% and 75% review and the final design.

(4) Update project schedules at 25%, 50% and 90%.

D. Task 4: Bidding Services

(1) Prepare final plans and specifications ready for bidding. Plans and specifications are to be provided in both hard copy and standard electronic format compatible with Lexington-Fayette Urban County Government equipment. The most recent plans and specifications have been submitted in PDF format. software. A minimum of 7 copies will be required.

(2) Coordinate and submit plans, specifications, and permit application to the Kentucky Division of Water for the purposes of receiving a construction permit.

(3) Provide customary bidding services including preparation of advertisement, conducting pre-bid meeting, issuing required addenda, evaluating bids and providing a recommendation of award.

E. Task 5: Construction Administration Services

(1) Track, review and approve all shop drawings.

(2) Track change orders, review requests, recommendation comments, and prepare the paper work to be submitted to council.

(3) Track and answer all Request for Information (RFIs)

(4) Coordinate and lead monthly construction progress meetings.

(5) Conduct construction inspections and submit weekly reports once construction begins. Please submit estimated hours per week, total hours included for inspections and the hourly rate with your detailed cost estimate

(6) Take before and after photos of all stages of construction.

(7) Review and approve contractor's monthly payment applications.
(8) Attend and maintain test reports for all equipment start-up for the project.

(9) Coordinate final inspection of completed work and prepare the final punch list.

(10) Transfer field notes from the contractor's drawings and submit final as-built drawings to the owner.

NOTE: This outline is not intended to be all inclusive but is intended to be a guide for prospective firms as to the general expectations of the Owner. The Lexington-Fayette Urban County Government will not compensate firms for the cost of proposal preparation.

3. Detailed Cost Estimates

The CONSULTANT shall prepare a detailed cost estimate for this proposal based on the Tasks defined in this Request for Proposal. The estimate shall show a preliminary schedule estimating the time necessary to complete the Tasks outlined with a unit price associated. The intent of this proposal is to show the number of hours associated with a lump sum fee for the Town Branch Aeration Improvements Projects. If your firm has additional Tasks that would be recommended show the new Tasks as separate line items with the scope well defined.

4. Proposal Content

The proposal will contain the following components.

A. Cover Letter

B. Scope/fee (Detailed Cost Estimate) – No more than 10 pages. ***The attached Fee Schedule completed with your estimated cost will be the last page in this section.***

C. Estimated Schedule – No more than 5 pages.

D. Project Team with One-Page Resumes (Do not submit resumes for individuals contributing less than 10% of total man hours allocated)

E. A list of 5 similar projects with owner contact information. This section shall be no more than 5 pages total.

5. Schedule and Completion

The proposed timeline for completion of the Scope of Services outlined in the proposal is as follows:

Aeration Improvements Project

Award Design Contract	~~May~~ June 2018
Preliminary Engineering Report	December 2018
Meeting to Review Final Design – 90% Completion	~~December 2018~~ July 2019
Bid Opening	~~January~~ October 2019
Award of GC Contract	~~February~~ December 2019

The CONSULTANT shall coordinate the exact time and location of all meetings with the Plant Engineer, Division of Water Quality.

NOTE: Schedule may be adjusted based on final negotiations. When submitting the schedule with your proposals please indicate if your firm could complete this project any sooner than the estimated time above.

6. Method of Invoice and Payment

The CONSULTANT shall submit monthly for basic services or work rendered, based upon the CONSULTANT'S estimate of the portion of the total services actually completed during the billing cycle. Each invoice shall be accompanied by a breakdown of hours attributed to each task for both the billing cycle and the cumulative project period. Also include the percent Disadvantaged Business Enterprise (DBE) cost with each monthly invoice.

The Director of Water Quality or his designee shall respond to the invoice within thirty days of receipt, either denying or approving payment. Specific project time sheets and other payroll information may be subject to reviews and audits by the Lexington-Fayette Urban County Government.

7. Miscellaneous

All plans, specifications and accompanying documents are subject to review by the Lexington-Fayette Urban County Government's Division of Water Quality, Division of Engineering, Division of Risk Management and Division of Building Inspection. The CONSULTANT shall be responsible for incorporating the comments and requirements of the divisions into all documents.

Investigation/Design Services for Town Branch WWTP
Aeration Improvements Project

Fee Schedule

(For a description of each section and task refer to Section 2 and 3 of the RFP)

Section 2

Scope of Work: Aeration Improvements Project

A. Task 1: Existing Aeration Process Operations Review

Cost Task 1: _____

B. Task 2: Develop Equipment/Process Replacement Concepts

1. Blower Evaluations/Design _____
2. Aeration System and Related Equipment _____
3. Odor Control _____
4. Building Improvements _____

Cost Task 2: _____

C. Task 3: Detailed Desgin

Cost Task 3: _____

D. Task 4: Bidding Services

Cost Task 4: _____

E. Task 5: Construction Administration Services

Cost Task 5: _____

Details for Task S.5 - The total cost should be included in Cost Task 5. Please provide the following breakdown. Estimated Weekly Inspection Hrs/Estimated Total Inspection Hrs/Hourly Rate.

_____ / _____ / _____

Section 2 Total Cost: _____

APPENDIX A

EXHIBIT B

Certificate of Insurance

and

Evidence of Insurability

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 5/30/2018

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 the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Ansay & Associates, LLC. MSN 702 N High Point Road Suite 201 Madison WI 53717	CONTACT NAME: Susan Simoneau PHONE (A/C, No, Ext): 800-643-6133 FAX (A/C, No): 608-831-4777 E-MAIL ADDRESS: sue.simoneau@ansay.com
INSURED STRAASS-01 Strand Associates, Inc 910 W. Wingra Drive Madison WI 53715	INSURER(S) AFFORDING COVERAGE — NAIC # INSURER A : CNA Insurance Companies — 35289 INSURER B : INSURER C : INSURER D : INSURER E : INSURER F :

COVERAGES **CERTIFICATE NUMBER:** 1572569710 **REVISION NUMBER:**

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

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	GENERAL LIABILITY [X] COMMERCIAL GENERAL LIABILITY [ ] CLAIMS-MADE [X] OCCUR [X] XCU Cov. Inc. GEN'L AGGREGATE LIMIT APPLIES PER: [ ] POLICY [X] PRO-JECT [ ] LOC	Y		5099170076	1/1/2018	1/1/2019	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG $	$ 1,000,000 $ 900,000 $ 15,000 $ 1,000,000 $ 2,000,000 $ 2,000,000 $
A	AUTOMOBILE LIABILITY [X] ANY AUTO [ ] ALL OWNED AUTOS [ ] SCHEDULED AUTOS [X] HIRED AUTOS [X] NON-OWNED AUTOS	Y		5099170062	1/1/2018	1/1/2019	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) $	$ 1,000,000 $ $ $ $
A	[X] UMBRELLA LIAB [X] OCCUR [ ] EXCESS LIAB [ ] CLAIMS-MADE [ ] DED [X] RETENTION $ 10,000	Y		5099170059	1/1/2018	1/1/2019	EACH OCCURRENCE AGGREGATE $	$ 2,000,000 $ 2,000,000 $
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N [ ] If yes, describe under DESCRIPTION OF OPERATIONS below	N/A		WC595126844	1/1/2018	1/1/2019	[X] WC STATU-TORY LIMITS [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $ 1,000,000 $ 1,000,000 $ 1,000,000
A	Professional Liability Full Prior Acts			AEH113974097	7/11/2017	7/11/2018	Each Claim Aggregate Full Prior Acts	2,000,000 2,000,000

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

RE: RFP#10-2018 Investigation/Design Services for Town Branch WWTP Aeration Improvements Project
Job # p180.391

The Lexington Fayette Urban County Government, its elected and appointed officials, employees, agents, boards, consultants, assigns, volunteers and successors in interest are named as additional insureds on a primary and non-contributory basis per written contract.

Coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days prior written notice to the Certificate Holder

CERTIFICATE HOLDER

Lexington- Fayette Urban County Government
200 E. Main Street
Lexington KY 40507

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

EXHIBIT C

Proposal of Engineering Services

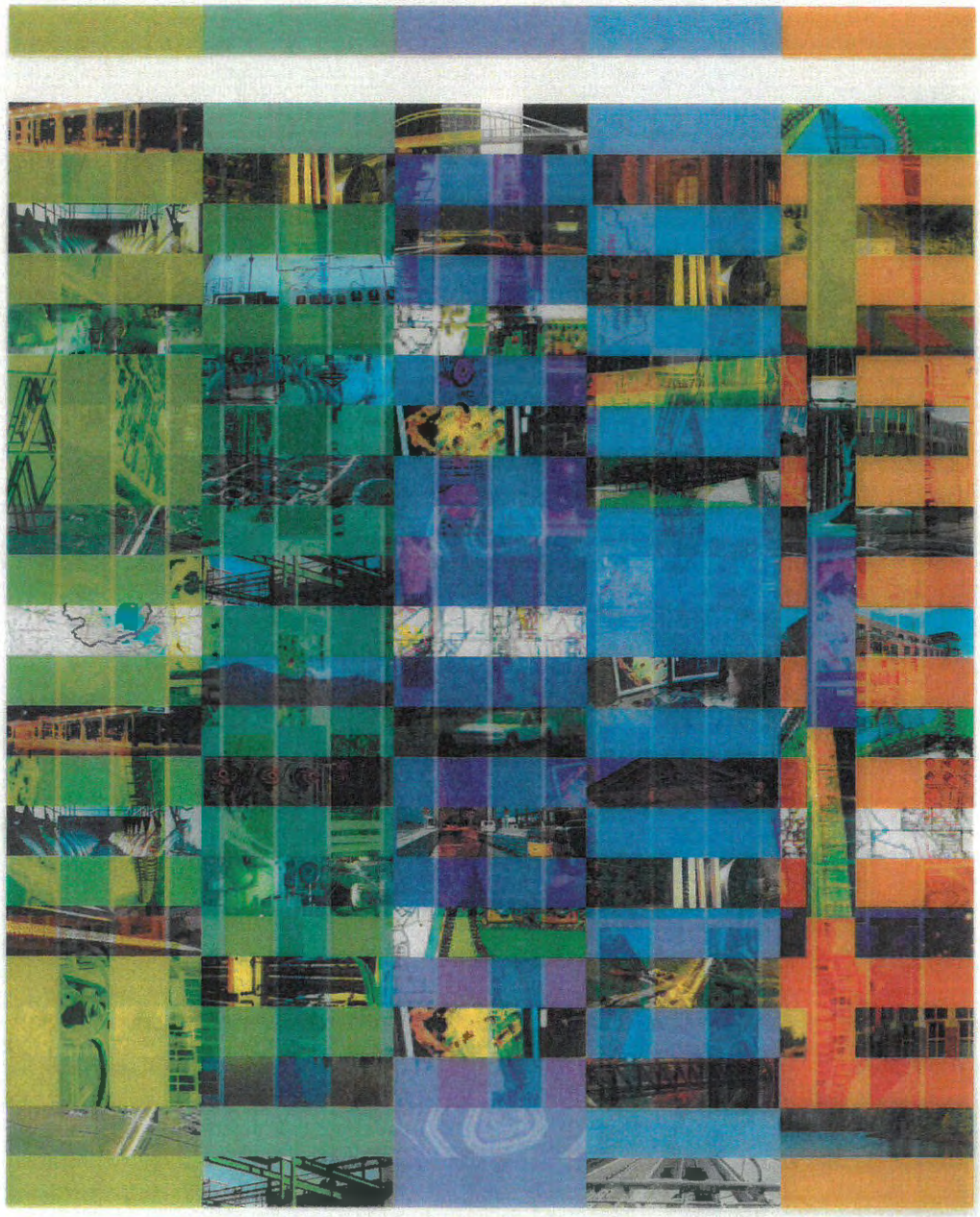
and

Related Matters

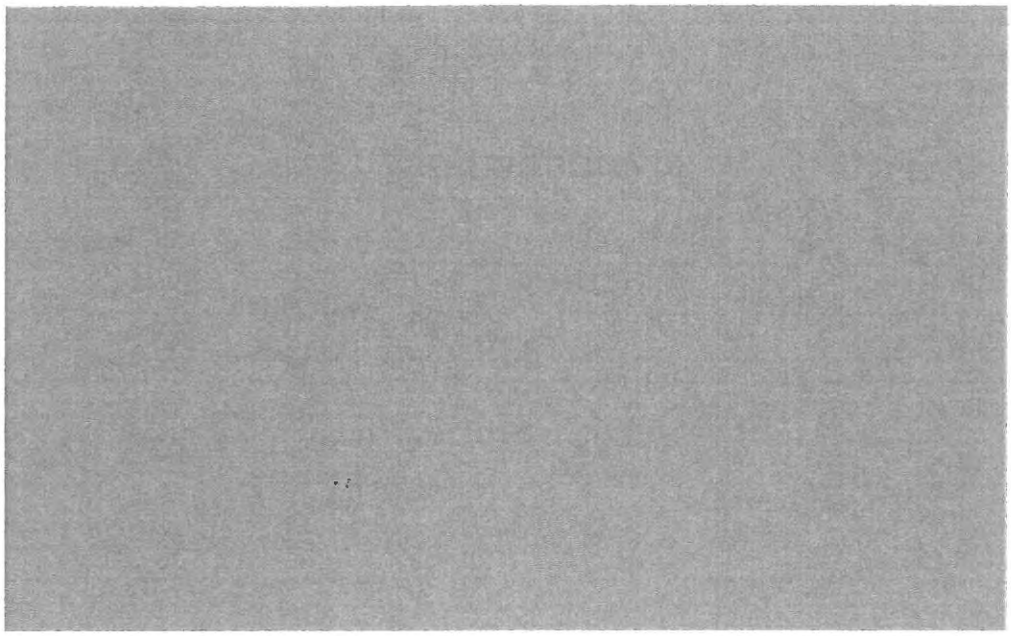
Professional

Engineering

Services



STRAND ASSOCIATES®



Investigation/ Design Services for Town Branch WWTP Aeration Improvements Project

RFP#10 – 2018

Proposal for

Lexington-Fayette Urban County Government

May 9, 2018

Firm Submitting Proposal: Strand Associates, Inc.

Complete Address: 1525 Bull Lea Road, Suite 100, Lexington, KY 40511
Street City Zip

Contact Name: Michael Davis Title: Senior Associate

Telephone Number: (859)225-8500 Fax Number: (859)225-8501

Email address: mike.davis@strand.com

Table of Contents

MAYOR JIM GRAY

LEXINGTON

TODD SLATIN
DIRECTOR
CENTRAL PURCHASING

ADDENDUM #1

RFP Number: #10-2018

Date: April 23, 2018

Subject: Investigation/Design Services for Town Branch WWTP Aeration Improvements Project

Address inquiries to:
Brian Marcum
(8S9) 258-3320

TO ALL PROSPECTIVE SUBMITTERS:

Please be advised of the following clarifications to the above referenced RFP:

1. See attached pre-proposal conference sign-in sheet.

Todd Slatin

Todd Slatin, Director
Division of Central Purchasing

All other terms and conditions of the RFP and specifications are unchanged. This letter should be signed, attached to and become a part of your submittal.

COMPANY NAME: Strand Associates, Inc.

ADDRESS: 1525 Bull Lea Road, Suite 100, Lexington, KY 40511

SIGNATURE OF BIDDER: Matt Schiebel

SIGN-IN SHEET

Pre-Proposal Meeting 10-2018 Investigation/Design Services for Town Branch WWTP Aeration Improvements Project

April 23, 2018 @ 10:00 AM

Representative	Company Name	DBE/MBE/WBE/ Veteran	Phone#	Email Address
Brian Marcum	LFUCG		859-258-3320	brianm@lexingtonky.gov
Sherita Miller	LFUCG		859-258-3323	smiller@lexingtonky.gov
JERRY MCCLARY	HDR		859-338-1696	JERRY.MCCLARY@HDRINC.COM
Ross Guffey	HDR		859-629-4825	ross.guffey@hdrinc.com
Josh Schlabach	HAZEN AND SAWYER.		859-219-1126	jschlabarth@hazenandsawyer.com
Herb Lemasters	Tetra Tech		859-223-2000	herb.lemasters@tetratech.com
Bob Smallwood	GRW		859-223-3999	bsmallwood@grwinc.com
JOHN MARTIN	GRW		(859) 223-3999	JMARTIN@GRWINC.COM
Emily Epperson	Strand Associates		859-225-8500	emily.epperson@strand.com
Mark Sneve	Strand		859-225-8522	Mark.Sneve@Strand.com
Michael Davis	Strand		859.225.8500	mike.davis@strand.com
Jim Nagle	LFUCG-DWQ		859-494-9549	JNagle@lexingtonky.gov
Danny G. Hyatt	LFUCG-DWQ		859-621-2723	dhyatt@lexingtonky.gov
Charlie Begley	LFUCG-DWQ		859-425-2414	Cbegley@LexingtonKy.gov
Brad Pennington	LFUCG DWQ		859-425-2421	bpennington@lexington.gov
Tiffany Rank	LFUCG - DWQ		859-425-2406	tiffanyr@lexingtonky.gov

MAYOR JIM GRAY

LEXINGTON

TODD SLATIN
DIRECTOR
CENTRAL PURCHASING

ADDENDUM #2

RFP Number: #10-2018

Date: May 2, 2018

Subject: Investigation/Design Services for Town Branch WWTP Aeration Improvements Project

Address inquiries to:
Brian Marcum
(859) 258-3320

TO ALL PROSPECTIVE SUBMITTERS:

Please be advised of the following clarifications to the above referenced RFP:

1. See the 2 attached revised RFP pages paying attention to the changes.
2. The questions & answers below.
3. The Aeration General Arrangement Plan with notes attached.
4. The Fine Bubble Diffuser Layout attached.

Question 1:

Please clarify the number of gates to be replaced as part of this project?

- Aeration influent gates (2 gates)
- Influent gates to tanks 1-12 (12 gates)
- Effluent gates to tanks 1-12 (12 gates)
- The twin sixties (2 gates)

Will 28 gates in total will be replaced as part of this project?

Answer: See attached M2 Addendum for clarification of gates to be replaced and gates to be rehabbed. Also attached is an old drawing with the fine bubble diffuser layout when some of them were added.

Question 2:
What is the anticipated construction time estimate?

Answer: I have modified Section 5 of the RFP. Please review. This is a suggested schedule. Once the consultant is selected we will set a permanent schedule in the first progress meeting. The construction of the Town Branch Aeration Improvements Project must be complete by December 2021 to meet the Consent Decree deadline. In the schedule the "Contract Award" date is suggested as December 2019. Of course after equipment lead time is more certain there is flexibility. We also must keep in mind bid dates could perhaps need to be staggered due to other large projects within the city being bid.

Is LFUCG expecting full time inspection for the project?

LFUCG is not expecting full time inspection for the project. In Task 5:, (S) we ask, "Conduct construction inspections and submit weekly reports once construction begins. Please submit estimated hours per week, total hours included for inspections and hourly rate with your detailed cost estimate." LFUCG is asking the consultants, based on your experiences, to tell us how many hours you expect to spend on inspections. With your hours and hourly rates we can back this out and actually compare and look at the proposals as equals.

Todd Slatin

Todd Slatin, Director
Division of Central Purchasing

All other terms and conditions of the RFP and specifications are unchanged. This letter should be signed, attached to and become a part of your submittal.

COMPANY NAME: Strand Associates, Inc.

ADDRESS: 1525 Bull Lea Road, Suite 100, Lexington, KY 40511

SIGNATURE OF BIDDER: Matt Schenkel

Investigation / Design Services for Town Branch WWTP
Aeration Improvements Project

Lexington – Fayette Urban County Government (LFUCG) Division of Water Quality

The Lexington-Fayette Urban County Government is accepting proposals from interested consulting engineering firms for the Investigation / Design Services for Town Branch Wastewater Treatment Plant (WWTP) Aeration Improvements Project.

1. General Project Description

The CONSULTANT shall perform professional services as hereinafter stated which shall include but is not limited to customary civil, structural, mechanical, geotechnical, electrical engineering, and programming services as related to the Investigation / Design for Town Branch WWTP Aeration Improvements Project.

Per the *Group Two Sanitary Sewer System and WWTP Remedial Measures Plan*, the intent of the Town Branch WWTP Aeration Improvements Project is to replace equipment that has surpassed its useful life therefore increasing reliability and lowering operating cost by improving efficiency. **Construction of the Town Branch WWTP Aeration Improvements Project must be complete by December 31, 2021.**

As stated in the *Group Two Sanitary Sewer System and WWTP Remedial Measures Plan* the current aeration system consists of twenty (20) aeration tanks and four (4) 1,250HP roots single stage centrifugal blowers. Tanks 1-12 each have volumes of 328,000 gallons while tanks 13-20 have volumes of 669,000 gallons each. All tanks, except 5-8 and 11-12, have been converted to fine bubble diffusers. The air for the aeration basins is supplied by four (4) 1,250HP roots single state centrifugal blowers. The fine bubble diffusers provide higher transfer efficiency allowing the current oxygen demand to be met with a single blower except during extremely hot days. There is a 150HP blower used for channel aeration on extremely hot days to remove the demand from the larger blowers. The blowers are over 25 years old and require frequent maintenance and repairs.

All four main blowers and the small channel blower needs to be replaced; much degradation has continued over the last 3 years. The evaluation completed through this RFP will look at current aeration needs as compared to the future needs defined in the Scope of Work. All associated aeration equipment is over 25 years old and will be replaced. The fine bubble diffusers with associated piping; two aeration influent gates (rehab); the ~~influent~~ effluent gates for tanks 1-12 (replace); the effluent gates for the 2 effluent channels (rehab); the influent gate for tank 20 (replace); gates for tanks 15-19 (rehab) and the 2 gates for the twin sixties (replace); foam spray system along with pump and strainer; drain valves; air valves and controls (this includes rehab/upgrading the auto DO system); all effluent weirs; sump pumps; and motor control centers with related electrical upgrades need to be replaced. The stainless aeration piping will be evaluated; the current known condition is good.

Also related to the Aeration System the consultant will need to look at odor control. In 2000, most channels were covered and a system was designed to pull odorous air out of the

4. Proposal Content

The proposal will contain the following components.

A. Cover Letter

B. Scope/fee (Detailed Cost Estimate) – No more than 10 pages. ***The attached Fee Schedule completed with your estimated cost will be the last page in this section.***

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D. Project Team with One-Page Resumes (Do not submit resumes for individuals contributing less than 10% of total man hours allocated)

E. A list of 5 similar projects with owner contact information. This section shall be no more than 5 pages total.

5. Schedule and Completion

The proposed timeline for completion of the Scope of Services outlined in the proposal is as follows:

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NOTE: Schedule may be adjusted based on final negotiations. When submitting the schedule with your proposals please indicate if your firm could complete this project any sooner than the estimated time above.

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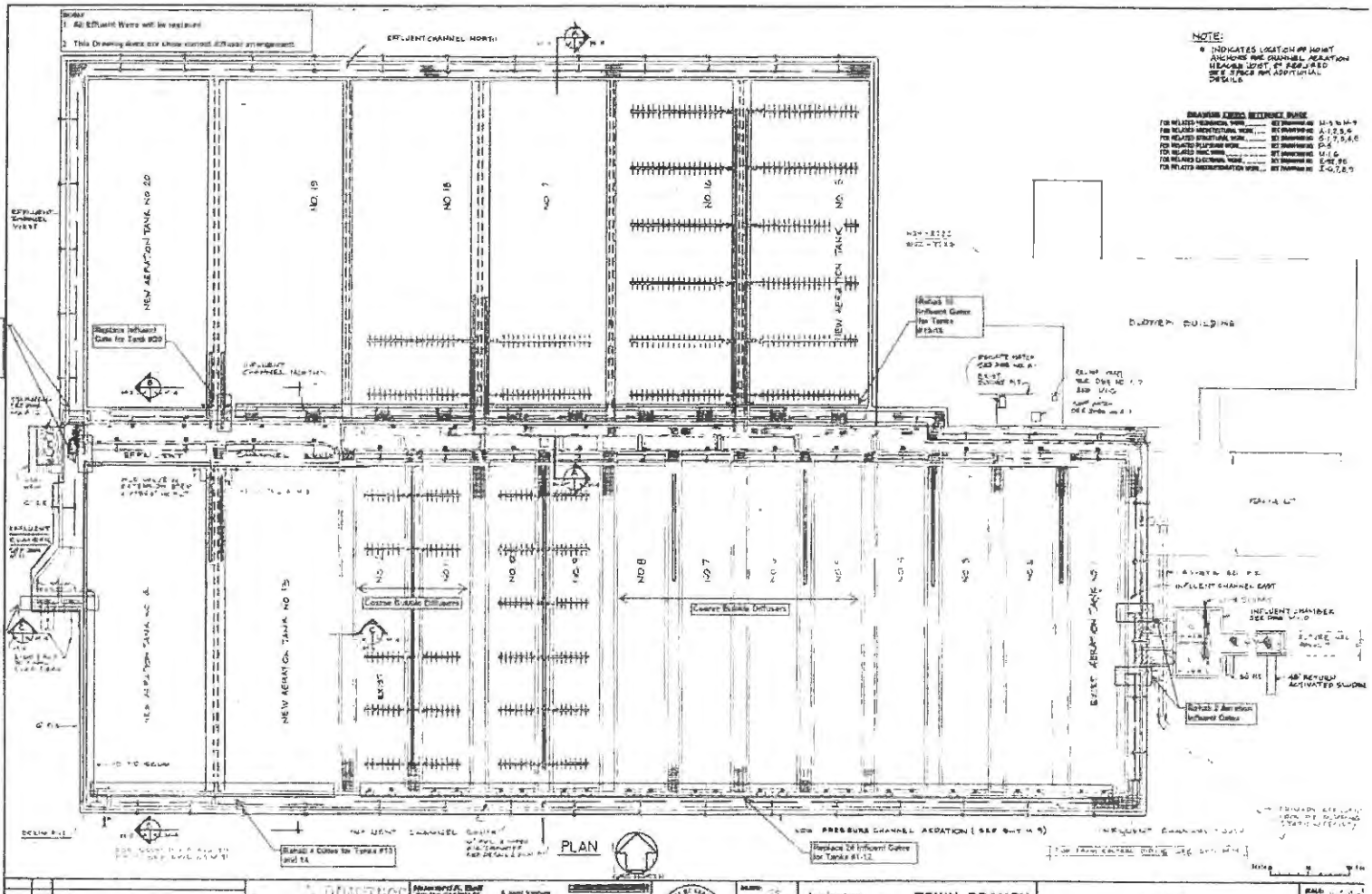
The Director of Water Quality or his designee shall respond to the invoice within thirty days of receipt, either denying or approving payment. Specific project time sheets and other payroll



DRAWINGS

HDR-PEH

CDM

Lexington Fayette Urban County Government

TOWN BRANCH WASTEWATER TREATMENT PLANT

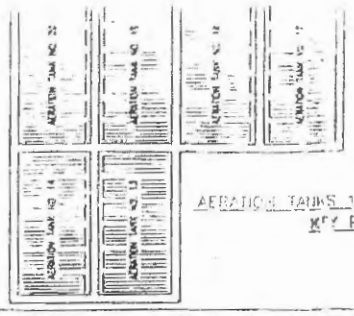
PHASE 2

AERATION SYSTEM GENERAL ARRANGEMENT PLAN

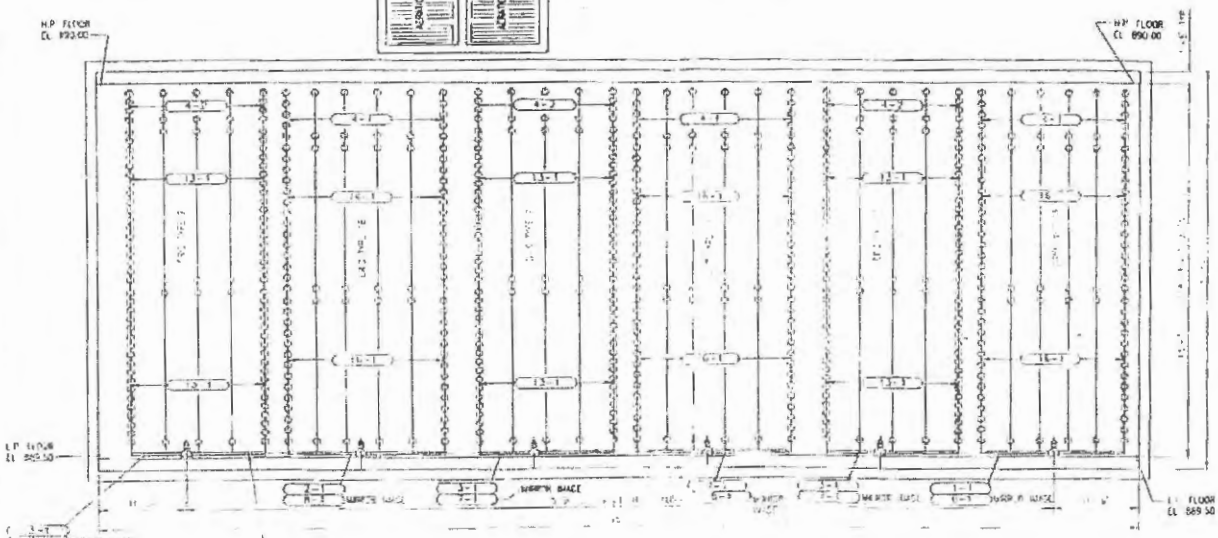
M-2

CONTRACT 62 : DRAWINGS 2/9

For Information: This is a drawing from Sanitaire when we replaced the diffusers in Tanks # 13, 14, & 17-20. This is just to show the current layout in those tanks.



AERATION TANKS 13,14, & 17-20
KEY PLAN (A)



APPROVED FOR CONSTRUCTION

JUN 17 '97

WATER POLLUTION CONTROL COMM

LEXINGTON
KENTUCKY
TOWN BRANCH
WASTEWATER TREATMENT PLANT
AERATION TANKS 13,14, 17-20
PLAN VIEW

SANITAIRE

AERATION TANKS 13, 17 ... 19 - SHOWN
AERATION TANKS 14, 18 & 20 - MIRROR IMAGE
PLAN VIEW

STRAND ASSOCIATES®

Strand Associates, Inc.®
1525 Bull Lea Road, Suite 100
Lexington, KY 40511
(P) 859 225-8500

May 9, 2018

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

Re: Request for Proposals for RFP#10-2018 Investigation/Design Services for Town Branch WWTP Aeration Improvements Project

Dear Mr. Slatin:

Thank you for the opportunity to submit this proposal for the above referenced project. **Selecting Strand Associates, Inc.® for the Town Branch WWTP Aeration Improvements Project Delivers Proven Value.** Listed below are major factors that support this statement and distinguish our Project Team as a perfect match to the project needs.

- **Strand's Unique Understanding of the Town Branch Process and Needs Results in Well-Orchestrated Upgrades that Fit into Your Future Plans for Nutrient Removal**
- **Our Proven Success with Identical Upgrades at West Hickman WWTP Provide Confidence in Our Team and Approach**
- **Our Project Team's Proven Service and Commitment to LFUCG Demonstrates Our Ability to Serve LFUCG Effectively on this Project**
- **Strand's Collaborative Approach Addresses Plant Staff Concerns for a User-Friendly Facility with Minimal Plant Impacts During Construction**

We look forward to the opportunity to continue our service on behalf of the Lexington-Fayette Urban County Government.

Sincerely,

STRAND ASSOCIATES, INC.®

Michael L. Davis, P.E.
Senior Associate

Scope/Fee

Strand's Extensive Knowledge of Project Requirements and Existing Facilities Results in a Comprehensive Scope that Matches LFUCG's Needs

Strand's project approach is based on over 30 years of experience serving LFUCG on major projects at the Town Branch Wastewater Treatment Plant (WWTP). In preparing this proposal we revisited the Phosphorus Removal Evaluation we completed in 2005 and the Blower Design Alternative Report we drafted in 2011. Our approach to the necessary aeration improvements evaluates cost-effective equipment upgrades while providing more operational flexibility, improved energy efficiency and improvements that minimize maintenance requirements.

Strand's approach provides treatment flexibility to provide energy efficiency today and meet future phosphorus removal requirements.

Background

The Town Branch WWTP utilizes an activated sludge treatment process with influent screening, grit removal, primary clarification, secondary clarification, disinfection and post-aeration. Biological treatment occurs at the 20 aeration tanks that have a combined volume of 9.3 million gallons. Following is our understanding of the existing conditions at the aeration tanks and Blower Building that are the basis for this project.

Blowers and Aeration System

Four 1,250 HP Roots single-stage centrifugal blowers provide air for the biological process and one 150 HP Roots blower provides channel aeration at a lower pressure than the separate process air supply. All the blowers are housed in the Blower Building.

Aeration tanks 1 through 12 have volumes of 328,000 gallons each and tanks 13 through 20 have volumes of 669,000 gallons each. All the tanks except for 5, 6, 7, 8, 11 and 12 have fine bubble diffusers. The excepted tanks have older, coarse bubble diffusers. Flow into the tanks and into and out of the influent and effluent channels is controlled by gates outfitted with electric operators that are about 5 years old. All the flow control gates are over 25 years old and difficult to operate.

Aeration Tanks at Town Branch WWTP

Odor Control

An existing odor control system pulls air from the covered primary channels, filters it and sends it to the aeration blower intakes. The odorous air has caused concrete and equipment degradation in the covered channels and may lead to premature blower wear.

Blower Building

The Blower Building was last upgraded in the 1980s, and the doors, windows, roof, bathrooms and hoist are all aging. In addition, the HVAC equipment and electrical equipment are old and in need of upgrade.

The Blower Building HVAC includes heating and ventilation of the blower room and pipe tunnel with installed ductwork, exhaust fans, make-up air fans, gravity ventilators, motorized louvers/dampers and gas unit heaters. The building also has a split-system air conditioner. There are window air conditioners in the office, laundry room and workroom. Most of this equipment is at least 30 years old and needs to be replaced.

Lighting at the Blower Building and around the aeration tanks is primarily provided by a combination of high pressure sodium and fluorescent light fixtures. Individual emergency lights provide egress lighting for the Blower Building and pipe tunnel.

Existing Blower Room at Town Branch WWTP

Electrical Components

The electrical system was constructed in the late 1980s during the last major treatment facility upgrade. The Blower Building is powered from Substation A utilizing a dual 4160 V feed. Two 2500 kVA pad-mounted, liquid filled transformers located in Substation A step voltage down from 12,470 V for use in the Blower Building. A dual 4160 V power feed enters the Blower Building basement to power the existing medium voltage motor control center (MCC) located in the blower room.

The four main blowers are controlled through medium voltage starters located in the MCC line-up. Two 500 kVA dry-type transformers step voltage down to 480 V for power to the rest of the Blower Building. The two transformers provide a dual feed to existing MCC-A, located in the Blower Building electrical room.

MCC-A provides power to the channel aeration blower and other electrical loads located in the Blower Building. Dry-type transformers provide 120/240 V power for lighting and miscellaneous loads.

SCADA and Instrumentation

The blower/aeration SCADA system was upgraded in 2014 to replace an aging Fisher-Porter DCS system. This upgrade included Citect HMI and Rockwell PLCs. SCADA equipment in the blower control room communicates with the Administration Building through a fiber optic network.

The SCADA system controls blowers and air control valves to maintain dissolved oxygen (DO) setpoints in the aeration basins, while controlling the output of individual blowers. Each 4 kV blower is controlled through a PLC-based local control panel located adjacent to each blower. These controls modulate inlet guide vanes to provide the desired volume of air.

The aeration basins have air control valves to control the volume of air provided. Flow meters provide direct indication of air flows and DO.

A gas detection system monitors for the presence of methane, hydrogen sulfide and oxygen deficiency. The gas detection system provides local and remote alarms. The facility ventilation system is monitored and controlled to provide required ventilation to spaces and provide visual indication to operations staff that ventilation equipment is operating prior to personnel entry.

Lightning and Surge Protection

Surge protection is located on existing MCCs and lightning protection is provided on medium voltage distribution equipment. In addition, a UL labeled air terminal system is provided on the building to provide lightning protection.

Project Overview and Scope of Engineering Services

Strand's Scope of Services is tailored to meet the requirements contained within LFUCG's RFP and to address specific project needs that were outlined in reviewing and investigating the proposed project scope. Site visits and subsequent preliminary planning indicate that the improvements prescribed in the RFP can be designed to reduce the energy use and maintenance burden that the existing aeration process equipment currently imposes. Our firm-wide experience as well as the completed aeration improvements at West Hickman WWTP demonstrate our competence. We can confidently make recommendations about blower, diffuser and other equipment replacement as well as process flexibility, odor control, building improvements and upgraded electrical components.

Replacing the blowers with a number and capacity of units that will provide LFUCG with flexible turndown will be a design priority. Our diffuser replacement design will provide zone control that is a critical component for future phosphorus removal process operation. We also have the in-house expertise, as demonstrated in the Project Team section, to design a new and effective odor control system without recirculating odorous air to the blower intakes. The scope of services is described below. Our approach to project design and implementation includes significant and timely interaction with plant staff. This collaboration starts with the initial operations review and extends through project completion.

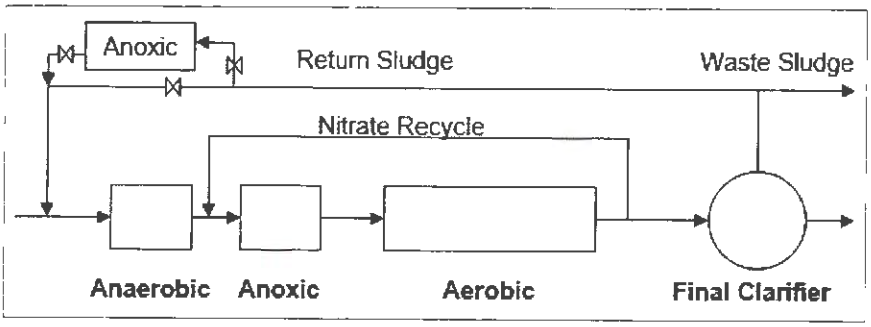
The project begins with additional field investigation and performance review of the existing blowers and air piping, aeration tanks and equipment, odor control system and building needs. Alternatives will be identified and evaluated during the planning stage, and the results will be summarized in a preliminary engineering report. This report will document findings and recommendations and will become the road map for final design.

Existing 1,250 HP Roots Blower

1) Blower Evaluations/Design

All five blowers need to be replaced because of age, ongoing degradation and increasing maintenance needs. During the preliminary engineering report phase, we will evaluate two alternatives for replacing the blowers, one of which will consider Sulzer-ABS high speed turbocompressors. West Hickman WWTP staff have been very satisfied with their Sulzer-ABS magnetic bearing blowers and have realized remarkable energy and maintenance cost savings since their installation. The number and sizing of the replacement blowers will be carefully considered to meet current demands as well as reduced aeration needs for when phosphorus removal is required. Biological phosphorus removal (BPR) can be easily

accomplished with minor tank modifications and by operating valves and gates to employ an anaerobic/anoxic/oxic (A^2/O) process as outlined in the 2005 Phosphorus Removal Evaluation we drafted for Town Branch WWTP. See the A^2/O process schematic figure for a depiction of how minor aeration changes can provide treatment environments that select for phosphorus accumulating organisms and still allow for denitrification.



A^2/O Process Schematic

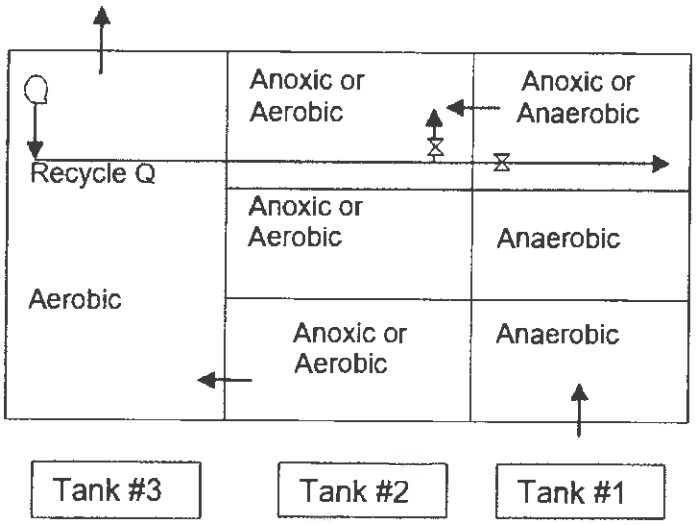
A second blower replacement option will be provided based on cost, maintenance and preference feedback solicited from Town Branch WWTP and LFUCG staff during the preliminary engineering report phase.

We will ultimately select the right number and capacity of blowers to provide LFUCG with the efficient turndown of capacity to meet all planned conditions. With the newer blower technology, you can typically achieve a 50% turndown in output while remaining at near optimal efficiency. Given that the channel aeration demands are at a lower pressure, we believe it will be efficient to continue to have a dedicated blower with redundancy provided through the main aeration blowers.

2) Aeration System and Related Equipment

LFUCG staff has been pleased with the performance of the fine bubble diffusers that were installed in the aeration tanks in the late 1990s. The six remaining tanks that still have coarse bubble diffusers will be upgraded to fine bubble diffusers. A further reduction in air demand may be realized once the fine bubble diffusers are installed. This will increase energy efficiency and will need to be considered in the number and size of replacement blowers. The existing fine bubble diffusers will be replaced in kind due to age. Associated diffuser piping will be replaced throughout. Replacement of diffusers must allow for re-purposing of some tanks into anaerobic and anoxic zones.

As mentioned in the Blower Evaluations/Design summary, all improvements made as part of this project will allow the operational flexibility for BNR. Each aeration tank may have three zones, and the diffuser replacement must preserve this arrangement. Manual and motor operating air valving will be evaluated as a component of the aeration equipment upgrades to facilitate the creation of anoxic and anaerobic zones as required for the A^2/O process. The replacement DO control system will be programmed to allow air to be delivered to specific zones as required. Strand has recently designed a similar A^2/O process at Louisville Metropolitan Sewer District's (MSD) Hite Creek WQTC. Through this very similar project, we understand how to divide tanks into zones to facilitate flexible operation between anaerobic, anoxic and aerobic zones.



Phosphorus Removal with A²/O Process in Modified Aeration Tanks

In addition to diffuser upgrades, the foam spray system, the drain valves, the automatic DO control system with associated valves and piping, the sump pumps, all the effluent weirs, and the scum skimming system in the effluent chamber will be replaced. Gate improvements will also be made as summarized in the table.

GATE	QUANTITY	REMEDY
Influent channel gates	2	Rehab
Tank influent gates		
Tanks 1 through 12	24	Replace
Tanks 13 through 14	4	Rehab
Tanks 15 through 19	10	Rehab
Tank 20	1	Replace
Gates to effluent chamber	2	Rehab
Gates to "Twin Sixties" to final clarifiers	2	Replace

3) Odor Control

The current odor control system was design and installed in the early 2000s. Because of the Town Branch WWTP's proximity to residential areas, shopping and restaurants, odor control is an important consideration at the WWTP and as a part of this project. Strand has the expertise within our firm to evaluate several different types of odor control systems and provide LFUCG with an upgraded installation that will reduce odors and handle the odorous air in a way that reduces concrete and equipment degradation. The channel air will not be routed to the blower influent, as is the current configuration.

We recommend that an air sampling and analysis task be added to the scope of work for planning and design of the odor control system. Selecting an appropriate system will require an understanding of the odorous constituents in the channel air. We have included this item in our scope of work and fee estimate.

4) Blower Building Improvements

The following building and HVAC improvements will be included:

- Roof replacement

- Bathroom improvements
- Replacement doors and windows
- Aeration walkway concrete repairs
- New overhead crane for servicing blowers
- Replacement ventilating fans
- Replacement electric actuators on louver/dampers
- Replacement and additional window air conditioners
- Replacement split-system air conditioner in the operator's office with consideration of a dedicated room to house the interior component
- Replacement gas unit heaters. Some heaters appear relatively new and could remain.
- Replacement LED-type lighting fixtures for all existing internal and external fixtures.
- Replacement emergency and exit lighting.

5) Electrical Components

The electrical system must be improved to coordinate with blower/aeration system improvements and to replace aging electrical equipment. Strand's approach to electrical improvements is as follows:

- Dual feed to the Blower Building will be maintained. The Town Branch electrical distribution system utilizes a primary and secondary selective "dual feed" arrangement to provide system redundancy and increased reliability. The substation equipment and MCCs are provided with "double-ended" equipment that utilizes two power sources. A tie switch or circuit breaker separates the two ends and allows equipment to be powered from a single source when one of the two sources fails. With all electrical distribution options, a dual feed will be maintained for the Blower Building similar to the existing electrical system. This "double-ended" arrangement also helps to keep existing facilities in operation while new electrical systems are installed.
- Existing WWTP electrical service and Substation A capacity is adequate for proposed blowers. The existing aeration system utilizes blowers with a combined horsepower of 5,150 HP including the channel aeration blower. The electrical service is sized to allow two 1250 HP aeration blowers to operate simultaneously on each side of the tie switch. The new aeration blowers will utilize a lower total horsepower than the existing, eliminating the need to increase capacity of the electrical service equipment, 12 kV aerial loop and 12 kV switchgear in Substation A.
- Location and size of transformers serving the Blower Building will be determined in the preliminary engineering report. Two 2500 kVA transformers are located in Substation A. A "double-ended" 4 kV switchboard provides power from these transformers to the Blower Building.
- The new blowers will utilize 480 V, three-phase power, instead of 4160 V power utilized by the existing aeration blowers. This change in utilization voltage is economical and reduces the amount of medium voltage equipment that plant staff must maintain.
- Two options are available to provide 480 V power to the new blowers. Depending on conclusions of the preliminary report regarding these two options, pricing for both options could be obtained during the bidding process to allow final selection of preferred option based on actual bid prices.

    1. Utilize the existing 4160 V feeds from Substation A and provide transformers inside the Blower Building to reduce voltage to 480 V. This approach results in no changes to Substation A equipment and the existing conduit/conductors between Substation A and the Blower Building. All major electrical equipment improvements will be completed inside the Blower Building. Understanding space requirements within the Blower Building will be critical for this option.

2. Replace the two 4160 V transformers in Substation A with two 480 V transformers. The 4 kV Substation A switchboard is no longer required and can be removed. New conduit and conductors would be installed between Substation A and the Blower Building to replace the existing 4 kV conductors with new 480 V conductors. This approach reduces the amount of medium voltage equipment that must be maintained and minimizes the amount of distribution equipment that must be located inside the Blower Building.

- We anticipate that new electrical equipment will be placed generally in the same locations as the existing electrical equipment. Electrical improvements will be constructed with a phased implementation to maintain operation of existing blower/aeration systems. During construction one "side" of the double-ended MCC-A and the double-ended medium voltage MCC will stay in service while the other end is removed for new construction. Minimal complete down-time will be required to disconnect and remove the tie breaker/switch, then to reconnect the tie breaker/switch when work is completed.
- Arc Flash labeling requirements will be incorporated into the new equipment design. The labeling will reflect current practices and standards utilized at the Town Branch WWTP.

6) SCADA and Instrumentation

Strand's approach to SCADA and instrumentation improvements is as follows:

- SCADA improvements will be incorporated to monitor and control blower and aeration facility operations. We anticipate utilizing a similar blower control system to that utilized by our design at West Hickman WWTP. The blower/air control valve system will be monitored and controlled through a panel provided by the blower manufacturer. The control panel will utilize Rockwell PLCs consistent with the Town Branch WWTP SCADA system. This approach provides a single source of responsibility for blower controls and aeration system controls. Interface between the plant SCADA system and the blower/aeration control panel will utilize ethernet or fiberoptic communication. New MCCs and switchboard equipment will be SCADA monitored similar to tbe existing. Modifications to the SCADA system will be incorporated through the systems integrator that originally provided the SCADA system.

- Gas monitoring and ventilation controls will remain in service. Coordination required between the gas monitoring system/ventilation indicating lights and new ventilator motor starters will be provided.

7) Lightning and Surge Protection

Lightning and surge protection will be provided for building electrical services and individual equipment panels. The roof-mounted air terminal system will be replaced as the existing roofing is removed and replaced.

Project Goals

Strand's approach addresses the following project goals.

1. Compliance with Remedial Measures Plan scope and project schedule as mandated by the LFUCG Consent Decree.
2. Replacement of aging process equipment to improve reliability of the biological treatment process.
3. Reduction of energy use with high efficiency replacement blowers that have the turndown for varying demands.
4. Replacement of coarse bubble diffusers with fine bubble diffusers to decrease the air demands and consequently the energy usage.

5. Replacement of the air control valves and provision of the flexibility to employ a nutrient removal process to enable Town Branch WWTP to meet phosphorus limits in the future.

Task 1 – Existing Aeration Process Review

The aeration process review will build upon Strand's current knowledge and understanding of the aeration system. Through several recent projects, the project team has a good understanding of the WWTP as a whole. Also, the Blower Design Alternative Report Strand drafted in 2011 will be the basis for preliminary planning for how to design the aeration improvements for meeting current and future needs at the WWTP.

Proposed aeration improvements will be versatile for potential changes in operational strategies.

Strand will conduct a kick-off meeting followed by an interview with Town Branch WWTP operations and management staff regarding operation and maintenance of the treatment facilities and the associated equipment. During these discussions, Strand will obtain information regarding operational experience with the blowers, the aeration system and the odor control system. Additional field information will be obtained for evaluation of design concepts including odorous air sampling and testing. Our kick-off meeting will be attended by Mike Davis, Mark Sneve and Emily Epperson. Troy Larson will attend by phone.

Task 2 – Develop Equipment/Process Replacement Concepts and Schedules

Strand will complete a Preliminary Engineering Report to consider the following improvement alternatives. Our approach will also involve searching for the improvement alternative that is the best fit for Town Branch WWTP as well as cost-effective, easily maintained and energy efficient.

Blower Evaluations/Design

- Evaluate number and capacity of Sulzer-ABS high speed turbocompressors to replace five existing Roots blowers.
- Evaluate an alternative number and/or type of replacement blower based on feedback received from LFUCG staff.
- Consider potential need for future biological phosphorus removal in sizing replacement alternatives.

Aeration System and Related Equipment

- Design replacement fine bubble diffusers and preserve zoned arrangement for future treatment flexibility.
- Replace or rehabilitate flow control gates as requested by LFUCG and provide motorized operators for potential future operation of A^2/O Process.
- Replace associated foam spray system, drain valves, sump pumps, air control valves, effluent weirs, effluent chamber scum skimming system, and DO monitoring system.
- Evaluate and present equipment, diffuser arrangement, operational, etc. alternatives identified during preliminary engineering to have the potential for energy or cost savings or reduced maintenance.

Odor Control

- Provide overview of available biological and chemical odor control technologies.
- Present two viable alternatives that reduce concrete and equipment degradation and do not route odorous air to blower intakes.

Building Improvements

- Evaluate heating and ventilation system for Blower Building and pipe tunnel.
- Evaluate doors and windows for replacement.
- Evaluate condition of existing roofing system for replacement.

Attention to details and carefully crafted equipment alternatives minimize total project cost.

Construction sequencing will be considered to minimize construction impact on day-to-day operation. Life cycle costs, present worth analyses, preliminary cost estimates and

implementation schedules will be determined for proposed improvements and equipment replacement.

Results from these evaluations will be summarized in a Preliminary Engineering Report presented to LFUCG staff for review and acceptance prior to initiating detailed design.

Task 3 – Detailed Design

Design will be based on results from the previous evaluation. Detailed drawings and specifications will be provided for bidding and construction. Where possible, bid alternatives will be identified that will enhance competition among equipment suppliers resulting in lower project costs. Our recent Town Branch/West Hickman WWTP Electrical/SCADA/Blower project is a good example of structuring bid alternatives to maximize project funding.

Existing Blower Building

We will meet with LFUCG at the 25%, 50%, 75% and 90% stages of completion to review the design, solicit input and discuss costs and schedule.

Drawings will be developed during the final design phase. We anticipate the drawing set will include approximately 50 sheets, addressing demolition and new construction for process, structural, electrical and instrumentation disciplines.

Specifications will also be developed during the design phase. Strand will provide technical specifications, including Divisions 1 through 16. Division 0, including Parts I through IX will be based on LFUCG standard specifications. Strand is familiar with LFUCG specification requirements and understands how these documents are interfaced with the technical specifications.

Task 4 – Bidding Services

Strand will assist LFUCG during the bidding-phase of this project. Strand understands LFUCG's requirements and is experienced in providing these types of services for LFUCG projects. Bidding-phase services include all items contained in the RFP.

Task 5 – Contract Administration Services

Strand will support LFUCG during the construction phase of this project. Strand has recent experience providing these services to LFUCG on other wastewater improvements projects and has developed good working relationships with staff that complement our ability to provide these services. Construction-phase services include all items contained in the RFP.

Strand's construction-related services will be performed by people you know.

We will provide regular site visits to monitor the progress of construction. The actual number of hours at the site will vary during construction depending on the contractor's activities. We anticipate being on site an average of 4 hours per week during the duration of construction, in addition to monthly progress meetings. The proximity of our office to the Town Branch WWTP site makes these visits very efficient and flexible.

Strand's overall fee is summarized in the following Fee Schedule. The total effort for all tasks represents approximately 1,490 staff hours.

Investigation/Design Services for Town Branch WWTP
Aeration Improvements Project

Fee Schedule

(For a description of each section and task refer to Section 2 and 3 of the RFP)

Section 2

Scope of Work: Aeration Improvements Project

A. Task 1: Existing Aeration Process Operations Review

Cost Task 1: $10,000

B. Task 2: Develop Equipment/Process Replacement Concepts

1. Blower Evaluations/Design $7,000
2. Aeration System and Related Equipment $7,000
3. Odor Control $7,000
4. Building Improvements $8,000

Cost Task 2: $29,000

C. Task 3: Detailed Desgin

Cost Task 3: $136,000

D. Task 4: Bidding Services

Cost Task 4: $18,000

E. Task 5: Construction Administration Services

Cost Task 5: $105,000

Details for Task 5.5 - The total cost should be included in Cost Task 5. Please provide the following breakdown. Estimated Weekly Inspection Hrs/Estimated Total Inspection Hrs/Hourly Rate.

4 hours/week / 312 hours total / $115/hr.

Section 2 Total Cost: $298,000

Estimated Schedule

Strand's Project Schedule and Staffing Plan Provide Engineering Support to Meet December 2021 Consent Decree Completion Date

The Aeration Improvements Project must be completed prior to December 31, 2021, to meet EPA Consent Decree requirements. We understand the critical nature of completing the project on time and have developed a project schedule and staffing plan to meet critical project milestones. Strand's Project Team fully understands project requirements and is available to begin work immediately.

Strand project schedule meets EPA Remedial Measures Plan completion schedule.

The schedule on the following page shows project final completion by October 31, 2021, with engineering evaluation beginning in June 2018. The schedule allows five months to complete the operations review and the preliminary engineering report. The schedule allows eight months for design. We recommend KDOW review and approval is required to modify the aeration process. Our recent experience with KDOW permitting indicates the approval process will take approximately two months. Once KDOW approval be obtained, bid documents will be issued to solicit bids from contractors. The bid process will take approximately three months to receive bids and obtain LFUCG Council approval. Once awarded, the construction contract duration is 24 months.

We have prepared a construction phase Gantt chart showing reasonable schedules for shop drawings and equipment fabrication and delivery. Allowing the contractor 24 months for construction provides four months of float. The 24-month construction period anticipates equipment deliveries within seven months of contractor Notice to Proceed. Our schedule predicts an early completion and generous float before reaching the Consent Decree deadline.

The schedule on the following page includes two other Consent Decree Remedial Measures projects currently in construction. The project schedules allow the aeration improvements design to be completed without impact to your Town Branch Digester and West Hickman Scum Projects that we are also assisting with. The Strand Project Team has the experience and availability to meet your project needs.

DEGREE OF LOCAL EMPLOYMENT

Our Lexington-Based Project Team Will Maximize Local Employment

Selection of Strand for this project will maximize local employment utilizing our Lexington office staff to manage and deliver the project. Our Project Team is local and invested in many aspects of our community. We have established working relationships with LFUCG DWQ engineering and plant operations personnel. The following illustrates that our Lexington office and Project Team is local with team members that live in Lexington and have supported LFUCG initiatives for over 30+ years.

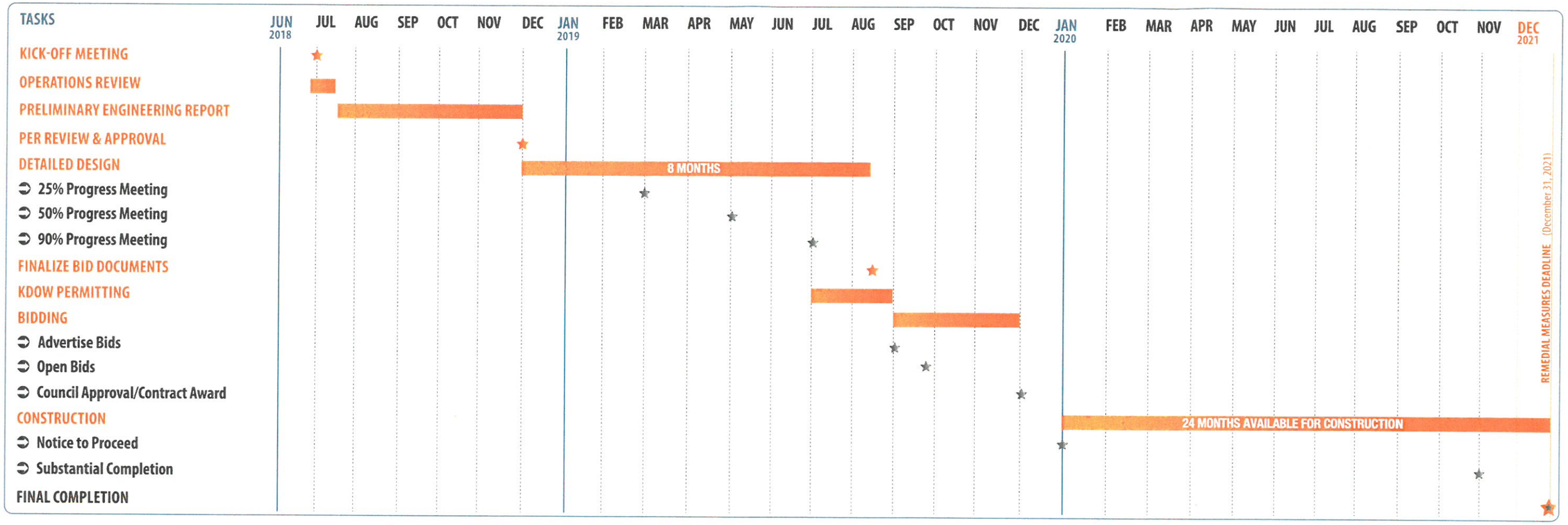
Our Lexington-based Project Team maximizes LFUCG's local employment objectives

Our Lexington Office is Local

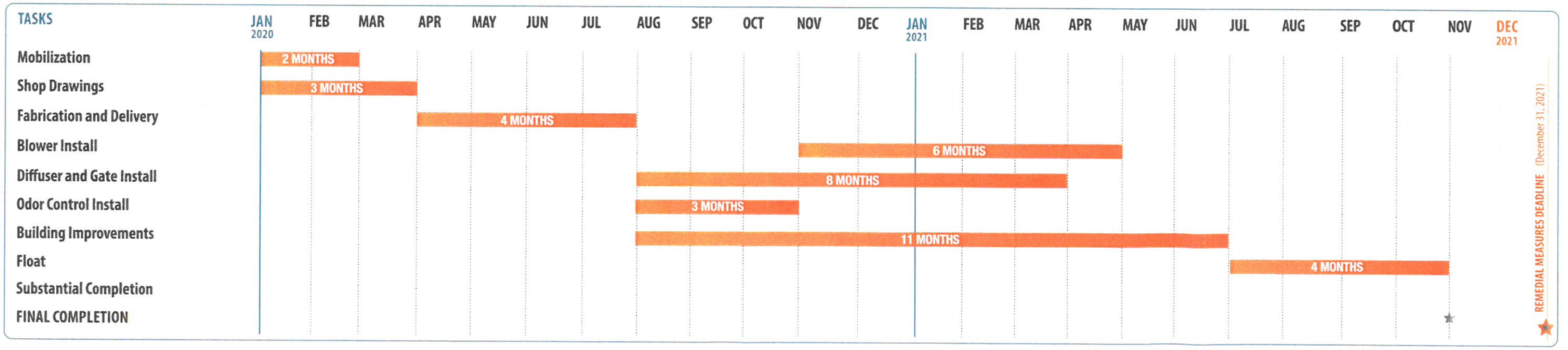
- Founded in 1968 (Six Years before Lexington and Fayette County Governments merged).
- Provided continuous record of service to Lexington since 1968.
- Local Design Team members have over 30 years of project experience serving LFUCG on major wastewater treatment projects.
- Four miles separate our Lexington Office and the Town Branch Wastewater Treatment Plant.

STRAND ASSOCIATES

Town Branch WWTP Aeration Improvements Project Schedule



Anticipated Construction Schedule



Strand's DBE Participation Provides Project Consistency and Meets LFUCG Goal

As a firm that supports initiatives of our local government, we endeavor where practical to incorporate MWDBE participation goals in our contracting opportunities. Toward this end, our Project Team includes Magna Engineers (Magna), a WBE firm that has an office in Lexington. Strand frequently works with Magna on projects similar to the Town Branch Aeration Improvements project. Magna's participation supplements the Strand Project Team's local employment.

Our Project Team is structured to meet LFUCG's DBE participation goal utilizing experienced professionals.

CAPACITY TO PERFORM WORK

Our Team is Available to Start Work Immediately and has Capacity to Meet LFUCG's Schedule

Strand coordinates staff assignments corporate-wide through a scheduling system. This allows us to make sure the right staff are available at the right time for each of our projects. The following table shows staff availability and project requirements for the next 12 months beginning in June 2018.

Our Project Team can start work immediately and has the capacity to complete this important project on time.

12-MONTH CAPACITY	Mike Davis		Mark Sneve		Emily Epperson		Ken Tran		Matt Smith		Randy Wirtz		Troy Larson		Adam Weber		Brendan Kress	
	REQ'D	AVL	REQ'D	AVL	REQ'D	AVL	REQ'D	AVL	REQ'D	AVL	REQ'D	AVL	REQ'D	AVL	REQ'D	AVL	REQ'D	AVL
JUN-18		90		99		78		71		31		32		33		13		13
JUL-18		58		108		87		111		56		90		34		62		48
AUG-18		53		104		94		160		61		114		84		31		91
SEP-18		78		83		127		118		51		100		63		18		122
OCT-18		123		111		135		96		34		102		83		137		151
NOV-18		115		118		127		79		103		116		111		141		130
DEC-18		115		109		127		79		114		116		138		110		129
JAN-19		119		109		127		100		117		118		114		142		154
FEB-19		121		127		135		108		122		118		40		115		167
MAR-19		129		139		135		120		155		116		37		125		167
APR-19		164		158		136		132		172		142		28		123		170
MAY-19		160		154		132		128		168		138		168		161		166
TOTAL	100	1,325	140	1,419	220	1,440	100	1,278	80	1,184	30	1,302	24	933	80	1,178	40	1,508

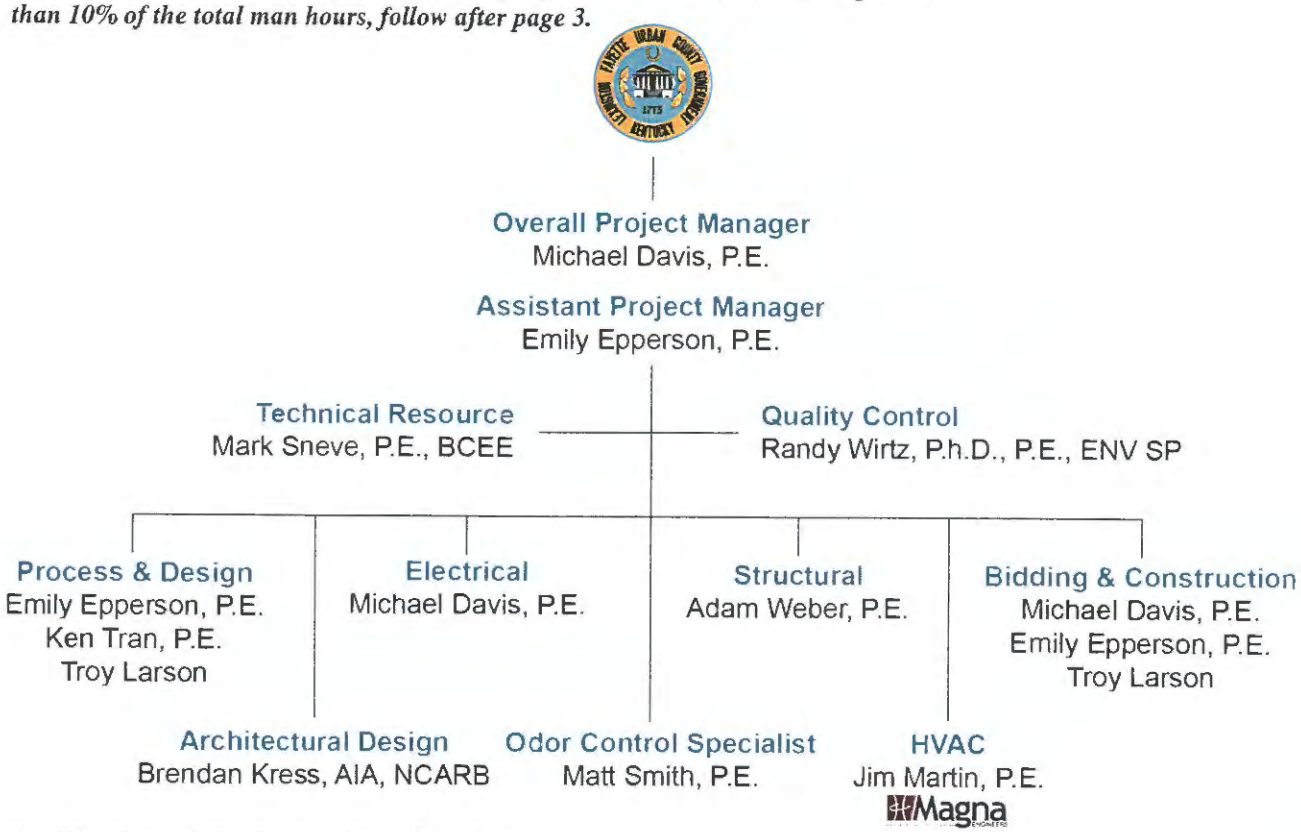
Project Team

Strand's Project Team Provides the Proven, Successful Experience that Delivered the West Hickman Blower/Aeration Project

Our Project Team was assembled to provide all the technical expertise required to see this project through to a successful completion. Our Team includes individuals who have an overall understanding of wastewater treatment process, have intimate familiarity with the Town Branch treatment plant, a proven track record on your companion project at West Hickman, and have lengthy professional careers successfully providing these services for Lexington-Fayette Urban County Government (LFUCG) and other municipal utilities.

Our Team has the requisite credentials and capabilities and is committed to the successful completion of this project.

In addition to technical expertise, our Team Members have availability to provide the level of service required in the available project time schedule. Our organization chart is structured to take advantage not only of expertise, but available time. Our Project Team is organized to share tasks in an efficient manner, resulting in project delivery to meet the consent decree deadline. ***One-page resumes of key team members, contributing more than 10% of the total man hours, follow after page 3.***



Qualifications of Key Project Team Members

MICHAEL DAVIS, P.E. – OVERALL PROJECT MANAGER

Mike has over 35 years of experience serving LFUCG on numerous wastewater treatment projects. He has served as **Strand Project Manager** for many LFUCG projects, including the Town Branch/West Hickman WWTP Electrical/SCADA Improvements project. Mike has served as project manager and project engineer on projects at Town Branch WWTP since the late 1980s, including the original blower improvements. His project experience also includes the West Hickman Aeration/Blower Improvements project that provided a similar aeration system upgrade. Mike will be assisted through design, bidding and construction by Team Members that are familiar with LFUCG project administration. Mike will also serve as the electrical and SCADA project engineer.

RANDALL WIRTZ, PH.D., P.E., ENV SP – QUALITY CONTROL

Randy will be responsible for the **Quality Control** of this project. Randy is a licensed professional engineer with 23 years of project experience. He has extensive experience in planning and design of biological treatment facilities, odor control facilities, chemical treatment systems, sludge dewatering systems, biosolids stabilization facilities, disinfection facilities, and pumping and conveyance facilities. Randy was the principal author of the recently completed Town Branch Digester Gas Master Plan. Randy brings the perspective of dozens of similar projects to his role as Quality Control reviewer.

MARK SNEVE, P.E., BCEE – PLANNING & DESIGN TECHNICAL RESOURCE

Mark will assist Mike and Emily during the **planning and design phases** and serve as a key resource during the **bidding and construction** phases. Mark is a licensed professional engineer, with 29 years of project experience. Mark has extensive experience providing engineering services for major wastewater plant expansions and is very familiar with the Town Branch WWTP. Mark evaluated treatment expansion needs during the last facilities plan update. He also completed the phosphorus removal study for Town Branch, worked on the Headworks Improvement project and managed design activities for the Primary Digester Complex Improvements project. Mark has planned and designed aeration facilities for your West Hickman plant and many other treatment plants.

EMILY EPPERSON, P.E. – PROCESS & DESIGN/CONTRACT ADMINISTRATION

Emily will serve as **Assistant Project Manager and Process Engineer** through **design, bidding and construction** on this project. Emily has 5 years of experience, which includes recent LFUCG wastewater experience providing RPR services for the West Hickman Blower Improvements project and design for the Town Branch Primary Digester Complex Improvements project. She has also completed studies to evaluate operation and treatment efficiencies of water and wastewater treatment facilities. She will serve as project engineer during design and will provide **contract administration and RPR services** during construction.

KEN TRAN, P.E. – PROCESS & DESIGN

Ken will serve as **Process Engineer** during design. Ken has a Master's degree in environmental engineering, with over 19 years of experience in planning and design of WWTPs and WWTP improvements projects. Ken has served LFUCG on recent projects including the blower and aeration improvements of the West Hickman WWTP Electrical/SCADA Improvements project. Ken has supported Mike Davis and Mark Sneve on many other WWTP design projects for Kentucky clients.

TROY LARSON – OPERATIONS

Troy will be the **plant operations specialist** for this project. Troy received his B.S. degree in Biology and has 22 years of broad experience in the wastewater operations field, including plant operations. He has operated treatment facilities, worked as a soils technician, and currently works to support our wastewater treatment facility planning, design, and construction-related projects with input from the operator's perspective. Troy has an extensive background in the optimization and control of wastewater treatment processes. He has performed in a similar role for LFUCG projects, providing operator-focused input for wastewater system design, and providing follow-up services to help optimize treatment operation.

MATT SMITH, P.E. – ODOR CONTROL SPECIALIST

Matt will be the **odor control specialist** for this project. Matt received his Master's degree in civil engineering and has 13 years of experience in planning and design of wastewater treatment and collection systems including expertise in chemical and biological odor control. Matt has odor control experience with Joliet Aux Sable WWTF Upgrades and several other facilities in Indiana, Star City WWTP in Morgantown, West Virginia, and Kankakee River Metropolitan Agency in Kankakee, Illinois. Matt completed an odor control study for Clay Township Regional Waste District in Indiana. He is knowledgeable on available odor control technologies and will be able to assess LFUCG's specific needs at Town Branch WWTP.

ADAM WEBER, P.E. – STRUCTURAL DESIGN

Adam has16 years of experience providing structural design and contract administration services for water and wastewater treatment plant facilities, pump stations, industrial buildings. His design work includes the use of structural design software, 3D frame modeling, and finite element analysis of plates, tanks, and slabs. Adam will provide structural engineering support during design and construction phases of this project.

BRENDAN KRESS, AIA, NCARB – ARCHITECTURAL DESIGN

Brendan Kress, has 17 years of experience in space needs studies and programming, architectural design, interior space planning, and other aspects of architecture. He is also proficient in the production of two- and three-dimensional presentation renderings, including modeling using Building Information Modeling (BIM) technology. Brendan has provided architectural services on many of our wastewater treatment plant projects. Typical architectural services include space needs plan development, building general arrangement, laboratory design, and architectural design of building exteriors.

SUBCONSULTANT PARTICIPATION

Magna Engineers, a Lexington-based woman-owned business, is a regular participant on Strand Project Teams, and will provide mechanical engineering planning, design and construction-related services. This is a role Magna recently performed as part of our team on the Town Branch WWTP Primary Digester Complex Improvements project. We have developed a successful working relationship with Magna through collaborating on five WWTP projects.

Magna provides our Team with to meet the 10% DBE participation goal subcontracting opportunities.

Character, Integrity, Reputation, Judgment, Experience and Efficiency

Strand's History of Success is Fostered by Helping Our Clients Succeed through Excellence in Engineering

We are proud of our reputation for quality work, technical expertise, and efficiency of production, which is complemented by the character and integrity of our respective employees. Strict adherence to an attitude of professionalism and objectivity toward all our clients has brought us success over the years, as evidenced by the longstanding history of our firm. Our record of success is firmly supported by this history and the volume of work we have been entrusted to administer on behalf of our clientele, many of whom we have maintained longstanding relationships spanning decades.

Excellence in engineering is a hallmark of our business philosophy.

Our work experience includes a wide variety of engineering projects, including wastewater treatment, stormwater management, environmental regulatory compliance, water supply projects, municipal engineering, transportation, structural, electrical, surveying and mechanical projects. As a full-service engineering firm, it is our practice to follow our projects through to construction completion and beyond, providing the necessary staff to perform office and field activities alike.

The table below highlights the volume of construction projects designed and bid by Strand. In addition, Strand provides a large volume of client service that does not result in construction for studies and other related field activities. We remain firm believers that the growth of this volume is indicative of our commitment to meeting client needs. ***For calendar year 2017, Strand was ranked in the Engineering News Record as 178th of the Top 500 Design Firms nationally and ranked 17th in the Nation as a Wastewater Design Firm by Engineering News Record Midwest.***

17th

WWTP DESIGN 2017

The following list shows, for our designs, the annual value and number of our construction contracts in each of the last 10 years.

Strand-Designed Construction Contracts		
Year	**No. of Contracts**	**Bid Amount**
2017	169	$320,000,000
2016	125	$365,000,000
2015	128	$320,900,000
2014	84	$144,900,000
2013	120	$193,000,000
2012	126	$161,900,000
2011	126	$193,600,000
2010	84	$218,800,000
2009	122	$238,300,000
2008	104	$101,600,000
2007	128	$138,300,000

Strand has been a part of the Lexington community for more than 50 years. During this time, we have served LFUCG on numerous major wastewater treatment projects. Our ***Character, Integrity, Reputation, Judgment, Experience and Efficiency*** are demonstrated by our long-standing working relationship with LFUCG, and the interaction of our Project Team members with DWQ and Town Branch WWTP staff.

Our Character, Integrity, Reputation, Judgment, Experience and Efficiency are demonstrated by our years of consistent services to LFUCG.

Michael L. Davis, P.E.

Senior Associate

AREAS OF EXPERTISE

- Electrical Distribution
- Site Utilities
- Contract Administration
- Instrumentation and Control
- Wastewater Treatment

PROFESSIONAL EXPERIENCE

Wastewater Treatment Facilities experience includes project management and design for treatment plants up to 30 mgd. Responsibilities include management during the design, bidding, and construction administration phases of the project.

Sanitary Sewer Modeling experience includes project management for study and modeling of sanitary sewers within three major water sheds within Fayette County. Activities include setting modeling guidelines, developing field investigation techniques, and reviewing results to make recommendations for system improvements.

Site Utilities experience includes design and construction-phase services in support of municipal and commercial projects. Municipal project responsibilities included design and coordination with utility companies to provide appropriate services for water, sanitary sewer, natural gas, and electric services.

Sewer System Rehabilitation experience includes project management and design to rehabilitate sewer systems using a variety of rehabilitation methods including pipe bursting, slip-lining, and cured-in-place lining, in addition to traditional excavation types of repairs. Responsibilities include project planning, evaluation of existing pipe conditions, applying the different rehabilitation strategies and construction administration.

Electrical Instrumentation and Control experience includes design and construction-phase services for numerous projects including water and wastewater treatment plants, pumping stations, commercial office buildings, signals and lighting. Projects include distribution systems with voltages ranging from 120/240 volts to 12,470 volts. Instrumentation control experience includes PC-based SCADA systems with up to 60 remote sites, and PLC-based control systems and treatment process monitoring/control equipment to provide plant automatic control.

Pumping Station experience includes project management and design experience for wastewater pumping stations and force mains. Pump station sizes range from 35 to 15,000 gpm. Force mains range in diameter up to 30 inches, and lengths up to 24,000 feet.

Lexington-Fayette Urban County Government Town Branch/West Hickman WWTP Electrical, SCADA and Blower Improvements, Lexington, Kentucky – Project Manager and Electrical Engineer for $17 Million major electrical and SCADA improvements project. Project included SCADA replacement of Town Branch and West Hickman treatment facilities, and major electrical renovation at West Hickman.

Lexington-Fayette Urban County Government Town Branch and West Hickman WWTP WWTP Redundant Power, Lexington, Kentucky – Project Manager and Electrical Engineer for $500,000 electrical upgrade to provide dual electrical services to both wastewater treatment plants.

Lexington-Fayette Urban County Government – South Limestone, West Main Street, Vine Street, and East Main Street Streetscape Design, Lexington, Kentucky – Streetscape design project includes signal replacement, signing, sidewalk, delivery zones, on-street parking, pedestrian amenities, and landscaping. Led efforts for the electrical design for lighting and signal, including photometrics.

YEARS OF EXPERIENCE

35

YEARS WITH FIRM

35

EDUCATION

B. S. Electrical Engineering – University of Kentucky, Lexington, 1984

REGISTRATION

Professional Engineer in Kentucky, Alabama, and Mississippi

STRAND ASSOCIATES

Randall A. Wirtz, Ph.D., P.E., ENV SP

Senior Associate

AREAS OF EXPERTISE

- Biological Wastewater Treatment
- Chemical/Physical Treatment
- Municipal/Industrial Wastewater Treatment
- Solids Stabilization and Management
- Disinfection Odor Control
- Nutrient Removal

PROFESSIONAL EXPERIENCE

Municipal Wastewater Treatment experience includes planning and design of biological treatment facilities, odor control facilities, chemical treatment systems, sludge dewatering systems, biosolids stabilization facilities, disinfection facilities, and pumping and conveyance facilities.

Industrial Wastewater Treatment experience includes anaerobic and aerobic biological treatment processes, pH control, equalization, flotation/clarification, chemical processes, residuals/solids stabilization and management, odor control, and permitting assistance. Industrial wastewater experience includes dairy and cheese processing, meat processing, vegetable processing, snack food production, bakeries, dessert and candy processing, pharmaceutical, and chemical production.

Water Treatment experience includes design of pumping facilities, granular media filtration units, chlorination, fluoridation, and sludge dewatering and handling facilities.

PRESENTATIONS (Partial Listing)

- Codigestion Evaluation and Implementation presented at the 97th IAWEA Annual Conference, June 2015.
- Codigestion Evaluation and Implementation – Case Studies presented at the 88th CSWEA Annual Conference, May 2015.
- Dubuque's Nutrient Reduction Strategy – Wastewater Treatment & Watershed Approaches presented at the 96th IAWEA Annual Conference, June 2014.
- Estimating Codigestion/Cogeneration Capacity at Your WWTP presented at the 87th CSWEA Annual Conference, May 2014.
- Dubuque's Anaerobic Digestion and Cogeneration Facilities presented at the 95th IAWEA Annual Conference, June 2013.
- Moving Towards Net Zero Energy at WWTPs presented at the 95th IAWEA Annual Conference, June 2013.

PUBLICATIONS (Partial Listing)

- "Dubuque Water Pollution Control Plant – Conversion from Sludge Incineration to Anaerobic Digestion," with Tom Foltz and Jonathan Brown, presented at the Iowa Water Pollution Control Association Annual Technical Conference, Clinton, Iowa, June 10-12, 2009.
- "Effluent Phosphorus Limits – Impact on Plant Design and Operations," presented at the Ohio Water Environment Association Plant Operations Seminar, Columbus, Ohio, September 25-26, 2007.
- "Managing and Projecting a Significant Industrial Load Increase at an Enhanced Nutrient Removal POTW" with D. Ward and R. Javier, presented at the Industrial Water Quality 2007 Conference, Providence, Rhode Island, July 30-August 1, 2007.
- "Modern Concepts in Anaerobic Digestion," Contemporary Wastewater Treatment Plant Design and Operation, UW-Madison Extension Course, Madison, Wisconsin, 2002, 2001, 2000, and 1999.

YEARS OF EXPERIENCE

23

YEARS WITH FIRM

23

EDUCATION

Ph.D. Civil/Environmental Engineering – Iowa State University, Ames, 1994

M.S. Civil/Environmental Engineering – Iowa State University, Ames, 1992

B.S. Civil/Environmental Engineering – University of Wisconsin–Platteville, 1990

REGISTRATION

Professional Engineer in Wisconsin, Ohio, Missouri, Iowa, Illinois, and Arizona

AWARDS

2016 WEF Schroepfer Innovative Facility Design Medal for the Dubuque Water & Resource Recovery Center Upgrade

STRAND ASSOCIATES

Mark A. Sneve, P.E., BCEE

Senior Associate

AREAS OF EXPERTISE

- Wastewater Collection and Treatment Facilities
- Biological Processes
- Advanced Nutrient Removal
- Solids Handling Processes
- Combined Sewer System Studies
- Infiltration and Inflow Studies

PROFESSIONAL EXPERIENCE

Consulting experience in the field of environmental engineering with emphasis on wastewater treatment process selection, planning, treatment system design, construction coordination, startup and operator training

Wastewater Treatment experience includes serving as project engineer, assistant project manager, or project manager for efforts in facilities planning of major additions and upgrades for municipal wastewater treatment plants, process design for wastewater treatment facilities, additions to wastewater treatment plants with high industrial flows, **activated sludge process**, coordinator of construction efforts, serving as resident project representative, contributing to operation and maintenance manuals for various municipal wastewater treatment facilities, instructing staff on wastewater facility operation, and user charge system studies.

Combined Sewer Systems experience includes preparing CSO Operational Plans, Long-Term Control Plans, investigating solids and floatable control, water quality sampling, monitoring and data evaluation, Citizen Advisory Committees and negotiating Enforcement Actions with Agencies.

Specialized Field Service experience includes efforts in the area of litigation support, managing compliance with enforcement actions, industrial pretreatment permitting, industrial discharge monitoring, groundwater investigations, solids processing equipment evaluations, industrial sampling auditing, priority pollutant sampling, and coordination of WWTP effluent biomonitoring.

Laboratory experience includes serving as Director of Technical Activity for private laboratory. Responsible for laboratory quality assurance plan, troubleshooting, personnel, and financial aspects.

PUBLICATIONS
(Partial Listing)

- Simple Early Steps Toward Meeting Lower Phosphorus Effluent Limits with Randy Wirtz, Ph.D., P.E., presented at Ohio WEA 87th Annual Meeting, June 2013.
- Phosphorus Removal – Planning and Operational Strategies for Biological and Chemical Phosphorus Removal Facilities with Scott Stearns and Troy Larson, presented as a Webinar for Ohio WEA, September 2013.
- West Hickman Creek WWTP Blower Upgrade Reduces Power Consumption with Tiffany Rank, Jane Worton, and Mike Davis, presented at the Water Professional Conference, July 2013.
- Phosphorus & Nitrogen Removal in Wastewater, presented at the Kentucky Rural Water33rd Annual Conference, August 2012, and the Central Kentucky Water & Wastewater Operators Association Fall Conference, September 2012.
- Existing Water Quality Standards and Wet Weather Compliance Are Mutually Exclusive, Why? presented at the Water Professionals Conference, July 2011.

YEARS OF EXPERIENCE
29

YEARS WITH FIRM
29

EDUCATION
M.S. Civil/Environmental Engineering – University of Iowa, 1989

B.S. Civil/Environmental Engineering – University of Iowa, 1987

REGISTRATION
Professional Engineer in Kentucky, Indiana, Ohio, Alabama, Mississippi, and Wisconsin

Board Certified Environmental Engineer, American Academy of Environmental Engineers and Scientists

STRAND ASSOCIATES

Emily L. Epperson, P.E.

AREAS OF EXPERTISE

- Water Distribution Systems
- Wastewater Collection Systems
- Intersection Safety
- Wastewater Treatment
- MicroStation and AutoCAD Drafting

PROFESSIONAL EXPERIENCE

Wastewater Treatment experience includes design and construction related services for LFUCG wastewater improvements at the Town Branch and West Hickman Wastewater Treatment plants. Projects include West Hickman Aeration Blower Improvements and Town Branch Digester Complex Improvements.

Water Distribution experience includes design for Jackson Energy Authority in Jackson, Tennessee. She was responsible for plan and profile design of water line extensions and relocations throughout the system.

Wastewater Collection experience includes design for Jackson Energy Authority in Jackson, Tennessee. She was responsible for plan and profile design of sewer line installations throughout the system. Additional experience in Mercer County, Kentucky with design of low pressure sewer systems.

Intersection Safety experience includes recommendation of corrective measures to remedy high-crash counts at stop-controlled intersections. Recommendations were submitted to the Tennessee Department of Transportation.

Field experience includes GPS mapping of existing and proposed water and wastewater mains, and field safety audits of high-crash, stop-controlled intersections.

PROFESSIONAL AFFILIATIONS

- American Society of Civil Engineers
- American Water Works Association

YEARS OF EXPERIENCE

5

YEARS WITH FIRM

5

EDUCATION

B.S. Civil Engineering – Tennessee Tech University, Cookeville, Tennessee, 2013

REGISTRATION

Professional Engineer in Kentucky

STRAND ASSOCIATES

Kenneth H. Tran, P.E.

Senior Associate

AREAS OF EXPERTISE

- Wastewater Engineering
- Water Engineering
- Conveyance System

PROFESSIONAL EXPERIENCE

Ken's experience has been focused in treatment processes and pump station design and planning. He will assist with our blower design, as he did on the West Hickman companion project. Ken has participated in wastewater treatment design projects in four states, Ken is one of the Strand's most experienced designers. In Ken's 16-year tenure with our firm, he has participated in design of the following facilities:

- LFUCG – West Hickman Blower and Aeration Improvements
- Columbus, Indiana –Wastewater Treatment Plant (39 mgd).
- Columbus, Indiana – Haw Creek CSO Facility (240 mgd) – hydraulics only.
- D'Iberville, Mississippi – Wastewater Treatment Plant (12 mgd).
- Deerfield, Illinois – Wastewater Treatment Plant (27.5 mgd).
- Fond du Lac, Wisconsin – Wastewater Treatment Plant (50 mgd).

Benefit versus Cost of Stormwater Reuse – As part of his master's thesis, Ken studied the benefit versus cost of stormwater reuse for nonpotable usage in residential, commercial, and industrial settings. Costs associated with stormwater reuse include storage basins, treatment equipment, and distribution systems for nonpotable water. Areas where reused stormwater may prove beneficial include lawn and garden irrigation, car washing, cooling towers, and golf course irrigation. Feasibility was estimated by comparing water rates to costs of water reuse.

Preliminary treatment system design includes fine screens, grit removal and odor control

Wet weather sampling experience includes the MSD Water Quality Tool and ORSANCO projects. Ken helped make up the team of dedicated wet weather samplers during both of these projects located in Louisville, Kentucky.

Primary sedimentation system design experience includes primary clarifiers, primary sludge handling system design.

Blower design including high speed turbo blowers for LFUCG West Hickman and MSD Hite Creek WWTPs

Secondary clarification system design including final clarifier, returned activated sludge pumps design.

Liquid chlorination and dechlorination system design.

UV disinfection and postaeration system design

Design and development of biosolids handling system including the aerobic digesters, blowers, gravity thickener, waste activated sludge pumps, and thickened waste activated sludge pumps.

Process return flow including pumping station design.

Wastewater conveyance system design experience includes sanitary sewer, lift station and force main.

Construction includes construction management, construction observation and cost estimation.

YEARS OF EXPERIENCE

16

YEARS WITH FIRM

16

EDUCATION

M.S. Civil Engineering – Iowa State University, Ames, 1998

B.S. Civil Engineering – University of Iowa, 1997

REGISTRATION

Professional Engineer in Kentucky

STRAND ASSOCIATES

Troy A. Larson

AREAS OF EXPERTISE

- Wastewater Operations Specialist
- Wastewater Process Control
- Wastewater Treatment Plant Operator Training
- Wastewater System Date Management
- Wastewater Laboratory Analysis
- Biological Wastewater Treatment

PROFESSIONAL EXPERIENCE

Operations Specialist experience includes start-up services, operator training, microscopy evaluations, and troubleshooting.

Wastewater Treatment Operator experience includes operating, monitoring, and controlling a high-rate anaerobic and aerobic wastewater treatment system for a high-strength dairy wastewater.

Wastewater Treatment Plant Start-Up and Operator Training experience includes monitoring and controlling a wastewater treatment plant during major upgrades.

Lab Analysis experience includes performing an analysis on wastewater and groundwater including quality control, and reporting of the data following the analysis.

Waste Removal experience includes safe and proper application of wastewater treatment sludge and industrial and crop wastes to farmland.

Wastewater System Data Management experience includes assistance with the organization and set up of data management databases.

Utility Construction Observation on various municipal projects.

Project Management experience related to planning studies, wastewater operations, and groundwater monitoring-related services.

Industrial Wastewater Characterization experience includes evaluation of products, raw materials, cleaning chemicals, and other factors that might impact wastewater treatment and pretreatment systems.

Pollutant Minimization Project experience includes industry and community involvement in mercury source control projects.

PRESENTATIONS (Partial Listing)

- Delivered presentation on Energy Optimization in activated sludge at the 2000 WWOA Annual Conference in Green Bay, Wisconsin.
- Presented an overview of the phosphorous rule updates and the impact expected at municipal wastewater treatment plants to the League of WI Municipalities 2010 Annual Conference.
- Presented Succession Planning at the 2010 WWOA Annual Conference. Wrote an article for the organizations magazine (The Clarifer) at the request.
- Presented an overview of the phosphorus rule updates and he impact expected at municipal wastewater treatment plant to the League of Wisconsin Municipalities 2010 annual conference.
- Presented succession planning presentation at the 2010 WWOA Annual Conference.

CONTRIBUTING AUTHOR

- Biological Nutrient Removal Operation in Wastewater Treatment Plants. Published as Manual of Practice 29 by the Water Environmental Federation (WEF), American Society of Civil Engineers (ASCE) and Environmental and Water Resources Initiative (EWRI).

PROFESSIONAL AFFILIATIONS

- Water Environment Federation
- Central States Water Environment
- Association (Wisconsin Section Operations Chair)
- Wisconsin Wastewater Operators Association (Technical Committee Member)

YEARS OF EXPERIENCE

23

YEARS WITH FIRM

22

EDUCATION

B.S. Biology – University of Wisconsin-Whitewater, 1995

REGISTRATION

Certified Wastewater Operator in Wisconsin

STRAND ASSOCIATES

Matthew L. Smith, P.E.

AREAS OF EXPERTISE

- Wastewater Treatment Design
- Odor Control System Design
- Collection System Design
- Wastewater Regulatory Affairs
- Water Treatment Design

PROFESSIONAL EXPERIENCE

Wastewater Engineering experience includes design of municipal and industrial treatment plants, gravity sewers, force mains, pumping stations, and long-term service area studies. Led design work on the Michigan Road Wastewater Treatment Plant for Clay Township Regional Waste District, the Wastewater Treatment Plant Renovations for the city of Tipton, Indiana, the Wastewater Treatment Plant Renovations for the Town of Nashville, Indiana, Wastewater Treatment Plant Renovations in Garrett, Indiana, and the Water Services Company of Indiana WWTP in Demotte, Indiana. Matt was the Project Manager for a phosphorus compliance project at a Pharmaceutical Manufacturer. Matt designed the biological treatment and disinfection systems for the Oak Valley WRF in Homer Glen, Illinois, and the Columbus City Utilities New WWTP. Matt completed Tipton Municipal Utilities Long-Term Control Plan.

Odor Control Experience includes numerous types of odor control systems. Matt served as project manager or lead project engineer on the activated carbon system for the Arbeiter Road Influent Pumping Station in Joliet, IL, a biotrickling filter at the Decker's Creek pumping station in Morgantown, WV, a biofilter and chemical scrubber at the Star City WWTP in Morgantown, WV and a two stage biotrickling filter and biofilter at Clay Township Regional Waste district in Boone County, IN. Matt assisted with the design of a two stage biofilter and activated carbon unit in Bargersville, IN. Matt assisted with the startup, checkout and commissioning of an activated carbon unit (Kankakee, IL) as well as two biofilters and a chemical scrubber for the Kankakee River Metropolitan Agency (KRMA) in Kankakee, IL.

Conveyance System Engineering experience includes design and resident engineering experience for sanitary sewers and sanitary sewer evaluation studies (SSES). Completed the Joliet Aux Sable Creek Basin's long-term planning area study and design of the influent pumping station and force main. Matt has been involved in several lift station planning design and construction projects for Clay Township Regional Waste District. Matt led the long-term conveyance and treatment efforts planning for the Town of Bargersville, Indiana and the City of Columbus, Indiana. Matt was the lead engineer for the lift station and force main project from the Town of Kempton, Indiana to the City of Tipton, Indiana.

Engineering experience includes storm sewer, general site and detention basin design. Designed the control, pumping station, and site plan for the Fond du Lac Water Pollution Control Plant upgrades. Led the design efforts for the City of Indianapolis Lift Station 508 Bar Screen Replacement Project. Matt has led the design efforts for numerous sewer separation projects in Tipton, Indiana.

Remediation Engineering experience includes conducting a year-long USEPA-sponsored study in the remediation of chlordane in sediments.

Drinking Water Engineering experience includes design and resident engineering of water main projects. Led design efforts on the Bargersville Utilities Water Treatment Plant No. 2 project, a 6.0 mgd fluidized bed reactor facility.

PROFESSIONAL AFFILIATIONS

- Water Environment Federation

YEARS OF EXPERIENCE

14

YEARS WITH FIRM

14

EDUCATION

M.S. Civil Engineering – Purdue University, West Lafayette, Indiana, 2004

B.S. Civil Engineering – Purdue University, West Lafayette, Indiana, 2002

REGISTRATION

Professional Engineer in Indiana

STRAND ASSOCIATES

Adam D. Weber, P.E.

AREAS OF EXPERTISE

- Structural Design of Bridges
- Structural Design of Retaining Structures
- Structural Design of Wastewater and Water Treatment Facilities
- Structural Design of Industrial Buildings
- Structural Design of Underground Utility Structures

PROFESSIONAL EXPERIENCE

Adam's consulting experience is in the field of structural engineering with emphasis wastewater and potable water treatment plants, retaining structures, hydraulic structure design and industrial facilities.

Municipal Wastewater experience includes structural design of wastewater treatment plant facilities and pumping stations utilizing cast-in-place concrete, precast concrete, masonry, and structural steel for communities in Kentucky, Indiana, Illinois, Wisconsin, West Virginia, Mississippi, and Alabama. Design work includes finite element modeling of plates, tanks, and slabs.

Municipal Water experience includes structural design of water treatment plant facilities, pumping stations, potable water reservoirs and chemical feed buildings for communities in Kentucky, Ohio, and Wisconsin. Inspection experience includes structural inspections and recommendations for in-ground water storage reservoirs in Kentucky and Ohio.

Industrial Building experience includes structural design for new facilities and modifications to existing facilities for several industrial clients including Dial, GM, and Quaker-Tropicana-Gatorade. Design work includes the use of structural design software and modeling of structures using 3D frame and plate analysis programs.

Project Management experience includes the Legacy Trail Feasibility Study, Legacy Trail Phases 1 and 2 Design, Appomattox Road Culvert Replacement project, and the Salt Barn Site and Facility Design for the Lexington-Fayette Urban County Government. Adam has also managed several potable water reservoir projects for the Frankfort Plant Board and a large sanitary sewer line extension construction project for the Jessamine-South Elkhorn Water District.

Bridge Design (Kentucky) experience includes field survey; preparation of plans, specifications, and estimates; final structural design for multispan reinforced concrete slab bridges, box culverts, three-sided bridges, pedestrian bridges, and retaining structures; development of aesthetic surface treatments for retaining walls and wingwalls.

Bridge Design (Wisconsin) experience includes field survey; preparation of plans, specifications, and estimates; construction observation; final structural design for single span and multispan reinforced concrete slab bridges, box culverts, pedestrian bridges, sign bridges, retaining structures and junction chambers; development of aesthetic details, surface treatments, and related specifications for bridge railings, abutments, wingwalls, and retaining walls.

Bridge Design (Illinois) experience includes type, size and location plan preparation (TS&L); preparation of plans, specifications, special provisions, and estimates; final structural design of single and multispan reinforced concrete slab and prestressed girder structures and box culverts. Bridges designed for county, state trunk highway systems, and tollway systems, which include new designs, replacements, and rehabilitation and widening.

Bridge Design (Ohio) experience includes preparation of plans, specifications, and estimates and final structural design for three-sided arch bridges, including spread footings, pedestal walls, and cast-in-place concrete wingwalls and headwalls.

YEARS OF EXPERIENCE

16

YEARS WITH FIRM

16

EDUCATION

B.S. Civil Engineering (Emphasis on Structural Engineering) – Rose Institute of Technology, Terre Haute, Indiana, 2000

Minor in Environmental Engineering – Rose- Institute of Technology, Terre Haute, Indiana, 2000

REGISTRATION

Professional Engineer in Kentucky, Mississippi, and Ohio

STRAND ASSOCIATES

Brendan M. Kress, AIA, NCARB

AREAS OF EXPERTISE

- Architectural Design
- Building Programming
- Historic Preservation
- Adaptive Reuse

PROFESSIONAL EXPERIENCE

Experience with projects from space needs study/programming, design and detailing, production of construction documents, and construction observation. Design and interior space planning, finish material, color and furniture selection. Proficient in the production of two- and three-dimensional presentation renderings. Training and studies have focused on the preservation and adaptive reuse of existing buildings.

Municipal Design experience includes municipal buildings, public works facilities, emergency facilities, and educational and recreational facilities. Historic preservation and adaptive reuse projects include:

- City Hall and Senior Center* – Lancaster, Wisconsin
- Lapham Elementary School Remodeling** – Madison, Wisconsin
- Village Hall and Police Department – Poynette, Wisconsin
- Municipal Building Renovation – Darlington, Wisconsin
- City Hall Renovation – Tomah, Wisconsin
- Whitewater Armory Remodeling – Whitewater, Wisconsin
- Waupaca Police Department – Waupaca, Wisconsin

*National Register
**National Works Progress Administration (WPA)

- **Space Needs Assessment – Lake Mills, Wisconsin** – Brendan conducted this study to determine the present and future space needs for the Streets Department, Light and Water Utility, and Parks and Forestry Department. The study included a structural analysis to determine renovation possibilities of the existing Parks and Forestry Department. Building concept plans and opinions of probable costs were provided to assist in determining the feasibility of renovation, expansion, and/or new construction.
- **Utility Office and Garage Feasibility Study – Mount Horeb, Wisconsin** – The Mount Horeb Utility Garage and Office Facility consists of a 10,000-square-foot, four-bay garage with wash bay and a 2,320-square-foot office area. The garage contains a 1,800-square-foot mezzanine for mechanical equipment and storage, as well as water and electric meter testing and storage facilities beneath the mezzanine. The office portion of the building includes two private offices, an open office area, training room, men's and women's restrooms with shower, mudroom, IT room, and storage. The garage portion is a pre-engineered metal building.
A challenging aspect for this project was managing the vehicle traffic patterns on a tight site. 3D visualization and traffic modeling proved useful in evaluating the issue. We also assisted the Village in obtaining permission from the Wisconsin Department of Natural Resources (WDNR) to construct the building on an area of the site where solid waste had been buried years ago. The process of deep dynamic compaction was used to prepare the site and saved the Village the hundreds of thousands of dollars it would have cost to excavate and haul the waste to a landfill.

YEARS OF EXPERIENCE
17

YEARS WITH FIRM
17

EDUCATION
Master of Architecture – University of Wisconsin-Milwaukee, 2000

Certificate in Historic Preservation – University of Wisconsin-Milwaukee, 2000

B.S. Architecture – University of Wisconsin-Milwaukee, 1998

REGISTRATION
Registered Architect in Illinois, Indiana, Kentucky, Texas, and Wisconsin

National Council of Architectural Registration Boards Certification

STRAND ASSOCIATES

Similar Projects

Strand's Proven Service and Commitment to LFUCG Demonstrates Our Ability to Serve LFUCG Effectively on this Project

Strand has been providing consistent and dependable engineering services for public and private sector clients since 1946. To serve our national client base, we have nearly 415 staff in 11 offices throughout the country, including our office in Lexington, Kentucky. Our Lexington-based staff have an established track record serving LFUCG since 1968. Wastewater is a major area of specialized experience for our company. After 72 years of success, we have grown into a significant wastewater engineering firm that is ranked among Engineering News Record Midwest as a Top 20 Wastewater Firm, of which we were ranked 17th in 2017. Our Project Team provides the capabilities of a nationally recognized firm, with service from our local Lexington staff. Our Project Team brings the following key attributes to this important LFUCG project.

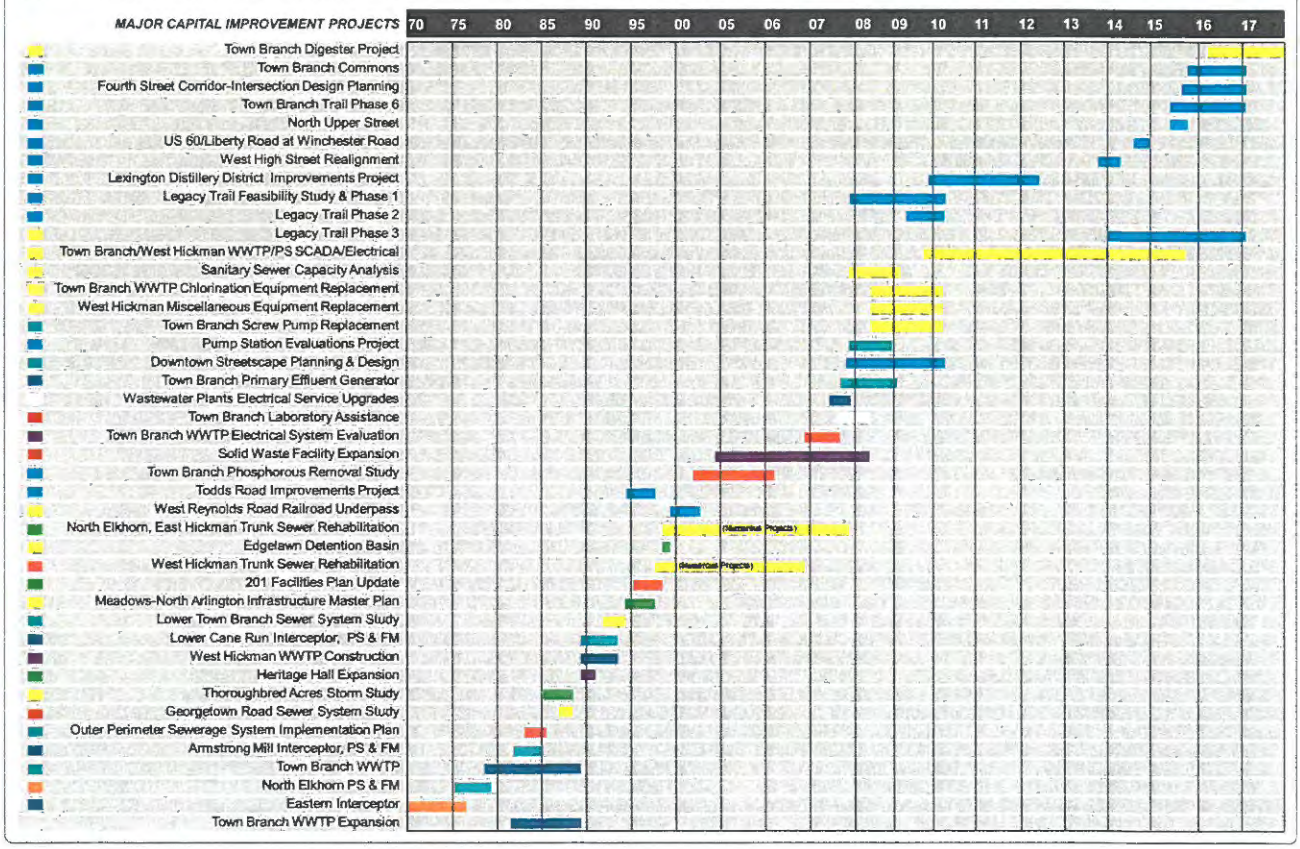
Strand has provided engineering services for LFUCG WWTP projects for over 34 years.

PAST RECORD OF PERFORMANCE

Strand has served LFUCG continuously and successfully since 1968. We are proud of our record of performance and the privilege to be of service to the Urban County Government and to the community. Strand has provided a broad range of wastewater engineering services from initial planning through design and construction. In recent years, we provided engineering services for the Town Branch Primary Effluent Pump Station Improvements project, Town Branch Electrical and SCADA Improvements Project, Town Branch Primary Digester Complex Improvements, West Hickman Blower/ Aeration Improvement project and the West Hickman Scum project.

Strand's working knowledge of Town Branch Treatment facilities and operations results in solutions custom tailored to specific needs.

Continuous, Proven and Unmatched Record of Service to LFUCG



SPECIALIZED EXPERIENCE

Strand's Understanding of the Town Branch Operations Results in Seamless Integration of Process Improvements

For a project of this nature to be successful, it must incorporate input from LFUCG staff that are responsible for these facilities on a daily basis. Strand's approach to project development emphasizes owner input. Beginning with the project kick-off meeting and continuing through all phases of project development, Strand will engage LFUCG operations and engineering staff to obtain input regarding equipment and process upgrades. This input, combined with Strand's engineering expertise, will result in efficient, cost-effective systems. Strand has demonstrated this approach through prior projects completed with the LFUCG Division of Water Quality.

Town Branch Waste Water Treatment Plant.

In addition to our broad LFUCG wastewater experience, we have significant experience implementing similar aeration projects for LFUCG and other municipal clients as shown below. The Strand project team also includes engineers that were involved in tbe recent West Hickman blower and aeration system project. The following table provides brief project details on five applicable blower projects, followed by brief project descriptions for each.

Team's Demonstrated Experience					
Project Name	West Hickman Creek WWTP SCADA and Blower Upgrade	Waukesha WWTP Improvements	Hite Creek WQTC Expansion	Morris Forman WQTC Oxygen Supply Upgrade	Upper Olentangy Water Reclamation Center Aeration Improvements
Project Year	2014	2015	2017	2017	2016
Client Name	LFUCG	Waukesha, WI	Louisville MSD	Louisville MSD	Delaware, OH
Client Contact	Tiffany Rank,P.E., 859-425-2406	Jeff Harenda, 262-524-3629	Sharon Worley, P.E., 502-540-6744	Alex Novak, P.E., 502-540-6793	Brad Stanton, 740-203-1903
Blower Size	2 @ 9,000 scfm, 2 @ 4,800 scfm	*3 @ 6,000 scfm*	*3 @ 5,230 scfm, 1 @ 3,900 scfm, 2 @ 2,700 scfm*	4 @ 6,500 scfm	2 @ 3,200 scfm
Manufacturer	Sulzer	Neuros	Sulzer, Neuros	Roots (by Praxair)	Sulzer
Bearing Type	Magnetic	Air	Evaluation of Air vs. Magnetic	Rotary Lobe	Magnetic
Mechanical, Instrumentation & Electrical Upgrades	Included SCADA upgrades, power substation improvements, updated motor control centers	Included high-voltage system improvements, SCADA system upgrades, HVAC equipment replacement and fire protection	Included SCADA upgrades, instrumentation, electric, and HVAC improvements	Included SCADA upgrades, instrumentation and electric improvements	Included SCADA upgrades, instrumentation and air distribution improvements

West Hickman Creek WWTP SCADA and Blower Upgrade – LFUCG, KY

We recently designed blower, electrical, and SCADA improvements to the 33.87 mgd West Hickman Creek Plant. Blower improvements were designed to provide greater operational control of processes and reduce power consumption. The West Hickman Creek plant operates with a biological phosphorus removal activated sludge process in the A/O configuration. Raw wastewater and RAS enter anaerobic treatment tanks (former primary clarifiers) and flow to two subsequent stages of aerobic process tanks. The eight single-pass, first stage aeration tanks (Zone 1) employ membrane panel diffusers and separate blowers. Six single-pass, second stage aeration tanks (Zone 2) are deeper and employ four 500 hp multistage centrifugal blowers. Zone 1 blowers operate at about 6.5 psi while Zone 2 blowers operate at about 9.0 psi. Excess output from Zone 2 blowers had been used to supplement a single Zone 1 blower. Blower control for the aeration blowers is entirely manual and the Zone 2 blowers do not offer the turndown necessary to prevent wasting of excess air.

Original multi-stage blower.

The project included competitive bidding between two blower types: high-speed turbo blowers and dual-vane controlled single-stage centrifugal blowers. Several alternatives were also designed and bid to allow LFUCG the flexibility to add project elements as their budget permitted. Annual and 20-year energy evaluations were made from information supplied at the time of bid to determine the most favorable alternative among the two blower designs. The selected improvements include:

- Two new 11.0 psi, 9,000 scfm, 526 hp high-speed turbo blowers (ABS-Sulzer) to operate continuously to meet process demands in Zone 2.
- Maintenance of two existing Zone 2 multi-stage centrifugal blowers to be manually controlled as base-flow blowers in the event the two new turbo blowers cannot meet process demands.
- Two new 8.0 psi, 4800 scfm 400 hp high-speed turbo blowers (ABS-Sulzer) to provide aeration to Zone 1 aeration witb manual control.
- Maintenance of existing Zone 1 multistage centrifugal blower with manual control.
- Replacement of membrane panel diffusers for Zone 1 aeration.
- A blower control system for Zone 2 to automatically distribute air to each aeration tank and adjust blower output based on Dissolved Oxygen (DO) measurements in the aeration tanks.
- New SCADA for all new blowers and DO control equipment to allow remote monitoring and set-point adjustment.

Example of new Sulzer Zone 2 blower (Source Sulzer).

Waukesha WWTP Improvements – Waukesha, WI

We completed facilities planning, design and construction-phase services for the City's 14 mgd design average flow, 54.5 mgd peak flow WWTP improvements. The total construction cost for this work was $44.9 million. Important issues addressed by our design include hydraulic bottlenecks and peak flow management, energy usage, aged equipment and structures, the need for improved digestion, and undersized disinfection facilities. A comprehensive review of all unit processes was conducted. One significant recommended improvement was replacement of the existing oversized and antiquated centrifugal blowers with state-of-the-art high-speed turbo blowers to provide improved process control and energy savings in the activated sludge process. The three new APG-Neuros High Speed Blowers operate at @ 350 HP and 6,000 scfm each, the two older centrifugal blowers were kept as a backup to the high-speed blowers. Additionally, an improved SCADA system was designed and implemented as a part of this project.
The new SCADA system with the Human Machine Interface (HMI) greatly increased the operator's ability to control equipment and unit processes. All existing and new equipment and unit operations were reviewed for operational functionality and nearly all instrumentation was replaced with modern equipment and graphics designed by us.
The project also included new SCADA telemetry at the major pumping stations.

Waukesha high-speed aeration blowers.

Hite Creek WQTC Expansion – Louisville and Jefferson County MSD, KY

Strand Associates was retained by MSD to design an upgrade to the 6.0 mgd Hite Creek WQTC to increase the peak hydraulic processing capacity from 16 mgd to 24 mgd. Improvements included increasing grit removal capacity, eliminating several in-plant hydraulic bottlenecks by upsizing process piping, adding a third 102-foot diameter final clarifier with a dedicated RAS and scum pumping station, installing a new effluent flow Parshall flume, increasing UV disinfection capacity and installing a new parallel outfall. In addition to the hydraulic improvements, the project also constructed a new chemical storage and feed building for phosphorus removal chemical addition and installation of a new real-time control system to optimize chemical feed.

Following the above improvement project, Strand was hired to design the expansion project at the Hite Creek WQTC, to increase rated capacity from 6 mgd to 9 mgd. This phase will include new bar screening, more aeration capacity, six new turbo blowers, new effluent filters, and new solids dewatering facility. The design and evaluation for the new turbo blowers looked at using either air bearing or magnetic bearing systems. Based on our evaluation the new blowers will include 3 @ 5,230 scfm, 1 @ 3,900 scfm, and 2 @ 2,700 scfm. Design has advanced on the magnetic bearing blower while MSD is deciding about also designing an air bearing blower and bidding both styles. The biological process will include the A^2O configuration for advanced nutrient removal.

Morris Forman WQTC Oxygen System Upgrade – Louisville and Jefferson County MSD, KY

MSD's largest regional treatment plant is the 120 mgd Morris Forman WQTC. The plant was constructed using a high purity oxygen activated sludge process due to the tight plant footprint and high strength waste it receives. The existing plant includes three cryogenic plants that produce 140 tons per-day of high purity oxygen that is used in the activated sludge process. We were retained by MSD to evaluate the economics of replacing the existing cryogenic plants or converting to a new oxygen generation process. Our August 2012 report recommended a conversion to a Vacuum Swing Adsorption (VSA) process and installation of two 60-ton per day plants and new liquid oxygen storage and vaporization equipment. In addition to changing the source of high purity oxygen, we recommended a more sophisticated demand-paced oxygen supply and control system to match oxygen production to real-time demand.

We were retained by MSD to design improvements to install a new VSA system in three distinct phases:

- Phase 1 – Bid and procure new oxygen production equipment.
- Phase 2 – Prepare the MF WQTC site for the delivery of new equipment through a capital project.
- Phase 3 – Install and commission the new oxygen production equipment.

The project included installing four 6500 scfm rotary lobe blowers as part of the Praxair VSA system. Our design included all necessary electrical improvements for the new blowers and related VSA equipment. Also included was a new SCADA-controlled air distribution system complete with motor-operated deck vent valves, motor operated inlet feed valves, oxygen mass monitoring, oxygen purity monitoring, and DO monitoring. The new instrumentation will distribute the flow of oxygen to each of five distinct oxygenation batteries.

Upper Olentangy Water Reclamation Center Aeration Improvement – Delaware, OH

We were hired to review the performance of the existing aeration blowers and air distribution system, and after evaluating alternatives, complete the design of the improvements. The City wanted to replace its existing multistage centrifugal aeration blowers with new turbo blowers to improve energy efficiency at the Upper Olentangy Water Reclamation Center. Our firm reviewed a previously prepared aeration system evaluation report and found a creative solution. We proposed to interconnect two air headers and provide sufficient air to all the aeration basins while replacing two blowers rather than the four that were anticipated, saving significant cost on the project.

We completed a thorough review of the current offerings from blower suppliers, including cost, efficiency, size, bearing design, resilience to power outages, maintenance requirements, and number of installations. Based on this review and subsequent site visits, the City selected a magnetic bearing turbo blower. In addition, control of the aeration system was improved by the installation of dissolved oxygen probes, air flow monitoring devices, and modulating control valves. A new PLC-based master control panel was added for monitoring and control of the aeration system, including dissolved oxygen readings, control valve positions, pressure readings from the air header, air flow readings, and monitoring and control of the existing and new blowers. This new master control panel also communicates with the existing plant SCADA system.

Following design, we provided bidding, project representative, start-up and project closeout services. We also assisted in procuring an energy efficiency incentive from AEP. Construction was completed in 2016.

Existing aeration blowers.

Refurbished or replaced aeration blowers.

AFFIDAVIT

Comes the Affiant, Matthew S. Richards, and after being first duly sworn, states under penalty of perjury as follows:

1. His/her name is Matthew S. Richards and he/she is the individual submitting the proposal or is the authorized representative of Strand Associates, Inc.®, the entity submitting the proposal (hereinafter referred to as "Proposer").

2. Proposer will pay all taxes and fees, which are owed to the Lexington-Fayette Urban County Government at the time the proposal is submitted, prior to award of the contract and will maintain a "current" status in regard to those taxes and fees during the life of the contract.

3. Proposer will obtain a Lexington-Fayette Urban County Govemment 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.

Matthew Richards

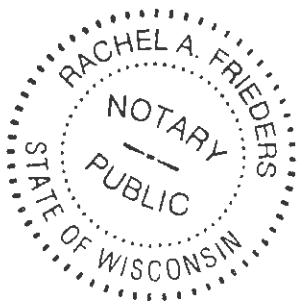
STATE OF Wisconsin

COUNTY OF Dane

The foregoing instrument was subscribed, sworn to and acknowledged before me by Matthew S. Richards on this the 2nd day of May, 2018

My Commission expires: March 21, 2021

Rachel A Frieders
NOTARY PUBLIC, STATE AT LARGE



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, 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, safely 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.

Matt Schickel
Signature

5/2/18
Date

EQUAL OPPORTUNITY AGREEMENT

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.

Matt Shirkey — *Signature*

Strand Associates, Inc. — *Name of Business*

STRAND
ASSOCIATES®

Strand Associates, Inc.
1525 Bull Lea Road, Suite 100
Lexington, KY 40511
(P) 859-225-8500
(F) 859-225 8501

Equal Employment Opportunity Policy Statement

Strand Associates, Inc.® is committed to a policy of equal opportunity for all employees. It is our policy to seek and employ the best qualified personnel in all positions, to provide equal opportunity for advancement to all employees, including upgrading, promotion and training, and to administer these activities in a manner which will not discriminate against or give preference to any person because of race, color, religion, age, sex, national origin, handicap, marital status, or any other discriminatory basis prohibited by state or federal law.

Strand is further committed to providing a work environment in which employees are treated with courtesy, respect, and dignity. As part of this commitment, we will not tolerate any form of harassment, verbal or physical, with regard to an individual's race, sex, national origin, or any other protected characteristics Therefore, all employees are encouraged to bring forth any concerns or complaints in this regard to the attention of management by contacting Human Resources, Shawn Cannon, or Ted Richards.

All complaints of sexual harassment, or harassment of any kind, will be investigated promptly and, where necessary, immediate and appropriate action will be taken to stop and remedy any such conduct. Any employee found in violation of this policy will be subject to disciplinary action which could include discharge.

LFUCG MWDBE PARTICIPATION FORM

Bid/RFP/Quote Reference #RFP#10-2018 Investigation/Design Services for Town Branch WWTP Aeration Improvements Project

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. Magna Engineers T. Michelle Howlett, P.E., LEED AP 861 Corporate Dr., Suite 210 Lexington, KY 40503 (859) 309-2990 mhowlett@magnaengineers.com	WBE	HVAC	*see note	*see note
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.

Strand Associates, Inc.
Company

Matt Schick
Company Representative

5/9/2018
Date

Corporate Secretary
Title

* Note: Strand strives to achieve LFUCG's DBE and VOB participation goals. We regularly utilize DBE and VOB subconsultants as part of our project team. DBE and VOB participation total dollar value and % of contract subject to change based on final fee amount.

LFUCG STATEMENT OF GOOD FAITH EFFORTS

Bid/RFP/Quote # RFP#10-2018 Investigation/Design Services for Town Branch WWTP Aeration Improvements Project

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

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

_X_ 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.

_X_ 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.

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

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

_X_ 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

_X_ 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.

_X_ 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

_X_ 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.

Strand Associates, Inc.
Company

5/9/18
Date

Company Representative

Corporate Secretary
Title

WORKFORCE ANALYSIS FORM

Name of Organization: Strand Associates, Inc.

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	10	8	1						1							8	2
Professionals	281	217	51	4	1	1				7						229	52
Superintendents	0															0	0
Supervisors	0															0	0
Foremen	0															0	0
Technicians	50	42	4	2		2										46	4
Protective Service	0															0	0
Para-Professionals	0															0	0
Office/Clerical	50	7	37	1	1		2		1	1						9	41
Skilled Craft	0															0	0
Service/Maintenance	4	1				3										4	0
Total:	**395**	**275**	**93**	**7**	**2**	**6**	**2**	**0**	**2**	**8**	**0**	**0**	**0**	**0**	**0**	**296**	**99**

Prepared By: Ashley Pekul, H/R Assistant **Date:** 04 / 19 / 18

(Name and Title)

Revised 2015-Dec-15

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 7/11/2017

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 the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Ansay & Associates, LLC. MSN
702 N High Point Road
Suite 201
Madison WI 53717

CONTACT NAME: Susan Simoneau
PHONE (A/C, No, Ext): 800-643-6133 FAX (A/C, No): 608-831-4777
E-MAIL ADDRESS: sue.simoneau@ansay.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : CNA Insurance Companies	35289
INSURER B :	
INSURER C :	
INSURER D :	
INSURER E :	
INSURER F :	

INSURED
Strand Associates, Inc
910 W. Wingra Drive
Madison WI 53715

STRAASS-01

COVERAGES CERTIFICATE NUMBER: 190393984 REVISION NUMBER:

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

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	GENERAL LIABILITY			5099170076	1/1/2017	1/1/2018	EACH OCCURRENCE	$1,000,000
	X COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurrence)	$900,000
	CLAIMS-MADE X OCCUR						MED EXP (Any one person)	$5,000
	X XCU cov. incl.						PERSONAL & ADV INJURY	$1,000,000
	X Bkt.Contractual						GENERAL AGGREGATE	$2,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						PRODUCTS - COMP/OP AGG	$2,000,000
	POLICY X PRO-JECT LOC							$
	AUTOMOBILE LIABILITY			5099170062	1/1/2017	1/1/2018	COMBINED SINGLE LIMIT (Ea accident)	$1,000,000
	X ANY AUTO						BODILY INJURY (Per person)	$
	ALL OWNED AUTOS / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	X HIRED AUTOS / X NON-OWNED AUTOS						PROPERTY DAMAGE (Per accident)	$
								$
A	X UMBRELLA LIAB X OCCUR			5099170059	1/1/2017	1/1/2018	EACH OCCURRENCE	$2,000,000
	EXCESS LIAB CLAIMS-MADE						AGGREGATE	$2,000,000
	DED X RETENTION $ 10,000							$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N			WC595126844	1/1/2017	1/1/2018	X WC STATU-TORY LIMITS / OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? N	N/A					E.L. EACH ACCIDENT	$1,000,000
	(Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$1,000,000
							E.L. DISEASE - POLICY LIMIT	$1,000,000
A	Professional Liability Full Prior Acts			AEH113974097	7/11/2017	7/11/2018	Each Claim Aggregate Full Prior Acts	2,000,000 2,000,000

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

CERTIFICATE HOLDER

Blank Certificate

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

EXHIBIT D

Further Description of Basic Engineering Services

and

Related Services

Investigation/Design Services for Town Branch WWTP
Aeration Improvements Project

Fee Schedule

(For a description of each section and task refer to Section 2 and 3 of the RFP)

Section 2

Scope of Work: Aeration Improvements Project

A. Task 1: Existing Aeration Process Operations Review

Cost Task 1: $10,000

B. Task 2: Develop Equipment/Process Replacement Concepts

1. Blower Evaluations/Design $7,000
2. Aeration System and Related Equipment $7,000
3. Odor Control $7,000
4. Building Improvements $8,000

Cost Task 2: $29,000

C. Task 3: Detailed Desgin

Cost Task 3: $136,000

D. Task 4: Bidding Services

Cost Task 4: $18,000

E. Task 5: Construction Administration Services

Cost Task 5: $105,000

Details for Task 5.5 - The total cost should be included in Cost Task 5. Please provide the following breakdown. Estimated Weekly Inspection Hrs/Estimated Total Inspection Hrs/Hourly Rate.

4 hours/week / 312 hours total / $115/hr.

Section 2 Total Cost: $298,000