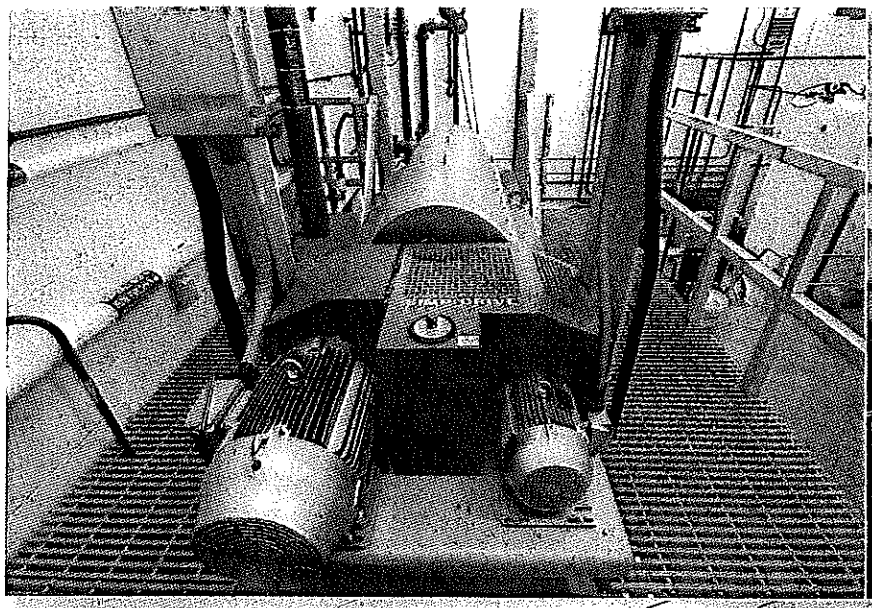
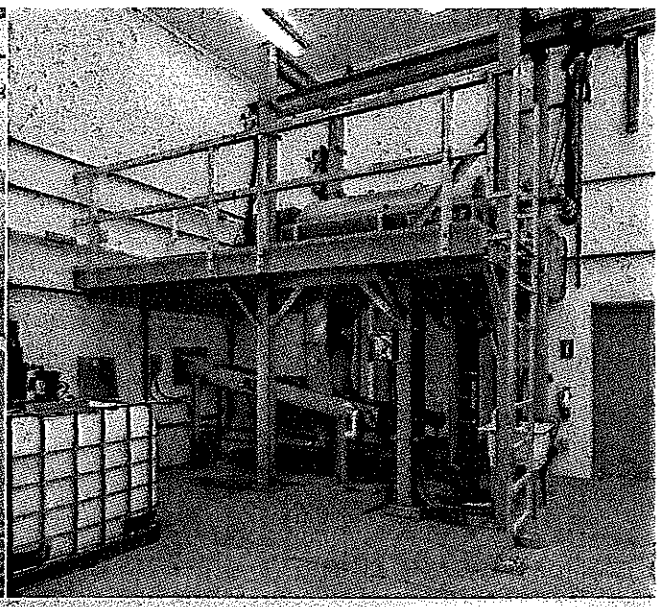
EXHIBIT C

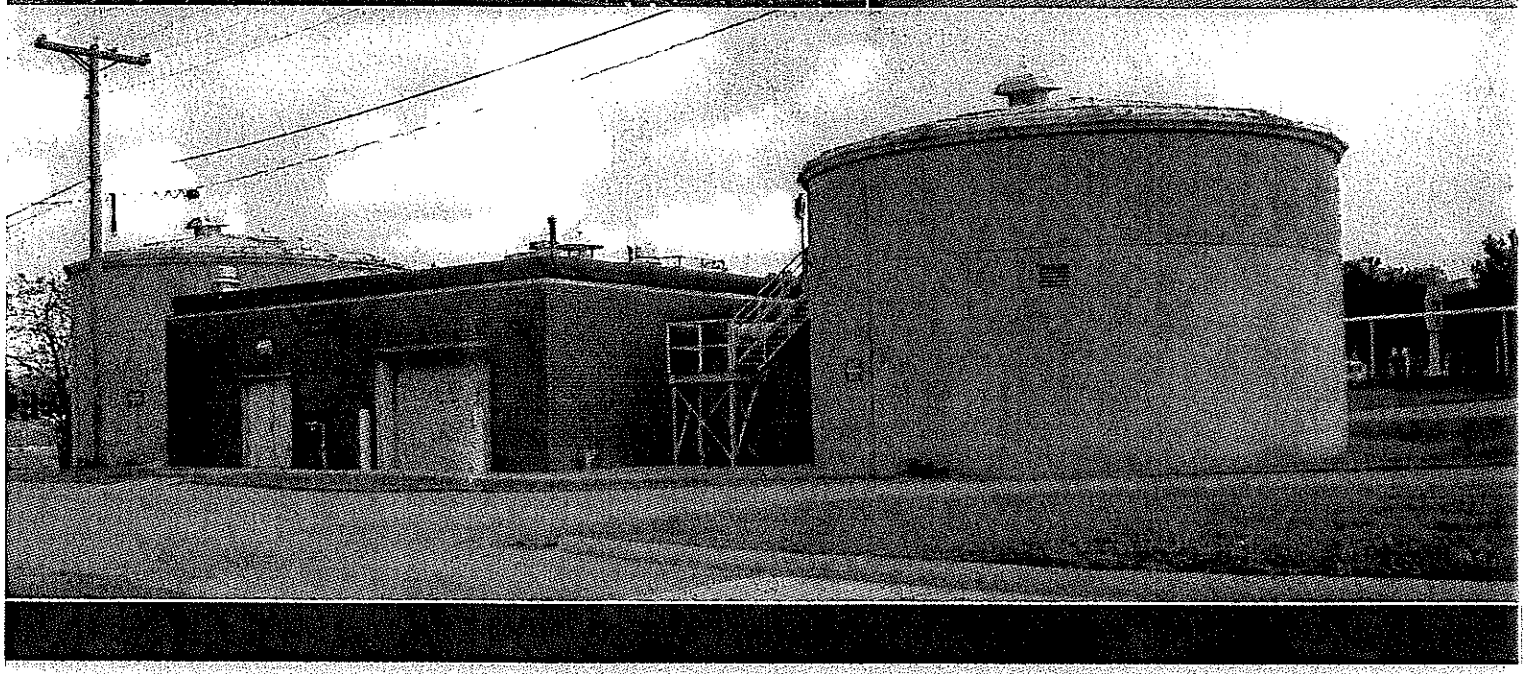
Proposal of Engineering Services

and

Related Matters







ENGINEERING PROPOSAL - RFP #26-2017

Investigation/Design Services for Town Branch WWTP

Thickening Process Evaluation & Equipment Upgrades

Lexington-Fayette Urban County Government

August 31, 2017

engineering | architecture | geospatial

GRW | 801 Corporate Drive | Lexington, KY 40503 | 859.223.3999

engineering | architecture | geospatial

Proposal
Investigation/Design Services
Town Branch WWTP | Thickening Process Evaluation & Equipment Upgrades

Lexington-Fayette Urban County Government
RFP #26-2017

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COVER LETTER

GRW | engineering | architecture | geospatial
801 Corporate Drive | Lexington, KY 40503
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August 31, 2017

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

Subject: Investigation/Design Services for Town Branch WWTP Thickening Process Evaluation and Equipment Upgrades | RFP #26-2017

Dear Mr. Slatin and Selection Committee Members:

Working with clients like the Lexington-Fayette Urban County Government (LFUCG) that have set important goals for meeting municipal utility system needs is the kind of consulting GRW has been proud to provide for more than 53 years. We appreciate the opportunity to respond to your Request for Proposals for the engineering design services needed at LFUCG's Town Branch Wastewater Treatment Plant.

As you move forward with selection of a consultant to complete the investigation and design of the thickening process evaluation and equipment upgrades project at Town Branch WWTP, GRW would like to express our sincere interest in being that consultant. We offer the following as a summary of our capabilities and commitment to you:

- **Leadership.** Our team will be led by **John Martin**. John is an accomplished professional engineer who has led several of GRW's most complex and significant wastewater treatment plant (WWTP) projects. A few examples: SD1's award-winning Western Regional Water Reclamation Facility (20 MGD); Louisville MSD's Derek R. Guthrie Water Quality Treatment Center (30 MGD); and several recent WWTP projects for communities such as Fairfield, OH; and Versailles, Corbin, and Frankfort, KY. Get to know more about John in **Section 3.0**.
- **Understanding. Section 8.0** include details about our understanding and proposed approach to your project. **Section 1.0** summarizes our understanding of the scope and includes a detailed cost estimate.
- **Experience.** A summary of our WWTP experience, as well as examples of a few projects similar to your proposed project at Town Branch WWTP are included in **Sections 4.0** and **5.0**.
- **Familiarity with LFUCG.** GRW has been working with LFUCG for nearly 50 years. Our collaborations have resulted in many successful wastewater system and other engineering projects. We are thoroughly familiar with your engineering and operations staff, and their requirements and expectations. See **Section 7.0**.
- **Project Team.** Our team includes professionals with the specific expertise you require, and many who have worked together as a team on similar projects. Meet our team members and read their resumes in **Section 3.0.**

We believe GRW is the right choice for this LFUCG project, and we will give this assignment high priority within our firm. We are ready to meet with you at any time to discuss our experience, qualifications, and approach in detail, and look forward to another opportunity to work with you.

Very truly yours,

Joe Henry, PE
Vice President
859-223-3999, ext. 213
jhenry@grwinc.com

SECTION 1.0 | Scope/Fee (Detailed Cost Estimate)

1.0 Scope/Fee (Detailed Cost Estimate)

We understand that LFUCG's goal for the "Thickening Process Evaluation and Equipment Upgrades" is to evaluate the most efficient way to increase sludge thickening capacity and to replace related existing equipment that has surpassed its useful life. The goals of the proposed project would also be to increase reliability while lowering operating cost by improving efficiency. **A detailed overview of our thoughts and approach to the project is included hereinafter in Section 8.0, Project Familiarity/Approach.**

Scope of Work

We have included in this section a detailed breakdown of project scope, associated tasks, estimated man-hours and associated costs for engineering services associated with two (2) basic alternatives for sludge thickening that the LFUCG has identified for detailed evaluation as a part of this project. Those two (2) basic alternatives include:

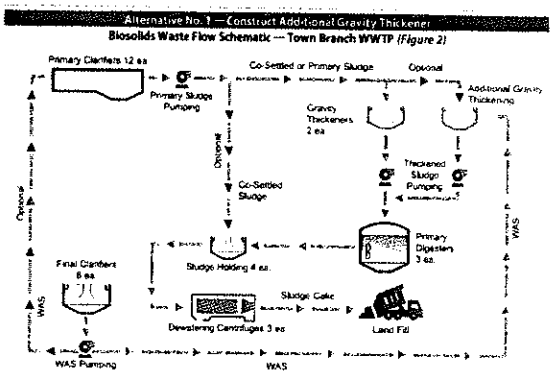
- **Alternative 1** – Construction Additional Gravity Thickener
- **Alternative 2** – Construct Mechanical Thickeners (Centrifuge) for Waste Activated Sludge (WAS)

The scope of work and engineering design effort is significantly different for the two (2) basic alternatives.

Alternative 1 - Construct Additional Gravity Thickener

A summary of Alternative 1 would be as follows *(see Section 8.0 for details)*:

1. Replace existing gravity thickener sludge collection equipment (rakes, drives, skimmers, etc.)
2. Construct a third new gravity thickener. The thickener(s) could be configured to process co-settled primary and WAS sludge or could be configured to thicken either primary sludge or WAS sludge independently.
3. Construct a new gravity thickener building/expansion to house in-line grinders, thickened sludge pumps, scum pumps, piping valves, metering, odor control, etc.
4. One possible location for the construction of a third gravity thickener would involve the demolition of the adjacent abandoned building located on the northwest side of the existing primary anaerobic digester. This



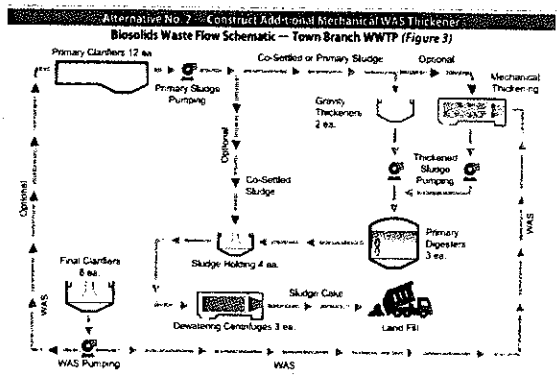
location would avoid the existing roadways which are located in front and behind the existing sludge thickeners.

5. The LFUCG may want to consider/evaluate the use of a coagulant (polymer) to increase the dewatering efficiency of the existing and proposed gravity thickeners.
6. Associated sitework and site piping

Alternative 2 - Construct Mechanical Thickeners (Centrifuge) for WAS

A summary of Alternative 2 would be as follows *(see Section 8.0 for details)*:

1. Replace existing gravity thickeners sludge collection equipment (rakes, drives, skimmers, etc.).
2. Install mechanical sludge thickening equipment (2 centrifuges) for waste activated sludge. Equipment would be located in the existing empty room where similar WAS thickening centrifuges were previously located.
3. Install associated piping, valves, meters, polymer storage/feed equipment, in-line grinders (if required) and thickened sludge pumps.
4. This alternative should not require a new building, significant structural or HVAC modifications to the exiting building. Additional odor control equipment should not be required for the enclosed mechanical dewatering equipment.
5. If the LFUCG had an interest, other mechanical sludge thickening equipment may be evaluated – including gravity belt thickening and rotary drum thickening. See Section 8.0, Project Familiarity hereinafter for additional discussion of other mechanical thickening alternatives.



Preliminary Engineering Report / Evaluation

The Preliminary Engineering Report, which will be prepared as a part of the "thickening process evaluation," also includes evaluation of the following possible "related equipment and building repairs:"

- Plant water
- Hydrants
- Lighting (inside and outside of existing gravity thickener building)
- Flow meters and valves
- Primary sludge pumps
- Odor control
- Rooftop heater
- Ventilators
- Doors and windows
- General building structural review
- Roof replacement

Because of the uncertainty of what additional improvements may or may not be identified during the Preliminary Engineering Report phase, the possible "related equipment and building repairs" have not been included in the following design services scope/fee proposal (detailed cost estimate) for Alternative 1 and Alternative 2.

After the completion of the Preliminary Engineering Report phase, we would request that engineering services Scope/Fee be adjusted to reflect which of the "related equipment and building repairs" would be included in the project.

Similar to previous LFUCG design projects, PLC system programming would be included in the construction contractor's scope of work.

Fee (Detailed Cost Estimate)

	Engineer Fee Proposal: Investigation/Design Services Town Branch Wastewater Treatment Plant Thickening Evaluation & Equipment Upgrades	Principal Engineer VII	Project Manager VI	Project Engineer IV	Project Engineer Engineer II	Electrical Engineer VI	Electrical Engineer IV	Mechanical Engineer IV	Architect IV	Structural Engineer V	CADD Designer III	Admin	TOTAL HOURS	TOTAL FEE
	Base Contract - Proposal													
	Task 1 - Existing Process Performance Review													
1.1	Kick-off Meeting, Overview, Interview, Operating Staff	4	6	6		4								
1.2	Data Collection, Existing Thickening Process											2		
1.2.1	-- Gravity Thickener Equipment		4	4										
1.2.2	-- Gravity Thickener Current Loading													
1.2.3	-- Gravity Thickener Support Equipment													
1.2.4	-- Gravity Thickener Buiding													
1.2.5	-- Primary Sludge Pumps													
	Subtotal Hours	4	10	10	0	4	0	0	0	0	0	2	30	
	Subtotal Cost	$720	$1,600	$1,200	$0	$640	$0	$0	$0	$0	$0	$100		$4,260
	Task 2 - Develop Equipment/Process Replacement Concepts													
2.1	Existing Thickening Equipment Replacement	2	4	4		4								
2.2	Evaluation of Building Repairs		4				4	4	4	4				
2.3	Thickening Process Alternatives Evaluation	2	10	14		2								
2.3.A	-- Additional Gravity Thickener		2	4		1								
2.3.B	-- Add Centrifuge Thickening		2	4		1								
2.4	Alternate Conceptual Layout		4	16							8			
2.5	Alternative Cost Estimates		8	16			8	4	4					
2.6	Alternative Life Cycle Cost Analyses		4	16	16									
2.7	Prepare Implementation Schedule		2	4										
2.8	Prepare Preliminary Engineering Report	4	8	16							4	8		
	Subtotal Hours	8	48	94	16	8	12	8	8	4	12	8	226	
	Subtotal Cost	$1,440	$7,680	$11,280	$1,520	$1,280	$1,560	$1,040	$1,040	$560	$1,080	$400		$28,880
	Task 3 - Detailed Design (Alternate 1 - Gravity Thickening)													
3.1.1	Design Progress Meetings (25%, 50%, 90%, 100%)	6	16	16		16								
	Prepare Construction Drawings													
3.1.2	-- Replace Existing Gravity Thickener Equipment	2	8	8		8					32			
3.1.3	-- New Gravity Thickener and Building	6	40	100	16	16	80	40	40	40	160			
	--Site Piping and Site Work	2	16								40			
3.1.4	Cost Estimates & Life Cycle Costs		4	8	16		8	4				4		
3.1.5	Prepare Detailed Specifications, Bid Documents and Contract Documents		24	40	40		16	8	8			24		
	Subtotal Hours	16	108	172	72	40	104	52	48	40	232	28	912	
	Subtotal Cost	$2,880	$17,280	$20,640	$6,840	$6,400	$13,520	$6,760	$6,240	$5,600	$20,880	$1,400		$108,440

	Engineer Fee Proposal: Investigation/Design Services Town Branch Wastewater Treatment Plant Thickening Evaluation & Equipment Upgrades	Principal Engineer VII	Project Manager VI	Project Engineer IV	Project Engineer Engineer II	Electrical Engineer VI	Electrical Engineer IV	Mechanical Engineer IV	Architect IV	Structural Engineer V	CADD Designer III	Admin	TOTAL HOURS	TOTAL FEE
	Base Contract - Proposal													
	Task 3 - Detailed Design (Alternate 2 - Mechanical Thickening of WAS)													
3.2.1	Design Progress Meetings (25%, 50%, 90%, 100%)	6	16	16		16								
	Prepare Construction Drawings													
3.2.2	-- Replace Existing Gravity Thickening Equipment	2	8	8		8					32			
3.2.3	-- Install Mechanical WAS Thickening Equipment in Existing Solids Processing Building	6	60	80	16	8	40				160			
3.2.4	Cost Estimates & Life Cycle Costs		4	8	16		8					4		
3.2.5	Prepare Detailed Specifications, Bid Documents and Contract Documents		16	40			16					24		
	Subtotal Hours	14	104	152	32	32	64	0	0	0	192	28	618	
	Subtotal Cost	$2,520	$16,640	$18,240	$3,040	$5,120	$8,320	$0	$0	$0	$17,280	$1,400		$72,560
	Task 4 - Bidding Services													
4.1	Permits and Approvals		2	6										
4.2	Pre-Bid Meeting	2	4											
4.3	Bidding Administration	2	12	20		2						16		
	Subtotal Hours	4	18	26	0	2	0	0	0	0	0	16	66	
	Subtotal Cost	$720	$2,880	$3,120	$0	$320	$0	$0	$0	$0	$0	$800		$7,840
	Task 5 - Construction Administration Services (Alternate 1-10 Months)													
5.1.1	Pre-Construction Conference	2	4	4								2		
5.1.2	Shop Drawing Review		8	40	16		24	8	16	8	8	16		
5.1.3	Monthly Progress Meetings (10)	2	40	16								16		
5.1.4	Administration		24	40		8		8	8			16		
5.1.5	Construction Inspection and Weekly Reports (43 weeks)				344							8		
5.1.6	Punch List and Final Inspection		8	8			8					2		
5.1.7	Record Drawings		2								24			
	Subtotal Hours	4	86	108	360	8	32	16	24	8	32	60	738	
	Subtotal Cost	$720	$13,760	$12,960	$34,200	$1,280	$4,160	$2,080	$3,120	$1,120	$2,680	$3,000		$79,280
	Task 5 - Construction Administration Services (Alternate 2-8 Months)													
5.2.1	Pre-Construction Conference	2	6									2		
5.2.2	Shop Drawing Review		8	40	8		16					12		
5.2.3	Monthly Progress Meetings (8)	2	32	12								12		
5.2.4	Administration		20	32								12		
5.2.5	Construction Inspection and Weekly Reports (35 weeks)				280							12		
5.2.6	Punch List and Final Inspection		8	8			8					2		
5.2.7	Record Drawings		2								12			
	Subtotal Hours	4	76	92	288	0	24	0	0	0	12	52	548	
	Subtotal Cost	$720	$12,160	$11,040	$27,360	$0	$3,120	$0	$0	$0	$1,080	$2,600		$58,080
	Total Hours	54	450	654	768	94	236	76	80	52	480	194		
	HOURLY RATE	$180	$160	$120	$95	$160	$130	$130	$130	$140	$90	$50		

Alternative No. 1 — Construct Additional Gravity Thickener

Investigation/Design Services for Town Branch WWTP
Thickening Process Evaluation and Equipment Upgrades

Fee Schedule

(For a description of task refer to Section 2 of the RFP)

Section 2

Scope of Work: Thickening Process Evaluation and Equipment Upgrades

A. Task 1: Existing Process Performance Review

Cost Task 1: $ 4,260

B. Task 2: Develop Equipment/Process Replacement Concepts

Cost Task 2: $ 28,880

C. Task 3: Detailed Desgin

Cost Task 3: $ 108,440

D. Task 4: Bidding Services

Cost Task 4: $ 7,840

E. Task 5: Construction Administration Services

Cost Task 5: $ 79,280

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.

8 hrs/wk / 344 hrs.(43 wks) / $95/hr.

Section 2 Total Cost: $ 228,700

Alternative No. 2 — Construct Additional Mechanical WAS Thickener

Investigation/Design Services for Town Branch WWTP
Thickening Process Evaluation and Equipment Upgrades

Fee Schedule

(For a description of task refer to Section 2 of the RFP)

Section 2

Scope of Work: Thickening Process Evaluation and Equipment Upgrades

A. Task 1: Existing Process Performance Review

Cost Task 1: $ 4,260

B. Task 2: Develop Equipment/Process Replacement Concepts

Cost Task 2: $ 28,880

C. Task 3: Detailed Desgin

Cost Task 3: $ 72,560

D. Task 4: Bidding Services

Cost Task 4: $ 7,840

E. Task 5: Construction Administration Services

Cost Task 5: $ 58,080

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.

8 hrs/wk / 280 hrs.(35 wks) / $95/hr.

Section 2 Total Cost: $ 171,620

SECTION 2.0 | Estimated Schedule

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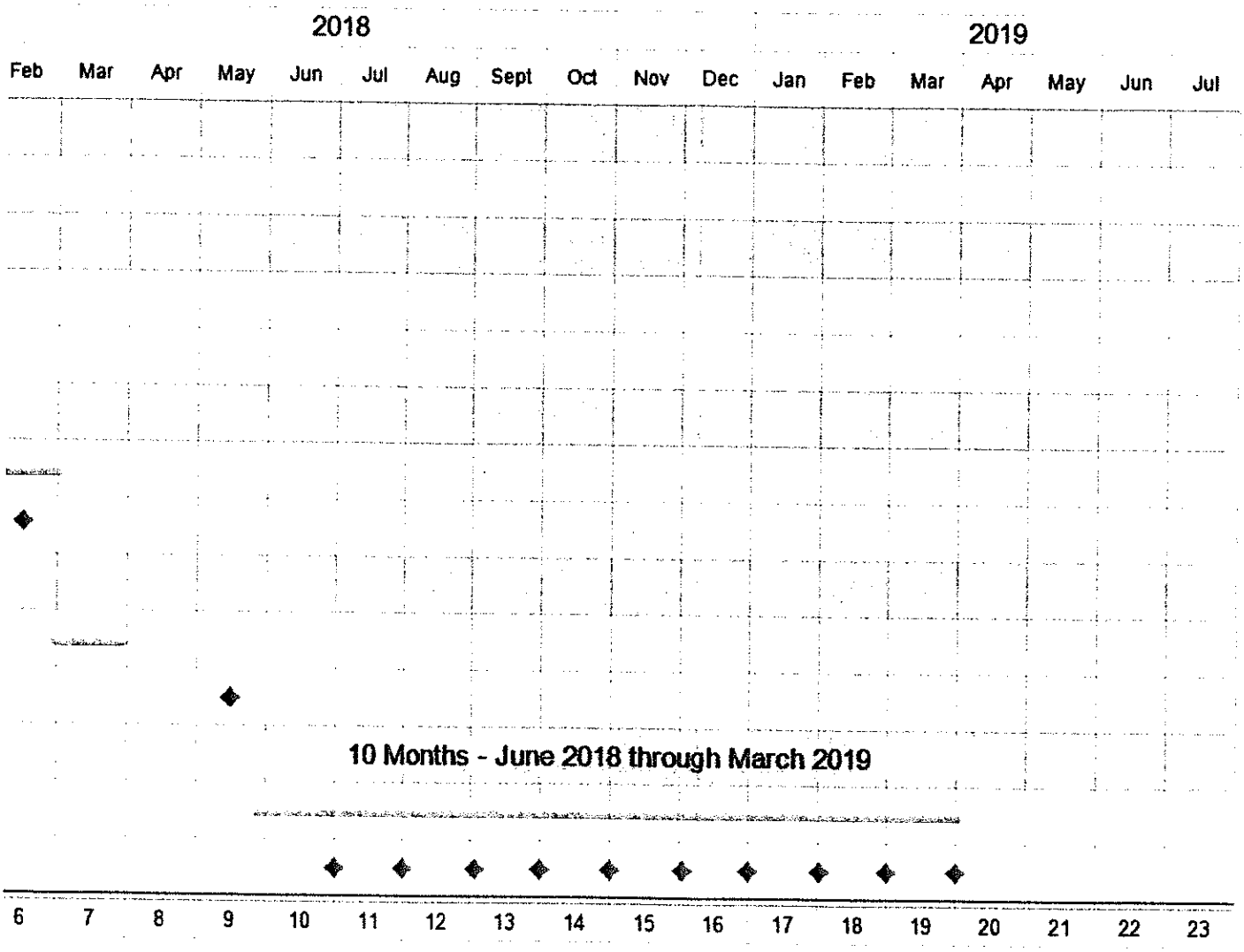
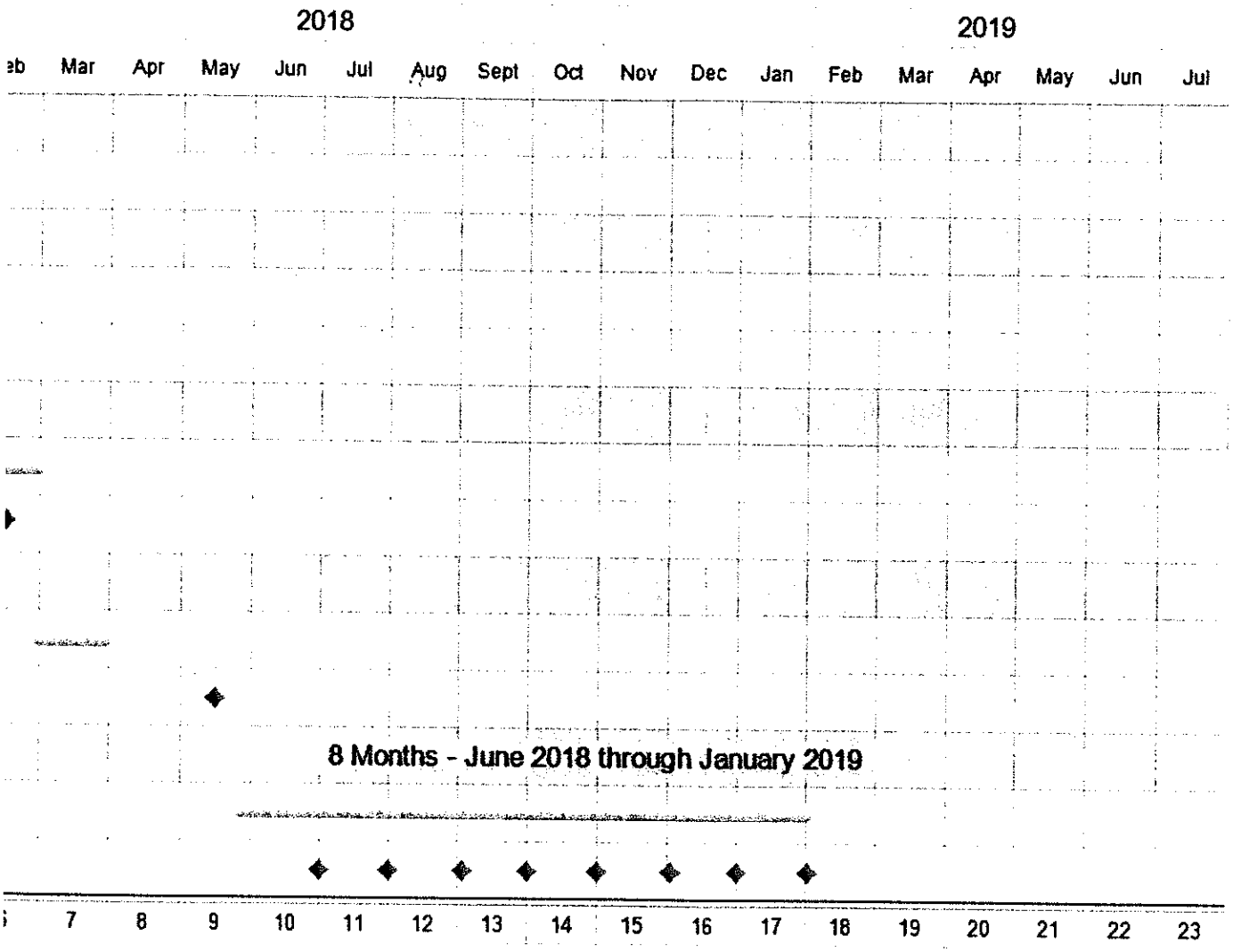
itional Gravity Thickener



ect Schedule
s Evaluation & Equipment Upgrades
l WAS Thickening (Centrifuge)



SECTION 3.0 | Project Team

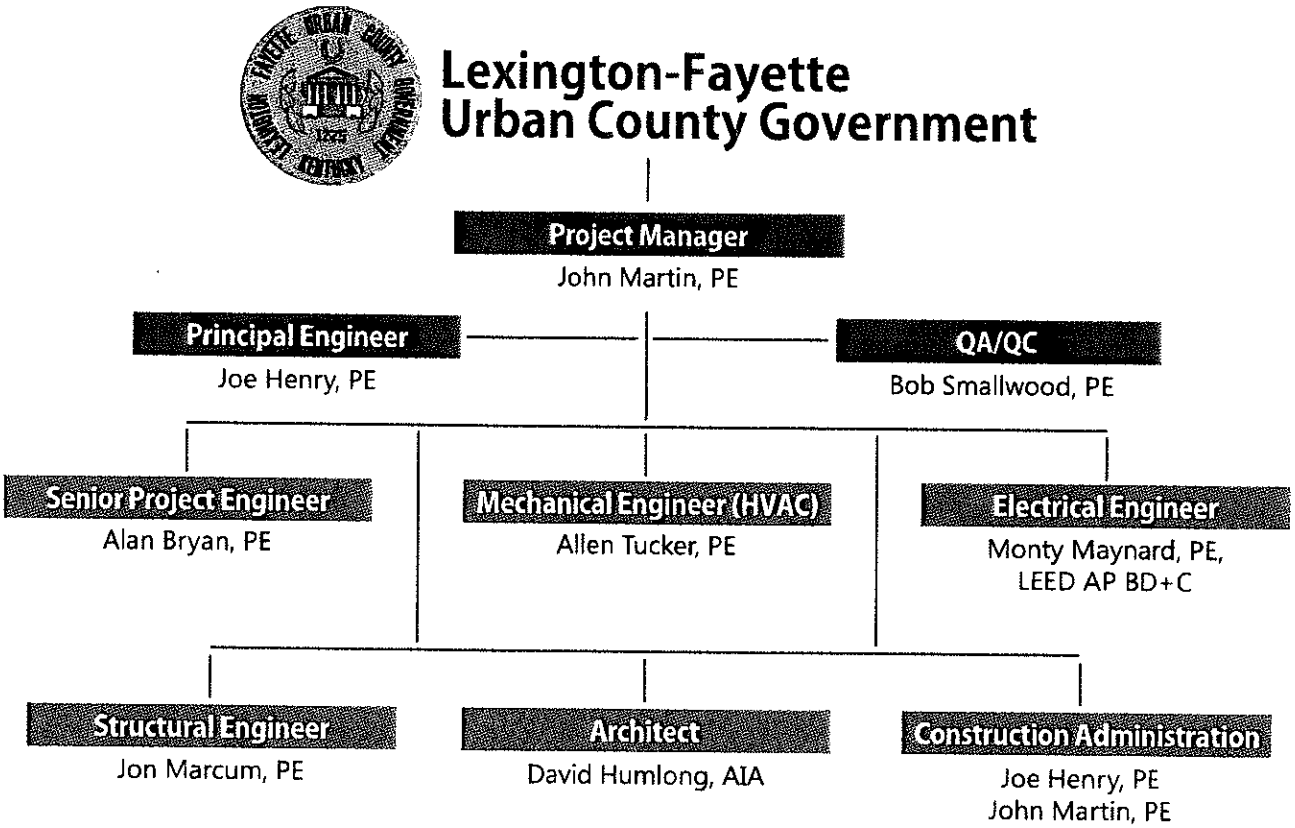
3.0 Project Team

Our goal is to provide LFUCG with innovative ideas, and planning and design services delivered by the right mix of staff. GRW has drawn upon the talents of our in-house design engineers to provide you with a team capable of addressing your project's needs.

Leading our project team will be Project Manager **John Martin.** Principal Engineer **Joe Henry** will work closely with John to ensure he has the resources he needs to meet your objectives.

Both Joe and John have more than 30 years of experience with wastewater engineering services; they've led several of GRW's most complex projects for several of our long-time clients. They will be supported by an equally experienced team including **Alan Bryan**, Senior Project Engineer, and **Bob Smallwood**, Quality Assurance/Quality Control.

Our in-house support team professionals (mechanical, electrical, structural, and architectural) offer easy access to these critical services as required.



Joe Henry, PE | GRW Principal Engineer

YEARS OF EXPERIENCE:
With GRW: 32
Total: 37

EDUCATION
B.S., Civil Engineering, 1979, University of Kentucky

M.S., Civil Engineering, 1990, University of Kentucky

REGISTRATION
Professional Engineer: KY, OH, TN, IN

PROFESSIONAL AFFILIATIONS AND TRAINING
American Water Works Association

Water Environment Federation

Kentucky Rural Water Association

Joe's engineering experience encompasses all aspects of the planning and design of wastewater systems. He regularly provides leadership and engineering design for projects ranging from wastewater system wet weather flow projects, sewer system improvements, and pump stations. He has been selected as part of this project team based on his proven record of technical skills and management. Joe regularly works on the design, preparation of construction documents and cost estimates, and construction management for GRW clients.

RELEVANT PROJECT EXPERIENCE

Lexington Town Branch Wet Weather Flow Storage (22 MG) and Pumping (56 MGD) Facilities, Lexington, KY – Project Manager. Phase 1 of multi-phase wet weather storage facility adjacent to LFUCG Town Branch WWTP. Includes 22 MG above grade, pre-stressed concrete structure with overflow weir box and a four-plex submersible pumping station to convey peak wet weather flows to tank. Tank diameter is 260 feet with side water depth of 55 feet. Later phase will expand to 44 MG storage facility. Some aspects - such as piping, wet well, concrete, motor controls (by Allen Bradley ControlLogix PLC networked via multi-mode fiber optic cable to treatment plant Ethernet-based SCADA system), etc. – of project designed during Phase I to be compatible with all subsequent phases, anticipating the maximum volume. Project is a deliverable of LFUCG's Consent Decree. Significant funding is provided by KIA Clean Water SRF.

Fairfield Wastewater Treatment Plant Upgrade and Expansion (10 MGD), Fairfield, OH – Project Engineer. Design and construction administration services for wastewater treatment plant upgrade consisting of new three-cell, 10 MG sidestream flow equalization facility, primary sedimentation basin equipment replacement, existing chlorine contact disinfection system replacement with dual in-line ultrasonic disinfection units (each rated to treat 7.5 MGD), new fine bubble post aeration system, new 6,000 scfm aeration blower, new fine bubble sludge aeration system and new disinfection/office building.

South Dearborn Regional Sewer District Wastewater Treatment Plant Upgrade and Expansion (6.0 MGD), Lawrenceburg, IN – Project Engineer. Design and construction for expansion of existing activated sludge plant from 3.5 MGD to 6.0 MGD. Also "Division 1" plant, which provided industrial pretreatment for Seagrams Distillery and processed all solids for both plants, was eliminated and industrial pretreatment and solids processing functions were added to expansion/upgrade of "Division 2" plant. Work also included design of new SCADA system which utilizes Allen Bradley SLC 5/04 PLCs (Programmable Logic Controllers) as basic Remote Terminal Unit (RTU).

Lexington Expansion Area 2A Watershed Pumping Station (10 MGD) and Force Mains, Lexington, KY – Project Manager. Design for new 10 MGD pumping station with maximum pumping capacity of 7,400 gpm, screening room, controls room, odor control room, bathroom and mechanical room, with 4,800 LF of 24" force main and 3,600 LF of 48" to 15" gravity sewers, to serve new development. Enabled decommissioning and removal of 5 existing pump stations, with flow by gravity to a new 48" gravity trunk sewer (constructed by a developer) extended into new pump station.

Lexington North Elkhorn Watershed Force Main and Pumping Station (19 MGD), Lexington, KY – Project Manager. Design of watershed pumping station replacement and 40,000 LF of new 30" and 36" force main across the center of Lexington in a combination of private easements and crowded city streets to divert flow directly to Town Branch Wastewater Treatment Plant. Pump station has pumping capacity of 19 MGD and includes four 385 HP, wet pit (submersible) pumps with variable frequency drives, standby power, odor control, mechanical course bar screens and flow metering.

Lexington East Hickman Wet Weather Flow Storage (4.0 MG) and Pumping Facilities (32.5 MGD), Lexington, KY – Principal. Design for wet weather Consent Decree project involving 4.0 MG prestressed concrete storage tank and associated 20.1 MGD dry weather and 12.4 MGD wet weather pump stations, gravity sewer improvements, associated site piping, screening facility, odor control facilities, and full standby generator.

Lexington West Hickman Wastewater Treatment Plant Administration Building Improvements and Expansion, Lexington, KY – Principal. Architectural and engineering design for improvements and expansion of WWTP's administration building.

Lexington Downtown Collector Sewer Study, Lexington, KY – Project Manager. Engineering consulting for a collector sewer study evaluating the condition and capacity of some of Lexington's oldest downtown collector and interceptor sewers to locate and quantify sources of wet weather infiltration/inflow. Included a Sanitary Sewer Evaluation Survey (SSES) using flow monitoring, smoke testing, manhole inspections, night flow isolations and CCTV inspections of sewer lines, and a dynamic collection system hydraulic model prepared using XPSWMM software to evaluate dry weather flows, wet weather flows and the potential impact of future growth and associated flows.

Lexington Lower Town Branch Watershed Interceptor Sewers, Force Main and 5 MGD Pumping Station, Lexington, KY – Lead Sanitary Engineer. Initial work included land use analysis of large undeveloped tract to determine the ultimate load on interceptors and pumping station based on area; and computerized hydraulic analysis of entire system (interceptors to treatment plant). Design included 12" to 30" gravity lines, 24" force main, and 5.0 MGD pumping station (expandable to 7.5 MGD). Pump station included mechanical bar screens, odor control equipment, and backup diesel generator (600 KW). Treatment plants at two prison facilities were decommissioned.

Nashville Ewing Creek - Brick Church Pike Wet Weather Flow Storage (10.6 MG) and Pumping (18 MGD) Facilities, Nashville, TN – Design Team Project Manager. Facilities include 10.6 MG wet weather flow storage basin and 18 MGD pump station. Tank is pre-stressed, wire-wound, concrete, gravity-drained, covered storage tank (190' diameter); bottom invert of storage tank is approximately 25 feet below grade. Also includes: peak wet-weather flow diversion structure (30" sanitary sewer with screen); electrical and controls building; required tank influent and effluent pipeline; controlled-rate drain vault with series electric actuated plug valves; electrical, standby power, and instrumentation; facilities siting, site drainage, and bioretention; and site landscaping for buffers to adjacent area.

John Martin, PE | GRW Project Manager

YEARS OF EXPERIENCE:
With GRW: 18
Total: 31

EDUCATION
B.S., Civil Engineering, 1986, Tennessee Technological University

REGISTRATION
Professional Engineer: KY, TN, OH

PROFESSIONAL AFFILIATIONS AND TRAINING
Kentucky Society of Professional Engineers

Water Environment Federation

John regularly leads GRW teams in the planning and design of water resources projects. He has been involved with numerous wastewater system projects, including wastewater treatment plants, wastewater collection systems, pump station, and force mains; infiltration/inflow studies; sewer system evaluation surveys; and 201 Facilities Plans. He has been integral to the design of more than 20 wastewater treatment plants (up to 30 MGD in capacity). John's work also has encompassed a variety of projects involving the design of water distribution, storage, and treatment facilities.

RELEVANT PROJECT EXPERIENCE

Sanitation District No. 1 Western Regional Water Reclamation Facility (20 MGD), Boone County, KY – Project Manager. Design and construction services for a secondary wastewater treatment plant with initial average flow of 20.0 MGD, projected future average flows of 30.0 MGD, and site layout and plant hydraulics planned for an ultimate wet weather build-out capacity of 60.0 MGD, with provisions to contain, capture and biologically treat odors when they are produced. Features include screenings removal by fine screens, centrifugal vortex grit removal, secondary treatment employing either conventional activated sludge process or contact stabilization activated sludge process with fine-bubble diffusers, final clarification and ultraviolet disinfection before treated wastewater is discharged to Ohio River. Sludge processing includes aerated sludge storage, gravity belt thickening of waste activated sludge, and belt filter press dewatering before landfill disposal. Structures include the following buildings: administration, sludge processing, blower/sludge pumping, and screening and grit removal equipment.

Louisville MSD Derek R. Guthrie Water Quality Treatment Center Expansion (30 MGD), Louisville, KY – Project Manager. Design services for design-build of secondary plant expansion of 22.5 MGD plant to 30 MGD. Included solids holding and pumping facilities; aeration basins modifications to allow complete mix or contact stabilization operation; addition of screw conveyor system to remove screenings from 50-foot deep influent screening facility. Bio-filters were used for odor control in solids holding tanks.

Corbin Wastewater Treatment Plant Upgrade (4.5 MGD), Corbin, KY – Project Manager. Major items of work include expansion/upgrade of Pump Station No. 1 (5 MGD to 9 MGD); improvements to existing pre-treatment building (screening and grit removal); new 2.0 MG sideline wet weather flow equalization; new circular final clarifier, new UV disinfection facilities, and new RAS/WAS pump station.

Versailles Wastewater Treatment Plant Expansion (4.5 MGD), Versailles, KY – Project Manager. Conversion and expansion of 3 MGD oxidation ditch, extended aeration plant to 4.5 MGD sequencing batch reactor (SBR) facility with peak flow of 12.5 MGD. New equipment or facilities include influent, fine mechanical screening, Parshall flume, vortex grit removal, preliminary treatment building, 12.5 MGD influent pump station, four SBR basins, UV disinfection system, fine bubble post aeration basins, effluent Parshall flume, generator for emergency backup power and addition to administration building. Existing oxidation ditches will be converted to wet weather flow storage basins. Existing diffused aeration system for aerobic digesters will be replaced with a more efficient jet aeration system.

Harrodsburg Wastewater Treatment Plant Expansion (3.5 MGD), Harrodsburg, KY – Technical Advisor. Major items of work include new pre-treatment building (screening and grit removal), replacement of existing RBC biological treatment process with oxidation ditch treatment process designed for biological nutrient removal, new circular final clarifiers, new return/waste sludge pumping, new ultra-violet disinfection facilities and conversion of existing anaerobic digestion facilities to aerated sludge holding basins.

Fairfield Wastewater Treatment Plant Modifications, Fairfield, OH – Project Manager. Design and construction administration for wastewater treatment plant modifications consisting of new 48" line from final clarifiers to UV disinfection system, new 3' effluent Parshall flume, new algae covers for existing clarifier launders and replacement of clarifier drive units.

Falmouth Wastewater Treatment Plant Leachate Evaluation, Falmouth, KY – Project Manager. Preliminary Engineering Report to evaluate impact of landfill leachate on city's wastewater treatment plant. Study included cost-effective analysis of six alternatives (covered lagoon treatment system, sequencing batch reactor, hybrid biofilm activated sludge process, fixed bed bioreactor process, integrated fixed activated sludge process, and nitrifying trickling filter); sequencing batch reactor option was determined most cost-effective treatment process upgrade. City elected to accept leachate during warm weather conditions to minimize impact on biological treatment process.

Frankfort Wastewater Treatment Plant Grit Channel Modifications, Frankfort, KY – Project Manager. Preliminary engineering report, including hydraulic analyses, evaluated alternatives to modify single influent grit channel geometry by increasing velocities at low flows to minimize grit from settling in channel prior to vortex grit removal system. Design and construction was based on most efficient channel modification that increased velocities at low flows, but maintained acceptable velocities at high flows.

Lawrenceburg Wastewater Treatment Plant (3.3 MGD), Lawrenceburg, KY – Project Manager. Replacement and de-commissioning of existing 1.9 MGD rotating biological contact plant with new 3.3 MGD oxidation ditch plant with raw sewage pumping, fine mechanical screening, vortex grit removal, concentric multi-channel oxidation ditch for biological treatment and phosphorous removal, clarification, UV disinfection system, post aeration, and conversion of existing anaerobic digesters to aerobic digesters. Existing belt filter press used for sludge dewatering.

Murray Bee Creek Wastewater Treatment Plant Expansion (8.75 MGD), Murray, KY – QA/QC. Planning, design, bidding, construction administration, and inspection services for all aspects of the expansion of the Bee Creek Wastewater Treatment Plant from 5.25 MGD to 8.75 MGD (13.1 MGD peak hourly flow to 24.0 MGD peak hourly flow).

Kentucky American Water Owenton Wastewater Treatment Plant Improvements, Owenton, KY – Project Manager. Replacement of existing chlorine disinfection system with new ultraviolet disinfection system. Modifications made to existing chlorine contact basin in order to install new 1.5 MGD (peak) UV disinfection system, as well as allow for future use in case of emergency. Also included installation of clarifier launder covers in order to limit amount of algae for UV disinfection system.

Bob Smallwood, PE, PLS | GRW Quality Assurance/Quality Control

YEARS OF EXPERIENCE:
With GRW: 43
Total: 43

EDUCATION
B.S., Civil Engineering, 1974, University of Kentucky

M.S., Sanitary Engineering & Hydraulics, 1976, University of Kentucky

REGISTRATION
Professional Engineer: KY, IN, OH, NC, PA, WV, GA

Professional Land Surveyor, KY

PROFESSIONAL AFFILIATIONS AND TRAINING
National Society of Professional Engineers

Kentucky Society of Professional Engineers

Water Environment Federation

American Water Works Association

Bob's experience encompasses all aspects of the planning and design of wastewater system engineering experience including more than 30 wastewater treatment plant projects. Included are: Bowling Green (10.8 MGD), Sanitation District No. 1 Western Regional Water Reclamation Facility (20 MGD), Paducah (9 MGD), Corbin (4.5 MGD), and Louisville MSD Hite Creek Plant (4.5 MGD). His prior anaerobic digestion experience includes wastewater treatment plants for Fairfield, OH (10 MGD), South Dearborn Regional Sewer District (6 MGD), Elizabethtown (4.5 MGD), and Harrodsburg (2.68 MGD). He has been selected as part of this project team based on his proven record, advanced technical skills, and management experience.

RELEVANT PROJECT EXPERIENCE

South Dearborn Regional Sewer District Wastewater Treatment Plant Upgrade and Expansion (6.0 MGD), Lawrenceburg, IN – Project Manager. Design and construction for expansion of existing activated sludge plant from 3.5 MGD to 6.0 MGD. Also "Division 1" plant, which provided industrial pretreatment for Seagrams Distillery and processed all solids for both plants, was eliminated and industrial pretreatment and solids processing functions were added to expansion/upgrade of "Division 2" plant. Work also included design of new SCADA system which utilizes Allen Bradley SLC 5/04 PLCs (Programmable Logic Controllers) as basic Remote Terminal Unit (RTU).

Paducah-McCracken County Joint Sewer Agency Wastewater Treatment Plant Improvements (9 MGD), Paducah, KY – Principal. Design for upgrades to a wastewater treatment plant including a new fine mechanical bar screen structure, primary effluent flow splitter box, new 80' diameter final clarifier, new return sludge pumping station, hydraulic improvements to upgrade wet weather flow hydraulic capacity of the plant from 9 MGD to 18 MGD.

Lexington Town Branch Wastewater Plant Upgrade (30 MGD), Lexington, KY – Project Manager. Evaluated feasibility, costs and projected energy cost savings to replace existing coarse bubble diffuser equipment with new, fine bubble diffuser equipment. Use of fine bubble diffuser equipment was proven to reduce air flow requirements and associated power costs by 50 percent.

Fairfield Wastewater Treatment Plant Upgrade and Expansion (10 MGD), Fairfield, OH – Project Manager. Design and construction administration services for wastewater treatment plant upgrade consisting of new three-cell, 10 MG sidestream flow equalization facility, primary sedimentation basin equipment replacement, existing chlorine contact disinfection system replacement with dual in-line ultrasonic disinfection units (each rated to treat 7.5 MGD), fine bubble post aeration system, 6,000 scfm aeration blower, new fine bubble sludge aeration system and disinfection/office building.

Harrodsburg Wastewater Treatment Plant Expansion (3.5 MGD), Harrodsburg, KY – Principal. Major items of work include new pre-treatment building (screening and grit removal), replacement of existing RBC biological treatment process with new oxidation ditch treatment process designed for biological nutrient removal, new circular final clarifiers, new return/waste sludge pumping, new ultra-violet disinfection facilities and conversion of existing anaerobic digestion facilities to aerated sludge holding basins.

Sanitation District No. 1 Eastern Regional Water Reclamation Facility (4 MGD), Alexandria, KY – Principal. Design for one of the most technologically advanced wastewater treatment facilities in Kentucky featuring, in addition to other conventional processes: biofiltration of foul air streams throughout the site for odor control; PVC channel and structure liners, manhole liners, and epoxy coating on all ductile iron pipe reducing hydrogen sulfide corrosion; variable control of aerators in oxidation ditches based on dissolved oxygen content, providing power savings resulting in payback in under two years; UV disinfection exceeding KDW requirements with variable control system automatically adjusting output based on flow and UV transmittance; three-belt design for gravity belt thickeners/belt filter press units, combining thickening and dewatering for space saving and operator flexibility in handling/disposal of biosolids; scum concentrator providing beneficial reuse or landfill disposal; auger dumpsters with integral screw conveyors maximizing loads, reducing truck traffic and resulting costs.

Sanitation District No. 1 Western Regional Water Reclamation Facility (20 MGD), Boone County, KY – Principal. Design and construction services for a secondary wastewater treatment plant with initial average flow of 20.0 MGD, projected future average flows of 30.0 MGD, and site layout and plant hydraulics planned for an ultimate wet weather build-out capacity of 60.0 MGD, with provisions to contain, capture and biologically treat odors when they are produced. Features include screenings removal by fine screens, centrifugal vortex grit removal, secondary treatment employing either conventional activated sludge process or contact stabilization activated sludge process with fine-bubble diffusers, final clarification and ultraviolet disinfection before treated wastewater is discharged to Ohio River. Sludge processing includes aerated sludge storage, gravity belt thickening of waste activated sludge, and belt filter press dewatering before landfill disposal. Structures include the following buildings: administration, sludge processing, blower/sludge pumping, and screening and grit removal equipment.

Lexington Town Branch Wet Weather Flow Storage (22 MG) and Pumping (56 MGD) Facilities, Lexington, KY – Principal. Phase 1 of multi-phase wet weather storage facility adjacent to LFUCG Town Branch WWTP. Includes 22 MG above grade, pre-stressed concrete structure with overflow weir box and a four-plex submersible pumping station to convey peak wet weather flows to tank. Tank diameter is 260 feet with side water depth of 55 feet. Later phase will expand to 44 MG storage facility. Some aspects - such as piping, wet well, concrete, motor controls (by Allen Bradley ControlLogix PLC networked via multi-mode fiber optic cable to treatment plant Ethernet-based SCADA system), etc. – of project designed during Phase I to be compatible with all subsequent phases, anticipating the maximum volume.

Lawrenceburg Wastewater Treatment Plant (3.3 MGD), Lawrenceburg, KY – Principal. Replacement and de-commissioning of existing 1.9 MGD rotating biological contact plant with new 3.3 MGD oxidation ditch plant with raw sewage pumping, fine mechanical screening, vortex grit removal, concentric multi-channel oxidation ditch for biological treatment and phosphorous removal, clarification, UV disinfection system, post aeration, and conversion of existing anaerobic digesters to aerobic digesters. Existing belt filter press used for sludge dewatering.

South Dearborn Regional Sewer District Sludge Dewatering, Drying and Disposal, Lawrenceburg, IN – Principal. Preliminary design and planning for a proposed new solar sludge drying facility at a regional 6.0 MGD contact stabilization activated sludge plant with anaerobic digestion. New facility will include four 40' x 204' solar drying cells, make use of both solar heating and waste heat from nearby industries (distillery and electric generation plant) to dewater the plant sludge. Use of this "green" technology is expected to increase solids content of dewatered sludge from approximately 23% to 80+%; significant reduction in landfill disposal costs (approximately 70%) is anticipated.

Harrodsburg Wastewater Treatment Plant Upgrade (2.68 MGD), Harrodsburg, KY – Principal. Replacement of raw sewage and wet weather flow equalization pumping equipment, and renovation of two lined, earthen lagoon "sideline" wet weather flow equalization basins (total storage volume of 3.6 MG). EQ basin work included basin linings replacement and new jet diffusion mixing equipment. Work also included digested sludge holding basin lining replacement, and media replacement in existing sludge drying beds.

Fairfield Wastewater Treatment Plant Modifications, Fairfield, OH – Principal. Design and construction administration for wastewater treatment plant modifications consisting of new 48" line from final clarifiers to UV disinfection system, new 3' effluent Parshall flume, new algae covers for existing clarifier launders and replacement of clarifier drive units.

South Dearborn Regional Sewer District 20-Year Wastewater Master Plan (2014), Lawrenceburg, IN – Project Manager. This long-range master plan included evaluation of existing conditions as well as documentation of needs within the planning area (unsewered areas, septic tank problems, etc.). Included were sewer shed planning, current and future flow projections, identification of alternatives to extend sewer service to unsewered areas (conventional gravity sewer, low pressure grinder sewers, etc.), preliminary line sizing and hydraulic analysis of alternative collector sewers and interceptor / pumping alternatives, current and future needs at the existing 6.0-MGD wastewater treatment plant, as well as estimated construction and total project costs, as well as life cycle cost analyses and possible phasing and funding options. Recommendations already completed include upgrading existing sludge dewatering facilities by replacing an existing centrifuge with a screw press, and expansion/upgrade of existing ultra-violet (UV) disinfection equipment.

Alan Bryan, PE | GRW Senior Project Engineer

YEARS OF EXPERIENCE:
With GRW: 20
Total: 25

EDUCATION
A.S., Mathematics and Physics, 1993, Lexington Community College

B.S., Civil Engineering, 1995, University of Kentucky

REGISTRATION
Professional Engineer: KY, IN

PROFESSIONAL AFFILIATIONS AND TRAINING
NASSCO Pipeline Assessment & Certification Program

American Water Works Association

Water Environment Federation

Alan's engineering experience involves the planning, design and construction of all sizes and types of municipal wastewater systems. His previous experience includes the design and construction of numerous large and small wastewater pumping stations along with their corresponding force mains. His experience includes an extensive background in hydraulic modeling and network analysis.

RELEVANT PROJECT EXPERIENCE

Lexington Town Branch Wet Weather Flow Storage (22 MG) and Pumping (56 MGD) Facilities, Lexington, KY – Project Engineer. Phase 1 of multi-phase wet weather storage facility adjacent to LFUCG Town Branch WWTP. Includes 22 MG above grade, pre-stressed concrete structure with overflow weir box and a four-plex submersible pumping station to convey peak wet weather flows to tank. Tank diameter is 260 feet with side water depth of 55 feet. Later phase will expand to 44 MG storage facility. Some aspects - such as piping, wet well, concrete, motor controls (by Allen Bradley ControlLogix PLC networked via multi-mode fiber optic cable to treatment plant Ethernet-based SCADA system), etc. – of project designed during Phase I to be compatible with all subsequent phases, anticipating the maximum volume. Project is a deliverable of LFUCG's Consent Decree. Significant funding is provided by KIA Clean Water SRF.

Lexington Expansion Area 2A Watershed Pumping Station (10 MGD) and Force Mains, Lexington, KY – Project Engineer. Design for new 10 MGD pumping station with maximum pumping capacity of 7,400 gpm, screening room, controls room, odor control room, bathroom and mechanical room, with 4,800 LF of 24" force main and 3,600 LF of 48" to 15" gravity sewers, to serve new development. Enabled decommissioning and removal of 5 existing pump stations, with flow by gravity to a new 48" gravity trunk sewer (constructed by a developer) extended into new pump station.

Lexington East Hickman Wet Weather Flow Storage (4.0 MG) and Pumping Facilities (32.5 MGD), Lexington, KY – Technical Advisor. Design for wet weather Consent Decree project involving 4.0 MG prestressed concrete storage tank and associated 20.1 MGD dry weather and 12.4 MGD wet weather pump stations, gravity sewer improvements, associated site piping, screening facility, odor control facilities, and full standby generator.

East Kentucky Power Cooperative Wastewater Collection and Treatment System Study, Winchester, KY – Project Manager. Study included evaluation of inflow and infiltration within collection system, and capacity of current and former treatment systems to determine systems could treat projected wastewater flows, as well as the inflow and infiltration. Provided EKPC with recommendations for future wastewater conveyance and treatment alternatives.

Paducah-McCracken County Joint Sewer Agency Wastewater Treatment Plant Improvements (9 MGD), Paducah, KY – Project Manager. Design for upgrades to a wastewater treatment plant including a new fine mechanical bar screen structure, primary effluent flow splitter box, new 80' diameter final clarifier, new return sludge pumping station, hydraulic improvements to upgrade wet weather flow hydraulic capacity of the plant from 9 MGD to 18 MGD.

Paducah-McCracken Joint Sewer Agency Woodlawn Wastewater Treatment Plant Improvements, Paducah, KY – Project Manager. Design improvements to increase 1.0 MGD, two-stage facultative lagoon treatment plant to 2.3 MGD. Project includes replacement of submersible pumps at primary WWTP lagoons and vertical turbine pumps at final WWTP lagoons; installation of new UV disinfection unit at final WWTP lagoon and associated piping.

Paducah-McCracken County Joint Sewer Agency 22 MGD Terrell Street CSO Pump Station/Wastewater Treatment Plant Headworks Improvements, Paducah, KY – Project Manager. Renovation design at WWTP headworks which handles CSO flows up to 21 MGD. Major work involved 22 MGD Terrell Street CSO influent pump station renovation, as well as large and small coarse mechanical bar screen renovation projects. Pump station work involved motor control center (MCC) replacement, control panel and level controls upgrade, and addition of standby generator along with an auto transfer switch, and new lighting. Energy recovery systems and unit heaters were installed in bar screen rooms to provide proper ventilation in accordance with NFPA 820 and 10-State Standards. Large and small bar screen room and small bar screen rooms brought up to current NEC code for Class 1 Division 2 explosion proof rated rooms. Old crawler type large coarse bar screen replaced with continuous rake type coarse bar screen to address plugging issues and upgrade the equipment.

Kentucky American Water Richmond Road Station Water Treatment Plant (25 MGD) Sludge Handling Improvements, Lexington, KY – Project Manager. Improvements included replacement of the existing sludge removal equipment with a hoseless type sludge collection equipment in the sedimentation basin, the addition of two concrete walls in the sedimentation basins to divide the two basins into four basins, construction of additional effluent launders in the primary sedimentation basins, construction of one new sludge thickener and a sludge flow splitter box, modifications to two existing sludge thickeners, replacement of the existing sludge dewatering equipment including: a new 2-meter belt filter press, polymer feed system, sludge conveyor, and sludge pumps, climate controlled Operator's office, and related HVAC systems in the existing sludge dewatering building, replacement of the sodium thiosulfate feed system located in the sludge dewatering building, modifications to the existing wash water holding basins, along with electrical and SCADA system modifications.

Wilmore Wastewater Treatment Plant Upgrade, Wilmore, KY – Project Manager. Replacement of existing aerated sludge holding basin, blowers, and pumps with two larger concrete basins and more durable and efficient blowers, diffusers and pumps; new sludge holding basins, sludge processing building with mechanical sludge dewatering (screw press) and chemical storage/feed facilities; and repair of influent screenings dumpster room.

Crane Naval Surface Warfare Center TNT Wastewater Treatment Facility Upgrades, Crane, IN – Project Manager. Modernization of systems to improve facility processes of TNT Wastewater Treatment Facility, which receives hazardous waste from the remote production operations, and serves Crane Army Ammunition Activity (CAAA) explosive production facilities. Work included replacement of several system components including main control panel (alarms, logic, and automatic operation of treatment process); level sensors with backup level controls in holding tanks in Bldg. 3044; both pumps, level sensors, and local control panels in Bldg. 3045 holding tank; automatic air operated valves on carbon tower filter with electric operated valves; and one-ton air hoist with new electric one-ton hoist rated for a Class II, Division 1, Group F and G environment, along with other improvements.

Crane NSA Wastewater Treatment Plant Improvements (2.2 MGD), Crane, IN – Project Manager. Improvements to address wet weather flows to the plant, as well as replacement of aging equipment and upgrades to the plant SCADA instrumentation system. Included influent overflow pump station and force main to a new 1.5 MG wet weather flow equalization lagoon, additions and upgrades to the instrumentation and SCADA software, a WAS pump station, a UV disinfection channel, replacement of clarifier equipment, replacement of RAS pumps, replace diffusers and air piping in equalization basin, and other improvements.

Frankfort Wet Weather Flow Storage (10 MG) and Pumping (20 MGD) Facilities, Frankfort, KY – Project Engineer. New 10 MG above-ground prestressed concrete storage basin, 20 MGD submersible triplex pumping station, and a flow control vault to relieve combined sewer flow in excess of existing wastewater treatment plant's hydraulic capacity and minimize sewer overflows in upstream areas of City. Initial study included evaluation of storage requirements associated with peak wet weather flow, feasible alternatives, and ultimate associated costs.

West Liberty Wastewater System Improvements (Contract B), West Liberty, KY – Project Engineer. Design for increasing capacity of a primary influent triplex pumping station from 1,200 gpm to 1,600 gpm through replacement of pump station pumps and pump controls, installation of new power generation equipment as part of an overall system improvements project, which consisted of a wastewater treatment plant upgrade, three pump stations, force main, and gravity sewer improvements.

Allen Tucker, PE | GRW Mechanical Engineer

YEARS OF EXPERIENCE:
With GRW: 8
Total: 33

EDUCATION
B.S., Mechanical Engineering, 1984, Clemson University

REGISTRATION
PE: KY, SC, FL

Construction Documents Technologist (CDT)

PROFESSIONAL AFFILIATIONS AND TRAINING

Allen's experience as a mechanical engineer has encompassed water resources projects, as well as mechanical system design, plumbing, and fire protection for a variety of other building types. Allen has been involved with overall mechanical design, client interface, multidiscipline coordination, plan preparation, specifications, calculations, and scope of work development. His experience also includes shop drawing and material submittal review, preparation of request-for-proposals, project design review and development of design documentation in accordance with the owners project requirements and basis of design.

RELEVANT PROJECT EXPERIENCE

Lexington Town Branch Wet Weather Flow Storage (22 MG) and Pumping (56 MGD) Facilities, Lexington, KY – Mechanical Engineer. Phase 1 of multi-phase wet weather storage facility adjacent to LFUCG Town Branch WWTP. Includes 22 MG above grade, pre-stressed concrete structure with overflow weir box and a four-plex submersible pumping station to convey peak wet weather flows to tank. Tank diameter is 260 feet with side water depth of 55 feet. Later phase will expand to 44 MG storage facility. Some aspects - such as piping, wet well, concrete, motor controls (by Allen Bradley ControlLogix PLC networked via multi-mode fiber optic cable to treatment plant Ethernet-based SCADA system), etc. – of project designed during Phase I to be compatible with all subsequent phases, anticipating the maximum volume. Project is a deliverable of LFUCG's Consent Decree. Significant funding is provided by KIA Clean Water SRF.

Lexington Expansion Area 2A Watershed Pumping Station (10 MGD) and Force Mains, Lexington, KY – Mechanical Engineer. Design for new 10 MGD pumping station with maximum pumping capacity of 7,400 gpm, screening room, controls room, odor control room, bathroom and mechanical room, with 4,800 LF of 24" force main and 3,600 LF of 48" to 15" gravity sewers, to serve new development. Enabled decommissioning and removal of 5 existing pump stations, with flow by gravity to a new 48" gravity trunk sewer (constructed by a developer) extended into new pump station.

Lexington East Hickman Wet Weather Flow Storage (4.0 MG) and Pumping Facilities (32.5 MGD), Lexington, KY – Mechanical Engineer. Design for wet weather Consent Decree project involving 4.0 MG prestressed concrete storage tank and associated 20.1 MGD dry weather and 12.4 MGD wet weather pump stations, gravity sewer improvements, associated site piping, screening facility, odor control facilities, and full standby generator.

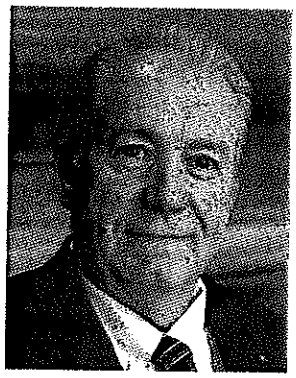
Sanitation District No. 1 Western Regional Water Reclamation Facility (20 MGD), Boone County, KY – Construction Administration. Features include screenings removal by fine screens, centrifugal vortex grit removal, secondary treatment employing either conventional activated sludge process or contact stabilization activated sludge process with fine-bubble diffusers, final clarification and ultraviolet disinfection before treated wastewater is discharged to Ohio River. Sludge processing includes aerated sludge storage, gravity belt thickening of waste activated sludge, and belt filter press dewatering before landfill disposal. Structures include the following buildings: administration, sludge processing, blower/sludge pumping, and screening and grit removal equipment.

Harrodsburg Wastewater Treatment Plant Expansion (3.5 MGD), Harrodsburg, KY – Mechanical Engineer. Major items of work include new pre-treatment building (screening and grit removal), replacement of existing RBC biological treatment process with new oxidation ditch treatment process designed for biological nutrient removal, new circular final clarifiers, new return/waste sludge pumping, new ultra-violet disinfection facilities and conversion of existing anaerobic digestion facilities to aerated sludge holding basins.

Scottsville Wastewater Treatment Plant Generator Replacement, Scottsville, KY – Mechanical Engineer. Design and construction phase services for complete plant backup 420 KW fixed standby generator system and service-rated automatic transfer switch. Generator system included automatic load bank, weatherproof and soundproof enclosure, and a platform. Existing generator room was converted to office space.

Versailles Wastewater Treatment Plant Expansion (4.5 MGD), Versailles, KY – Mechanical Engineer. Conversion and expansion of 3 MGD oxidation ditch, extended aeration plant to 4.5 MGD sequencing batch reactor (SBR) facility with peak flow of 12.5 MGD. New equipment or facilities include influent, fine mechanical screening, Parshall flume, vortex grit removal, preliminary treatment building, 12.5 MGD influent pump station, four SBR basins, UV disinfection system, fine bubble post aeration basins, effluent Parshall flume, generator for emergency backup power and addition to administration building. Existing oxidation ditches will be converted to wet weather flow storage basins. Existing diffused aeration system for aerobic digesters will be replaced with a more efficient jet aeration system.

Monty Maynard, PE, LEED AP BD+C | GRW Electrical Engineer



YEARS OF EXPERIENCE:
With GRW: 21
Total: 40

EDUCATION
B.S., Electrical Engineering, 1978, University of Kentucky

REGISTRATION
Professional Engineer (Electrical): KY, WV, IN, GA, TN, TX, NV, NC, MS, MI, AL, CA, DC, FL

NCEES Member allows reciprocity with other states

LEED Accredited Professional, Building Design + Construction

Certified Healthcare Contractor

PROFESSIONAL AFFILIATIONS AND TRAINING
National Fire Protection Association

International Society of Automation

American Institute of Architects

American Council of Engineering Companies

National Council of Examiners for Engineering and Surveying

Air National Guard Civil Engineering Association Life Member (Associate)

Society of American Military Engineers

American Water Works Association

Kentucky Society of Healthcare Engineers

Monty's experience with electrical design, process instrumentation and control design, and project management is extensive. He has designed instrumentation, controls and SCADA systems for numerous water and sewer systems throughout Kentucky, Indiana, West Virginia, Ohio and Tennessee, as well as provided electrical engineering for more than 100 water and wastewater treatment plants. He has designed state-of-the-art SCADA (Supervisory Control and Data Acquisition) monitoring and control systems for treatment plants, and he specializes in the design of telemetering systems for remote monitoring of facility operations. Monty has designed motor control and power distribution for wastewater treatment plants and large pump stations with motors as large as 1250HP.

RELEVANT PROJECT EXPERIENCE

Lexington Town Branch Wet Weather Flow Storage (22 MG) and Pumping (56 MGD) Facilities, Lexington, KY – Electrical Engineer. Phase 1 of multi-phase wet weather storage facility adjacent to LFUCG Town Branch WWTP. Includes 22 MG above grade, pre-stressed concrete structure with overflow weir box and a four-plex submersible pumping station to convey peak wet weather flows to tank. Tank diameter is 260 feet with side water depth of 55 feet. Later phase will expand to 44 MG storage facility. Some aspects - such as piping, wet well, concrete, motor controls (by Allen Bradley ControlLogix PLC networked via multi-mode fiber optic cable to treatment plant Ethernet-based SCADA system), etc. – of project designed during Phase I to be compatible with all subsequent phases, anticipating the maximum volume. Project is a deliverable of LFUCG's Consent Decree. Significant funding is provided by KIA Clean Water SRF.

South Dearborn Regional Sewer District Wastewater Treatment Plant Upgrade and Expansion (6.0 MGD), Lawrenceburg, IN – Electrical Engineer. Design and construction for expansion of existing activated sludge plant from 3.5 MGD to 6.0 MGD. Also "Division 1" plant, which provided industrial pretreatment for Seagrams Distillery and processed all solids for both plants, was eliminated and industrial pretreatment and solids processing functions were added to expansion/upgrade of "Division 2" plant. Work also included design of new SCADA system which utilizes Allen Bradley SLC 5/04 PLCs (Programmable Logic Controllers) as basic Remote Terminal Unit (RTU).

Whitestown Wastewater Treatment Plant, Lift Station and Forcemain Improvements, Whitestown, IN – Electrical Engineer. New 1.7 MGD South Wastewater Treatment Plant (WWTP), expandable to 2.3 MGD, and associated sanitary lift stations and forcemain replacements/upgrades redirect flow to South WWTP, a Sequence Batch Reactor (SBR) type which will discharge into "zero flow" stream. Collection system improvements include two new cast-in-place concrete triplex submersible pump lift stations (the 5.8 MGD and the 4.5 MGD); approximately 16,500 LF of 20" forcemain; approximately 2,600 LF of 18" forcemain; and upgrade of Whitestown Lift Station and Walker Farms Lift Station with new pumps, controls, and approximately 14,900 LF of 10" forcemain.

Sanitation District No. 1 Eastern Regional Water Reclamation Facility (4 MGD), Alexandria, KY – Construction Administration. Design for one of the most technologically advanced wastewater treatment facilities in Kentucky featuring, in addition to other conventional processes: biofiltration of foul air streams throughout the site for odor control; PVC channel and structure liners, manhole liners, and epoxy coating on all ductile iron pipe reducing hydrogen sulfide corrosion; variable control of aerators in oxidation ditches based on dissolved oxygen content, providing power savings resulting in payback in under two years; UV disinfection exceeding KDW requirements with variable control system automatically adjusting output based on flow and UV transmittance; three-belt design for gravity belt thickeners/belt filter press units, combining thickening and dewatering for space saving and operator flexibility in handling/disposal of biosolids; scum concentrator providing beneficial reuse or landfill disposal; auger dumpsters with integral screw conveyors maximizing loads, reducing truck traffic and resulting costs.

Sanitation District No. 1 Western Regional Water Reclamation Facility (20 MGD), Boone County, KY – QA/QC. Design and construction services for a secondary wastewater treatment plant with initial average flow of 20.0 MGD, projected future average flows of 30.0 MGD, and site layout and plant hydraulics planned for an ultimate wet weather build-out capacity of 60.0 MGD, with provisions to contain, capture and biologically treat odors when they are produced. Features include screenings removal by fine screens, centrifugal vortex grit removal, secondary treatment employing either conventional activated sludge process or contact stabilization activated sludge process with fine-bubble diffusers, final clarification and ultraviolet disinfection before treated wastewater is discharged to Ohio River. Sludge processing includes aerated sludge storage, gravity belt thickening of waste activated sludge, and belt filter press dewatering before landfill disposal. Structures include the following buildings: administration, sludge processing, blower/sludge pumping, and screening and grit removal equipment.

Paducah-McCracken County Joint Sewer Agency Wastewater Treatment Plant Improvements (9 MGD), Paducah, KY – Electrical Engineer. Design for upgrades to a wastewater treatment plant including a new fine mechanical bar screen structure, primary effluent flow splitter box, new 80' diameter final clarifier, new return sludge pumping station, hydraulic improvements to upgrade wet weather flow hydraulic capacity of the plant from 9 MGD to 18 MGD.

Lawrenceburg Wastewater Treatment Plant (3.3 MGD), Lawrenceburg, KY – Electrical Engineer. Replacement and de-commissioning of existing 1.9 MGD rotating biological contact plant with new 3.3 MGD oxidation ditch plant with raw sewage pumping, fine mechanical screening, vortex grit removal, concentric multi-channel oxidation ditch for biological treatment and phosphorous removal, clarification, UV disinfection system, post aeration, and conversion of existing anaerobic digesters to aerobic digesters. Existing belt filter press used for sludge dewatering.

Lexington East Hickman Wet Weather Flow Storage (4.0 MG) and Pumping Facilities (32.5 MGD), Lexington, KY – Electrical Engineer. Design for wet weather Consent Decree project involving 4.0 MG prestressed concrete storage tank and associated 20.1 MGD dry weather and 12.4 MGD wet weather pump stations, gravity sewer improvements, associated site piping, screening facility, odor control facilities, and full standby generator.

Lexington North Elkhorn Watershed Force Main and Pumping Station (19 MGD), Lexington, KY – Electrical Engineer. Design of watershed pumping station replacement and 40,000 LF of new 30" and 36" force main across the center of Lexington in a combination of private easements and crowded city streets to divert flow directly to Town Branch Wastewater Treatment Plant. Pump station has pumping capacity of 19 MGD and includes four 385 HP, wet pit (submersible) pumps with variable frequency drives, standby power, odor control, mechanical course bar screens and flow metering. Station includes telemetry, controls, lightning protection system, and harmonics mitigation equipment.

Lexington Lower Town Branch Watershed Interceptor Sewers, Force Main and 5 MGD Pumping Station, Lexington, KY – Electrical Engineer. Initial work included land use analysis of large undeveloped tract to determine load on interceptors and pumping station; and computerized hydraulic analysis of entire system (interceptors to treatment plant). Design included 12" to 30" gravity lines, 24" force main, and 5.0 MGD pumping station (expandable to 7.5 MGD). Pump station included mechanical bar screens, odor control equipment, and backup diesel generator (600 KW).

David Humlong, AIA, LEED AP | GRW Architect

YEARS OF EXPERIENCE:
With GRW: 2
Total: 31

EDUCATION
Bachelor of Architecture, 1985, University of Kentucky

REGISTRATION
Registered Architect: KY

LEED Accredited Professional

Member, AIA Academy of Architecture for Health

PROFESSIONAL AFFILIATIONS AND TRAINING
Member, AIA Academy of Architecture for Health

Trustee, Kentucky Construction Insurance Trust (KCIT)

David is a seasoned project architect with a deep understanding of the healthcare environment. Having worked on a broad range of project types over the past three decades, his knowledge of the trends and challenges facing the healthcare industry enable him to provide thoughtful, sensible design solutions, creating buildings that are sensitive to both the functional needs and aesthetic expectations of clients. Experience includes all phases of design and construction administration in roles as Project Architect, Project Manager, and Client Manager.

RELEVANT PROJECT EXPERIENCE

Lexington West Hickman Wastewater Treatment Plant Administration Building Improvements and Expansion, Lexington, KY – Construction Administration. Architectural and engineering design for improvements and expansion of WWTP's administration building. Scope includes demolition of a portion of the existing break room's greenhouse-type glazing, expansion of laboratory work area, new reception area adjacent to main entrance and new exterior patio.

City of Butler Sanitary Sewer and Waterline Rehabilitation, Butler, KY - Architect. Evaluation and design for repair of 8700 LF of sanitary sewer pipe including CIPP; spot, point, and manhole repairs, as well as appurtenant construction. Water line work included replacement and repairs of water distribution lines, valves and service connections, along with other appurtenant construction.

Romney Regional Sewer District New Wastewater Treatment Plant and Collection System, Romney, IN – Architect. Design for control building associated with wastewater treatment plant. New collection and treatment system consisting of approximately 107 septic tank effluent pumping (STEP) system tanks; 10,700 LF of 1.25-inch service laterals; 20,400 LF of 1.5 to 4-inch pipe to convey flow to new mechanical, extended aeration wastewater treatment plant with average design flow of 32,000 gpd and peak hourly design flow of 165,000 gpd. Plant includes UV disinfection, sludge management, and emergency generator.

North West Utility District Membrane Water Treatment Plant (4.0 MGD) and Improvements, Soddy-Daisy, TN – Architect. Design for building housing new detached 4.0 MGD water treatment plant using pressure membrane technology. The original concrete basins will be used as pretreatment basins; and chemical fee systems, clearwell, and high-service pumping facilities will also be incorporated into the new plant. Membrane treatment's smaller footprint allows space for expansion to 6.0 MGD. GRW assisted with securing Rural Development loan/grant funding of approximately $8.5 million.

Jon Marcum, PE, SE | GRW Structural Engineer

YEARS OF EXPERIENCE:
With GRW: 0
Total: 19

EDUCATION
M.S., Civil Engineering, 1996, University of Kentucky

B.S., Civil Engineering, 1995, University of Kentucky

REGISTRATION
Structural Engineer: KY, WV, IN, TN, GA, NY

Professional Engineer (Structural): OH

Jon has two decades of experience with all phases of structural consulting services including contracting, code searching, schematic design, design development, structural design, value engineering, structural evaluations, structural inspections, structural forensics, BIM/drafting production of contract documents, bid reviews, contract administration, as-built drawings, etc. He is experienced with a wide variety of structural design software, as well as drafting and BIM software, such as Autocad, Microstation, Draftsight, Sketchup 2016, Bentley Structural Modeler, Revit, and Tekla BIMSight.

RELEVANT PROJECT EXPERIENCE

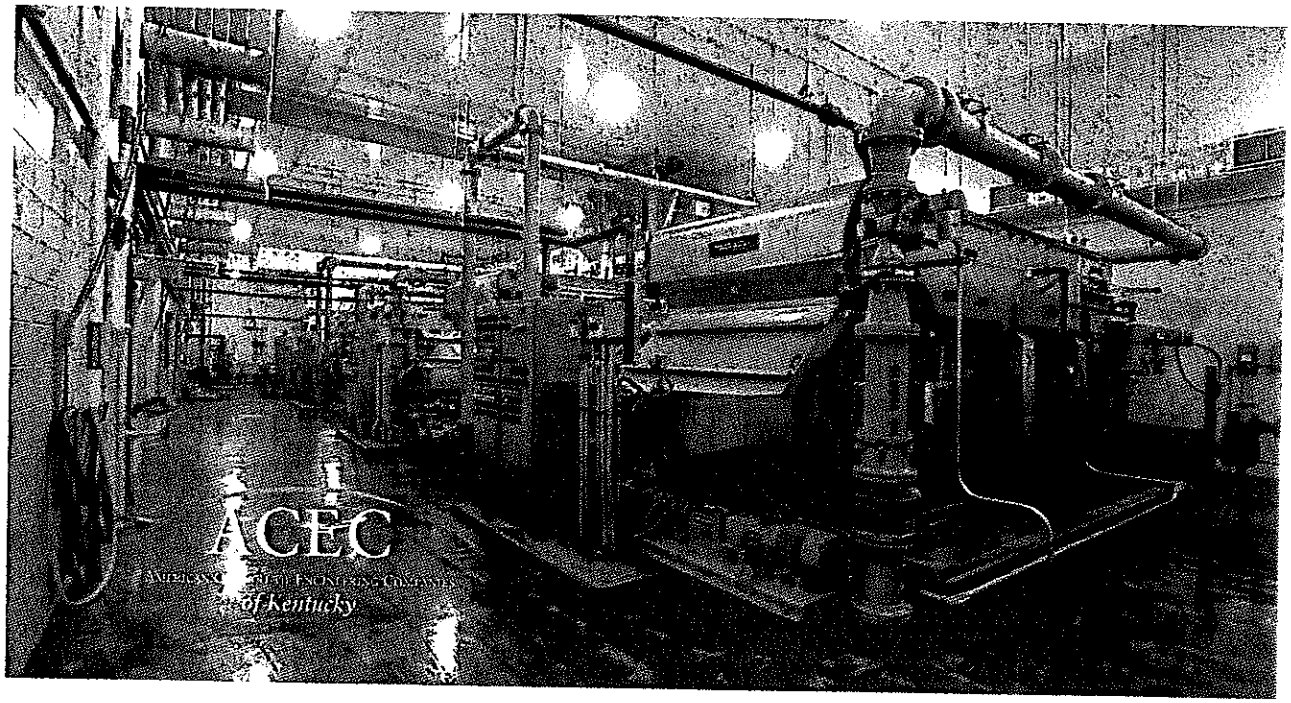
Murray Bee Creek Wastewater Treatment Plant Expansion (8.75 MGD), Murray, KY – Structural Engineer. Planning, design, bidding, construction administration, and inspection services for all aspects of the expansion of the Bee Creek Wastewater Treatment Plant from 5.25 MGD to 8.75 MGD (13.1 MGD peak hourly flow to 24.0 MGD peak hourly flow). Expansion will ensure compliance with KPDES Permit and the Clean Water Act. Other services include a rate study, permitting, an electronic operations and maintenance manual, and assistance with start-up.

Corbin Wastewater Treatment Plant Upgrade (4.5 MGD), Corbin, KY – Structural Engineer. Major items of work include expansion/upgrade of Pump Station No. 1 (5 MGD to 9 MGD); improvements to existing pre-treatment building (screening and grit removal); new 2.0 MG sideline wet weather flow equalization; new circular final clarifier, new UV disinfection facilities, and new RAS/WAS pump station.

Bardstown Water Treatment Plant Backwash Improvements, Bardstown, KY – Structural Engineer. Evaluation, recommendations and design, construction administration and resident inspection services to address several operational issues. Evaluation phase included hydraulic modeling with WaterGEMS. Improvements were made to filter backwash, chlorine gas disinfection system, powdered activated carbon feed system, and clearwell interconnect piping.

SECTION 4.0 | Five Similar Projects

4.0 Five Similar Projects



Western Regional Water Reclamation Facility (20 MGD)

Sanitation District No. 1 | Boone Co., KY

The Western Regional Water Reclamation Facility is a new plant that serves the western portion (including Boone and Kenton counties) of Sanitation District No. 1's three-county service area. The plant is designed for an average day flow of 20 MGD with provisions for future modular expansion to 30 MGD.

The plant includes 14 million gallons of upstream wet weather flow equalization (accomplished in a 6 mile long 102-inch wastewater conveyance tunnel). The plant is designed for gravity flow throughout the plant. Key plant design features include preliminary treatment (mechanically cleaned fine screens and vortex grit removal, secondary treatment consisting of activated sludge biological treatment utilizing fine bubble aeration (can be operated in either contact stabilization or conventional activated sludge modes), return and waste sludge pumping, secondary clarification, ultra-violet (UV) disinfection and cascade post aeration.

Engineering Excellence Awards National Finalist
American Council of Engineering Companies

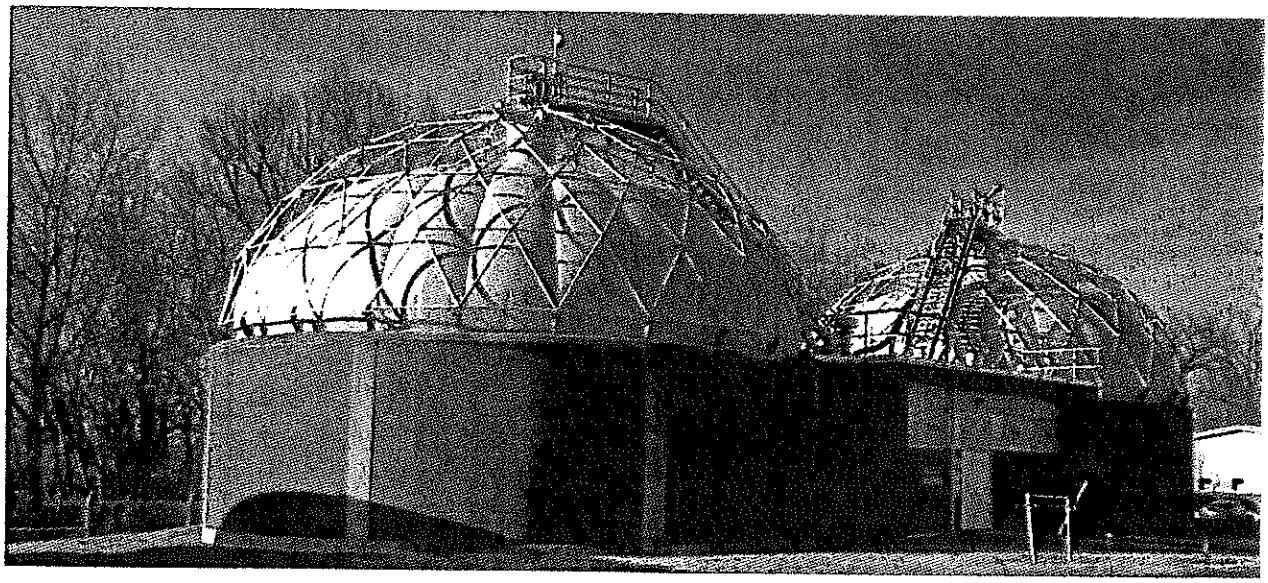
Engineering Excellence Grand Award
American Council of Engineering Companies of KY

Silver Award for 100 Percent Compliance with NPDES Permit (multiple awards)
National Association of Clean Water Agencies

Solids processing facilities at the plant include aerated sludge holding for waste activated sludge, gravity belt thickening and belt filter press sludge dewatering. Four (4) 2-meter Ashbrook combination (3 belt) gravity belt thickener/belt filter press units are utilized for sludge thickening and sludge dewatering. Dewatered sludge is sent to a landfill for final disposal.

This $69-million project has received an ACEC-KY Engineering Excellence Grand Award and was selected in 2017 for Kentucky Infrastructure Authority's first annual "H_2O Award" for wastewater projects.

Client Contact: Ralph Johnstone, PE, Director, Design & Construction Management, 859-578-7461, rjohnstone@sd1.org



Fairfield Wastewater Treatment Plant Upgrade and Expansion (10 MGD)

City of Fairfield | Fairfield, OH

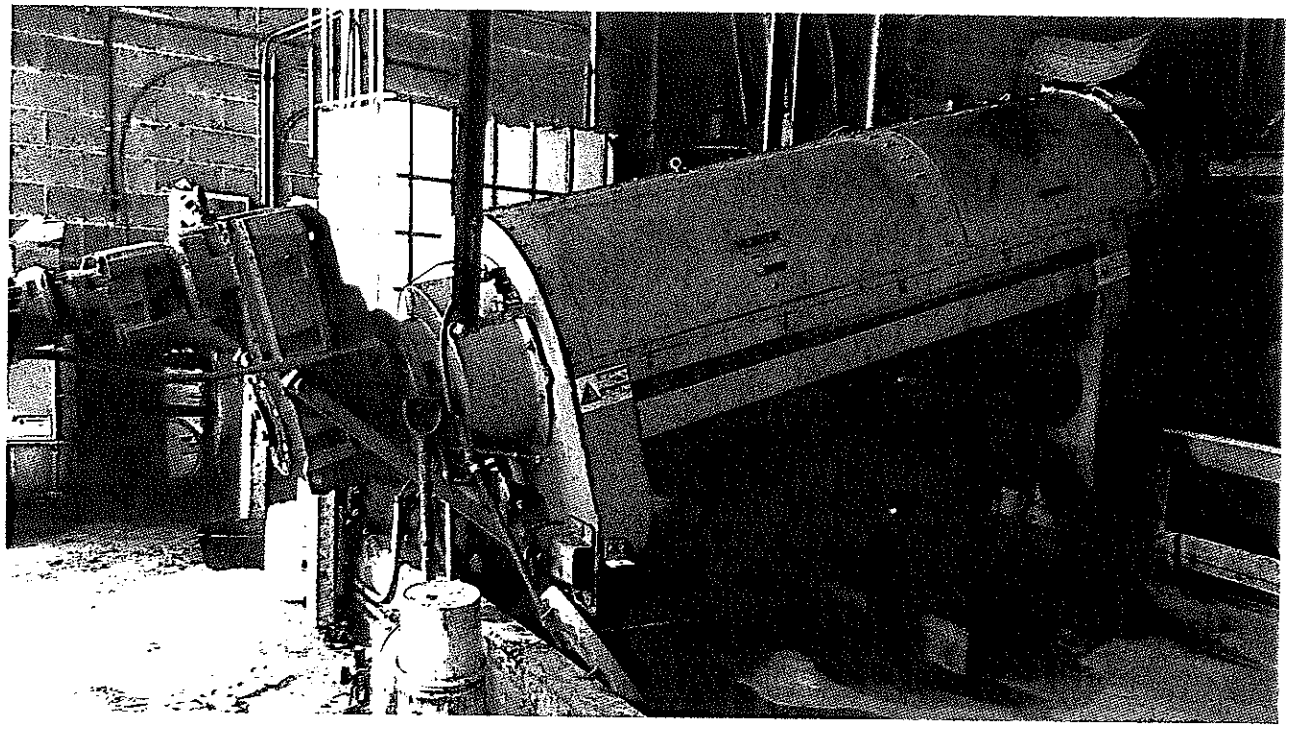
The City of Fairfield (population 45,000) is located on the northwest side of Cincinnati and has been one of Ohio's fastest growing communities over the last 30 years. GRW has assisted the City of Fairfield with multiple previous expansion and upgrading improvements projects at this facility in recent years.

The Fairfield WWTP has sideline flow equalization of wet weather flows (three cells, 10 million gallons of storage), influent raw sewage pumping, headworks facilities (mechanical screening and aerated grit chambers), primary sedimentation basins, single stage nitrification activated sludge treatment process, return and waste sludge pumping, final clarification and ultra-violet (UV) disinfection. **Plant solids processing includes high rate anaerobic digestion of a combination of primary sludge and thickened waste activated sludge. Secondary digesters are equipped with "Dystor" dual membrane flexible gas-holder covers to facilitate methane storage and utilization. Anaerobically digested sludge is dewatered with an Ashbrook belt filter press 15±% solids with ultimate disposal to a private "contract" landfarming operation.**

Engineering Excellence Grand Award -
American Council of
Engineering Companies of Kentucky

Sludge thickening facilities at the plant include aerated sludge holding basins for waste activated sludge (WAS). Those basins are equipped with telescoping valves for decanting to increase solids concentration before the WAS is pumped to an Ashbrook gravity belt thickener which dewaters the sludge to 3.5 to 4.0±% solids. The thickened WAS is then pumped to the primary anaerobic digester for additional treatment.

Client Contact: Adam Sackenheim, Public Utilities Director, City of Fairfield, (513) 858-7775, asackenheim@fairfield-city.org



WWTP Expansion (6.0 MGD) and Solids Processing Facilities

South Dearborn Regional Sewer District | Lawrenceburg, IN

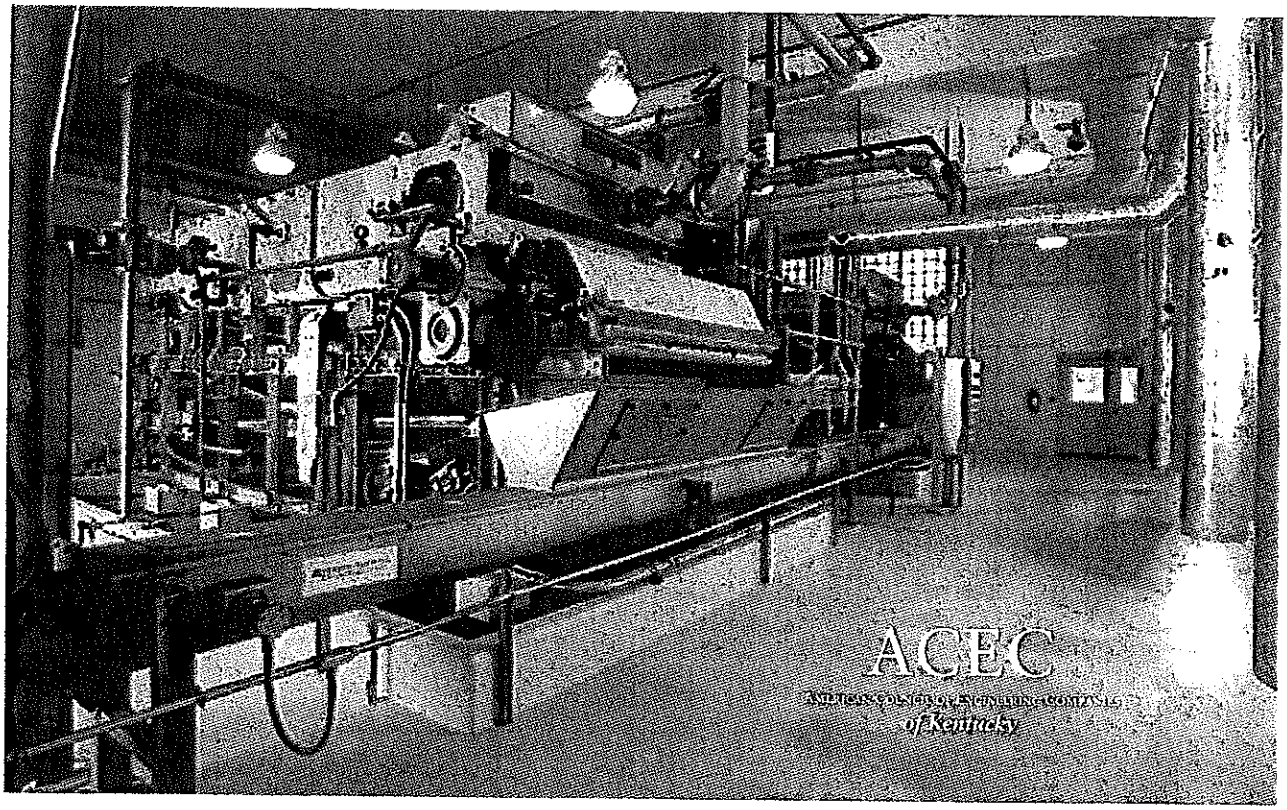
The South Dearborn Regional Sewer District (SDRSD) is a regional utility which provides wastewater treatment services for the southeast Indiana communities of Lawrenceburg, Greendale and Aurora. The plant also provides treatment for a major distillery which produces about 30% of the plant flow and about 65% of the plant's organic loading. The high strength waste from the distillery results in a typical influent waste strength of approximately 400 mg/l BOD with a high percentage of soluble BOD.

The plant facilities include headworks (mechanical fine screening and vortex grit removal), primary sedimentation, contact stabilization activated sludge treatment process, return and waste sludge pumping, final clarification and ultra-violet (UV) disinfection.

Plant solids processing facilities include high rate anaerobic digestion of a combination of primary sludge and thickened waste activated sludge. Anaerobically digested sludge is dewatered with a Huber screw press to 18% to 20% solids for ultimate disposal to a landfill.

Sludge thickening facilities at the plant include aerated sludge holding basins for waste activated sludge (WAS). Those basins are equipped with telescoping valves for decanting to increase solids concentration before the WAS is pumped to a gravity belt thickener which thickens the sludge to 4-1/2 ± % solids. The gravity belt thickener can thicken to as much as 6% solids but plant operators prefer to operate at the lower rate. The thickened WAS is then pumped to the primary anaerobic digester for additional treatment.

Client Contact: Bill Neyer, General Manager, South Dearborn Regional Sewer District, (812) 537-0457, bneyer@sdrsd.org



Eastern Regional Water Reclamation Facility (MGD)

Sanitation District No. 1 | Campbell Co., KY

The Eastern Regional Water Reclamation Facility (ERWRF) is a new plant that serves the eastern portion (Campbell County) of Sanitation District No. 1's three-county service area. The plant is designed for an average day flow of 4 MGD with provisions for a future modular design to expand to 8 MGD average day flow.

Key features of the ERWRF include influent raw sewage pumping, preliminary treatment (mechanically cleaned fine screens and vortex grit removal), 2 million gallons of side line wet weather (aerated) flow equalization, biological treatment provided by Carousel deep cell oxidation ditches with biological nutrient removal (anaerobic and anoxic treatment zones), return and waste sludge pumping, secondary clarification, ultra-violet (UV) disinfection and cascade post aeration.

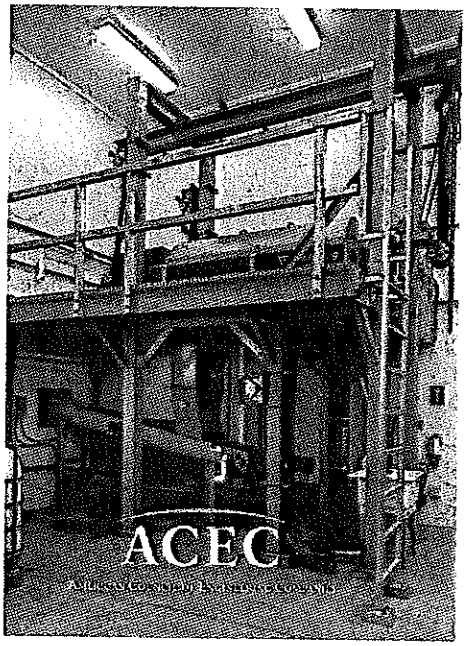
Engineering Excellence Awards National Finalist
American Council of Engineering Companies

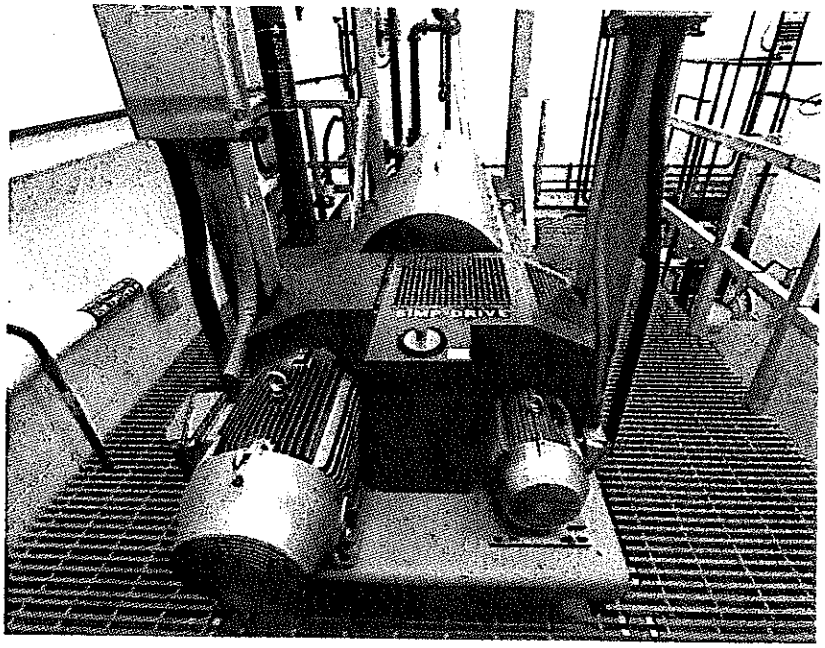
Engineering Excellence Grand Award
American Council of Engineering Companies of Kentucky

Silver Award for 100 Percent Compliance with NPDES Permit (multiple awards)
National Association of Clean Water Agencies

Solids processing facilities at the plant include aerated sludge holding for waste activated sludge, gravity belt thickening and belt filter press sludge dewatering. Two (2) 2-meter Ashbrook combination (3 belt) gravity belt thickener/belt filter press units are utilized for sludge thickening and sludge dewatering. Dewatered sludge is sent to a landfill for final disposal.

Client Contact: Ralph Johnstone, PE, Director, Design & Construction Management, 859-578-7461, rjohnstone@sd1.org





Wastewater Treatment Plant (1.7 MGD) Pumping Station and Force Main

Town of Whitestown | Whitestown, IN

The Town of Whitestown, IN, is located on the northwest side of Indianapolis and is one of Indiana's fastest growing communities (500% growth in 10 years). GRW has assisted Whitestown with the planning, funding, design and construction administration of a new 1.7 MGD South Wastewater Treatment Plant as well as pumping station and force main improvements to convey wastewater from the old plant to the new plant.

Key features of the new plant include influent raw sewage pumping, preliminary treatment (mechanically cleaned fine screens and vortex "Headcell" grit removal), biological treatment provided by sequencing batch reactors with biological nutrient removal, waste sludge pumping, ultra-violet (UV) disinfection and post aeration.

Solids processing facilities at the plant include aerobic digestion for waste activated sludge. Those basins are equipped with telescoping valves for decanting to increase solids before the digested sludge is pumped via rotary lobe positive displacement sludge feed pumps equipment with in-line grinders to a Flottweg centrifuge for sludge dewatering. The centrifuge dewaters 0.8% to 1.0% aerobically digested sludge to 18% to 20% solids for landfill disposal.

The new Whitestown plant is designed to meet stringent discharge limits (including phosphorous removal) associated with a low flow receiving stream. This $25-milion project has received an Engineering Excellence Award from ACEC-Indiana.

Client Contact: Jason Lawson, Director of Public Works, (317) 733-8584, jlawson@whitestown.in.gov

SECTION 5.0 | Specialized Experience/ Technical Competence

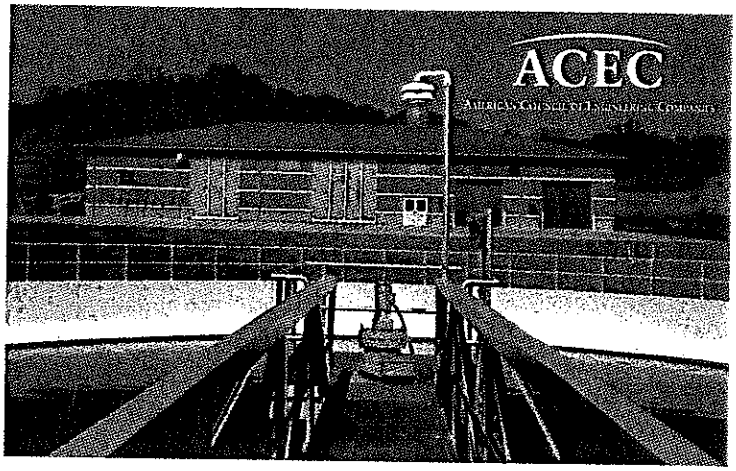
5.0 Specialized Experience and Technical Competence

GRW | Wastewater Treatment Experience

engineering | architecture | geospatial

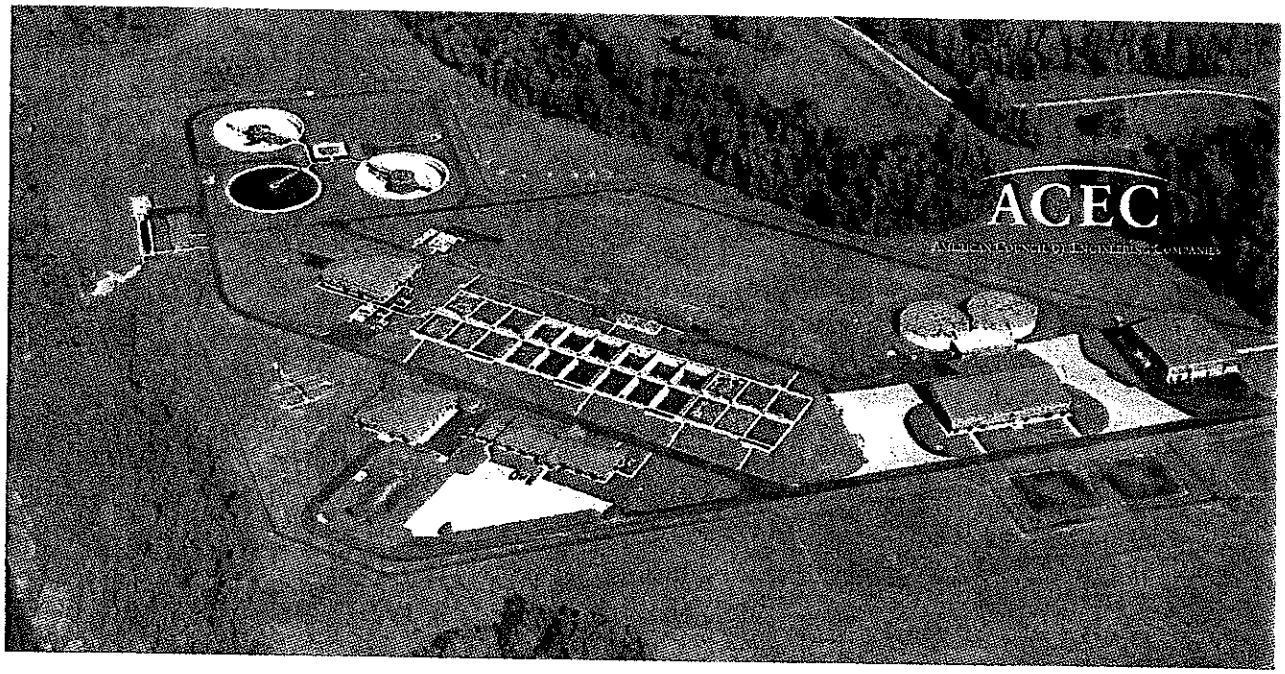
One of GRW's greatest strengths is our design expertise related to wastewater treatment plant planning and design consulting – including strong familiarity and continuing experience with utilities infrastructure in the area. This section offers an overview of our wastewater treatment engineering services.

Please see Section 4.0 for specific related project experience with sludge thickening.



We will serve our client's needs long after the planning, design & construction of a plant is completed. We believe in full service & we provide on-going assistance at any time.

GRW has worked on more than 100 projects involving wastewater treatment, from small package treatment plants to facilities as large as 300 MGD. We have been successful in the development of practical and innovative features which ensure compliance with regulatory requirements while also performing economically. We have been recognized by our clients and by other consultants for design excellence and for the "operator friendly" measures we have incorporated in our designs. GRW's philosophy is that we will serve our client's needs long after the planning, design and construction of a plant is completed. We believe in full service and we provide on-going assistance at any time.



Sanitation District No. 1 Western Regional Water Reclamation Facility (20 MGD)

GRW | Wastewater Treatment Processes and Facilities Experience

WWTP=Wastewater Treatment Plant
WRF=Water Reclamation Facility
WQTC=Water Quality Treatment Center
AWTP=Advanced Wastewater Treatment Plant
Imprvmt.=Improvements
Exp.=Expansion

GRW Projects	Services														
	Regulatory Compliance Assessment	Prelim. Eng. Reports/Facilities Plans	Advanced Treatment Processes	Biosolids Management	Odor Control	Sludge Thickening	Chemical Storage & Feed Systems	Wet Weather Storage Facilities	Equipment Eval. & Replacement	Structural Reviews	Instrumentation/SCADA	Detailed Design	Bidding & Contract Documents	Cost Estimating	Construction Phase Services
300 MGD Belmont AWTP, Citizens Energy Group, Indianapolis, IN			♦	♦		♦		♦		♦	♦	♦	♦	♦	♦
6 MGD WWTP Exp., S Dearborn Reg. Sewer District, Lawrenceburg, IN	♦	♦		♦	♦	♦	♦		♦	♦	♦	♦	♦	♦	♦
3.58 MGD WWTP Upgrade, Fall Creek RWD, Pendleton, IN			♦			♦	♦		♦		♦	♦	♦	♦	♦
1.7 MGD WWTP, Whitestown, IN	♦	♦	♦	♦	♦	♦	♦			♦	♦	♦	♦	♦	♦
1.2 MGD WWTP, Crane Naval Surface Warfare Center, IN	♦	♦						♦	♦	♦	♦	♦	♦	♦	♦
0.7 MGD WWTP Exp., Spencer, IN		♦		♦			♦		♦	♦	♦	♦	♦	♦	♦
20 MGD Western Regional WRF, Sanitation District No. 1, N KY (SD1)	♦	♦		♦	♦	♦	♦	♦		♦	♦	♦	♦	♦	♦
4 MGD Eastern Regional WRF, SD1	♦	♦	♦	♦	♦	♦	♦	♦		♦	♦	♦	♦	♦	♦
30 MGD Derek R. Guthrie WQTC Exp., Louisville MSD	♦	♦							♦	♦	♦	♦	♦	♦	♦
10.8 MGD WWTP Exp., Bowling Green, KY	♦	♦		♦		♦	♦		♦	♦	♦	♦	♦	♦	♦
10 MGD WWTP Upgrade, Frankfort KY	♦	♦						♦			♦	♦	♦	♦	♦
9 MGD WWTP Imprvmt., Paducah, KY	♦	♦				♦	♦		♦	♦	♦	♦	♦	♦	♦
8.75 MGD WWTP Exp., Murray, KY	♦	♦	♦	♦		♦	♦		♦	♦	♦	♦	♦	♦	♦
5.2 MGD WWTP Exp., Murray, KY	♦	♦	♦	♦		♦	♦		♦	♦	♦	♦	♦	♦	♦
3.5 MGD WWTP, Murray, KY	♦	♦		♦		♦	♦		♦	♦	♦	♦	♦	♦	♦
4.5 MGD WWTP Upgrade, Corbin, KY	♦	♦		♦		♦	♦		♦	♦	♦	♦	♦	♦	♦
3 MGD WWTP Upgrade, Versailles, KY	♦	♦		♦		♦	♦	♦	♦	♦	♦	♦	♦	♦	♦
4.5 MGD WWTP Exp., Versailles, KY						♦									
3.3 MGD WWTP Exp., Lawrenceburg, KY	♦	♦		♦		♦	♦		♦	♦	♦	♦	♦	♦	♦
3.5 MGD WWTP Exp., Harrodsburg, KY	♦	♦		♦		♦	♦	♦	♦	♦	♦	♦	♦	♦	♦
10 MGD WWTP Exp., Fairfield, OH	♦	♦		♦		♦	♦	♦	♦	♦	♦	♦	♦	♦	♦
4 MGD WWTP Upgrade, W Knox Utility District, Knoxville, TN		♦				♦			♦			♦	♦	♦	♦
6 MGD WWTP, W Knox Utility District, Knoxville, TN (under design)	♦	♦	♦	♦	♦	♦	♦				♦	♦	♦	♦	♦
3.5 MGD WWTP Upgrade (15.3 Peak), Crossville, TN	♦	♦				♦			♦		♦	♦	♦	♦	♦

SECTION 6.0 | Capacity to Perform Work

6.0 Capacity to Perform Work

GRW brings the capacity, commitment, and resources you need to:

- **Perform all the work to your expectations**
- **Complete your project within the time limitations**

Each member of our assigned team is available to begin working with you immediately. We are prepared to commit the time and resources required for successful completion of your project in a timely manner.

GRW has a staff of more than 200 employees (140+ in Kentucky) representing a wide range of disciplines. We currently expect our workload for the next 12-24 month period to remain stable, with active design projects equivalent to 70 percent of this capacity.

On that basis, we anticipate a reserve capacity equivalent to a construction value of $90 million; therefore, we have significant available capacity to successfully execute this project. We have backup personnel for each discipline in our Lexington office, if needed.

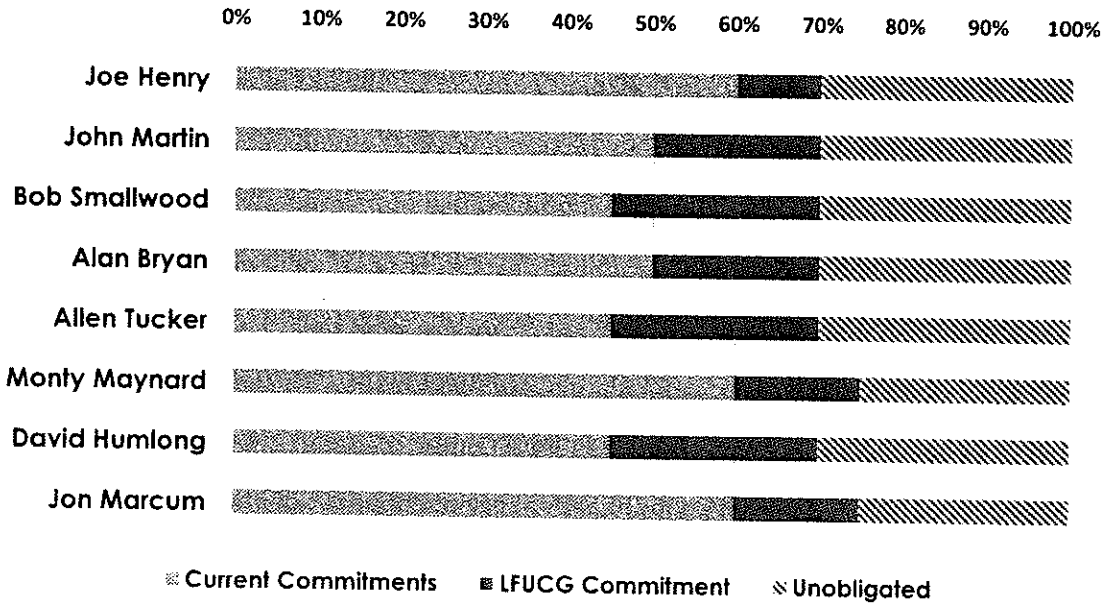
We have confidence in our assigned team members experience, familiarity with LFUCG, and believe their capabilities will be beneficial to you in meeting project, budget and schedule goals.

We are prepared to commit the time and resources required for successful completion of your project in a timely manner.

engineering | architecture | geospatial

Availability

This chart gives you an estimate of key team members' current commitments, commitment to LFUCG, and unobligated capacity (availability) over the next 12 months.



SECTION 7.0 | Past Record of Performance with LFUCG & Other Clients

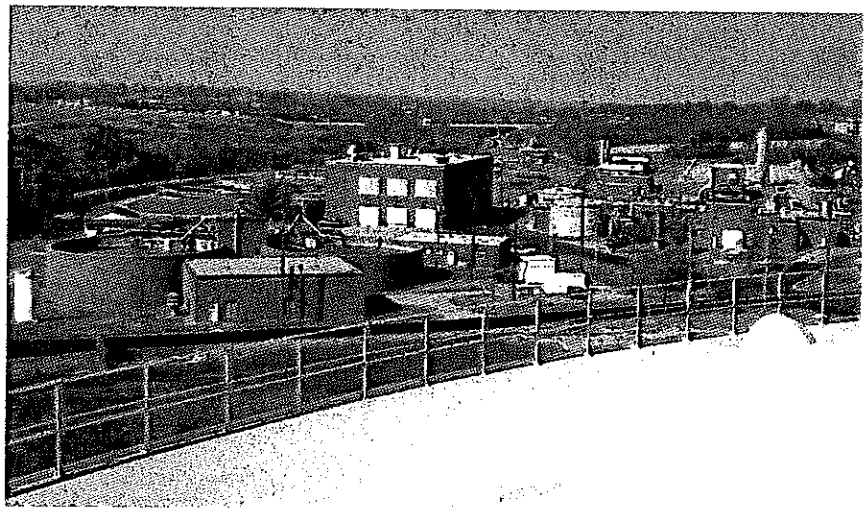
7.0 Past Record of Performance with LFUCG and Other Clients

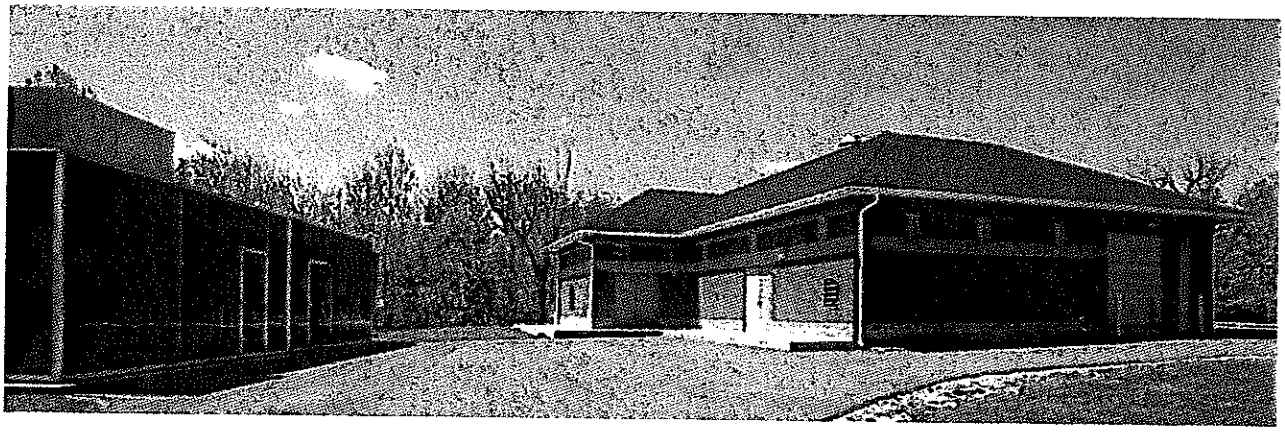
LFUCG Experience

We know LFUCG. The GRW team's familiarity with your project and with LFUCG overall is enhanced by our experience working with you on a variety of projects for the past 40+ years. Our working relationship has given us a thorough understanding of LFUCG's operating procedures and design requirements. We have worked with a broad cross section of LFUCG staff from several separate divisions. GRW's design staff is familiar with local codes, standards and procedures, and is able to accomplish high quality infrastructure planning and design projects that meet these standards.

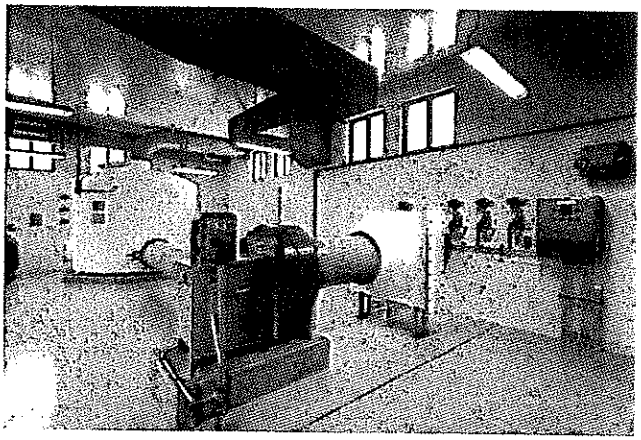
Below is a list – **alphabetical following our Town Branch Wastewater Treatment Plant and other wastewater treatment experience** – of many of the projects GRW has worked on with LFUCG over the years:

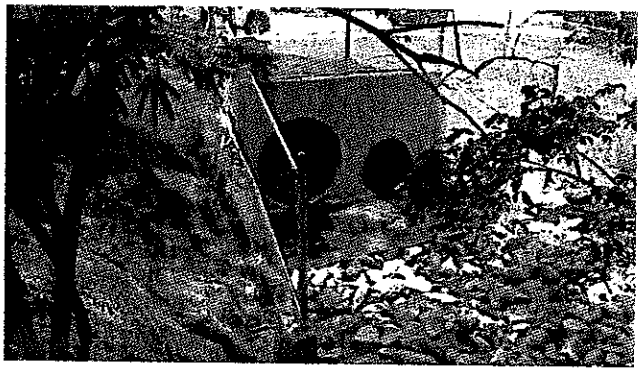
- **Town Branch Wet Weather Flow Storage (22 MG) & Pumping (56 MGD) Facilities**
- **Town Branch WWTP Fine Bubble Aeration Conversion**
- **Town Branch WWTP Upgrade (30 MGD)**
- West Hickman WWTP Administration Building Improvements & Expansion
- West Hickman WWTP Masonry Repair
- Efficiency Audit & Peer Review Study for West Hickman & Town Branch WWTPs
- Comprehensive Sanitary Sewer Project: Remaining Unsewered Areas
- Countywide GPS Monumentation (135 Monuments, 116 NGS Bluebook Monuments)





- Countywide Impervious Surface Mapping (to facilitate storm water runoff calculation.
- Derby Drive Stormwater Improvements
- Downtown 3D-Terrestrial Scanning Streetscape in Preparation for World Equestrian Games
- Downtown Collector Sewer Study
- Eastland Parkway-New Circle Road Intersection Improvements
- Elam Park Area Flood Mitigation
- Expansion Area 2A Watershed Pumping Station and Force Mains ***(shown)***
- FEMA Flood Insurance Study for Lexington Fayette County – (2005, 1992)
- FEMA Map Modernization – Digital Flood Insurance Rate Maps (DFIRM)
- Fort Sumter Area Flood Mitigation
- Fourth Street connector study
- Idle Hour North Stormwater Improvements ***(shown)***
- Liberty/Todds Road (KY 1927) Section 2
- Lower Town Branch Watershed Interceptor Sewers, Force Main and 5 MGD Pumping Station
- Man O' War Intersection Improvements
- Mapping and Digital Orthophotography covering all of Fayette County
- North Elkhorn Watershed Force Main and Pumping Station (19 MGD) ***(shown)***
- NPDES Stormwater Permit, Phase I
- Phoenix Building and Police Headquarters Elevator System Repair and Upgrade
- Polo Club Boulevard Connection
- Red Mile Rd Bike Path Preliminary Engineering





- Rogers Road Area Flood Mitigation
- Rose Street Extension
- Sanitary Sewer Capability Study for Rural Service Area
- Sanitary Sewer System Rehabilitation
- South Elkhorn Trunk Sewers and Force Mains
- Stormwater Supplemental Project Implementation / Master Planning/Program Manager
- Tucson Drive Area Flood Mitigation

Successful Cost and Schedule Control

GRW has used our Project Delivery and Management Tools to deliver projects on schedule and with very low change order ratios. A few examples which illustrate our accomplishments are shown below.

Table 8.1: Cost and Schedule Performance Examples

Construction Cost Estimate	Awarded Bid and Final Construction Cost	Percent Change Bid/Final Construction	Cost Performance Comments	Schedule Comments
Sanitation Dist. No. 1 Western Regional Water Reclamation Facility (4 MGD), Alexandria, KY				
$90,000,000	$69,200,000 $69,403,565	0.29%	Found conditions & unit price bid item adjustments	GRW met firm's design & construction schedule tasks
Lexington North Elkhorn Watershed Force Main and Pumping Station, Lexington, KY				
$18,223,097	$15,457,000 $15,902,361	3.0%	Urban project area – significant unknown underground utilities locations& obstructions	GRW met firm's design & construction schedule tasks
Paducah-McCracken JSA Perkins Creek Watershed Pump Station and Force Main, Paducah, KY				
$2,600,000	$2,080,349 $2,116,173	1.72%	Final quantities adjustment	GRW met firm's design & construction schedule tasks
Paducah-McCracken County JSA 17 MGD Terrell Street CSO Pump Station Improvements, Paducah, KY				
$900,000	$892,924 $892,924	0%	N/A	GRW met firm's design & construction schedule tasks
Louisville-Jefferson Co. Metropolitan Sewer District Northern Ditch Interceptor Project, Louisville, KY				
$14,700,000	$10,390,000 $10,353,000	(0.36%)	Project was bid and completed under the construction cost estimate	Design & construction completion comfortably met Consent Decree schedule
Fairfield Wet Weather SSO Relief Project: Relief Sewers, 25 MGD Pumping Station, and EQ Basin, Fairfield, OH				
$9,000,000	$9,127,944 $9,151,000	0.25%	Found conditions & unit price bid item adjustments	GRW met its design & construction schedule tasks

SECTION 8.0 | Project Familiarity/ Approach

8.0 Project Familiarity/Approach

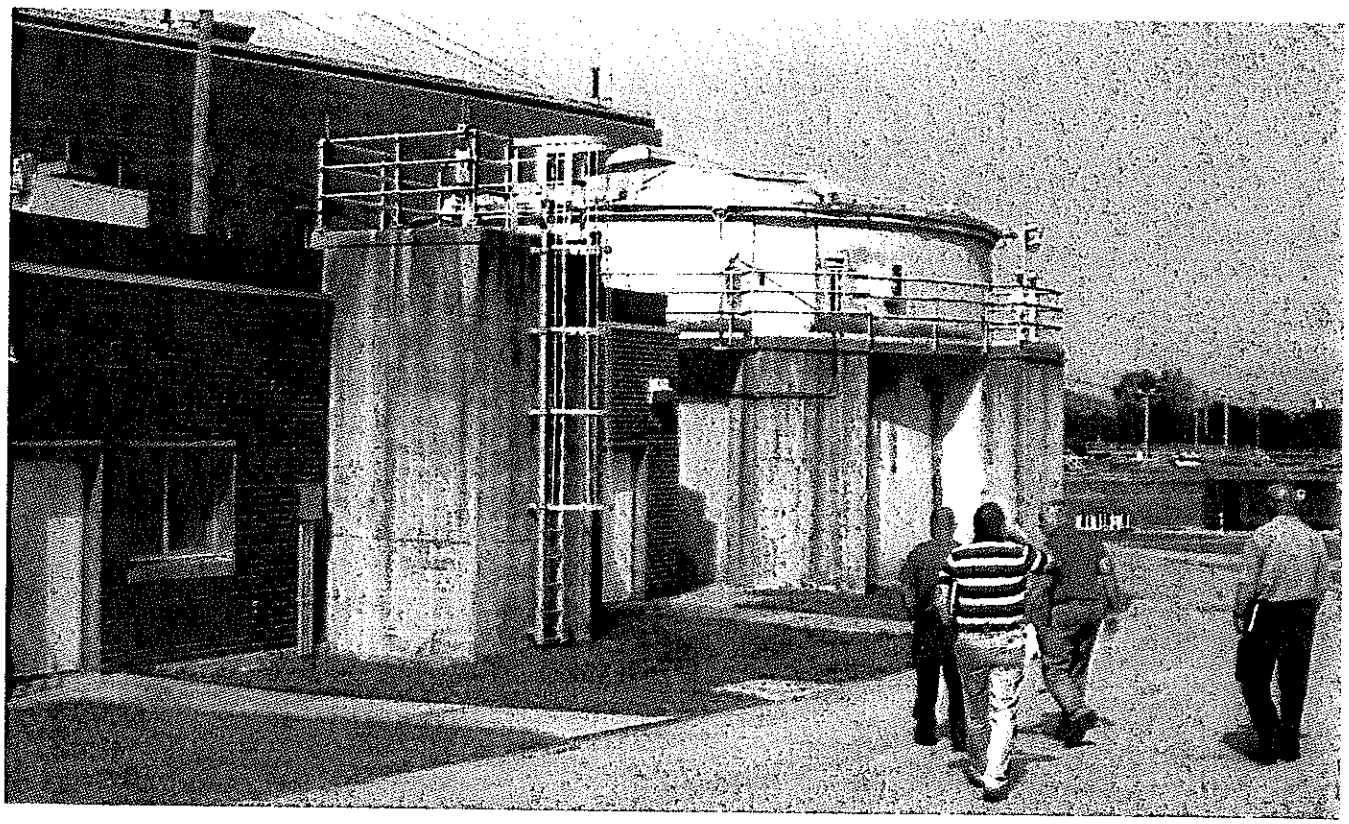
Understanding

GRW has reviewed the request for proposals, attended the pre-proposal meeting, and investigated the project thoroughly to understand and identify the needs and solutions for the *Thickening Process Evaluation & Equipment Upgrades*.

The goal of the evaluation and project is to "evaluate the most efficient way to increase thickening capacity and replace equipment that has surpassed its useful life to increase reliability while lowering operating cost by improving efficiency."

GRW also understands the following related to the project:

1. The waste activated sludge from the final clarifiers is currently returned to the primary clarifiers and co-settled. Waste activated sludge from the final clarifiers may also be diverted directly to the gravity thickeners or sludge holding basins.
2. The waste activated sludge is co-settled with the primary sludge.
3. Primary sludge removal is performed sequentially from each of the twelve (12) primary clarifiers utilizing timers.
4. Current effective thickening capacity of existing gravity thickeners is noted to be 160 gpm.
5. Current co-settled sludge from the gravity thickeners typically attain a concentration of 2.5% to 4% solids.
6. WWTP staff desires the ability to obtain 5% solids. The existing Seepex progressive cavity pumps shall also be evaluated to insure that 5% solids reliable pumping is feasible.
7. The evaluation shall consider additional gravity thickening facilities or centrifuge thickening.
8. Previous operations utilized a polymer to aid in settling in the gravity thickeners.



Task 1 Existing Thickening Process Review

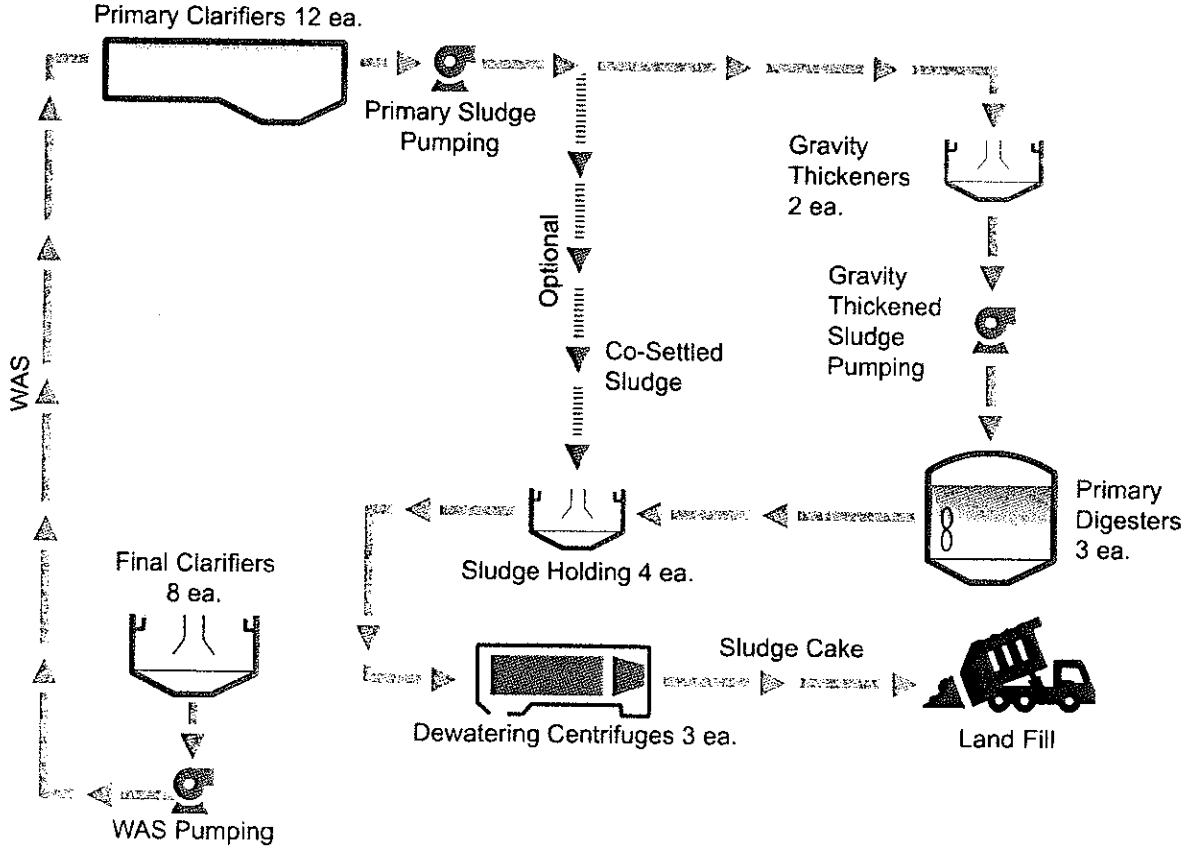
The process review will consist of the requested items provided in the proposal, including the process evaluation and a condition assessment of the numerous listed items, such as doors/windows, roof, HVAC, carbon scrubber, lighting, etc. These included items will be further detailed in the scope and fee section.

Reliable capacities and remaining life of each of the thickening process components will be identified as part of the evaluation. Plant staff will also be interviewed to determine historical operational reliability, performance, and functionality.

Results will be summarized in the preliminary engineering report.

***Figure 1* is a flow schematic of the existing biosolids waste removal system.**

Existing Biosolids Waste Flow Schematic — Town Branch WWTP *(Figure 1)*



Task 2: Develop Equipment/Process Replacement Concepts and Schedules

GRW has developed two basic biosolids waste flow schematic alternatives for consideration, one for the addition of a third gravity thickener and one for the addition of thickening centrifuges for final clarifier waste activated sludge.

Alternative No. 1: Construct Additional Gravity Thickener & Associated Gravity Thickener Pumping Facility

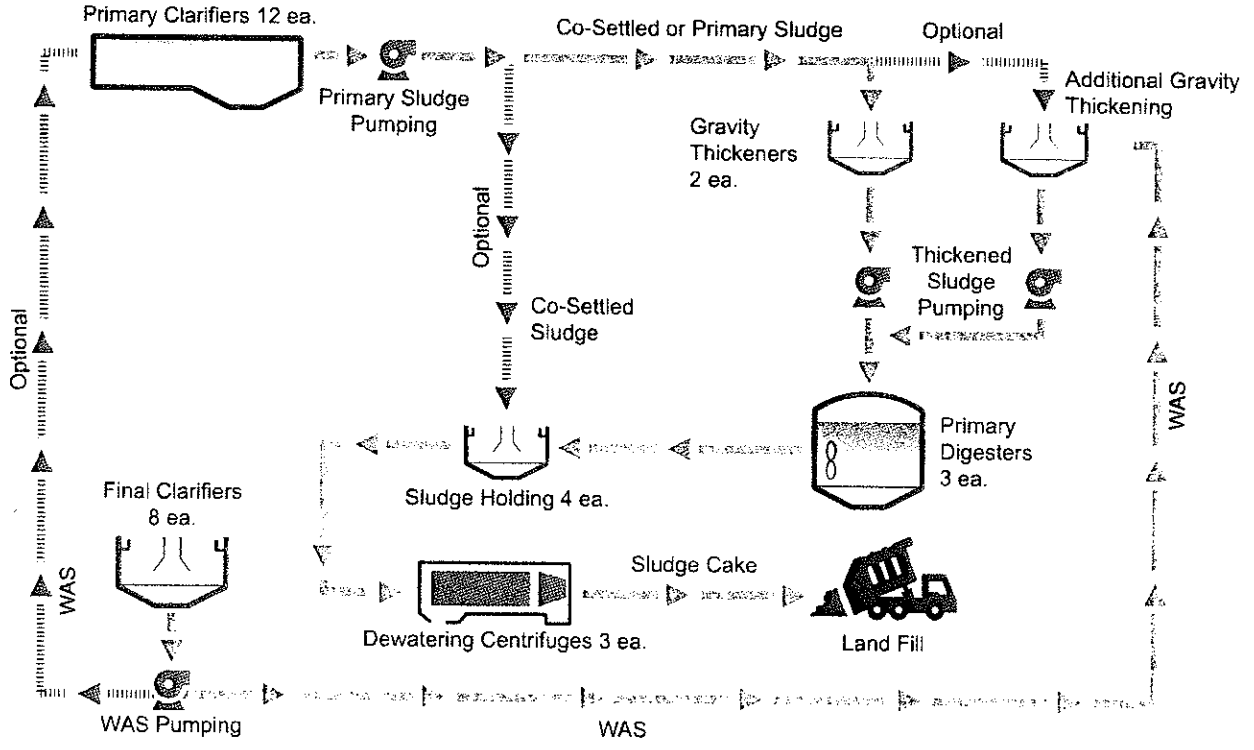
***Figure 2* portrays the addition of a third gravity thickener.** The following will be required for this alternative:

- Replace and upgrade existing equipment/ facilities that have reached end of useful life.
- Construct new gravity thickener
- Construct new gravity thickener building/expansion that contains in-line grinders, thickened sludge pumps, piping, valves, etc.
- New scum pumps
- New dry carbon scrubber (if required)
- New coagulant (polymer) feed system (if required)
- All required sitework and site piping

In review of the site, ample space exists to construct a third gravity thickener, especially if the adjacent abandoned building, northwest of the primary digesters, is demolished. Utilization of this space, will not impinge on the ample space that exists in the area for truck traffic and/or maintenance equipment.

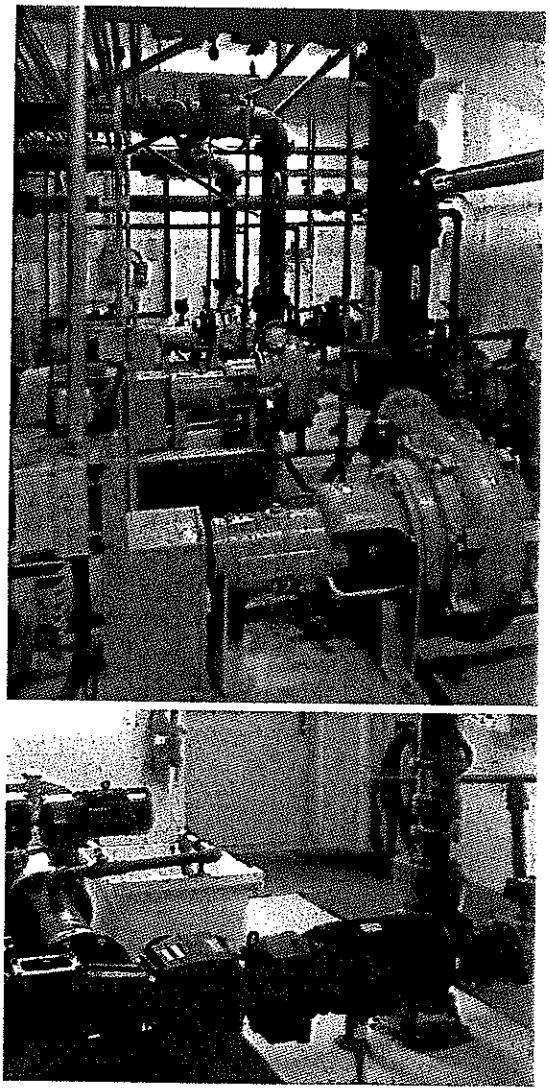
Alternative No. 1 — Construct Additional Gravity Thickener

***(Figure 2)* Biosolids Waste Flow Schematic — Town Branch WWTP**



Typically, additional sludge and scum pumping to the primary digesters will be required. GRW has included the additional pumping facilities, whether a stand-alone building or addition to the existing sludge pumping facility. All identified replacement of worn out existing equipment will also be part of the scope of work.

The LFUCG operations staff stated that polymer application to the gravity thickeners was utilized in the past and interest exists in this reapplication for the gravity thickening basins. GRW experience and our further investigation have shown that typical gravity thickened primary sludge will typically range from 2.5% to 4% solids or slightly higher. We would anticipate that polymer application to primary sludge or co-settled sludge would increase thickened solids concentration greatly depending on the characteristics of the actual sludge. Should LFUCG move forward with a polymer application for gravity thickening, GRW would suggest further study be provided to further investigate the settling properties of the sludge.



Existing equipment inside Town Branch WWTP solids processing building

"State point analysis" generates a flux curve indicative of the plant specific sludge that is settling. Bench scale and/or pilot testing may be generated to provide an expectation of results of polymer addition. The testing is usually performed onsite and can be conducted by specialty companies or by potential equipment suppliers for a fee. Different polymers should be tested for optimization. A cost-benefit relationship will be developed for feasibility reasons. This evaluation would be performed as an optional service, should LFUCG desire to investigate prior to installing a polymer system.

Alternative No. 2: Construct New Mechanical WAS Thickening Equipment (Centrifuge) Inside Existing Solids Processing Building

***Figure 3* portrays the addition of mechanical dewatering facilities in the existing solids processing building.** Mechanical dewatering was previously provided by thickening centrifuges, which have since been demolished.

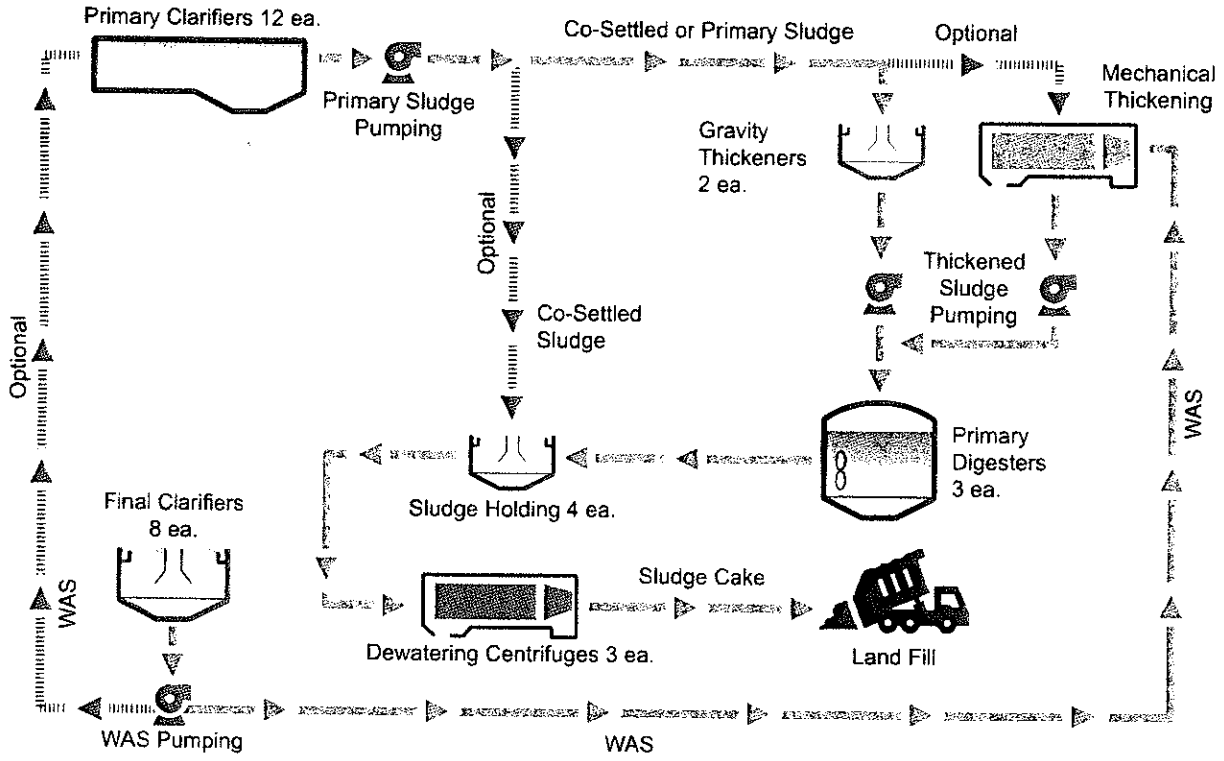
The following will be required for this alternative:

- Replace and upgrade identified existing equipment/facilities that have reached the end of their useful life.
- Perform required demolition within the solids processing building to retrofit new mechanical thickening, in-line grinders, pumping equipment, piping, valves, metering, and etc.
- Install required new mechanical thickening and pumping equipment
- New coagulant (polymer) feed system (if required)
- All required sitework and site piping

All identified replacement of worn out existing equipment will also be part of the scope of work.

Alternative No. 2 — Construct Additional Mechanical WAS Thickener

***(Figure 3)* Biosolids Waste Flow Schematic — Town Branch WWTP**



Thickening Technology Comparison

During our development of the approach and scope or work, several questions arose related to the process and feasible alternatives. Centrifuges are identified in the RFP for the mechanical thickening alternative.

Several alternatives exist for mechanical thickening and GRW did not know if a technology review had already been completed on the desired thickening technology.

Typical mechanical thickening/dewatering technologies consist of equipment such as:

- Centrifuges
- Gravity belt thickeners
- Rotary drum thickeners

Each of these mechanical thickening technologies have their pros and cons.

***Figure 4* on the following page presents typical traits of each for consideration.**

(Figure 4) **Mechanical Thickening Technology**

Type	Advantages	Disadvantages
Gravity Thickener	▪ Low maintenance ▪ Typically, no polymer utilized ▪ LFUCG has experience with this technology	▪ Solids concentration is lower than mechanical thickening ▪ May require capital construction of a tank, pumps, process, building, etc.
Centrifuge	▪ LFUCG staff has experience with the technology ▪ Odor control minimized because unit is completely enclosed ▪ Lower polymer consumption than other alternatives ▪ Highest solids concentration achieved with this technology	▪ Higher energy consumption than other alternatives ▪ Higher operation complexity than other alternatives ▪ Grit can result in abrasive damage to the equipment ▪ Typically, higher maintenance costs when breakdowns occur ▪ Primary/secondary scum is not recommended
Gravity Belt Thickener (GBT)	▪ Lower energy consumption than centrifuges or other mechanical dewatering. ▪ Moderate maintenance	▪ Requires more wash water than RDTs during operation for cleaning ▪ Lower thickened solids concentration than other mechanical thickening alternatives ▪ Primary/secondary scum blinds or clogs the belt ▪ Odor control may be more difficult
Rotary Drum Thickener (RDT)	▪ Lower energy consumption than centrifuges ▪ Lower recycle water flows than GBTs ▪ Odor control minimized because unit is completely enclosed ▪ Can handle primary sludge ▪ Low maintenance	▪ Primary/secondary scum cannot be fed to drum

GRW offers, as an optional service, a technology review of available mechanical dewatering technologies. Additional sub-alternatives, schematics, and cost estimates will be developed for any selected technologies by the LFUCG.

Significantly higher solids concentrations are expected with all WAS mechanical thickening equipment than gravity thickening equipment. Polymer addition for the mechanical thickening process will be required with the possible exception of centrifuges.

The mechanical thickening options will typically be performed for WAS only. No primary sludge or primary scum will be directed to the mechanical thickeners. Gravity thickening may be utilized for both primary sludge and WAS.

Task 3 - Detailed Design

Once the preliminary engineering report (PER) has been accepted by the LFUCG, GRW will initiate final design. Most decisions will have already been documented in the PER. GRW will adhere to the identified schedule to deliver the design. A pre-design meeting shall be conducted and review meetings will be held at 25%, 50%, and 90% completion milestones. In addition, GRW desires to conduct an additional meeting at 100% review, at no additional cost, to identify and discuss any last minute concerns or details that may arise prior to the bidding phase.

In accordance with the RFP, GRW will also provide three (3) copies of progress reports, drawings, and specifications one week prior to the design meetings. Upon completion of design, all design calculations related to the design shall be submitted to the LFUCG. Updated project schedules and opinions of construction cost shall also be submitted with each of the design submittal milestones.

Task 4 - Bidding Services

Final plans and specifications shall be prepared for bidding and provided to the LFUCG in both hard copy and standard electronic format compatible with LFUCG equipment. Seven (7) hardcopies of the contract documents shall be provided. All required permits shall be submitted to the Division of Water; Housing, Building, and Construction; LFUCG Fire Marshall, and LFUCG Building Inspection. Any other required permits shall be additional in cost. All required permitting fees shall be covered by LFUCG. Customary bidding services, including preparation of advertisement, pre-bid meeting, addenda, bid evaluation, and recommendation of award are included in the scope of work.

Task 5 - Construction Administration Services

The identified construction administration services, as follows, are included:

1. Track, review, and approve all shop drawings
2. Track change orders, review requests, recommendation comments, and prepare all paperwork to be submitted to the LFUCG Council.
3. Track and answer all RFI's.
4. Coordinate and lead monthly construction progress meetings.
5. Conduct construction inspections and submit weekly reports once construction initiates.
6. Provide construction photo record from prior to initiation to project completion.
7. Review and approve contractor's monthly pay estimates
8. Attend and maintain test reports for all equipment start-up.
9. Coordinate final inspection of completed work and prepare final punch list.
10. Transfer all field notes and contractor mark-ups and submit a final as-built drawings to the owner.

GRW proposes three visits per week by a project team member, whether the project manager, project engineer, or project designer for up to one hour onsite.

GRW will also be present during equipment start-up to witness testing and consult with the LFUCG staff over the adequacy of the work. We will also offer optional fee for full-time resident inspection during critical phases of the work that may require additional effort due to short-term complexity of the work or failure of quality by a contractor. Full-time resident inspection shall be at the request of LFUCG.

Summary

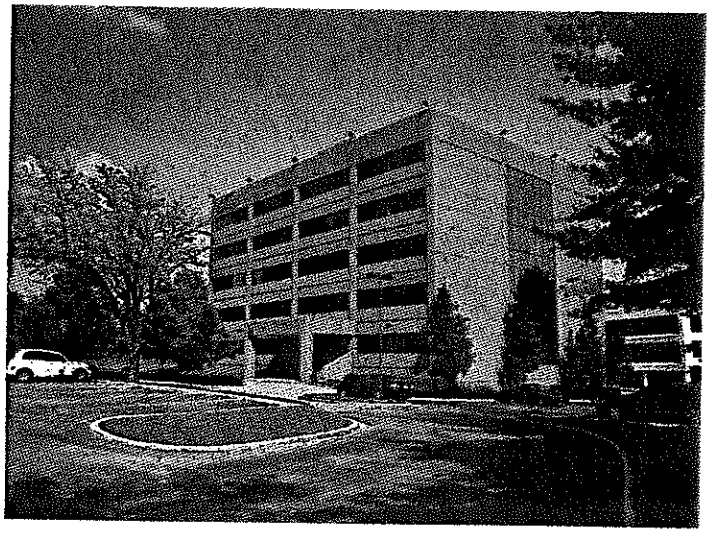
GRW has been working with LFUCG for nearly 50 years – and with clients like LFUCG for more than 50 years. Providing planning, design, and construction administration consulting services for municipal utilities. We value our relationship with LFUCG and its employees – and we offer the following benefits for choosing to work with GRW on your current project:

- Proposed Principal Engineer Joe Henry and Project Manager John Martin have more than three decades of experience each in the design of wastewater treatment plants and facilities.
- Joe and John together have designed more than 20 wastewater treatment plants including facilities up to 30 MGD in capacity.
- Our approach details alternatives and options for technology review to ensure you receive the most innovative, operationally friendly, and cost-effective design possible.
- Our local services – including in-house wastewater process design, electrical design, instrumentation/control design, mechanical/ HVAC design, structural design, and architectural design – and our experience with similar projects assure a competent, responsive, and high-functioning project result.
- Our past projects (*see a few relevant examples in Section 4.0*) are indicative of the results you should expect; we encourage you to contact our clients to discuss the quality of our work and their satisfaction with our performance.

GRW will work closely with the LFUCG to provide the desirable design, both on-time and within budget. GRW looks forward to the opportunity to work with the LFUCG again.

SECTION 9.0 | Degree of Local Employment

9.0 Degree of Local Employment



GRW and our proposed support team members, are committed to your project and immediately available to begin working with you on your project to successfully complete your project on schedule.

GRW's employees – including all those assigned to LFUCG's Investigation/Design Services for Town Branch WWTP Thickening Process Evaluation & Equipment Upgrades – are located at its Lexington, KY, headquarters, 801 Corporate Drive across from Beaumont Centre.

APPENDIX | LFUCG Addenda, Forms & Required Documents

Appendix: LFUCG Addenda, Forms and Required Documents

This section includes all addenda, as well as all forms and documents required by Lexington-Fayette Urban County Government.

- LFUCG Addenda
- Firm Submitting Proposal
- Affidavit
- General Provisions
- Equal Opportunity Agreement
- LFUCG MWDBE Participation Form
- LFUCG Statement of Good Faith Efforts
- GRW Workforce Analysis Form
- GRW Affirmative Action Plan
- Copy of GRW Insurance Certificate

MAYOR JIM GRAY

LEXINGTON

TODD SLATIN
DIRECTOR
CENTRAL PURCHASING

ADDENDUM #1

RFP Number: #26-2017

Date: August 17, 2017

Subject: Investigation/Design Services for Town Branch WWTP Thickening Process Evaluation and Equipment Upgrade

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

TO ALL PROSPECTIVE SUBMITTERS:

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

Pre-proposal sign in sheet is attached.

Question Deadline has been changed to August 22, 2017 at 5:00 PM.
The proposal opening deadline has been changed to August 31, 2017 at 2:00 PM EST.

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: GRW

ADDRESS: 801 Corporate Drive, Lexington, KY 40503

SIGNATURE OF BIDDER: Joe Henry, PE / Vice President

MAYOR JIM GRAY

LEXINGTON

TODD SLATIN
DIRECTOR
CENTRAL PURCHASING

ADDENDUM #2

RFP Number: #26-2017

Date: August 24, 2017

Subject: Investigation/Design Services for Town Branch WWTP Thickening Process Evaluation and Equipment Upgrade

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

TO ALL PROSPECTIVE SUBMITTERS:

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

Attached is the Biosolids Flow Description and Flow Schematic along with requested drawings.

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: GRW

ADDRESS: 801 Corporate Drive, Lexington, KY 40503

SIGNATURE OF BIDDER: Joe Henry, PE / Vice President

Firm Submitting Proposal: GRW

Complete Address: 801 Corporate Drive, Lexington, KY 40503
Street City Zip

Contact Name: Joe Henry, PE Title: Vice President

Telephone Number: 859-223-3999, ext 213 Fax Number: 859-223-8917

Email address: jhenry@grwinc.com

AFFIDAVIT

Comes the Affiant, Brad Montgomery, GRW President, and after being first duly sworn, states under penalty of perjury as follows:

1. His/her name is Brad Montgomery and he/she is the individual submitting the proposal or is the authorized representative of GRW, the entity submitting the proposal (hereinafter referred to as "Proposer").

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

3. Proposer will obtain a Lexington-Fayette Urban County Government business license, if applicable, prior to award of the contract.

4. Proposer has authorized the Division of Central Purchasing to verify the above-mentioned information with the Division of Revenue and to disclose to the Urban County Council that taxes and/or fees are delinquent or that a business license has not been obtained.

5. Proposer has not knowingly violated any provision of the campaign finance laws of the Commonwealth of Kentucky within the past five (5) years and the award of a contract to the Proposer will not violate any provision of the campaign finance laws of the Commonwealth.

6. Proposer has not knowingly violated any provision of Chapter 25 of the Lexington-Fayette Urban County Government Code of Ordinances, known as "Ethics Act."

Continued on next page

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

Further, Affiant sayeth naught.

Brad Montgomery

STATE OF Kentucky

COUNTY OF Fayette

The foregoing instrument was subscribed, sworn to and acknowledged before me by Brad Montgomery on this the 30th day of August, ~~2016~~.2017

My Commission expires: 09-14-2019

Lina Duncan

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.

Brad Montgomery
Signature

8/30/2017
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.

Brad Montgomery

Signature

GRW

Name of Business

GRW | engineering | architecture | geospatial
801 Corporate Drive | Lexington, KY 40503
859.223.3999 | www.grwinc.com

February 2, 2017

GRW Engineers, Inc. is committed to equality of opportunity, one of the basic goals of this society. Continued viability and responsible growth of our organization will result from enhancing and utilizing the abilities of all individuals to their fullest extent practical within the framework of our business environment.

The organization is committed to the goal of equal employment opportunity and affirmative action. We will make every reasonable effort to ensure that all applicants and employees receive equal opportunity in personnel matters, including recruitment, selection, training, placement, promotion, demotion, compensation and benefits, transfers, terminations, and working conditions (including reasonable accommodation for qualified individuals with disabilities).

GRW Engineers, Inc. expects all employment decisions to advance the principle of equal employment opportunity and affirmative action. To ensure that this expectation is carried out we are implementing the following policies:

- It will be the policy of GRW Engineers, Inc., in accordance with all applicable laws, to recruit, hire, train, and promote persons in all job titles without regard to race, color, national origin, genetic information, religious beliefs, sex, gender identity, sexual orientation, age, marital status, pregnancy, disability, protected veteran status, or any other protected classifications, activities, or conditions as required by federal, state and local laws.
- All employment decisions shall be consistent with the principle of equal employment opportunity and will be based only on valid job requirements.
- All personnel actions, such as compensation, benefits, transfers, social and recreational programs, etc. will be administered without regard to race, color, national origin, genetic information, religious beliefs, sex, gender identity, sexual orientation, age, marital status, pregnancy, disability, protected veteran status, or any other protected classifications, activities, or conditions as required by federal, state, and local laws.
- Employees and applicants will not be subjected to any form of discrimination or retaliation if they have filed a complaint; participated in an investigation, compliance evaluation, hearing, or any other activity related to federal, state, or local equal employment opportunity laws; opposed any act or practice unlawful by any EEO laws; or exercised any other protected EEO right.

To carry out the organization's commitment, as well as my personal commitment to the EEO/AAP Program, I have designated Gayla Szak, as the organization's EEO Officer, and have charged them with the responsibility to develop and thereafter maintain the necessary programs, records, and reports to comply with all government regulations and with the goals and objectives of our equal employment opportunity and Affirmative Action Program, including the implementation of an ongoing audit and reporting system.

We plan to establish a leadership role in the area of affirmative action. The participation of women, minorities, veterans, and individuals with disabilities in management by promotion and employment will continue to be emphasized so they may be given the opportunity to contribute to the success and profitability of the organization.

Brad Montgomery
President

LFUCG MWDBE PARTICIPATION FORM

Bid/RFP/Quote Reference # 26-2017: Town Branch WWTP Thickening Process Evaluation & Equipment Upgrades

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. ** Please Note ** GRW has reviewed and understands LFUCG's MWDBE/veteran firm participating goals; we regularly work with variety of such firms registered certified by LFUCG and other state entities. We have screened this project like we do other projects to identify opportunities for these firm. Our goal is always to assemble a team with the best				
2. interests of LFUCG in mind. Because of the specialized services required to successfully assist LFUCG and Division of Water in completing its wastewater processing design project at Town Branch WWTP, the opportunities to assign a portion of the work to an MWDBE/veteran-owned firm are very limited. Additionally, the final outcome of the study is unknown, this further limits the ability to make assignments. We have confidence in our assigned team members' experience, familiarity with LFUCG, and believe their				
3. capabilities will be beneficial to meeting your project, budget, and schedule goals.				
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.

GRW
Company

Joe Henry, PE
Company Representative

8/30/2017
Date

Vice President
Title

LFUCG STATEMENT OF GOOD FAITH EFFORTS
Bid/RFP/Quote # 26-2017: Town Branch WWTP
Thickening Process Evaluation & Equipment Upgrades

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

__X__ 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.

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

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

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

_____ Selected portions of the work to be performed by MWDBE firms and/or Veteran-Owned businesses in order to increase the likelihood of meeting the

contract goals. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate MWDBE and Veteran participation, even when the prime contractor may otherwise perform these work items with its own workforce

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

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

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

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

__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.

GRW
Company

8/30/2017
Date

Joe Henry, PE
Company Representative

Vice President
Title

Affirmative Action Plan

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

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

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

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

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

WORKFORCE ANALYSIS FORM

Name of Organization: GRW

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	18	2	13	--	1	--	1	--	--	--	--	--	--	1	--	3	15
Professionals	132	118	12	--	1	--	--	--	--	--	1	--	--	--	--	118	14
Superintendents	N/A																
Supervisors	N/A																
Foremen	N/A																
Technicians	40	31	8	--	--	--	--	--	--	--	--	--	--	1	--	32	8
Protective Service	N/A																
Para-Professionals	N/A																
Office/Clerical	Counted under Administrators																
Skilled Craft	31	30	1	--	--	--	--	--	--	--	--	--	--	--	--	30	1
Service/Maintenance	N/A																
Total:	221	181	34	--	2	--	1	--	--	--	1	--	--	2	--	183	38

Prepared by: Gayla Szak, PHR, SHRM-CP **Date:** 6 / 1 / 2017

Human Resources Manager

(Name and Title)

Revised 2015-Dec-15

AFFIRMATIVE ACTION PLAN

INDIVIDUALS WITH DISABILITIES

AND

COVERED VETERANS & DISABLED VETERANS

GRW ENGINEERS, INC.
801 CORPORATE DRIVE
LEXINGTON, KY 40503

Revised and Updated Annually

February 1, 2016 – January 31, 2017

Approved by: _____
Brad Montgomery
President

Approved by: _____
Gayla P. Szak
Human Resources
Equal Employment Opportunity Officer
Phone Number: 859-223-3999

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SECTION I

INDIVIDUALS WITH DISABILITIES

Confidentiality Statement

This Affirmative Action Plan contains confidential information subject to the provisions of Title 18 U.S.C. §1905.

GRW Engineers, Inc. does not consent to the release of any confidential information whatsoever contained in the Affirmative Action Plan under the Freedom of Information Act or otherwise. If the Government, or any agency or division thereof, is considering a request for release of this Program under the Freedom of Information Act, we hereby request that the Government immediately notify GRW Engineers, Inc. of any and all Freedom of Information Act requests and any contemplated release of this Plan by the Government.

The Organization further requests that everyone who has any contact with this Affirmative Action Plan, or its supporting appendices, documents, and other data, treat such information as totally confidential and that such information not be released to any person whatsoever.

Statement of Purpose

This plan is written with the intention of meeting the requirements of a contractor's obligations with Section 503 of the Rehabilitation Act of 1973, as amended.

This plan is presented in recognition of the rights of employees and applicants for employment to be treated on a nondiscriminatory basis. The Organization recognizes its obligation to take affirmative action to employ and advance qualified disabled individuals. The Organization's purpose in adopting this Affirmative Action Plan is to utilize persons with disabilities to their full potential in all levels of the organization.

Affirmative Action Policy

It is the policy of GRW Engineers, Inc. not to discriminate against any employee or applicant for employment because he or she has a physical or mental disability in regard to any position for which the employee or applicant for employment is qualified. The Organization agrees to take affirmative action to employ, advance in employment, and otherwise treat qualified individuals without discrimination based upon their physical or mental disability in all employment practices including the following: employment, promotion, termination, compensation, demotion or transfer, recruiting, advertising, layoff or termination, and selection for training. In carrying out this Affirmative Action Program, the Organization will make a good faith effort to reasonably accommodate the physical or mental limitations of any employee or applicant for employment unless such accommodation would impose undue hardship on the conduct of the business.

An "individual with disabilities" is defined to be a person who:

- Has a physical or mental impairment which substantially limits one or more of his or her major life activities,

- Has a record of such impairment, or

- Is regarded as having such impairment.

For purposes of this definition, an individual with disabilities is substantially limited if he or she is likely to experience difficulty in securing, retaining, or advancing employment because of a disability.

The terms "handicapped" and "disabled" are intended to have the same meaning within this Plan.

The Equal Employment Opportunity Officer has the ultimate responsibility for ensuring that equal employment opportunity and affirmative action receive the high level of priority due this activity.

To carry out the letter as well as the spirit of our Equal Employment Opportunity / Affirmative Action Program, the Organization has appointed Gayla P. Szak as the Equal Employment Opportunity Officer. She will spearhead the commitment to maximize equal employment opportunity and affirmative action at GRW Engineers, Inc. The EEO Officer has the full support of the President in carrying out these duties.

Specifically, the EEO Officer is responsible for ensuring that the following activities are carried out:

- Keeping management up-to-date concerning new developments in the EEO field.

- Providing technical assistance in response to questions and concerns of employees and supervisors, and, as needed, acting as liaison with appropriate agencies.

- Coordinating investigations and making recommendations concerning any allegations of discrimination both internally and in connection with enforcement agencies.

- Conducting periodic audits and holding regular discussions with supervisors and managers to ensure that organization policy is implemented.

- Encouraging involvement with organizations and community action groups.

- Assisting in the identification of problem areas through review of policies and procedures and conducting periodic utilization studies.

- Reporting periodically to the Senior Official on the affirmative action effort.

- Developing education programs to provide managers and supervisors with pertinent equal employment opportunity information to assist them in their compliance efforts.

It is further the policy of the Organization that employees and applicants shall not be subjected to harassment, intimidation, threats, coercion or discrimination because they have engaged in, or may engage, in any of the following activities:

- Filing a complaint;

- Assisting or participating in an investigation, compliance review, hearing, or any other activity related to the administration of Section 503 of the Rehabilitation Act of 1973, as amended (Section 503) or any other Federal, State or local law requiring equal opportunity for disabled persons;

- Opposing any act or practice made unlawful by Section 503 or its implementing regulations in this part or any other Federal, State or local law requiring equal opportunity for disabled persons; or

- Exercising any other right protected by Section 503 or its implementing regulations in this part.

Consistent with GRW Engineers, Inc.'s non-discrimination policy, harassment in the workplace in any form is not tolerated. Harassment of any kind, including sexual harassment, whether physical, verbal, visual or written, is strictly prohibited. Improper interference with the ability of GRW Engineers, Inc.'s employees to perform their expected job duties is not tolerated. Examples of unlawful employee harassment include jokes, slurs, sexually explicit or racially derogatory material, in addition to commentary that would offend others on the basis of race, color, religion, sex, national origin, disability, age, marital status, citizen status, sexual orientation, genetics, status as a disabled veteran or veteran of the wars, including Vietnam, or any other non-job-related protected characteristic or feature. Furthermore, the use of the Organization's internet or e-mail system for the purposes of displaying or transmitting offensive material is strictly prohibited.

Sexual harassment may also include unwelcome sexual advances, offensive touching, requests for sexual favors, showing sexually suggestive or explicit photos or objects, and all other conduct of a sexual or otherwise offensive nature, especially when:

- Submission to or rejection of such conduct is used as a factor in employment decisions (e.g. hiring, evaluation, promotion) affecting such individual; or

- Such conduct has the purpose or effect of interfering unreasonably with an individual's employment or creating an intimidating, hostile, or offensive working environment.

Employees who violate this policy are subject to disciplinary action up to and including immediate termination from employment with GRW Engineers, Inc.

Employees who believe that they are being harassed or discriminated against in any manner prohibited by this policy are encouraged to bring the matter directly to the attention of a member of management or the Human Resources Department. Management must immediately report any discrimination/harassment complaint or observation to the Human Resources Department.

The Organization will conduct an investigation of any complaint of inappropriate discrimination or harassment, and will take prompt remedial action where necessary. Confidentiality will be maintained throughout the investigation to the extent practical and appropriate under the circumstances.

The Organization will not retaliate against employees who make complaints or participate in investigations about workplace harassment or other discrimination. Retaliation is a form of discrimination and is strictly prohibited.

Affirmative Action Plan Coverage

Applicants and employees who believe themselves covered under this Affirmative Action Program for disabled individuals may advise the Organization at any time that they wish to benefit under this program.

This information will be used solely for the purpose of affirmative action and proper job placement. This information will not be used to exclude or otherwise limit the employment opportunities of qualified disabled individuals.

The Equal Employment Opportunity Officer is responsible for implementation of the EEO policy within the Organization. Gayla P. Szak has been assigned the day-to-day responsibility for implementing the policy regarding individuals with disabilities. She has management's support to carry out the following responsibilities:

- Developing policy statements, Affirmative Action Programs, and internal and external communication techniques.

- Discussing with managers, supervisors, and employees the policy regarding individuals with disabilities to make certain that it is being followed.

- Advising managers and supervisors that they are obligated to prevent harassment of employees placed through affirmative action efforts and that their work performance is being evaluated on the basis of their affirmative action efforts and results, as well as on other criteria.

- Assisting in the identification of problem areas in the implementation of Affirmative Action Programs for individuals with disabilities and in the development of solutions, paying particular attention to the accommodation requirements.

- Designing and implementing an audit and reporting system that will measure the effectiveness of the Organization's program, determining the degree to which objectives have been accomplished, and indicating the need for remedial action.

- Determining whether employees with a known disability have had an opportunity to participate in Organization-sponsored activities.

- Serving as a liaison between GRW Engineers, Inc. and responsible organizations concerned with employment opportunities for individuals with disabilities.

- Serving as a liaison between GRW Engineers, Inc. and enforcement agencies.

Communication of Policy

The Organization takes the following steps to disseminate information on the Organization's policy on employment of disabled individuals to recruiting sources, applicants, supervisory and management personnel, and other employees:

- The Organization's policy is contained in the Policy & Procedure Manual and distributed to all employees.

- The EEO Officer holds periodic meetings with management and supervisory personnel to discuss the Organization's policy.

- Prospective employees are informed of the Organization's commitment to increase employment opportunities for qualified individuals with disabilities.

- Employees are made aware of the Organization's policy through a written policy statement posted throughout the Organization's facilities.

- The Organization has informed recruiting sources of this policy.

- Written notification of the Organization's policy of affirmative action to increase employment opportunities for qualified individuals with disabilities is sent to subcontractors, vendors, and suppliers, requesting appropriate action on their part.

Recruitment

The State Employment Service will be informed of the Organization's policy of nondiscrimination and affirmative action.

Personnel involved in the recruitment, screening, selection, promotion, disciplinary, and related employment processes are aware of the Organization's commitment to affirmative action.

GRW Engineers, Inc. recruits applicants for employment on the basis of their demonstrated abilities and competence.

This policy is discussed in employee orientation and management meetings.

Compensation

When offering employment or promotions to an individual with disabilities, the Organization will not consider disability income, pension income, or other benefits received by the applicant or employee as relevant to determination of his/her salary. No deductions from Organization pay will be made for any other income of that nature.

Policy of Nondiscrimination

The Organization does not discriminate against any applicant or employee because of physical or mental disability provided that the applicant or employee is qualified for the position. The Organization's commitment to equal employment opportunity includes, but is not limited to the following areas: hiring, upgrading, transfer, recruitment or recruitment advertising, layoff or termination, all forms of compensation, selection for training, education or tuition assistance, seniority, and leaves of absence.

The Organization will ensure that the physical and mental job qualification requirements are related to the specific job or jobs for which the person is being considered and are consistent with business necessity and safe performance of the job.

Proper Consideration of Qualifications

All applicants applying for employment with the organization are invited to voluntarily identify themselves as disabled and indicate any reasonable accommodation that can be made to enable them to perform a job that they would not otherwise be able to do.

If a disabled applicant or employee is not selected for employment, promotion, or training, the reason for the non-selection is documented and maintained in the personnel file or with the application.

Whenever an accommodation is made for the hire, promotion, or training of a disabled individual, a description of the accommodation is documented and kept with the personnel file or with the application.

Accommodation of Physical and Mental Limitations of Employees

GRW Engineers, Inc. will try to reasonably accommodate the physical and mental limitations of qualified, disabled applicants or employees so as to ensure that each one is afforded equal opportunity for employment and advancement. In determining the degree of accommodations that may be reasonably undertaken, business necessity and expenses will be considered with such other related factors as: efficiency, health and safety, the essential functions of each specific job, etc. Each decision regarding accommodations will be determined on an individual basis.

The Organization will consider the following types of accommodation:

- Architectural Modifications: curb accessibility, entrance door accessibility, ramps, distance from parking lot to building entrance, restroom facilities which accommodate wheelchairs.

- Work Environment Modifications: lowered or raised work surfaces, special lighting, rearranged shelves, and hand-free phones.

- Job Task Modifications: sequencing changes, functional arrangements.

- Equipment Modifications: telephone equipped with amplifiers, altered controls to accommodate left or right hand or foot operation.

Development and Execution of Affirmative Action Programs

The Organization is committed to developing, executing, and maintaining an effective Affirmative Action Plan. In order to ensure this result, the Organization will use the following procedures:

- The Affirmative Action Plan for individuals with disabilities is made available to current and prospective employees.

- The total selection process including training and promotion is reviewed on an on-going basis to ensure freedom from bias regarding individuals with disabilities that limit their access to all jobs for which they are qualified.

- Review of applicable personnel processes to ensure they provide for a thorough consideration of the job qualifications of applicants and employees for job vacancies. Perform periodic evaluations and reviews of all physical and mental job qualification standards and ensure that those standards are job-related for the position in question and consistent with business necessity.

- Approved position specifications are made available to all members of management involved in the recruiting, screening, selection, and promotion process. Pertinent information is also distributed to all recruiting sources.

- All employees significantly involved in recruitment, selection, promotion, disciplinary and related personnel practices are carefully selected and trained to ensure that the commitments in the Affirmative Action Plan are implemented.

- State Employment Services and other recruiting sources are encouraged to refer qualified individuals with disabilities.

- Include the affirmative action clause in covered government contracts and subcontracts.

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SECTION II

COVERED VETERANS & DISABLED VETERANS

Confidentiality Statement

This Affirmative Action Plan contains confidential information that is subject to the provisions of Title 18 U.S.C. §1905.

GRW Engineers, Inc. does not consent to the release of any confidential information whatsoever contained in the Affirmative Action Plan under the Freedom of Information Act or otherwise. If the Government, or any agency or division thereof, is considering a request for release of this Program under the Freedom of Information Act, we hereby request that the Government immediately notify GRW Engineers, Inc. of any and all Freedom of Information Act requests and any contemplated release of this Plan by the Government.

The Organization further requests that everyone who has any contact with this Affirmative Action Plan, or its supporting appendices, documents, and other data, treat such information as totally confidential and that such information not be released to any person whatsoever.

Statement of Purpose

This plan is written with the intention of meeting the requirements of a contractor's obligations with Section 402, Vietnam Era Veterans Readjustment Act of 1974, as amended.

The plan is presented in recognition of the rights of employees and applicants for employment to be treated on a nondiscriminatory basis. The Organization recognizes its obligation to take affirmative action to employ and advance qualified Covered Veterans and Disabled Veterans. The purpose in adopting this Affirmative Action Plan is to utilize Covered Veterans and Disabled Veterans to their full potential in all levels of the organization.

Affirmative Action Policy

It is the policy of the Organization not to discriminate against any employee or applicant for employment because he or she is a Covered Veterans and Disabled Veterans in regard to any position for which the employee or applicant for employment is qualified. The Organization agrees to take affirmative action to employ, advance in employment, and otherwise treat qualified individuals without discrimination based upon their disability or veteran's status in all employment practices including the following: employment, promotion, termination, compensation, demotion or transfer, recruiting, advertising, layoff or termination, and selection for training. In carrying out this Affirmative Action Program, GRW Engineers, Inc. will make a good faith effort to reasonably accommodate the physical or mental limitations of any employee or applicant for employment unless such accommodation would impose undue hardship on the conduct of the business.

Affirmative Action Plan Coverage

Applicants and employees who believe themselves covered under this Affirmative Action Program for Covered Veterans and Disabled Veterans may advise the Organization at any time that they wish to benefit under this program.

This information will be used solely for the purpose of affirmative action and proper job placement. This information will not be used to exclude or otherwise limit the employment opportunities of qualified Covered Veterans and Disabled Veterans.

The Equal Employment Opportunity Officer is responsible for implementation of the EEO policy within the Organization. Gayla P. Szak has been assigned the day-to-day responsibility for implementing the policy regarding Covered Veterans and Disabled Veterans. She has management's support to carry out the following responsibilities:

- Developing policy statements, Affirmative Action Programs, and internal and external communications regarding affirmative action for these protected classes.

- Discussing with managers, supervisors, and employees the policy regarding Covered Veterans and Disabled Veterans to make certain that it is being followed.

- Advising managers and supervisors that they are obligated to prevent harassment of employees placed through affirmative action efforts and that their work performance is being evaluated on the basis of their affirmative action efforts and results, as well as on other criteria.

- Assisting in the identification of problem areas in the implementation of Affirmative Action Programs for Covered Veterans and Disabled Veterans, and the development of solutions, paying particular attention to the accommodation requirements.

- Designing and implementing an audit and reporting system that will:
    - Measure the effectiveness of the Organization's program and determine the degree to which objectives have been accomplished.
    - Indicate the need for remedial action.

- Determining whether known Covered Veterans and Disabled Veterans have had an opportunity to participate in the Organization-sponsored activities.

- Serving as liaison between GRW Engineers, Inc. and responsible organizations concerned with employment opportunities for Covered Veterans and Disabled Veterans.

- Serving as liaison between GRW Engineers, Inc. and enforcement agencies.

Communication of Policy

The Organization takes the following steps to disseminate information on the Organization's policy on employment of Covered Veterans and Disabled Veterans to recruiting sources, vendors, subcontractors, applicants, supervisory and management personnel, and other employees:

- The Organization's policy is contained in the Policy & Procedure Manual and is distributed to all employees.
- The EEO Officer holds periodic meetings with all management and supervisory personnel to discuss the Organization's policy.
- Employees are made aware of the Organization's policy through a written policy statement posted throughout the Organization's facilities.
- Bulletin boards bear the appropriate federal and state EEO posters.
- Recruitment sources are informed of the Organization's Equal Employment Opportunity Policy and are requested to recruit and refer in a manner that represents the Organization's policy.
- An Equal Employment Opportunity clause is included in all purchase orders.

Recruitment

When hiring opportunities occur, GRW Engineers, Inc. requests that employment agencies and other sources refer qualified Covered Veterans and Disabled Veterans for consideration.

Recruiting sources have been informed of the Organization's policy of nondiscrimination and affirmative action.

Personnel involved in the recruitment, screening, selection, promotion, disciplinary, and related employment processes are aware of the Organization's commitment to affirmative action.

The Organization recruits applicants for employment on the basis of demonstrated ability and competence.

Sources likely to yield qualified Covered Veterans and Disabled Veterans as applicants are identified and included in our recruiting efforts. All open positions are posted with the local State Employment Services office except executive and top management positions, positions that will be filled from within the Organization, and positions lasting three (3) days or less.

The policy is discussed in employee orientation and management meetings.

Compensation

When offering employment or promotions to Covered Veterans and Disabled Veterans, the Organization will not consider disability income, pension income, or other benefits received by the applicant or employee as relevant to determination of his/her salary. No deduction from Organization pay will be made for any other income of that nature.

Policy of Nondiscrimination

The Organization does not discriminate against any applicant or employee because of disability or veteran status, provided the applicant or employee is qualified for the position. The Organization's commitment to equal employment opportunity includes, but is not limited to, the following areas: hiring, upgrading, transfer, recruitment or recruitment advertising, layoff or termination, all forms of compensation, selection for training, education or tuition assistance, seniority, and leaves of absence.

GRW Engineers, Inc. will ensure the physical and mental job qualification requirements are related to the specific job or jobs for which the person is being considered and are consistent with business necessity and safe performance of the job.

Proper Consideration of Qualifications

All applicants applying for employment with the Organization will be invited to voluntarily identify themselves as Covered Veterans and Disabled Veterans and to indicate any reasonable accommodation that can be made to enable them to perform a job that they would not otherwise be able to do.

Whenever Covered Veterans and Disabled Veterans are considered for employment, the employment applications are annotated to identify positions for which they are considered.

If a Covered Veterans and Disabled Veterans is not selected for employment, promotion, or training, the reason for the non-selection is documented and maintained in the personnel file or with the application.

Whenever an accommodation is made for the hire, promotion, or training of a disabled individual, a description of the accommodation is documented and kept with the personnel file or with the application.

Accommodation of Physical and Mental Limitations of Employees

GRW Engineers, Inc. is prepared to make reasonable accommodations to the physical and mental limitations of a disabled veteran unless such accommodation would impose an undue hardship on the conduct of our business. The extent to which accommodations will be made will be a function of several factors including business necessity and cost.

Development and Execution of Affirmative Action Programs

The Organization is committed to developing, executing, and maintaining an effective Affirmative Action Plan. To ensure this result, the Organization uses the following procedures:

- The Affirmative Action Plan for Covered Veterans and Disabled Veterans is made available to current and prospective employees. They are invited to declare their veteran's status and their desire to be covered under the provisions of the plan.

- The total selection process is reviewed on an on-going basis to ensure freedom from bias regarding Covered Veterans and Disabled Veterans which might otherwise limit their access to all jobs for which they are qualified.

- Review of applicable personnel processes to ensure they provide for a thorough consideration of the job qualifications of applicants and employees for job vacancies. Perform periodic evaluations and reviews of all physical and mental job qualification standards and ensure that those standards are job-related for the position in question and consistent with business necessity.

- Approved position specifications are made available to all members of management involved in the recruiting, screening, selection, and promotion process. Pertinent information is also distributed to all recruiting sources.

- All employees significantly involved in recruitment, selection, promotion, disciplinary, and related personnel practices will be carefully selected and trained to ensure that the commitments in the Affirmative Action Plan are implemented.

- State Employment Services and other recruiting sources are encouraged to refer qualified Covered Veterans and Disabled Veterans.

- The affirmative action clause is included in covered government contracts and sub-contracts.

GRW Engineers, Inc. will meet its annual obligation to file a VETS-100A reporting form showing the number of veterans in our workforce.

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 03/08/2017

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

The Underwriters Group, Inc.
1700 Eastpoint Parkway
P.O. Box 23790
Louisville, KY 40223

CONTACT NAME:
PHONE (A/C, No, Ext): 502-244-1343 FAX (A/C, No): 502-244-1411
E-MAIL ADDRESS:

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A: Hartford Casualty Insurance Company	29424
INSURER B: Hartford Fire Insurance Company	19682
INSURER C: Hartford Casualty Insurance Company	29424
INSURER D: Sentinel Insurance Company Ltd	11000
INSURER E: XL Specialty Insurance Company	37885
INSURER F: Kentucky Employers' Mutual Insurance	10320

INSURED

GRW Engineers Inc.
GRW Aerial Surveys Inc.
801 Corporate Drive
Lexington, KY 40503

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

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

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY [X] PRO-JECT [ ] LOC OTHER:	X	X	33UUNZB9755gl	03/01/2017	03/01/2018	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 $300,000 $10,000 $1,000,000 $2,000,000 $2,000,000
B	AUTOMOBILE LIABILITY X ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS X HIRED AUTOS X NON-OWNED AUTOS	X	X	33UUNZB9755	03/01/2017	03/01/2018	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$1,000,000 $ $ $
C	X UMBRELLA LIAB X OCCUR EXCESS LIAB CLAIMS-MADE DED X RETENTION $ 10,000	X	X	33RHUZB9558	03/01/2017	03/01/2018	EACH OCCURRENCE AGGREGATE	$10,000,000 $10,000,000
D F	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N [ ] N/A If yes, describe under DESCRIPTION OF OPERATIONS below		X	33WEIC7873 361580	03/01/2017 03/01/2017	03/01/2018 03/01/2018	X PER STATUTE 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
E	Professional Liability		X	DPR9911711	03/01/2017	03/01/2018	Per Claim: Aggregate:	5,000,000 5,000,000

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

For Informational Purposes Only.
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CERTIFICATE HOLDER

info only
info only

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

Bruce W Ferguson