Giving Back to The Community

Hawkins-Weir Engineers understands the importance of water as a natural resource, which is why we partnered with Central Arkansas Water and the University of Arkansas Extension Service to design and construct a water conservation project at the Little Rock Zoo. The project serves to educate the public on how they can conserve water at their homes and businesses using rain barrels. Hawkins-Weir donated our services to design this project and members of our Little Rock staff joined members of Central Arkansas Water's staff to perform a large portion of the project's construction. The next time you are visiting the Little Rock Zoo, we hope that you will stop by our demonstration project and learn how you too can become involved in the important effort of water conservation.

UofA DIVISION OF AGRICULTURE RESEARCH & EXTENSION · Central Arkansas Water · THE LITTLE ROCK ZOO RECYCLES · HW HAWKINS·WEIR ENGINEERS, INC.

HW HAWKINS·WEIR ENGINEERS, INC.

110 South 7th Street
P.O. Box 648
Van Buren, AR 72956
479.474.1227 phone
479.474.8531 fax

200 River Market Avenue
Suite 250
Little Rock, AR 72201
501.374.4846 phone
501.374.4886 fax

ISSUE 01 FALL 2012

A PUBLICATION OF HAWKINS-WEIR ENGINEERS, INC.

HW HighLights

this issue:

Welcome to the Hawkins-Weir Team

Nick Griffin, P.E. joined HW's Van Buren office in July. He is a licensed P.E. in Arkansas and graduated with a B.S. in Civil Engineering from the University of Arkansas in 2004. His 7 years of environmental and general civil consulting experience includes municipal water transmission and distribution design, wastewater collection and transmission, roadway pavement and geometric design, land development, drainage design, stormwater quality design, and construction management.

Sarah Cousins, E.I. also joined the HW team in July. Originally from El Dorado, Sarah is a recent graduate of the University of Arkansas. While attending school, she obtained a Bachelor of Science degree in Biological Engineering and a Master's degree in Civil Engineering. Prior to joining our team, Sarah was employed as a permit engineer with ADEQ. Sarah will be working out of HW's Little Rock office.

Hawkins-Weir Engineers: About Us

My name is Brett Peters, President and CEO of Hawkins-Weir Engineers, Inc. I'd like to welcome you to the inaugural edition of our new quarterly newsletter. Its purpose is twofold - to showcase some of our existing clients' projects, and to introduce potential new clients to our firm.

Founded in 1980, Hawkins-Weir Engineers is a regional civil and environmental engineering consulting firm that specializes in water and wastewater projects - from water supply, treatment, and distribution to wastewater collection, attenuation, and treatment. We are also experienced with storm drainage, streets and roadways, land planning and development, structural, surveying, and construction management projects. We provide professional services to municipal, industrial, and private enterprise clients, with approximately 75% of our business focused on the municipal sector.

We are owned by a partnership of six professional engineers who also serve as the firm's Board of Directors. We maintain a multidisciplinary staff that includes engineers, surveyors, designers, construction managers, and administrative support personnel. Having six principals in the firm affords us the ability to have a Company Principal manage each and every project. At Hawkins-Weir, we recognize that the success of any project depends largely on the experience and capabilities of the personnel assigned to the project team. After all, people execute projects, not firms.

With offices in Van Buren and Little Rock, *Arkansas Business* ranks us among the 10 largest firms in the State of Arkansas. While we are very proud of the consistent growth that our firm has enjoyed, we are also very mindful that our success is directly related to providing each of our clients with the individual attention they deserve. Our firm is committed to maintaining the size, stability, and resources necessary to successfully undertake a diverse range of projects.

For 32 years our firm has maintained the same simple business philosophy for all our projects regardless of scope: *to provide the highest level of professional engineering services to meet our clients' individual needs regarding project budget and schedule.* We measure our success by client satisfaction and the hallmark of our business model is repeat business. We also acknowledge that any success that we have enjoyed is directly related to the success of our clients and their projects.

I invite you to visit our website at *www.hawkins-weir.com* to learn more about our firm and our capabilities. Also, please do not hesitate to call us directly at (479) 474-1227 if we can be of any service to you on your next project.

HW

GETTING DOWN TO THE DETAILS

At Hawkins-Weir Engineers we have always prided ourselves on providing designs that are much more detailed than the industry standard, but a recent project for the Little Rock Wastewater Utility required us to go a step further.

An accidental explosion inside one of the Fourche Creek Wastewater Treatment Plant's primary digesters caused irreparable damage to the structure's 100-foot diameter concrete roof cover. It was concluded that the cover would need to be demolished and replaced. Demolition drawings often simply provide identification of the items that need to be removed. Hawkins-Weir understood that would not suffice for this project due to the potential for further damage to the structure, disruption of plant operations, and safety concerns. To address these issues, Hawkins-Weir provided in-depth details on how the demolition process was to be conducted including formwork design, a concrete cutting layout and sequence, crane requirements, and even the types of specialty tools that would be required. We also provided a critical path schedule as a part of the plans that the contractor is required to follow. The purpose of the schedule is to ensure that the proper sequence is followed and that the project will be completed in the shortest practical amount of time. At Hawkins-Weir, we understand that the details matter and will always go the extra mile to engineer success for our clients.

HW Project Spotlight:

Sunnymede Wet Weather Flow Management & Pump Station

The Sunnymede Wet Weather Project is a sanitary sewage peak flow management project for the City of Fort Smith, Arkansas

Hawkins-Weir Engineers worked with the City of Fort Smith from 2006 through 2010 on the design and construction of the Sunnymede Peak Wet Weather Flow Management project. The purpose of this innovative project was to address excessive flows in the sewage collection system caused by infiltration and inflow. This facility enables the city to better manage and mitigate peak wet weather flows that would otherwise overload their existing sewage collection and treatment facilities.

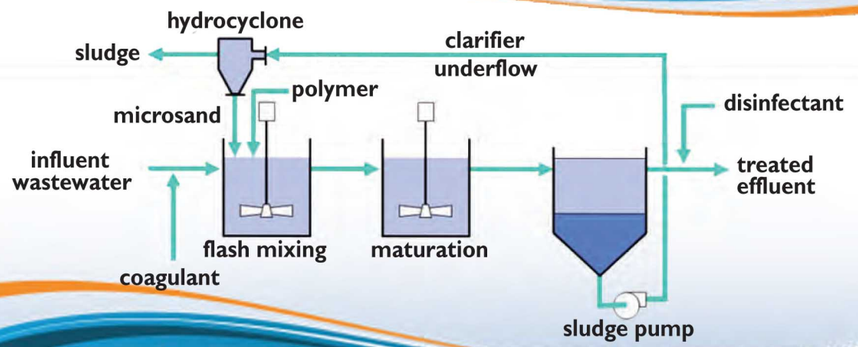
The project included the construction of a new 32 MGD pump station that features separate Dry Weather and Wet Weather pumping capabilities. During a peak flow event, excess wastewater is pumped to a Ballasted Flocculation Unit (BFU). The BFU removes solid particulates in the diluted sewage through a process of high rate clarification as shown on the schematic below. Diluted wastewater is introduced into the BFU and mixed with a coagulant and a polymer to enhance treatment efficiency. Wastewater solids coagulate around fine-grained sand introduced to provide particle ballast. Clarifiers equipped with tube settlers remove these ballasted particles (sludge) from the flow.

Liquid chlorine (sodium hypochlorite) is used to disinfect the treated effluent prior to storage to safeguard public health. The ballast sand is removed from the clarifier sludge with a hydrocyclone, and the sand is recycled back into the BFU system. The sludge is drained back to the dry weather pumping side of the pump station, which sends it on to the treatment plant.

The effluent from the BFU is of extremely high quality and could easily satisfy the City's NPDES permit requirements for BOD and TSS. Unfortunately, regulatory authorities currently will not allow the effluent to be discharged since the high rate clarification process does not include a biological treatment component. For that reason, the treated effluent is temporarily stored in a grass lined earthen equalization basin until storm flows in the sanitary sewer subside and the treated wastewater can be drained back to the new pump station and pumped to Fort Smith's Massard Wastewater Treatment Plant for final treatment prior to discharge. The stored flow is not odorous and cleaning of the basin is not required after use. The project was completed under budget in 2010 with a final construction cost of $14,627,000.

In 2009 Hawkins-Weir Engineers began the design of a new 10 MG wet weather storage project for the City of Fort Smith. Hawkins-Weir also recently began the design of a new 51 MG wet weather storage project for the Little Rock Waste- water Utility. Wet weather storage is oftentimes the most cost-effective way to address SSOs in a collection system and no engineering firm in Arkansas has more experience with these types of projects than Hawkins-Weir. If your utility is struggling with SSOs, give us a call to determine if this type of innovative approach is right for you.

Ballasted Flocculation/High Rate Clarification Process



Community Spotlight: Sunnymede Walking Trails

The Sunnymede Walking Trails Project is the second phase of a multiphase project that began with the Sunnymede Wet Weather Flow Management Project for the City of Fort Smith, AR. The Project includes the construction of approximately 1.7 miles of asphalt, concrete and gravel pedestrian walking trails around the Sunnymede Pump Station and Wet Weather Flow Equalization Basin. The project also includes the construction of a public parking lot and the installation of an 8-ft.-wide by 40-ft.-long pedestrian bridge across Sunnymede Creek. Landscaping of the site includes the planting of trees, native grasses, and wildflowers along the trail routes as well as the placement of park benches and trash receptacles.

visit our website: ***www.hawkins-weir.com***

IS YOUR UTILITY PAYING TOO MUCH IN TAXES?

You may be paying too much in taxes if you are not filing for tax exempt status on your wastewater treatment plant improvement projects. Per Arkansas Code Ann. §§ 26-52-402; 26-52-401(36) the sale of pollution control machinery and equipment are exempt from state taxes if they are used to prevent air or water pollution and are required to comply with Arkansas or federal laws or regulations. This exemption applies to concrete, pipes, valves, equipment, etc., used as a part of the treatment process. It does not apply to collection system improvements, influent pump stations, effluent pump stations, administrative buildings, or ancillary processes such as solids handling. At Hawkins-Weir we understand the budget limitations that most utilities face and we work hard to deliver projects that are effective and affordable. If you have any questions about the tax exemptions status of your new facilities, please feel free to contact Aaron Benzing, P.E. aaron.benzing@hawkins-weir.com.

IT'S YOUR CHOICE

We hope you enjoy our new publication, *HW HighLights*. This newsletter is just one of the many ways Hawkins-Weir Engineers stays in touch with our clients and friends. Like you, we are sensitive to the needs of our environment. We have mailed you this issue for your convenience, but if you would prefer to receive the email version please contact Helen Campbell at helen.campbell@hawkins-weir.com