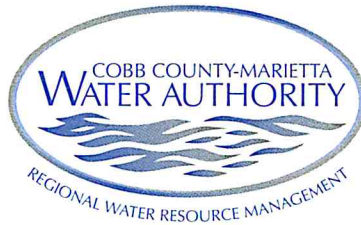


Griffin "Grif" L. Chalfant, Jr., Chair
Charlie N. Crowder, Vice Chair
T. Daniel Buyers, Secretary
A. Max Bacon, Member



James A. Balli, Member
Michael H. Boyce, Member
James C. Scott, Jr., Member
Glenn M. Page, P.E., General Manager

COBB COUNTY-MARIETTA WATER AUTHORITY

Agenda

Monday, February 20, 2017 --- 3:30 p.m.

1. Invocation and Pledge of Allegiance
 2. Approval of Minutes of Regular Meeting of January 23, 2017 *
 3. Approval of Minutes of Executive Session of January 23, 2017 *
 4. Financial report *
 5. Electrical Motor Services *
 6. Electrical Reliability, Field Testing, Emergency Repair and Supplemental Electrical Service *
 7. Replacement of On-Site Sodium Hypochlorite Generator Cells *
 8. Engineering Services for Wyckoff/Mars Hill 42-Inch Water Main Replacement *
 9. Sole Source Equipment Request for James E. Quarles Plant 1 Replacement Project *
 10. Old business
 11. General Manager's report *
 12. New business
 13. Executive Session
 14. Legal
- * Attachment

**Cobb County-Marietta Water Authority
Minutes of Regular Meeting**

January 23, 2017

The regular meeting of the Cobb County-Marietta Water Authority was held on January 23, 2017 at 3:30 p.m., in the Cobb County-Marietta Water Authority's Board Room. Water Authority Board members present were: Grif Chalfant, Charlie Crowder, Dan Buyers, Max Bacon, James Balli, Mike Boyce and James Scott.

The meeting was called to order at 3:30 p.m. by Chair Grif Chalfant.

1. Invocation and Pledge of Allegiance

Mr. Dudley Cantrell offered the invocation and led the Pledge of Allegiance.

2. Approval of Minutes of Regular Meeting of December 19, 2016

Mr. Chalfant asked for approval of the minutes of the Regular Meeting of December 19, 2016. Mr. Buyers made a motion to approve the minutes as presented. Mr. Boyce seconded the motion; motion passed 7/0.

3. Approval of Minutes of Executive Session of December 19, 2016

Mr. Chalfant asked for approval of the minutes of the Executive Session of December 19, 2016. Mr. Scott made a motion to approve the minutes as presented. Mr. Crowder seconded the motion; motion passed 7/0.

4. Financial report

Mr. Cole Blackwell, Director of Finance, presented a summary of the December 31, 2016 Financial Statement (copy in file). Net income for December was \$2,590,516, which exceeded expectations by \$819,416. Operating income for December was \$2,681,272, which exceeded expectations by \$787,264.

Year-to-date net income of \$43,496,128, inclusive of fair market valuation adjustments, exceeded budget expectations by \$12,034,644. Year-to-date operating income of \$44,159,552 exceeded budget expectations by \$11,257,542.

5. Qualification of Multi-Bank Securities, Inc.

Mr. Blackwell referred to the memorandum in the Board package (copy in file). Mr. Buyers made a motion to approve Multi-Bank Securities, Inc. to the Water Authority's authorized list of Broker/Dealers. Mr. Balli seconded the motion; motion passed 7/0.

6. Quarterly Investment Review

Mr. Courtney Rogers presented the Quarterly Investment Review (copy in file) and provided an analysis of the financial health of the Water Authority.

7. GIS Platform Services Agreement

Mr. Page referred to the memorandum in the Board package (copy in file). Mr. Buyers made a motion to approve entering into a 3-year ArcGIS Platform Standard Subscription Agreement with Esri for a total cost of \$309,640. Mr. Boyce seconded the motion; motion passed 7/0.

8. Approval of Board travel expenses to AWWA Annual Conference and Exposition, June 11-14, 2017

Mr. Page reminded the Board that the Water Authority's authorizing legislation requires that expenses related to travel for any Board member on Water Authority business must be approved in a public meeting in advance of the travel. Mr. Scott made to motion to authorize travel expenses for Board members and the Authority attorney attending the AWWA Conference in Philadelphia June 11-14. Mr. Buyers seconded the motion; motion passed 7/0.

9. Old business

There were no old business items to present.

10. General Manager's report

Mr. Page reported that there was an error in the sales for December in the General Manager's report. Actual sales for December averaged 77.71 million gallons per day (mgd) and the average sales for the year 2016 was 86.3 mgd.

Mr. Page also provided the following updates:

Quarles 1 Replacement Project: Staff and engineer Hazen & Sawyer have developed a list of items for sole-source procurement, items pre-selected through proposals, and significant subcontractors to be approved through a pre-qualification process. Recommendations for Board approval of these items and subcontractors for inclusion in the bid documents for the project is planned for the February meeting. Prior to advertisement for bids on the project, a pre-qualification process for general contractors will also be used.

TAP Resource Development Group: Staff has engaged the services of TAP Resource Development Group (TAP), a human resources consulting firm in Denver specializing in publicly owned water and wastewater systems. TAP will be assisting staff in working through the Workforce Development Initiative in the Strategic Plan,

specifically succession planning and developing training systems for transfer of institutional knowledge.

11. New business

Mr. Chalfant appointed Mr. Boyce, Mr. Balli and Mr. Patrick Henley to the Pension Committee, and Mr. Balli to the Personnel Committee.

Mr. Page requested that the Board members complete the previously distributed Conflict of Interest Questionnaire and return it to Ms. Mixon.

12. Executive Session

Mr. Crowder made a motion to go into Executive Session to discuss potential litigation. Mr. Scott seconded the motion; motion passed 7/0.

Mr. Scott made a motion to return to Regular Session. Mr. Boyce seconded the motion; motion passed 7/0.

13. Legal

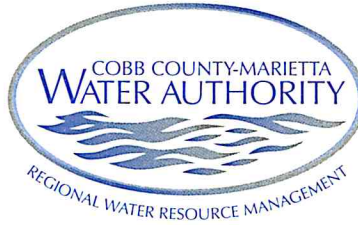
There were no legal items to present.

There being no further business, the meeting was adjourned.

Becky A. Mixon
Assistant Secretary

Griffin L. Chalfant, Jr.
Chair

Griffin "Grif" L. Chalfant, Jr., Chair
Charlie N. Crowder, Vice Chair
T. Daniel Buyers, Secretary
A. Max Bacon, Member



James A. Balli, Member
Michael H. Boyce, Member
James C. Scott, Jr., Member
Glenn M. Page, P.E., General Manager

MEMORANDUM

TO: Water Authority Board
FROM: Glenn Page *GMP*
DATE: February 14, 2017
RE: Electric Motor Services

Following public advertisement, on January 5, 2017, staff received and opened a single response to a Request for Priced Proposals (RFP) for Electric Motor Services. A second proposal was received 4 hours after the advertised response deadline, but was not opened.

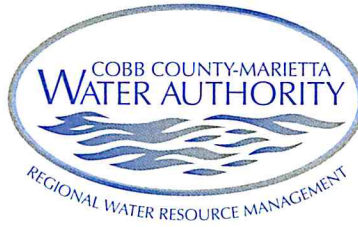
The purpose of the Electric Motor Services Program is to retain a resource capable of providing a variety of electrical motor services for CCMWA's large 4160-volt pump motors up to 3250 horsepower (hp). Currently, CCMWA uses 32 of these motors to pump raw water to the treatment plants, to transfer water within the plants, and to pump treated water into the transmission system. Services to be provided through the program would include: rewinding, rebuilding, cleaning, dry ice cleaning, bearing replacement and other specialty services as needed. Currently, CCMWA staff attempts to obtain competitive pricing for this type of work each time it is required, but this requires significant time. Retaining a motor services provider with proven capability under a contract with priority attention given to CCMWA will improve our ability to provide reliable service to our customers by reducing turnaround time when both planned and emergency motor services are needed.

The scope of work in the RFP stated many specific and significant requirements needed to service CCMWA's large motors. The RFP required the proposer to demonstrate the capability and experience for: Babbit bearing replacement, immersion testing, in-place cryogenic dry ice cleaning, vacuum impregnated injection of solvent-less epoxy and other state-of-art services. In addition, the RFP states, "The selected contractor shall not be permitted to subcontract any of the services to be proposed under this proposal unless mutually agreed upon with the owner in writing."

The only timely proposal CCMWA received was from Motor & Gear Engineering, Inc. (MGE) of Doraville. While MGE has provided good mechanical work for CCMWA in the past, staff had concerns with their ability to meet all the requirements in the RFP. Six maintenance and operations staff members visited MGE's Doraville facility on January 22, and confirmed that, while MGE was equipped to handle motors up to 500 hp, all larger motors would need to be serviced through a partnership with Cole Electric Technology, Inc. of Atlanta, referred to by MGE as a "sister company." In addition, Cole would be used to perform motor rewinding, vacuum injection, dry ice cleaning, and load testing above 900 hp, as MGE is not capable of performing this work in-house.

Because so much of the work required in the RFP would be outsourced by MGE to Cole Electric, it is staff's consensus to recommend to the Board that the proposal from Motor & Gear Engineering, Inc. not be accepted, and that the RFP be reviewed and re-advertised in an attempt to attract more proposals from qualified service providers.

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Glenn M. Page, P.E., General Manager

MEMORANDUM

TO: Water Authority Board

FROM: Glenn Page *GMP*

DATE: February 14, 2017

RE: Electrical Reliability, Field Testing, Emergency Repair and Supplemental Electrical Services

On January 25, 2017, following public advertising and staff notification of several service providers, a single proposal was received in response to a Request for Priced Proposals (RFP) for Electrical Reliability, Field Testing, Emergency Repair and Supplemental Electrical Services. The intent of this request is to contract with a qualified electrical firm to test, clean and ensure the reliability of the Authority's medium voltage switchgear (typically 4160 volts).

The selected company would be available to supplement staff for testing and repair services, as well as other electrical needs. Work is requested and directed by staff based on need and budget availability. This work may include: infrared thermography, arc flash hazard analysis, preventative maintenance, inspection and testing, and a variety of other electrical services to maintain critical electrical systems. The current contract for these services was approved by the Board in March 2014, and expires in March 2017.

The RFP requested hourly pricing for at least six professional, labor or craft classifications, as well as a mark-up percentage on specialty tools and/or materials purchased. Labor classes ranged from Electrical Engineer through Apprentice, and included specialty services such as Calibration Technician and Thermographer.

The only proposal received was from Cleveland Electric Company of Atlanta, who holds the current contract. Cleveland's proposal contained the same pay rates and percentage mark-up as were approved by our Board in March 2014. Some of the proposed rates were:

Pay Category	Hourly Rate
Electrical Engineer	\$100
Superintendent	\$90
Foreman	\$85
Journeyman	\$75
Apprentice	\$35
Materials Mark-up (%)	20%

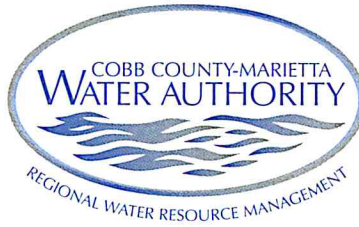
Over the past three years, Cleveland has met or exceeded all staff expectations for work performed as requested at several CCMWA locations. During this period, Cleveland has been paid a total of \$504,378 under this contract.

The majority of the work under the contract is expected to be testing, inspection, cleaning and preventative maintenance. There is \$155,000 of approved funding in 2017 for motor/gear inspection at the treatment plants and other CCMWA sites. In addition, each treatment division has a budget line item for "Maintenance and Repair—Electrical," totaling \$110,000 between the two plants.

The proposed service agreement is for 12 months, with the option of two one-year extensions based on mutual agreement between the parties. Annual extensions shall be recommended to and approved by the General Manager. All work is to be performed on a time and materials basis as directed by CCMWA staff. The contract may be terminated at any time with 30 days written notice.

Staff recommends Board award of a contract for Electrical Reliability, Field Testing, Emergency Repair and Supplemental Electrical Services to Cleveland Electric Company of Atlanta, Georgia to be managed by staff and limited by annual budgets for a period of up to three years.

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Glenn M. Page, P.E., General Manager

MEMORANDUM

TO: Water Authority Board

FROM: Glenn Page *GMP*

DATE: February 14, 2017

RE: Replacement of On-Site Sodium Hypochlorite Generator Cells

In 2009, CCMWA completed a project to replace the gaseous chlorine system at the Quarles Treatment Plant, greatly reducing safety and health risk to CCMWA employees and the surrounding community. Chlorine gas cylinders and chlorinators were replaced with three on-site sodium hypochlorite generators that convert common table salt to a weak (0.8%) bleach solution using electrolysis. Subsequently, a similar conversion was completed at the Wyckoff Treatment Plant, with a third generator being installed there by staff at this time.

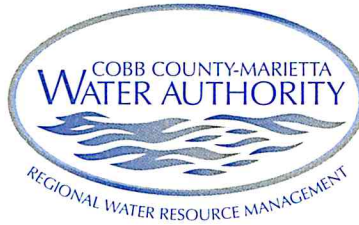
In June 2015, the Board approved an emergency replacement of the generator cells for on-site generator (OSG) No. 3 at the Quarles Plant following failure of one of the two cells the previous month. As a result of this experience and staff investigation of the causes and modes of failure of this type of equipment, regular replacements of generator cells were placed in the Asset Management Program on approximately a 7-year cycle. In 2016, replacement cells for Quarles OSG No. 1 were funded through the Renewal & Replacement (R&R) Budget and were replaced by staff.

The 2017 R&R Budget includes \$140,000 to replace the two generator cells on Quarles OSG No. 2. Staff desires to acquire and complete installation of the replacement cells before summer water demands and higher summer electrical rates take effect. Having all three OSG units available during the summer allows staff to generate the required sodium hypochlorite only during the off-peak periods each day, minimizing power costs.

Templeton and Associates Engineering Sales of Suwanee is the local manufacturer's representative for De Nora Water Technologies, manufacturer of the Clor-Tec® On-Site Sodium Hypochlorite Generation System used at both of CCMWA's plants. Templeton has provided a firm quotation for both replacement cells for the Quarles OSG No. 2 of \$116,000.00, plus \$1,600.00 for shipping. Delivery time is 2-3 weeks, and the cells will be installed by Quarles maintenance staff upon delivery. The price includes a full replacement warranty for 2 years and a prorated warranty for an additional 5 years. For comparison, the price of the two replacement cells approved for OSG No. 1 in February 2016 was \$117,400, including shipping.

Staff recommends Board approval to purchase two replacement generator cells for the Quarles On-Site Sodium Hypochlorite Generator No. 2 from Templeton and Associates Engineering Sales of Suwanee, Georgia for a delivered price of \$117,600.

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Glenn M. Page, P.E., General Manager

MEMORANDUM

TO: Water Authority Board

FROM: Glenn Page *GMP*

DATE: February 14, 2017

RE: Engineering Services for Wyckoff/Mars Hill Road 42-Inch Water Main Replacement

During 2016, a new Aged Pipe Replacement Evaluation Tool was developed and used to prioritize the replacement of critical buried infrastructure in the CCMWA system, including prestressed concrete cylinder pipe (PCCP) which was installed prior to 1980. Premature failure of some of this pipe has resulted in a prioritized replacement of most of the CCMWA system since the early 1980s.

The new Capital Improvement Plan (CIP) approved in December 2017 includes five Aged Pipe Replacement projects over the next five years. One of those projects, designated for completion by the end of 2019, is the design and construction a new pipeline to replace approximately 5200 linear feet of 42- and 30-inch PCCP inside the fence of the Wyckoff Water Treatment Plant and extending southward along Mars Hill Road across U.S. Highway 41 to Mars Hill Church Road (see attached map of existing facilities). The approved budget for the project in the CIP, including engineering and construction, is \$6,084,285.

The existing pipeline will be replaced with a 42-inch ductile iron pipe. This project was prioritized within the Aged Pipe Replacement Program primarily for three reasons:

- (1) The existing pipeline is 52 years old, and was constructed during a period of documented deficiencies by the pipe manufacturer.
- (2) Because of the proximity of this line to the water plant, a failure could result in a widespread water outage affecting thousands of people in Cobb and Paulding Counties, as well as critical customers such as WellStar Acworth Health Park and Allatoona High School.
- (3) Previous intersection improvements by Georgia DOT have resulted in the existing pipeline and valves being located in the middle of the Highway 41/Mars Hill Road intersection, posing access and safety issues for maintenance, as well as the potential of a failure that could affect high traffic volumes for days.

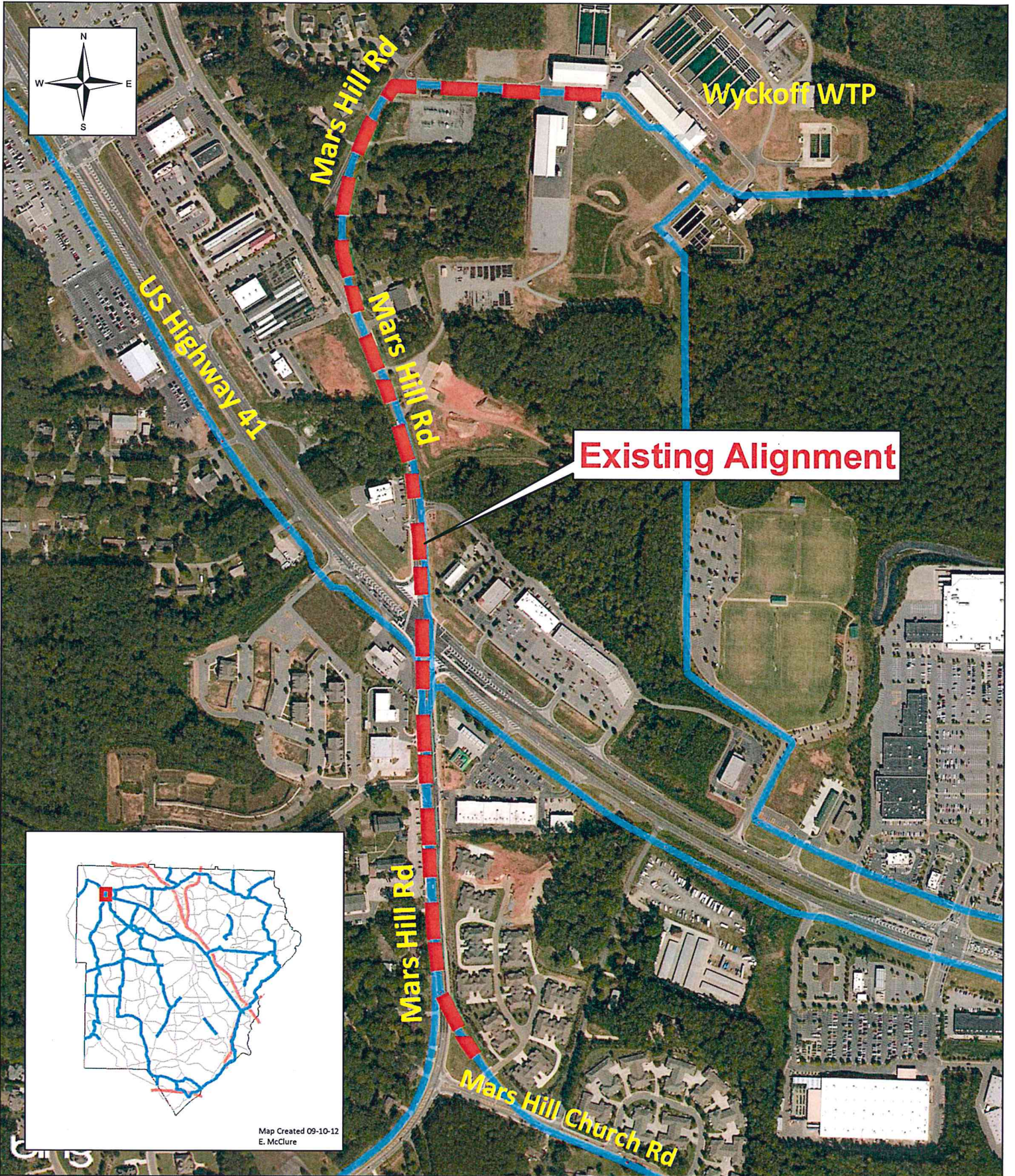
An evaluation of alternative routes will be used to determine the alignment of the new line, with a goal of eliminating the crossing of Highway 41 within the Mars Hill Road intersection. The conceptual routing and valving of the new pipeline will enhance reliability and redundancy in the area near the plant, which feeds water in 5 different directions, as well as relocate the pipeline away from the center of busy roadways, addressing all of the above concerns.

Staff requested a scope and cost estimate from Engineering Strategies, Inc. (ESI) of Marietta to provide engineering and construction services on a time and expense basis for this pipeline project using the hourly rates in their current Engineering Demand Services Contract with CCMWA. The scope of this project includes preliminary design (including evaluation of routing alternatives), utility locates, surveys, detailed design, permitting, bidding services, construction management, and construction inspection services.

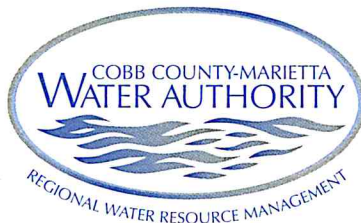
According to the estimate submitted by ESI, the level of effort expected for the project (engineering and construction services) is approximately 2,331 hours, and the associated cost is \$353,229. The cost estimate includes \$90,000 for owner-directed allowances (easements, geotechnical testing, corrosion studies and miscellaneous additional engineering). For a project of this type, typical engineering and construction services are estimated at approximately 10 percent of the project budget; ESI's proposed fee is approximately 5.8%, substantially less than industry standards. In this case, using the competitively procured Demand Services Contract allows for a more efficient delivery of the project.

Staff recommends Board approval to execute a Task Authorization valued at \$353,229 for engineering and construction services for the Wyckoff/Mars Hill Road 42-inch Water Main Replacement under the existing Engineering Demand Services Contract with Engineering Strategies, Inc. of Marietta, Georgia.

Wyckoff / Mars Hill Road 42 - Inch Water Main Replacement



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MEMORANDUM

TO: Water Authority Board

FROM: Glenn Page *GMP*

DATE: February 14, 2017

RE: Sole Source Equipment Request for James E. Quarles Plant 1 Replacement Project

The James E. Quarles Plant 1 Replacement Project is currently scheduled to bid in May of 2017. The current Engineer's Estimate for the entire construction project is between \$60 and \$65 million. As with previous plant-related capital projects, CCMWA staff and consulting engineers Hazen and Sawyer (Hazen) have evaluated equipment needs for the project, and are requesting Board approval of the purchase of certain equipment systems on a sole-source basis.

All the equipment being requested for sole-sourcing are for the following reasons:

1. The equipment matches existing equipment across CCMWA facilities. This standardization allows for:
 - a. Reduced spare part inventory requirements.
 - b. Familiarity by maintenance staff on the maintenance and repair of critical process equipment.
 - c. Ability of maintenance staff to work on equipment at either treatment facility.
 - d. Simplified training of Staff on the operation and maintenance of fewer process equipment types.
2. The equipment selected have a proven track record of superior performance at CCMWA facilities.

The equipment is unique in some way which makes its direct selection more beneficial to CCMWA due to increased effectiveness, efficiency and/or a higher level of accuracy (meters) or precision (valve actuators). Bidding these items against market competition is likely to result in CCMWA receiving a lesser product in quality or performance.

The table below summarizes the equipment requested to be approved for sole-source procurement. More detailed information from CCMWA staff and Hazen is attached.

The prices in the table have been quoted by the vendors based on plans and specifications at the 90% completion stage and may be adjusted slightly when the final plans and specifications are issued. Hazen has reviewed the prices and considers them reasonable and consistent with other recent projects. Furthermore, equipment prices were compared to previous purchases by CCMWA and found to be competitive.

Equipment	Supplier (Vendor)	Number of Units	Total Price
Hoseless Sludge Collection System and Plate Settlers	Meurer Research, Inc. (represented by Principal Environmental)	6 sludge collectors in sedimentation basin (2 per basin); 18 plate packs; 54 plate cover panels	\$2,036,860.00
Filter Underdrains*, Filter Troughs, and Filter Media	Leopold (represented by Principal Environmental)	8 New Filters (2 filter cells each), including installation by Filter Rehabilitation Company (included in Leopold's proposal)	\$1,418,000.00
High Accuracy Venturi Flow Meters	Primary Flow Signal (represented by EcoTech)	8 filter effluent rate of flow (ROF) controllers—1 backwash, 1 raw water, 1 finished water, 1 backwash air	\$446,690.00
Hydraulically-Actuated Ball Valves	GA Industries (represented by Principal Environmental)	3 (one for each high service pump)	\$167,161.00
Electric Actuators for Modulating and Open/Close Valves	Harold Beck and Sons, Inc. (self-represented)	Applications: 13 modulating valves; 1 raw water emergency close valve; 73 open/close valves	\$638,148.30

* In an effort to provide competition in of procurement of the filter underdrains, CCMWA issued an RFP to two pre-selected underdrain manufacturers (Leopold and AWI); only Leopold responded.

Each item in the above list of equipment, if approved for sole-source procurement, will appear as a separate line item on the bid form, with a pre-negotiated fixed value identified. All equipment will be purchased by the successful bidder, who will be responsible for scheduling, delivery, installation and performance.

The total amount of sole-source equipment requested represents less than eight percent of the total cost of the project. Staff recommends Board approval of the above list of equipment for sole-source procurement as part of the Quarles Plant 1 Replacement Project.

Pre-Qualification of Specialty Subcontractors and General Contractor (For Information Only)

Because of the complexity of the Quarles Plant 1 project, a prequalification step for both Electrical and Instrumentation and Control (I&C) Integrator subcontractors was implemented for this project. The prequalification process was similar to the ones used on the Quarles Backup Power Generation Project in 2014 and the Wyckoff Filter Building Rehabilitation and Electrical Improvements Project in 2015, and included staff's and Hazen's review of submitted qualifications packages. When the Quarles Plant 1 project is bid in May of 2017, only the prequalified Electrical and I&C subcontractors will be acceptable for these work items in the contract, and the general contractors bidding the project will have to identify their proposed Electrical and I&C subcontractors in their bid packages.

A Request for Prequalification Applications was published in the Marietta Daily Journal per CCMWA policy. In addition, Hazen also sent copies of the advertisement to contractors with significant experience on water and wastewater projects in the southeast. Below are the subcontractors determined as prequalified to work on the Electrical and I&C divisions of the work on the Quarles Plant I Replacement Project.

1. Electrical
 - a. EXCEL Electrical Technologies
 - b. Crowder Construction Company
 - c. Cleveland Electric Company
2. I&C Integrators
 - a. Kapsch TrafficCom USA, Inc.
 - b. Revere Control Systems, Inc.
 - c. C2i (Control Instruments, Inc.)
 - d. MR Systems, Inc.

A prequalification process for prospective General Contractors for the project is currently under way for the project as well. Prequalified bidders will have to demonstrate their experience on multiple large, complex construction projects within an operating water treatment plant.

Sole Source Equipment

James E. Quarles Plant 1 Replacement Project

Equipment	Supplier	Number of Units to be Purchased	Negotiated Price	Justification	Cost Used in 60% Estimate
Hoseless Sludge Collection System and Plate Settlers	Meurer Research, Inc. (represented by Principal Environmental)	6 sludge collectors in sedimentation basins (2 per basin)	\$2,036,860	<p><u>Sludge Collection System</u></p> <p>The selected style of sludge withdrawal mechanisms is the hoseless sludge collection system. The unit rides on wheels on the bottom of the basin and uses differential head to 'vacuum' settled solids from the floor of the sedimentation basin. Telescoping pipes transfer the suctioned solids to the discharge pipe, which exits the basin below the water surface.</p> <p>The hoseless sludge collection system was selected over other types of systems, such as the floating type mechanism (Clarif-Vac), because it allows for a sloped floor in the sedimentation basin to better facilitate draining and cleaning of a basin, and it does not rely on maintaining a prime on the vacuum suction pipe.</p> <p>The MRI system, including plate settlers, will standardize around a single manufacturer for both of CCMWA's water treatment plants. The hoseless sludge collection system is the same system installed in the Q2 sedimentation basins and was selected to be used in the recent upgrades at the Wyckoff WTP in which 12 units were installed in the new sedimentation basins, 2 units installed in the backwash EQ basins, and 4 units installed in the existing backwash recycle tank.</p> <p>The MRI hoseless system was also chosen over bottom units that utilize a hose to connect the suction header to the discharge pipe. Hoses are susceptible to air entrapment following a basin drain/refill; they are also susceptible to crimping and entanglement in inclined plate settler mechanisms, which will be installed in the new sedimentation basins at Quarles. The MRI sludge collectors are proven leaders in the industry since 2002 with over 1,200 installations.</p>	\$2,475,000.00
		18 plate packs			
		54 plate cover panels			
<p><u>Inclined Plate Settlers</u></p> <p>The MRI plate settlers are proven leaders in the industry since 1988 with over 300 installations. The all-stainless steel construction of MRI's plate settler system provides superior</p>					

strength and durability. Their plates have a patented hydraulic flow control deck that extract flow evenly from across the width of each plate for the most uniform flow distribution available. There also is an adjustable weir, resulting in more flow control, capacity and efficiency than other systems. The arrangement of MRI plates provides unique configuration to create a solid deck, strong enough to be walked on during installation and for future maintenance. Covers are also recommended to be installed to reduce the potential for algae growth.

Filter Underdrains, Filter Troughs and Filter Media	Leopold (a Xylem brand)	8 new filters (2 filter cells each)	\$1,418,000	The underdrain style (dual lateral with an integral cap and air scour provisions) matches the style of underdrain system included in all other CCMWA filters at both plants. The offering is to provide the latest model underdrain from Leopold (Type XA with IMS 200 Media Retainer), which has several improvements, including a grout retainer on the bottom of the underdrain, low profile, and new internal configuration that improves air/water distribution across the length of each underdrain. The integral cap allows for elimination of a gravel layer, thus allowing either a deeper media bed or improved separation between the media and the backwash troughs. This thermoplastic cap is improved over previous porous caps to prevent potential clogging.	\$2,700,000.00
	(represented by Principal Environmental)	Installation by Filter Rehabilitation Company (included in Leopold's proposal)			

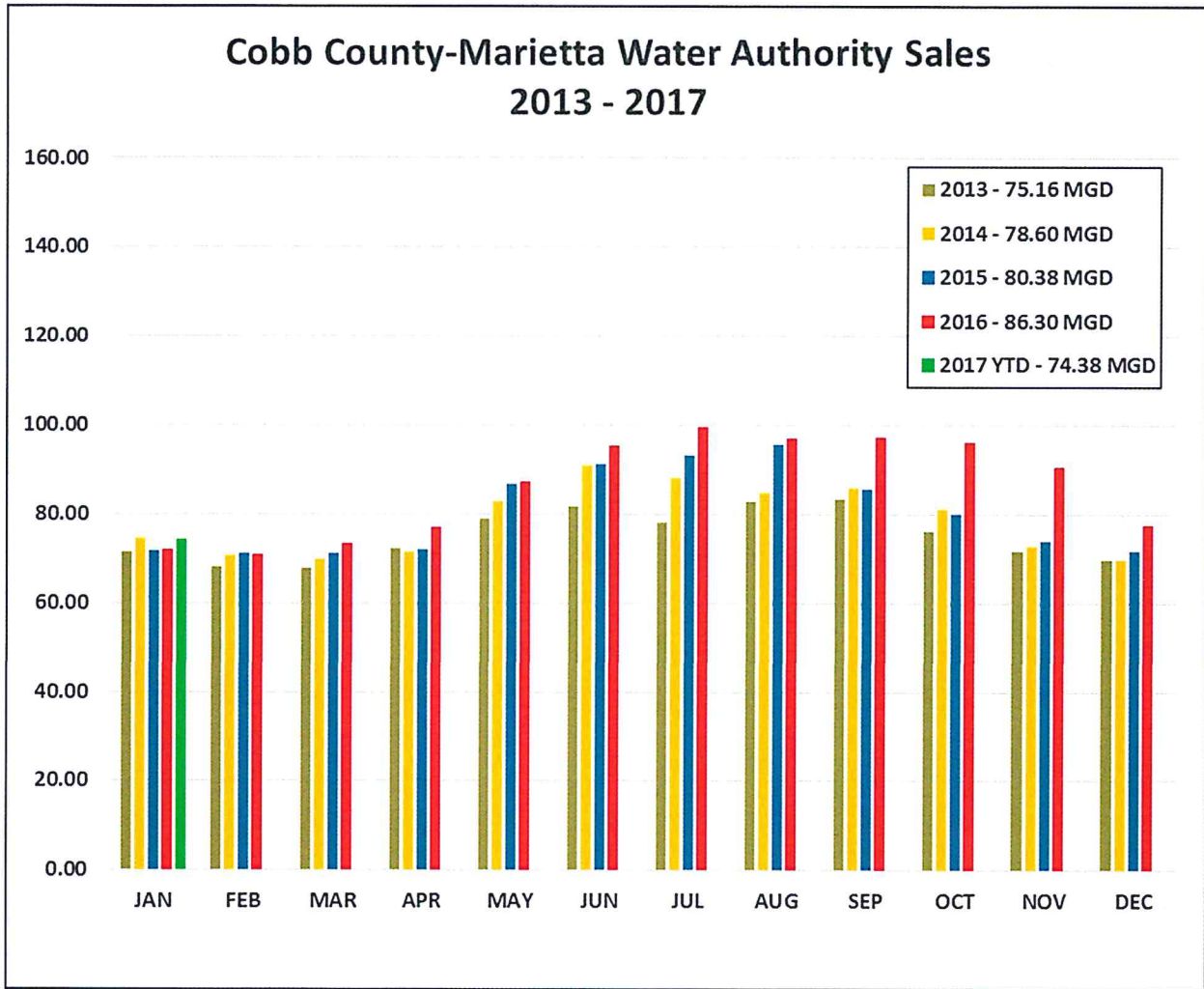
In comparison to stainless steel plate underdrains, the dual lateral underdrain with integral cap (HDPE material) has lower capital cost, and plant personnel are familiar with this type of system. Stainless steel underdrains are also widely used in the industry. Because of the material of construction, these underdrains are more expensive, but may be less labor intensive to install. Since both types of underdrains perform well, we solicited proposals from both Leopold (dual lateral HDPE type) and AWI (stainless steel). AWI declined to submit a proposal. Leopold has provided excellent support to CCMWA over the years and is a leader in the filter underdrain industry. To ensure proper installation, it is recommended to utilize a specialty contractor. Rehab Construction has performed previous installations for CCMWA filters and has a long successful track record of installing Leopold filter underdrains at many other installations. The cost for installation by Rehab Construction is included in the proposed lump sum price.

Venturi Flow Meters	Primary Flow Signal (represented by EcoTech)	8 filter effluent rate-of-flow (ROF) controllers 1 backwash 1 raw water 1 finished water 1 backwash air	\$446,690	High accuracy is needed for flow measurement. The raw water meter is used to measure flow into Plant 1 out of the reservoir, which is used to set chemical feed rates for treatment to produce high quality water. Finished water flow measurement is critical as it used for billing Cobb County Water System. The ROF controllers match the existing filter rate-of-flow controllers and actuators and SCADA inputs for the existing 11 filters (Q2). The venturi meters associated with these rate-of-flow controllers use a single approach angle, compared to two approach angles utilized by another manufacturer. This results in a lower head loss through the meter. Providing flexibility for future Q1 plant expansion requires minimizing headloss through the filters, including the ROF controllers. PFS meters are used throughout CCMWA facilities. This manufacturer calibrates and tests each meter to guarantee the high accuracy needed.	\$238,700
Hydraulically-actuated Ball Valves	GA Industries (represented by Principal Environmental)	3 (one for each high service pump)	\$167,161	This type of valve provides the necessary critical flow control for the high service pumps, including closure upon emergency shutdown. GA Industries is the only manufacturer that provides a large side access cover for maintenance. This is the same type of valve included on other high service pumps at Quarles.	\$225,000.00
Electric Actuators for Modulating Valves	Harold Beck and Sons, Inc. (self-represented)	10 Modulating valve actuators, 3 ball valve actuators and 1 raw water emergency valve actuator close valve and 73 open/close valve actuators	\$638,148.30	Beck actuators and drives provide consistent, precise control, eliminating performance and maintenance limitations of other types of actuators. CCMWA has utilized this actuator on its existing Plant 1 backwash control valve and is installing these on the Wyckoff WTP high service pumps.	\$384,795.00

**General Manager's Report
February 14, 2017**

Water Sales

74.38 mgd vs. 72 mgd projected for January 2017



Rainfall

- January 2017 rainfall – 5.3 inches (1.1 inches above normal)
- Year-to-date rainfall through February 13 – 6.2 inches (0.1 inches below normal)

Lake status (as of February 15)

- Lake Lanier elevation – 1061.0 MSL (9.1 feet below rule curve)
- Allatoona Lake elevation – 829.4 MSL (1.5 feet above rule curve)
- Hickory Log Creek Reservoir elevation – 1058.3 (1.7 feet below full pool)

Operations Report

Water Production:

- January Water Treated and Pumped 2307.49 MG
- January Average Daily Production 74.44 MGD
- January Maximum Daily Production 81.08 MGD (January 9)
- January Minimum Daily Production 66.17 MGD (January 2)

Significant activities during last month:

- Transmission Division worked with Engineering Division and Pure Technologies to evaluate condition of 36-inch valve on Highway 41 near Frey's Gin Road. Valve was found to be in near closed position with a broken actuator. Transmission staff completed repair.
- A saddle failure occurred near Old Hwy. 293 at Kenworth Park in Acworth around 7 p.m. on January 13. Because of alert action of Wyckoff Plant Operator Brian Smith and quick response by Transmission Division staff, valves were closed and the compromised section of line was isolated in approximately 2 hours. After repair, disinfection, dechlorination and testing, the line was returned to service on January 20.
- The Blackjack Mountain Tank was taken out of service for internal and external re-coating prior to high demand period this summer.
- All granular activated carbon (GAC) has been regenerated and returned to the Wyckoff GAC Facility, and system is ready for use in summer 2017.
- Work is ongoing to repair the failed walls on Sedimentation Basin No. 6 at the Wyckoff Plant. Should be completed by end of February.
- Work began on installation by staff of On-Site Sodium Hypochlorite Generator No. 3 at the Wyckoff Plant. Should be completed in February.
- The failed seal water tank valve at the Hickory Log Creek Pump Station was repaired, enabling pumping to the reservoir.
- The Hickory Log Creek Dam received its bi-annual inspection from the Georgia Safe Dams Program, as well as the quarterly inspection by staff and Schnabel Engineering (Engineer of Record). Staff is awaiting inspection results.

Engineering Report

Capital Projects:

Southwest Connector 54-Inch Pipeline, East Cobb Phase:

- Approximately 23,590 feet of 32,000 feet (74%) of water main has been installed.
- Closure of Indian Hill Parkway at Lower Roswell occurred during the MLK Day holiday weekend for installation of the 54-inch water main. Road is paved and reopened for traffic.
- One crew is now east of Old Canton Road heading east towards Sope Creek.
- Second crew is west of Indian Hills Parkway heading west towards Sope Creek.
- The potential need for blasting of rock exists, particularly in the area of Sope Creek. Pre-blast surveys are being conducted by the contractor.

Highway 41, Phase IV:

- The pipeline contract (Ruby Collins) is substantially complete.
- The final piece of pipe for the tunnel contract (Southwest Mole) was installed on February 13, 2017 (photo below).
- Filling, flushing, disinfection and dechlorination processes are being planned.



West Side Loop 48-Inch Replacement Pipeline:

- Approximately 28,700 feet of 30,000 feet of water main has been installed, which is approximately 96% of the project length.
- Installing pipe along Paul Samuel Road & Stilesboro Road, near Stilesboro Biscuit House. Southern tie-in near this location being planned for next couple weeks.
- Both traffic control and construction schedules have been adjusted/enhanced to mitigate construction impacts and maintain access to business.
- Known leaks exist, but contractor Unity Construction will complete project and employ Pure Technologies to use SmartBall technology to assist in locating for repair prior to turning over to CCMWA.

Dallas Highway Pipeline:

- Contractor Mid-South Builders has installed 9,020 feet of 10,600 feet of water main.
- Working to complete tie-in to Mars Hill Road and Lost Mtn. Tank site. Landscape restoration continues.

Wyckoff Filter Building Rehabilitation and Electrical Improvements Project:

- High Service Pump #4 was restarted after being out of service for a year. It was completely rehabilitated, has a new motor, a new variable frequency drive, and a new control system. It is running very smoothly
- Good progress is being made on integrating the SCADA system into the new High Service Electrical Building.
- Installation of framing, dry wall, electrical conduit, HVAC system, gas line and air lines continue in the Filter Building rehabilitation area.
- Project is within project budget, with approximately \$609,000 of the \$2,000,000 Owner-Directed Allowance used.

Dallas Street/Watts Drive Water Main Relocation (*substantially completed*)

- The contractor, Wade Coots Company, has installed, pressure tested, flushed and chlorinated the 20-in water main and is working on final restoration.

Quarles Backup Power Generation Project (*completed*):

- Final close-out of the contract has been negotiated, relative to adverse weather days and extended overhead due to owner-directed work changes. No additional funding to the contract will be required. Negotiation with Crowder Construction resulted in CCMWA participation of \$70,000 towards the approximately \$236,000 in dispute.

Quarles Plant I Replacement:

- 90% design review meeting held and comments are being addressed.
- Advertisement for prequalifying general contractors was sent to the MDJ in January.
- Advertisement date is tentatively set for April 14.
- Pre-bid meeting tentatively scheduled for May 2, with the bid to occur later in May.
- Construction cost estimate was received, and is approximately 65 million, reflective of current market conditions.
- The updated construction schedule has been reviewed. As currently anticipated, a 36-month construction schedule will be required. The proposed schedule has construction commencing after the peak 2017 summer demands, and requires the new facility to be operational before the peak summer demands of 2020. This will likely require more Construction Inspection time than is currently budgeted, as Hazen's original cost proposal for the project included only 27 months for construction, including operational start-up.

Quarles Raw Water Pump Station Site Improvements:

- Haren Construction working on bank stabilization wall construction within the Chattahoochee River. Majority of wall foundation was poured February 14. Installation of retaining walls closest to Johnson Ferry Road nearing completion.

