

## **REQUEST FOR BOARD ACTION**

**BOARD OF COMMISSIONERS OF HENDERSON COUNTY ACTING AS**

**CANE CREEK WATER AND SEWER DISTRICT BOARD OF DIRECTORS**

**MEETING DATE:** January 7, 2019

**SUBJECT:** WGLA Engineering Agreement  
FY2019 Master Plan Update

**PRESENTER:** Marcus A. Jones, P.E.

**ATTACHMENTS:** Yes  
1. WGLA Engineering Proposed Agreement

### **SUMMARY OF REQUEST:**

As directed by the Board with the selection of WGLA Engineering in the previous agenda item, staff presents the attached engineering agreement for Board approval.

The proposed agreement with WGLA Engineering is for \$66,800 with the scope as describe within the proposed agreement.

### **BOARD ACTION REQUESTED:**

Approve the engineering agreement with WGLA Engineering for the FY2019 Master Plan Update for \$66,800.

### **Suggested Motion:**

*I move that the Board go into session as the Directors of the Cane Creek Water and Sewer District.*

*Acting as the Board of Directors of the Cane Creek Water and Sewer District, I move that the Board approve the engineering agreement with WGLA Engineering for the FY2019 Master Plan Update for \$66,800.*

*Lastly, I move that the Board go out of session as the Directors of the Cane Creek Water and Sewer District.*



WGLA Engineering, PLLC  
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Hendersonville, NC 28792  
(828) 687-7177 wgl.com

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December 3, 2018

Mr. Marcus Jones, P.E.  
Henderson County  
1 Historic Courthouse Square, Suite 6  
Hendersonville, NC 28792

RE: Cane Creek Water and Sewer District – Sewer Master Plan Update  
Scope of Study and Fee Proposal  
WGLA Engineering & McGill Associates

Dear Mr. Jones:

We are looking forward to working with you and the Cane Creek staff during the update of the Sewer Master Plan for the Cane Creek Water and Sewer District. Attached with this letter is a scope of work covering the technical aspects of the study as well as the financial evaluation for the District. This scope was developed based on the project approach included with this scope and submitted with our proposal.

Based on this scope of work, we offer the following fees for this effort:

-WGLA Engineering	\$48,000.00
-McGill Associates	\$18,800.00
 TOTAL	 \$66,800.00

These fees are inclusive of all costs associated with developing the study as described in the attached Scope of Work and Project Approach.

**Exclusions**

This proposal does not include providing any of the following:

- Surveys
- Flood Studies
- Permit Fees
- Geotechnical or Soils Investigations
- Archaeological Studies
- Stream or Wetland Delineation and Permitting
- Sewer Extension Design and Permitting
- Services Beyond Those Described in the Attached Scope

**Schedule**

WGLA can be available to work in this project in January. We would coordinate with you and McGill Associates to develop a detailed schedule for initial meetings, delivery of preliminary findings and presentations to the Commissioners.

**Fee**

Our services will be billed as the work is completed on a lump sum basis. Request for payment of services provided by Engineer will be submitted on a monthly basis for services provided during that month. Payment to Engineer will be made within 30 days after receipt of invoiced services. Payment of invoices not received within 30 days will accrue an interest charge at a rate of 1% per month from the thirtieth day until received.

**Standard of Care**

The standard of care for professional engineering related services performed or furnished by Engineer under this Agreement will be the care and skill ordinarily used by member of Engineer's profession practicing under similar conditions at the same time in the same locality. Engineer makes no warranties, express or implied, under this Agreement or otherwise, in connection with Engineer's services.

Should you have any questions, please feel free to contact me, and we thank you for the opportunity to be considered for this project.

Sincerely,  
WGLA Engineering, PLLC

*William R. Buie*

William R. Buie, P.E.

**Cane Creek Water and Sewer District  
Sewer Master Plan Update**

**Scope of Work**

**Compile and Review Background Information**

- Initial meetings with staff and stakeholders
- Secure financial and flow information

**Identify Existing and Future Service Areas**

- Review projects completed and in planning stages since previous update
- Identify key service areas based on input from staff and stakeholders

**Update Mapping of Future Sewer Lines and Estimate Future Flows**

- Update existing and future flows based on service areas
- Identify and update priority projects
- Evaluate potential to eliminate pump stations
- Evaluate need to upgrade existing pump stations
- Consider optimization options for ITT and Mud Creek pump stations
- Evaluate flow from Justice Academy along with future growth at the facility

**Project Cost Estimates and Financial Assessments**

- Prepare costs for priority projects and optimization projects
- Update financial model for District (see scope for Financial Evaluation on Page 2)

**Recommendations and Presentations**

- Provide initial recommendations for District including:
- Review with staff
- Presentation to Advisory Board
- Presentations to County Commissioners

## **Financial Evaluation**

### **Tasks**

- Identify the District's financial policies objectives for providing sewer services.
  - Ensure District's overall goals and objectives are clearly understood.
  - Interactively develop administrative tools and policies that will adequately address these objectives.
  - Establish appropriate schedule and deliverables for the Financial Analysis Model Update Task.
- Revenue Requirements Analysis
  - Review and incorporate updated Capital Improvements Plan (CIP)
    - Coordinate inclusion of updated CIP developed in preceding Project Tasks, ensuring accuracy of recommended project costs, priorities and scheduling are incorporated into the Financial Analysis Model.
    - Quantify new operating costs related to recommended capital projects and incorporate programmed O&M expenditures accordingly.
  - Examine historical financial and billing information to understand customer use patterns, programmatic costs, growth patterns within the existing system along with corresponding financial implications to formulate a reasonable 10-year revenue requirements projection.
  - Determine revenue adjustments (in magnitude and timing) that will be required to meet the long-term financial needs of the District's Sewer Utility.
- Develop cost-justified sewer rate adjustments.
  - Establish rate structures that are based on industry-standard cost of service methodology.
    - Rates fully support system operations and maintenance, repair and replacement, upgrades, existing and future debt service, capital investment and anticipated regulatory requirements.
    - Rates maintain adequate operating revenues, debt service coverage, reserves and fund balances.
  - Develop a draft sewer rate structure demonstrating revenue sufficiency, stability and customer cost equity.
- Presentation to the County Engineer, Board of Directors and stakeholder groups.
  - Communicate the basis, merits and implementation of the recommended sewer rate adjustments and receive feedback.
    - Attend up to 2 meetings, to communicate findings and recommendations to County Staff, Directors, and stakeholders.
  - Revise Financial Model inputs as directed from feedback received to develop final outputs to be incorporated into the Sewer Master Plan.
- Technical oversight and attendance at meetings

## **Cane Creek Water & Sewer District Sewer Master Plan Update**

### **Project Approach:**

For the Cane Creek Water and Sewer District (CCWSD) drainage area study, WGLA Engineering (WGLA) and McGill Associates will team together to provide the most qualified and experienced staff members for this project. Both firms will bring vast experience and local knowledge in preparation of this study for Henderson County.

#### **Task 1 - Compile and Review Background Information:**

During the information gathering stage of this project, the project team would meet jointly with the District and County Staff to discuss the scope of this study in detail. This would be an opportunity for Staff to share thoughts and ideas about detailed information to be analyzed for the study. This would also be an opportunity for the team members to discuss current public and private projects in the planning stages that should be considered during the study period. The team will also review previous studies in the CCWSD service area and in southern Buncombe County.

The team will identify stakeholders in the in the District service area. These stakeholders may include municipalities, economic development organizations, Henderson County Public Schools and others. We will discuss how to best secure feedback from these stakeholders. We will also meet with the Advisory Board to discuss the study and receive their input.

A discussion of the financial impacts of the system improvements or expansion and the customer base as well as a review of the current financial information for the District will be an important part of the study. Current financial data would be collected from the District and the County Finance Director. This information would include as a minimum the most recent audit, the current budget, changes in the CIP, new agreements, new debt service and any new information pertaining to changes in the operation and maintenance program.

At the conclusion of the meeting, the team members would have a clear understanding of the scope of the study.

#### **Task 2 - Identify Existing and Future Wastewater Service Areas:**

The identification of existing and future wastewater services areas for the District was completed by WGLA/McGill with the original Basin-wide Plan. A review of these service areas with the Team will be important to understand priorities and projects that have been completed since the last update. It will also be important to learn of projects that may be planned in the service area.

In addition to identifying the existing and future service areas, WGLA will also gather data about the existing wastewater systems in the study area. This would include existing systems such as the Hunters Glenn and Commercial Area WWTP, Etowah Sewer Company, Mountain Valley, Cummings Cove, Riverwind and others. WGLA would research the NCDEQ Division of Water Quality files to identify existing sewer systems in the service area and review any projects under consideration or approved by Henderson County that will have a proposed sewer collection and/or treatment system.

These updated service areas, future projects and additional planning information will inform the effort of estimating future wastewater flows as described in Task 3. All information will be provided to the County in shapefile or other geodatabase formats.

### **Task 3 - Map Locations of Future Sanitary Sewer Lines and Estimate Future Flows:**

Utilizing the base maps and current County GIS data, WGLA will update the areas in the District that do not have sewer service. With the topographic data available, locations for new sewer interceptors as well as collection lines will be identified throughout the Cane Creek service district. WGLA will then study the French Broad River Basin in Henderson County outside of the current CCWSD service area for identification of new sewer interceptor lines.

With data from existing sewer lines, WGLA will be able to determine the approximate limits for gravity sewer extensions in the Cane Creek and greater French Broad service areas. Pump stations and force mains will be considered at locations where it is impractical to extend gravity sewer.

Much of this conceptual service mapping was completed by WGLA during the original basin-wide master planning process. This effort will involve identifying what has changed in the District since the original study including completed or planning priority projects, sewer extensions completed by developers and additional areas of growth that have occurred. District maintenance and efficiency projects will be prioritized in this effort and will focus on elimination of pump stations where feasible, upgrade of pump stations where necessary and other projects that would meet these goals.

Once sewer lines have been mapped at a planning level of detail for the District and the French Broad basin, flow projections can be established. These flow projections will be based on land use and zoning information for the possible ultimate buildout of the area. Further, the flow projections will be evaluated considering flows from the existing sewer systems located in the study area. This data will be gathered from water use records from current District customers and from NCDEQ records for flows at existing NPDES facilities in the study area. Note that flow metering of existing sewer basins and/or pump station can be included with this process. McGill Associates has the capability to provide this service during the course of the Study.

For projection of wastewater flows from undeveloped areas, the anticipated density of development will be calculated from the County's zoning information. Flows will be initially projected using NCDEQ – Division of Water Quality standards. However, we would further consider the projected wastewater flows based on the actual water records for residential usage in the CCWSD.

With flow projections established, interceptor and collection sewer lines will be sized. Since the County wishes to minimize or limit the number of sewer pump stations, flow projections for the interceptor lines will be based on minimum pipe grades.

Also, these flow projections will be used to determine the District's wastewater treatment capacity as compared to the current allocation from MSD. The flow projections will be divided between the original District boundary and the expanded boundary. The MSD allocation applies to the original District only, and allocation outside of the original boundary are being approved on a case by case basis. Another important note is that MSD system development fees are not charged to new sewer users in the original District boundary.

#### *Task 4 - Project Cost Estimates and Financial Assessment*

With input from County Staff, the proposed wastewater system improvements will be divided into a phased program based on a logical extension of the sewer collection system. Preliminary cost estimates for construction will be prepared for each project identified to be included in a new Capital Improvements Plan (CIP).

An updated CIP would be developed for the District based on input from the study and through discussions with Staff and the Advisory Board. The new CIP would be used to update the financial analysis model and would include:

- Projections for future revenues and expenditures
- Assumptions related to financial issues for new programmatic initiatives
- New operating costs related to implementation of the new CIP
- Revenue adequacy for future capital and programmatic requirements

When a draft study with recommendations has been prepared, the project team would first review with Staff and would incorporate feedback. The draft could then be reviewed by the Advisory Committee, stakeholders and others as needed. Finally, the study would be presented to the County Commissioners for review and comments. The project team would incorporate any comments into a final document before providing the District with a final product.