HENDERSON COUNTY

Engineering Services for Clear Creek Sewer Wastewater Treatment Plant Permitting

March 15, 2022

QUALIFICATIONS

WGLA Engineering

CDM Smith

ClearWater An EnviroScience Company

Henderson County

Clear Creek Sewer Wastewater Treatment Plant Permitting

1. Introduction

March 15, 2022

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

RE: RFQ – Engineering Services
Clear Creek Sewer Wastewater Treatment Plant Permitting
WGLA Engineering

Dear Mr. Jones:

WGLA Engineering (WGLA) sincerely appreciates the opportunity to submit a statement of qualifications for engineering services for the Clear Creek Sewer Wastewater Treatment Plant Permitting. As you know, we are very familiar with previous studies evaluating the development of a sewer system in the Edneyville community. We also clearly understand the County's funding for the proposed system and the associated timeline requirements for the project.

We believe WGLA is uniquely qualified to provide engineering services to assist Henderson County in accomplishing their goal of permitting a proposed wastewater discharge on Clear Creek in eastern Henderson County. We recently assisted the County by evaluating initial users for a new sewer system, refining the scope of the Edneyville project and preparing updated cost estimates. We also worked with Raftelis in developing an initial rate study based on these users. We have received direct feedback from the Commissioners during a presentation in January 2022. In addition, WGLA has met with various property owners along the Clear Creek Corridor. Finally, we have worked with the County on the Edneyville Elementary School, the Justice Academy and other potential identified users in the area. Our understanding of the County's goals and timeline for this project as well as the potential users of the system is unmatched.

To assist with these efforts, WGLA has teamed with CDM Smith and ClearWater Environmental to address the required scope of work. CDM Smith is one of the foremost experts in wastewater treatment in the world and has been in business for 75 years. Their Charlotte office would be assisting WGLA with a focus on the development of an Engineering Alternatives Analysis that would support the NPDES permit application. ClearWater Environmental is a local environmental services company with expertise in the permitting of public infrastructure projects, environmental assessments, and SEPA/NEPA processes operating in Western North Carolina for over 20 years. They will be assisting WGLA with a focus on the environmental permitting that will be necessary to support the NPDES permit application.

As you know, WGLA Engineering is a local civil engineering consulting firm with decades of experience in the design and permitting of projects in Western North Carolina. All of the firm principals live in Henderson County. We have worked closely with Henderson County on projects ranging from small park projects to extensive sewer systems to major building projects. Our proximity to the project, ability to respond to you and the project needs and our knowledge of the regulatory process and personnel makes our Team highly qualified to assist Henderson County with this critical project. Attached with this introduction letter is more information about our firm, our team, and our program of services. We believe this information and the supporting information in the statement of qualifications highlights the financial viability of all the firms that comprise the Project Team.

Finally, we have identified a number of project challenges and issues of concern along with strategies to address each as outlined in our Project Approach. We believe this forethought should provide the County with confidence that our Team can guide the project to a successful outcome.

We are excited about the opportunity to work with Henderson County on this project. Our team stands ready to assist and guide the County through this process. Thank you again for the opportunity, and do not hesitate to contact me with any questions.

Sincerely,
WGLA Engineering, PLLC

William R. Buie, P.E.; Project Manager/Principal

WGLA Engineering, PLLC
724 5th Avenue West
Hendersonville, NC 28739
(828) 687-7177 wgla.com

FIRM PROFILE:

WGLA Engineering (formerly William G. Lapsley & Associates) is a firm of professional civil engineers established in 1986. Our office is located on 5th Avenue in downtown Hendersonville. Our staff includes three (3) civil engineers licensed in multiple states. We provide a wide array of civil engineering and land planning services for private developers, industry as well as municipal and state government. WGLA Engineering has provided design, permitting, bidding assistance, contract administration, and construction observation services for countless projects of various sizes and magnitudes.

Above: Edneyville Elementary School

COMPANY STRENGTHS:

Local Firm – WGLA Engineering is a local firm. Our projects are typically located within a two-hour radius. Being a local firm, we regularly work with the municipal and governmental agencies in Western North Carolina and Upstate South Carolina that will be permitting your project. This local knowledge and relationship with the permitting agencies helps provide a smooth and quick approval process. Being local, we can visit your project site on short notice to answer construction questions, assist in field changes, and ensure that your project is completed in a timely manner.

Technical Experience & Competence – WGLA Engineering provides a broad basis for technical experience and competence in our field. Our office is divided into teams with professional engineers serving as project managers and leaders. The majority of our technical staff holds technical degrees in their field. We encourage our employees to further their careers by extending their education in the civil engineering field. We have supported our employees who have accepted this challenge with flexible work schedules and tuition assistance.

Size – WGLA Engineering is the perfect size to provide planning and design services for your project whether the project is a new 4,000 acre community, a mixed-use brown-field development, or a municipal utility project. With our staff of 10, we are able to providing engineering services for a very large multi-phased project. However, being a small firm, we provide the type of individual attention your project deserves.

Services Provided:

WGLA Engineering, PLLC provides Civil Engineering, Municipal Engineering, Planning, and Construction Management services. Following is a partial list of our services:

CIVIL ENGINEERING

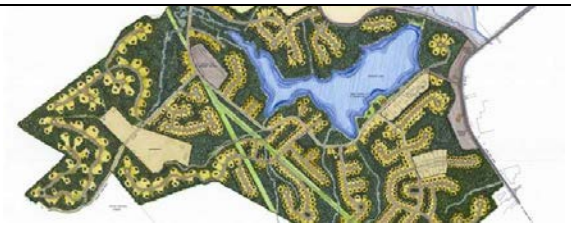
Roadway design
Erosion control systems and plans
Stormwater management plans
Best management practice (BMP) design
Grading & paving plans
Recreational sports field design
Pre-Qualified by NCDOT in Raleigh for Roadway Design, Site Design, and Utilities

MUNICIPAL ENGINEERING

Water distribution and storage systems
Water pumping systems
Wells and water treatment systems
Wastewater collection & pumping systems
Wastewater treatment systems
System mapping and planning (GIS)
Grant and loan acquisition assistance

PLANNING

Residential subdivision planning
Commercial & educational site planning
Industrial site and park planning
Recreational Parks



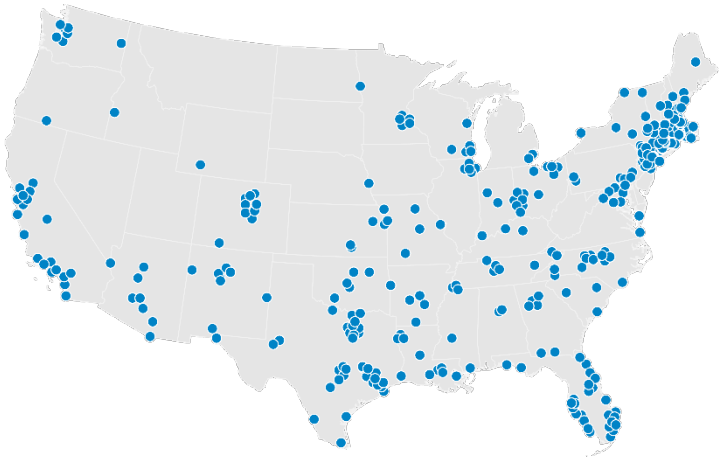
CONSTRUCTION MANAGEMENT

Project cost estimating & budgeting
Project scheduling
Bidding and procurement assistance
Contract administration
Construction coordination
Construction observation and inspection

CDM Smith Inc.
4600 Park Road, Suite 240
Charlotte, NC 28209
Tel: 704.342.4546

FIRM PROFILE:

Celebrating 75 years of business, **CDM Smith Inc.** is a leading WWTP engineering firm in the Carolinas, the Southeast, and throughout the US, and is a proven leader in developing and implementing cost-effective wastewater treatment processes, technologies, and designs to meet increasingly stringent regulations.



Our team has completed the design and/or facility improvements of more than 250 wastewater facilities in the Southeast with a construction value of more than $1B in the last ten years alone. Our experience includes the complete array of wastewater treatment processes and plant operation and control facilities. These projects have focused particularly on customized solutions to maximize reliability, efficiency, and economy using innovative technologies and/or approaches. We also have extensive experience with federal, state, and local regulatory programs associated with WWTP design and construction.

Attesting to our expertise, we are ranked 7th out of the Top 20 Sewer and Waste Firms and 14th out of the Top Wastewater Treatment/Supply Firms by Engineering News-Record (ENR).

ClearWater, an EnviroScience Company
145 7th Ave. West, Suite B, Hendersonville, NC 28792
(828) 698-9800 cwenv.com

Firm Profile:

ClearWater, an EnviroScience Company, will be responsible for all environmental aspects of the Engineering Services for the Clear Creek Sewer Wastewater Treatment Plant Permitting project.

EnviroScience, Inc. (EnviroScience) was established in 1989 to provide technical services in the environmental field. In our 28 years of operations, we have supported environmental design and regulatory requirements servicing federal, state, and municipal governments; Departments of Transportation; as well as mining, industrial, engineering, and private sector firms. EnviroScience's reputation for Excellence in Any Environment has been built one project at a time using technically sound and proven scientific protocols, understanding current regulatory climates, accurate and detailed reporting, and a commitment to superior client service while remaining cost conscious.

Our philosophy mirrors the purpose of NEPA where ultimately, **we want to help decision makers make informed decisions that "foster excellent action".** A true test of performance is client satisfaction. Our dedication and technical excellence have resulted in many repeat clients and established EnviroScience as the premier service provider in this highly specialized and competitive field. We are headquartered in Ohio, with additional offices in Hendersonville, NC; Nashville, TN; Morganton, WV; and Richmond, VA.

ClearWater is EnviroScience's branch in Hendersonville, NC. ClearWater formed in 2002 as a professional environmental consulting firm providing services in the areas of NEPA/ SEPA environmental assessments, environmental permitting, mitigation planning, wetland delineations, stream evaluations, habitat assessments, threatened and endangered species surveys, development planning, and interagency coordination.

ClearWater has a proven capability of providing a broad spectrum of clients with professional consulting services and is recognized as an authority on environmental regulations and permitting. Our principal clients are the managers and executives of industry, utilities, development companies, governmental agencies, and private landowners charged with the responsibility for compliance with environmental regulations. We have been able to maintain our high rate of successful project completion by sustaining a strong relationship with the various federal, state, and local resource and regulatory agencies.

ClearWater strives at all times to be responsive to our client's needs. We recognize the investment of time and effort associated with any project that may impact the environment. Timely and accurate communications between consultants and client are essential if any project is to be completed successfully, on time, and within budget. To facilitate that communication, our clients, always know who they can contact within our firm to discuss the status of their project. Naturally, all projects are handled on a confidential basis.

EnviroScience is often considered a “niche” environmental consultant due to our ecological consulting focus and nationally recognized environmental services, restoration, and environmental compliance and permitting services. Few firms in the country retain as many environmental scientists and ecologists under one roof, and most our staff have over 10 years of experience in their respective fields.

ClearWater, and EnviroScience as a whole, is well-positioned financially and staff-wise to successfully complete this project, as well as projects of any size throughout the United States. A testament to our durability is in the fact that together, we have completed over 1,700 projects that involve one or more of the environmental requirements of this project.

Financial Viability

EnviroScience has the financial capacity to undertake all planning, implementation, and operational aspects of this project. EnviroScience acts as the prime contractor for large ecological projects in excess of a million dollars. For example, EnviroScience recently acted as the prime on Ohio Department of Transportation’s Western Management Unit Bat Mitigation project, which was a design-build contract valued at over $5 million and was completed in 2020 and exceeded the mitigation unit deliverables required by 18%. Currently, EnviroScience maintains cash reserves in excess of $1,400,000 and a $3 million line of available credit within 24 hours, more if needed. The line of credit has a zero balance, thus it is fully available for this project if necessary.

EnviroScience financial statements are available upon request. Due to our position as a subcontractor on this project, we have not included these in the interest of brevity and due to their confidential nature. Our bank is Chase Bank. Our client service associate is Keisha Malone (keisha.x.malone@chase.com, 312-732-7934), and Val Geiger (valerie.geiger@chase.com, 330-347-8555) is Executive Director on our account. Please reference EnviroScience / ACRT Services.

Services Provided

EnviroScience employs recognized experts in all aspects of environmental and ecological consulting, and specializes in ecological surveys of all sizes, including:

- NEPA/SEPA Environmental Surveys and Assessments
- Natural Resource Planning and Monitoring
- Environmental Compliance Services
- NPDES Permit Assistance
- Threated and Endangered Species Assessments
- Wetland and Stream Delineation and Mitigation Services
- Water Quality Sampling
- Stormwater Management
- Environmental Permitting
- GIS/GPS Services
- Stream and Wetland Restoration Design/Build

Henderson County

Clear Creek Sewer Wastewater Treatment Plant Permitting

2. Team Experience and Availability

Project Team Experience

As noted in the introduction, WGLA Engineering has teamed with CDM Smith and ClearWater Environmental to address the scope of work for this project. Attached are summaries of example projects from each firm providing details of previous project experience relevant to the Clear Creek project. Also attached are resumes for key members of each firm. Below are the key project managers from each firm that would work directly with Henderson County:

William R. Buie, P.E. (WGLA Engineering) will serve as the project manager for the Clear Creek project and will serve as the primary client contact. Mr. Buie has over 25 years of experience designing sanitary sewer collection systems, roadways, storm water collection & control systems, etc. and has over 20 years of experience in Western North Carolina. Mr. Buie has worked closely with Henderson County for over 15 years on projects ranging from major sewer extensions to major building projects.

Jon Lapsley, P.E. (CDM Smith) will lead the development of the Engineering Alternatives analysis and permitting for the Clear Creek project. Mr. Lapsley has almost 20 years of experience design of wastewater collection and treatment facilities in the Carolinas. Mr. Lapsley has served as the project manager and engineer of record for multiple public wastewater treatment projects ranging in size from small package facilities to large scale treatment plants.

Clement Riddle, PWS (ClearWater Environmental Consultants) will be the lead environmental consultant for the Clear Creek project. Mr. Riddle has over 29 years of experience with wetland permitting, environmental planning and natural resource studies in North Carolina. He has worked on multiple projects for Henderson County including the Millpond Creek and Mud Creek Interceptor projects. He also has extensive experience in preparing environmental assessments associated with public infrastructure projects.

Project Team Availability

Our team clearly understand the County's timeline for this project related to funding. Our project team brings significant experience and resources along with the ability to "get the job done". If selected, our team is ready to proceed immediately with this scope of work. We have provided a project schedule with this statement of qualifications that outlines the estimated timelines for the various tasks.

We have also identified potential challenges and expected issues of concern that will need to be addressed as we proceed through the project. By identifying these potential challenges and expected issues of concern at this stage, we have identified key project milestones and critical path tasks that must be addressed early in the process. Our project schedule outlines and identifies these key points.

WGLA Project Experience

WGLA Engineering Select Project Profiles
Henderson County

Mud Creek Interceptor & Millpond Creek Pump Station and Interceptor
Cane Creek Water and Sewer District
Reference: Mr. Marcus Jones, P.E., County Engineer, majones@hendersoncountync.gov, 828-694-6560

Planning, design, permit coordination and construciton administration for two separate sewer extension projects for the Cane Creek Water and Sewer Project. The Mud Creek Interceptor involved extension of a 24" gravity sewer interceptor that allowed for the abandonment of a wastewater discharge. The project was completed through a funding partnership with the treatment plant owner. The Millpond Creek project involved the construction of a new pump station and gravity sewer extension that provided public sewer service for two County schools and allowed for the abandonment of two wastewater discharges.

Hendersonville High School
Henderson County
Reference: Mr. David Berry, Capital Projects Construction Manager, dberry@hendersoncountync.gov, 828-694-6605

Planning, design, permit coordination and construction administration for a complete renovation and new construction of Hendersonville High School totaling over 180,000 SF. WGLA provided civil engineering and site design for the entire project including utility relocations, stormwater management, grading, turf field construction, etc. WGLA also coordinated the zoning approval process through the City of Hendersonville. The project is currently under construction and is scheduled to be completed in August 2022 ahead of schedule and under budget.

Ferncliff Park
Mills River, NC
Reference: Mr. Vaughan Fitzpatrick, Owner, vfitzpatrick@belltec.com, 202-213-3219

Master planning, design, and permitting for Ferncliff Park including Sierra Nevada and GF Linamar projects. Sierra Nevada obtained Platinum LEED certification and GF Linamar obtained silver LEED certification. Sierra Nevada Brewing Company is one of the largest craft brewers in the US. In 2012, Sierra Nevada Brewing Company selected Mills River, NC as the site for their east coast brewery. WGLA worked with Henderson County during the recruitment of SNBC and continued as site engineers for the project. This includes grading, erosion control, stormwater, utilities, and amenities. The stormwater design incorporates over 2 acres of permeable pavers, 450,000 gallons of below-ground cisterns for reuse in landscaping, 78,000 gallons of above ground cisterns for reuse flushing toilets, and multiple bio-retention areas.

Henderson County Emergency Services Facility
Henderson County
Reference: Mr. David Berry, Capital Projects Construction Manager, dberry@hendersoncountync.gov, 828-694-6605

WGLA assisted Henderson County with the design, permitting and construction administration of a new 50,000 SF emergency services headquarters and 10,000 SF storage facility on a 13.58 acre campus. The project involved the demolition of an existing school that was being relocated. The project also required planning and zoning approvals from the City of Hendersonville including public hearings with the Planning Board and City Council. WGLA provided the site design and assisted in securing all site related permits for the project. WGLA also assisted with the construction observation and construction administration of the project. The new facility was completed in 2018 and placed into service.

Edneyville Elementary School
Henderson County
Reference: Mr. David Berry, Capital Projects Construction Manager, dberry@hendersoncountync.gov, 828-694-6605

Planning, design, permit coordination and construction administration for a complete renovation and new construction of Edneyville Elementary School totaling over 89,000 SF. WGLA provided civil engineering and site design for the entire project including utility relocations, stormwater management, grading, etc. The project involved multiple phasing plans as the construction of the new school took place while the existing school continued to operate on the campus. The project was completed in 2020.

CDM Smith Project Experience

City of Brevard, NC

Wastewater Treatment Plant Treatability Study and Engineering Alternatives Analysis

Reference: Mr. David Lutz, Public Works Director; pwdir@cityofbrevard.com; 828.884.2171

The City of Brevard retained CDM Smith in 2015 to perform a treatability study for the City's aging wastewater treatment plant in 2013. The existing 2.5 mgd facility was facing challenges due to commercial and industrial waste streams that were resulting in the inability of the plant to meet their NPDES effluent permit requirements. The treatability study identified that the existing rotating biological contractors (RBCs) would be challenged to treat the increased pollutant loadings to the facility and suggested continued pursuit of an industrial pre-treatment program for the City as well as an Engineering Alternates Analysis (EAA) to evaluate upgrades and expansion needs for the WWTP in the future. The EAA evaluated treatment options to meet current NPDES permit limits while working within the existing property boundaries. Recommendations from the EAA included conversion of the WWTP to a conventional activated sludge process that the City is now pursuing funding for through SRF and ARPA grants. CDM Smith is assisting the City with preparing the funding application package.

Union County, NC

Tallwood Estates Wastewater Treatment Plant (WWTP)

Reference: Mr. Josh Brooks, Assistant Operations Manager; joshbrooks@co.union.nc.us; 704.289.3274

Union County retained CDM Smith to lead efforts to replace the aging Tallwood Estates WWTP. Our work started with a preliminary design task order to prepare wastewater flow and load projections, identify, and evaluate process options with a preliminary engineering report (PER) and to assist in obtaining a renewal to the existing NPDES permit. A conventional 50,000 gallon per day treatment process was selected for replacement of the existing treatment plant which included flow equalization, aeration basins with diffusers, positive displacement blowers, secondary clarifiers, cloth disk filtration, sludge storage, replacement of the existing submersible influent pumps, connection to the existing ultraviolet (UV) disinfection system, and a radio telemetry system. A cloth disk filtration system was chosen since it has a smaller footprint, lower capital and annual operation and maintenance (O&M) costs, smaller backwash flow rate, and a slightly higher loading rate relative to a traditional sand filter. The package plant arrangement utilized precast concrete panel construction for a more aesthetically pleasing exterior for adjacent stakeholders. The project was completed on schedule and has been in successful operation for the County since 2013.

Brunswick County, NC

Northwest Water Treatment Plant (NWWTP)

Reference: John Nichols, PE, Public Utilities Director; john.nichols@brunswickcountync.gov; 910.253.2653

CDM Smith assisted Brunswick County, NC with planning, design, permitting, and construction for the County's capacity expansion and treatability upgrade of its Northwest Water Treatment Plant (WTP) from 24 mgd to 50 mgd. The project included a process upgrade for greater treatability to remove emerging contaminants of concern from the raw water source (Cape Fear River). Construction cost is approximately $124 million and specific improvements include Greenleaf filter expansion, SuperPulsator clarifier upgrades, low pressure reverse osmosis, raw water feed and concentrate pipelines, new chlorine gas facilities, residuals treatment modifications and miscellaneous chemical improvements. Design was complete in September 2019 with public bidding in March 2020, and construction began in May 2020 and is ongoing. The upgrades to the Northwest Water Treatment Plant are necessary to provide safe potable water for customers by eliminating contaminants of emerging concern such as poly-fluoroalkyl substances (PFAS, GenX), dioxane and other trace organic compounds.

CDM Smith obtained an NPDES permit from the NC Division of Water Resources for the project, including siting the outfall, performing a concept design, and predicting dilution in a mixing zone for the concentrate outfall from the reverse osmosis system designed to remove PFAS from the water source and discharge downstream to a tidal, but not saline, section of the Cape Fear River. Due to sand waves in the river, a cost-effective, low environmental impact solution was developed with the outfall as a single-port discharge placed midway down the slope of the riverbank. The single port discharge was able to provide sufficient mixing because the RO process provides sufficient head to jet the plume into the river to enhance mixing. The project included oversight of field programs to characterize the tidal river, hydraulic analyses, CORMIX modeling, preparation of an Engineering Alternatives Analysis (EAA) for the NPDES permit, lab toxicity testing, responding to agency and public comments, participating in a public hearing, and obtaining the final NPDES permit for the discharge.

CDM Smith has extensive experience working with North Carolina regulatory agencies to permit treatment facility projects including obtaining numerous new NPDES permit, renewals, major and minor modifications. A sample of recent, relevant NPDES permitting experience across the southeast is provided in the table below.

Client	Project	Permit Type	Year
Union County, NC	Yadkin River WTP Residuals NPDES Outfall Permit	New	2020
South Granville County Water and Sewer Authority, NC	WWTP NPDES Permit Modification/Renewal	Modification	2012
Brunswick County, NC	Northwest Water Treatment Plant RO Concentrate Outfall Permit	New	2020
Chester, SC	Fort Lawn WTP Residuals NPDES Outfall Permit	New	2011
City of Franklin, TN	Renewal of WWTP NPDES permit	Renewal	2021
Memphis, TN	Renewal of the Maxon and Stiles WWTP NPDES permits	Renewal	2011
City of Cocoa, FL	NPDES permit for a new outfall	Modification	2014
St. John River Water Management District, FL	Black Creek Water Resources Development new outfall and NPDES Permit to Alligator Lake	New	2021
Florence, SC	NPDES permit for prospective new WWTP discharging to Lake Swamp	New	2021
Jefferson County, AL	NPDES permit renewals and alternatives to comply with TMDL requirements for the Cahaba and Trussville WWTPs	Renewal	2018
Bryan, TX	NPDES permit for new 6 mgd greenfield plant	New	2022
Georgetown, TX	Permit for expanded WWTP with new outfall to a different receiving water	New	ongoing
League City, TX	NPDES permit for new Southwest Water Reclamation Facility greenfield plant	New	2008
Waco, TX	Bull Hide WWTP expansion from 1.5 to 4 mgd	Modification	ongoing

ClearWater Environmental Project Experience

Project Experience

Hendersonville Raw Water Intake, Henderson County, NC
ClearWater prepared an Environmental Assessment for NC SEPA compliance for a new 15 mgd municipal raw water intake in the French Broad Rover. Project reviewed and FONSI approved by the NC Department of Natural Resources, Services included comprehensive wetland delineation, threatened and endangered species survey public hearing, scoping, public review, and Section 404 US Army Corps of Engineers Permit.

Contact: Lee Smith, Utilities Director, City of Hendersonville – Water and Sewer Department, 305 Williams Street, Hendersonville, North Carolina 28792
Phone: (828) 697-3073
Email: lsmith@hvlnc.gov

Mud Creek Interceptor Replacement (Downtown South), City of Hendersonville, NC
ClearWater provided environmental services for this project that installed 10,600 LF of new sewer line. Services included a comprehensive wetland delineation, threatened and endangered species survey, and a Section 404 US Army Corps of Engineers Permit.

Contact: Brent Detwiler, City Engineer, City of Hendersonville, 305 Williams Street, Hendersonville, NC 28792
Phone: (828) 697-3000
Email: bdetwiler@hvlnc.gov

Jackson Park North Sewer Line, City of Hendersonville, Henderson County, NC
ClearWater provided environmental services for this project that installed 15,000 LF of new sewer line. Services included a comprehensive wetland delineation, threatened and endangered species survey, and Section 404 US Army Corps of Engineers Permit.

Contact: Brent Detwiler, City Engineer, City of Hendersonville, 305 Williams Street, Hendersonville, NC 28792
Phone: (828) 697-3000
Email: bdetwiler@hvlnc.gov

Mills River Sewer Line Extension, Henderson County
ClearWater prepared an Environmental Assessment for NEPA/SEPA compliance for over 5 miles of sanitary sewer lines. Project reviewed and FONSI approved by the US Environmental Protection Agency. Services included comprehensive wetland delineation, threatened and endangered species surveys including consultation with the USFWS regarding the endangered Appalachian elktoe, public hearing, scoping, public review, and Section 404 US Army Corps of Engineers Permit.

Contact: Tom Jones, WGLA, 724 Fifth Ave W, Hendersonville, NC 28739
Phone: (828) 687-7177
Email: tjones@wgla.com

Mud Creek Interceptor Project, Henderson County, NC
ClearWater provided environmental services for this project that installed 15,842 LF of new sewer line. Services included wetland delineation, threatened and endangered species survey, and Section 404 US Army Corps of Engineers permitting. This project resulted in the elimination of a wastewater discharge.

Contact: Marcus Jones, County Engineer, 1 Historic Courthouse Square, St. 1, Hendersonville, NC 28792
Phone: (828) 697-6526
Email: majones@hendersoncountync.org

Millpond Creek Project, Henderson County, NC
ClearWater provided environmental services for this project that installed 14,000 lf of new sewer line. Services included wetland delineation, threatened and endangered species survey, and Section 404 US Army Corps of Engineers permitting. This project resulted in the elimination of a wastewater discharge.

Contact: Marcus Jones, County Engineer, 1 Historic Courthouse Square, St. 1, Hendersonville, NC 28792
Phone: (828) 697-6526
Email: majones@hendersoncountync.org

Municipal Industrial Pretreatment Program, Dubois, PA
The City of Dubois, PA retained EnviroScience to complete a NPDES Permit renewal application for their Wastewater Treatment Plant. EnviroScience gathered pertinent information and conducted flow calculations required to complete and submit the NPDES Application for Individual Permit to Discharge Sewage Effluent for Major Sewage Facilities. EnviroScience has since assisted the City with administering, updating, and implementing their Industrial Pretreatment Program.

Contact: Chris Nasuti, P.E., City Engineer, City of DuBois, 16 West Scribner Avenue, DuBois, PA 15801
Phone: (814) 371-2000 x208
Email: chris.nasuti@duboispa.gov

Lake Adger Water Intake, Polk County, NC
ClearWater Environmental prepared an Environmental Assessment for NC SEPA compliance for new municipal raw water intake in Lake Adger. Project reviewed and FONSI approved by the NC Department of Natural Resources. Services included comprehensive wetland delineation, threatened and endangered species survey public hearing, scoping, public review, and Section 404 US Army Corps of Engineers Permit.

Contact: David Odom, Odom Engineering, Forest City, NC 28043
Phone: (828) 247-4495
Email: davidodom@odomengineering.com

Progress Energy – New 115kv Asheville to Enka transmission line, Buncombe County
ClearWater prepared an Environmental Assessment for NEPA compliance for a new 115kv transmission line over the Blue Ridge Parkway. Project reviewed and FONSI approved by the U.S. Department of the Interior, National Park Service, Project included comprehensive wetland delineation, threatened and endangered species survey, interagency meetings, scoping, and public review. Project also included environmental studies on US Forest Service (USFS) land and environmental reporting to obtain a Categorical Exclusion from the USFS.

Contact: Will Buie, WGLA Engineering 724 Fifth Ave W, Hendersonville, NC 28739
Phone: (828) 687-7177
Email: wbui@wgla.com

Carolina Water Systems – Wastewater Treatment Plant Expansion, Sapphire, NC
Comprehensive wetland delineation and threatened and endangered species report for a 500,000 gallon per day NPDES discharge plant expansion into the Horse Pasture River

Contact: Martin Lashua (now with Charlotte Water)
Phone: (704) 589-9935
Email: martin.lashua@charlottenc.gov

Carolina Water Systems –Wastewater Treatment Plant Expansion, Transylvania County, NC
Comprehensive wetland delineation and threatened and endangered species report for a 500,000 gallon per day NPDES discharge plant expansion

Contact: Martin Lashua (now with Charlotte Water)
Phone: (704) 589-9935
Email: martin.lashua@charlottenc.gov

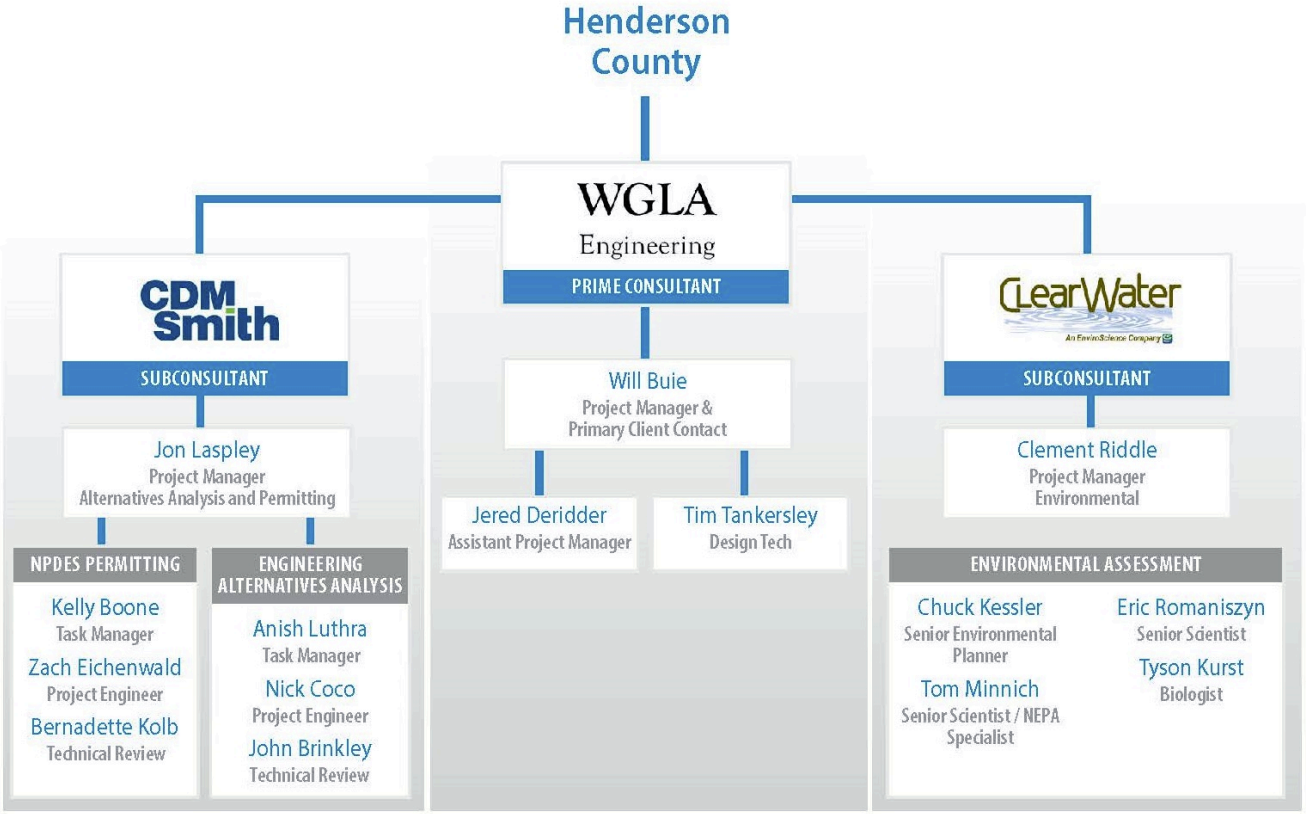
Cherokee Casino, Cherokee County, NC
ClearWater Environmental prepared an Environmental Assessment for NEPA compliance for a new gaming casino. Project reviewed and FONSI approved by the Bureau of Indian Affairs and the Federal Highways Administration. The project included comprehensive wetland delineation, threatened and endangered species survey, scoping, public review, and Section 404 US Army Corps of Engineers Permit and NC DWR 401 certification.

Contact: Charlie Deep, 4D Engineering
Phone: (803) 356-0909
Email: 4DEngr@4DEngr.com

Henderson County

Clear Creek Sewer Wastewater Treatment Plant Permitting

3. Team Organization



Resumes for all project team members are included in this section.

WGLA Resumes

WGLA ENGINEERING, PLLC
Civil Engineering & Land Planning

William R. Buie, P.E.
Project Manager/Principal

PERSONAL INFORMATION

Education:

North Carolina State University Bachelor of Science–Civil Engineering (1992)

Professional Licenses:

Registered Professional Engineer
North Carolina (1997)
Tennessee (2009)

Professional Affiliation:

American Society of Civil Engineer
National Society of Professional Engineers

Miscellaneous:

- Henderson County Partnership for Economic Development Board Member

Seminars and Workshops:

- "Stormwater Wetland Design Workshop" NCDENR (2011)
- "Erosion Control Design Workshop" NCDENR (2011)
- "Permeable Pavement Design Workshop" NC State University (2012)
- "Stormwater BMP Retrofit and Rehab" NC State University (2013)
- Welcome to the Minimum Design Criteria for Stormwater Management (2017)
- Erosion and Sedimentation Control Planning Multiple Classes (2020)
- Rainwater Harvesting, Retrofitting Dyr Basins, Advances in Permable Pavement (2021)

SELECTED PROJECT EXPERIENCE

Utility/Transmission Projects: Includes Erosion Control and Stormwater design, environmental permitting and construction administration assistance

- Duke Energy Progress – Preparation of sedimentation and erosion control plans with permitting support for five different transmission line project include Asheville – Enka 115 kV transmission line.

Sanitary Sewer Improvements:

- Design, permitting and construction management of over 200,000 lf of gravity sewer and numerous pumping systems for public and private clients throughout North Carolina.

Water system Improvements:

- Design, permitting and construction management of over 150,000 lf of water lines, fire booster pump stations and multiple storage tanks (ground storage and elevated) throughout North Carolina.

Site Development Projects:

- Sierra Nevada Brewing Company
  Mills River, NC
  Design and permitting for the SNBC east coast facility including multiple stormwater SCMs for LEED Platinum certification.

- Blue Ridge Community College
  Flat Rock, NC
  Design, permitting and construction administration for a 50,000 SF facility to replace multiple buildings at the Blue Ridge Community College campus.

- The Ramble
  Asheville, NC
  Design, permitting and construction administration multiple phases of the Ramble subdivision including roadway, stormwater, erosion control and utilities.

WGLA ENGINEERING, PLLC
Civil Engineering & Land Planning

Jared L. DeRidder, P.E.

Project Manager

PERSONAL INFORMATION

Education:

University of North Carolina at Charlotte
Bachelor of Science – Civil Engineering (2009)

Professional Licenses:

Registered Professional Engineer
North Carolina (41349)

Prior Employment:

AREVA, Charlotte, NC (2009-2012)
NCDOT, Mills River, NC (2012-2014)

Seminars and Workshops:

- "Storm-EZ Workshop" NCDEQ (2016)
- "Geosynthetics in Drainage and Filtration Application" (2016)
- "Welcome to the MDC Workshop" NCDEQ (2017)
- "Stormwater BMP Inspection & Maintenance Certification" NCDEQ (2017)
- Building Safe Structures in Flood Zones (2019)
- Design and Maintenance of Gravel Roads (2019)

SELECTED PROJECT EXPERIENCE

Utility/Transmission Projects:

Includes Erosion Control and Stormwater design, Zoning Approvals, environmental permitting and construction administration assistance

- Duke Energy Progress, LLC – Preparation of sedimentation and erosion control, stormwater, and zoning plans with permitting support for two separate substation projects; Cane River 230kV and Skyland 115kV.

Sanitary Sewer Improvements:

- Design, permitting and construction management of over 16,500 lf of gravity sewer and numerous pumping systems for private clients throughout North Carolina.

Water system Improvements:

- Design, permitting and construction management of over 25,000 lf of water lines, pressure reducing stations and multiple storage tanks (ground storage and elevated) throughout North Carolina.

Site Development Projects:

- Southwestern Community College
  Webster, NC
  Design, permitting and construction administration for multiple state projects at the Southwestern Community College campus including a Maintenance Building and new Health Science Center.

- Transylvania Regional Hospital
  Brevard, NC
  Design, permitting and construction administration for multiple projects at the Hospital including an update of the campus master plan and Emergency Department Expansion.

- Henderson County Public Schools
  Henderson County, NC
  Design, permitting and construction administration for a new Edneyville Elementary School and new Hendersonville High School

Timothy W. Tankersley

Engineering Design Technician

PERSONAL INFORMATION

Education:

ASHEVILLE BUNCOMBE TECHNICAL COLLEGE
Asheville, NC
Civil Engineering Technology – 5/04

ITT TECHNICAL INSTITUTE
Greenville, S.C.
Associate of Applied Science Degree
Computer Aided Drafting – 11/97

EAST HENDERSON HIGH SCHOOL
Flat Rock, N.C.
2 Years Cad Drafting Class
Graduated – 1996

Professional Experience:

David C. Huntley & Associates 1997-1999
Land Surveyors
Flat Rock, North Carolina
Duties:
Research Property Deeds and Plats
Scheduling Surveys
Drawing Plats
Field Surveying
Maintain strong customer satisfaction

Achievements:

Honors at ITT
Member National Vocational Technical Honors Society
Competed at 1995 NC VICA competition
Vocational-Industrial Clubs of America –2 yrs.

SELECTED PROJECT EXPERIENCE

- **Millpond Creek & Mud Creek Sewer Extensions**
  Henderson County, NC

Design technician for two large sewer extension projects associated with elimination of existing wastewater discharges.

- **Warm Company Sewer Extension**
  Henderson County, NC

Design technician and field technician fir gravity sewer extension to serve the Warm Company.

- **Jackson Park Sewer Extension**
  Hendersonville, NC

Design technician and field technician for 2,200 LF gravity sewer extension to serve bathroom facilities in Jackson Park.

- **Hendersonville Middle School**
  Hendersonville, NC

Design technician for the expansion of the Hendersonville Middle School. Project included roadway improvements, site grading, stormwater detention and collection, etc.

- **Pardee Hospital**
  Hendersonville, NC

Design technician for the Pardee Hospital Parking Desk and Emergency Room Expansion. Project included park deck facility, site grading, stormwater detention and collection, etc.

- **Pepsi Distribution Center**
  Mills River, NC

Design technician for the development of a 20 acre site to serve a new 106,000 SF distribution facility and 20,000 SF service facility. Project included roadway improvements, site grading, stormwater pond, etc.

CDM Smith Resumes

Jonathan S. Lapsley, PE, PMP

Vice President, Environmental Engineer

Mr. Lapsley is a vice president environmental engineer and senior project manager with 19 years of experience in the design and construction of various water and wastewater infrastructure systems. During his tenure at CDM Smith, he has served as a project manager, technical advisor, project engineer, and construction inspector for water and wastewater infrastructure including major treatment plant expansions/improvements, pumping station designs up to 200-mgd and more than 120 miles of water transmission pipelines and sanitary sewer pipelines (gravity and forcemain) up to 96-inches in diameter for municipal utilities across the Southeast.

Education

ME – Environmental Engineering, Cornell University, 2003

BS – Civil Engineering, Clemson University, 2002

Registration

Professional Engineer: North Carolina, South Carolina, Tennessee

Certification

Project Management Professional (PMP), 2019

Wastewater

Project Manager, Metropolitan Sewerage District (MSD) of Buncombe County, High-Rate Primary Treatment Improvements project, Asheville, North Carolina. Mr. Lapsley is serving as the project manager and engineer of record for the design of a high-rate, chemically-enhanced primary treatment facility for the French Broad Water Reclamation Facility (WRF), the first of its kind in North Carolina. The project will include a 100-mgd hydraulic capacity, two train, Kruger ActiFlo® system, including rapid mix, maturation, and settling tanks. The system includes coagulant storage and feed, dry polymer storage, makeup, and fee system, as well as a microsand feed system along with associated civil, electrical, and instrumentation improvements. The project also includes replacement of two existing dewatered cake feed pumps at the incinerator facility. The project was bid in September 2018 with the low bidder matching the Engineer's Estimate at $15M.

Project Manager, MSD of Buncombe County, Carrier Bridge Pump Station and Interceptors Preliminary Engineering Report, Asheville, North Carolina. Mr. Lapsley served as the project manager for the evaluation of the existing Carrier Bridge Pump Station facility and the associated large-diameter interceptor sewers in the MSD system—the Swannanoa and South French Broad interceptors. This study included updates to the MIKEUrban hydraulic model originally developed by CDM Smith in the early 2000s as part of the original collection system masterplan. CDM Smith utilized historical flow monitoring data provided by MSD to update the hydraulic model to make recommendations for improvements to the sanitary sewer conveyance system for addressing sanitary sewer overflows and to provide a 50-year service life to MSD. The project also included regression analysis of influence of the French Broad River and Swannanoa River flows on the sanitary sewer collection system. The results of the study will guide MSD in planning their capital improvements program for major sewer conveyance and storage projects.

Project Manager, Twelve Mile Creek WWTP Plant Expansion, UCPW, Union County, North Carolina. Mr. Lapsley served as the project manager and engineer of record for various improvements and upgrades to the Twelve Mile Creek WWTP in conjunction with another engineering firm. The project began with a facilities plan report for the entire WWTP and continued with final design for various improvements at the facility. Mr. Lapsley was responsible for the CDM Smith-provided design guidance for the evaluation and upgrades to the biosolids system, including upgrades to the existing aerobic digesters

and recommendation for solids dewatering and thickening improvements. The project also included the installation of new tertiary filters, which were constructed and placed into service in 2017. Three Kruger Hydrotech disc filters were installed to replace failing shallow bed sand filters. As part of the expansion project, the ultraviolent disinfection equipment was also be replaced with a new UV structure and equipment.

Project Manager, UCPW Crooked Creek WRF Influent Pump Station, Headworks and Equalization Tank Improvements, UCPW, Union County, North Carolina. Mr. Lapsley served as the project manager and engineer of record for the design and construction-phase services for the implementation of a new 10.3-mgd dual wet well submersible pumping station, 7.8-mgd headworks system consisting of ¼-inch mechanical fine screening and vortex style grit removal, and a 3.0-MG above-grade prestressed concrete equalization tank for wet-weather management, as well as ancillary electrical and instrumentation/control system improvements. The design of the project is complete and the construction phase was completed in 2018, with the new facilities placed into service.

Project Manager, Lexington Wastewater Treatment Plant Solids Evaluation Study, Lexington, North Carolina. Mr. Lapsley served as the project manager for the evaluation of the existing solids handling facilities at the City's WWTP. The components of the study include condition evaluation and alternatives analysis for improvements to the existing dissolved air flotation (DAF) thickening facility, modifications to the existing anaerobic digestion facility, and replacement of the existing composting facility. The study will evaluate alternatives for improvements to each unit process and recommend a long-term capital improvements plant for the City.

Task Manager, City of Greensboro WRF Improvements, Greensboro, North Carolina. Mr. Lapsley served as the task manager and engineer of record for the design of various unit process upgrades for the expansion of the TZ Osborne WRF to an average day flow of 56-mgd and the decommissioning of the North Buffalo WRF. Mr. Lapsley was integral to the preliminary engineering investigation and design of flow equalization and pumping improvements at both facilities, evaluation of disinfection technologies (including UV, bulk sodium hypochlorite, and on-site sodium hypochlorite generation), final design of bulk sodium hypochlorite improvements, evaluation of filter technologies to replace existing traveling bridge filters, and design of final filter improvements to retrofit the existing traveling bridge sand filters with new cloth media filters to utilize existing infrastructure.

Task Manager, SGWASA WWTP Improvements, South Granville Water and Sewer Authority (SGWASA), Butner, North Carolina. Mr. Lapsley served as the task manager and engineer of record for the preliminary and final design of various unit processes for the upgrade of the facility to meet revised nutrient limits. He was integral to the multi-discipline design of a new 20-mgd screening and grit removal facility; a new 20-mgd dual wet well self-cleaning influent pump station and dual 2.5 MG above-ground flow equalization tanks; 9.6-mgd (peak hour) deep bed denitrification filters to replace existing shallow bed sand filters (including preliminary evaluation and stress testing of existing filters); chemical support facilities; and associated yard piping systems.

Kelly R. Boone, PE, PMP

Principal, Senior Environmental Engineer

Ms. Boone is an environmental engineer and senior project manager with 24 years of experience in environmental permitting and regulatory compliance; water distribution and wastewater collection system design; and NEPA/SEPA compliance. She is CDM Smith's North Carolina permitting specialist and has been responsible for coordinating over 200 federal, state, and local permits on utility projects over the last two decades, including 13 NEPA/SEPA Environmental Assessments and Environmental Impact Statements.

Task Leader, Water Treatment Plant (WTP)/Wastewater Treatment Plant (WWTP) Improvements, City of Reidsville, NC. Ms. Boone served as task leader for permitting and regulatory compliance associated with the improvements to the City of Reidsville's WWTP solids handling facilities and activated sludge aeration facilities and WTP pumping and process upgrades for the removal of iron and manganese. Permits and regulatory coordination included an Environmental Information Document and other coordination for SRF funding, Clean Water Act Section 404 Nationwide permits and Section 401 Water Quality Certification, two DENR Erosion and Sediment Control/NPDES Stormwater permits, Approval of Engineering Plans and Specifications by DENR DWR Public Water Supply Section, Approval of Water System Management Plan by DENR DWR Public Water Supply Section, Authorization to Construct from DENR, and Building Permits and Site Plan Reviews by the City of Reidsville.

Task Leader, TZ Osborne Water Reclamation Facility (WRF) Expansion and Nutrient Removal Upgrades, Greensboro, NC. Ms. Boone served as task leader for permitting and regulatory compliance associated with the City of Greensboro's project to decommission the North Buffalo WRF and expand its T.Z. Osborne WRF from 40 mgd to 56 mgd including nutrient removal process enhancements to reduce the total nitrogen and phosphorus effluent concentrations. Permits and regulatory coordination included two Erosion and Sediment Control/NPDES Stormwater permits, Pump Station Construction Permit from DENR, Authorization to Construct from DENR, and City of Greensboro TRC Review.

Task Leader, WWTP Improvements, South Granville Water and Sewer Authority, NC. Ms. Boone served as task leader for permitting and regulatory compliance associated with the improvements to the SGWASA 7-mgd WWTP to enhance nutrient removal to meet stringent future effluent nutrient limits. Permits and regulatory coordination included preparation of an environmental assessment in support of USDA funding, an easement from the US Army Corps of Engineers for work on land under the Falls Lake jurisdiction, a 401 Water Quality Certification for isolated waters impacts, erosion and sedimentation control plan, Authorization to Construct for wastewater facilities, and Town of Butner Site Plan Zoning Permit.

Task Leader, Anderson Regional Joint Water System South Anderson Water Supply, Anderson, SC. Ms. Boone served as task leader for permitting and regulatory compliance associated with the Anderson Regional Joint Water System's South Anderson Water Supply project. The project included construction of a new raw water intake in Lake Hartwell, pump station, and approximately 41,000 feet of 30- to 36-inch ductile iron transmission main. Ms. Boone led the effort to obtain the following permits and approvals: Clean Water

Education

MS – Environmental Systems Engineering, Clemson University, 1996

BS – Biology, Presbyterian College, 1995

Registration

Professional Engineer: North Carolina, 2002

Certification

Project Management Professional (PMP), 2019

Act Section 404 and 401 permits; South Carolina DHEC Navigable Waters permit; Stormwater NPDES permits from South Carolina DHEC; encroachment agreements from the South Carolina Department of Transportation and the Anderson County Transportation Division; an outgrant easement from the U.S. Army Corps of Engineers; an easement from the South Carolina Budget and Control Board; and a building permit from Anderson County.

Task Leader, Pender County WTP and Finished Water Transmission Main Permitting and Regulatory Compliance, Pender County, NC. Ms. Boone served as task leader for permitting and regulatory compliance associated with Pender County's new surface water treatment plant. The project required the following permits and approvals: Clean Water Act Section 404 and 401 permits; CAMA General Permit from the North Carolina Division of Coastal Management; Authorization-to-Construct approvals from the North Carolina Department of Environmental Health Public Water Supply Section and North Carolina Division of Water Quality; Erosion Control Permit from the North Carolina Division of Land Resources; septic system permit from the Pender County Health Department; NPDES Discharge Permit from the North Carolina Division of Water Quality; encroachment agreements from NCDOT; and Pender County approvals for building permits.

Task Leader, Bladen Bluffs Regional Surface WTP Permitting and Regulatory Compliance, Bladen County, NC. Ms. Boone served as task leader for permitting and regulatory compliance associated with the Lower Cape Fear Water and Sewer Authority's new 4-mgd surface water treatment plant. The project required the following permits and approvals: Clean Water Act Section 404 and 401 permits; Authorization-to-Construct approvals from the North Carolina Department of Environmental Health Public Water Supply Section and North Carolina Division of Water Quality; Dam Safety and Sediment and Erosion Control Permits from the North Carolina Division of Land Resources; Air Quality Permit from the North Carolina Division of Air Quality; septic system permit from the Bladen County Health Department; NPDES Discharge Permit from the North Carolina Division of Water Quality; encroachment agreements and driveway permits from NCDOT; and Bladen County approvals for building permits.

Project Engineer, Neuse Regional WTP Permitting, Lenoir County, NC. For the Neuse Regional Water and Sewer Authority, Ms. Boone served as the task leader for permitting and regulatory compliance associated with the construction of the Neuse Regional Water Treatment Plant. Construction of the new 15-mgd water treatment plant in Lenoir County, North Carolina, required more than twenty permits and approvals from various federal, state, and local agencies and organizations. Permits and approvals required for the project included Clean Water Act Section 404 and 401 permits; Authorization-to-Construct approvals from the North Carolina Department of Environmental Health Public Water Supply Section and North Carolina Division of Water Quality; Dam Safety and Sediment and Erosion Control Permits from the North Carolina Division of Land Resources; Air Quality Permit from the North Carolina Division of Air Quality; wastewater collection system extension permit from North Carolina Division of Water Quality; NPDES Discharge Permit from the North Carolina Division of Water Quality; encroachment agreements and driveway permits from NCDOT; license agreement from Progress Energy; North Carolina Department of Insurance Building Code compliance review; and Lenoir County approvals for building permits.

Zachary T. Eichenwald, PE
Water Resources Engineer

Mr. Eichenwald is a water resources engineer experienced in water quality assessments of lakes, reservoirs, rivers, and estuaries. He has applied his water quality expertise to evaluate water quality within surface water reservoirs and drinking water supplies and to evaluate the impact of wastewater treatment plant discharges on receiving water quality for projects throughout the country. Mr. Eichenwald's work includes diagnostic water quality studies of surface water supplies, building and applying hydrologic, hydraulic, and water quality models of surface water systems, and NPDES wastewater permitting support.

Clean Water Act and NPDES Permitting Support, Various Locations. Mr. Eichenwald provides technical support for evaluating NPDES permits and permit appeals for wastewater treatment plants related to receiving water quality impacts. His work has consisted of evaluating the technical basis for agency decisions, providing detailed technical comments, support for appeals to the EPA Environmental Appeals Board (EAB), including Administrative Order negotiations with state and federal regulatory agencies, and preparing permit renewal applications. He has worked with clients nationwide, including in Tennessee (Franklin), South Carolina (Florence), Massachusetts (South Essex Sewerage District, Marion, Fall River, New Bedford, Brockton), Rhode Island (Smithfield), Alabama (Jefferson County), New Jersey (Parsippany Troy Hills and Rahway Valley Sewerage District), New York (Kriyas Joel), and Texas (Georgetown).

Permitting Support, City of Florence, SC. Mr. Eichenwald assisted the City of Florence, SC in examining water quality issues associated for obtaining a new NPDES permit for a new WWTP discharging to Lake Swamp. The work included discussions with SC Department of Health and Environmental Control (DHEC) on likely permit limits and the water quality sampling and modeling required to develop permit limits and meet antidegradation requirements. Based on these discussions, Florence elected to expand its existing plant.

Permitting Support, City of Franklin, TN. For the City of Franklin, TN, Mr. Eichenwald oversaw the data collection and analysis to support the NPDES permit renewal for the City's 16-mgd WWTP. As part of the WWTP's ongoing upgrade work, Franklin intends to begin producing a Class A biosolid during the next permit term. As a component of this analysis, Mr. Eichenwald reviewed the current TN biosolids requirements and advised the City on how to include this change within the permit renewal application.

Permitting and Water Quality Modeling Support, City of Georgetown, TX. For the City of Georgetown, Texas, Mr. Eichenwald used regulatory models developed by the Texas Commission on Environmental Quality to conduct a preliminary anti-degradation assessment of the impacts of a new discharge to the San Gabriel River. This assessment was completed using QUAL-TX, a version of QUAL-2E written for TCEQ. Mr. Eichenwald evaluated whether the proposed discharge rate, ammonia, and BOD limits would result in an allowable reduction in dissolved oxygen downstream of the proposed discharge location relative to TCEQ's anti-degradation requirements. The preliminary assessment indicated that the proposed discharge would be permissible under current TCEQ regulations.

Education

MS - Environmental Engineering, University of California at Berkeley, 2011

BS – Engineering, Swarthmore College, 2010

Registration

Professional Engineer: Massachusetts

CDM Smith

Project Engineer, Marion Water Quality Studies, Town of Marion, MA. Mr. Eichenwald performed a number of detailed water quality studies to support the Town of Marion's NPDES permitting process. As part of this assessment, he created a detailed nitrogen loading analysis to understand point and nonpoint source contributions to Aucoot Cove, a small sub-embayment to Buzzard's Bay and completed a water budget to evaluate whether the Town's unlined wastewater equalization lagoons could be contributing nitrogen to Aucoot Cove. The results of these studies will be used to help the Town identify cost-effective ways to reduce overall point and nonpoint nitrogen loads.

Project Engineer, Merrimack River Watershed Assessment Study, New Hampshire and Massachusetts. Mr. Eichenwald was the lead hydrologic, hydraulic, and water quality modeler in a large-scale watershed management and modeling study of the Merrimack and Pemigewasset Rivers in New Hampshire and Massachusetts. He developed and calibrated a linked suite of three models HSPF (Hydrologic Simulation Program – Fortran), SWMM (Stormwater Management Model) and WASP (Water Quality Simulation Program) to represent watershed hydrology and water quality, riverine hydraulics, and receiving water quality dynamics, respectively. Parameters assessed include bacteria, nutrients, dissolved oxygen, and chlorophyll *a*. The calibrated model system is being used to help Federal, State, and Local regulators and decisionmakers make management decisions that will help the Merrimack and Pemigewasset River attain water quality standards and support a healthy fishery, clean water for swimming and boating, and adequate raw water quality for drinking water supply.

Project Engineer, Blackstone River Watershed Study Upper Blackstone Clean Water, Millbury, MA. Mr. Eichenwald is the water quality specialist for the Blackstone River Watershed Study, conducted on behalf of Upper Blackstone Clean Water. He provides technical oversight for the water quality monitoring program, which consists of routine growing season nutrient, chlorophyll a, and dissolved oxygen measurements and periphyton surveys. In addition, he has updated and applied an HSPF hydrologic and water quality model of the Blackstone River to evaluate the impact of nutrient loads from point and non-point sources on river water quality.

Project Engineer, Wastewater Master Plan Water Quality Modeling, Great Lakes Water Authority (GLWA), Detroit, MI. Mr. Eichenwald is working as a water quality specialist for receiving water quality modeling performed on the Rouge River and Detroit River in Detroit, MI. The Rouge and Detroit Rivers receive combined sewer overflow, wastewater, and stormwater discharges from the GLWA collection system. As part of GLWA's wastewater planning in advance of its next Long-term Control Plan update, Mr. Eichenwald is analyzing dissolved oxygen and bacteria data collected from monitoring programs and applying a water quality model to evaluate the water quality impacts of CSO and stormwater infrastructure improvements. The Rouge River model is constructed in HSPF, and represents nutrients, dissolved oxygen, chlorophyll *a,* and bacteria. The Detroit River model is constructed in EPA SWMM and represents near field bacteria dynamics within the Detroit River. The results of the water quality modeling were used to guide the selection of alternatives in the wastewater master plan and will be used by GLWA to inform the development of the LTCP update.

Bernadette H. Kolb, PE

Senior Vice President

Ms. Kolb has over 40 years of experience as a water resource engineer leading projects and technical teams that address water resources planning and water quality management for both drinking water and wastewater clients. She leads projects on watershed management/source water protection and freshwater and marine water quality management. She has extensive related experience in ocean outfall siting, mixing zone analysis, and conceptual diffuser designs; lake/harmful algal blooms studies and remedies; and NPDES permit evaluations. She is a trained meeting facilitator.

Various CWA/NPDES Projects, Various Locations. Ms. Kolb is a national resource for CWA/NPDES permitting projects related to wastewater/CSO/stormwater quality. She has directed dozens of receiving water analysis in support of NPDES permit applications and renewals for wastewater treatment plants and water treatment plants.

These studies have included:

- Developing/reviewing permit applications (including reasonable potential analyses)
- Preparing expert technical comment on draft permits and permit appeals
- Leading or supporting clients during meetings with regulatory agencies
- Working with legal counsel to support the permittees through the EPA/EAB's Alternative Dispute Resolution process and equivalent state processes (including preparing/reviewing depositions and affidavits)
- Working with legal counsel to review regulatory agency responses (e.g., Consent Decrees) to compliance violations as a third-party intervenor
- Using initial dilution models to establish mixing zones
- Working with subcontractors to design/implement dye studies and physical models to establish/refine mixing zones
- Analyzing/troubleshooting results from whole effluent toxicity testing
- Designing and executing of studies to develop site-specific criteria for metals and studies to perform toxic identification/reduction evaluations (TIE/TRE)
- Directing the water quality analysis of EPA's Integrated Planning Framework for Managing Stormwater and Wastewater
- Evaluating of water quality-based alternative compliance strategies for stringent NPDES permit limits

Her work on these NPDES topics for municipalities and utilities have been performed for clients around the eastern United States including in **Alabama** (Jefferson County [Birmingham]), **Florida** (Boca Raton, Delray Beach, and JEA); **Connecticut** (New Britain, Stonington, the Mattabassett District, Hartford MDC combined sewer overflow outfalls), **Kentucky** (Louisville); **Massachusetts** (Attleboro, Brockton, Clean Water, Charles River Pollution Control District, Fall River, Lynn, Marion, Massachusetts Water Resources Authority (MWRA), Massport, New Bedford, Plymouth, SESD, Upper Blackstone Clean Water, Wareham, Webster/Dudley,); **New Hampshire** (Newmarket, Dover, and Rochester); **New York** (NYC DEP and Village of Kiryas Joel), **New Jersey** (Parsippany Hills, Rahway Valley Sewerage Authority, and Atlantic City Airport), **North Carolina** (Brunswick County

Education

SM - Engineering (Environmental Systems), Harvard University, 1981

BE - Environmental and Water Resources Engineering, Vanderbilt University, 1980

Registration

Professional Engineer: Maine (1985)

and Pender County), **Rhode Island** (Smithfield, Narragansett Bay Commission, Woonsocket); **South Carolina** (Florence), **Tennessee** (Memphis and Franklin) and **Virginia** (Newport News).

In addition, she has led NPDES efforts for industrial discharges in Massachusetts, New York, Kentucky, Mississippi, and Rhode Island. Outside of the United States, she has worked on similar water quality analyses in Canada and Thailand.

Technical Director, Outfall for Concentrate, Cape Fear River, Brunswick County, NC. Ms. Kolb directed the task to site, perform a concept design and predict dilution in a mixing zone for a new outfall, which required a major modification to Brunswick County's NPDES permit. A cost-effective, low environmental impact solution was developed with the outfall as a single-port discharge placed midway down the slope of the riverbank. The project included oversight of field programs to characterize the river conditions, hydraulic analyses, and CORMIX modeling. Ms. Kolb also advised on strategy and lead technical discussion for obtaining the mixing zone in the NPDES permit.

Technical Director, Outfall for Concentrate, Pender County, NC. Ms. Kolb directs the work to site and perform a concept design for an 1-2 mgd outfall targeting an inlet of the Intracoastal Waterway in Pender County. The work will include analyzing the results of field programs to characterize the receiving water, characterizing the effluent to determine dilution requirements, designing the diffuser, initial dilution modeling, outfall hydraulics, and supporting a new NPDES permit application for this new facility.

Technical Director. Mixing Zone Framework. New York City, NY. She developed an alternative framework for defining mixing zones for the City's 14 wastewater treatment plants. She identified steps needed for dilution model and associated data needs, and defined critical ambient and discharge conditions, and assed methods for sizing acute and chronic mixing zones (including the drifting organism method), recommended a mixing zone strategy along with pros/cons of implementing the strategy at DEP's WRRFs. a proposed approach based on discharge and receiving water characteristics. Mixing zone comparisons for different versions of CORMIX (spanning decades) were developed, along with alternative mixing zones using the alternative framework.

Technical Expert, NPDES Permit Consulting/Appeal, Smithfield, RI. Ms. Kolb provided strategic direction and review for the develop of comments on Smithfield's renewed NPDES permit. Smithfield decided to appeal the final permit, and Ms. Kolb is providing technical support to the City's counsel during this process.

Technical Director, Water Quality Sampling and NPDES Permitting Support, Township of Parsippany-Troy Hills, NJ. Ms. Kolb reviewed the NPDES discharge permit for the Township of Parsippany-Troy Hills, NJ and oversaw the development of a regulatory-driven monitoring program for the Township to perform a reasonable potential analysis (RPA) for nitrate and copper. For this study, she directed development of a NJDEP-approved field sampling plan and Quality Assurance Project Plan (QAPP). She reviewed the data collected from the field programs and the RPA resulting from the field work. She advised on strategy for negotiating with regulators to seek changes to the NPDES permit for nitrate and copper permit limits.

Anish Luthra

Environmental Engineer

Mr. Luthra is an environmental engineer with seven years of experience in designing wastewater and biosolids treatment processes, wastewater treatment plant operations, wastewater treatment plant field engineering services, rainfall-derived inflow and infiltration analysis, and wastewater treatment plant master planning.

Design Engineer, Mallard Creek WRF (MMCWRF) Solids Improvements, CLT Water, NC. CLT Water retained CDM Smith to conduct a comprehensive condition assessment, and optimization and reliability evaluation of the solids handling infrastructure at the MMCWRF. The scope of the evaluation included the entire solids handling process including primary and waste activated sludge pumping, sludge thickening, anaerobic digestion, dewatering, and dewatered cake transport. Based on the findings of the Solids Handling Reliability Study, as well as subsequent follow-up work, CLT Water tasked CDM Smith with the preliminary engineering of several solids handling improvement projects. Mr. Luthra was responsible for development of the Preliminary Engineering Report, coordinating the improvements with the MCWRF's planned expansion to 16 mgd being designed by another consultant.

Design Engineer, Sister Grove Creek Regional Water Resource Recovery Facility (SGRWRRF), North Texas Municipal Water District (NTMWD), New Hope, TX. CDM Smith was selected to provide planning, design, and engineering services during construction for the SGRWRRF, a $300M, 16-mgd (32 mgd peak, 128 mgd buildout) greenfield WWTP serving NTMWD's Upper East Fork Interceptor System. Mr. Luthra was responsible for design of the solids treatment systems, which include combined primary, waste activated sludge and scum storage tanks, with mixing equipment, for temporary storage of solids prior to dewatering, as well as a solids dewatering facility, consisting of centrifuges, polymer storage and supply facilities, and transfer conveyors and sludge storage bin.

Design Engineer, Arlington Water Pollution Control Plant (WPCP) Headworks Upgrades, Arlington, VA. Mr. Luthra works as the lead process mechanical design engineer and supports the project manager for the Headworks Upgrades project at Arlington County. The design includes three new 50 MGD multi-rake bar screens, new screenings conveyance and compaction equipment and a new scum concentration system. Mr. Luthra's responsibilities include developing detailed design drawings and specifications, coordinating with the client, disciplines, and external subcontractors, and presenting the design to the client staff at milestone design review meetings.

Resident Project Engineer, Blue Plains Advanced Wastewater Treatment Plant (AWTP) Tunnel Dewatering Pump Station/Enhanced Clarification Facility (TDPS/ECF), Washington, DC. Mr. Luthra has been working as the resident project engineer through construction services, commissioning, and operations at the TDPS/ECF project. The TDPS/ECF project features a 250 MGD combined sewer treatment facility including five 3000 horsepower pumps rated at 83.3 MGD each and one of the largest Actiflo high-rate clarification installations (three trains rated for 83.3 MGD each). This project is a part of DC Water's Long Term Control Plan to minimize combined sewer

Education

BS – Biological Systems Engineering, Virginia Polytechnic Institute and State University, 2015

Registration

Professional Engineer: North Carolina, 2021

Certifications

NASSCO Pipeline Assessment and Certification Program

CDM Smith

overflow (CSO) discharges to the Anacostia and Potomac Rivers and tributary waters during wet weather events. Mr. Luthra's responsibilities include processing and reviewing submittals and construction requests for information (RFIs), supporting design revisions during construction, preparing, and delivering Process Systems Operations training to DC Water's staff, preparing the Process System Operations and Maintenance (O&M) Manual and facility Standard Operating Procedures (SOPs), supporting operations of the facility during the demonstration period, and preparing the project record drawings.

Design Engineer, Pontiac WWTP Biosolids Handling and Septage Receiving Facility Preliminary and Final Design Services, Oakland County, MI. Mr. Luthra worked as a design engineer for the biosolids process upgrades at the Pontiac Wastewater Treatment Plant (WWTP) that included implementation of 26.5 dry ton per day thermal hydrolysis pretreatment (THP) to existing anaerobic digestion system in order to increase the solids processing capabilities without constructing a new digester. The project included addition of sludge screening, centrifuge pre-dewatering, THP and post-dewatering as well as rehabilitating the existing primary and secondary anaerobic digesters. After these improvements, the County will produce Class A product that dewaters better than conventional digestion production and has lower odors. Mr. Luthra led the design of the Sludge Cooling Heat Exchanger, which cools the thermally hydrolyzed sludge as it enters anaerobic digestion and assisted with the design of THP and its supporting systems.

Project Engineer, Arlington County WPCP Solids Master Plan, Arlington County, VA. Mr. Luthra worked as a project engineer for the Arlington County WPCP Solids Master Plan which will be used to guide future upgrades at the WPCP. Mr. Luthra helped to develop process train alternatives for the County's evaluations including primary and secondary thickening, pre-dewatering, thermal hydrolysis, digestion, post-dewatering, and drying.

Design and Commissioning Engineer, Blue Plains Advanced Wastewater Treatment Plant (AWTP) Main Process Train (MPT), Washington, DC. Mr. Luthra worked as a field engineer for the commissioning of the MPT project. The MPT features the first thermal hydrolysis process in the United States and is the largest design-build treatment plant project on the east coast. Mr. Luthra's responsibilities included functional and performance testing, field engineering, and sampling and analysis of various processes throughout the project. He facilitated trainings for operations and maintenance staff and provided on-site operations support.

Project Engineer, Marshall and Town of Remington Sewer Inflow and Infiltration Study, Fauquier County, VA. Mr. Luthra worked as the project engineer for the inflow and infiltration studies at Marshall and Town of Remington which covered over 50 miles of 6- through 16-inch gravity sewers, over 1100 manholes, 14 miles of forcemain, and 16 pumping stations combined. Mr. Luthra was responsible for QA/QC of flow and rainfall data, rainfall-derived infiltration and inflow analysis, Smoke Testing and CCTV review, and rehabilitation plan development to reduce loading on system wastewater treatment plants.

Nicholas Coco, EI

Environmental Engineer

Mr. Coco is an environmental engineer with 5 years of experience working in various aspects of the environmental field. He is an Engineer Intern certified by the North Carolina Board of Examiners for Engineers and Surveyors, as well as a Climate Reality Leader certified by former Vice President Al Gore's organization, the Climate Reality Project. His experience includes water quality permitting, risk assessment and exposure modeling, and air pollution assessment.

Environmental Engineer, Oxford WWTP Improvements, City of Oxford, NC. CDM Smith is providing preliminary and final design, permitting, and construction administration services to implement rehabilitation improvements for the City's 3.5-mgd WWTP, which is being funded through a SRF loan administered by the NC Division of Water of Infrastructure valued at $6,022,000. Improvements include replacement of the existing traveling bridge filters with two new disk filters for tertiary treatment redundancy, consolidating two RAS pump stations to improve secondary treatment performance, new aerobic digester blowers and diffusers, upgrade to the plant's SCADA system, and online instrumentation to improve overall reliability and resiliency. Mr. Coco has already assisted in preparing documentation for an Authorization to Construct application related to improvements to the City of Oxford's WWTP.

Engineer, Water Quality Permitting Section, North Carolina Department of Environmental Quality, NC. Prior to his time with CDM Smith, Mr. Coco implemented state and federal water quality policies under the National Pollution Discharge Elimination System (NPDES) as a permit writer. He wrote Authorization to Construct (ATC) permits for new and expanding facilities, as well as System-Wide Collection System permits. He reviewed variance and alternative design requests. Mr. Coco helped develop a minimization plan for contaminants of emerging concern to reduce the levels of toxic, unregulated chemicals discharged into waters of the state.

He developed Division procedures on the implementation of Water Effect Ratio studies and created operating procedures and guidance documents for training of new staff. Mr. Coco transitioned his team to paperless permitting. He represented the Division of Water Resources as a member of the DEQ internal workgroup for the NC Environmental Stewardship Initiative and the development of the North Carolina Climate Risk Assessment and Resilience Plan.

Education

BS – Environmental Engineering, North Carolina State University, 2017

Registration

Engineer Intern: North Carolina

Certification

Climate Reality Leader, 2020

John Brinkley, PE, BCEE, DWRE, Associate DBIA

Senior Project Manager

Mr. Brinkley is a senior project manager with 25 years of experience in the planning, design, and construction administration of pump stations and wastewater treatment facilities. His specialties include enhanced nutrient removal, pumping station design, plant hydraulics, and sludge digestion. He is a board-certified environmental engineer by the American Academy of Environmental engineers and Scientists with specialty certification in water and wastewater, a diplomate in water resources engineering by the American Academy of Water Resources Engineers and is an Associate with the Design Build Institute of America (DBIA).

Project Manager, Gilder Creek Water Resource Recovery Facility, Greenville, SC. Responsible for upgrading the polymer system that serves the facility's thickening operation and their sodium hypochlorite chemical feed systems which provides reclaimed water for filter backwash and washdown for their equalization basin.

Project Manager, Triangle WWTP, Durham County, NC. Responsible for conducting an aeration assessment at the 12.0-mgd Triangle WWTP, which is an enhanced nutrient removal plant that serves Research Triangle Park. Work included evaluating the influent wastewater composition, current plant operation and existing installed aeration capacity followed by a feasibility analysis to determine a long-term cost-effective solution for upgrading the plant's aeration system to address future growth.

Senior Project Manager, Oxford WWTP Improvements, City of Oxford, NC. Responsible for providing preliminary and final design, permitting, and construction administration services to implement rehabilitation improvements for the City's 3.5-mgd WWTP, which is being funded through a SRF loan administered by the NC Division of Water of Infrastructure valued at $6,022,000. Improvements include replacement of the existing traveling bridge filters with two new disk filters for tertiary treatment redundancy, consolidating two RAS pump stations to improve secondary treatment performance, new aerobic digester blowers and diffusers, upgrade to the plant's SCADA system and online instrumentation to improve overall reliability and resiliency.

Project Manager, Neuse River Resource Recovery Facility Bioenergy Recovery Project, City of Raleigh, NC. Responsible for design and construction management of a mesophilic anaerobic digestion process with thermal hydrolysis pre-treatment to produce a Class A biosolids for a 75-mgd WWTP with an estimated construction value of $170M. The project will result in the production of a Class A biosolids, thereby producing a beneficial reuse product in the way of a soil amendment for agriculture. The biogas produced from the anaerobic digestion process will be treated using membranes and injected into a natural gas pipeline operated by Old Dominion, which will result in renewable gas credits to serve the City's public transportation bus fleet.

Project Manager, Nutrient Offset Credits and Mitigation Bank Establishment, City of Raleigh, NC. Responsible for developing nutrient offset credit development plan and mitigation banking instrument for addressing future wastewater demands for the City of Raleigh. Additional work included the permitting and development of nutrient offset credits on a portion of the biosolids application property that surround the Neuse River Resource Recovery Facility (NRRRF). The nutrient offset credits generated on this property would be managed through a mitigation banking instrument.

Education

MS, Environmental Engineering, Georgia Institute of Technology, 2002

BS, Civil Engineering, North Carolina State University, 1994

BS, Environmental Engineering, North Carolina State University, 1994

Registration

Professional Engineer (PE) – 1999, NC, #25066

Certifications

Board Certified Environmental Engineer (BCEE)

Diplomate in Water Resources Engineering (D.WRE)

CDM Smith

Project Manager, Little Creek WRF UV Disinfection Replacement Project, City of Raleigh, NC. Responsible for preliminary engineering, detailed design, bidding, and construction management of a new UV disinfection system rated for a peak hourly flow of 6.6-mgd using Trojan's new Signa UV system followed by an effluent Parshall flume.

Project Manager, Archie Elledge and Muddy Creek WWTP Master Plan, Winston-Salem/Forsyth County Utilities Commission, Winston-Salem, NC. Responsible for developing a comprehensive wastewater system master plan that encompasses the City's collection system, two WWTPs, and regional biosolids dryer facility. The results and recommendations for this project will establish future treatment plant and collection system improvements and related capital expenditures through the year 2040. Project included BioWin modeling, plant hydraulic modeling, wastewater characterization, equipment assessments, cyber- security and data management risk assessment, odor control evaluation, present worth analysis, technology evaluations and recommendations to developing an integrated capital improvement plan and master plan report for the wastewater treatment system, which is served by two treatment plants with design capacities of 20-mgd and 30-mgd.

Project Manager, Phase I and II Rehabilitation Improvement Project, Winston-Salem/Forsyth County Utilities Commission, Winston-Salem, NC Responsible for preliminary engineering, condition assessments, detailed design, permitting, funding, and construction administrative services for rehabilitation of the City's Muddy Creek WWTP and Archie Elledge WWTP with a design capacity of 20-mgd and 30-mgd, respectively. The project encompasses aeration system improvements to optimize energy consumption; replacement of aged equipment to improve reliability, and upgrades to the plant's thickening facilities.

Project Manager, Industrial Pretreatment Facility Performance Assessment, Arcadia Beverage, Arden, NC. Responsible for the assessing an industrial pretreatment and developing an engineering report with recommendations for optimizing strategies for water and wastewater reduction and facility modifications to address a consent order.

Project Engineer, North Cary WRF, Town of Cary, NC. Responsible for the design of a 12-mgd plant expansion designed for biological nutrient removal. Work included the design of a BioDenipho oxidation ditch process with secondary anoxic zones and a reaeration zone, one 130- foot diameter rapid suction type secondary clarifier, return activated sludge and waste activated sludge pump station, influent distribution box, ultraviolet disinfection system, cascade reaeration system, and a submersible duplex scum pump station.

Project Engineer, Northeast Brunswick County Regional Wastewater Treatment Facility, Brunswick County, NC. Responsible for the process design and layout for a 1.65-mgd regional WWTP designed for biological nutrient removal with a conjunctive reuse permit to allow effluent to be discharged to the Cape Fear River or conveyed to industry and golf courses for beneficial reuse. The liquid train included fine screening, grit removal, a BioDenipho oxidation ditch process, secondary clarifiers, RAS and WAS pumping station, tertiary filtration, UV disinfection, cascade reaeration, and high service water reuse pumps. The solids treatment train, a rotary drum sludge thickener, post thickened sludge storage tank, an auto-thermal thermophilic aerobic digester (ATAD), and solids transfer pumping station.

ClearWater Environmental Resumes

RUTLEDGE CLEMENT RIDDLE, PWS

Professional Wetland Science | Founder of ClearWater Environmental Consultants, Inc., An EnviroScience Company

Clement Riddle founded ClearWater Environmental Consultants, Inc. in 2002. He has over 30 years of experience with wetland permitting, environmental planning, and natural resource studies in North Carolina. He oversees all environmental projects and serves as the Principal for large and technical permitting projects. Ongoing representative projects include mitigation design and monitoring, 404 permitting for golf courses, master-planned communities, retail shopping malls, industrial developments, and Environmental Assessments for NEPA/SEPA compliance. Clement has extensive experience managing wetland/stream permitting and mitigation projects. He has dealt extensively with the U.S. Army Corps of Engineers, Wilmington District, and the North Carolina Department of Environment and Natural Resources.

Prior to founding ClearWater, Clement opened and managed the Hendersonville office for Newkirk Environmental, Inc. from 1998–2002. In 1998, he obtained his Master of Planning Degree from the University of Virginia with a concentration in Environmental Planning and Land Development. While pursuing this degree, he continued to conduct environmental assessments and wetland planning for clients in Alabama, Georgia, North Carolina, South Carolina, and Oklahoma.

EDUCATION

Master of Planning, University of Virginia, 1998

Bachelor of Science, Natural Resources, University of the South, 1991

CERTIFICATIONS

Certified Professional Wetland Scientist, 2001
Society of Wetland Scientists
The National Association of Environmental Professionals

YEARS OF EXPERIENCE

EnviroScience, Inc.: <1
ClearWater Environmental: 20
Newkirk Environmental, Inc.: 4
Law Engineering and Environmental Services: 4

RELEVANT EXPERIENCE

Mitigation Design and Monitoring
404 Permitting
Master Planned Communities
Retail and Industrial Developments
NEPA/SEPA Compliance
Wetland/Stream Permitting and Mitigation
Wetland Planning

SELECTED PROJECT EXPERIENCE

Pratt & Whitney, 2020, Buncombe County, NC. Pratt & Whitney, a Connecticut-based aircraft engine manufacturing company, turned to ClearWater when they contracted to build an 800,000 sq. ft., $650 million+ manufacturing facility on a 90-acre site in Buncombe County near the French Broad River. ClearWater performed a comprehensive wetland delineation and a threatened and endangered species survey. We also conducted a Section 7 Consultation for Appalachian elktoe, gray bat and northern long-eared bat, species found in the site area to ensure these species were not jeopardized. ClearWater filed a Cultural Resources and Memorandum of Agreement, conducted a Public Hearing, and secured Section 10 and Section 404 US Army Corps Individual Permits and a 401 Water Quality permitting for the project.

Clement has over 30 years of experience with wetland permitting, environmental planning, and natural resource studies in North Carolina.

CERTIFICATIONS

Certified Professional Wetland Scientist, 2001

RELEVANT EXPERIENCE (CONT'D):

Environmental Assessments
Wetland Delineation
Protected Species Assessments
Environmental Permitting
Water Quality Sampling and Monitoring

High Hampton Redevelopment, 2019. High Hampton Resort has been a luxurious mountain retreat for nearly a century. When High Hampton built their 770-acre residential development, a new Fazio golf course, and performed an extensive resort renovation, they turned to ClearWater to ensure they were meeting all environmental regulations for the complex project. ClearWater conducted a comprehensive wetland delineation and a threatened and endangered species survey for the project. ClearWater secured a Section 404 U.S. Army Corps of Engineers Individual Permit and 401 Water Quality Certification to impact the 770 linear feet of stream and 0.31 acres of wetlands, as well as a Trout Buffer Variance to protect the water quality.

Nucor Steel Plate Mill, 2002, Hertford County, NC. Nucor, a Fortune 500 company, is a leading North American producer of steel and steel products with over 25,000 employees and locations across the U.S. When the company expanded its operations to build a steel recycling mill on a 990-acre site in North Carolina, they turned to ClearWater. ClearWater Environmental worked with Nucor to prepare an Environmental Assessment for SEPA compliance. The EA was reviewed, and a Finding of No Significant Impact (FONSI) was issued by the NC Department of Natural Resources.

Cherokee Casino, 2013, Murphy, NC. Harrah's Cherokee Casino Resort is one of the top attractions in North Carolina. When they opened a sister branch in Murphy in 2015, ClearWater was contracted to provide Environmental Assessment for NEPA compliance. The EA was reviewed, and the Finding of No Significant Impact (FONSI) was approved by the Bureau of Indian Affairs and the Federal Highways Administration. Services for this project included a comprehensive wetland delineation, threatened and endangered species survey, scoping, public review, and Section 404 US Army Corps of Engineers Permit and NC Division of Water Resources 401 certification.

Charlotte International Airport 3rd Parallel Runway, 2009, Mecklenburg County, NC. Charlotte Douglas International Airport is one of the busiest airports in the world. The airport has crafted a master plan to sustain the growth and construction they anticipate will happen well into 2035. ClearWater secured multiple 404 and 401 permits for the airport's 3rd parallel runway and other master plan projects. The third runway measures over 9,000 feet long and includes two taxiway bridges constructed on 650 acres. Total impacts of the third runway included 22,559 linear feet of stream, 1.148 acres of wetlands, and 7.522 acres of open waters. Additional permitting included the expansion of a new entrance road, parking lots, and parking decks. The total impacts of these projects included 2,395 linear feet of stream and 3.035 acres of wetlands.

CERTIFICATIONS

Certified Environmental Planner CEP, 2013 to present

American Institute of Certified Planners (AICP #8585), 2003 to Present

Asbestos Hazard Evaluation Specialist (ES 34704), 2006 to Present

YEARS OF EXPERIENCE

EnviroScience, Inc.: 5
Palmer Engineering: 2
KCI Associates of Ohio: 7
McCoy Associates, Inc.: 15

EDUCATION

A.A.S., Architectural and Construction Engineering Technology, Cuyahoga Community College, 1985

Baldwin Wallace College, Business / Marketing

RELEVANT EXPERIENCE

- National Environmental Policy Act (NEPA) Compliance
- ODOT Transportation Development Process (PDP)
- Local Public Agency (LPA) Project Development
- Phase 1 ESAs and Phase 2 ESAs
- Asbestos Inspections
- EA/EIS/Categorical Exclusion Documents
- Feasible Alternative Summaries
- Clean Water Act
- 404 Army Corps of Engineers Permits
- 401 State Water Quality Certifications and Isolated Wetland Permits

CHARLES E. KESSLER, AICP, CEP

Senior Environmental Planner / Project Manager

Mr. Chuck Kessler is a certified planner/environmental planner managing key projects involving National Environmental Policy Act (NEPA) compliance. He is highly experienced in managing ODOT's Transportation Development Process (PDP), and in assisting Local Public Agency (LPAs) with their environmental compliance requirements. He is very familiar with guidelines and environmental requirements under NEPA for FHWA and various other federal agencies.

Chuck has written and managed the development and preparation of numerous environmental documents, reports, and permits pertaining to environmental compliance for transportation, land development, and construction projects. These have included environmental assessments, categorical exclusion (CE) documents, Section 404/401 USACE/OEPA permits/water quality certifications and Isolated Wetlands Permits, Section 4(f) evaluations, Section 106 consultation documents, feasible alternative summaries, and Phase 1 and Phase 2 ESA's (due diligence investigations). He is also a Certified Asbestos Evaluation Specialist. In addition, Chuck has extensive experience in interacting with the public and local government stakeholders and conducting project-related public involvement activities.

SELECTED PROJECT EXPERIENCE

WVDOH U.S. Route 33, Scott Miller Hill Bypass, NEPA Support Services. Project Manager for natural resource inventory and assessment services that were conducted as part of the reevaluation of the project's NEPA documentation for the WVDOH, on behalf of Burgess & Niple, Inc. ES performed a delineation and characterization of wetlands, streams, and other jurisdictional waters within the proposed new right-of-way along the approximately 4.60-mile project corridor (on new location). ES also conducted a mist net survey to determine the presence or absence of the Indiana and northern long-eared bats as well as a mussel survey within two reaches of the Left Fork of Reedy Creek. Forty-four wetlands and 90 streams were assessed along the proposed project corridor. Streams in the project area were assessed using USEPA's Rapid Bio-Assessment Protocols for habitat and benthic macroinvertebrates, where applicable. ES used the Hydrogeomorphic Functional Stream Assessment (HGM) to assess streams for three functions, including stream hydrology, stream biogeochemical cycling, and stream habitat.

MEG 124-22.72, Ohio Department of Transportation District 10. The project involved the final design phase and environmental coordination of a four-mile section of "Super-Two" lane, controlled access highway on new location, including one bridge structure over S.R. 7, two intersections, and reconstruction of local roads from Five Points to Morningstar that will connect to the existing four-lane portion of S.R. 7. Project included environmental studies and coordination with ODOT District 10 in support of the NEPA document development, field surveying, horizontal and vertical geometrics, drainage, evaluation of waste/borrow within the right-of-way to facilitate future construction of extra two lanes, balancing earth work, design of structures, traffic studies, and at-grade intersection design.

Chuck was the Project Manager for the award-winning ODOT ATB-SR 531 Mitigation/Shoreline Revetment and Roadway Improvement.

RELEVANT EXPERIENCE (CONT'D):

- Section 4(f) Evaluations
- Section 106 Consultation Documentation
- National Historic Preservation Act
- Ohio Department of Transportation Act
- CERCLA, RCRA
- NPDES
- All Appropriate Inquiry (AAI)

SEMINARS & TRAINING:

- ODOT Purpose and Need Training
- ODOT Section 4(f) Training
- ODOT Categorical Exclusion Training
- ODOT Environmental/Project Development 1 week NEPA course-June 2012
- ODOT Waterway Permit Training
- ODOT Ecological Training
- ODOT ESA Training
- ODOT Section 106/National Register Eligibility Training
- Lake Erie Coastal Design and Permitting Workshop Dec. 2011

PROFESSIONAL AFFILIATIONS:

American Planning Association (APA)

American Society of Highway Engineers (ASHE)

ATB-20-26.26, Conneaut Viaduct, US 20 Open-spandrel Concrete Arch Bridge over Conneaut Creek, Ashtabula County. Management/coordination of all environmental studies and development of NEPA document (CE Level 3). Project elements included approach and structure re-alignment, historic bridge rehabilitation study and Section 106/4(f) Documentation for Consultation, design of historic bridge plaques per MOU, ESA site screening, Phase I and II ESA, and evaluation of wetlands/ecological impacts along the high-quality Conneaut Creek including preparation of Section 404 ACOE permit. Public involvement included an open-house meeting and presentation of architectural bridge element renderings to facilitate the preservation of the historic integrity of the site

Boston Mills Road Bridge Replacement within the Cuyahoga Valley National Park, Boston Mills, and Valley Railroad Historic District, Summit County Engineer. This unique project was located within a National Park and two historic districts. Responsibilities included performing environmental studies, including feasible alternative studies, Phase I and II ESAs, Section 4(f) documentation; Section 106 consultation/documentation, design of historic plaques for placement at the new bridge, and coordination of ecological and cultural resource studies; and final NEPA document (EA approved by National park Services and ODOT).

CRA/RIC 30-9.91/0.00, Crawford & Richland Counties, Ohio, ODOT District 3. U.S. Route 30 preliminary development and NEPA studies and documentation for 16 miles of four-lane divided, limited-access highway on new location in Crawford and Richland Counties. The project included three new full-diamond interchanges at SR 602, SR 598, and SR 61 and the completion of the two partial interchanges at the project termini points. Chuck managed and coordinated environmental studies and subconsultants and the development and preparation of the draft and final environmental assessment (EA). Other elements included close collaboration with the design team during corridor and alignment studies; public involvement; preparation of ESA site screening for over 450 parcels; completion of the 404/401 individual permit application preparation for 3.75 acres of wetland impact and 7250 LF of streams; stream restoration at numerous locations and at multiple outfalls.

ODOT VAR ~ District 12 / District 3 Environmental Services. Chuck is the project manager of this current ODOT task order contract for District 3 and District 12. To-date, the requested tasks have included task orders for noise analysis, asbestos inspections, stormwater / outfall sampling, and two bridge replacements. Many of these tasks were requested concurrently and under strict deadlines to support NEPA and other ODOT documentation. Chuck has successfully delivered these services and as a result ODOT recently requested additional tasks be performed under this contract.

THOMAS L. MINNICH

Senior Scientist / NEPA Specialist

Tom Minnich was the Environmental Manager for PennDOT, District 1-0 (northwestern PA), and retired in 2011 with over 25 years of experience. As District Environmental Manager, he was responsible for complying with the NEPA and PA Act 102 as these regulations applied to transportation project development. He worked with numerous natural resource agencies to comply with federal, state and local laws as these laws related to transportation project development and NEPA compliance. He was responsible for managing a staff of Assistant Environmental Managers and design consultants from initial project scoping to final NEPA approval. He also coordinated project environmental commitments into the construction phase of project development. He has experience in all phases of NEPA development, such as Environmental Impact Statements, (EISs), Environmental Assessments (EAs) and writing, review, and approval of numerous Categorical Evaluations (CEs).

EDUCATION

A.A. Biology, Hagerstown Jr. College, 1970

B.S. Biology, Area-Wildlife Management, Eastern Kentucky University, 1973

PROFESSIONAL MEMBERSHIP

American Society of Highway Engineers-ASHE (Franklin Region)

RELEVANT EXPERIENCE

- National Environmental Policy Act
- Archeology & Historic Sites
- Wetlands, Floods, & Permits
- Soil Erosion & Sedimentation
- Threatened & Endangered Species
- Wild & Scenic Rivers
- Productive Agricultural Lands
- Parks & Recreational Facilities
- Hazardous & Residual Wastes

FORMAL TRAINING

- Effective Presentation and Instructions – Soil Conservation Service
- Basic Principles in Supervision and Management – Soil Conservation Service
- Managing People – Keye Productivity Center
- Environmental Concerns in Conservation Planning – Soil Conservation Service
- Grant Writing Workshop – MD. Cooperative Extension Service
- Hazardous Wastes in Highway Project Development Construction and Maintenance Operations – National Highway Institute

SELECTED PROFESSIONAL EXPERIENCE

Pennsylvania Dept. of Transportation., District Environmental Manager April 2000 – July 2011 / Assistant District Environmental Manager / March 1992 – April 2000. Tom was responsible for:

- Providing environmental clearance for transportation projects by writing and/or reviewing documents that meet the criteria set forth in the National Environmental Policy Act (NEPA) and PA. Act 120.
- Provided guidance to PennDOT design staff and consulting firms on environmental issues as they relate to transportation development and construction projects.
- Managed a staff of Environmental Planners.
- Conducted environmental workshops for PennDOT design and construction personnel.
- Acted as project manager by coordinating environmental review from initial scoping to final approval.
- Coordinated project development and environmental reviews with various Federal and State environmental resource agencies.

Washington Co. Soil Conservation District, District Conservation Manager, August 1977 – 1992.

- Administrative manager to the board of supervisors.
- Coordinated technical services that were provided by the District and Soil Conservation Service.
- Provided administrative supervision to District and Maryland State employees.

Tom has over 25 years of experience with helping clients comply with NEPA and the PA Act 102.

FORMAL TRAINING (CONT'D)

- Wetland Identification and Delineation, 1989 Criteria – PA. DER
- Wetland Identification and Delineation, 1987 Criteria – PA. Dept. of Trans.
- Environmental Training Center – National Highway Institute
- Historic and Archeological Preservation – National Highway Institute
- Project Development and Environmental Documentation – National Highway Institute
- OSHA Health and Safety Training for Haz. Waste Investigation – Environmental Protection Training, Inc.
- Ecology and Highway Development-National Highway Institute – Pa. Dept. of Trans.
- Symposium for Wetland Design and Construction
- Conflict Resolution in Wetland Mitigation – National Highway Institute
- 1987 Wetland Identification – Reg. IV Training – U.S. Fish and Wildlife, A.C.O.E., Pa. D.E.P. and NRCS.
- Pa. Asbestos Inspection Certification – Pa. Dept of General Services
- Cultural Resources Programmatic Agreement for Minor Transportation Projects
- Agricultural Resources Evaluation Training
- Fundamentals and Abatement of Highway Traffic Noise-NHI course

- Reviewed erosion and sediment control plans on urban construction projects which was a joint review between the District and Soil Conservation Service.
- Prepared the District's annual budget and monthly financial statements.
- Developed the District's Annual and Long Range Plan of Operation and initiated implementation of the plans.
- Developed the District's information and education programs which included:
  - Publications of newsletters, brochures, newspaper articles, display boards, and slide programs.
  - Conducted workshops, tours, exhibits, and educational contests for youth groups.
  - Developed and implemented a county Envirothon program and coordinated the activities with the county Board of Education.
  - Participated as a member of the State Envirothon planning committee.
- Assisted in conducting agricultural-related land use studies.
- Administered the state cost-share program within the county. This program offered financial assistance for the construction of best management practices on agricultural lands.

SELECTED PROJECT EXPERIENCE

Archaeological and Historical Resources

- Experience working with the National Historic Preservation Act and PA. Act 1988-72 as they relate to project development.
- Review Historical and Archaeological documents, Eligibility, and Effects reports and coordinate final reviews with Central Office and the PA. Historical and Museum Commission.
- Coordinate mitigation efforts when a project has an "Effect" on a historic resource.
- Received training and authorization to approve minor transportation projects through the programmatic agreement with PHMC, FHWA, and the National Advisory Council of Historic Preservation.

Wetlands, Floodplains, and Permits

- Knowledge of Section 404 of the Clean Water Act and PA. Chapter 105 as they relate to wetland and floodplain impacts.
- Assist in developing permits when projects impact floodplains, wetlands, and endangered species.
- Conduct field wetland identification and delineation and develop wetland mitigation plans.
- Coordinate and develop wetland monitoring reports

Soil Erosion and Sedimentation

- Experience working with the Federal NPDES and PA. Section 102 regulations as they pertain to soil erosion and sedimentation controls on construction projects.
- Review and provide guidance on the development of erosion and sedimentation control plans.
- Provided guidance to construction personnel on implementation of erosion and sedimentation control measures.

Threatened and Endangered Species

- Regulatory knowledge involving Federal and State Threatened and Endangered wildlife species.
- Coordinated with various wildlife resource agencies concerning project impacts to listed Threatened and Endangered species.
- Initiated Section 7 consultation with U.S. Fish & Wildlife Service on numerous projects.

Wild and Scenic Rivers

- Knowledgeable of the Federal and State Scenic Rivers Program and coordination with the agencies on project impacts.
- Initiated Section 7 Consultation with U.S. Forest Service on several projects.

Productive Agricultural Lands

- Familiar with State and Federal requirements concerning impacts to prime or unique farmlands, Ag. land condemnation procedures and Ag. security areas. (PA. Act 100 and Act 43, PALP and USDA FPPA).

Parks and Recreational Facilities

- Worked with the National Highway Transportation Act (Section 4(f)) and Pa. Act 120 regulations concerning impacts to public parks, recreational facilities, wildlife refuges and historic resources.
- Review Section 4(f) and Section 2002 documents concerning avoidance alternatives associated with the acquisition of such lands for transportation projects.

Hazardous or Residual Wastes

- Reviewed waste site evaluation studies on sites that may be impacted by project development.
- Made recommendation for intrusive testing on suspect sites.
- Conducted preliminary area reconnaissance for waste site and assisted in intrusive site testing.
- Conducted asbestos inspection and developed project reports.

ERIC ROMANISZYN

Senior Scientist

Eric Romaniszyn has 25 years of experience in the natural resource protection of rivers, streams, lakes, and wetlands. His work has focused on designing, implementing, and managing water quality protection and improvement projects. His experience includes coordinating stakeholders from private, commercial, industrial, community, and government agencies; collecting habitat, chemical, and biological data following federal and state protocols; integrating data for statistical analysis and interpretation; providing technical review of proposals, work plans, and reports; and developing Quality Assurance Project Plans. He also has extensive experience in community engagement and grant writing. Tom has served on multiple local, regional, and state advisory committees focused on scientific research, watershed restoration, education, and greenways.

EDUCATION

M.S. Entomology, The University of Georgia, 2000

Thesis: Aquatic and Terrestrial Invertebrates in Drift, Implications for Trout Food Resources

B.S. Biology, Kent State University, 1994

CERTIFICATIONS AND TRAINING

- Stormwater Inspection & Maintenance Professional, NCSU
- Stream Restoration Using Natural Channel Design, NC Stream Restoration Institute
- Level I and II E&SC Training, TN DEC
- Clear Water Contractor, NC Sediment Control Commission
- Stream Bank Repair, NCSU
- NAUI diver, PADI advanced open water diver, dry suit diver, full face mask communication

YEARS OF EXPERIENCE

- EnviroScience, Inc.: 6
- Non-profit Watershed Group: 18
- Science Applications International Corporation, Inc.: 2
- Community College and University Instructor: 2

RELEVANT EXPERIENCE

- Project Management
- Environmental Assessments
- Biological Assessments
- Habitat assessments
- T&E Species Surveys
- NPDES Permit Compliance
- Phase II Stormwater Program Compliance
- Environmental Permitting
- Stream Restoration
- Wetland Delineation
- Grant Acquisition
- Community Engagement

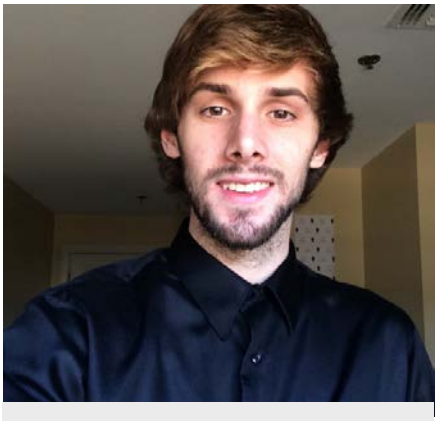
SELECTED PROJECT EXPERIENCE

TN State Route 54 – NEPA Environmental Assessment. Eric assisted with preparing the State Route 54 Environmental Assessment for this US DOT, TN DOT, and Federal Highway Administration project. His responsibilities included evaluating existing conditions and the environmental impacts of the anticipated alignment and its alternatives.

PA Wastewater Treatment Operations, Permit Compliance. Eric served as Project Manager of several permit compliance studies for wastewater treatment plants in Pennsylvania. These studies typically required habitat and biological assessments.

Commercial Development, Ecological Site Assessment, Mebane, NC. Eric assisted with the ecological site assessment of a commercial construction site. This project included stream assessments, habitat assessments, threatened and endangered species surveys, and wetland delineations to evaluate environmental impacts, identify mitigative measures, and prepare 401/404 permit applications.

Richland Creek Restoration Project, Waynesville, NC. Eric served as the project manager to restore several 303(d) listed streams in this watershed. Tasks included stakeholder coordination, funding acquisition (federal, state, local), and project planning and implementation. Best management practices focused on streambank restoration, improving agricultural practices, upgrading wastewater treatment facilities, and an extensive publicity campaign. These efforts improved water quality to the degree that two streams (Richland Creek and Hyatt Creek) were removed from the NC list of impaired waterways.



TYSON KURTZ

Biologist

Tyson Kurtz has five years of experience conducting stream and wetland research, delineations, and permitting. His specific experience involves aquatic resource monitoring, Clean Water Act Permits, USACE Nationwide Permits, USACE Waters of the U.S. delineations, protected species surveys and habitat assessments, GIS analysis, erosion and sediment control monitoring, and fish surveys. Tyson has worked with local, state, and federal agencies as well as private property owners, municipalities, and utility companies. His primary duties include wetland and stream delineations, GIS mapping, aquatic resource monitoring, threatened and endangered species surveys, and 404 and 401 environmental permitting.

EDUCATION

B.S. Environmental Biology, Minors in Environmental Sustainability and Environmental Geoscience, Clarion University of Pennsylvania, 2016

YEARS OF EXPERIENCE

EnviroScience, Inc.: <1

ClearWater Environmental: 2

Johnson, Mirmiran, and Thompson: 1

EEE Consulting, Inc: 1

CO Natural Heritage Program: <1

CERTIFICATIONS

Wetland Delineation – Eastern Mountains and Piedmont Regional Supplement – The Swamp School 2020

Stream Bank Repair – NC State University, 2020

Rosgen Basic Stream Survey Skills – Wildland Hydrology Inc., 2021

Principles of Wetland Design – The Swamp School, 2021

Level I & II Erosion and Sediment Control/Stormwater Management for NCDOT Projects, 2020

SELECTED PROJECT EXPERIENCE

National Park Service and Federal Highway Administration, BLRI, 2D17, and 2A16 (Ashe and Alleghany Counties, NC). Collaborative project between NPS and FHWA to replace/rehabilitate four original bridges along the Blue Ridge National Parkway. Consultant responsibilities included vegetation surveys, threatened and endangered species habitat assessment, and waters of the United States delineation and assessment. Vegetation surveys were designed to aid NPS in preserving the experience of the Parkway for visitors during future construction. Vegetation surveys involved identifying and mapping thousands of trees, locally rare plants, invasive species, and groups of plants that will provide a visual screen to hide temporary construction roads. Efforts were pursuant to an Environmental Assessment/Finding of No Significant Impact.

NCDOT Rail Division, F-14288 & P-5748, Rail Crossing Closure at Tory Path Road and Helms Road And A Rail Siding Extension (Union County, NC And Lancaster County, SC). Environmental Scientist for a multi-phase project to provide natural resources services and acquisition of permits. The project involves coordination with multiple states on accelerated timelines. Responsibilities include wetland and stream delineation, protected species surveys, and preparation of NRTRs and PJDs. Project is currently in the middle of Phase II.

Water & Land Solutions, LLC, Monitoring Well Installation at Scarborough and Hollowell Mitigation Sites (Wayne County, NC). Assisted a local firm in building and installing approximately 40 monitoring wells at two wetland mitigation sites. Responsibilities included designing wells, acquiring supplies, building wells, data logger programming, and installing wells.

Tyson has 5 years of experience conducting stream and wetland research, delineations, and permitting.

CERTIFICATIONS (CONT.):

North Carolina Stream Assessment Method Training (NCSAM), 2019
North Carolina Wetland Assessment Method Training (NCWAM), 2019
NC Surface Water Identification Training and Certification, 2019
Virginia Stormwater Inspector Certification, 2018

RELEVANT EXPERIENCE:

Residential Development
Commercial Development
NEPA / SEPA
Lake Dewatering
Dredging
T&E Habitat Assessments
Habitat Surveys
Stream Monitoring
Wetland Delineations
GIS Analysis
GPS Surveying
Wetland Surveying
Soil Analysis
Wildlife Habitat Assessment
Water Quality Sampling
Fish and Amphibian Surveying
404 / 401 permitting
Agency Coordination
Erosion and Sediment Control

NCDOT, I-5988, Upgrade Interchange of I-40 at US 52 / US 311 / NC 8 In Winston-Salem (Forsyth County, NC). Environmental Scientist assisted with wetland and stream delineations, protected species habitat evaluation around a major highway interchange in Winston-Salem. Additional duties included data processing, map graphics production, and preparation of a NRTR and PJD.

NCDOT, I-5898, Proposed Improvements to Future I-73/U.S. 220 at the U.S. 331 and NC 135 Interchange and Replacement of Bridge No. 780074 (Rockingham County, NC). Environmental Scientist conducting wetland and stream delineations, protected species habitat evaluation and surveys, map graphics production, NRTR, and PJD preparation. Assisted with community studies and public outreach efforts.

Wilson's Mills and Buffalo Water Districts Transmission System Improvements (Johnston County, NC). Environmental Scientist providing natural resources services and permitting to install 31,400 linear feet of water transmission lines in the town of Wilson's Mills. The project involves three separate permit applications and a crossing of the Neuse River.

Blattner Energy, Inc., Pecan Solar North Hampton, Erosions and Sediment Control Inspections (Northampton County, NC). Environmental Scientist conducting erosion and sediment control (ESC) compliance inspections for a 750-acre solar field. Conducted routine inspections of over 70 on-site ESC measures and provided technical advice to the clients to help improve their site's performance. Provided multiple memos and supporting documents to Blattner Energy, Inc. in an effort to bring the Pecan Solar Farm out of a Notice of Violation from the Department of Environmental Quality.

Confidential Client, Bladen Blueberry Farms Environmental Support (Bladen County, NC). Environmental Scientist for the field delineation of the largest organic blueberry farm in the eastern United States using standard USACE and USDA NRCS wetland delineation protocols. Conducted threatened and endangered species habitat assessment for multiple species, conducted groundwater quality assessment in accordance with NC drinking water standards, and conducted a Phase I Environmental Site Assessment for the property in support of capital investment analysis.

Henderson County

Clear Creek Sewer Wastewater Treatment Plant Permitting

4. Project Approach

Introduction

WGLA Engineering worked with Henderson County on multiple projects in the Edneyville area. In 2020, Henderson County completed the new Edneyville Elementary School with WGLA as the civil engineer for the project. Part of that project involved the evaluation of extending public sewer to the school. Ultimately, the existing septic system serving the school was upgraded to allow for continued use until public sewer became available.

More recently, WGLA worked with Henderson County and Raftelis to complete an evaluation of likely users for a public sewer system and a rate study evaluating potential user fees for a sewer system.

WGLA Engineering, PLLC has teamed with CDM Smith to lead the development of an Engineering Alternatives Analysis (EAA) and with ClearWater Environmental to provide assistance with environmental permitting. This team of consultants provides complete expertise and experience to assist Henderson County in their goal of the development of a new sewer system in the Edneyville Community.

The following individual tasks will be used to provide a comprehensive project approach:

Coordination with Division of Water Resources for Speculative Limits

WGLA and the County have already met with the NC Division of Environmental Quality (NCDEQ) Division of Water Resources (DWR) Asheville Regional Office as part of prior planning efforts to discuss the pathway to NPDES Permit approval and how we can work together with NCDEQ to streamline this process. One of our first activities for the project will be to hold a kickoff meeting with DWR to confirm several key items:

- Obtain Speculative Limits for the preferred and alternate discharge locations to inform the EAA. After reviewing the existing NPDES Permits for the Justice Academy, Blacksmith Run, and Camp Judea WWTP's, it is expected that speculative limits for a new NPDES discharge permit would include nominal effluent limits of 30 mg/L Total Suspended Solids (TSS), 30 mg/L Biochemical Oxygen Demand (BOD) and may include a nitrogen limit in the form of ammonia though there may be sufficient dilution in Clear Creek at low flow to avoid this.

- Outline the 7Q10 flows of the receiving streams and obtain NCDEQ consensus on the approach for analysis.
- Review the overall permitting strategy and goals including water quality benefits of consolidating multiple existing NPDES discharges and existing septic systems.

Projections for Population and Flow for Service Area

This key activity, required to substantiate the design of the collection/conveyance systems and the near-term and long-term capacity requirements for a new WWTP, has been looked at in detail as part of prior planning reports by WGLA and others. It is expected that this information is well-documented and that our team can quickly reach consensus with the County on these criteria that will balance capital expenditures in the near-term with sufficient expansion capabilities for expected growth in the Clear Creek sewershed.

Evaluation of Technologically Feasible Alternatives

CDM Smith will lead the effort to conduct the alternatives evaluation as part of the EAA required by the NPDES Permit application process. We have reviewed NCDEQ classifications for Clear Creek and confirmed that the potential discharge locations on Clear Creek do not have water quality restrictions that would preclude an NPDES discharge. The EAA process, as defined by NCDEQ, identifies a minimum set of alternatives which our team has reviewed and summarized in the table below.

Alternative	Viability	Observations
Connection to an existing wastewater treatment plant (WWTP)	Medium	With the close proximity to the City of Hendersonville's collection system and access to the Mud Creek WWTP, this alternative is viable and will be given due consideration in the EAA. WGLA will coordinate with the City for technical and financial information required to evaluate this alternative.
Land Application such as spray or drip irrigation	Low	While there is significant agricultural property in the project corridor, this alternative has low viability due to the seasonal variability in irrigation needs and required infrastructure to store/manage treated flow before application. Golf courses are also another typical option for this use but these are not prevalent in the immediate area of the collection system.
Wastewater Reuse	Low	This alternative has low viability due to a lack of large industrial users in close proximity to the proposed treatment systems that would allow for wholesale reuse applications.
Surface Water Discharge (NPDES Permit)	High	This is the preferred alternative to allow the County to support and manage growth in the Clear Creek area as well as providing for an improved level of service to residents and environmental benefits of decommissioning other WWTPs and septic systems.

These alternatives will be the focus of the EAA and can be evaluated quickly on their technical merits to develop conceptual designs that will inform the economic feasibility assessment.

Evaluate Economic Feasibility of Alternatives

Evaluation of each alternative will require an economic feasibility analysis in addition to review of technical merits. This analysis will build upon the prior work done by WGLA and Raftelis which established potential rate structures for the system operational costs, information from the City of Hendersonville on their expected rate to the County, capital improvements that may be required for the City's collection and treatment systems and the capital cost of a new treatment plant.

A key component of this analysis will be the anticipated cost for the construction and operation of the new WWTP. CDM Smith has considerable experience across the Southeast with the design, construction and operation of wastewater treatment plants and will bring this experience to the County. Specifically looking at the conceptual design of the treatment facility, with the anticipated speculative limits identified above, a conventional activated sludge style treatment facility is expected to be sufficient to meet the required limits. The conceptual design may consider enhancements including an influent flow equalization chamber to manage wet weather flows, tertiary disc filtration (now or in the future) to achieve TSS and/or nutrient limitations and considerations for effluent disinfection such as chlorination or ultraviolent (UV) light. These options can be evaluated with the County in a workshop format to consider reliability, operational constraints, and capital cost considerations.

The technical and economic feasibility considerations will be combined into an EAA summary report suitable for submission to NCDEQ in support of the NPDES Permit application. As outlined in our schedule, the development of the overall EAA will be done in parallel with the Environmental Assessment (EA) tasks and will include close coordination with NCDEQ to verify that the EAA and other NPDES permit application documents are all acceptable. As soon as the Finding of No Significant Impact (FONSI) is received as part of the EA process, the public notification can commence and the permit review process initiated.

Environmental Assessment of Selected Alternative

ClearWater is well prepared and experienced to manage the environmental responsibilities of this project. They have successfully completed the same requirements for similar wastewater infrastructure projects in Henderson County, the City of Hendersonville, and western North Carolina. They also have a long history of working with WGLA Engineering and CDM Smith. Our strong working relationship will ensure this project is completed on schedule and within budget.

This project involves the expenditure of state and federal funding. Therefore, we anticipate it will follow either the NC Department of Environmental Quality State Environmental Policy Act (SEPA) or the US EPA National Environmental Policy Act (NEPA) process. In either case, it will require an Environmental Assessment (EA), which would be completed following guidelines set forth by the appropriate regulatory lead agency. Tasks would include an alternatives analysis, review of the existing environment, and identification of environmental consequences and mitigative measures. Much of this work will be completed using existing literature and materials from the natural resource agencies. The evaluation of jurisdictional waters and threatened and endangered species will require field sampling by ClearWater scientists.

Based on our knowledge of the area, multiple stream and wetland crossings will likely be necessary along the proposed route. A survey of these features will be completed to evaluate the extent of impacts. The threatened and endangered species survey will consist of a literature search, on-site habitat assessment to determine the likelihood of the presence or absence of protected species, a visual search for protected species, and consultation with NC Natural Heritage Program and US Fish and Wildlife Service.

If, during the EA process, we determine a cultural resource survey is required, we will seek assistance from a firm specializing in that field. ClearWater has worked with several nearby firms and is confident each has the necessary experience to complete the job accurately, efficiently, and on schedule.

All information gathered will be included in a Final EA report and Finding of No Significant Impact (FONSI) and provided to Henderson County and project partners. It will also be used to prepare permit requests from the US Army Corps of Engineers and NC Division of Water Quality for stream and wetland impacts during construction.

Project Challenges and Expected Issues of Concern

With our knowledge of the project and the associated regulatory requirements, the Project Team has identified a number of project challenges and issues of concern. This section of the Project Approach outlines these items along with our strategy for addressing each:

-Completion of Field Work for the Environmental Assessment (EA)
As noted above, a threatened and endangered species survey will be required as part of the EA. There are a number of plant species that could exist in the project area. Many of these species can only be identified during the flowering window from April – May. Based on the timeline for the EA review and issuance of a FONSI, it will be critical to complete the field work this spring to properly address this issue. This will require Henderson County to issue a notice to proceed (NTP) as soon as possible. In addition, the County will have to provide notice to property owners as soon as possible to allow the necessary surveys to take place on private property. ClearWater has staff available and ready to begin this field work as soon as NTP has been provided and property owner notifications have been delivered.

-Addressing Secondary and Cumulative Impacts for the EA
Secondary and cumulative impacts associated with the development of a new sewer system in the project area will have to be addressed in the EA. Examples of these secondary and cumulative impacts would be impacts from additional growth as a result of public sewer service being available. The identification of these impacts and development of strategies to address these impacts will have to be accomplished with input from the County and particularly the Planning Staff. The Project Team will work with Henderson County staff to address this issue by reviewing existing zoning requirements, recommendations of the Edneyville Community Plan, and the County's Comprehensive Plan.

-Securing Discharge Permit by December 1, 2023
The Project Team understands the funding requirement for acquisition of the NPDES permit by December 2023. This requirement presents a number of scheduling challenges. NCDEQ will not accept an NPDES application as complete until a FONSI for the project has been issued. In our experience with similar projects, securing a FONSI will take approximately 12 months from the time a draft EA has been submitted. With the public notice requirements for the NPDES application prior to issuance of a permit, this makes the issuance of a FONSI the critical path item on the schedule.

To address this critical issue, coordination with NCDEQ and the various resource agencies will be very important. In the kickoff meeting with NCDEQ and the environmental scoping meeting, we will need to advocate for their assistance in reviewing draft or preliminary information in advance of issuance of a FONSI. Additionally, it will be important to submit a draft EA for the project as soon as practical.

-Evaluation of Alternative for Connection to City of Hendersonville

One of the feasible alternatives to be considered in the EAA is the option to convey wastewater to the City of Hendersonville for treatment. This would likely require a wholesale agreement and rate structure negotiation with the City as annexation of this large a portion of the County is highly unlikely. Additionally, the addition of these flows may require capital improvements by the City to their sewer collection system and/or the Mud Creek WWTP which the County would likely have to contribute to the cost of these improvements.

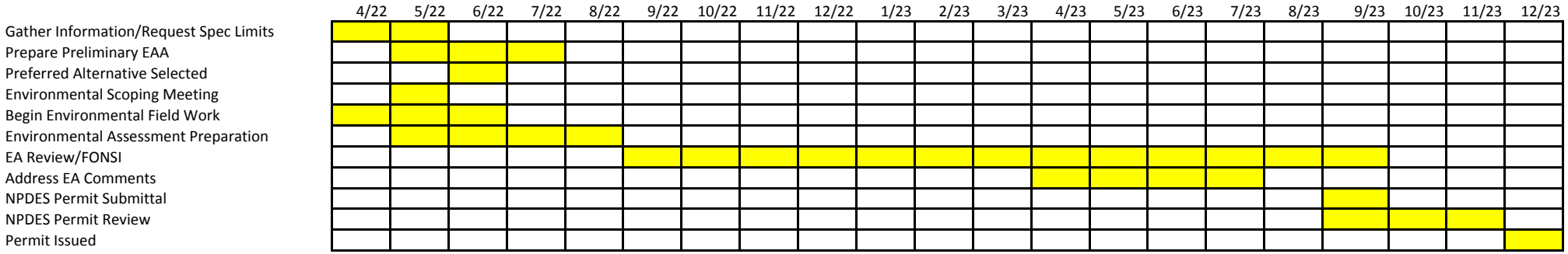
The timeline for acquiring the NPDES Permit by December 2023 will require an expedited negotiation with the City on these matters to allow the financial feasibility analysis to occur on schedule in parallel with environmental assessment tasks. Our project team stands ready to assist the County in these discussions with the City of Hendersonville.

-Coordination of Requirements from Funding Sources

The Project Team is keenly aware of the various sources of funding the County plans to use for this project. The Project Team will work with the County Engineering staff and Finance staff to make sure that all requirements of the various funding sources are met. To accomplish this goal, we would suggest a project kick off meeting with the Project Team, County staff and the various funding agencies to identify specific requirements and to establish a process to ensure compliance with the funding agencies. Additionally, WGLA will meet with County staff on all project billing and reporting to confirm all funding requirements are being met.

Henderson County
Clear Creek Sewer Wastewater Treatment Plant Permitting

Project Schedule



Notes:
Review timelines noted above are informal and will require discussions with all review agencies.

Henderson County

Clear Creek Sewer Wastewater Treatment Plant Permitting

6. Insurance Requirements

Certificates of insurance identifying current levels of professional liability insurance are attached for the Project Team.

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 11/19/2021

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 have ADDITIONAL INSURED provisions or 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
Insurance Management Consultants, Inc.
P.O. Box 2490
Davidson NC 28036

CONTACT NAME:
PHONE (A/C, No, Ext): (704)799-1600 **FAX (A/C, No):** (704)799-2955
E-MAIL ADDRESS: cert@imcipls.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Continental Casualty Company	20443
INSURER B :	
INSURER C :	
INSURER D :	
INSURER E :	
INSURER F :	

INSURED
WGLA Engineering, PLLC
724 5th Avenue West
Hendersonville NC 28739

COVERAGES **CERTIFICATE NUMBER:** 21/22 PL Renewal **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	
	COMMERCIAL GENERAL LIABILITY						EACH OCCURRENCE	$
	☐ CLAIMS-MADE ☐ OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$
							MED EXP (Any one person)	$
							PERSONAL & ADV INJURY	$
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$
	☐ POLICY ☐ PRO-JECT ☐ LOC						PRODUCTS - COMP/OP AGG	$
	OTHER:							$
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$
	☐ ANY AUTO						BODILY INJURY (Per person)	$
	☐ OWNED AUTOS ONLY ☐ SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	☐ HIRED AUTOS ONLY ☐ NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
	☐ UMBRELLA LIAB ☐ OCCUR						EACH OCCURRENCE	$
	☐ EXCESS LIAB ☐ CLAIMS-MADE						AGGREGATE	$
	☐ DED ☐ RETENTION $							$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N						☐ PER STATUTE ☐ OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? ☐ (Mandatory in NH)	N / A					E.L. EACH ACCIDENT	$
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$
							E.L. DISEASE - POLICY LIMIT	$
A	Professional Liability			AEH288317860	12/10/2021	12/10/2022	Per Claim	$1,000,000
							Aggregate	$3,000,000

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

CERTIFICATE HOLDER

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

Karen McCabe

CERTIFICATE OF LIABILITY INSURANCE

DATE(MM/DD/YYYY)
12/30/2021

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 have ADDITIONAL INSURED provisions or 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
Aon Risk Services Northeast, Inc.
Boston MA Office
53 State Street
Suite 2201
Boston MA 02109 USA

CONTACT NAME:
PHONE (A/C. No. Ext): (866) 283-7122 **FAX (A/C. No.):** 800-363-0105
E-MAIL ADDRESS:

INSURED
CDM Smith Inc.
75 State Street Suite 701
Boston MA 02109 USA

INSURER(S) AFFORDING COVERAGE		NAIC #
INSURER A:	LM Insurance Corporation	33600
INSURER B:	Liberty Insurance Corporation	42404
INSURER C:	Liberty Mutual Fire Ins Co	23035
INSURER D:	ACE Property & Casualty Insurance Co.	20699
INSURER E:	Lloyd's Syndicate No. 2623	AA1128623
INSURER F:	Commerce & Industry Ins Co	19410

COVERAGES **CERTIFICATE NUMBER:** 570090948050 **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.

Limits shown are as requested

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
B	X **COMMERCIAL GENERAL LIABILITY** CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY [X] PRO-JECT [X] LOC OTHER:			TB7611B8T8Z6042	01/01/2022	01/01/2023	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$2,000,000 $500,000 $10,000 $2,000,000 $4,000,000 $4,000,000
C	**AUTOMOBILE LIABILITY** X ANY AUTO OWNED AUTOS ONLY HIRED AUTOS ONLY SCHEDULED AUTOS NON-OWNED AUTOS ONLY			AS2-611-B8T8Z6-062	01/01/2022	01/01/2023	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$2,000,000
D	X **UMBRELLA LIAB** X OCCUR **EXCESS LIAB** CLAIMS-MADE DED RETENTION			XEUG28194687006	01/01/2022	01/01/2023	EACH OCCURRENCE AGGREGATE	$4,000,000 $4,000,000
A	**WORKERS COMPENSATION AND EMPLOYERS' LIABILITY** Y / N ANY PROPRIETOR / PARTNER / EXECUTIVE OFFICER/MEMBER EXCLUDED? N **(Mandatory in NH)** If yes, describe under DESCRIPTION OF OPERATIONS below	N / A		WA561DB8T8Z6012 AOS	01/01/2022	01/01/2023	X PER STATUTE OTH-ER	
A				WC5611B8T8Z6022 WI	01/01/2022	01/01/2023	E.L. EACH ACCIDENT E.L. DISEASE-EA EMPLOYEE E.L. DISEASE-POLICY LIMIT	$1,000,000 $1,000,000 $1,000,000
E	Archit&Eng Prof			PSDEF2200033 Professional/Claims Made	01/01/2022	01/01/2023	Each Claim Aggregate	$3,000,000 $3,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
RE: Proposal Use Only.

CERTIFICATE HOLDER

CDM Smith Inc.
75 State Street
Suite 701
Boston MA 02109 USA

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

Aon Risk Services Northeast, Inc.

Holder Identifier :

Certificate No : 570090948050

AGENCY CUSTOMER ID: 10518329
LOC #:

ADDITIONAL REMARKS SCHEDULE

AGENCY	NAMED INSURED
Aon Risk Services Northeast, Inc.	CDM Smith Inc.
POLICY NUMBER: See Certificate Number: 570090948050	
CARRIER: See Certificate Number: 570090948050 / NAIC CODE	EFFECTIVE DATE:

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,
FORM NUMBER: ACORD 25 **FORM TITLE:** Certificate of Liability Insurance

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER	
INSURER	
INSURER	
INSURER	

ADDITIONAL POLICIES If a policy below does not include limit information, refer to the corresponding policy on the ACORD certificate form for policy limits.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YYYY)	POLICY EXPIRATION DATE (MM/DD/YYYY)	LIMITS	
	WORKERS COMPENSATION							
B		N/A		WA761DB8T8Z6032 MA & PR	01/01/2022	01/01/2023		

AGENCY CUSTOMER ID: 10518329

LOC #:

ADDITIONAL REMARKS SCHEDULE

AGENCY	NAMED INSURED
Aon Risk Services Northeast, Inc.	CDM Smith Inc.
POLICY NUMBER	
See Certificate Number: 570090948050	
CARRIER / NAIC CODE	EFFECTIVE DATE:
See Certificate Number: 570090948050	

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,

FORM NUMBER: ACORD 25 **FORM TITLE:** Certificate of Liability Insurance

Professional Liab Policy # PSDEF2200033

Beazley (Syndicates 2623/0623) - 25%
BRIT (Syndicate 2987) - 25%
Munitus (Syndicate 4242) - 12.5%
Re/Rn (Syndicate 1458) - 10%
Castelmga (Syndicate 2525) - 5%
Convex (Syndicate 1984) - 7.50%
Berkshire - 15%

Client#: 1477774 ACRTSER

ACORD™ CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 3/09/2022

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 have ADDITIONAL INSURED provisions or 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 any rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Scott Mapes	
USI Insurance Services LLC 312 Elm Street, 24th Floor Cincinnati, OH 45202 513 852-6300	PHONE (A/C, No, Ext): 513 852-6300	FAX (A/C, No): 513 852-6428
	E-MAIL ADDRESS: scott.mapes@usi.com	

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Underwriters at Lloyd's London	L0032
INSURER B : Crum & Forster Specialty Insurance Co.	44520
INSURER C : Travelers Property Cas. Co. of America	25674
INSURER D :	
INSURER E :	
INSURER F :	

INSURED
EnviroScience, Inc.
Scientific Equipment, LLC
5070 Stow Road
Stow, OH 44224

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 INSR	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:			EPK138134	12/23/2021	12/23/2022	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG Stop Gap	$1,000,000 $100,000 $5,000 $1,000,000 $2,000,000 $2,000,000 $1,000,000
C	AUTOMOBILE LIABILITY X ANY AUTO OWNED AUTOS ONLY / SCHEDULED AUTOS X HIRED AUTOS ONLY / X NON-OWNED AUTOS ONLY			TC2JCAP117D4262TIL	06/30/2021	06/30/2022	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$2,000,000 $ $ $
B	UMBRELLA LIAB / OCCUR X EXCESS LIAB / X CLAIMS-MADE DED / RETENTION $			EFX119472	12/23/2021	12/23/2022	EACH OCCURRENCE AGGREGATE	$10,000,000 $10,000,000
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y / N: N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N / A		UB2S30263A2151K includes Maritime	06/30/2021	06/30/2022	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
C	P & I Liability			ZOH91N4814221ND	12/23/2021	06/30/2022	$1,000,000	
C	Hull Coverage			ZOH91N4814221ND	12/23/2021	06/30/2022	$422,741	
A	Professional			EPK138134	12/23/2021	12/23/2022	$1,000,000	

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

A: Pollution #EPK138134 12/23/2021 -12/23/2022 $1,000,000

This Certificate is issued for insured operations usual to the Named Insureds business.

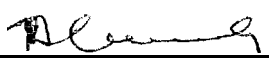
CERTIFICATE HOLDER

Henderson County
1 Historic Courthouse Square
Hendersonville, NC 28792

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



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Henderson County

Clear Creek Sewer Wastewater Treatment Plant Permitting

7. Fee Schedule

Hourly rates (fee schedules) are attached for Project Team.

WGLA Engineering, PLLC
724 5th Avenue West
Hendersonville, NC 28739
(828) 687-7177 wgla.com

BASIC FEE SCHEDULE
6/24/21

I. PROFESSIONAL FEES (Hourly Rate)

Principal Engineer / Project Manager	150.00
Senior Engineer / Project Manager	135.00
Project Manager	120.00
Project Engineer	105.00
Senior Engineering Technician	90.00
Engineering Technician	80.00
Computer-aided Design Technician	60.00
Construction Inspector	80.00
Field Technician	55.00
Clerical	35.00

II. EXPENSES

A. Mileage - $0.56 per mile

B. Telephone, reproduction costs, postage, overnight lodging, meals, and other incidental expenses shall be a direct charge per receipts.

III. ASSOCIATED SERVICES

Associated services required by the project such as soil analysis, materials testing, etc., shall be identified and agreed upon prior to initiating work.

2022 HOURLY RATE & COMPENSATION SCHEDULE

Hourly Billing Rates – 2022

Classification:	2022 Billing Rates
Officer/Senior Technical Specialist	$265
Senior Project Manager/Technical Specialist	$235
Professional III	$175
Professional II	$150
Professional I	$125
Senior Designer	$140
Designer Drafter	$110
Project Administration	$100

1) The above rates include salary costs, overhead, and profit.

2) Hourly rates shall be reviewed in December of each year by ENGINEER, and adjusted, subject to OWNER's approval, to reflect the appropriate rates and charges for the next calendar year. In January of each year, ENGINEER will submit to OWNER for approval proposed hourly rates for the following year.

3) Reimbursable project expenses (such as printing, postage/shipping, etc.), incurred under Hourly or Per Diem will be billed to OWNER at cost. All vehicle mileage hall be billed at rates allowed by IRS.

ClearWater

2022 FEE SCHEDULE

As a small privately-owned business, ClearWater Environmental Consultants, an Enviroscience Company takes pride in providing quality services and expertise at affordable rates. Every project is given individual consideration so that the most accurate estimates may be provided. During the project, routine reviews are made to ensure that unnecessary tasks and costs are not incurred.

Principal	$145.00
Project Manager	$113.00
Field Biologist	$93.00
Administrative	$51.00
Expert Witness/deposition	$200.00
Mileage	Current GSA rate
Canoe	$67.00 per day/ $250.00 per month
Trimble GeoXT GPS	$100.00 per day
Other Expenses (printing, meals, FedEx, etc.)	at cost +5%

*Hourly Rates are subject to change