



# Transylvania County Schools

On-Call Professional Services

## Table of Contents

Cover Letter .....	2
01 Firm Overview .....	3
02 Disciplines and On-Call Approach .....	4-6
03 Key Staff .....	7-14
04 Related Project Experience .....	15-20
05 References .....	21

November 2, 2023

Kerry Putnam, Director of Facilities  
Transylvania County Schools  
225 Rosenwald Lane  
Brevard, NC 28712

RE: Statement of Qualifications  
On-Call Professional Engineering Services


Dear Mr. Putnam:

Valued clients, like Transylvania County Schools (TCS), require a trusted and reliable engineer to act as an extension of their staff for on-call contracts. The McGill Associates, PA (McGill) team offers comprehensive experience in a range of services that coincide with your needs. Specifically for this contract, we are submitting on civil engineering / landscape design; surveying; and mechanical, electrical, and plumbing (MEP) engineering. As you review our Statement of Qualifications (SOQ), please consider the following points:

- **Familiarity with TCS:** Since our firm's founding in 1984, McGill has built a working relationship with a range of clients in western North Carolina. We have assisted TCS with several important projects, including several heating, venting, and air conditioning (HVAC), facilities, and sports field projects. The McGill team offers the unique opportunity to provide a one-stop-shop for most required services, and we have a strong familiarity of the area, staff, and several school campuses.
- **Overcoming Challenges:** The McGill team has significant technical knowledge and experience guiding clients through the challenges of administration for infrastructure projects while ensuring compliance with all local, state, and federal grant regulations. We are confident that we have the ability to overcome any challenges TCS may face with your projects.
- **Disciplines:** While the McGill team is fully capable of assisting TCS with the specific disciplines identified above (civil engineering / landscape design, surveying, and MEP engineering), we have worked with other professional service providers and contractors in western North Carolina for almost 40 years. This allows us to successfully partner with TCS and potential subconsultants to identify efficient solutions to your needs and complete projects successfully.

Finally, our team's interest in this project goes beyond the professional gratification of performing excellent consulting work. North Carolina is our home, and we are proud of our long history of commitment to our clients. Our team would be pleased to grow our already successful relationship with TCS and would be happy to discuss our qualifications with you further. If you have any questions, please do not hesitate to contact me or Ben by phone at 828.252.0575, or by email at [mark.cathey@mcgillassociates.com](mailto:mark.cathey@mcgillassociates.com) or [ben.cathey@mcgillassociates.com](mailto:ben.cathey@mcgillassociates.com). Thank you for your consideration.

Sincerely,  
MCGILL ASSOCIATES, PA

A handwritten signature in blue ink that reads "Mark D. Cathey".

MARK CATHEY, PE  
Principal / Vice President / Regional Manager

A handwritten signature in blue ink that reads "Ben Cathey".

BEN CATHEY, PE  
Civil Practice Area Leader

## Contacts

**Mark Cathey, PE**

**Principal / Vice President / Regional Manager**  
[mark.cathey@mcgillassociates.com](mailto:mark.cathey@mcgillassociates.com)

**Ben Cathey, PE**

**Civil Practice Area Leader**  
[ben.cathey@mcgillassociates.com](mailto:ben.cathey@mcgillassociates.com)

## How We're Different

McGill serves public and private clients throughout the Southeast. The range and depth of McGill's expertise includes a wide spectrum of engineering services, land planning and recreation, as well as consulting services.

Our foundation is built on creating comprehensive solutions in a personal way. Collaboration is the key to our success and clients are an integral part of every project at McGill. By building lasting relationships with communities, we understand our clients' visions and project goals. Our dedicated project team focuses on delivering a customized solution for each unique community.

We help our clients identify challenges, formulate responsive solutions, and manage successful project completion. Through partnership, we shape the best results for each client and community.

## At a Glance

**Legal Name: McGill Associates, PA**

**Incorporated / Year: 1984**

**Business Type: Corporation**

**Number of Offices: 8**

**Number of Employees: 150**












## Office Locations



### Local Office:

55 Broad Street, Asheville, NC 28801  
828.252.0575

## What We Do

-  Water and Wastewater
-  Civil Engineering
-  Water Resources
-  Land Planning and Recreation
-  Electrical Engineering
-  Mechanical, Electrical, and Plumbing
-  Surveying
-  Construction Administration
-  Solid Waste
-  Environmental
-  Consulting Services

## 02 | Disciplines and On-Call Approach



Our team can provide all of the necessary services to complete any potential projects within the specified disciplines.

### Disciplines

#### Civil Engineering / Landscape Design

McGill has a legacy of applying successful and innovative planning and design practices to civil engineering projects. Our engineers develop plans that meet community needs, are in harmony with the environment, and support LEED principles where practical and cost effective. Our team of professionals approaches each project with a fresh perspective and carefully evaluates each project's functional and programmatic uniqueness. McGill's civil engineering team formulates master plans and solutions for numerous public clients across western North Carolina, including school systems. These include site development for new facilities, utility services, and stormwater management.

At McGill, our award-winning landscape architecture team can provide all facets required for TCS, whether the need requires a new school entrance corridor, ballfield improvements, a memorial park, or a landscaping plan. The team also has experience with Americans with Disabilities Act (ADA) compliance, sidewalks and crosswalks, decorative plantings, traffic flow, and parking to optimize educational environments.

#### MEP

McGill offers MEP engineering services to create reliable efficient systems for building owners. Our projects range in size and complexity, from high-rise construction, to small historic renovations. McGill has become a dependable MEP firm for local schools, in addition to colleges and universities. We have strong knowledge of the design of sustainable systems, such as geothermal and solar thermal systems. Our team has experience with LEED design for new construction, as well as performing energy audits on existing structures. The McGill MEP group is large enough to meet all of your design and construction needs but still approachable and accessible.

#### Surveying

McGill's surveying division provides a broad range of surveying services by leveraging cutting-edge instrumentation and software technologies. We view surveying as an imperative extension of our engineering services. It plays a crucial role in obtaining accurate and detailed information about the physical characteristics and topography of a site, which is essential for effective design and construction.



To ensure consistency and the production of excellent mapping outputs for our clients, we have written surveying and CAD standards. We have extensive surveying expertise in topographic site mapping, route surveying, right-of-way retracement, property boundary surveys, ALTA surveys, subdivision platting, recombination surveys, easement surveys, as-built surveying, construction staking, utility mapping, unmanned aerial vehicles (UAVs), and traditional photogrammetry and aerial mapping, as well as high-order geodetic survey control. We also have our own in-house unmanned aerial services team with two FAA-certified unmanned aerial vehicle (UAV) pilots and can provide aerial photography and photogrammetry.

## Other Valuable Services

### Consulting and Funding Assistance

McGill provides a variety of consulting services for our clients, including planning, funding, facilitation, and programming assistance. Our team has many years of local government experience leading communities through successful capital projects, rate studies, and grant applications. Many of our projects have been funded from a variety of state and federal programs — some of which have included Elementary and Secondary School Emergency Relief (ESSER) Funds, State Revolving Funds (SRF), United States Department of Agriculture (USDA), Community Development Block Grant (CDBG), Economic Development Administration (EDA), and Appalachian Regional Commission (ARC). We understand the importance of finding financial assistance for our clients' projects, whether grants, bonds, or zero / low interest loans.



Communication is central to the success of every project.

## On-Call Approach

McGill's program of service is founded on our desire for long-term, working relationships with our clients and to be an extension of your staff. This approach requires a strong commitment to responsive client service. The tasks described below represent work activities involved in typical engagements based on our past experience with similar projects.

### Project Team and Management

McGill's culture — which is guided by the key principles of providing high-quality service and continuing successful partnerships — will be exemplified during our work performed on TCS' projects. Our assembled teams work together daily on a variety of projects that involve design, bidding, permitting, and construction administration / observation of survey, site design, utility, stormwater, or MEP projects.

Our team's past experience uniquely qualifies us to understand the daily challenges faced by County governments and their ever-growing educational challenges. We understand the engineering side of these challenges related to regulations, policies, and procedures. Several of our key managers have also worked in units of local government and understand the need to respond appropriately to citizens, elected officials, and regulatory agencies, which sets us apart in our understanding of County government operations and the associated engineering needs.

### Project Initiation and Preliminary Design

This phase includes initial field investigations, meetings with the TCS staff to identify the project team and establish relevant project design parameters and goals, reviewing preliminary project studies and cost estimates, and finalizing the project approach.

### Design and Permitting

After TCS and McGill have identified the key design parameters and finalized the approach, we will provide detailed design and permitting for the project. These services will include topographical surveying, process modeling and calculations, hydraulic calculations, along with the preparation of design

drawings and technical specifications, regulatory permit applications, and bid documents.

Our design approach will provide TCS staff with multiple opportunities to review the design and provide input, with planned reviews at the progress stages desired by TCS. We will provide drawings at each review stage and will schedule and conduct design review meetings with TCS staff. Our team will submit all necessary regulatory permit applications for approval. McGill will also present plans, specifications, bid documents, and other supporting documents to TCS for final review and approval prior to bidding.

### Bidding and Award Phase Services

McGill will manage the competitive bidding process, including distributing bid packages to prospective bidders, responding to bidder inquiries concerning technical aspects of the project, preparing any addenda, and attending the bid opening. Our staff can also conduct pre-bid conferences, as needed.

After the bid opening, McGill will review all bids for conformity, verify that the proposed contractor is appropriately licensed, and provide a letter of recommendation to TCS concerning acceptance of the lowest responsive and responsible bidder.

### Construction Administration and Observation Services

After the project is awarded, our staff will schedule a preconstruction conference with the client and the contractor. Following the preconstruction meeting, we will review shop drawing submittals to ensure compliance with the contract documents. Our team typically uses an internet-based document tracking system to process and transfer items — such as shop drawings and meeting minutes — providing appropriate levels of access to all project participants. The remainder of our construction phase services are contract administration and field observation.

### Quality Assurance and Quality Control (QA/QC)

Our QA/QC procedures require that the QA/QC officer is organizationally independent of or superior to the project manager, to provide guidance throughout the entire process. The QA/QC officer's responsibility will be to make sure that the QA/QC plan is implemented at all levels. QC reviewers will be selected for each task. As soon as work for a specific task has been completed or has reached a stage at which the task leader considers that a review would be beneficial, the work is submitted to the QC reviewer. The QC reviewer's comments and issues that need to be addressed are provided in writing to the task leader.

The corrected work is then returned to the QC reviewer for verification and approval. Once approved by the QC reviewer, the work is submitted to the QA/QC officer and to the project manager for final approval. The project manager will initiate a bid and constructability review in conjunction with his or her review. All steps of the QA/QC process are repeated until all comments have been addressed and approved.

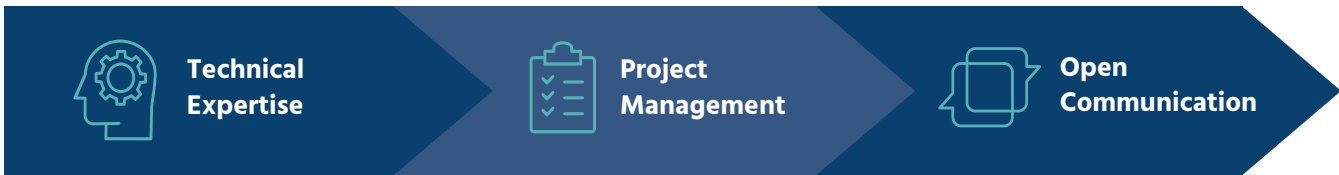


Our prior knowledge of the TCS system will help us provide the best solutions to your issues.

# 03 | Key Staff

## Team Overview

Our goal in assembling the proposed team outlined below is matching the individual and team qualifications with the expertise and experience appropriate for this project. Our comprehensive project team approach is particularly appropriate for projects where coordination, scheduling, and efficiency are important considerations.





*Mark uses his many years of engineering expertise to best serve clients.*

## Mark Cathey, PE

### Principal / Vice President / Regional Manager

Mark Cathey has over 28 years of design and management experience with a strong background in civil and environmental engineering. He has managed a substantial number of engineering projects from concept to completion — including parks and recreation, roadways, sidewalks, storm drainage, utilities, solid waste, and geographic information system (GIS)-related projects. Mark has developed a noteworthy reputation for his ability to adhere to the client’s needs and complete projects in a timely, yet efficient manner. His vast background in western North Carolina enhances his ability to understand the value of effective communication with local officials and communities for the projects he serves.

### Professional Licensure

PE: NC #24993, TN #00114634, SC #28749, VA #54639

### Related Experience

- Rosman Baseball Field, Transylvania County Schools
- Owen High School Tennis Court Renovation, Buncombe County Schools
- Pisgah Forest Elementary School HVAC Piping, Transylvania County Schools

### Education

BS, Civil Engineering,  
Clemson University

### Professional Association

- APWA
- AWWA
- SWANA

### Years of Experience

28



*Ben fully understands the many issues related to school projects.*

## Ben Cathey, PE

### Civil Practice Area Leader

At a young age, Ben Cathey knew he wanted to build. Now having over 23 years of experience within the construction and engineering field, he is living out his childhood dream as a civil engineer. With over ten years at McGill, Ben has earned the title of civil practice area leader at the firm. His experience with various types of construction projects, in addition to his real-world approach, results in practical solutions for clients.

### Professional Licensure

PE: NC #034476

### Related Experience

- North Buncombe County High School Softball Complex, Buncombe County Schools
- Foothills Commerce Center, City of Shelby
- Shell Building 3 Industrial Site, City of Shelby

### Education

MS, Civil Engineering,  
Clemson University

BS, Civil Engineering,  
Clemson University

### Professional Associations

- APWA
- ASCE

### Years of Experience

23





*Scott brings his existing civil engineering knowledge to this project.*

## Scott Burwell, PE

### Senior Project Manager

Scott Burwell has 15 years of experience managing engineering design and construction administration for project sites. His construction engineering and management education and design expertise enables him to fully understand all aspects of the project to provide seamless coordination and oversight from concept to closeout. Scott understands the importance of protecting the client's interest and ensures that plans and specifications are developed that can be constructed within budget and on schedule.

#### Education

BS, Construction Engineering and Management, North Carolina State University

#### Professional Associations

- SESWA
- SWANA

#### Years of Experience

15

#### Professional Licensure

PE: NC #039177

#### Related Experience

- Rosman Baseball Field, Transylvania County Schools
- Rocket Drive Improvements, Buncombe County Schools
- Fairview Elementary School Car Rider Lanes Improvements, Buncombe County Schools



*Natalie uses her understanding of many disciplines to solve engineering problems.*

## Natalie Croom, PE

### Project Engineer

Natalie Croom works with multiple teams across the firm, which allows her to learn everyday tasks of professional engineers in various disciplines. She is continuously striving to become a well-rounded engineer. Natalie uses her ever-evolving knowledge to create valuable solutions for our clients' problems.

#### Education

BS, Environmental Engineering, Clemson University

#### Professional Association

- AWWA

#### Years of Experience

4

#### Professional Licensure

PE: NC #056648

#### Related Experience

- Avery's Creek School Car Rider Lane, Buncombe County Schools
- Fairview Elementary School Car Rider Lanes Improvements, Buncombe County Schools
- Black Mountain Elementary School Car Rider Lanes Evaluation, Buncombe County Schools
- Nebo Water System Expansion, McDowell County





*Daniel understands the important nuances behind MEP projects.*

## Daniel Griffie, PE

### Project Manager

Daniel Griffie has been practicing engineering for more than 14 years — all with McGill. His interest in math and science led him to study mechanical and electrical engineering and created a strong foundation in the field. Daniel has completed work for schools, universities, industrial and health care systems, as well as water and sewer systems. He has MEP design experience that includes: motor controls, standby power systems, lighting, telecommunications systems, security systems, fire alarm systems, HVAC systems, and plumbing systems. Daniel enjoys being tasked with a diverse range of projects with varying complexities and is always excited for new challenges.

#### Education

BS, Engineering Mechatronics Concentration, UNCA and North Carolina State University

#### Professional Association

- ISA
- NFPA

#### Years of Experience

14

#### Professional Licensure

PE: NC #040817, SC #39973, TN #117791, VA #0402064828

#### Related Experience

- TC Henderson HVAC, Transylvania County Schools
- Rosman Elementary HVAC, Transylvania County Schools
- Pisgah Forest HVAC, Transylvania County Schools



*Bob possesses many years of MEP project experience and is extremely valuable for on-call contracts.*

## Bob Wiggins, PE

### Principal

Bob Wiggins has over 46 years of expertise in mechanical engineering. He has worked with numerous schools, universities, industrial sites, and health care systems, including the preparation of designs, specifications, studies, and reports. Bob has experience with LEED projects and has written two professional publications.

#### Education

MS, Mechanical Engineering, Duke University

BS, Mechanical Engineering, Duke University

#### Professional Association

- ASHRAE

#### Years of Experience

46

#### Professional Licensure

PE: NC #009577

#### Related Experience

- TC Henderson HVAC, Transylvania County Schools
- Rosman Elementary HVAC, Transylvania County Schools
- Joe P. Eblen Intermediate School Retro Commissioning, Buncombe County Schools
- Charles T. Koontz Intermediate School Retro Commissioning, Buncombe County Schools





#### Education

BS, Electrical Engineering, North Carolina State University

#### Professional Association

- NC One Water

#### Years of Experience

37



*Phil is familiar with all electrical and fire codes to ensure safety protocols are followed.*

## Phil Fisher, PE

### Senior Project Manager

Phil Fisher has more than 37 years of engineering design and field experience, including electrical normal and standby (on-site generator) power for lighting, telecommunications, fire alarm, security, and control systems for commercial and industrial facilities. He has strong conceptualizing and problem-solving skills and is able to quickly and efficiently develop several solutions to engineering problems. Phil has a working knowledge of the National Electrical Code and National Electrical Safety Code, and he is familiar with North Carolina State Building Code and related National Fire Prevention Association standards.

#### Professional Licensure

PE: NC #018684, SC #24799, TN #00105089, VA #0402022959

#### Related Experience

- Rocket Drive Improvements, Buncombe County Schools
- Macon County Elementary School Addition, Macon County Schools



#### Education

AAS, Civil Engineering Technology / Surveying Technology, Wake Technical Community College

Coursework, Civil Engineering, NCSU

#### Years of Experience

27



*Chad has received 13 awards from the North Carolina Society of Surveyors Annual Statewide Plat Contest.*

## Chad Howard, PLS

### Surveying Services Practice Area Leader

Chad Howard has worked in the surveying field for over 27 years. During this time, he has managed over \$20 million worth of successful land surveying and subsurface utility engineering (SUE) projects. In his role, Chad has been responsible for project estimating, contract negotiation, billing, client relations, QA / QC, computing and adjusting boundary problems, and drafting and reviewing finalized plats. His hard work and dedication to his field is evident in the work ethic and enthusiasm he demonstrates with his team members and clients.

#### Professional Licensure

PLS: NC #L-4220, SC #24271, VA #002826

#### Related Experience

- Tennis Court Renovation South Caldwell High School, Caldwell County Schools
- Collettsville Elementary Wastewater Replacement, Caldwell County Schools





**Education**

BS, Environmental Science,  
Appalachian State University



*Eric blends his knowledge of environmental science with field surveying.*

## Eric Hill

### Survey Field Technician

Eric Hill is a survey field technician who is excited about projects that allow him to explore different areas and work outside. He utilizes his environmental science background each day in his surveying work. Eric believes what sets McGill apart is creating solutions for clients that help people live better and doing so through innovative approaches. Prior to McGill, his favorite project was completing a topographic survey of Mingus Mill in the Great Smoky Mountains National Park. Eric learns quickly and adapts to different situations, which is an added value to our team.

### Related Experience

- French Broad River Greenway, HNTB Corporation, Transylvania County
- Fire Station Surveying Services, City of Asheville
- South Main Street Improvement, City of Boiling Spring Lakes
- West 15th Street Water Line Replacement, City of Newton



**Education**

BS, Civil Engineering Technology  
and Construction Management,  
University of North Carolina at  
Charlotte

**Years of Experience**

8



*Adam brings civil engineering experience to McGill's construction operations.*

## Adam Waldroup, EI

### Construction Administrator

Adam Waldroup has a strong skill set and background in civil and site design and permitting, and he has extensive experience with no-rise certifications, LOMR and CLOMR applications, stormwater system hydraulic design and analysis, erosion control, and solid waste projects. His design background allows him to quickly identify problems in construction and find the most efficient solution. Adam is an effective communicator, exhibits a high degree of professionalism, and has a strong work ethic, which allows him to successfully complete the most difficult projects.

### Professional Licensure

EI: NC #A-29634

### Related Experience

- Swain County Schools Master Planning Services, Novus Architects, Swain County Schools
- Owen High School Drainage Issues, Buncombe County Schools





**Education**

BS, Civil Engineering, NCSU

**Years of Experience**

16



*RJ's skills bridge both finance and engineering, allowing him to serve as leader of McGill's financial services team.*

## RJ Mozeley, PE

### Senior Project Manager

RJ Mozeley oversees McGill's financial services team. This team researches funding opportunities through many different agencies seeking to pair our clients' projects with the best funding available. RJ and the financial services team also assist communities in applying for funding and administer various grants from state and federal programs. He is certified to provide all environmental documentation to NCDEQ for CDBG-I funded projects.

### Professional Licensure

PE: NC #037937

### Related Experience

- EDA Grant Administration, City of Mebane
- Chambers Mountain Road Water Line Improvements (CDBG-I), Town of Clyde
- Wastewater Collection System Rehabilitation Improvements (CDBG-I), Town of Stanley



**Education**

BA, College of Business Administration, University of Florida

**Years of Experience**

25



*Alison has a keen eye for detail, ensuring accurate reporting to funding agencies.*

## Alison Heim

### Grants Administrator

Alison Heim has a strong background in grant administration from her former employment with Miami-Dade County, Florida, and Florida Atlantic University. She is adept at negotiating contracts and managing budgets. For 17 years, Alison provided financial services for the College of Nursing, including managing a \$5 million budget and all grants awarded to the college. She also oversaw grant administration for the Miami-Dade Solid Waste Department for seven years.

### Related Experience

- Chambers Mountain Road Water Line Improvements, Town of Clyde
- Collins Trailer Park / Laura Street Sewer Improvements (CDBG-I), Town of Robbinsville
- Tallulah Creek and Circle Street Sewer Project (CDBG-I), Town of Robbinsville
- Armory Facility Renovation Grant Application, Haywood County
- 2022 DWI Fall Cycle Funding Application, Town of Murphy





*Mike is an award-winning landscape architect and brings a wide array of experience to every project.*



## Mike Norris, PLA

### Director of Land Planning and Recreation

Mike Norris is an award-winning, registered landscape architect with extensive experience in park master planning and design services. He has performed sustainable comprehensive park master planning and design, landscaping design, and signage and trail design. Mike offers expertise in all phases of landscape architecture and land planning, including master planning, due diligence evaluations, rezoning, ADA compliance, and public information sessions. Mike has an array of experience garnering interactive public input, and he particularly enjoys involving the public in his projects through community meetings and charrettes, which allow him to understand the needs and culture of the community.

#### Education

BLA, North Carolina State University (NCSU)

BS, Environmental Design in Architecture, NCSU

#### Professional Associations

- NCRPA
- TNRPA

#### Years of Experience

26

#### Professional Licensure

PLA: NC #1048, SC #1016

#### Related Experience

- High School Track Renovations, Caldwell County Schools
- Safe Routes to Schools - Chatham Middle School Sidewalk Project, Town of Siler City



## Civil Engineering / Landscape Design



### Rosman High School Baseball Field

#### Transylvania County Schools

McGill assisted TCS with surveying, design, permitting, and Federal Emergency Management Agency (FEMA) funding compliance for the Rosman High School Baseball Field improvements. The baseball field was damaged during Tropical Storm Fred in August 2021. The field fencing was destroyed and the flooding on the field surface deposited soil and debris on the infield and outfield of the playing surface. McGill developed the initial estimates that the County used to request funding from FEMA, prepared design drawings for the field improvements, permitted the project with local, state, federal authorities having jurisdiction, developed construction documents, and assisted with bidding, award, and administration of the project.

#### Client Reference

Kerry Putnam  
Director of Facilities  
kputnam@tcsnc.org  
828.884.6173

#### Project Highlights

- Surveying
- Design
- Permitting
- Bidding and award

### Owen High School Tennis Court Renovation

#### Buncombe County Schools

McGill – along with a general contractor – provided civil engineering design services to construct a new tennis court at Owen High School. Design-build services included construction of a new six-court asphalt tennis complex with a 100% acrylic surface system for Owen High School’s boys and girls tennis programs. The courts are enclosed by a vinyl-coated chain link fence varying from 10 to 12 feet in height. ADA compliant sidewalk and handicapped parking has been provided for the facility, along with a spectator viewing area, new outdoor water fountain, and electrical service for receptacles within the interior of the court for practice equipment. A bioretention cell was constructed to treat stormwater runoff and meet North Carolina Department of Environmental Quality (NCDEQ) requirements.

#### Client Reference

Tim Fierle, AIA  
Director of Facilities and Planning  
Buncombe Board of Education  
tim.fierle@bcsemail.com  
828.255.5916

#### Project Highlights

- Civil engineering
- Surveying
- Stormwater
- Construction
- ADA compliance
- Sidewalk
- Parking
- Water fountain
- Electrical services



## High School Track Renovations

### Caldwell County Schools

McGill provided track and field improvements for South Caldwell, Hibriten, and West Caldwell County High Schools. Renovations for each school included demolition of existing running tracks and field event areas. Running track improvements, including a synthetic surface and slopes, were revised to meet current competition requirements. New high jump, long jump, and triple jump event areas were installed. Each of these competition areas included synthetic surfacing and improved landing areas. Throwing event improvements included new pole vault, discus, and shot put event areas. In addition to the facility improvements, existing stormwater systems were replaced as necessary to improve existing drainage problems and accommodate new drainage patterns for the relocated event areas. McGill provided design, bidding, and construction administration services for all three projects.

### Client Reference

Dr. Jeff Church  
Assistant Superintendent for  
Auxiliary Services  
[jeffchurch@caldwellschools.com](mailto:jeffchurch@caldwellschools.com)  
828.728.8407

### Project Highlights

- Landscape architecture
- Design
- Bidding
- Construction administration

## Fletcher Town Park Drainage

### Town of Fletcher

McGill installed approximately 1,300 LF of storm drainage and associated inlets in order to eliminate areas of ponding water and provide more efficient outfalls for the storm system into Cane Creek. Numerous ditches and lawn areas were regraded following the installation of the new storm drainage system, which improved drainage to many open space areas and parking lots. The parking lots were subsequently sealed and restriped since many of the drainage issues plaguing the parking lots had been alleviated. This project involved permitting through the United States Army Corps of Engineers for the outfalls into Cane Creek and NCDEQ on erosion control.

### Client Reference

Mark Biberdorf  
Town Manager  
[m.biberdorf@fletchernc.org](mailto:m.biberdorf@fletchernc.org)  
828.687.3985

### Project Highlights

- Storm drainage
- Construction administration



# MEP

## Fern Leaf Community Charter School

### Fletcher

The Fern Leaf Charter School construction of a new 39,000-square-foot facility allowed the school to grow from a K-5 institution to a K-12 institution. Our team performed the schematic design and approach with the owner and worked closely with the contractor to perform a design-build operation for the new school. Our team worked with the contractor to provide a design that was under budget and met the owner's requirements. This included mechanical design of HVAC systems, including art and science rooms. The electrical design included all power and lighting requirements from the owner, as well as audio visual technology systems for each classroom. Our team also provided the plumbing design for all restrooms and future kitchen operations. This project was Phase 1 that will house half of the total student population. Our design included expansion capabilities for Phase 2 of this project. The entire design kept the doubling of the total square footage in mind for the future classrooms, as well as a gymnasium and kitchen that will be included in Phase 2.



### Client Reference

Michael Luplow  
Executive Director  
michael.luplow@fernleafccs.org  
828.684.3645

### Project Highlights

- Mechanical design of HVAC
- Electrical design of power and lighting
- Plumbing design



## Buncombe County Schools Commissioning Services

### Buncombe County Schools

McGill was retained by Buncombe County Schools to provide MEP engineering commissioning of the Eblen and Koontz intermediate schools. Each of these schools were experiencing high energy bills and the HVAC systems appeared to be working inefficiently. The commissioning effort required observation of the HVAC, central plant systems, and controls in each school. McGill provided a new control sequence to improve the control of the existing four-pipe system. Once the new control sequence was confirmed, we completed a full commissioning of all mechanical equipment for both schools; this included pump control, chiller optimization, boiler fire staging sequences review, air handling unit airflow and static pressure review, terminal unit damper operation, and hydronic control valve operation. This commissioning project was initiated to achieve the LEED Silver energy savings calculated during the original design of each school.

### Client Reference

Clark Wyatt  
Maintenance Director  
clark.wyatt@bcsemail.org  
828.232.4244

### Project Highlights

- Commissioning services



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# Pisgah Forest Elementary School HVAC Piping

## Transylvania County Schools

McGill provided engineering services (design through construction administration) to replace the HVAC piping at the school. The existing piping was a two-pipe, dual-temperature, piping system that was failing due to corrosion. McGill assisted TCS with the documentation to establish this as an emergency project. This project is currently in the construction phase to replace the existing dual-temperature piping with a four-pipe system that includes separate piping for hot water and chilled water from the mechanical boiler room to the existing air handling units. As part of this work, we reconfigured the piping and pumps in the boiler and mechanical rooms to accommodate the transition from a two-pipe to a four-pipe system. The air handling units will need to be replaced in the future to have separate hot and chilled water coils.

### Client Reference

Kerry Putnam  
Director of Facilities  
kputnam@tcsnc.org  
828.884.6173

### Project Highlights

- MEP
- Design
- Piping replacement
- Construction administration
- Closeout

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# Davidson River School Ductwork Replacement

## Transylvania County Schools

MCGill provided engineering services (design through construction administration) to replace the existing lined ductwork with insulated rectangular ductwork. Lined ductwork can create an air quality issue as the exposed insulation in the ductwork can grow mold in the right conditions. Replacement of the existing ductwork with standard rectangular duct that is exterior insulated alleviates this concern. This project is in the final stages of construction and closeout. This project is an ESSER funded project.

### Client Reference

Kerry Putnam  
Director of Facilities  
kputnam@tcsnc.org  
828.884.6173

### Project Highlights

- MEP
- Design
- Construction administration
- Closeout
- ESSER funding

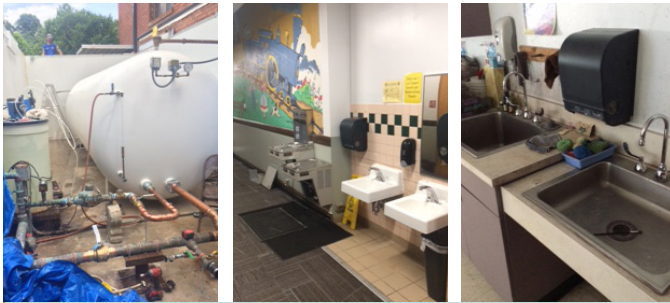


# General Services Contract

## Buncombe County Schools

**Date Completed: Ongoing**

McGill has a consulting agreement to assist with HVAC policy and procedures for Buncombe County Schools (BCS). Three of the projects listed below are part of this contract.



Leicester Elementary School

### Leicester Elementary Plumbing Renovations (BCS)

**Date Completed: 2019**

McGill reviewed lead exposure risks in water at Leicester Elementary School. Our team completed a study to show exposure to alleviate potential risks as well as provided plumbing design for the replacement of fixtures and deteriorated water piping.



Barnardsville Elementary School

### Barnardsville Elementary Plumbing Renovations (BCS)

**Date Completed: 2020**

McGill reviewed lead exposure risks in water at Barnardsville Elementary School. Our team completed a study to show exposure to alleviate potential risks as well as provided plumbing design for the replacement of fixtures and deteriorated water piping.



TC Roberson High School

### TC Roberson High School HVAC Evaluation (BCS)

**Date Completed: 2021**

McGill evaluated the HVAC systems in four classrooms that were experiencing performance problems.

### Master Planning

#### Swain County Schools

**Date Completed: Ongoing**

McGill is performing a district facility assessment and facility plan for the school system. Also, the school system is interested in an environmental assessment around air quality in order to capture opportunities for ESSER funding.



# Surveying



## Fairview Elementary School Surveying

### Buncombe County Schools

McGill provided property boundary surveying, site mapping, topographic surveying, and utility mapping for approximately 30 acres at Fairview Elementary School. This included a property boundary survey and plat for the site. In addition, we prepared subdivision and recombination plats for school properties, performed UAV aerial imagery and photogrammetry to ASPRS standards, digital terrain modeling suitable for a one-foot contour interval and full site planimetric mapping — which included underground utilities.

### Client Reference

Clark Wyatt  
Maintenance Director  
clark.wyatt@bcsemail.org  
828.232.4244

### Project Highlights

- Property boundary surveying
- Site mapping
- Topographic surveying
- Utility mapping
- Plat for the site
- Aerial imagery and photogrammetry
- Digital terrain modeling suitable
- Full site planimetric mapping



## References: Connect with Our Clients

### Buncombe County Schools

#### Clark Wyatt, Director of Maintenance

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### Macon County Schools

#### Tracy Tallent, Maintenance Director

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### Haywood County

#### David Francis, Economic Development Program Administrator

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828.356.2602

#### Bryant Morehead, County Manager

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828452.6625

### North Carolina School for the Deaf

#### Steven Watts, Director of Facilities

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### Town of Fletcher

#### Mark Biberdorf, Town Manager

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### Town of Blowing Rock

#### Jennifer Brown, Parks and Recreation Director

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