CITY OF LENOIR

COUNCIL ACTION FORM

I. Agenda Item: Consideration to approve the ARC Flash Assessment at Public Utilities Facilities proposal from McGill Associates.

II. Background Information: Staff received Statements of Qualifications from firms interested in an ARC flash assessment of the City's public utilities facilities at 2:00 PM on Thursday, April 9, 2026. Proposals were received by twenty-five (25) firms and were ranked on the basis of:

Ranking Criteria

10%: Qualifications of key staff members
20%: Firm's relevant arc flash assessment experience meeting current requirements
20%: Working knowledge of municipal water and wastewater infrastructure
10%: Successful past performance on municipal infrastructure projects
40%: Other relevant considerations
100%

After staff review of the submissions, the highest ranking firm was McGill Associates with a total ranking of 9.28. The project cost proposal from McGill Associates is $97,500.

III. Staff Recommendation: Staff recommends City Council approve the firm of McGill Associates to conduct ARC flash assessments at the City's public utilities facilities, as presented.

IV. Reviewed by:

City Attorney: _____

Finance Director: _____

Public Works/Public Utilities Director: Jeff Church

City of Lenoir

ARC Flash Assessment at Public Utilities Facilities RFQ

Ranking Order

Vendor	Bid Attachment Submitted	Created On	Ranking
McGill Associates	Yes	4/9/2026 8:17	**9.28**
SKA Consulting Engineers, Inc.	Yes	4/9/2026 10:50	**8.88**
McKim & Creed, Inc.	Yes	4/8/2026 14:54	**8.43**
Apogee Consulting Group, P.A.	Yes	4/9/2026 12:54	**8.40**
Dewberry Engineers Inc.	Yes	4/8/2026 14:44	**8.38**
Utility Technology Engineers-Consultants PLLC	Yes	4/9/2026 12:08	**8.30**
Sidebotham Substation Services PLLC	Yes	4/9/2026 11:44	**8.13**
TICH2-JV LLP	Yes	4/9/2026 13:48	**8.10**
Atkins Engineering Solutions LLC	Yes	3/27/2026 13:17	**8.08**
CDG Engineers, Inc.	Yes	4/7/2026 11:35	**8.08**
LND TECHNICAL SERVICES LLC	Yes	3/30/2026 22:25	**8.08**
ArcSafe Engineering PLLC	Yes	4/2/2026 15:38	**8.03**
Casne Engineering, Inc	Yes	4/9/2026 13:17	**7.98**
Atom Engineering	Yes	4/1/2026 12:42	**7.95**
Guidant Power	Yes	3/25/2026 11:04	**7.95**
M.C. Dean, Inc.	Yes	4/6/2026 12:08	**7.93**
The Fishel Company	Yes	4/6/2026 7:39	**7.90**
Emtec Consulting Engineers, DPC	Yes	4/9/2026 11:32	**7.73**
Hallam Engineering, LLP	Yes	4/8/2026 9:29	**7.68**
Kinectrics AES	Yes	4/8/2026 20:57	**7.68**
AMPSAFE LLC	Yes	3/24/2026 18:09	**7.63**
KOECH Engineering LLC	Yes	4/6/2026 14:07	**7.55**
LOTO Lighthouse	Yes	3/20/2026 11:21	**7.48**
Micheals Electric And Design	Yes	4/2/2026 10:44	**3.60**
The EI Group, Inc.	Yes	3/26/2026 10:39	**0***
~~Casne Engineering, Inc~~	~~No~~	~~4/9/2026 9:04~~	
~~Guidant Power~~	~~No~~	~~3/18/2026 20:45~~	

*exceeded allowed pages

CONSULTING SERVICES AGREEMENT

This contract entered into this _____day of May, 2026 by and between City of Lenoir, hereinafter called the Client, and McGill Associates, PA;

Witnesseth that: Whereas, the Client desires to engage McGill Associates to provide consulting services; and,
Whereas, the Client finds that the attached Scope of Services and terms of this agreement are acceptable; and,
Whereas, McGill Associates desires to provide said services and agrees to do so for the compensation and upon the terms and conditions as hereinafter set forth. Now, therefore, the parties hereto do mutually agree as follows:

1. Scope of Services: McGill Associates shall provide the services attached hereto in the Contract Proposal "Scope of Services" of this Agreement, hereinafter called services. Fees for additional services will be negotiated with the Client prior to proceeding with the work.

2. Standard of Care: McGill Associates will perform its services using that degree of skill and diligence normally employed by professional engineers or consultants performing the same services at the time these services are rendered.

3. Authorization to Proceed: Execution of this Consulting Services Agreement will be considered authorization for McGill Associates to proceed unless otherwise provided for in this Agreement.

4. Changes in Scope: The Client may request changes in the Scope of Services provided in this Agreement. If such changes affect McGill Associates cost of or time required for performance of the services, an equitable adjustment will be made through an amendment to this Agreement.

5. Compensation: The Client shall pay the compensation to McGill Associates set forth in the Contract Proposal "Basis of Compensation" attached hereto. Unless otherwise provided in the Basis for Compensation, McGill Associates shall submit invoices to the Client monthly for work accomplished under this agreement and the Client agrees to make payment to McGill Associates within thirty (30) days of receipt of the invoices. It is also mutually agreed that should the Client fail to make prompt payments as described herein, McGill Associates reserves the right to immediately stop all work under this agreement until disputed amounts are resolved.

6. Personnel: McGill Associates represents that it has, or will secure at their own expense, all personnel required to perform the services under this agreement and that such personnel will be fully qualified and adequately supervised to perform such services. It is mutually understood that should the scope of services require outside subcontracted expertise McGill Associates may employ such services at their discretion.

7. Opinions or Estimates of Cost: Any costs estimates provided by McGill Associates shall be considered opinions of probable costs. These along with project economic evaluations provided by McGill Associates will be on a basis of experience and judgment, but, since McGill Associates has no control over market conditions or bidding procedures, McGill Associates cannot warrant that bids, ultimate construction cost, or project economics will not vary from these opinions.

8. Termination: This Agreement may be terminated for convenience by either the Client or McGill Associates with fifteen (15) days written notice or if either party fails substantially to perform through no fault of the other and does not commence correction of such non-performance within five (5) days of written notice and diligently complete the correction thereafter. On termination, McGill Associates will be paid for all authorized work performed up to the termination date plus reasonable project closeout costs.

9. Limitation of Liability: McGill Associates liability for Client's damages will, in aggregate, not exceed the total fees paid by the Client for the Scope of Services referenced herein or $50,000 whichever is greater. This provision takes precedence over any conflicting provision of this Agreement or any documents incorporated into it or referenced by it. This limitation of liability will apply whether McGill Associates liability arises under breach of contract or warranty; tort, including negligence; strict liability; statutory liability; or any other cause of action, and shall include McGill Associates' directors, officers, employees and subcontractors. At additional cost, Client may obtain a higher limit prior to commencement of services.

10. Assignability: This agreement shall not be assigned or otherwise transferred by either McGill Associates or the Client without the prior written consent of the other.

11. Severability: The provisions of this Consulting Services Agreement shall be deemed severable, and the invalidity or enforceability of any provision shall not affect the validity or enforceability of the other provisions hereof. If any provision of this consulting services agreement is deemed unenforceable for any reason whatsoever, such provision shall be appropriately limited, and given effect to the extent that it may be enforceable.

12. Ownership of Documents: All documents, calculations, drawings, maps and other items generated during the performance of services shall be considered intellectual property and remain the property of McGill Associates. Client agrees that the deliverables are intended for the exclusive use and benefit of and may be relied upon for this project only by the Client and will not be used otherwise. Client agrees that any prospective lender, buyer, seller or third party who wishes to rely on any deliverable must first sign McGill Associates' Secondary Client Agreement.

13. Excusable Delay: If performance of service is affected by causes beyond McGill Associates control, project schedule and compensation shall be equitably adjusted.

14. Indemnification: Client agrees to indemnify, defend and hold McGill Associates, its agents, employees, officers, directors and subcontractors harmless from any and all claims, and costs brought against McGill Associates which arise in whole or in part out of the failure by the Client to promptly and completely perform its obligations under this agreement, and as assigned in the Contract Proposal "Scope of Services" or from the inaccuracy or incompleteness of information supplied by the Client and reasonably relied upon by McGill Associates in performing its duties or for unauthorized use of the deliverables generated by McGill Associates. Furthermore, McGill agrees to indemnify, defend and hold the Client harmless from any claims brought against the Client as a result of McGill's work.

15. Choice of Law: This Agreement shall be governed by the internal laws of the State of North Carolina.

16. Entire Agreement: This Agreement contains all of the agreements, representations and understandings of the parties hereto and supersedes any previous understandings, commitments, proposals, or agreements, whether oral or written, and may only be modified or amended as herein provided; and as mutually agreed.

17. Attachments to this document:

1. Contract Proposal including Scope of Services and Basis of Compensation.

Client: City of Lenoir

Authorized Signature:

_____

Print Name: Dr. Jeff Church

Title: Public Services Public Utilities Director

Address: 510B Greer Circle SW
Lenoir, North Carolina 28645

McGill Associates, P.A.

Authorized Signature:

_____

Print Name: Douglas Chapman, PE

Title: Principal/Office Manager

Address: 1240 19th Street Lane NW
Hickory, North Carolina 28601

April 22, 2026

Dr. Jeff Church
Public Services Public Utilities Director
City of Lenoir
510B Greer Circle SW
Lenoir, NC 28645

RE: Proposal for Professional Services Electrical Arc Flash Study at Gunpower Creek Wastewater Treatment Plant and associated collection system facilities

Dear Mr. Church:

McGill Associates (McGill) is pleased to submit this proposal for professional engineering services to the City of Lenoir (City) to provide an Arc Flash Study (Study) and associated field labeling at several Lenoir facilities. Our understanding of the scope of the Study is based upon the information contained in the original Arc Flash Study and our subsequent discussions with Lenoir.

The Study will provide information to the City to assure that they meet current standards in accordance with 29CFR1910.132(d)(1), NFPA 70E, and thereby safeguard workers from injury while working on or near exposed electrical conductors or circuit parts that are energized. The Study will provide the City with the necessary flash protection boundary distances and incident energy to determine the correct work procedures, PPE, and labeling requirements for their existing facilities.

SCOPE OF SERVICES

McGill shall provide the following services associated with the Study:

1. The following locations will be a part of this study:
    a. Gunpower Creek Wastewater Treatment Plant
    b. Sewer Collection facilities:
        1) Cypress Street PS
        2) Meadowood PS
        3) Spring Street PS
        4) Fir Street PS
        5) Quarry Estates
        6) Sawmills Flume

2. Obtain source impedance data, transformer and feeder impedance data and associated protective device settings from the electric utility company for each service.

3. Obtain field data and create facility one-line models using an appropriate electronic model/database in ETAP power analysis system software. McGill will provide engineering personnel to perform the field work with the assistance of Lenoir personnel.
4. Determine system operating modes and conditions that can impact short circuit currents and arc flash hazard energy levels.
5. Perform a preliminary short circuit and equipment verification study to verify that the facility's equipment is rated to safely handle short circuit currents without creating hazardous conditions. To complete the preliminary study, McGill will first perform a fault current study to determine the magnitude of fault currents flowing throughout the power system at various time intervals after a fault (short circuit) occurs in the system. This study will be completed for three-phase, phase-to-phase and phase-to-ground faults at different locations throughout the system. The study cases will consider the various operating scenarios (different sources and loads) for each system. From this calculated fault current data, along with fault duration data, each existing device will be evaluated for adequacy to interrupt imposed fault current. Any over-dutied circuit breakers, fuses, switches and conductors will be identified along with optional strategies to correct the condition.
6. Review the preliminary study described above with the City for comments and approval.
7. At the completion of the preliminary study and after any adjustments are made as a result of preliminary findings, the final study will be completed and certified by McGill. The final Study will include a protective device coordination study and the arc flash hazard study to determine arc flash energy levels and arc flash protection boundaries.
8. Prepare a detailed report on findings of the analysis. The report will include fault current and arc flash energy and clearance conditions at each electrical bus for each operating scenario. Coordination curves will be presented for groups of interrelated protection devices along with corresponding one-line diagrams. McGill will provide complete one-lines of all systems studied in both paper and PDF form. The one-lines will display ratings information about all conductors and devices such as wire size, type, raceways, buses, controllers, fuses, circuit breakers, transformers, utility sources, generators and loads.
9. Produce and install arc flash informational labels for appropriate equipment identified and studied for incident energy and PPE requirements to satisfy NFPA 70E. We will not provide labels for underrated equipment or any equipment on the load side of an underrated overcurrent protection device.
10. Provide one (1) hard copy of the analysis report and an electronic copy on USB. Provide one copy in PDF format.

EQUIPMENT VERIFICATION/OPERATION

The validity of the Study and incident energy readings is in part based on proper setting of overcurrent device trip times and the proper operation of the overcurrent devices and breakers themselves. The City will be responsible for proper settings and verification of the operation of overcurrent devices and breakers.

LENOIR RESPONSIBILITIES

1. Assist McGill with the collection of field manufacturer's nameplate data of applicable existing equipment, including protective relays and settings; circuit breakers and trip modules; fuses; transformers; switchgear; switchboards; and power feeders for the systems involved. Data collected will include nameplate data; short circuit and equipment duty ratings; bus/conductor type, size and length; continuous voltage and current ratings; and protective device make and model. The City will provide personnel to open enclosures to allow the necessary observation of equipment to collect the data.
2. Provide copies of all available record drawings and diagrams of the existing systems under study.
3. Make all necessary arrangements for McGill to enter facilities as may be required for McGill to perform their services under this Agreement.
4. Examine all studies, reports, and other documents presented by McGill and render decisions and comments pertaining thereto within a reasonable time so as not to delay the services of McGill.

BASIS OF COMPENSATION

McGill will provide the services described herein for a **lump-sum fee** of **$28,500.00.**

Our invoice payment terms are Net 30 days.

OTHER ADDITIONAL SERVICES

Any item not contained in Project Understanding or Scope of Services will be deemed as other additional services. If requested by the Town, we will provide other additional services per our Basic Fee Schedule (see attached).

ACCEPTANCE

We have prepared and attached the Consulting Services Agreement detailing the requirements for the work. If it is acceptable to you, please execute and return the Agreement. We appreciate your consideration for our services with the study and hope to have the opportunity of working with you. Please do not hesitate to contact us if you have any questions or need additional information.

Sincerely,
McGILL ASSOCIATES, P.A.

Nick Huffman, PE
Practice Area Leader

Doug Chapman, PE
Vice President / Office Manager

Attachment: Consulting Services Agreement
Basic Fee Schedule

Cc: Joel Whitford, PE, McGill Associates, PA (via email)

April 22, 2026

Dr. Jeff Church
Public Services Public Utilities Director
City of Lenoir
510B Greer Circle SW
Lenoir, NC 28645

RE: Proposal for Professional Services Electrical Arc Flash Study at George Bernhardt Water Treatment Plant and associated water supply facilities

Dear Mr. Church:

McGill Associates (McGill) is pleased to submit this proposal for professional engineering services to the City of Lenoir (City) to provide an Arc Flash Study (Study) and associated field labeling at several Lenoir facilities. Our understanding of the scope of the Study is based upon the information contained in the original Arc Flash Study and our subsequent discussions with Lenoir.

The Study will provide information to the City to assure that they meet current standards in accordance with 29CFR1910.132(d)(1), NFPA 70E, and thereby safeguard workers from injury while working on or near exposed electrical conductors or circuit parts that are energized. The Study will provide the City with the necessary flash protection boundary distances and incident energy to determine the correct work procedures, PPE, and labeling requirements for their existing facilities.

SCOPE OF SERVICES

McGill shall provide the following services associated with the Study:

1. The following locations will be a part of this study:
    a. Water Treatment Plant
    b. Water distribution facilities:
        1) Cajah's Mountain Tank site
        2) Hudson Booster Station and Tank site
        3) Whitnel Tank site
        4) Finley Tank site
        5) Indian Hills Booster Station and Tank site
        6) Bushtown Booster Station and Tank site
        7) Blue Ridge Forest Booster Station and Tank site

2. Obtain source impedance data, transformer and feeder impedance data and associated protective device settings from the electric utility company for each service.

3. Obtain field data and create facility one-line models using an appropriate electronic model/database in ETAP power analysis system software. McGill will provide engineering personnel to perform the field work with the assistance of Lenoir personnel.
4. Determine system operating modes and conditions that can impact short circuit currents and arc flash hazard energy levels.
5. Perform a preliminary short circuit and equipment verification study to verify that the facility's equipment is rated to safely handle short circuit currents without creating hazardous conditions. To complete the preliminary study, McGill will first perform a fault current study to determine the magnitude of fault currents flowing throughout the power system at various time intervals after a fault (short circuit) occurs in the system. This study will be completed for three-phase, phase-to-phase and phase-to-ground faults at different locations throughout the system. The study cases will consider the various operating scenarios (different sources and loads) for each system. From this calculated fault current data, along with fault duration data, each existing device will be evaluated for adequacy to interrupt imposed fault current. Any over-dutied circuit breakers, fuses, switches and conductors will be identified along with optional strategies to correct the condition.
6. Review the preliminary study described above with the City for comments and approval.
7. At the completion of the preliminary study and after any adjustments are made as a result of preliminary findings, the final study will be completed and certified by McGill. The final Study will include a protective device coordination study and the arc flash hazard study to determine arc flash energy levels and arc flash protection boundaries.
8. Prepare a detailed report on findings of the analysis. The report will include fault current and arc flash energy and clearance conditions at each electrical bus for each operating scenario. Coordination curves will be presented for groups of interrelated protection devices along with corresponding one-line diagrams. McGill will provide complete one-lines of all systems studied in both paper and PDF form. The one-lines will display ratings information about all conductors and devices such as wire size, type, raceways, buses, controllers, fuses, circuit breakers, transformers, utility sources, generators and loads.
9. Produce and install arc flash informational labels for appropriate equipment identified and studied for incident energy and PPE requirements to satisfy NFPA 70E. We will not provide labels for underrated equipment or any equipment on the load side of an underrated overcurrent protection device.
10. Provide one (1) hard copy of the analysis report and an electronic copy on USB. Provide one copy in PDF format.

EQUIPMENT VERIFICATION/OPERATION

The validity of the Study and incident energy readings is in part based on proper setting of overcurrent device trip times and the proper operation of the overcurrent devices and breakers themselves. The City will be responsible for proper settings and verification of the operation of overcurrent devices and breakers.

LENOIR RESPONSIBILITIES

1. Assist McGill with the collection of field manufacturer's nameplate data of applicable existing equipment, including protective relays and settings; circuit breakers and trip modules; fuses; transformers; switchgear; switchboards; and power feeders for the systems involved. Data collected will include nameplate data; short circuit and equipment duty ratings; bus/conductor type, size and length; continuous voltage and current ratings; and protective device make and model. The City will provide personnel to open enclosures to allow the necessary observation of equipment to collect the data.
2. Provide copies of all available record drawings and diagrams of the existing systems under study.
3. Make all necessary arrangements for McGill to enter facilities as may be required for McGill to perform their services under this Agreement.
4. Examine all studies, reports, and other documents presented by McGill and render decisions and comments pertaining thereto within a reasonable time so as not to delay the services of McGill.

BASIS OF COMPENSATION

McGill will provide the services described herein for a **lump-sum fee** of **$35,500.00.**

Our invoice payment terms are Net 30 days.

OTHER ADDITIONAL SERVICES

Any item not contained in Project Understanding or Scope of Services will be deemed as other additional services. If requested by the City, we will provide other additional services per our Basic Fee Schedule (see attached).

ACCEPTANCE

We have prepared and attached the Consulting Services Agreement detailing the requirements for the work. If it is acceptable to you, please execute and return the Agreement. We appreciate your consideration for our services with the study and hope to have the opportunity of working with you. Please do not hesitate to contact us if you have any questions or need additional information.

Sincerely,
McGILL ASSOCIATES, P.A.

Nick Huffman, PE
Practice Area Leader

Doug Chapman, PE
Vice President / Office Manager

Attachment: Consulting Services Agreement
Basic Fee Schedule

Cc: Joel Whitford, PE, McGill Associates, PA (via email)

April 22, 2026

Dr. Jeff Church
Public Services Public Utilities Director
City of Lenoir
510B Greer Circle SW
Lenoir, NC 28645

RE: Proposal for Professional Services Electrical Arc Flash Study at Lower Creek Wastewater Treatment Plant and associated collection system

Dear Mr. Church:

McGill Associates (McGill) is pleased to submit this proposal for professional engineering services to the City of Lenoir (City) to provide an Arc Flash Study (Study) and associated field labeling at several Lenoir facilities. Our understanding of the scope of the Study is based upon the information contained in the original Arc Flash Study and our subsequent discussions with Lenoir.

The Study will provide information to the City to assure that they meet current standards in accordance with 29CFR1910.132(d)(1), NFPA 70E, and thereby safeguard workers from injury while working on or near exposed electrical conductors or circuit parts that are energized. The Study will provide the City with the necessary flash protection boundary distances and incident energy to determine the correct work procedures, PPE, and labeling requirements for their existing facilities.

SCOPE OF SERVICES

McGill shall provide the following services associated with the Study:

1. The following locations will be a part of this study:
    a. Lower Creek WWTP
    b. Sewer Collection System Facilities:
        1) Acorn Square WWPS
        2) Arrowood WWPS
        3) Cajah's Flume
        4) Dula Miller Hill WWPS
        5) Gamewell WWPS
        6) Georgetown WWPS
        7) KFC WWPS
        8) Summer Hill WWPS
        9) Summit WWPS
        10) Town and Country WWPS
        11) Valmead WWPS

2. Obtain source impedance data, transformer and feeder impedance data and associated protective device settings from the electric utility company for each service.
3. Obtain field data and create facility one-line models using an appropriate electronic model/database in ETAP power analysis system software. McGill will provide engineering personnel to perform the field work with the assistance of Lenoir personnel.
4. Determine system operating modes and conditions that can impact short circuit currents and arc flash hazard energy levels.
5. Perform a preliminary short circuit and equipment verification study to verify that the facility's equipment is rated to safely handle short circuit currents without creating hazardous conditions. To complete the preliminary study, McGill will first perform a fault current study to determine the magnitude of fault currents flowing throughout the power system at various time intervals after a fault (short circuit) occurs in the system. This study will be completed for three-phase, phase-to-phase and phase-to-ground faults at different locations throughout the system. The study cases will consider the various operating scenarios (different sources and loads) for each system. From this calculated fault current data, along with fault duration data, each existing device will be evaluated for adequacy to interrupt imposed fault current. Any over-dutied circuit breakers, fuses, switches and conductors will be identified along with optional strategies to correct the condition.
6. Review the preliminary study described above with the City for comments and approval.
7. At the completion of the preliminary study and after any adjustments are made as a result of preliminary findings, the final study will be completed and certified by McGill. The final Study will include a protective device coordination study and the arc flash hazard study to determine arc flash energy levels and arc flash protection boundaries.
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EQUIPMENT VERIFICATION/OPERATION

The validity of the Study and incident energy readings is in part based on proper setting of overcurrent device trip times and the proper operation of the overcurrent devices and breakers

themselves. The City will be responsible for proper settings and verification of the operation of overcurrent devices and breakers.

LENOIR RESPONSIBILITIES

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2. Provide copies of all available record drawings and diagrams of the existing systems under study.
3. Make all necessary arrangements for McGill to enter facilities as may be required for McGill to perform their services under this Agreement.
4. Examine all studies, reports, and other documents presented by McGill and render decisions and comments pertaining thereto within a reasonable time so as not to delay the services of McGill.

BASIS OF COMPENSATION

McGill will provide the services described herein for a **lump-sum fee** of **$33,500.00.**

Our invoice payment terms are Net 30 days.

OTHER ADDITIONAL SERVICES

Any item not contained in Project Understanding or Scope of Services will be deemed as other additional services. If requested by the CIty, we will provide other additional services per our Basic Fee Schedule (see attached).

ACCEPTANCE

We have prepared and attached the Consulting Services Agreement detailing the requirements for the work. If it is acceptable to you, please execute and return the Agreement. We appreciate your consideration for our services with the study and hope to have the opportunity of working with you. Please do not hesitate to contact us if you have any questions or need additional information.

Sincerely,
McGILL ASSOCIATES, P.A.

Nick Huffman, PE
Practice Area Leader

Doug Chapman, PE
Vice President / Office Manager

Attachment: Consulting Services Agreement
Basic Fee Schedule

Cc: Joel Whitford, PE, McGill Associates, PA (via email)

BASIC FEE SCHEDULE

July 2025

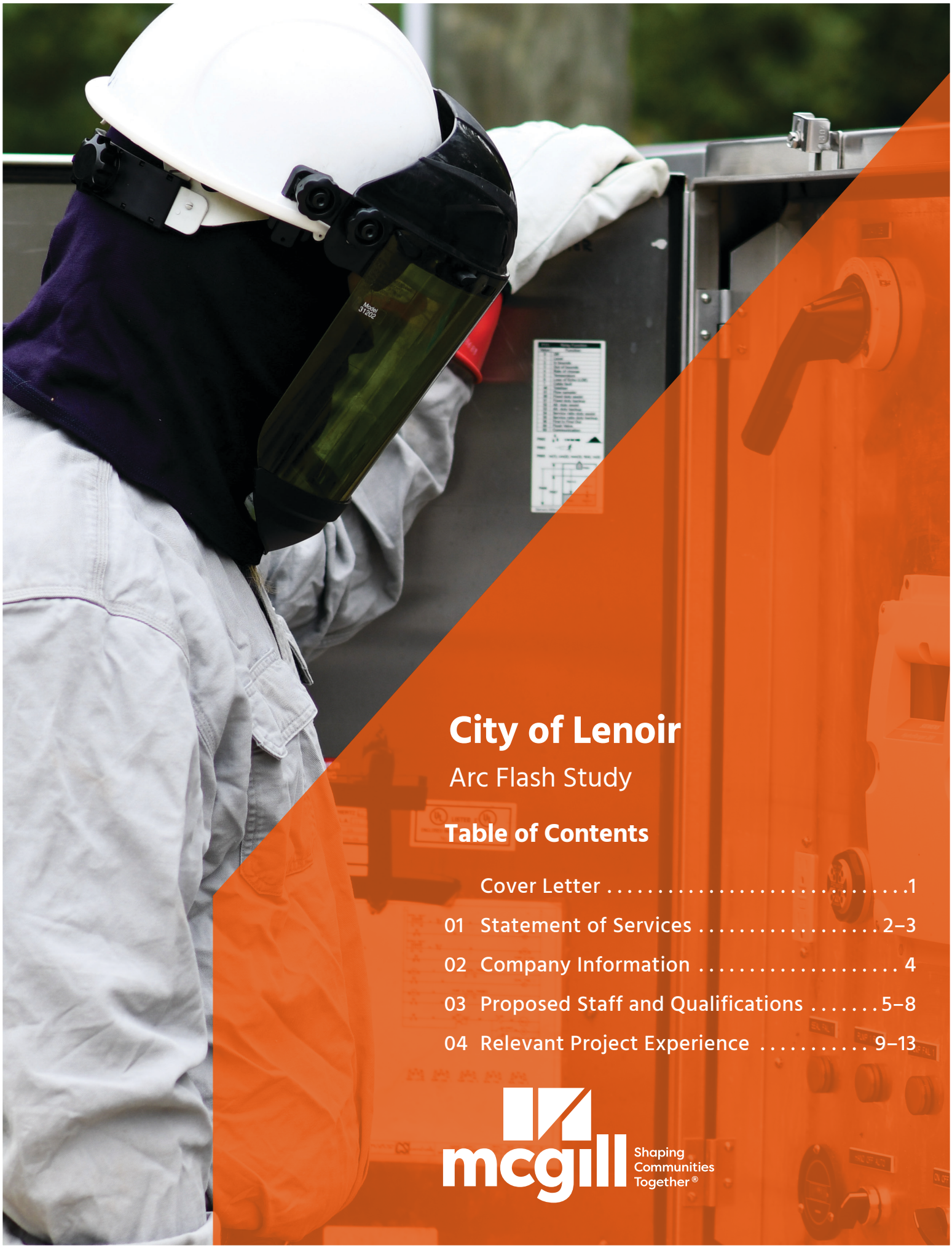
PROFESSIONAL FEES	I	II	III	IV
Senior Principal	$320			
Principal – Regional Manager – Director	$265	$275	$295	$305
Practice Area Lead	$235	$260	$285	$295
Senior Project Manager	$235	$255	$280	$290
Senior Engineer	$235	$255	$280	$290
Project Manager	$205	$220	$235	$245
Senior Project Engineer	$205	$220	$235	$245
Project Engineer	$165	$180	$190	$200
Engineering Associate	$145	$155	$160	$165
Planner- Consultant – Designer	$145	$160	$180	$200
Engineering Technician	$130	$145	$155	$165
CAD Operator – GIS Analyst	$110	$120	$135	$145
Construction Services Manager	$190	$200	$210	$225
Construction Administrator	$145	$160	$170	$185
Construction Field Representative	$120	$130	$145	$155
Project Administrator	$110	$130	$135	$155
Funding-Financial Service-Manager	$215	$230	$240	$250
Grant Administrator	$135	$150	$160	$170
Environmental Specialist	$115	$125	$130	$135
Administrative Assistant	$90	$100	$110	$125
Survey Party Chief	$110	$125	$140	$160
Survey Field Technician	$95	$100	$105	$110

EXPENSES

a. Mileage - $0.75/mile
b. Flow Monitoring Equipment: Pressure Flow Meter- $400/wk.; Gravity Flow Meter - $1,000/deployment
c. Robotics/GPS Equipment: $35/hr.
d. Aquatic Surveying Equipment – Vessel $250/day
e. Telephone, reproduction, postage, lodging, and other incidentals shall be a direct charge per receipt.

ASSOCIATED SERVICES

a. Associated services required by the project such as soil analysis, materials testing, etc., shall be at cost plus ten (10) percent.



City of Lenoir

Arc Flash Study

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mcgill Shaping Communities Together®

April 9, 2026

Jeff Church, Public Utilities Director
City of Lenoir
510B Greer Circle SW
Lenoir, NC 28645

RE: Statement of Qualifications
Arc Flash Study

Dear Jeff:

The City of Lenoir is taking another important step for employee safety by renewing its arc flash study. We appreciate the opportunity to continue our relationship with Lenoir and are, therefore, submitting our qualifications to provide engineering services for this new arc flash study. McGill Associates, PA (McGill) is very familiar with your existing electrical systems and the personnel responsible for operating and maintaining these systems. Our team members have been involved in the previous study and recent upgrades to Lenoir's water and wastewater facilities. We believe this uniquely positions McGill to complete this upcoming study. Some of our strengths include:

- **In-House Electrical Team:** New codes were approved in 2018, which require updates to the work we completed previously. McGill's electrical engineering team is entirely in-house and has extensive experience studying, planning, designing, and troubleshooting electrical power systems. We have all the necessary resources to successfully conduct this new study.
- **Extensive Arc Flash Experience:** McGill has provided arc flash analysis services for many years on large and small facilities throughout North Carolina, including for City of Lenoir. Our electrical team is experienced in performing the services that are necessary to complete a comprehensive arc flash study, including required field work, system modeling and analysis, reports and labels for equipment, cost estimates, and arc flash safety training.
- **Strength of Deliverables:** McGill's reports are not intended to gather dust on a shelf. We focus on putting the most important information in the hands of users and at the point of use, which is critical to reduce the potential for an arc flash hazard. Our final reports are clear, informative, and meet all the requirements of regulatory agencies. We provide and apply all labels for equipment containing the required information per National Electric Code (NEC) requirements. After the project is complete, we provide a training session for client personnel to review the results of the study and discuss any issues.

Lenoir deserves credit for its demonstrated dedication to arc flash safety. We are excited about the opportunity to work with your team on this crucial study. If you have any questions, please feel free to contact us by email at nick.huffman@mcgillassociates.com or by phone at 828.328.2024. Thank you for your consideration.

Sincerely,
MCGILL ASSOCIATES, PA

NICK HUFFMAN, PE
Electrical Practice Area Leader

01 | Statement of Services



Blowers at Gunpowder Creek WWTP

Our Approach

McGill helps our clients understand the importance of an electrical safety program. Our team is well versed in Institute of Electrical and Electronics Engineers (IEEE) 399 (Recommended Practice for Industrial and Commercial Power System Analysis), as well as Occupational Health and Safety (OSHA) and National Fire Protection Association (NFPA) 70E (Standard for Electrical Safety in the Workplace). For this contract, McGill will conduct an arc flash study for the following facilities:

- Lower Creek Wastewater Treatment Plant (WWTP)
- Sewer collection facilities serving Lower Creek WWTP, including 10 lift stations and a flume meter
- Gunpowder Creek WWTP
- Sewer collection facilities serving Gunpowder Creek WWTP, including 6 lift stations and a flume meter
- Lake Rhodhiss Water Treatment Plant (WTP)
- Water distribution facilities, including 6 tanks and 4 booster pump stations

Our approach for this arc flash study follows a series of specific tasks designed to address the proposed scope of work and the inherent requirements of the study.

Phase 1: Project Kickoff

McGill will meet with the City to introduce the project team and establish relevant project parameters, confirm the extent of systems involved, review existing record documentation and past arc flash studies, and finalize the project schedule. The preliminary phase of the project includes conducting initial field investigations.

Phase 2: Studies

Studies required to complete this project include:

1. **Load Flow:** We will analyze the power flow on system feeders for various operating conditions; this includes normal and emergency loading conditions, system loading for each possible switching configuration within the system, identification of potentially overloaded feeders, and recommendations for future improvements. Knowing the load on each feeder and bus will allow for tighter setting of circuit breakers and fuses to optimize operation and safety.

2. **Fault Current (Short Circuit):** Next, we will determine the magnitude of fault currents flowing throughout the power system at various time intervals after a fault (short circuit) occurs in the system. This study will be completed for three-phase, phase-to-phase, and phase-to-ground faults at different locations throughout the system. This information will be used to correctly select fuse, breaker, and switchgear ratings, as well as device trip values and protective relay settings.

3. **Selective Coordination of Protective Devices:** We will analyze the clearing characteristics of protective devices, such as fuses, circuit breakers, and relays, used in a power system protection scheme. The objective of a protection scheme is to minimize hazards to personnel and equipment while causing the least disruption of power service. The study will also determine settings for adjustable circuit breakers and protective relays, as well as ratings of fuses that will provide selective fault isolation.

4. **Arc Flash Analysis:** The analysis will determine working clearances in and around electrical equipment and indicate the appropriate level of Personal Protective Equipment (PPE) to be worn within the various boundaries. The study will consider both normal and standby power system supply sources, along with contributions from rotating machinery.

Phase 3: Recommendations and Scenarios

Study methodology will comply with IEEE 1584 (Guide for Performing Arc-Flash Hazard Calculations) recommendations. The study results will be used to define the arc flash protection boundary and the incident energy at bus locations in the electrical distribution system. Our staff will make recommendations regarding protective device settings, in order to balance system operational integrity and personnel safety around equipment. We will recommend alternate settings for certain devices to reduce the hazard during live system maintenance operations. Necessary PPE will be suggested based upon NFPA 70E. Safe working distances will be specified for calculated fault locations. We use system analysis software suites to model electrical systems. Study parameters for each type of study under consideration are supplied to the analysis software.

Phase 4: Electrical Safety Program

McGill takes safety seriously and understands that safe projects do not just happen; they require thoughtful planning through data gathering, planning, design, construction, and use by the public. We are committed to providing safe and practical engineering solutions to complex problems. Having a wide range of experience in electrical systems, we understand the critical need for your staff to come home safely when they are working in or around energized electrical equipment. The dangers of energized parts range from electrical shock to arc flash and arc blast. Understanding the dangers allows us to conduct on-site assessments of the vast range of facilities we might encounter within the City's systems. We understand the need to assess the dangers and provide proper labeling for each piece of equipment to alert staff of dangers and the proper PPE required.



Example of proper PPE



Lake Rhodhiss WTP ActiFlo Building

Phase 5: Final Study

McGill staff will provide a final study and report once the preliminary study is approved and any adjustments required as a result of preliminary findings are made. The final study will indicate a selectively coordinated system, to the extent possible, for each operating scenario. Device, relay setting, and fuse size reports will be provided as part of the deliverables, in addition to complete, updated one-line diagrams of all systems studied (in both hard-copy and PDF format) to give an accurate representation of the current electrical distribution system at each site. After the final study is approved, we will place arc flash labels that meet the NFPA 70E requirements on specific equipment (switchgear, motor control centers, disconnects, panelboards, control panels, etc.).

Experience with Schedules and Budget

Our staff has many years of collective experience and a lengthy record of effective cost control, accurate project scheduling, high-quality work, and innovative design capabilities. Over the years, we have found that consistent communication is the best way to keep a project on schedule throughout the entire process. With our familiarity of Lenoir's systems and our proximity to Lenoir's infrastructure, McGill will be able to complete this project expeditiously.

Contact



Nick Huffman, PE

Electrical Practice Area Leader

nick.huffman@mcgillassociates.com
p. 828.328.2024
f. 828.328.3870



Company History

McGill was founded in 1984 in Asheville with a focus on helping communities provide safe drinking water and collect and treat wastewater — services that remain central to our work today. From the beginning, McGill has partnered with municipalities to plan, design, and deliver practical, cost-effective infrastructure that supports public health, growth, and quality of life. Over the past four decades, McGill has grown into a multidisciplinary engineering firm with eight offices across the region, offering services that support the full lifecycle of infrastructure projects.

In 1999, McGill opened its Hickory office to better serve communities throughout the Piedmont. This office has since become one of McGill's technical hubs and has supported the City of Lenoir by developing the its previous arc flash study.

How We're Different

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

Office Location	Employees	MEP Employees
Asheville, NC*	77	9
Hickory, NC*	64	4
Pinehurst, NC	10	
Raleigh, NC	19	
Shallotte, NC	11	
Knoxville, TN	13	
Roanoke, VA	3	1
Williamsburg, VA	4	

*Offices where work will be conducted

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

03 | Proposed Staff and Qualifications

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.



Nick Huffman, PE
Electrical Practice Area Leader
Hickory Office



Chance Stowe, PE
Project Engineer
Hickory Office



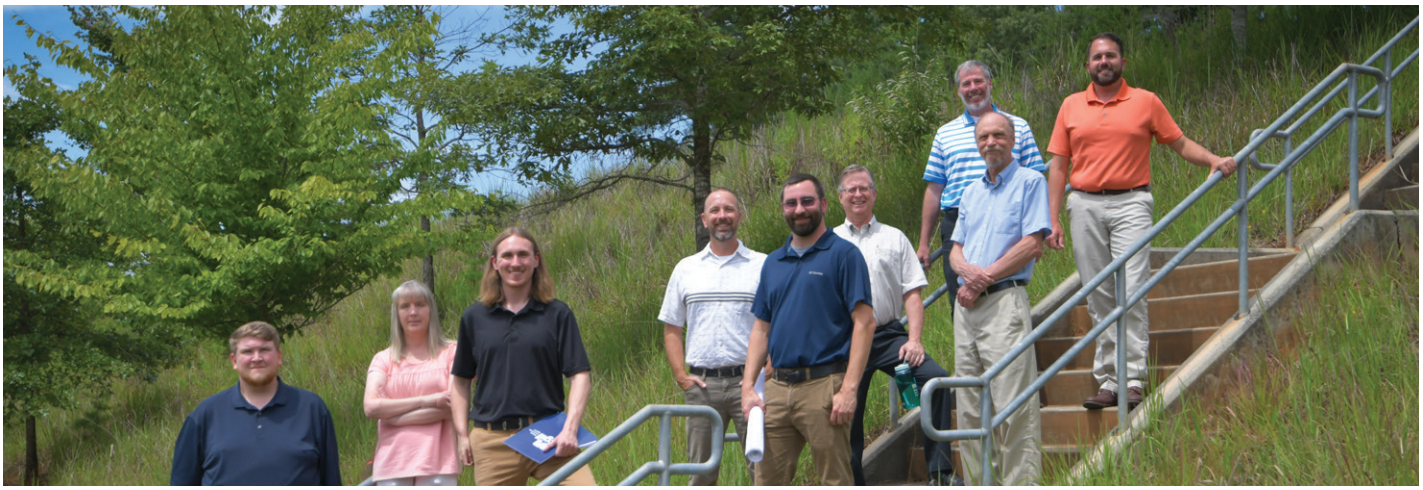
Hunter Jensen
Engineering Technician
Hickory Office



Brian Moseman
Planner
Asheville Office



Sonja Roberts
CAD Operator
Asheville Office





Education

BS, Electrical Engineering, North Carolina State University (NCSU)

BS, Computer Engineering, NCSU

Professional Licensure

PE	VA #0402059110
PE	NC #0368400
PE	TN #114460
PE	SC #35652

Professional Association

IEEE Power and Energy Society

Years of Experience

22

Nick worked with the City of Lenoir on its past arc flash study and helped with most water and wastewater projects at Lenoir after the study.

Nick Huffman, PE

Electrical Practice Area Leader

Nick Huffman has spent much of his career tackling complicated electrical engineering projects. With 22 years of experience — 19 with McGill — he is energized by providing electrical solutions to a variety of clients. Nick oversees our electrical engineering team, which offers electrical services for three different realms of work – water / wastewater, utilities, and architecture. As the electrical practice area leader, he demonstrates strong leadership for the team and ensures the highest quality end products for clients. Nick is skilled at working with multiple moving pieces in a project in a manner that does not disrupt service to our clients and that results in successful projects. He is highly analytical, which allows him to analyze a situation, problem, or task and quickly find a solution.

Nick is confident in his engineering design skills and appreciates the variety of his work — specifically observing construction in the field, meeting with a client, or traveling to work with staff in another McGill office. He received a Siemens substation design certification and completed a transmission lines design class through the University of Wisconsin. Nick also has written articles on and presented about arc flash studies, detailing their requirements and benefits. He understands the unique properties that each project entails and enjoys the challenges associated with them; challenges like these have expanded Nick's knowledge and experience, and this keeps him looking forward to future endeavors in the electrical engineering field.

Related Experience

- Arc Flash Study, City of Lenoir
- Standby Generator Improvements at the George Bernhardt WTP, City of Lenoir
- Finley Area Water System Improvements, City of Lenoir
- FY 2024-25 Arc Flash Study, Town of Valdese
- 2016 Water Collection System and WWTP Arc Flash Study, Town of Valdese
- Long and Crowders WWTP Arc Flash Study, City of Gastonia
- Eagle Road WWTP Arc Flash Study, City of Gastonia
- Arc Flash Study, Building No. 3, Poppelmann Plastics USA LLC, Claremont
- 2023, 2024, and 2025 Arc Flash Studies, Metropolitan Sewerage District of Buncombe County (MSDBC)
- Arc Flash Study, Phase 2, MSDBC
- Arc Flash Study, Hopewell Water Renewal, Hopewell, VA
- Douglas Lake Intake Arc Flash Study, Sevier Water Board, Inc., Sevierville, TN
- Arc Flash Study, City of Statesville
- Electric System Arc Flash Study, City of Elizabethton, TN



Education

MS, Electrical Engineering, Clemson University

BS, Electrical Engineering, Clemson University

BS, Mathematics, Lander University

Years of Experience

4

Chance brings a forward-thinking perspective to our team, considering future needs for our clients

Chance Stowe, PE

Project Engineer

Chance Stowe developed a passion for electrical engineering upon realizing that he wanted to be a part of bringing the vital resources of power to people and businesses. He believes in genuinely investing in the client and strives to efficiently complete successful projects. Chance has worked on projects that have dealt primarily with improvements or expansions to WTPs, WWTPs, and communications infrastructure. With much of his recent coursework and research focused on renewable energy technologies, the future of distribution networks, and the electrification of transportation, Chance is looking toward the future in this rapidly changing field.

Licensure

PE: NC #060957, VA #0402070872, TN #133138, SC #44642

Related Experience

- 2023, 2024, and 2025 Arc Flash Studies, MSDBC
- FY 2024-25 Arc Flash Study, Town of Valdese
- Long and Crowders WWTP Arc Flash Study, City of Gastonia



Education

BS, Electrical Engineering, NCSU

BS, Computer Engineering, NCSU

Years of Experience

2

Hunter has direct experience with arc flash studies and cares about keeping people safe.

Hunter Jensen

Engineering Technician

Hunter Jensen has always been curious about things that run on electricity, which is what motivated him to become an electrical engineer. He has worked on municipal infrastructure, transmission lines, and arc flash studies — all of which have varied in size. Hunter is an excellent communicator who enjoys helping people and coordinating with others. He majored in electrical and computer engineering and minored in business administration, which brings a unique perspective to the team. Hunter says the most fulfilling parts of his job include helping ensure people have clean water and protecting people's safety through arc flash studies.

Related Experience

- 2023, 2024, and 2025 Arc Flash Studies, MSDBC
- FY 2024-25 Arc Flash Study, Town of Valdese
- Long and Crowders WWTP Arc Flash Study, City of Gastonia
- Eagle Road WWTP Arc Flash Study, City of Gastonia
- Arc Flash Study, Hopewell Water Renewal, Hopewell, VA



Education

BS, Business Management, Mars Hill College

AAS, Electronics Engineering Technology, Asheville-Buncombe Technical Community College

Years of Experience

26

Brian's has completed multiple arc flash studies, study updates, and equipment testing for McGill's clients.

Brian Moseman

Planner

Brian Moseman is a valued member of McGill's electrical services team and offers an extensive and diverse background in project management background. His versatility allows him to quickly understand the client's needs and move the project forward. Brian has worked in a variety of professional environments, which have shaped his capacity to solve complex problems and ensure project success. His ability to effectively manage projects has reduced production downtime and keep projects working within their budgets. Brian's experience includes field lighting, field fencing, electrical distribution design, and fiber-optic systems.

Related Experience

- 2023, 2024, and 2025 Arc Flash Studies, MSDBC
- 2016 Water Collection System and WWTP Arc Flash Study, Town of Valdese
- Long and Crowders WWTP Arc Flash Study, City of Gastonia
- Cane Creek Sewer District – Arc Flash Study, Henderson County
- Arc Flash Study, Hopewell Water Renewal, Hopewell, VA



Education

AAS, Architectural Technology, Catawba Valley Community College

Years of Experience

35

Specialties

- AutoCAD
- REVIT

Sonja provides consistent and quality results to support our electrical engineering team.

Sonja Roberts

CAD Operator

Sonja Roberts has 35 years of drafting experience for electrical engineering projects of varying sizes for municipal clients, including pump stations, power substations, transmission and distribution lines, fiber optic cabling, and industrial and commercial facilities. She has acquired extensive knowledge and experiences in civil, mechanical, plumbing, architectural, structural, and electrical disciplines throughout her career. Sonja has excellent computer skills and is highly knowledgeable in AutoCAD software.

Related Experience

- 2023, 2024, and 2025 Arc Flash Studies, MSDBC
- 2015 Arc Flash Study and Selective Equipment Testing, MSDBC
- Arc Flash Study, City of Statesville
- 2016 Water Collection System and WWTP Arc Flash Study, Town of Valdese
- Cane Creek Sewer District – Arc Flash Study, Henderson County



Labeling equipment at Lower Creek WWTP, City of Lenoir

Arc Flash Studies for Water and Wastewater Facilities

City of Lenoir

McGill conducted an arc flash study for the City of Lenoir, which included the following sites: George Bernhardt Sr. Lake Rhodhiss Water Treatment Plant, Lower Creek Wastewater Treatment Plant, and Gunpowder Creek Wastewater Treatment Plant. The study encompassed 11 water support facilities, and 19 wastewater collection facilities. This study also incorporates device coordination study, fault current study, device duty, and PPE recommendations for plant staff. All panels are labeled at each site, and with new construction, the City will need to update the study. We have incorporated the revisions into our current projects at the site.

Client Reference

Jeff Church
Public Utilities Director
801 West Avenue NW
Lenoir, NC 28645

jeff.church@ci.lenoir.nc.us
828.757.2200

Project Highlights

- PPE recommendations
- Labeling
- Operations planning



2023, 2024, and 2025 Arc Flash Studies

MSDBC

McGill provided a complete arc flash study for a number of MSD facilities. The sites included the existing 40-million-gallons-per-day (MGD) water reclamation facility, 3 megawatt (MW) Craggy Hydroelectric facility, and 3 administration buildings. The study provided information to MSD to ensure it met current standards in accordance with 29CFR1910, 132(d)(1), National Fire Protection Association (NFPA) 70E, thereby safeguarding workers from injury while working on or near exposed and energized electrical conductors or circuit parts. McGill worked with MSD to gather all necessary equipment data and nameplate information. Our investigation covered various operational scenarios to evaluate the arc flash conditions associated with each piece of equipment. The water reclamation facility, in particular, can be configured to operate with any combination: normal (Duke Energy), three standby diesel generators (two 1 MW and one 2 MW), and three hydroelectric units (1 MW).

Every scenario presents a distinct arc flash situation. The equipment has been clearly labeled in accordance with NFPA 70E standards for normal operational scenarios. Detailed reports encompassing the results of other operating conditions were compiled for MSD's use. In conjunction with the arc flash study, we performed an equipment evaluation and conducted a system coordination study. The evaluation study determines if the equipment is adequate for the imposed electrical conditions, and we made recommendations regarding the adequacy of existing equipment to perform its intended function. We optimized the settings of protective devices to achieve consistent system reliability and safety. We completed all studies by using ETAP Power System Design and Analysis Software.

McGill completed the first arc flash study for MSDBC in 2018. Since that time, MSD and McGill have broken up the revisions of the arc flash study into multiple phases. Each phase included a few additional sites that have been built since the first arc flash study was completed in 2018.

Client Reference

Hunter Carson
Engineering Director
2028 Riverside Drive
Asheville, NC 28804

hcarson@msdbc.org
828.224.9646

Project Highlights

- Arc flash studies
- NFPA0-70E-compliant labeling
- Alternative scenarios



High service pump station at Valdese WTP.

Arc Flash Study

Town of Valdese

McGill conducted an arc flash study for the Town's WTP and WWTP. The study involves four water support facilities and five wastewater collection facilities. This study also incorporates a device coordination study, a fault current study, device duty, and PPE recommendations for plant staff. We provide our clients with an arc flash study and labeling that is compliant with OSHA and NEC 70E standards. This helps plant and operations staff beware of the risk when working on or around energized electrical equipment.

Client Reference

Bo Weichel
Assistant Manager / CFO
Post Office Box 339
Valdese, NC 28690

bweichel@valdesenc.gov
828.879.2123

Project Highlights

- Arc flash study
- Device coordination study
- Fault current study
- Device duty
- PPE recommendations

Arc Flash Study – Building No. 3

Poppelmann Plastics USA, LLC

McGill conducted an arc flash study at Poppelmann Plastics USA, LLC (Poppelmann) and implemented corresponding field labeling at its Claremont, North Carolina, facility. This study ensured Poppelmann's compliance with current standards, such as 29CFR1910.132(d)(1) and NFPA 70E, thereby enhancing worker safety when dealing with energized electrical conductors or circuit parts. The study delivered essential data, including flash protection boundary distances and incident energy levels, enabling Poppelmann to establish appropriate work procedures, PPE protocols, and labeling requirements for its facilities. Additionally, we conducted a training session to communicate the study's findings and instruct employees on identifying hazards associated with energized equipment throughout the facility, along with the requisite PPE for safe operations.

This study involved creating and placing over 90 labels in the plant's third building addition to the current plant site. McGill worked with Poppelmann and Duke Energy to obtain the necessary source and impedance data needed for the three separate electrical services associated with this new building.

Client Reference

Bill Loftin
Quality / EHS Manager
2180 Heart Drive
Claremont, NC 28610

billloftin@poeppelmann.com
828.466.9500

Project Highlights

- Arc flash studies
- NFPA-70E-compliant labeling



Arc Flash Study

City of Statesville, NC

McGill conducted arc flash studies for all of the City of Statesville's water and wastewater facilities. The studies for the wastewater facilities included two WWTPs (Third Creek and Fourth Creek). Each of these facilities is designed to treat six MGD. The treatment plants have a sewer collection system that totals 18 wastewater lift stations; these stations consist of a normal utility power and standby generator power that both must be evaluated to determine a worst-case arc flash scenario. The City's water system consists of a 15-MGD WTP, 2 raw water intakes (South Yadkin and Catawba Rivers) with a combined capacity of 22 MGD, and 3 elevated storage tank sites that can hold 2.8 million gallons of water for distribution across the system. McGill is currently updating this study, first competed in 2019, as part of providing continuing electrical engineering services for the City's water and wastewater projects.

Client Reference

Andy Smith
Water Resources
Operations Manager
301 South Center Street
Statesville, NC 28687

asmith@statesvillenc.net
704.878.3439

Project Highlights

- Arc flash study
- Assessment of multiple systems

Wastewater Collection System and Water Renewal Arc Flash Capital Budget Planning

Hopewell Water Renewal (HWR), Hopewell, VA

McGill worked with HWR to review facilities and include an arc flash study within its annual budgeting process. This endeavor involved visiting HWR facilities, including the collection system and water renewal facilities, in order to determine the scope and magnitude of the electrical distribution system at each location. Once this preliminary work was completed, we produced a proposed budget for the HWR's capital improvements plan (CIP).

Client Reference

Richard Thompson
Clearwater, Inc. Eastern Virginia Sales Engineer
(Former Director of HWR)
300 North Main Street
Hopewell, VA 23860

dickie.thompson@clearwaterinc.net
828.855.3182

Project Highlights

- Arc flash studies
- Proposed budget for CIP



Arc Flash Hazard Study

Two Rivers Utilities, City of Gastonia, NC

McGill performed an arc flash hazard assessment and made recommendations for PPE and labeling requirements for the City's Long Creek WWTP, Crowders Creek WWTP, and Resource Recovery Farm. The assessment and associated studies ensure that the City meets current standards in accordance with OSHA 29CFR1910.132(d)(1) and NFPA 7OE and safeguards workers from injury while working on or near exposed electrical conductors or circuit parts that could become energized. These assessments provide the utilities department with the necessary flash protection boundary distances and incident energy to determine the correct work procedures, PPE, and labeling requirements for its existing facility.

Client Reference

Charlie Graham
Project Manager,
Wastewater Division
Post Office Box 1748
Gastonia, NC 28053

charlieg@
tworiversutilities.com
704.913.9855

Project Highlights

- Medium and low voltage
- Multiple power sources
- Multiple utility suppliers
- Arc flash hazard assessment
- PPE recommendations
- Labeling requirements

WWTP Secondary Electrical Substation Replacement

Two Rivers Utilities, City of Gastonia, NC

The Two Rivers Utilities needed a redundant secondary substation at the Long Creek WWTP. This secondary substation is one of four currently at the Long Creek WWTP. This unit serves the area and buildings for the intermediate lift station, filter control building, digester building, and chlorine building. The project will provide redundancy to the electrical system in the intermediate screw pump station / filter area of the plant. McGill worked with the Gastonia Electric Department to provide overhead / underground power to the new, pad-mounted transformer. We reviewed the electrical system with these proposed upgrades and provided overcurrent protection coordination, as well as short-circuit and load-flow analyses, for the area served by this secondary electrical substation.

Client Reference

Charlie Graham
Project Manager,
Wastewater Division
Post Office Box 1748
Gastonia, NC 28053

charlieg@
tworiversutilities.com
704.913.9855

Project Highlights

- Substation
- Review of the electrical system
- Overcurrent protection coordination
- Short-circuit and load-flow analyses



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828.328.2024 | mcgillassociates.com

mcgill Shaping Communities Together®