Finance and Administration Committee
August 15, 2023

Action Item

FAC – 1 Approval of Commissioning Agent Selection - Jackson Library Addition and Renovation

Background Information

The scope of this project will consist of a comprehensive renovation of the existing building. The current facility does not reflect the evolving definition of a modern-day library: a dynamic, technology-rich learning environment and intellectual community hub.

Building Commissioning shall include the whole building and may consist of the following systems: Mechanical Systems, Electrical Systems, Plumbing Systems, Irrigation Systems, Building Envelope, and Evaluation of LEED Silver certification.

The University of North Carolina System website advertised the request for qualifications and letters of interest for commissioning services for this project. Thirteen (13) firms submitted letters of interest; two (2) were from Guilford County.

The Commissioning Agent Selection Committee reviewed the letters of interest and invited three (3) firms to present their qualifications at an interview held on June 26, 2023. The Committee recommends the following in ranking order.

1. RMF Engineering, Inc., Raleigh, NC
2. System WorCx, PLLC, Charlotte, NC
3. MBP Carolinas, Inc., Raleigh, NC

The firm, RMF Engineering, Inc. (RMF), is an Engineering firm and is recommended as the Commissioning Agent for the following reasons:

1. With ten (10) Commissioning Agents in North Carolina, and seventy (70) licensed Engineers within their firm, RMF best illustrated the depth of experience and resources needed for this complex renovation project.

2. RMF provided examples of their Commissioning experience most closely aligned with complex multi-phased renovation projects of occupied buildings similar to the Jackson Library Renovation project. RMF provided Commissioning Services for the UNCG Dining Hall Renovation project, a complex multi-phased project that remained in operation during construction.
3. RMF best illustrated the delivery of phased State Construction projects and a positive working relationship with the State Construction Office, UNC Greensboro, designers, and CMRs.

Attachment:

1.1 RMF Engineering, Inc.’s Letter of Interest (see below)

Requested Action

Based on the above information, the University of North Carolina Board of Trustees at Greensboro approves RMF Engineering, Inc., Raleigh, NC, as the Commissioning Agent for the Jackson Library Addition and Renovation project. If agreeable terms cannot be met with the recommended firm, the Board authorizes the administration to negotiate terms with the other firms in ranking order.

Robert J. Shea, Jr.
Vice Chancellor for Finance and Administration
UNC Greensboro
Jackson Library Addition and Renovation, Commissioning Services

May 19, 2023
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3. Project Team Organization Chart  
4. Relevant Experience and Other Important Factors  
5. Minority Business Participation Plan  
6. SF-330
Tab 1
Completed Information Sheet
**Information Sheet**

**Firm Name:** RMF Engineering, Inc.

<table>
<thead>
<tr>
<th>If HUB, Specify Type</th>
<th>□ Female</th>
<th>□ American Indian</th>
<th>□ Hispanic</th>
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<tr>
<td>□ Hub Certified</td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Point of Contact:** Barney York, PE, CxA  
**E-mail Address:** barney.york@rmf.com

**Street Address:** 8081 Arco Corporate Drive, Suite 300

**City:** Raleigh  
**State:** NC  
**Zip Code:** 27617  
**County:** Wake

**Phone #:** 919.941.9876  
**Fax #:** 919.941.9957

**Type of Firm (e.g. Architectural, Civil Engineering, Surveying, Etc):** Commissioning / MEP Engineering

**Consulting Firms**

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<td>□ Check If HUB</td>
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</tbody>
</table>

**Other (specify type):** Building Envelope Commissioning: High Performance Building Solutions

**Other (specify type):**
Tab 2

Letter of Interest
RE: Commissioning Services for the Jackson Library Addition and Renovation

Mr. Hale and Members of the Selection Committee:

We are pleased to have the opportunity to submit one electronic copy of our qualifications for UNC Greensboro’s (UNCG) Jackson Library Addition and Renovation project to provide commissioning services. Working on a wide range of projects over the past 20 years with UNCG, we have gained a strong familiarity with your campus. We have completed over 37 projects for the University over that time, including the commissioning of the renovation and modernization of UNCG’s dining hall.

Extensive Relevant Commissioning Experience

Since our inception in the early eighties, RMF has been intimately involved in all aspects of engineering systems design, construction and commissioning in complex buildings and surrounding infrastructure. Our team has been responsible for providing commissioning services for a wide range of building types, from flexible classrooms and health and wellness centers to libraries and other student services buildings. Our team understands the intricacies of commissioning various campus buildings and our experience will allow us to foresee opportunities available to the project. Commissioning new and renovated buildings for higher education clients is what we do and is a primary focus of our team.

Manpower and Attention to Detail

As one of the most experienced BCxA Certified Commissioning firms in North Carolina, RMF has a local dedicated team of full time commissioning staff members with backgrounds and experience ranging across the board: Professional Engineers, Certified Commissioning Professionals, Facility Managers, Certified Controls Specialists and LEED Accredited Professionals. Our extensive commissioning experience, knowledge and issue resolution techniques incorporate proper systems operation and innovative energy reduction strategies seamlessly into the design, construction, acceptance and turnover process.

We sincerely appreciate your consideration of RMF for these projects and look forward to another opportunity to continue our successful relationship with UNC Greensboro. If you should need any additional information, please contact me at 919.941.9876 or barney.york@rmf.com.

Sincerely,

Barney York, PE, CxA
Principal in Charge
RMF Engineering, Inc., PC

May 19, 2023
Tab 3

Project Team
Organization Chart
RMF Engineering

Firm Overview

- 260+ employees
- 10 offices
- 40-year history

Founded in 1983, RMF Engineering (RMF) has been on the forefront of complex Mechanical, Electrical and Plumbing engineering solutions since before terms like efficiency, sustainability, LEED and green requirements were common terminology.

In our 40-year history, RMF has become nationally recognized for our quality analysis, planning, design and commissioning of buildings, as well as campus utility generation and distribution systems.

With over 260 staff in 10 offices, RMF is a client-focused practice routinely ranked as one of the top MEP firms in the country. We are proud of our prompt responsiveness, industry-leading tech savvy and project teams who have extensive history of working together as specialized units. As a result, you can expect to receive the highest quality contract documents, the most intelligent engineering solutions and a team that is known for seeing every project through to completion.

Full Service Engineering
We provide our clients a full range of engineering services to provide maximum energy efficiency and sustainability across their entire operational portfolio. Starting with Energy Master Planning all the way through to Commissioning, our focus is to provide technical expertise and a high level of service that leads to long-lasting relationships.

RMF’s full range of services includes:

- Commissioning
- MEP Building Engineering
- District Energy
- Thermal and Electrical Utilities
- Energy and Decarbonization Planning
- Construction Quality Management

2022 » CSE
MEP Giants
RMF Ranked 42nd out of 100 in CSE’s MEP Giants

2022 » ENR
Top 500
RMF Ranked 294th out of 500 in ENR’s Top 500

2022 » EC&M
Top 40
RMF ranked 24th out of 40 in EC&M’s Electrical Design Firms
Adequate Staff and Proposed Consultant Team

RMF has a dedicated commissioning department consisting of a wide range of individuals from the design and construction industry. These individuals are professional engineers, technicians from the TAB industry, controls experts, building envelope, roofing and security specialists. Many of these individuals are certified through the Building Commissioning Association (BCA) as Certified Commissioning Professionals (CCP), the AABC Commissioning Group (ACG) as Certified Commissioning Authority’s (CxA), the Association of Energy Engineers (AEE) as Certified Building Commissioning Professionals (CBCP), or the University of Wisconsin-Madison as Qualified Commissioning Process Providers (QCxP).

RMF’s Southeast commissioning team leaders, Barney York and Rob Clegg, have well over 40 years of combined industry experience focused exclusively on the commissioning of mechanically complex facilities.
Mr. York leads the southeast commissioning team at RMF. He is a mechanical engineer with experience in the design, analysis and commissioning of HVAC, laboratory, steam and chilled water systems serving government educational, industrial, healthcare, correctional and commercial facilities. Mr. York has worked extensively on the commissioning of both new and renovated facilities. As such, he is aware of the special needs the facility and construction managers face and is experienced in working through issue resolution, cost and resource management and phased construction.

Mr. York’s design and construction experience has proven to be a valuable asset to owners and designers as his diverse experience allows him to bring an understanding of the intricacies involved in communicating complex system information, understanding different user groups needs and goals, maintaining project schedules and facilitating a team environment. He has worked on a number of LEED Certified facilities.

Publications & Speaking Engagements

“Commissioning: Delivering a Central Plant that Works”, District Energy Magazine, 2009
Mr. Clegg is a mechanical engineer with experience in the analysis, design and commissioning of systems serving federal, commercial, industrial, educational and healthcare facilities. His commissioning experience includes HVAC, steam, hydronic, electrical, fire alarm and suppression, and plumbing systems.

He has played a pivotal role in the development of the Commissioning Standards at RMF. He has written commissioning specifications, commissioning plans, installation checklists, functional testing procedures and various other forms. Additionally, Mr. Clegg participated with the North Carolina Building Commissioning Committee in the development of Senate Bill 668 and 1946, standardizing the commissioning requirements for North Carolina public facilities.
Mr. Thompson is a mechanical engineer and his responsibilities regularly involve design review, functional performance test development, system functional testing, troubleshooting of system issues and managing the commissioning process among a large construction team. He believes strong communication and teamwork in the construction setting is key in the success of today’s complex building requirements. He has worked on a number of federal, commercial, higher education, critical municipality and healthcare projects on the East Coast including LEED certified facilities.
Mr. Campbell is a mechanical designer with experience in the design, analysis and commissioning of HVAC, steam and chilled water systems serving educational, industrial, healthcare and commercial facilities. His responsibilities regularly involve design review, functional performance test development, system functional testing, troubleshooting of system issues, leading of commissioning meetings and facilitating project team communication. Before Mr. Campbell was a member of the RMF team, he worked as a Control Systems Engineer designing, installing and programming control systems in the water & wastewater and building automation industries.
Mr. Feuerstein is a commissioning agent with experience in design, analysis and testing of HVAC, chilled water systems serving educational, industrial, and healthcare facilities. His responsibilities involve design and submittal review, leading commissioning meetings, facilitating project team communication, pre-functional checklist development, functional performance test development, system functional testing as well as measurement and verification of critical equipment.

**Professional Experience**
- 4 YEARS AT RMF
- 9 YEARS OF EXPERIENCE

**Education**
- BS, Mechanical Engineering
  - 2013, VIRGINIA MILITARY INSTITUTE

**Certifications & Awards**
- Certified Commissioning Authority

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**New Parr Center Commissioning (Hagemeyer Library)**
- Central Piedmont Community College

**Off-Site Library Storage Renovation Commissioning**
- Wake Forest University

**Atkins Library Tower ADA Fire System Upgrades Commissioning**
- UNC Charlotte

**New Student Union Commissioning**
- East Carolina University

**Central Library Renovation Enhanced Commissioning**
- Fulton County Government

**Campus Center Expansion / Renovation Commissioning**
- Georgia Institute of Technology

**Dobo Hall Laboratory Building Renovation and Re-Commissioning**
- UNC Wilmington

**Salem Hall Renovation Commissioning**
- Wake Forest University

**New Film Studies Facility Commissioning**
- UNC Wilmington

**New Science and Office Building Commissioning**
- Winston-Salem State University

**Sports Performance Center Commissioning**
- Wake Forest University

**New Facilities Operations and Parking Services Building Commissioning**
- UNC Charlotte
Mr. Holt is a commissioning technician with experience in design, analysis and testing of HVAC, chilled water systems serving educational, industrial, healthcare and government facilities. His responsibilities involve design and submittal review, leading commissioning meetings, facilitating project team communication, functional performance test development, system functional testing as well as measurement and verification of critical equipment.

Professional Experience

5 YEARS AT RMF
5 YEARS OF EXPERIENCE

Education

BS, Mechanical Engineering
2019, NORTH CAROLINA STATE UNIVERSITY

New Film Studies Facility Commissioning
UNC Wilmington

Campus Center Expansion / Renovation Commissioning
Georgia Institute of Technology

Dobo Hall Renovation Commissioning and Re-Commissioning
UNC Wilmington

New Science and Office Building Commissioning
Winston-Salem State University

New Allied Health Building Commissioning
UNC Wilmington

New Hall County Campus Commissioning
Lanier Technical College

2127 Campus Drive Infrastructure Improvements Commissioning
Duke University

New College of Arts and Sciences Commissioning
The University of Alabama Birmingham

New Dining Hall Commissioning
Elizabeth City State University

New Residence Hall Commissioning
Elizabeth City State University

Facilities Management Complex Commissioning
Wake Technical Community College

Chilled Water Plant 3 Commissioning
Duke University
Mr. Monroe is the director of RMF’s Charlotte office with experience in the design, analysis, construction administration and commissioning of MEP building systems serving educational, healthcare, laboratory, military and commercial facilities. He has managed and designed systems for new and renovation projects which frequently include the coordination of multiple construction phases for a wide variety of system types and building occupancies.
Mrs. Caldwell is an electrical engineer with extensive experience in design of medium-voltage and low-voltage power distribution for normal and emergency power systems. Mrs. Caldwell also has experience designing interior lighting and lighting controls, exterior lighting, communications, security, surveillance, fire protection infrastructure and lightning protection. Mrs. Caldwell’s area of focus includes municipal, healthcare and higher education projects. She has overseen project design schedules and budgets and designed complex building systems and site distribution systems.
Ms. McDermott's has a background in Architectural Engineering focusing on building science and energy efficiency with a particular focus on high performance buildings. Ms. McDermott is the President / CEO providing daily decision making, completing proposals and operational management for the company. She provides engineering services and project management for High Performance Building Solutions’ various projects. Ms. McDermott has spent over ten years focusing on Building Envelope Commissioning in large commercial and industrial buildings. She routinely conducts building envelope design reviews, specification reviews, quality assurance inspections and performance testing of the building envelope in buildings ranging in size from 1,000 square feet to over 1,000,000 square feet.
Tab 4
Relevant Experience and Other Important Factors
4.1 Specialized or Appropriate Expertise in the Type of Project

DEPTH OF RESOURCES
RMF’s full time staff is composed of over 70 licensed professional engineers and more than 125 engineering college graduates. This staffing includes our southeast commissioning team, located in North Carolina, dedicated to commissioning projects across the state. The list below illustrates our current staffing levels:

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<th>19</th>
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<td>Sanitary Engineers</td>
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<tr>
<td>22</td>
<td>Electrical Designers</td>
<td>267</td>
<td>Total Personnel</td>
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COMMISSIONING EXPERIENCE
The fastest growing sector of our business has been commissioning, operator training and assistance. RMF has provided expanded construction phase services to enhance the commissioning phase on numerous projects. RMF’s role has included the complete commissioning process for higher education, local and state government, laboratory, healthcare, K-12 and commercial clients. RMF has a dedicated commissioning department consisting of a wide range of individuals from the design and construction industry. These individuals are professional engineers, technicians from the TAB industry, controls experts, building envelope, roofing and security specialists. Specialized talent in-house to support our commissioning projects includes:

- Certified Commissioning Agents & Technicians (BCA, ACG and ASHRAE)
- Certified Construction Quality Management Professionals (USACE)
- LEED Accredited Professionals
- Automated Controls Specialists
- Certified Plant Operators
- Licensed Master Electricians
- Master Plumbers
- Code Inspectors
- Professional Engineers

SECTORS WHERE RMF HAS PROVIDED COMMISSIONING

<table>
<thead>
<tr>
<th>Building Sector</th>
<th>New Construction or Major Renovation</th>
<th>Existing Building</th>
<th>Equipment Replacement</th>
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<tr>
<td>Higher Education Facilities</td>
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<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Science, Research &amp; Technology Laboratories</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Museums, Libraries, etc.</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Convention Centers</td>
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<tr>
<td>Hospitals</td>
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<td>Office Buildings</td>
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<td>Sports &amp; Recreation Centers</td>
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<tr>
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</table>
4.1 Specialized or Appropriate Expertise in the Type of Project

**COMMISSIONING INDUSTRY BEST PRACTICES**

Our corporate commissioning goal is to provide an affordable, professional service that yields a project constructed and commissioned on time, within the budget and meets the complete program requirements. The managing principals of the firm strongly believe that it is our role to facilitate the best engineering solution possible to a client’s project. RMF must listen to the needs of the client and lead the client to a successful conclusion of any endeavor. Engineered systems must be constructed and commissioned within the project budget and satisfy all program requirements.

Review of design documents, alternative systems analysis and life cycle cost justification will always be an integral part of RMF’s commissioning work. The financial resources of the client must be used wisely based on sound and proven engineering concepts.

Those who seek our professional engineering services confer upon us their trust and confidence. With this in mind, we have pledged to earn the client’s confidence by providing our best professional product, delivered at the appointed hour and by seeking at every opportunity to deliver more than full value.

**EXPERIENCE WITH MECHANICAL SYSTEM EQUIPMENT**

RMF has helped owners, designers and contractors identify and troubleshoot various types of HVAC and DDC systems. RMF does this by selecting and utilizing its team members to help find a solution based on the type of problem. Several of RMF’s Commissioning team members come from a background in HVAC. Some have experience working directly for controls contractors such as Johnson Controls and Siemens while others have worked directly for test, adjustment and balancing contractors. Some of RMF’s team members have worked for the operations and maintenance departments for various companies, working directly on HVAC systems, components and their digital controllers. All RMF team members have experience troubleshooting HVAC and controls systems through commissioning various projects.

RMF has provided commissioning services for over 30 years to clients throughout the Southeast. Our dedicated commissioning team understands the commissioning process and how it can benefit our clients by seeking to improve how building equipment and systems function together. Commissioning can often resolve problems that occur during design or construction or address problems that have developed throughout a building’s life. RMF’s commissioning process works to improve a building's operations and maintenance (O&M) procedures to enhance overall building performance.

There are many benefits to commissioning, including reducing building operating costs that can lead to an increase in net operating income, fewer occupant complaints and increased ability to manage systems, staff training and improved documentation and comfortability for occupants.
CONTROLS SYSTEM EXPERIENCE
Our team consists of personnel whose backgrounds include designing, installing, programming and troubleshooting controls systems. Our team has experience working with controls device manufacturers including Alerton, American Automatrix, Automated Logix, Distech, Honeywell, Siemens, Johnson Controls, Trane and others. These systems include both routine DDC building automation systems and 100% customizable PLC based control systems routinely found in high tech, mission critical facilities. We believe team members must be able to understand control system programming, component operation / calibration, start-up procedures, code requirements and the responsibility for inspections. Our expert team is capable of peeling back the layers of the coding to reveal improperly programmed or bloated systems filled with unnecessary programming language which slows down the systems response or causing improper functionality. In addition, we routinely identify sections which have improper communication languages caused by improper mapping or improperly configured hardware. Both are reasons why one piece of equipment or system will not properly function with another.

In addition to the programming language, our team is comprised of professionals who have experience installing individual components before working with RMF. Many times the BAS software indicates a piece of equipment is working well, but in reality a component is installed incorrectly causing the BAS to deliver false information. We often find valve and damper installations 90° out of proper rotation where the BAS registers the component in one position but due to installation can’t physically move. In addition, we routinely find wiring issues where the wiring is improperly landed, shielded or set-up improperly. Our experience and philosophy begins with believing you must put your hands and eyes on the individual components if you are to trust their validity.

FIELD WORK
All of the RMF commissioning team members presented here have more than five years of experience providing field work. RMF personnel experienced in this type of work will conduct the physical inspection and testing of all major MEP equipment. Nameplate data will be recorded and digital photographs taken to accurately represent the equipment condition or code scenario. Assessment of equipment age and remaining future productive life span will be provided. The critical nature, usage and/or application of each system will be assessed to prioritize any upgrade / replacement schedules for the Owner.

Systems performance will be tracked and analyzed using trend data from RMF-supplied independent data loggers as well as existing Building Automation System (BAS) information. This trending shall be done to identify any poor performance issues and provide potential opportunities for economic improvement of systems operations.

EXPERIENCE WRITING COMMISSIONING SPECIFICATIONS
RMF has developed several versions of Commissioning Specifications, Commissioning Plans and other standard commissioning documentation, each time improving upon the last. With the latest Commissioning Specifications and Commissioning Plan developed by RMF, all past issues have been accounted for and addressed. The specifications and plan are customized for every project depending upon the level of commissioning that is to be performed. Typically overlooked through the Commissioning Process is the Start-Up Phase, because it gets grouped into either the Installation Phase or the Functional Testing Phase. RMF has separated this phase from either the Installation or Functional Testing Phase and made it an entirely separate phase.
4.1 Specialized or Appropriate Expertise in the Type of Project

**TESTING, ADJUSTING AND BALANCING EXPERIENCE**

Several of RMF’s commissioning team members come from a background in HVAC with experience working directly for Test, Adjustment and Balancing contractors. This diverse background provides RMF an unique understanding of how TAB professionals are certified, and also the different requirements imposed by different TAB certification agencies to help our clients understand the pros and cons of what they are purchasing. RMF’s experience proves independent TAB validation is a necessity for all projects. This belief stems from our experience proving that many TAB companies understand equipment but not systems, or the TAB work was performed too early in the construction phase. Clients and designers will often be provided a TAB report which indicates the systems are properly operating, and only later do they find the systems keep tripping offline or the facility is operating under negative circumstances. We often receive complaints the facility is experiencing humidity issues, laboratories keep alarming and sections are either too hot or too cold. These items are often not due to the equipment not moving the proper volume water/air, or due to improperly functioning control sequences. Rather the issues are created because the TAB firm failed to understand all the various system operational modes, and limitations created by the way the physical components are installed. For example, we have found firms setup systems using fans which are not allowed to normally operate in order to make design airflow.

The TAB report looks great, but only until we independently validated their methods did we notice the system does not operate properly under normal conditions. We also routinely find systems wasting energy due to improper system setpoints caused by improper balancing techniques. The industry thought is commonly the systems are using “autoflow” devices so the system is self-balancing and the TAB work is simplified. This is somewhat true, but it takes RMF’s knowledgeable team to help identify system limitations and find improperly installed devices. RMF’s team has the ability and equipment necessary to independently verify the systems are properly balanced under all scenarios, and our personnel are able to make minor system corrections on the fly. Our experts ensure the control sensors are properly calibrated as installed and reporting properly to the controls/energy monitoring systems.
RMF in the Spotlight

RMF received an Honorable Mention from the Building Commissioning Association (BCA) for commissioning services in 2019.

Detailed samples of similar project types are located in Section F of the SF-330 form within this proposal.

A partnership you can rely on

Our refined commissioning approach, philosophy and extensive range of experience will result in the highest level of operational quality for the engineered systems critical to the project. Because of the size of the firm and the desired controlled future growth, RMF is extremely selective in the marketing of services. This selective marketing is done to ensure that any project regardless of its size is performed in a professional manner with principal involvement.

LEED® / Sustainability

The U.S. Green Building Council’s LEED rating systems requires buildings to be commissioned and awards points to those that employ ‘enhanced’ commissioning. RMF has multiple LEED Accredited Professionals on our team and has assisted project teams in meeting all commissioning requirements of the LEED program on multiple projects. In addition, RMF has professionals from the commissioning team working with the USGBC’s Energy and Atmosphere Technical Advisory Committee, which is charged with writing the LEED guidelines.

AABC Commissioning Group (ACG)

RMF is certified as a commissioning firm by ACG. We also have various staff that hold a personal ACG Certified Commissioning Authority (CxA) certification.

BCCB Building Commissioning Certification Board (CCF)

RMF was among the first few Certified Commissioning Firms (CCF) as recognized by the Building Commissioning Association (BCxA). We also have various staff that hold a personal BCA Certified Commissioning Professional (CCP) certification.

Experience on Design Projects to be Part of an Existing Campus Context

As the commissioning agent some of the traditional requirements associated with working on university campuses, like phasing of activities to minimize interruptions to the campus, do not involve the commissioning agent; however, there are several that do. First and foremost, we have significant experience working with all the various stakeholders involved, from planning, design, senior leadership, trustees, North Carolina State Construction Office, utilities operations and campus automated control teams to department heads. A successful project requires all of these stakeholders have buy-in and representation. As a commissioning agent, we have extensive experience in helping stakeholders achieve these goals.

University campuses are unique as a group, even more unique by state, and certainly each have their own nuances. Our vast experiences with universities as a whole, state universities in North Carolina (we have worked with all 17) and UNCG itself, will help us effectively serve in our role as the commissioning agent on this project.
4.2 Past Performance on Similar Projects

Dining Hall Renovation Commissioning
UNC GREENSBORO
This project included a comprehensive renovation and modernization of UNCG’s 123,000 SF dining hall. The original five dining halls and kitchen dated back to 1904-1986. The project involved unifying the five existing dining halls around a central atrium. A retail restaurant, cafeteria and other retail dining venues were included in the new dining hall, as well as offices for administration and dining services. This project consisted of very intricate supply air and exhaust air systems to support the high heat and smoke resulting from cooking throughout the building. The exhaust system was designed to be extremely energy efficient for a dining facility.

Cost: $25 Million; Completion Date: 2015

Lilly Library Addition and Renovation Commissioning
DUKE UNIVERSITY
Originally constructed in 1890 and most recently renovated in 1993, Lilly Library is one of the oldest and most architecturally significant buildings at Duke. This project includes the commissioning services for the major renovation to the 4,200 SF building. The majority of the spaces and functions will remain unchanged but the MEP systems will be completely replaced. The addition will consist of a totally new 5,300 SF expansion intended to match the existing.

Cost: $12.4 Million; Completion Date: 2024 (est.)

New Parr Center Commissioning (Hagemeyer Library)
CENTRAL PIEDMONT COMMUNITY COLLEGE
Central Piedmont Community College selected RMF to provide third party commissioning services for a new 170,000 SF facility. The new facility replaced the Terrell Building, the Hagemeyer Learning Resource Center and the Pease Auditorium. The new 107,863 SF library provides students with over 25 collaborative spaces, a classroom, a maker’s lab and a video studio with a green screen. The library also houses the new Pease Auditorium. The new 77,572 SF Student Center houses student services, student government, student life organizations, an academic learning center and a food court and academic commons areas.

Cost: $113 Million; Completion Date: 2022
4.2 Past Performance on Similar Projects

**Off-Site Library Storage Facility Renovation Commissioning**

**Wake Forest University**

RMF provided commissioning services for the renovation of the ZSR Storage Facility for the use of off-site library storage at Wake Forest University in Winston-Salem, North Carolina. RMF began this project during the Construction Phase to minimize and correct any conflicts as early as possible. Commissioning will continue through the Acceptance, Turnover, and Warranty Phase to verify proper continued operation.

**Cost:** Money; **Completion Date:** 2023

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**Central Library Renovation Commissioning**

**Fulton County**

This project included the commissioning of the renovation of a 250,000 SF, eight-story library in downtown Atlanta. The renovation included the addition of a new atrium and all new electrical and mechanical systems. The renovated building is designed to be versatile and allow for social services and events. The building includes an event and conference space on the fifth floor with a two-story gathering space and retractable bleachers, a rooftop terrace, an active learning center including a large demonstration kitchen, an auditorium and exhibition space, business center, children’s space and leasable space on the sixth and seventh floors.

**Cost:** $44 Million; **Completion Date:** 2021

---

**New Main Campus Student Union Commissioning**

**East Carolina University**

East Carolina University selected RMF Engineering to provide third party commissioning services for the new 210,000 SF Student Union and associated chiller plant on campus. The Student Union includes the following spaces: Center for Student Activities, Leadership and Involvement; Ledonia Wright Cultural Center; multi-purpose 250-seat theater; event space; bookstore; dining and Sports Grill; and 700-space parking structure. The project is targeted for a LEED Silver certification.

**Cost:** $90 Million; **Completion Date:** 2019
4.2 Past Performance on Similar Projects

**Campus Center Expansion / Renovation Commissioning**  
**GEORGIA INSTITUTE OF TECHNOLOGY**
Georgia Institute of Technology selected RMF to provide third party commissioning services for their 300,000 SF Campus Center Expansion / Renovation. The project provided a comprehensive renovation of Georgia Tech’s Student Center complex. The complex gained an additional 130,000 SF, for a total of approximately 300,000 SF of new or renovated space. The expansion / renovation encompasses five buildings in total: Exhibition Hall, two Pavilions, Cafe and the current Student Center.

**Cost:** $110 Million; **Completion Date:** 2022

**Dobo Hall Laboratory Building Renovation and Re-Cx**  
**UNC WILMINGTON**
Consisting of 110,000 SF, Dobo Hall is the largest laboratory building on the UNC Wilmington’s campus. RMF’s services for this project consisted of functionally testing 100% of the mechanical system including the HVAC systems and hydronic systems. RMF performed commissioning of the Dobo Lab HVAC systems with the building fully occupied and operational.

**POST HURRICANE**
RMF provided commissioning services for the Phase 3 renovation of Dobo Hall after the building sustained substantial damage during hurricane Florence in 2018.

**Cost:** $55 Million; **Completion Date:** 2021

**Salem Hall Renovation Commissioning**  
**WAKE FOREST UNIVERSITY**
RMF provided commissioning services for the renovation of the existing 53,000 SF Salem Hall chemistry laboratory building. This facility houses lecture halls, laboratories, work spaces, laboratory support spaces, classrooms and administrative offices. The renovations included new cutting-edge chemistry classrooms, laboratories and equipment space. The mechanical systems include laboratory terminal units supported by a laboratory control system.

**Cost:** $15 Million; **Completion Date:** 2019
4.3 Current Workload and State Projects Awarded
RMF is presently operating at 80% of productive capacity. Our firm strives to maintain a three to six-month steady backlog of work to insure continuity. As evidenced in the individual resumes, the personnel proposed for this project have worked on numerous similar projects, and are fully aware of how to plan their work and budget their time accordingly to be efficient and timely. Our current workload is such that RMF could begin working on projects from this contract immediately.

RMF has worked on all 17 of the University of North Carolina System campuses, therefore, our team has extensive experience working on projects through the North Carolina State Construction Office.

4.4 Proposed Design Approach for the Project
RMF will develop a comprehensive commissioning plan. The plan details the roles and responsibilities for each party, the process and sample commissioning documentation. Project Manager Rob Clegg will serve as the primary point of contact for all correspondence and is responsible for coordination of all commissioning activities. RMF’s philosophy is an active management role. Many commissioning firms tend to rely on technology to manage the commissioning process. However, RMF has found that while our technology is a useful tool, nothing can replace the face time and personal touch required to bring a project to successful completion. The philosophy relies on frequent on-site meetings to discuss key issues such as schedule, testing, installation and operation issues. This proactive method allows RMF to focus on driving the project to successful completion rather than letting the contractors and owners work things out.

To enhance success through effective and efficient communication, RMF has a web-based design review / commissioning issues log tool that is utilized to manage the communication process. The process allows the owner, design professionals and contractors to quickly review the status of issues and the historical responses / actions supporting these issues. On a monthly basis, RMF provides formal progress reports for commissioning activities along with a four week, “Look Ahead,” schedule. This report also follows meetings, so they are updated to define current results. Our refined commissioning approach, philosophy and extensive range of experience will result in the highest level of operational quality for the engineered systems critical to the project.
RMF Engineering

4.3 - 4.9 of Relevant Experience and Other Important Factors

**DESIGN PHASE**
RMF’s professional engineers review the construction documents and then post comments in a web-based database system to accomplish the design-phase document review. Each project team member has access to comments in real time. RMF understands the current phase of design and focuses on comments which are appropriate to the project’s phase while also challenging the designers and their decisions. RMF believes a challenged designer will give you their best work. Detailed commissioning specifications will be given to the design team to include with overall construction documents. The specifications provide the information the contractors need to know to bid and properly execute commissioning.

**CONSTRUCTION PHASE**
The construction phase begins with a kick-off meeting to review the commissioning process with all team members. RMF conducts regular meetings while also conducting site observations to identify any potential issues early on during construction. These meetings help the project team see us as team members and not just a new face appearing at the end to point out issues. All issues are recorded in a commissioning issues log which is discussed at each meeting and individuals are tasked with action items to ensure the issue is properly resolved. RMF also creates and verifies customized installation and start-up checklists to help ensure the systems are installed correctly and also allow unknown conditions to be resolved before they become an issue.

**ACCEPTANCE PHASE**
System functional testing is at the heart of the acceptance phase activities. The systems are demonstrated to show proper operation under all modes of operation and test and balance work is also verified. RMF’s commissioning agents use a blend of, “hands-on,” and witness testing. RMF will create and issue customized functional tests for each system during the construction phase and obtain input from the designer and installing contractors. The iterative approach promotes early buy-in and limits number of surprises identified during acceptance testing. Once the testing begins, RMF works alongside the contractors to verify the systems perform as designed and will often help correct small issues during testing such as broken linkages, sensor calibration and minor programming logic. RMF realizes the importance of being able to make small corrections on the fly. RMF will also routinely use our own TAB equipment to help facilitate TAB verification and also troubleshoot issues which seem to have arisen unexpectedly.

**POST ACCEPTANCE PHASE**
RMF doesn’t quit working once the contractors and designers have long left the project. RMF’s commissioning team actually enjoys the post acceptance phase most because the team members feel they add tremendous value. Things will change as the building, “breaks in,” and being able to investigate what has changed and what needs to change is an important part of commissioning most firms don’t think about. Our team interviews end users and analyzes trends and independently obtained data to pro-actively resolve issues. RMF also uses this time to help further educate O&M staff. The formal training the O&M staff receives during the project often does not address items which occur later. RMF’s commissioning staff is on hand to help further train and troubleshoot these unexpected items.
4.5 Recent experience with project costs and schedules
RMF’s experience tells us that the commissioning provider must have a primary role in assisting the Contractors to develop a realistic project schedule. Often, enabling activities for Functional Performance Testing (FPT) are not on everyone’s radar. As a commissioning provider, RMF understands all steps leading up to system readiness. To assist the team in improvement of the scheduled project delivery to UNCG, RMF will incorporate the use of FPT Readiness Tracking documents as part of commissioning meetings to identify when a system is ready for testing as early as possible.

Financial controls will be monitored continually. We will hold meetings with the RMF Project Manager and Task Managers as required to review program schedules and compare budgeted man-hours and dollars with expenditures. This will permit the RMF Project Manager to closely monitor costs for each task and to ensure that all costs stay within budget. Progress reports are typically submitted for each calendar month. This presentation will be supported by a schedule and narrative comprehensive enough to enable the management personnel to evaluate the man-hour efforts to render the services cited. The report will address the purpose of the assignment and briefly describe how the objectives sought were obtained. The monthly invoices for services rendered will cover the same time period as the progress report.

4.6 Construction Administration Capabilities
RMF provides construction administration for all of our design projects. In a commissioning context, our team provides construction phase as discussed in our commissioning approach. This phase includes regular meetings, site observations, commissioning issues log and installation and start-up checklists.

4.7 Proximity to and Familiarity with the Area Where Project is Located
RMF’s project team is located in Raleigh, North Carolina which is approximately a 60 minute drive to UNCG. RMF has strong familiarity with UNCG’s campus thorough our commissioning and design work. We have worked on projects with UNCG for over 20 years including the Dining Hall Renovation Commissioning.

4.8 Record of Successfully Completed Projects without Major Legal or Technical Problems
For the past 20 years, no judgments have been made against RMF Engineering. RMF believes in a partnership with our clients. We take great strides to ensure that mistakes do not happen; they are limited through processes such as Quality Control and Design Assurance. We can guarantee that we will be responsive to your requests, and we will make certain that a concern is handled to your satisfaction.
4.9 Energy Conservation/LEED Experience

**LEED ENHANCED COMMISSIONING**

Commissioning is a prerequisite under the Energy and Atmosphere section of LEED. This required, or “Fundamental” commissioning process includes several key steps and components that must be completed by the project team. Enhanced Commissioning is LEED’s effort to begin the commissioning process early in the design phase of a project and to carry out additional activities following the completion of the systems verifications. The requirements of Enhanced Commissioning expand on those of Fundamental Commissioning by incorporating the addition of the following activities into the commissioning process:

- The Commissioning Authority (CxA) is designated during the design phase, and requirements are clarified to ensure that the CxA is independent of the design and construction teams.
- The CxA must conduct at least one review of the design documents prior to the mid-construction document phase, and back-check these review comments in the subsequent design submission.
- Contractor submittals applicable to the systems being commissioned are reviewed by the CxA concurrent with the architect or engineer of record’s review.
- A Systems Manual is developed for the commissioned systems.
- The CxA and / or project team must verify that training requirements for facility operating personnel and users (as applicable) have been completed.
- Building operations is reviewed within 10 months after substantial completion, and a plan is provided to resolve any outstanding commissioning-related issues.

RMF has provided commissioning services for over 25 years to clients throughout the US and internationally. In doing so, our standard approach to the commissioning process embodies essentially all of the LEED commissioning requirements; even before the inception of LEED. Our dedicated commissioning team understands the commissioning process and how it can benefit the building, Owner and user groups by seeking to improve how building equipment and systems function together. Commissioning can often resolve problems that occurred during design or construction, or address problems that have developed throughout the building’s life. RMF’s LEED enhanced commissioning process begins early in the design phase and works to improve a building’s operations and maintenance (O&M) procedures to enhance overall building performance.
ENERGY-EFFICIENT FACILITY DESIGN

It has always been a goal for RMF to realize the most energy efficient operation of any system or single component. Energy factors are taken into account throughout the entire commissioning process. Design review concentrates on the designer’s equipment selection and operation. It verifies that the sequence of operations has taken equipment and fuel efficiencies into account and that economizers are being utilized to their full potential. If RMF sees the possibility for further energy efficiency, those options will be pursued. Once construction begins, RMF begins to take a look at the installation of the equipment and system components. Finally, during the Acceptance phase, RMF reviews the operation of the systems and verifies that equipment is meeting its full efficiency potential. Staging of equipment is critical to maximize the operational potential of systems that operate on Variable Frequency Drives because equipment is often most efficiently operated at its full capacity.

BUILDING ENCLOSURE COMMISSIONING

RMF frequently works as the prime Commissioning Authority with Building Envelope Commissioning consultants on our team. We have teamed with High Performance Building Solutions (HPBS) to provide this service for UNCG’s Jackson Library Addition and Renovation Project.

HPBS has executed highly specialized and technical Building Envelope Commissioning Services including consulting and testing for Universities and Public Schools.

Some of HPBS experience includes the following:

- Completed ASTM E 779 air leakage testing for over 100 buildings totaling over One Million SF.
- Conducted existing building envelope assessments for over 18 different school districts and universities to identify building envelope issues and provided recommendations on repairing the existing buildings.
- Building Envelope Commissioning services for new construction projects ranging in size from 46,000 SF to over 250,000 SF.
Tab 5

Minority Business Participation Plan
HUB / MBE Representation
RMF is firmly committed to complying with and meeting the intent of minority participation. We are dedicated to providing HUBs, MBEs, SBs, SBDs and WOSBs opportunities to participate as subcontractors for any contract where subcontracting of work is required by the basic contract and the application of these laws and regulations is specified, or where there is otherwise an opportunity for taking advantage of such services. For this project RMF has proposed the building envelope commissioning firm, High Performance Building Solutions (HPBS). HPBS is a Women-Owned Small Business.

RMF has subcontracted for the past three years $6.4 million to over 205 individual small businesses. Approximately $3 million of this work was subcontracted to Small Disadvantaged Businesses, Women Owned Businesses and Veteran Owned Small Businesses.

$4.7 million
of which went to SBE, VBE, WBE local businesses

$7 million subcontracted to 190 small business in 2022

Diversity, Equity, and Inclusion
RMF has a strong affirmative action policy and recruits, hires, trains, and promotes persons in all job titles without regard to race, color, religion, age, sex, disability, national origin, veteran status or any characteristic protected by applicable law. We recruit from historically black colleges and universities, including NC A&T State University and Howard University.

RMF is especially excited by the advances by women and minority employees that have resulted in leadership and ownership positions in the firm including proposed team member, Avery Monroe.

RMF’s 260+ employees represent the greatest asset to the company, and each is hired and provided mentorship with the goal of achieving the highest possible career growth. Employee development and education has been the largest single focus at RMF for the last decade. A customized Project Management Program and two-year Leadership Development Program have been very successful in training the younger professional staff. Team members, Rob Clegg, Taylor Thompson and Avery Monroe, are graduates of RMF’s Leadership Development Program.

Tuition reimbursement has benefited dozens of full-time employees for securing their first and second degrees. Everyone is encouraged at multiple levels to seek their full potential and be the best in their field. It is quite common for members of the RMF team to reach 25, 30 and 35 years of service levels, a testament to the care of employees and their loyalty.

The inclusion and empowerment of all people is recognized and incorporated throughout RMF’s core values and business practices. RMF promotes and sustains an environment of belonging, respect and beliefs of our employees. We combine our individual talents, skills and experiences to enhance the lives of our employees and surrounding communities.

Community Engagement
Many of our staff are active participants in organizations that seek to promote diversity in the AEC professions. A number of these students have continued mentorship with RMF as engineering co-op students. Many have become full time employees.

Several of RMF’s employees have taken active roles in industry organizations to promote the professional development of women and minorities in the engineering field. A long-time favorite has been the Children’s Home in Baltimore, Maryland, where RMF has been its largest sponsor.
<table>
<thead>
<tr>
<th>Tab 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF-330</td>
</tr>
</tbody>
</table>
**Architect-Engineer Qualifications**

**Part I – Contract-Specific Qualifications**

### A. Contract Information

1. **Title and Location** (City and State)
   
   Jackson Library Addition and Renovation (Greensboro, NC)

2. **Public Notice Date**
   
   04/20/2023

### B. Architect-Engineer Point of Contact

4. **Name and Title**
   
   Barney York, PE, CxA - Principal in Charge

5. **Name of Firm**
   
   RMF Engineering, Inc.

6. **Telephone Number**
   
   919.941.9876

7. **Fax Number**
   
   919.941.9957

8. **E-mail Address**
   
   barney.york@rmf.com

### C. Proposed Team

(Complete this section for the prime contractor and all key subcontractors.)

<table>
<thead>
<tr>
<th>Prime Partner</th>
<th>J/V Partner</th>
<th>Firm Name</th>
<th>Address</th>
<th>Role in This Contract</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMF Engineering</td>
<td></td>
<td>8081 Arco Corporate Drive Suite 300 Raleigh, NC 27617</td>
<td>Commissioning Project Management</td>
<td></td>
</tr>
<tr>
<td></td>
<td>⊗</td>
<td>8720 Red Oak Blvd Suite 370 Charlotte, NC 28217</td>
<td>Commissioning Support and Design Review</td>
<td></td>
</tr>
<tr>
<td></td>
<td>⊗</td>
<td>1515 Mockingbird Lane Suite 7110 Charlotte, NC, 28209</td>
<td>Building Enclosure Commissioning</td>
<td></td>
</tr>
</tbody>
</table>

### D. Organizational Chart of Proposed Team

(Attached)
D. ORGANIZATIONAL CHART OF PROPOSED TEAM

INSERT ORGANIZATIONAL CHART BELOW OR ATTACH.

Barney York, PE, CxA
Principal in Charge

Rob Clegg, PE, CCP, LEED AP
Project Manager

Taylor Thompson, PE, CEA, CCP
Commissioning Engineer

Travis Campbell, CxA
Commissioning Agent

Taylor Feurstein, CxA
Commissioning Agent

Garrett Holt
Commissioning Technician

Avery Monroe, PE, LEED AP
Mechanical Design Review

Christina Caldwell, PE
Electrical Design Review

High Performance Building Solutions
Building Enclosure Commissioning
Meghan McDermott, BECxP, CxA+BE
BECx Authority

UNCGreensboro

High Performance Building Solutions
Building Enclosure Commissioning
Meghan McDermott, BECxP, CxA+BE
BECx Authority
Mr. York leads the Raleigh commissioning team. He is a licensed mechanical engineer with experience in the design, analysis and commissioning of HVAC, laboratory, steam and chilled water systems serving educational, healthcare, industrial and commercial facilities. Mr. York has worked extensively on the commissioning of both new and renovated facilities, particularly for colleges and universities in the southeast. As such, he is aware of the special needs the facility and construction managers face and is experienced in working through issue resolution, cost and resource management and phased construction.

### 19. RELEVANT PROJECTS

<table>
<thead>
<tr>
<th>(1) TITLE AND LOCATION (City and State)</th>
<th>(2) YEAR COMPLETED</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dining Hall Renovation Commissioning</strong></td>
<td>PROFESSIONAL SERVICES</td>
</tr>
<tr>
<td>UNC Greensboro</td>
<td>Greensboro, NC</td>
</tr>
<tr>
<td>(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE</td>
<td>X Check if project performed with current firm</td>
</tr>
<tr>
<td>RMF was selected to provide third party commissioning services for the existing dining hall renovation on campus. The project scope included a comprehensive renovation and modernization of UNCG's 123,000 SF dining hall. he project involved unifying the five existing dining halls around a central atrium. A retail restaurant, cafeteria and other retail dining venues were included in the new dining hall and offices for administration and dining services.</td>
<td></td>
</tr>
<tr>
<td>SIZE: 123,000 SF</td>
<td>COST: $25 Million</td>
</tr>
<tr>
<td>ROLE: PROJECT MANAGER</td>
<td></td>
</tr>
<tr>
<td>(1) TITLE AND LOCATION (City and State)</td>
<td>(2) YEAR COMPLETED</td>
</tr>
<tr>
<td><strong>Lilly Library Renovation and Addition Commissioning</strong></td>
<td>PROFESSIONAL SERVICES</td>
</tr>
<tr>
<td>Duke University</td>
<td>Charlotte, NC</td>
</tr>
<tr>
<td>(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE</td>
<td>X Check if project performed with current firm</td>
</tr>
<tr>
<td>Originally constructed in 1890 and most recently renovated in 1993, Lilly Library is one of the oldest and most architecturally significant buildings at Duke. This project included the commissioning services for the major renovation to the 4,200 SF library building. The majority of the spaces and functions remained unchanged but the MEP systems were completely replaced. The addition consisted of a totally new 5,300 SF expansion intended to match the existing space.</td>
<td></td>
</tr>
<tr>
<td>SIZE: 9,500 SF</td>
<td>COST: $12.4 Million</td>
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<tr>
<td>ROLE: PRINCIPAL IN CHARGE</td>
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<tr>
<td>(1) TITLE AND LOCATION (City and State)</td>
<td>(2) YEAR COMPLETED</td>
</tr>
<tr>
<td><strong>New Main Campus Student Union Commissioning</strong></td>
<td>PROFESSIONAL SERVICES</td>
</tr>
<tr>
<td>East Carolina University</td>
<td>Greenville, NC</td>
</tr>
<tr>
<td>(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE</td>
<td>X Check if project performed with current firm</td>
</tr>
<tr>
<td>RMF provided commissioning services for the new 210,000 SF Student Union. The facility includes the following spaces: Center for Student Activities, Leadership and Involvement, Ledonia Wright Cultural Center, a multi-purpose 250-seat theater, event space, bookstore, dining and sports grill and a 700-space parking structure. The project is targeted for a LEED Silver certification.</td>
<td></td>
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<tr>
<td>SIZE: 145,000 SF</td>
<td>COST: $90 Million</td>
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<td>ROLE: PRINCIPAL IN CHARGE</td>
<td></td>
</tr>
<tr>
<td>(1) TITLE AND LOCATION (City and State)</td>
<td>(2) YEAR COMPLETED</td>
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<tr>
<td><strong>New Film Studies Facility Commissioning</strong></td>
<td>PROFESSIONAL SERVICES</td>
</tr>
<tr>
<td>UNC Wilmington</td>
<td>Wilmington, NC</td>
</tr>
<tr>
<td>(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE</td>
<td>X Check if project performed with current firm</td>
</tr>
<tr>
<td>RMF provided commissioning services for a new 4,000 SF soundproof facility that includes a green screen film bay, new production classrooms, a 75-seat movie theater, editing and sound mixing labs and equipment storage room. RMF conducted basic commissioning services to accommodate verification of the installation and operation of the HVAC systems serving the Film Studies Facility.</td>
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<tr>
<td>SIZE: 4,000 SF</td>
<td>COST: $2.85 Million</td>
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<tr>
<td>ROLE: PRINCIPAL IN CHARGE</td>
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<tr>
<td>(1) TITLE AND LOCATION (City and State)</td>
<td>(2) YEAR COMPLETED</td>
</tr>
<tr>
<td><strong>Central Library Enhanced Commissioning Services</strong></td>
<td>PROFESSIONAL SERVICES</td>
</tr>
<tr>
<td>Fulton County Government</td>
<td>Atlanta, GA</td>
</tr>
<tr>
<td>(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE</td>
<td>X Check if project performed with current firm</td>
</tr>
<tr>
<td>The Atlanta-Fulton County Public Library System hired RMF’s commissioning team for the renovation of their 250,000 SF, eight-story library in downtown Atlanta. RMF performed formal design and construction phase commissioning services for the project. This project included the review of all project documentation including RFI’s and change orders, reviewing applicable submittals, developing project specific Pre-Functional Checklists (PFC’s) and Functional Performance Tests (FPT’s), maintaining an updated Issues Log and holding regular commissioning meetings and site observations.</td>
<td></td>
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<tr>
<td>SIZE: 250,000 SF</td>
<td>COST: $44 Million</td>
</tr>
<tr>
<td>ROLE: PRINCIPAL IN CHARGE</td>
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</table>
### E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

#### (Complete one Section E for each key person.)

<table>
<thead>
<tr>
<th>12. NAME</th>
<th>13. ROLE IN THIS CONTRACT</th>
<th>14. YEARS EXPERIENCE</th>
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<tbody>
<tr>
<td>Rob Clegg, PE, QCXP, LEED AP</td>
<td>Project Manager</td>
<td></td>
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<tr>
<td></td>
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<td>a. TOTAL</td>
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</tbody>
</table>

**15. FIRM NAME AND LOCATION (City and State)**

- **RMF Engineering, Inc.** (Raleigh, NC)

**16. EDUCATION (Degree and Specialization)**

- NC State University
- BS, Mechanical Engineering / 2003

**17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)**

- Professional Engineer NC #33199
- Quality Commissioning Process Service Provider
- LEED Accredited Professional

**18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)**

Mr. Clegg is a mechanical engineer with experience in the analysis, design and commissioning of systems serving educational, healthcare, commercial and industrial facilities. His commissioning experience includes HVAC, steam, hydronic, electrical, fire alarm and suppression, and plumbing systems. Mr. Clegg has played a pivotal role in the development of the Commissioning Standards at RMF, and has written commissioning specifications, commissioning plans, installation checklists, functional testing procedures and various other forms.

**19. RELEVANT PROJECTS**

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<tr>
<td><strong>Dining Hall Renovation Commissioning</strong></td>
<td>PROFESSIONAL SERVICES</td>
</tr>
<tr>
<td>UNC Greensboro Greensboro, NC</td>
<td>2014 2015</td>
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<tr>
<td>(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE</td>
<td>Check if project performed with current firm</td>
</tr>
<tr>
<td>a. RMF was selected to provide third party commissioning services for the existing dining hall renovation on campus. The project scope included a comprehensive renovation and modernization of UNCG’s 123,000 SF dining hall. The project involved unifying the five existing dining halls around a central atrium. A retail restaurant, cafeteria and other retail dining venues were included in the new dining hall and offices for administration and dining services.</td>
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</tr>
<tr>
<td>SIZE: 123,000 SF</td>
<td>COST: $25 Million</td>
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<tr>
<td>ROLE: COMMISSIONING ENGINEER</td>
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</tr>
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</tr>
<tr>
<td>Duke University Charlotte, NC</td>
<td>2022 2022</td>
</tr>
<tr>
<td>(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE</td>
<td>Check if project performed with current firm</td>
</tr>
<tr>
<td>b. Originally constructed in 1890 and most recently renovated in 1993, Lilly Library is one of the oldest and most architecturally significant buildings at Duke. This project included the commissioning services for the major renovation to the 4,200 SF library building. The majority of the spaces and functions remained unchanged but the MEP systems were completely replaced. The addition consisted of a totally new 5,300 SF expansion intended to match the existing space.</td>
<td></td>
</tr>
<tr>
<td>SIZE: 9,500 SF</td>
<td>COST: $12.4 Million</td>
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<tr>
<td>ROLE: PRINCIPAL IN CHARGE</td>
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<table>
<thead>
<tr>
<th>(1) TITLE AND LOCATION (City and State)</th>
<th>(2) YEAR COMPLETED</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>New Main Campus Student Union Commissioning</strong></td>
<td>PROFESSIONAL SERVICES</td>
</tr>
<tr>
<td>East Carolina University Greenville, NC</td>
<td>2019 2019</td>
</tr>
<tr>
<td>(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE</td>
<td>Check if project performed with current firm</td>
</tr>
<tr>
<td>c. RMF provided commissioning services for the new 210,000 SF Student Union. The facility includes the following spaces: Center for Student Activities, Leadership and Involvement, Ledonia Wright Cultural Center, a multi-purpose 250-seat theater, event space, bookstore, dining and sports grill and a 700-space parking structure. The project is targeted for a LEED Silver certification.</td>
<td></td>
</tr>
<tr>
<td>SIZE: 145,000 SF</td>
<td>COST: $90 Million</td>
</tr>
<tr>
<td>ROLE: PROJECT MANAGER</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>(1) TITLE AND LOCATION (City and State)</th>
<th>(2) YEAR COMPLETED</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>New Film Studies Facility Commissioning</strong></td>
<td>PROFESSIONAL SERVICES</td>
</tr>
<tr>
<td>UNC Wilmington Wilmington, NC</td>
<td>2019 2022</td>
</tr>
<tr>
<td>(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE</td>
<td>Check if project performed with current firm</td>
</tr>
<tr>
<td>d. RMF provided commissioning services for a new 4,000 SF soundproof facility that includes a green screen film bay, new production classrooms, a 75-seat movie theater, editing and sound mixing labs and equipment storage room. RMF conducted basic commissioning services to accommodate verification of the installation and operation of the HVAC systems serving the Film Studies Facility.</td>
<td></td>
</tr>
<tr>
<td>SIZE: 4,000 SF</td>
<td>COST: $2.85 Million</td>
</tr>
<tr>
<td>ROLE: PROJECT MANAGER</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>(1) TITLE AND LOCATION (City and State)</th>
<th>(2) YEAR COMPLETED</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Campus Center Expansion / Renovation Commissioning</strong></td>
<td>PROFESSIONAL SERVICES</td>
</tr>
<tr>
<td>Georgia Institute of Technology Atlanta, GA</td>
<td>2022 2022</td>
</tr>
<tr>
<td>(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE</td>
<td>Check if project performed with current firm</td>
</tr>
<tr>
<td>e. Georgia Institute of Technology selected RMF to provide third-party commissioning services for their Campus Center Expansion / Renovation project. The project provided a comprehensive renovation of Georgia Tech’s Student Center complex. The complex added an additional 130,000 SF, for a total of 300,000 SF of new and renovated space. The expansion / renovation encompassed five buildings in total: Exhibition Hall, two Pavilions, Cafe and the current Student Center.</td>
<td></td>
</tr>
<tr>
<td>SIZE: 300,000 SF</td>
<td>COST: $110 Million</td>
</tr>
<tr>
<td>ROLE: PROJECT MANAGER</td>
<td></td>
</tr>
</tbody>
</table>
Mr. Thompson is a mechanical engineer and his responsibilities regularly involve design review, functional performance test development, system functional testing, troubleshooting of system issues and managing the commissioning process among a large construction team. He believes strong communication and teamwork in the construction setting is key in the success of today’s complex building requirements. He has worked on a number of higher education, critical municipality, federal and healthcare projects on the East Coast including LEED certified facilities.

**19. RELEVANT PROJECTS**

<table>
<thead>
<tr>
<th>New Parr Center Commissioning</th>
<th>PROFESSIONAL SERVICES</th>
<th>CONSTRUCTION (if applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Piedmont Community College</td>
<td>Winston-Salem, NC</td>
<td>2022</td>
</tr>
<tr>
<td>(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE</td>
<td>Check if project performed with current firm</td>
<td></td>
</tr>
<tr>
<td>a. The new 107,883 SF library will provide students with over 25 collaborative spaces, a classroom, a maker’s lab and a video studio with a green screen. The library will also house the new Pease Auditorium. The new 77,572 SF Student Center will house registration, financial aid, advising and admissions offices, testing and career centers, student government, student life organizations and an academic learning center, as well as a food court and academic commons areas.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIZE: 170,000 SF</td>
<td>COST: $113 Million</td>
<td>ROLE: COMMISSIONING ENGINEER</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Offsite Library Storage Facility Renovation Commissioning</th>
<th>PROFESSIONAL SERVICES</th>
<th>CONSTRUCTION (if applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wake Forest University</td>
<td>Winston-Salem, NC</td>
<td>2019</td>
</tr>
<tr>
<td>(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE</td>
<td>Check if project performed with current firm</td>
<td></td>
</tr>
<tr>
<td>b. RMF provided commissioning services for the renovation of the ZSR Storage Facility off-site library storage at Wake Forest University in Winston-Salem, North Carolina. RMF began this project during the Construction Phase to minimize and correct any conflicts as early as possible. Commissioning continued through the Acceptance, Turnover and Warranty Phase to verify proper continued operation.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIZE: 37,411 SF</td>
<td>COST: Unknown</td>
<td>ROLE: PROJECT MANAGER</td>
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</table>

<table>
<thead>
<tr>
<th>New Main Campus Student Union Commissioning</th>
<th>PROFESSIONAL SERVICES</th>
<th>CONSTRUCTION (if applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Carolina University</td>
<td>Greenville, NC</td>
<td>2019</td>
</tr>
<tr>
<td>(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE</td>
<td>Check if project performed with current firm</td>
<td></td>
</tr>
<tr>
<td>c. RMF provided commissioning services for the new 210,000 SF Student Union. The facility includes the following spaces: Center for Student Activities, Leadership and Involvement, Ledonia Wright Cultural Center, a multi-purpose 250-seat theater, event space, bookstore, dining and sports grill and a 700-space parking structure. The project is targeted for a LEED Silver certification.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIZE: 145,000 SF</td>
<td>COST: $90 Million</td>
<td>ROLE: COMMISSIONING ENGINEER</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Campus Center Expansion / Renovation Commissioning</th>
<th>PROFESSIONAL SERVICES</th>
<th>CONSTRUCTION (if applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Georgia Institute of Technology</td>
<td>Atlanta, GA</td>
<td>2022</td>
</tr>
<tr>
<td>(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE</td>
<td>Check if project performed with current firm</td>
<td></td>
</tr>
<tr>
<td>d. Georgia Institute of Technology selected RMF to provide third-party commissioning services for their Campus Center Expansion / Renovation project. The project provided a comprehensive renovation of Georgia Tech’s Student Center complex. The complex added an additional 130,000 SF, for a total of 300,000 SF of new and renovated space. The expansion / renovation encompassed five buildings in total: Exhibition Hall, two Pavilions, Cafe and the current Student Center.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIZE: 300,000 SF</td>
<td>COST: $110 Million</td>
<td>ROLE: COMMISSIONING ENGINEER</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Salem Hall Renovation Commissioning</th>
<th>PROFESSIONAL SERVICES</th>
<th>CONSTRUCTION (if applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wake Forest University</td>
<td>Winston-Salem, NC</td>
<td>2019</td>
</tr>
<tr>
<td>(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE</td>
<td>Check if project performed with current firm</td>
<td></td>
</tr>
<tr>
<td>e. RMF provided commissioning services for the renovation of the existing 53,000 SF Salem Hall chemistry laboratory building. This facility houses lecture halls, laboratories, work spaces, laboratory support spaces, classrooms and administrative offices. RMF was contracted as the Commissioning Agent for this project and brought on board during the design development phase. During the design phases, RMF was involved through design reviews and direct communication with the Salem Hall renovations design team.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIZE: 53,000 SF</td>
<td>COST: $15 Million</td>
<td>ROLE: PROJECT MANAGER</td>
</tr>
</tbody>
</table>
Mr. Campbell is a mechanical designer with experience in the design, analysis and commissioning of HVAC, steam and chilled water systems serving educational, industrial, healthcare and commercial facilities. His responsibilities regularly involve design review, functional performance test development, system functional testing, troubleshooting of system issues, leading of commissioning meetings and facilitating project team communication. Before he was a member of the RMF team, he worked as a Control Systems Engineer designing, installing and programming control systems in the water and wastewater and building automation industries.

### 19. RELEVANT PROJECTS

<table>
<thead>
<tr>
<th>(1) TITLE AND LOCATION (City and State)</th>
<th>(2) YEAR COMPLETED</th>
<th>(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE</th>
<th>ROLE:</th>
<th>SIZE</th>
<th>COST:</th>
<th>(2) YEAR COMPLETED</th>
<th>(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE</th>
<th>ROLE:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>New Main Campus Student Union Commissioning</strong></td>
<td>2019</td>
<td>RMF provided commissioning services for the new 210,000 SF Student Union. The facility includes the following spaces: Center for Student Activities, Leadership and Involvement, Ledonia Wright Cultural Center, a multi-purpose 250-seat theater, event space, bookstore, dining and sports grill and a 700-space parking structure. The project is targeted for a LEED Silver certification.</td>
<td>LEAD COMMISSIONING AGENT</td>
<td>145,000 SF</td>
<td>$90 Million</td>
<td></td>
<td>Check if project performed with current firm</td>
<td></td>
</tr>
<tr>
<td><strong>New Science and Office Building Commissioning</strong></td>
<td>2021</td>
<td>This LEED Silver Building contains classrooms, laboratories, a small animal facility, café and lounge, and associated office and support spaces. RMF provided full LEED-NC Fundamental and Enhanced Commissioning services commencing during the project’s advanced planning phase. In addition, RMF provided measurement and verification, indoor air quality, and envelope testing services.</td>
<td>LEAD COMMISSIONING AGENT</td>
<td>122,000 SF</td>
<td>$82 Million</td>
<td></td>
<td>Check if project performed with current firm</td>
<td></td>
</tr>
<tr>
<td><strong>Campus Center Expansion / Renovation Commissioning</strong></td>
<td>2022</td>
<td>Georgia Institute of Technology selected RMF to provide third-party commissioning services for their Campus Center Expansion / Renovation project. The project provided a comprehensive renovation of Georgia Tech’s Student Center complex. The complex added an additional 120,000 SF, for a total of 300,000 SF of new and renovated space. The expansion / renovation encompassed five buildings in total: Exhibition Hall, two Pavilions, Cafe and the current Student Center.</td>
<td>LEAD COMMISSIONING AGENT</td>
<td>300,000 SF</td>
<td>$110 Million</td>
<td></td>
<td>Check if project performed with current firm</td>
<td></td>
</tr>
<tr>
<td><strong>Salem Hall Renovation Commissioning</strong></td>
<td>2021</td>
<td>RMF provided commissioning services for the renovation of the existing 53,000 SF Salem Hall chemistry laboratory building. This facility houses lecture halls, laboratories, work spaces, laboratory support spaces, classrooms and administrative offices. RMF was contracted as the Commissioning Agent for this project and brought on board during the design development phase. During the design phases, RMF was involved through design reviews and direct communication with the Salem Hall renovations design team.</td>
<td>LEAD COMMISSIONING AGENT</td>
<td>53,000 SF</td>
<td>$15 Million</td>
<td></td>
<td>Check if project performed with current firm</td>
<td></td>
</tr>
<tr>
<td><strong>New Film Studies Facility Commissioning</strong></td>
<td>2021</td>
<td>RMF provided commissioning services for a new 4,000 SF soundproof facility that includes a green screen film bay, new production classrooms, a 75-seat movie theater, editing and sound mixing labs and equipment storage room. In addition to being the home of EUE Screen Gems Studios, the facility will also house a state-of-the-art theater for students to study cinema, screen work and host events.</td>
<td>LEAD COMMISSIONING AGENT</td>
<td>4,000 SF</td>
<td>$2.85 Million</td>
<td></td>
<td>Check if project performed with current firm</td>
<td></td>
</tr>
</tbody>
</table>
Mr. Feuerstein is a commissioning technician with experience in design, analysis and testing of HVAC, chilled water systems serving higher education, industrial, and healthcare facilities. His responsibilities involve design and submittal review, leading commissioning meetings, facilitating project team communication, pre-functional checklist development, functional performance test development, system functional testing as well as measurement and verification of critical equipment.

### 19. RELEVANT PROJECTS

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Location</th>
<th>Year Completed</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salem Hall Renovation Commissioning</td>
<td>Winston-Salem, NC</td>
<td>2018</td>
<td>COMMISSIONING AGENT</td>
</tr>
<tr>
<td>New Main Campus Student Union Commissioning</td>
<td>Greenville, NC</td>
<td>2019</td>
<td>COMMISSIONING AGENT</td>
</tr>
<tr>
<td>Central Library Enhanced Commissioning Services</td>
<td>Atlanta, GA</td>
<td>2019</td>
<td>COMMISSIONING AGENT</td>
</tr>
<tr>
<td>Offsite Library Storage Facility Renovation Commissioning</td>
<td>Winston-Salem, NC</td>
<td>2019</td>
<td>COMMISSIONING AGENT</td>
</tr>
</tbody>
</table>

**Certified Commissioning Authority**
**18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)**

Mr. Holt is a commissioning technician with experience in design, analysis and testing of HVAC, chilled water systems serving educational, industrial, healthcare and government facilities. His responsibilities involve design and submittal review, leading commissioning meetings, facilitating project team communication, functional performance test development, system functional testing as well as measurement and verification of critical equipment.

**19. RELEVANT PROJECTS**

<table>
<thead>
<tr>
<th>(1) TITLE AND LOCATION (City and State)</th>
<th>(2) YEAR COMPLETED</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>New Parr Center Commissioning</strong></td>
<td></td>
</tr>
<tr>
<td>Central Piedmont Community College</td>
<td></td>
</tr>
<tr>
<td>Charlotte, NC</td>
<td></td>
</tr>
<tr>
<td><strong>ROLE: COMMISSIONING TECHNICIAN</strong></td>
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<tr>
<td>PROFessional SERVICES</td>
<td>Construction (if applicable)</td>
</tr>
<tr>
<td>SIZE: 170,000 SF</td>
<td>$113 Million</td>
</tr>
<tr>
<td>NEW FIRM NAME AND LOCATION (City and State)</td>
<td>(Complete one Section E for each key person.)</td>
</tr>
<tr>
<td><strong>New Film Studies Facility Commissioning</strong></td>
<td></td>
</tr>
<tr>
<td>UNC Wilmington</td>
<td></td>
</tr>
<tr>
<td>Wilmington, NC</td>
<td></td>
</tr>
<tr>
<td><strong>ROLE: COMMISSIONING TECHNICIAN</strong></td>
<td></td>
</tr>
<tr>
<td>PROFessional SERVICES</td>
<td>Construction (if applicable)</td>
</tr>
<tr>
<td>SIZE: 4,000 SF</td>
<td>$2.85 Million</td>
</tr>
<tr>
<td><strong>New Veterans Hall Allied Health Sciences Building Commissioning</strong></td>
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<tr>
<td>UNC Wilmington</td>
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</tr>
<tr>
<td>Wilmington, NC</td>
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<tr>
<td><strong>ROLE: COMMISSIONING TECHNICIAN</strong></td>
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</tr>
<tr>
<td>PROFessional SERVICES</td>
<td>Construction (if applicable)</td>
</tr>
<tr>
<td>SIZE: 145,000 SF</td>
<td>$66 Million</td>
</tr>
<tr>
<td><strong>New Science and Office Building Commissioning</strong></td>
<td></td>
</tr>
<tr>
<td>Winston-Salem State University</td>
<td></td>
</tr>
<tr>
<td>Winston-Salem, NC</td>
<td></td>
</tr>
<tr>
<td><strong>ROLE: COMMISSIONING TECHNICIAN</strong></td>
<td></td>
</tr>
<tr>
<td>PROFessional SERVICES</td>
<td>Construction (if applicable)</td>
</tr>
<tr>
<td>SIZE: 122,000 SF</td>
<td>$82 Million</td>
</tr>
<tr>
<td><strong>New Fine Arts Center Commissioning</strong></td>
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<tr>
<td>Albany State University</td>
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<tr>
<td>Albany, GA</td>
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<tr>
<td><strong>ROLE: COMMISSIONING TECHNICIAN</strong></td>
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<tr>
<td>PROFessional SERVICES</td>
<td>Construction (if applicable)</td>
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<tr>
<td>SIZE: 80,000 SF</td>
<td>$18.5 Million</td>
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</table>
Mr. Monroe is a mechanical engineer with experience in the design, analysis and construction administration of MEP building systems serving educational, healthcare, laboratory, military and commercial facilities. His engineering career has been focused on the design of various higher education facilities. He has designed both renovation and new building projects for all facets of college and university campuses. Mr. Monroe’s goal in designing institutional buildings is to provide a quality project that optimizes value and meets the needs of the program now and in the future.

19. RELEVANT PROJECTS

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Year Completed</th>
<th>Size</th>
<th>Cost</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Parr Center Commissioning</td>
<td>2022</td>
<td>170,000 SF</td>
<td>$113 Million</td>
<td>Mechanical Design Review</td>
</tr>
<tr>
<td>Offsite Library Storage Facility Renovation Commissioning</td>
<td>2019</td>
<td>37,411 SF</td>
<td>Unknown</td>
<td>Mechanical Design Review</td>
</tr>
<tr>
<td>New Facilities Operations and Parking Services Building Commissioning</td>
<td>2019</td>
<td>73,000 SF</td>
<td>$22.8 Million</td>
<td>Mechanical Design Review</td>
</tr>
<tr>
<td>Energy Production Facility Commissioning</td>
<td>2023</td>
<td>20,000 SF</td>
<td>$37 Million</td>
<td>Mechanical Design Review</td>
</tr>
</tbody>
</table>
**E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT**

(Complete one Section E for each key person.)

<table>
<thead>
<tr>
<th>12. NAME</th>
<th>13. ROLE IN THIS CONTRACT</th>
<th>14. YEARS EXPERIENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Christina Caldwell, PE</td>
<td>Electrical Design Review</td>
<td>a. TOTAL</td>
</tr>
<tr>
<td></td>
<td></td>
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<table>
<thead>
<tr>
<th>15. FIRM NAME AND LOCATION (City and State)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMF Engineering, Inc., PC (Charlotte, NC)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>16. EDUCATION (Degree and Specialization)</th>
<th>17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NC A&amp;T State University</td>
<td>Professional Engineer NC #040724</td>
</tr>
<tr>
<td>BS, Architectural Engineering / 2005</td>
<td></td>
</tr>
<tr>
<td>NC A&amp;T State University</td>
<td></td>
</tr>
<tr>
<td>MS, Civil Engineering / 2006</td>
<td></td>
</tr>
</tbody>
</table>

Ms. Caldwell is an electrical engineer with extensive experience in design of medium-voltage and low-voltage power distribution for normal and emergency power systems. Ms. Caldwell also has experience designing interior lighting and lighting controls, exterior lighting, communications, security, surveillance, fire protection infrastructure and lightning protection. Ms. Caldwell’s area of focus includes higher education, healthcare and governmental projects. She has overseen project design schedules and budgets and designed complex building systems and site distribution systems.

<table>
<thead>
<tr>
<th>19. RELEVANT PROJECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) TITLE AND LOCATION (City and State)</td>
</tr>
<tr>
<td><strong>Cato Hall Office Renovations</strong></td>
</tr>
<tr>
<td>UNC Charlotte</td>
</tr>
<tr>
<td><strong>Colvard Hall 1040 Active Learning Classroom</strong></td>
</tr>
<tr>
<td>UNC Charlotte</td>
</tr>
<tr>
<td><strong>Webb Hall Vivarium Renovation</strong></td>
</tr>
<tr>
<td>NC A&amp;T State University</td>
</tr>
<tr>
<td><strong>Band Center Sound Attenuation and Lighting Upgrades</strong></td>
</tr>
<tr>
<td>NC A&amp;T State University</td>
</tr>
<tr>
<td><strong>Harold L. Martin Sr. Engineering Research and Innovation Complex</strong></td>
</tr>
<tr>
<td>NC A&amp;T State University</td>
</tr>
</tbody>
</table>

a. This project involved modifying approximately 2,800 SF of conference and office spaces for the Title IX and Internal Audit groups. RMF provided design and construction administration services for the modification of plumbing, fire protection, HVAC, and electrical systems. Ductwork and terminal devices were modified to better zoning and temperature control. Light fixtures, fire alarm devices, and the fire sprinkler system were modified as required for new wall and ceiling construction.

b. This project involved renovating approximately 3,100 SF of conference and office spaces to create an open active learning classroom. RMF provided design and construction administration services for the modification of HVAC and electrical systems. Power and data were provided where required for projectors, screens, and convenience. Light fixtures, fire alarm devices, HVAC air devices were modified as required for new wall removal and ceiling construction.

c. The renovations are taking place in the existing vivarium on the ground floor of Webb Hall at NC A&T State University in Greensboro, North Carolina. The university’s goal for the space is to meet environmental requirements for the animals in the vivarium by separating the vivarium from the rest of the building. RMF is providing MEP services for the renovation, including HVAC, heating and cooling piping, fire protection systems, emergency power and fire alarm controls.

d. This renovation is for the Band Center, off campus. RMF is designing the renovation to remove all existing lighting and associated controls and install new, upgraded LED lighting with low-voltage controls to the 2,800 SF building. Additionally, there will be installation of appropriate sound attenuation mechanisms to dampen the sound throughout the building.

e. This new facility will serve to attract and retain STEM students and educators at the undergraduate and graduate level, driving research and innovation in the Piedmont Triad region. RMF provided full service mechanical, electrical and plumbing design services for this project. RMF designed the MEP systems for the new building. The HVAC system included two sets of roof mounted four-pipe VAV AHU’s with energy recovery and enclosed service corridors to facilitate ease of maintenance. Electrical design included interior and exterior LED lighting and digital meters provided for all panels within the new facility.
### E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

<table>
<thead>
<tr>
<th>Name</th>
<th>Role in this Contract</th>
<th>Years Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meghan McDermott, BECxp, CxA+BE</td>
<td>BECx Authority</td>
<td>12</td>
</tr>
</tbody>
</table>

#### 15. FIRM NAME AND LOCATION (City and State)

- High Performance Building Solutions, Inc (Charlotte, NC)

#### 16. EDUCATION (Degree and Specialization)

- University of Wisconsin
  - BS, Architectural Engineering

#### 17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)

- NC Licensed General Contractor # 76150
- Building Enclosure Commissioning Process Provider
- Qualified Building & Roof Thermographer # 110415-06
- BPI Envelope Professional # 5041173

#### 18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

Ms. McDermott’s focus is building envelope commissioning services including specification development, plan reviews, quality control inspections and performance testing for commercial buildings from 5,000 SF to over 1 million SF. She is a contributing author for the USACE Air Leakage Protocol for Large Building Air Leakage Testing.

#### 19. RELEVANT PROJECTS

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Year Completed</th>
<th>Institution</th>
<th>City and State</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Randall Library Expansion and Renovation</td>
<td>2023</td>
<td>UNC Wilmington</td>
<td>Wilmington, NC</td>
<td>BECx PROFESSIONAL</td>
</tr>
<tr>
<td>New Coastal Engineering Building</td>
<td>2022</td>
<td>UNC Wilmington</td>
<td>Wilmington, NC</td>
<td>BECx PROFESSIONAL</td>
</tr>
<tr>
<td>Neurology Building - Building Envelope Assessment and Repairs</td>
<td>2018</td>
<td>East Carolina University</td>
<td>Greenville, NC</td>
<td>BECx PROFESSIONAL</td>
</tr>
<tr>
<td>Granville Towers Building Envelope Assessment</td>
<td>2020</td>
<td>Confidential Client</td>
<td>Chapel Hill, NC</td>
<td>BECx PROFESSIONAL</td>
</tr>
<tr>
<td>New University Commons</td>
<td>2020</td>
<td>Sewanee: The University of the South</td>
<td>Sewanee, TN</td>
<td>BECx PROFESSIONAL</td>
</tr>
</tbody>
</table>
Francis Conlin, PE, BECxP

**BECx Authority**

**15. Firm Name and Location**

High Performance Building Solutions, Inc (Charlotte, NC)

**16. Education**

- University of Tennessee
  - BS, Engineering Science & Mechanics
- University of Tennessee
  - MS, Mechanical Engineering

**17. Current Professional Registration**

- Professional Engineer NC #14859
- Building Enclosure Commissioning Process Provider
- ABAA QAP Field Auditor #10095
- Qualified Building & Roof Thermographer #110415-03

**18. Other Professional Qualifications**

Mr. Conlin is the lead technical advisor for the company with over 35 years of experience in high performance buildings and building science. He specializes in energy efficient construction, building envelope system consulting and testing, indoor air quality and moisture management.

**19. Relevant Projects**

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Location</th>
<th>Year Completed</th>
<th>Scope, Cost, Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Plant Sciences Building</td>
<td>NC State University, Raleigh, NC</td>
<td>2022-2022</td>
<td>Professional Services, Construction (if applicable)</td>
</tr>
<tr>
<td>Public Services Building</td>
<td>Florence County, Florence, SC</td>
<td>2016</td>
<td>Retro-building envelope commissioning of the 32,784 SF building originally constructed in 1975 included an existing building envelope assessment, detailed repair scope of work, quality control inspections during the repairs and performance testing.</td>
</tr>
<tr>
<td>Camp Lejeune High School Renovation and Addition</td>
<td>Camp Lejeune, NC</td>
<td>2021</td>
<td>Building envelope commissioning for the existing 160,000 SF high school addition and renovations which included a design review and performance testing.</td>
</tr>
<tr>
<td>Carriage House Apartments Building Envelope Assessment</td>
<td>Confidential Client, Raleigh, NC</td>
<td>2016</td>
<td>Building envelope assessment for the 100-unit, eight-story public housing apartment complex resolved the persistent water intrusion problems. A repair scope of work, quality control inspections and performance testing were conducted to resolve the issue.</td>
</tr>
<tr>
<td>Holly Tree Elementary School Building Envelope Assessment</td>
<td>New Hanover County Schools, Wilmington, NC</td>
<td>2016</td>
<td>Building envelope assessment for the 60,000 SF school originally built in 1997 determined the cause of persistent roof leaks and included a scope of work to resolve the issues identified.</td>
</tr>
</tbody>
</table>
RMF was selected to provide third party commissioning services for the existing dining hall renovation on campus. The project scope included a comprehensive renovation and modernization of UNC Greensboro’s (UNCG) 123,000 SF dining hall. The original five dining halls and kitchen dated back to 1904-1986. The existing buildings were arranged around a pentagon-shaped central space. The project involved unifying the five existing dining halls around a central atrium. A retail restaurant, cafeteria and other retail dining venues were included in the new dining hall, as well as offices for administration and dining services. This project consisted of very intricate supply air and exhaust air systems to support the high heat and smoke resulting from cooking throughout the building. The exhaust system was designed to be extremely energy efficient for a dining facility.

RMF worked closely with the architect and engineer design team, as well as UNCG, to commission the building for optimal performance. Energy efficiency, indoor air quality, occupant comfort and a minimal cost for operation and maintenance were major goals of the commissioning project. RMF provided Indoor Air Quality Testing and Measurement and Verification Services to comply with North Carolina’s Senate Bill 668. Full LEED consulting services were also provided by RMF for both fundamental and enhanced commissioning services.

- Systems commissioned included:
  - Central Building Automation System
  - All Equipment for the HVAC Systems
  - Life Safety Systems
  - Emergency Power Generator and Automatic Transfer Switching
  - Plumbing
  - Lighting Controls Systems
  - Domestic and Process Water Pumping and Mixing Systems
  - Domestic Hot Water Systems

Commissioning Services Provided
- Design
- Pre-Bid
- Construction
- Acceptance
- Post Acceptance
- Post Construction
- Monitoring and Verification

Construction Cost
$25 Million

Key RMF Personnel
- Barney York, PE, CxA
- Rob Clegg, PE, CCP, LEED AP
25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

<table>
<thead>
<tr>
<th>(1) FIRM NAME</th>
<th>(2) FIRM LOCATION (City and State)</th>
<th>(3) ROLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMF Engineering, Inc.</td>
<td>Raleigh, NC</td>
<td>Prime - Commissioning</td>
</tr>
</tbody>
</table>

Commissioning Services Provided
- Design
- Pre-Bid
- Construction
- Acceptance
- Post Acceptance
- Post Construction
- Monitoring and Verification

Construction Cost
$12.4 Million

Key RMF Personnel
- Barney York, PE, CxA
- Rob Clegg, PE, CCP, LEED AP

Previously constructed in 1890 and most recently renovated in 1993, Lilly Library is one of the oldest and most architecturally significant buildings at Duke.

This project includes the commissioning services for the major renovation to the 4,200 SF building. The majority of the spaces and functions will remain unchanged but the MEP systems will be completely replaced. The addition will consist of a totally new 5,300 SF expansion intended to match the existing.

The mechanical systems consist of three variable volume air handling unit serving zone terminal units for local thermostatic temperature controls. The heating hot water system is a tertiary system, drawing source water from the campus district energy system without the assistance of any building side pumps. The chilled water system also draws source water from the district energy systems without the use of building pumps. Auxiliary HVAC systems include Split AC Units, Finned Tube Radiators and Radiant Flooring.
Central Piedmont Community College selected RMF to provide third party commissioning services for a new 170,000 SF facility with Morris Berg, CMTA MEP, and Rodgers Builders. The new facility replaced the Terrell Building, the Hagemeyer Learning Resource Center and the Pease Auditorium. The new 107,863 SF library provides students with over 25 collaborative spaces, a classroom, a maker’s lab and a video studio with a green screen. The library also houses the new Pease Auditorium.

The new 77,572 SF Student Center houses registration, financial aid, advising and admissions offices, testing and career centers, student government, student life organizations and an academic learning center, as well as a food court and academic commons areas.

Commissioning Services included:

- Fan Array Central Pre-Conditioning Unit
- Auditorium and Stage Air Handling Units
- Variable Air Volume Terminal Units
- Building Chilled Water Distribution
- Building Heating Hot Water Distribution
- Active Chilled Beams
- Exhaust Fans
- IT Closet Cooling
- Smoke Control Special Inspections
- HVAC BAS Controls and Campus Integration
- Domestic Heating Hot Water System
- Emergency Power Generators
- Automatic Transfer Switches
- Coordination Study verification
- Lighting Controls Systems
- Parking Control Systems

Construction Cost

$113 Million

Key RMF Personnel

- Taylor Thompson, PE, CEA, CCP
- Taylor Feuerstein, CxA
- Avery Monroe, PE, LEED AP

Commissioning Services Provided

- Design
- Pre-Bid
- Construction
- Acceptance
- Post Acceptance
- Post Construction
- Monitoring and Verification
RMF provided commissioning services for the renovation of the ZSR Storage Facility for the use of off-site library storage at Wake Forest University in Winston-Salem, North Carolina. RMF began this project during the Construction Phase to minimize and correct any conflicts as early as possible. Commissioning will continue through the Acceptance, Turnover, and Warranty Phase to verify proper continued operation.

The storage facility is an existing 37,441 SF processing warehouse that is being renovated to house high density library and maintenance storage areas. The facility includes two large conditioned space for storage of library books. These spaces are served by their own central air handling unit that control the temperature and humidity. Along with the library storage spaces, the facility includes an area for library processing and several smaller storage spaces for other uses.

RMF performed the mechanical and controls commissioning for a new air handling unit with dehumidification and a standalone humidifier to serve the renovated library storage area. Functional testing validated that the performance of these systems meets the design intent as set forth by Wake Forest University.

The systems commissioned include:
- Central Air Handling Unit
- Humidification Systems
- Relocated Hot Water Pumps
- Building Automation and Control Systems
25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

a. (1) FIRM NAME
RMF Engineering, Inc.

(2) FIRM LOCATION (City and State)
Raleigh, NC

(3) ROLE
Prime – Commissioning

East Carolina University selected RMF Engineering to provide third party commissioning services for the new 210,000 SF Student Union and associated chiller plant on campus. The Student Union includes the following spaces: Center for Student Activities, Leadership and Involvement; Ledonia Wright Cultural Center; multi-purpose 250-seat theater; event space; bookstore; dining and Sports Grill; and 700-space parking structure. The project is targeted for a LEED Silver certification.

To support the New Student Union and expand their campus regional chilled water network, the project included the construction of a new chiller plant. The plant will initially house one chiller and associated equipment and will be an integral part of their campus distribution network.

Additionally, RMF reviewed the LEED specifications developed by the designer in order to verify all requirements are included to successfully complete the commissioning process. Full LEED consulting services were provided by RMF for LEED prerequisite NC v2.2 commissioning services.

Systems commissioned included:
- Building Automation System
- HVAC Systems
- Lighting Controls Systems
- Chilled and Heating Water Systems
- Domestic Water Systems
- Plumbing Systems
- Electrical Distribution Systems
The Atlanta-Fulton County Public Library System hired RMF’s commissioning team for the renovation of their 250,000 SF, eight-story library in downtown Atlanta. The Fulton County Central Library was originally designed by brutalist architect, Marcel Breur in 1980. The renovation included the addition of a new atrium—allowing natural light into the once dim building—and all new electrical and mechanical systems. The renovated building is designed to be versatile and allow for social services and events. The building includes an event and conference space on the fifth floor with a two-story gathering space and retractable bleachers, a rooftop terrace, an active learning center including a large demonstration kitchen, an auditorium and exhibition space, business center, children’s space and leasable space on the sixth and seventh floors.

RMF performed formal design and construction phase commissioning services for the project. This project included the review of all project documentation including RFI’s and change orders, reviewing applicable submittals, developing project specific Pre-Functional Checklists (PFC’s) and Functional Performance Tests (FPT’s), maintaining an updated Issues Log and holding regular commissioning meetings and site observations.

Systems commissioned included:

- HVAC Systems
- Domestic Hot Water
- Lighting
- Lighting Controls
- Daylighting
- Daylighting Controls
- Security Systems
- Audio-Visual Systems
- Renewable Energy Systems
25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

<table>
<thead>
<tr>
<th>(1) FIRM NAME</th>
<th>(2) FIRM LOCATION (City and State)</th>
<th>(3) ROLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMF Engineering, Inc.</td>
<td>Raleigh, NC</td>
<td>Prime – Commissioning</td>
</tr>
</tbody>
</table>

Georgia Institute of Technology selected RMF to provide third party commissioning services for their 300,000 SF Campus Center Expansion / Renovation. The project provided a comprehensive renovation of Georgia Tech’s Student Center complex. The complex gained an additional 130,000 SF, for a total of approximately 300,000 SF of new or renovated space. The expansion / renovation encompasses five buildings in total: Exhibition Hall, two Pavilions, Cafe and the current Student Center.

The Campus Center project provided enhanced large event spaces, expanded group meeting spaces and updated and expanded dining and retail options for the entire campus to utilize and enjoy. Several programmed spaces focus on student well-being, including a meditation / reflection space and expanded recreational and entertainment areas. The following groups will have office suites within the Campus Center complex because they are directly tied to Campus Center operations or provide student services: Student Center Administration, Student Center Programs Council, Auxiliary Services, Dining and Catering, Student Engagement and Health and Wellbeing.

The Exhibition Hall included a new ballroom that is twice the size of the current ballroom, plenty of meeting space and the Georgia Tech Catering kitchen. The Pavilions are comprised of a larger space for Paper and Clay rental space and Student Services.

Systems commissioned included:
- Building Envelope
- Mechanical Systems
- HVAC Controls Systems
- Plumbing Systems
- Electrical Systems

Commissioning Services Provided
- Design
- Construction
- Acceptance
- Post Acceptance
- Owners Project Requirements (OPR)

Construction Cost
$110 Million

Key RMF Personnel
- Barney York, PE, CxA
- Rob Clegg, PE, CCP, LEED AP
- Taylor Thompson, PE, CEA, CCP
- Taylor Feuerstein, CxA
- Travis Campbell, CxA
- Garrett Holt

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM’S QUALIFICATIONS FOR THIS CONTRACT

(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)

<table>
<thead>
<tr>
<th>20. EXAMPLE PROJECT KEY #</th>
<th>21. TITLE AND LOCATION (City and State)</th>
<th>22. YEAR COMPLETED</th>
<th>23. PROJECT OWNER’S INFORMATION</th>
<th>24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)</th>
</tr>
</thead>
</table>
| 7                         | Campus Center Expansion / Renovation Commissioning | 2022               | Georgia Institute of Technology | Nicolas Palfrey 470.363.7520
|                           | Atlanta, GA                           | 2022               |

Georgia Institute of Technology selected RMF to provide third party commissioning services for their 300,000 SF Campus Center Expansion / Renovation. The project provided a comprehensive renovation of Georgia Tech’s Student Center complex. The complex gained an additional 130,000 SF, for a total of approximately 300,000 SF of new or renovated space. The expansion / renovation encompasses five buildings in total: Exhibition Hall, two Pavilions, Cafe and the current Student Center.

The Campus Center project provided enhanced large event spaces, expanded group meeting spaces and updated and expanded dining and retail options for the entire campus to utilize and enjoy. Several programmed spaces focus on student well-being, including a meditation / reflection space and expanded recreational and entertainment areas. The following groups will have office suites within the Campus Center complex because they are directly tied to Campus Center operations or provide student services: Student Center Administration, Student Center Programs Council, Auxiliary Services, Dining and Catering, Student Engagement and Health and Wellbeing.

The Exhibition Hall included a new ballroom that is twice the size of the current ballroom, plenty of meeting space and the Georgia Tech Catering kitchen. The Pavilions are comprised of a larger space for Paper and Clay rental space and Student Services.

Systems commissioned included:
- Building Envelope
- Mechanical Systems
- HVAC Controls Systems
- Plumbing Systems
- Electrical Systems

Commissioning Services Provided
- Design
- Construction
- Acceptance
- Post Acceptance
- Owners Project Requirements (OPR)

Construction Cost
$110 Million

Key RMF Personnel
- Barney York, PE, CxA
- Rob Clegg, PE, CCP, LEED AP
- Taylor Thompson, PE, CEA, CCP
- Taylor Feuerstein, CxA
- Travis Campbell, CxA
- Garrett Holt
25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

(1) FIRM NAME | (2) FIRM LOCATION (City and State) | (3) ROLE
--- | --- | ---

Consisting of 110,000 SF, Dobo Hall is the largest laboratory building on the UNC Wilmington’s campus. The systems and equipment serving the building mostly original, date back to 1996. Dobo Hall serves the Undergraduate Research Chemistry and Biology Departments for the University. The facility houses both wet and dry labs as well as numerous specialty labs such as NMR Labs and Mass Spectrometry. The lab exhaust included 97 fume hoods, bench/table-top exhaust, snorkel and cabinet exhaust. The HVAC systems including AHU’s and Terminal Units had just recently had all of the controls upgraded from pneumatic to DDC.

RMF’s services for this project consisted of functionally testing 100% of the mechanical system including the HVAC systems and hydronic systems. While the commissioning took place immediately after completion of the controls upgrade, RMF was tasked to independently test the systems, accessing the controls BAS, manipulating set-points and self-performing the TAB verification, measuring air flows, water flows, temperature and humidity readings.

RMF performed commissioning of the Dobo Lab HVAC systems with the building fully occupied and operational, demonstrating RMF’s ability to coordinate and work well with University staff as well as the operations and maintenance staff of the facility. RMF completed the functional testing on schedule with no impact to the occupants.

Post Hurricane
RMF provided commissioning services for the Phase 3 renovation of Dobo Hall after the building sustained substantial damage during hurricane Florence in 2018 and as a result, replaced all existing mechanical equipment along with the majority of electrical equipment and life safety systems. Phase 3 also replaced the existing chillers with one chiller to be tied into the campus chilled water loop to supplement the Wagoner Plant is ever needed. The two existing boilers were also replaced.
RMF provided commissioning services for the renovation of the existing 53,000 SF Salem Hall chemistry laboratory building. This facility houses lecture halls, laboratories, work spaces, laboratory support spaces, classrooms and administrative offices. The renovations included new cutting-edge chemistry classrooms, laboratories and equipment space. The mechanical systems include laboratory terminal units supported by a laboratory control system.

During the design phases, RMF was involved through design reviews and direct communication with the Salem Hall renovations design team. During the construction phases, RMF implemented and managed a commissioning process to streamline the quality control and documentation. In the acceptance phase, RMF created and witnessed functional testing protocols to ensure the building systems were working correctly. RMF will continue involvement through the Warranty Phase to assist with project close-out and continued facility operation. The following systems were commissioned by RMF:

- HVAC (with exception of the existing AHU's)
- BAS and Laboratory controls
- Chilled water and heating hot water
- Normal power distribution
- Emergency power generation and distribution
- Lighting and associated controls
- Lightning protection and grounding
- Domestic cold and hot water
- Reverse osmosis and deionization system sump pump systems
25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

(1) FIRM NAME
RMF Engineering, Inc., PC
(2) FIRM LOCATION (City and State)
Raleigh, NC
(3) ROLE
Prime – Commissioning

Commissioning Services Provided
- Design
- Pre-Bid
- Construction
- Acceptance

Construction Cost
$2.85 Million

Key RMF Personnel
- Barney York, PE, CxA
- Rob Clegg, PE, CCP, LEED AP
- Travis Campbell, CxA
- Taylor Feuerstein, CxA
- Garrett Holt

RMF provided commissioning services for a new 4,000 SF soundproof facility that includes a green screen film bay, new production classrooms, a 75-seat movie theater, editing and sound mixing labs and equipment storage room. In addition to being the home of EUE Screen Gems Studios, the facility will also house a state-of-the-art theater for students to study cinema, screen work and host events.

Systems commissioned included:
- Building automation system integration
- HVAC systems
- TAB Verification
- Basic Lighting Controls (OCC sensors, timers, etc.)

RMF conducted basic commissioning services to accommodate verification of the installation and operation of the HVAC systems serving the Film Studies Facility.

20. EXAMPLE PROJECT KEY #
10

21. TITLE AND LOCATION (City and State)
New Film Studies Facility Commissioning
Wilmington, NC

22. YEAR COMPLETED
2021

23. PROJECT OWNER’S INFORMATION
a. PROJECT OWNER
UNC Wilmington
b. POINT OF CONTACT NAME
David Holsinger
c. POINT OF CONTACT TELEPHONE NUMBER
910.962.7897

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)
### G. KEY PERSONNEL PARTICIPATION IN EXAMPLE PROJECTS

<table>
<thead>
<tr>
<th>28. NAMES OF KEY PERSONNEL (From Section E, Block 12)</th>
<th>27. ROLE IN THIS CONTRACT (From Section E, Block 13)</th>
<th>28. EXAMPLE PROJECTS LISTED IN SECTION F (Fill in “Example Projects Key” section below before completing table. Place “X” under project key number for participation in same or similar role.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barney York, PE, CxA</td>
<td>Principal in Charge</td>
<td>X X X X X X X X X</td>
</tr>
<tr>
<td>Rob Clegg, PE, QCxP, LEED AP</td>
<td>Project Manager</td>
<td>X X X X X X X X X</td>
</tr>
<tr>
<td>Taylor Thompson, PE, CEA, CCP</td>
<td>Commissioning Engineer</td>
<td>X X X</td>
</tr>
<tr>
<td>Travis Campbell, CxA</td>
<td>Lead Commissioning Agent</td>
<td>X X X X X</td>
</tr>
<tr>
<td>Taylor Feuerstein, CxA</td>
<td>Commissioning Agent</td>
<td>X X X X X X</td>
</tr>
<tr>
<td>Garrett Holt</td>
<td>Commissioning Technician</td>
<td>X X</td>
</tr>
<tr>
<td>Avery Monroe, PE, LEED AP</td>
<td>Mechanical Design Review</td>
<td>X X X</td>
</tr>
<tr>
<td>Christina Caldwell, PE</td>
<td>Electrical Design Review</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>29. EXAMPLE PROJECTS KEY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NO.</strong></td>
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<tr>
<td>1</td>
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<td>5</td>
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</tr>
</tbody>
</table>
H. ADDITIONAL INFORMATION

30. PROVIDE ANY ADDITIONAL INFORMATION REQUESTED BY THE AGENCY. ATTACH ADDITIONAL SHEETS AS NEEDED.

RMF Engineering

Licenses

State of North Carolina Certificate of Registration / Corporate Commissioning Licenses

NORTH CAROLINA BOARD OF EXAMINERS FOR ENGINEERS AND SURVEYORS
4601 Six Forks Rd. Suite 310
Raleigh, North Carolina 27609

RMF Engineering, Inc, P.C.
5520 Research Park Drive, Ste 300
Baltimore, MD 21228

This is to Certify that:

RMF Engineering, Inc, P.C. is licensed with the North Carolina Board of Examiners for Engineers and Surveyors, and is authorized to practice engineering under the provisions of Chapter 89C and 55B of the General Statutes of North Carolina.

This authorization must be renewed annually, and expires on June 30, 2023

License No. : C-1125

THE NORTH CAROLINA BOARD OF EXAMINERS FOR ENGINEERS AND SURVEYORS

Issued 06/15/2022

POST IN PLACE OF BUSINESS

Issued 06/15/2022

Telephone (919) 791-2000
FAX (919) 791-2012
EMAIL Address ncbels@ncbels.org
WEB Site www.ncbels.org

Professional Engineering Licenses

Barnabas F. York
RMF Engineering Inc
8081 Arco Corporate Dr Suite 300
Raleigh, NC 27617
License: 029476
Status: CURRENT
Expires: 12/31/2023

Robert S. Clegg
RMF Engineering Inc
8081 Arco Corporate Drive
Suite 300
Raleigh, NC 27617
License: 033190
Status: CURRENT
Expires: 12/31/2023

Taylor A. Thompson
RMF Engineering
8081 Arco Corporate Dr Ste 300
Raleigh, NC 27617
License: 042151
Status: CURRENT
Expires: 12/31/2023

Avery L. Monroe
9353 Carvers Creek Road
Charlotte, NC 28214
License: 019794
Status: CURRENT
Expires: 12/31/2023

Christina D. Caldwell
4929 William Caldwell Avenue
Charlotte, NC 28213
License: 040724
Status: CURRENT
Expires: 12/31/2023
What Our Clients Are Saying

“The service and dedication of [the RMF] team was a tremendous asset to the UNCW Dobo Hall science building renovation. They were an integral partner whose contributions were critical to delivering a complicated project successfully and on time. I whole heartedly recommend Travis and his team for any Cx project.”

Brad Lockwood, Principal
Moseley Architects
UNCW Dobo Hall Science Building Renovation

Why RMF?
Our refined commissioning approach, philosophy, responsiveness and extensive range of experience will result in the highest level of operational quality for the engineered systems critical to the project.

Due to RMF’s size and the desired controlled future growth, the firm is extremely selective in the marketing of services. This selective marketing is done to ensure that any project regardless of its size is performed in a professional manner with principal involvement.

RMF offers unique qualifications and professional services for UNCG’s Jackson Library Addition and Renovation project:

- Nationally recognized commissioning experience + local office to ensure responsiveness and ability to complete projects on time / on budget
- Depth of experience completing projects for higher education clients and knowledge of local code regulations
- Attention to detail and the accountability provided during commissioning increases project quality to all teams involved

COMMISSIONING SOFTWARE
Facility Grid Commissioning Management software allows complete Cx process transparency to the project team 24/7. Each team member is granted permission to access the shared site for document transfers, pre-functional checklist development and execution, functional performance testing status/progress, and issues log tracking.

At any point in time, the owner has full read-only access to the progress dashboard to know the status of the commissioning process and the individual tasks associated within. Contractors have access in order to complete PFCs, perform pre-verification testing (PVT) of systems, as well as reading and responding to action items assigned to them. This seamless approach reduces delays and documents communication for all to see.

I. AUTHORIZED REPRESENTATIVE
The foregoing is a statement of facts.

31. SIGNATURE
Barney York, PE, CxA - Principal in Charge

32. DATE
May 19, 2023

UNC Greensboro
ARCHITECT-ENGINEER QUALIFICATIONS

PART II – GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM (or Branch Office) NAME
RMF Engineering, Inc.

2b. STREET
8081 Arco Corporate Drive, Suite 300

2c. CITY
Raleigh

2d. STATE
NC

2e. ZIP CODE
27617

3. YEAR ESTABLISHED
1983

4. UNIQUE ENTITY IDENTIFIER
Y7YJFTG997E7

5. OWNERSHIP
Corporation

6a. POINT OF CONTACT NAME AND TITLE
Barney York, PE, CxA – Principal in Charge

6b. TELEPHONE NUMBER
919.941.9876

6c. EMAIL ADDRESS
barney.york@rmf.com

8a. FORMER FIRM NAME(S) (If any)
Ross Murphy Finkelstein, Inc.

8b. YEAR ESTABLISHED
1983

8c. UNIQUE ENTITY IDENTIFIER
Y7YJFTG997E7

9. EMPLOYEES BY DISCIPLINE

<table>
<thead>
<tr>
<th>a. Function Code</th>
<th>b. Discipline</th>
<th>c. No. of Employees</th>
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<td>(1) FIRM (2) BRANCH</td>
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<td>02</td>
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<tr>
<td>06</td>
<td>Architect</td>
<td>18 5</td>
</tr>
<tr>
<td>12</td>
<td>Civil Engineers</td>
<td>9 2</td>
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<tr>
<td>21</td>
<td>Electrical Engineers</td>
<td>18 5</td>
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<tr>
<td>42</td>
<td>Mechanical Engineers</td>
<td>52 11</td>
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<tr>
<td>57</td>
<td>Structural Engineers</td>
<td>4 5</td>
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<tr>
<td>10</td>
<td>Chemical Engineers</td>
<td>9 13</td>
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<tr>
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<td>24 13</td>
</tr>
<tr>
<td>15</td>
<td>Construction Engineers</td>
<td>3 1</td>
</tr>
<tr>
<td>12/21/42</td>
<td>Junior Engineers/Designers</td>
<td>24 15</td>
</tr>
<tr>
<td>15</td>
<td>Construction Inspector</td>
<td>2 1</td>
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<tr>
<td>52</td>
<td>Sanitary Engineer</td>
<td>22 7</td>
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<tr>
<td>14</td>
<td>Civil Designer</td>
<td>14 3</td>
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<tr>
<td>19</td>
<td>Commissioning Agent</td>
<td>19 4</td>
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<td>42</td>
<td>Mechanical Designer</td>
<td>42 8</td>
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<td></td>
<td>Total</td>
<td>267 60</td>
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10. PROFILE OF FIRM’S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS

<table>
<thead>
<tr>
<th>a. Profile Code</th>
<th>b. Experience</th>
<th>c. Revenue Index Number (see below)</th>
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<tbody>
<tr>
<td>A06</td>
<td>Airports; Terminals; Hangers; Freight Handling</td>
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<tr>
<td>A08</td>
<td>Animal Facilities</td>
<td>5</td>
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<tr>
<td>B01</td>
<td>Barracks; Dormitories</td>
<td>5</td>
</tr>
<tr>
<td>E02</td>
<td>Educational Facilities; Classrooms</td>
<td>7</td>
</tr>
<tr>
<td>F02</td>
<td>Field Houses; Gymnasiums; Stadiums</td>
<td>5</td>
</tr>
<tr>
<td>G01</td>
<td>Garages; Vehicle Maint. Facilities; Parking Decks</td>
<td>1</td>
</tr>
<tr>
<td>H04</td>
<td>Heating, Ventilating, Air Conditioning</td>
<td>7</td>
</tr>
<tr>
<td>H09</td>
<td>Hospitals &amp; Medical Facilities</td>
<td>7</td>
</tr>
<tr>
<td>L01</td>
<td>Laboratories; Medical Research Facilities</td>
<td>7</td>
</tr>
<tr>
<td>L06</td>
<td>Lighting (Exterior; Street; Memorials; Athletic Fields)</td>
<td>3</td>
</tr>
<tr>
<td>P07</td>
<td>Plumbing &amp; Pipe Design</td>
<td>6</td>
</tr>
<tr>
<td>P08</td>
<td>Prisons &amp; Correctional Facilities</td>
<td>3</td>
</tr>
<tr>
<td>P12</td>
<td>Power Generation, Transmission, Distribution</td>
<td>6</td>
</tr>
<tr>
<td>R05</td>
<td>Refrigeration Plants/Systems</td>
<td>7</td>
</tr>
<tr>
<td>R08</td>
<td>Rehabilitation (Buildings; Structures; Facilities)</td>
<td>5</td>
</tr>
<tr>
<td>R08</td>
<td>Research Facilities</td>
<td>7</td>
</tr>
<tr>
<td>S09</td>
<td>Structural Design; Special Structures</td>
<td>3</td>
</tr>
<tr>
<td>S11</td>
<td>Sustainable Design</td>
<td>7</td>
</tr>
<tr>
<td>T02</td>
<td>Testing &amp; Inspection Services</td>
<td>2</td>
</tr>
<tr>
<td>T06</td>
<td>Tunnels &amp; Subways</td>
<td>6</td>
</tr>
<tr>
<td>U03</td>
<td>Utilities (Gas &amp; Steam)</td>
<td>6</td>
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</table>

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

<table>
<thead>
<tr>
<th></th>
<th></th>
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<tbody>
<tr>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
</tbody>
</table>

12. AUTHORIZED REPRESENTATIVE
The foregoing is a statement of facts.

a. SIGNATURE
Barney York, PE, CxA - Principal in Charge

b. DATE
May 19, 2023
ARCHITECT-ENGINEER QUALIFICATIONS

PART II – GENERAL QUALIFICATIONS
(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM (or Branch Office) NAME
RMF Engineering, Inc.

2b. STREET
8720 Red Oak Boulevard

2c. CITY
Charlotte

2d. STATE
NC

2e. ZIP CODE
28217

3. YEAR ESTABLISHED
1983

4. UNIQUE ENTITY IDENTIFIER
Y7YJFTG997E7

5. OWNERSHIP
Corporation

6a. POINT OF CONTACT NAME AND TITLE
Avery Monroe, PE, LEED AP – Principal

6b. TELEPHONE NUMBER
704.909.6612

6c. EMAIL ADDRESS
avery.monroe@rmf.com

7. NAME OF FIRM (If Block 2a is a Branch Office)
RMF Engineering, Inc., PC

8a. FORMER FIRM NAME(S) (If any)
Ross Murphy Finkelstein, Inc.

8b. YEAR ESTABLISHED
1983

8c. UNIQUE ENTITY IDENTIFIER
Y7YJFTG997E7

9. EMPLOYEES BY DISCIPLINE

<table>
<thead>
<tr>
<th>a. Function Code</th>
<th>b. Discipline</th>
<th>c. No. of Employees</th>
<th>a. Profile Code</th>
<th>b. Experience</th>
<th>c. Revenue Index Number (see below)</th>
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<tbody>
<tr>
<td>02</td>
<td>Administrative</td>
<td>34</td>
<td>A06</td>
<td>Airports; Terminals; Hangers; Freight Handling</td>
<td>3</td>
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<tr>
<td>06</td>
<td>Architect</td>
<td>9</td>
<td>A08</td>
<td>Animal Facilities</td>
<td>5</td>
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<td>12</td>
<td>Civil Engineers</td>
<td>9</td>
<td>B01</td>
<td>Barracks; Dormitories</td>
<td>5</td>
</tr>
<tr>
<td>21</td>
<td>Electrical Engineers</td>
<td>18</td>
<td>E02</td>
<td>Educational Facilities; Classrooms</td>
<td>7</td>
</tr>
<tr>
<td>42</td>
<td>Mechanical Engineers</td>
<td>52</td>
<td>F02</td>
<td>Field Houses; Gymnasiums; Stadiums</td>
<td>5</td>
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<tr>
<td>57</td>
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<td>4</td>
<td>G01</td>
<td>Garages; Vehicle Maint. Facilities; Parking Decks</td>
<td>1</td>
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<tr>
<td>10</td>
<td>Chemical Engineers</td>
<td>9</td>
<td>H04</td>
<td>Heating, Ventilating, Air Conditioning</td>
<td>7</td>
</tr>
<tr>
<td>08</td>
<td>CADD Technicians</td>
<td>9</td>
<td>H09</td>
<td>Hospitals &amp; Medical Facilities</td>
<td>7</td>
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<tr>
<td>15</td>
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<td>Laboratories; Medical Research Facilities</td>
<td>7</td>
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<tr>
<td>12/21/42</td>
<td>Junior Engineers/Designers</td>
<td>24</td>
<td>L06</td>
<td>Lighting (Exterior; Street; Memorials; Athletic Fields)</td>
<td>3</td>
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<tr>
<td>15</td>
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<td>P07</td>
<td>Plumbing &amp; Pipe Design</td>
<td>6</td>
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<tr>
<td>52</td>
<td>Sanitary Engineer</td>
<td>1</td>
<td>P08</td>
<td>Prisons &amp; Correctional Facilities</td>
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<td>14</td>
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<td>Refrigeration Plants/Systems</td>
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<td>19</td>
<td>Commissioning Agent</td>
<td>1</td>
<td>R06</td>
<td>Rehabilitation (Buildings; Structures; Facilities)</td>
<td>5</td>
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<td>22</td>
<td>Electrical Designer</td>
<td>3</td>
<td>R08</td>
<td>Research Facilities</td>
<td>7</td>
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<tr>
<td>3</td>
<td>Energy Engineer</td>
<td>3</td>
<td>S09</td>
<td>Structural Design; Special Structures</td>
<td>3</td>
</tr>
<tr>
<td>14</td>
<td>Inspector</td>
<td>1</td>
<td>S11</td>
<td>Sustainable Design</td>
<td>7</td>
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<td>7</td>
<td>Information Technology</td>
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<td>T02</td>
<td>Testing &amp; Inspection Services</td>
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<td>T06</td>
<td>Tunnels &amp; Subways</td>
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<td>42</td>
<td>Mechanical Designer</td>
<td>2</td>
<td>U03</td>
<td>Utilities (Gas &amp; Steam)</td>
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Total 267 10

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS
(Insert revenue index number shown at right)

| a. Federal Work | 8 |
| b. Non-Federal Work | 9 |
| c. Total Work | 10 |

12. AUTHORIZED REPRESENTATIVE
The foregoing is a statement of facts.

a. SIGNATURE

b. DATE
May 19, 2023

c. NAME AND TITLE
Avery Monroe, PE, LEED AP – Principal
**ARCHITECT-ENGINEER QUALIFICATIONS**

**PART II – GENERAL QUALIFICATIONS**

(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM (or Branch Office) NAME

High Performance Building Solutions, Inc.

2b. STREET

1515 Mockingbird Lane, Suite 7710

2c. CITY

Charlotte

2d. STATE

NC

2e. ZIP CODE

28209

2f. STREET

3. YEAR ESTABLISHED

2012

4. UNIQUE ENTITY IDENTIFIER

45-5197311

5. OWNERSHIP

a. TYPE

Corporation

b. SMALL BUSINESS STATUS

Small Women-Owned

6a. POINT OF CONTACT NAME AND TITLE

Meghan McDermott, BECx, CxA+BE – President / CEO

6b. TELEPHONE NUMBER

704.299.1698

6c. EMAIL ADDRESS

meghan@hpb-solutions.com

8a. FORMER FIRM NAME(S) (If any)

8b. YEAR ESTABLISHED

8c. UNIQUE ENTITY IDENTIFIER

9. EMPLOYEES BY DISCIPLINE

<table>
<thead>
<tr>
<th>a. Function Code</th>
<th>b. Discipline</th>
<th>c. No. of Employees</th>
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<tbody>
<tr>
<td>02</td>
<td>Administrative</td>
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<tr>
<td>58</td>
<td>Technician / Analyst</td>
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<td>Mechanical Engineer</td>
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<td>48</td>
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Total

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10. PROFILE OF FIRM’S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS

<table>
<thead>
<tr>
<th>a. Profile Code</th>
<th>b. Experience</th>
<th>c. Revenue Index Number</th>
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<tbody>
<tr>
<td>01 Barracks; Dormitories</td>
<td>2</td>
<td></td>
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<tr>
<td>05 Forensic Engineering</td>
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<td></td>
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<tr>
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Total

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11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS

<table>
<thead>
<tr>
<th>Insert revenue index number shown at right</th>
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<tr>
<td>b. Non-Federal Work</td>
</tr>
<tr>
<td>c. Total Work</td>
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</table>

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

| a. Federal Work                            | 3                      |
| b. Non-Federal Work                        | 3                      |
| c. Total Work                              | 4                      |

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

a. SIGNATURE

b. DATE

May 19, 2023

c. NAME AND TITLE

Meghan McDermott, BECx, CxA+BE – President / CEO