



**Finance and Administration Committee**  
**August 15, 2023**

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**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**

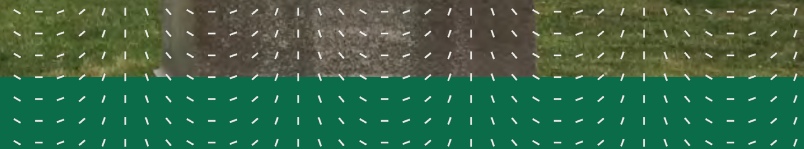
Based on the above information, the University of North Carolina Board of Trustees at Greensboro approves RMF Engineering, Inc., Raleigh, NC, as the Commissioning Agent for the Jackson Library Addition and Renovation project. If agreeable terms cannot be met with the recommended firm, the Board authorizes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



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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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Tab 1

# Completed Information Sheet



RMF  
Engineering



# Information Sheet

Firm Name

HUB Certified     
  If HUB, Specify Type     
  Female     
  American Indian     
  Hispanic     
  Socially & Economically Disadvantaged  
 Disabled     
  Asian-American     
  Black

Point of Contact  E-mail Address

Street Address

City  State  Zip Code  County

Phone #  Fax #

Type of Firm (e.g. Architectural, Civil Engineering, Surveying, Etc)

## Consulting Firms

Architectural:	<input type="text"/>	<input type="checkbox"/> Check If HUB	Mechanical:	<input type="text"/>	<input type="checkbox"/> Check If HUB
Electrical:	<input type="text"/>	<input type="checkbox"/> Check If HUB	Plumbing:	<input type="text"/>	<input type="checkbox"/> Check If HUB
Structural:	<input type="text"/>	<input type="checkbox"/> Check If HUB	Civil:	<input type="text"/>	<input type="checkbox"/> Check If HUB
Landscape:	<input type="text"/>	<input type="checkbox"/> Check If HUB	Interior Design:	<input type="text"/>	<input type="checkbox"/> Check If HUB
Other (specify type):	<input type="text" value="Building Envelope Commissioning: High Performance Building Solutions"/>				<input checked="" type="checkbox"/> Check If HUB
Other (specify type):	<input type="text"/>				<input type="checkbox"/> Check If HUB



Tab 2

## Letter of Interest





**RMF  
Engineering**

8081 Arco Corporate Dr  
Suite 300  
Raleigh, North Carolina 27617

919.941.9876  
919.941.9957 fax  
[www.rmfc.com](http://www.rmfc.com)

**T. O. (Buddy) Hale**

UNC Greensboro Facilities Design & Construction  
Gray Home Management House  
105 Gray Drive  
Greensboro, NC 27412

May 19, 2023

**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](mailto:barney.york@rmf.com).

Sincerely,

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



Tab 3

# Project Team Organization Chart





**260+ employees**



**10 offices**

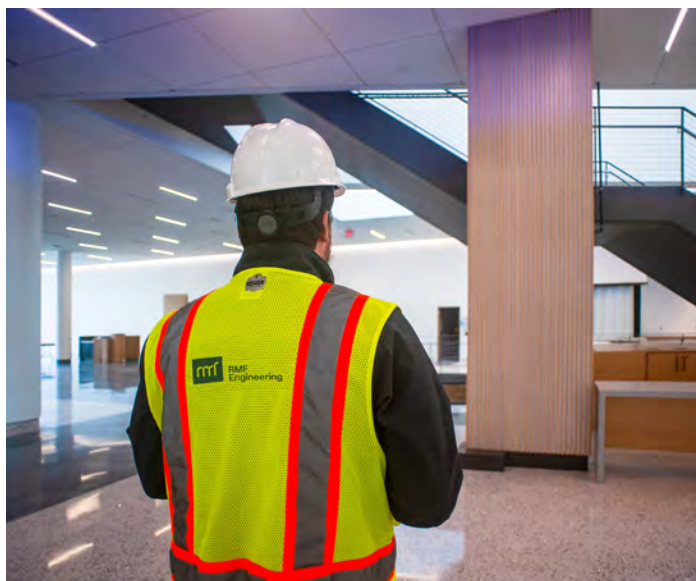


**40-year history**

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



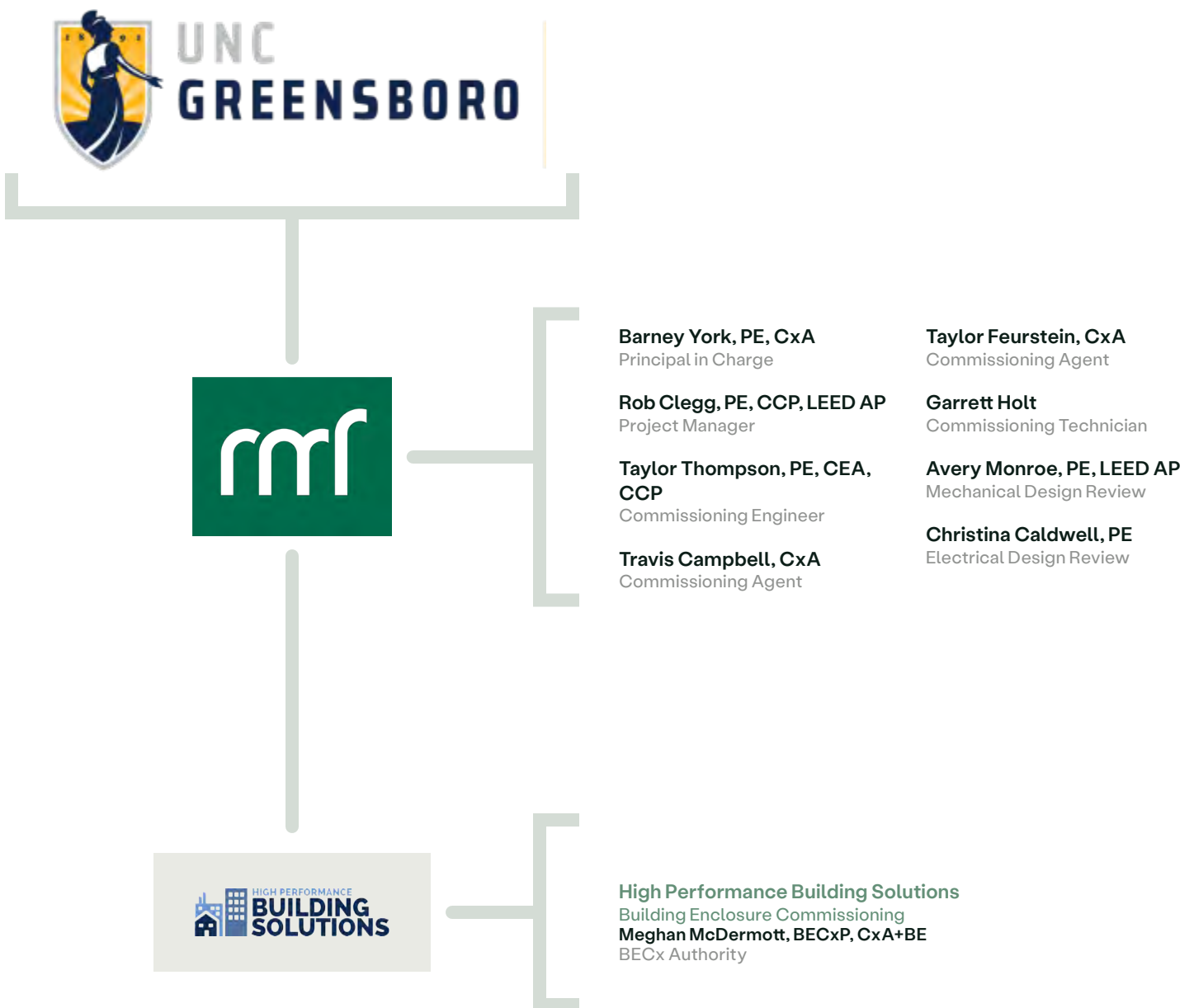
# Project Team Organizational Chart

## 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.



## Principal in Charge

**Barney York**, PE, CxAProject Team  
Organization ChartProfessional Experience**23**  
YEARS AT RMF**23**  
YEARS OF EXPERIENCEEducation**BS, Construction Engineering and Management**  
1999, NORTH CAROLINA STATE UNIVERSITY**MBA**  
2013, UNIVERSITY NORTH CAROLINA AT CHAPEL HILLCertifications & Awards**Professional Engineer**  
NORTH CAROLINA: 29476**Certified Commissioning Authority**

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.

**Dining Hall Renovation Commissioning**  
UNC Greensboro**Lilly Library Renovation and Addition Commissioning**  
Duke University**New Parr Center Commissioning (Hagemeyer Library)**  
Central Piedmont Community College**Off-Site Library Storage Renovation Commissioning**  
Wake Forest University**Central Library Renovation Enhanced Commissioning**  
Fulton County Government**New Humanities Law Building Commissioning (Contains a Library)**  
Georgia State University**Campus Center Expansion / Renovation Commissioning**  
Georgia Institute of Technology**Dobo Hall Laboratory Building Renovation and Re-Commissioning**  
UNC Wilmington**New Student Union Commissioning**  
East Carolina University**Salem Hall Renovation Commissioning**  
Wake Forest University**New Film Studies Facility Commissioning**  
UNC WilmingtonPublications & Speaking Engagements

"Commissioning: Delivering a Central Plant that Works", District Energy Magazine, 2009



## Project Manager

**Rob Clegg**, PE, CCP, LEED AP

Project Team  
Organization Chart



Professional Experience

**20**  
YEARS AT RMF

**20**  
YEARS OF EXPERIENCE

Education

**BS, Mechanical Engineering**  
2003, NORTH CAROLINA  
STATE UNIVERSITY

Certifications & Awards

**Professional Engineer**  
NORTH CAROLINA: 033199  
**Certified Commissioning  
Professional**  
**LEED Accredited  
Professional**

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.

**Dining Hall Renovation Commissioning**  
UNC Greensboro

**Lilly Library Renovation and Addition Commissioning**  
Duke University

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

**New Humanities Law Building Commissioning (Contains a Library)**  
Georgia State University

**New Student Union Commissioning**  
East Carolina University

**Salem Hall Renovation Commissioning**  
Wake Forest University

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

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

**Fisher Student Union Retro-Commissioning,**  
UNC Wilmington

**New Film Studies Facility Commissioning**  
UNC Wilmington

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

## Commissioning Engineer

**Taylor Thompson**, PE, CEA, CCP

Project Team  
Organization Chart



Professional Experience

**13**  
YEARS AT RMF

**13**  
YEARS OF EXPERIENCE

Education

**BS, Mechanical Engineering**  
2009, NORTH CAROLINA  
STATE UNIVERSITY

Certifications & Awards

**Professional Engineer**  
NORTH CAROLINA: 042151

**Certified Energy Auditor**

**Certified Commissioning Professional**

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.

**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

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

**New Student Union Commissioning**  
East Carolina University

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

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

**New Hall County Campus Commissioning**  
Lanier Technical College

**New Science Center Commissioning**  
Johnson C. Smith University

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

**Salem Hall Renovation Commissioning**  
Wake Forest University

**New Allied Health Building Commissioning**  
UNC Wilmington

**Sports Performance Center Commissioning**  
Wake Forest University



## Commissioning Agent

Travis Campbell, CxA

Project Team  
Organization ChartProfessional Experience7  
YEARS AT RMF10  
YEARS OF EXPERIENCEEducation**BS, Biological & Agricultural  
Engineering**  
2013, NORTH CAROLINA  
STATE UNIVERSITYCertifications & Awards

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.

**Off-Site Library Storage Renovation Commissioning**  
Wake Forest University**New Student Union Commissioning**  
East Carolina University**Salem Hall Renovation Commissioning**  
Wake Forest University**New Film Studies Facility Commissioning**  
UNC Wilmington**Campus Center Expansion / Renovation Commissioning**  
Georgia Institute of Technology**Dobo Hall Laboratory Building Renovation and Re-Commissioning**  
UNC Wilmington**Fisher Student Union Retro-Commissioning,**  
University of North Carolina at Wilmington**New Convention Center Commissioning**  
The City of Raleigh**New Allied Health Building Commissioning**  
The University of North Carolina at Wilmington**New Facilities Operations & Parking Services Complex Commissioning**  
University of North Carolina at Charlotte**New Science Center Commissioning**  
Johnson C. Smith University



## Commissioning Agent

Taylor Feuerstein, CxA

Project Team  
Organization ChartProfessional Experience4  
YEARS AT RMF9  
YEARS OF EXPERIENCEEducation**BS, Mechanical Engineering**  
2013, VIRGINIA MILITARY  
INSTITUTECertifications & Awards**Certified Commissioning  
Authority**

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.

**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



## Commissioning Technician

## Garret Holt

Project Team  
Organization ChartProfessional Experience

**5**  
YEARS AT RMF

**5**  
YEARS OF EXPERIENCE

Education

**BS, Mechanical Engineering**  
2019, NORTH CAROLINA  
STATE UNIVERSITY

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.

**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

Professional Experience

**22**  
YEARS AT RMF

**36**  
YEARS OF EXPERIENCE

Education

**MS, Management**  
2000, NORTH CAROLINA  
STATE UNIVERSITY

**BS, Mechanical Engineering**  
1989, HOWARD UNIVERSITY

Certifications & Awards

**Professional Engineer**  
NC: #19794

**LEED Accredited  
Professional**

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.

**The Arts Place At Tate And Gate**

UNC Greensboro

**Off-Site Library Storage Renovation Commissioning**

Wake Forest University

**New Parr Center Commissioning (Hagemeyer Library)**

Central Piedmont Community College

**Atkins Library Tower ADA Fire System Upgrades Commissioning**

UNC Charlotte

**Salem Hall Renovation Commissioning**

Wake Forest University

**Cardiovascular Institute Commissioning**

East Carolina University

**New Student Union Commissioning**

East Carolina University

**President's House Renovation Commissioning**

Wake Forest University

**Jenkins Art Center Retro-Commissioning**

East Carolina University

**New Facilities Operations and Parking Services Building Commissioning**

UNC Charlotte

**Palmer Museum Humidifiers Re-Commissioning**

Wake Forest University

**Energy Production Facility Commissioning**

Western Carolina University

Professional Experience**3**  
YEARS AT RMF**15**  
YEARS OF EXPERIENCEEducation**BS, Architectural Engineering**  
2005, NC A&T STATE  
UNIVERSITY**MS, Civil Engineering**  
2006, NC A&T STATE  
UNIVERSITYCertifications & Awards**Professional Engineer**  
NORTH CAROLINA: 040724

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.

**The Arts Place At Tate And Gate**

UNC Greensboro

**Taylor Theater Infrastructure Renovation**

UNC Greensboro

**Ramsey (RAM) Library Emergency Generator Replacement**

UNC Asheville

**South County Regional Library Renovation and Expansion**

Mecklenburg County

**Wellness And Recreation Center Advance Planning**

NC A&amp;T State University

**New Harold L. Martin Sr. Engineering Research and Innovation Complex**

NC A&amp;T State University

**Burson Renovation and Addition Advance Planning**

UNC Charlotte

**Cato Hall Office Renovations**

UNC Charlotte

**New Science Building**

Wingate University

**Gee Building North Wing Roof Top Unit Replacement**

Davidson-Davie Community College

**Finch Building Boiler Replacement**

Davidson-Davie Community College

Professional Experience

**8**  
YEARS AT HPBS

**12**  
YEARS OF EXPERIENCE

Education

**BS, Architectural Engineering**  
2005, UNIVERSITY OF WISCONSIN

**MS, Civil Engineering**  
2006, NC A&T STATE UNIVERSITY

Certifications & Awards

**Building Enclosure Commissioning Process Provider**

**BPI Envelope Professional**  
# 5041173

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.

**Neurology Building - Building Envelope Assessment and Repairs**

East Carolina University

**New Coastal Engineering Building Commissioning**

UNC Wilmington

**Granville Towers Building Envelope Assessment**

Confidential Client

**New University Commons Commissioning**

Sewanee: The University of the South

**Randall Library Expansion and Renovation Commissioning**

UNC Wilmington

**Morganton Readiness Center**

North Carolina National Guard

**McLeansville Readiness Center**

North Carolina National Guard

**Randall Library**

UNC Wilmington

**Central Services Building**

Chatham County Schools

**Lansdowne Elementary School**

Charlotte Mecklenburg Schools

**Elementary Schools F**

Durham County Schools



Tab 4

## Relevant Experience and Other Important Factors



# 4.1 Specialized or Appropriate Expertise in the Type of Project

Relevant Experience and Other Important Factors

### 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:

19	Commissioning Agents	3	Energy Engineers
2	Construction Inspectors	7	Information Technology
34	Administrative	24	Junior Engineers/Designers
0	Architects	52	Mechanical Engineers
1	Architectural Designers	42	Mechanical Designers
9	CADD Technicians	4	Plumbing Engineers
9	Civil Engineers	4	Structural Engineers
14	Civil Designers	0	Sanitary Engineers
18	Electrical Engineers	3	Construction Engineers
22	Electrical Designers	<b>267</b>	<b>Total Personnel</b>

### 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

Building Sector	New Construction or Major Renovation	Existing Building	Equipment Replacement
<b>Higher Education Facilities</b>	✓	✓	✓
Science, Research & Technology Laboratories	✓	✓	✓
Museums, Libraries, etc.	✓	✓	✓
Convention Centers	✓	✓	✓
Hospitals	✓	✓	✓
K-12 Schools	✓	✓	✓
Office Buildings	✓	✓	✓
Sports & Recreation Centers	✓	✓	✓
Mission Critical Facilities	✓	✓	✓
Industrial Facilities	✓	✓	✓
Central Utility Plants	✓	✓	✓





## 4.1 Specialized or Appropriate Expertise in the Type of Project

Relevant Experience and Other Important Factors

### 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.



## 4.1 Specialized or Appropriate Expertise in the Type of Project

Relevant Experience and Other Important Factors

### 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

Relevant Experience and Other Important Factors

## 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.



## 4.2 Past Performance on Similar Projects

Relevant Experience and Other Important Factors

### 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.



Wake Forest University Salem Hall Renovation Commissioning

### 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

Relevant Experience and Other Important Factors



Dining Hall Renovation Commissioning

### 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

### 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

### 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

Relevant Experience and Other Important Factors



Off-Site Library Storage Facility Renovation Commissioning

### 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



Central Library Renovation Commissioning

### 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

### 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

Relevant Experience and Other Important Factors



Campus Center Expansion / Renovation Commissioning

### 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-Commissioning

### 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



Caption

### 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 - 4.9 of Relevant Experience and Other Important Factors

### 4.3 Current Workload and State Projects Awarded

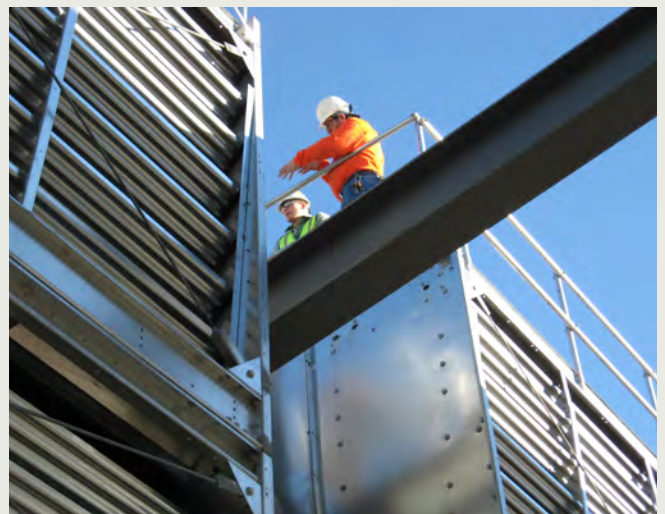
RMF is presently operating at 80% of productive capacity. Our firm strives to maintain a three to six-month steady backlog of work to insure continuity. As evidenced in the individual resumes, the personnel proposed for this project have worked on numerous similar projects, and are fully aware of how 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.





## 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.



## 4.3 - 4.9 of Relevant Experience and Other Important Factors

### 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 through 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.





## 4.3 - 4.9 of Relevant Experience and Other Important Factors

Relevant Experience and Other Important Factors

### 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.



# 4.3 - 4.9 of Relevant Experience and Other Important Factors

Relevant Experience and Other Important Factors

## 100+ LEED Certified Projects



Georgia State University Humanities - Law Bldg. Cx



East Carolina University Student Center Cx



Auburn University Graduate Education Cx

### 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.



High Performance Building Solutions (HPBS) is a nationally known

building performance company focusing on providing high performance building energy efficiency consulting and testing for both residential and commercial markets. HPBS's building envelope consultants understand the intricacies associated with properly aligning materials, components and systems to ensure increased building enclosure performance. The company prides itself on providing holistic, intelligent and effective solutions that reduce energy and provides clients' with a building that meets their performance expectations. HPBS has an extensive background and experience in building envelope commissioning services. The team is proficient at helping each unique new and existing building achieve and maintain its performance potential.

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

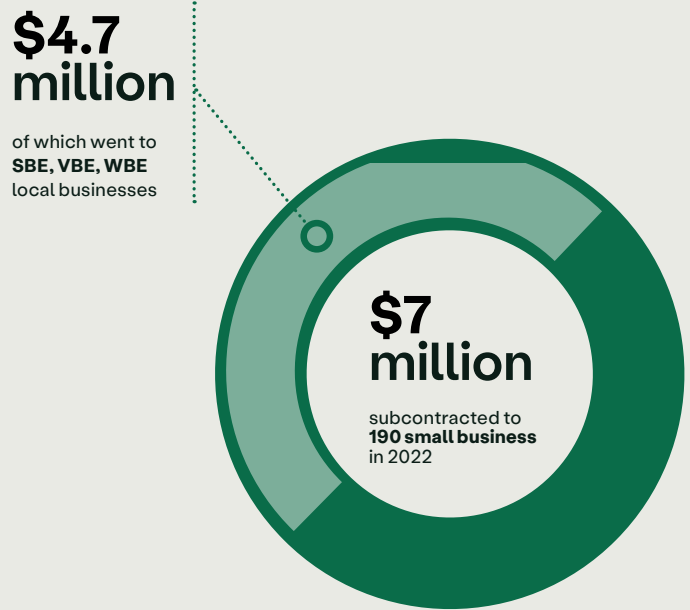


# Minority Business Participation Plan

## 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.



## 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.





Tab 6

**SF-330**



# 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

3. SOLICITATION OR PROJECT NUMBER

### 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.)

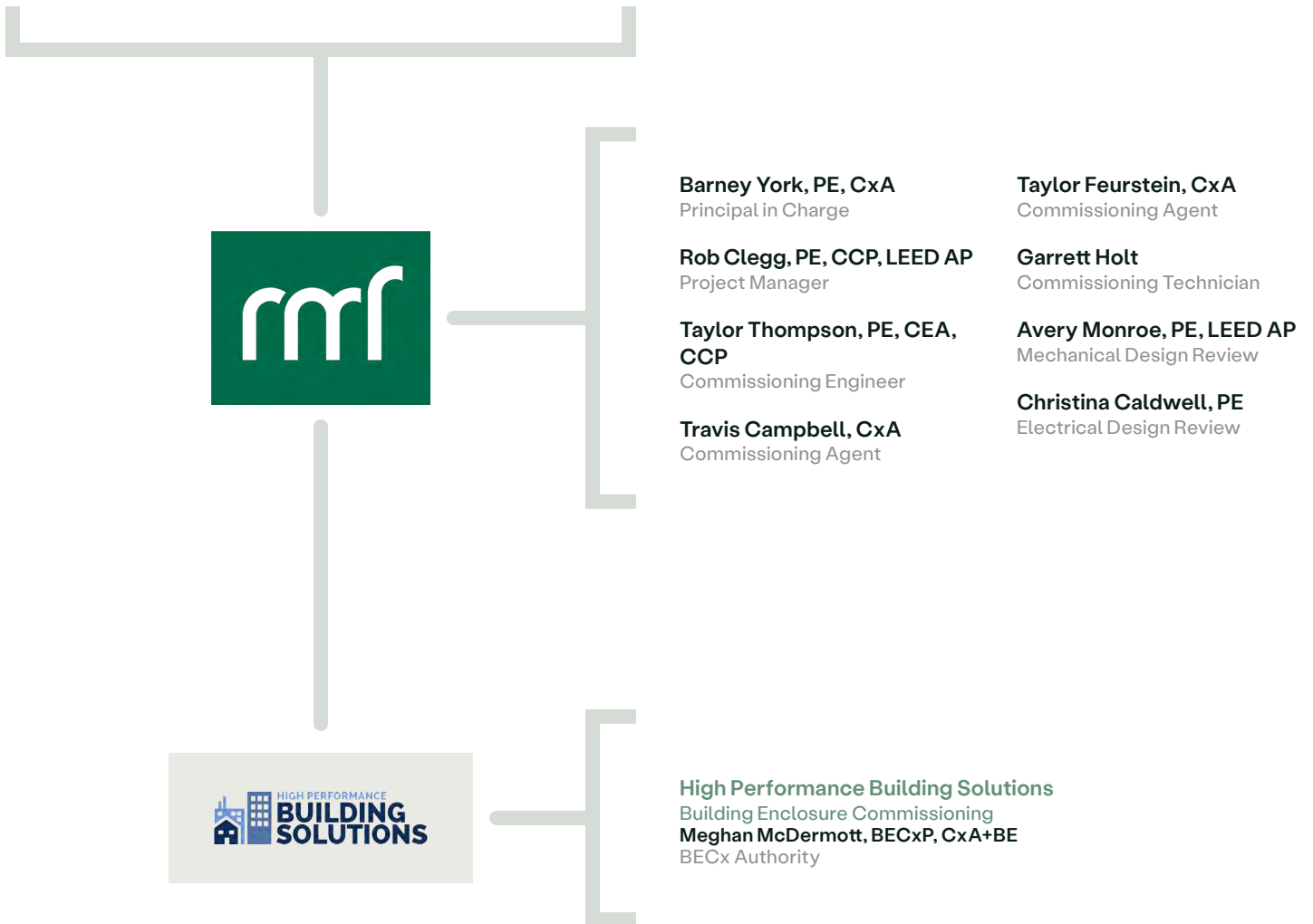
	(Check)			9. FIRM NAME	10. ADDRESS	11. ROLE IN THIS CONTRACT
	PRIME	J-V PARTNER	SUBCONTRACTOR			
a.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	 <b>RMF Engineering</b> <input checked="" type="checkbox"/> CHECK IF BRANCH OFFICE	8081 Arco Corporate Drive Suite 300 Raleigh, NC 27617	Commissioning Project Management
b.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	 <b>RMF Engineering</b> <input checked="" type="checkbox"/> CHECK IF BRANCH OFFICE	8720 Red Oak Blvd Suite 370 Charlotte, NC 28217	Commissioning Support and Design Review
c.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	 <b>HIGH PERFORMANCE BUILDING SOLUTIONS</b> <input type="checkbox"/> CHECK IF BRANCH OFFICE	1515 Mockingbird Lane Suite 7110 Charlotte, NC, 28209	Building Enclosure Commissioning
d.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> CHECK IF BRANCH OFFICE		
e.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> CHECK IF BRANCH OFFICE		
f.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> CHECK IF BRANCH OFFICE		

### D. ORGANIZATIONAL CHART OF PROPOSED TEAM

(Attached)

D. ORGANIZATIONAL CHART OF PROPOSED TEAM

INSERT ORGANIZATIONAL CHART BELOW OR ATTACH.



## E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME <b>Barney York, PE, CxA</b>	13. ROLE IN THIS CONTRACT <b>Principal in Charge</b>	14. YEARS EXPERIENCE	
		a. TOTAL <b>23</b>	b. WITH CURRENT FIRM <b>23</b>

15. FIRM NAME AND LOCATION (City and State)

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

16. EDUCATION (Degree and Specialization) <b>NC State University</b> BS, Construction Engineering & Management / 1999 <b>UNC Chapel Hill</b> Master of Business Administration / 2013	17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) Professional Engineer NC #29476 ACG Certified Commissioning Authority
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18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

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

	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
a.	<b>Dining Hall Renovation Commissioning</b> UNC Greensboro   Greensboro, NC	PROFESSIONAL SERVICES 2014	CONSTRUCTION (if applicable) 2015
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm	
	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.		
	SIZE: 123,000 SF	COST: \$25 Million	ROLE: PROJECT MANAGER
b.	<b>Lilly Library Renovation and Addition Commissioning</b> Duke University   Charlotte, NC	PROFESSIONAL SERVICES 2022	CONSTRUCTION (if applicable) 2022
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm	
	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.		
	SIZE: 9,500 SF	COST: \$12.4 Million	ROLE: PRINCIPAL IN CHARGE
c.	<b>New Main Campus Student Union Commissioning</b> East Carolina University   Greenville, NC	PROFESSIONAL SERVICES 2019	CONSTRUCTION (if applicable) 2019
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm	
	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.		
	SIZE: 145,000 SF	COST: \$90 Million	ROLE: PRINCIPAL IN CHARGE
d.	<b>New Film Studies Facility Commissioning</b> UNC Wilmington   Wilmington, NC	PROFESSIONAL SERVICES 2019	CONSTRUCTION (if applicable) 2022
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm	
	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.		
	SIZE: 4,000 SF	COST: \$2.85 Million	ROLE: PRINCIPAL IN CHARGE
e.	<b>Central Library Enhanced Commissioning Services</b> Fulton County Government   Atlanta, GA	PROFESSIONAL SERVICES 2018	CONSTRUCTION (if applicable) 2019
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm	
	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.		
	SIZE: 250,000 SF	COST: \$44 Million	ROLE: PRINCIPAL IN CHARGE



## E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME <b>Rob Clegg, PE, QCXP, LEED AP</b>	13. ROLE IN THIS CONTRACT <b>Project Manager</b>	14. YEARS EXPERIENCE	
		a. TOTAL <b>20</b>	b. WITH CURRENT FIRM <b>20</b>

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

a.	(1) TITLE AND LOCATION (City and State)				(2) YEAR COMPLETED	
	SIZE:	COST:	ROLE:	PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
	<b>Dining Hall Renovation Commissioning</b>				2014      2015	
	UNC Greensboro   Greensboro, NC				2014      2015	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE				<input checked="" type="checkbox"/> Check if project performed with current firm	
	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.					
	123,000 SF	\$25 Million	COMMISSIONING ENGINEER			
	<b>Lilly Library Renovation and Addition Commissioning</b>				2022      2022	
	Duke University   Charlotte, NC				2022      2022	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE				<input checked="" type="checkbox"/> Check if project performed with current firm	
	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.					
	9,500 SF	\$12.4 Million	PRINCIPAL IN CHARGE			
	<b>New Main Campus Student Union Commissioning</b>				2019      2019	
	East Carolina University   Greenville, NC				2019      2019	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE				<input checked="" type="checkbox"/> Check if project performed with current firm	
	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.					
	145,000 SF	\$90 Million	PROJECT MANAGER			
	<b>New Film Studies Facility Commissioning</b>				2019      2022	
	UNC Wilmington   Wilmington, NC				2019      2022	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE				<input checked="" type="checkbox"/> Check if project performed with current firm	
	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.					
	4,000 SF	\$2.85 Million	PROJECT MANAGER			
	<b>Campus Center Expansion / Renovation Commissioning</b>				2022      2022	
	Georgia Institute of Technology   Atlanta, GA				2022      2022	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE				<input checked="" type="checkbox"/> Check if project performed with current firm	
	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.					
	300,000 SF	\$110 Million	PROJECT MANAGER			

## E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME <b>Taylor Thompson, PE, CEA, CCP</b>	13. ROLE IN THIS CONTRACT <b>Commissioning Engineer</b>	14. YEARS EXPERIENCE	
		a. TOTAL <b>13</b>	b. WITH CURRENT FIRM <b>13</b>

15. FIRM NAME AND LOCATION (City and State)

**RMF Engineering, Inc.** (Charlotte, NC)

16. EDUCATION (Degree and Specialization) <b>NC State University</b> BS, Mechanical Engineering / 2009	17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) Professional Engineer NC #042151 Certified Energy Auditor Certified Commissioning Professional
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18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

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

a.	(1) TITLE AND LOCATION (City and State)				(2) YEAR COMPLETED	
	SIZE:	170,000 SF	COST:	\$113 Million	PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
	<b>New Parr Center Commissioning</b> Central Piedmont Community College   Charlotte, NC				2022	2022
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE				<input checked="" type="checkbox"/> Check if project performed with current firm	
	The new 107,863 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.					
	ROLE: COMMISSIONING ENGINEER					
b.	(1) TITLE AND LOCATION (City and State)				(2) YEAR COMPLETED	
	SIZE: <th style="width: 15%;">37,411 SF</th> <th style="width: 10%;">COST:</th> <th style="width: 15%;">Unknown</th> <th style="width: 10%;">PROFESSIONAL SERVICES</th> <th style="width: 10%;">CONSTRUCTION (if applicable)</th>	37,411 SF	COST:	Unknown	PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
	<b>Offsite Library Storage Facility Renovation Commissioning</b> Wake Forest University   Winston-Salem, NC				2019	2019
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE				<input checked="" type="checkbox"/> Check if project performed with current firm	
	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.					
	ROLE: PROJECT MANAGER					
c.	(1) TITLE AND LOCATION (City and State)				(2) YEAR COMPLETED	
	SIZE: <th style="width: 15%;">145,000 SF</th> <th style="width: 10%;">COST:</th> <th style="width: 15%;">\$90 Million</th> <th style="width: 10%;">PROFESSIONAL SERVICES</th> <th style="width: 10%;">CONSTRUCTION (if applicable)</th>	145,000 SF	COST:	\$90 Million	PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
	<b>New Main Campus Student Union Commissioning</b> East Carolina University   Greenville, NC				2019	2019
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE				<input checked="" type="checkbox"/> Check if project performed with current firm	
	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.					
	ROLE: COMMISSIONING ENGINEER					
d.	(1) TITLE AND LOCATION (City and State)				(2) YEAR COMPLETED	
	SIZE: <th style="width: 15%;">300,000 SF</th> <th style="width: 10%;">COST:</th> <th style="width: 15%;">\$110 Million</th> <th style="width: 10%;">PROFESSIONAL SERVICES</th> <th style="width: 10%;">CONSTRUCTION (if applicable)</th>	300,000 SF	COST:	\$110 Million	PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
	<b>Campus Center Expansion / Renovation Commissioning</b> Georgia Institute of Technology   Atlanta, GA				2022	2022
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE				<input checked="" type="checkbox"/> Check if project performed with current firm	
	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.					
	ROLE: COMMISSIONING ENGINEER					
e.	(1) TITLE AND LOCATION (City and State)				(2) YEAR COMPLETED	
	SIZE: <th style="width: 15%;">53,000 SF</th> <th style="width: 10%;">COST:</th> <th style="width: 15%;">\$15 Million</th> <th style="width: 10%;">PROFESSIONAL SERVICES</th> <th style="width: 10%;">CONSTRUCTION (if applicable)</th>	53,000 SF	COST:	\$15 Million	PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
	<b>Salem Hall Renovation Commissioning</b> Wake Forest University   Winston-Salem, NC				2019	2021
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE				<input checked="" type="checkbox"/> Check if project performed with current firm	
	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.					
	ROLE: PROJECT MANAGER					

## E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME <b>Travis Campbell, CxA</b>	13. ROLE IN THIS CONTRACT <b>Lead Commissioning Agent</b>	14. YEARS EXPERIENCE	
		a. TOTAL <b>9</b>	b. WITH CURRENT FIRM <b>6</b>

15. FIRM NAME AND LOCATION (City and State)



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

16. EDUCATION (Degree and Specialization)

**NC State University**  
BS, Biological and Agricultural Engineering / 2013

17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)

ACG Certified Commissioning Authority

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

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

	(1) TITLE AND LOCATION (City and State)				(2) YEAR COMPLETED	
					PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
a.	<b>New Main Campus Student Union Commissioning</b>				2019	
	East Carolina University		Greenville, NC		2019	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE				<input checked="" type="checkbox"/> Check if project performed with current firm	
	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.					
	SIZE:	145,000 SF	COST:	\$90 Million	ROLE:	LEAD COMMISSIONING AGENT
b.	<b>New Science and Office Building Commissioning</b>				2021	
	Winston-Salem State University		Winston-Salem, NC		2021	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE				<input checked="" type="checkbox"/> Check if project performed with current firm	
	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.					
	SIZE:	122,000 SF	COST:	\$82 Million	ROLE:	LEAD COMMISSIONING AGENT
c.	<b>Campus Center Expansion / Renovation Commissioning</b>				2022	
	Georgia Institute of Technology		Atlanta, GA		2022	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE				<input checked="" type="checkbox"/> Check if project performed with current firm	
	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.					
	SIZE:	300,000 SF	COST:	\$110 Million	ROLE:	LEAD COMMISSIONING AGENT
d.	<b>Salem Hall Renovation Commissioning</b>				2019	
	Wake Forest University		Winston-Salem, NC		2021	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE				<input checked="" type="checkbox"/> Check if project performed with current firm	
	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.					
	SIZE:	53,000 SF	COST:	\$15 Million	ROLE:	LEAD COMMISSIONING AGENT
e.	<b>New Film Studies Facility Commissioning</b>				2021	
	UNC Wilmington		Wilmington, NC		2021	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE				<input checked="" type="checkbox"/> Check if project performed with current firm	
	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.					
	SIZE:	4,000 SF	COST:	\$2.85 Million	ROLE:	LEAD COMMISSIONING AGENT

## E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME <b>Taylor Feuerstein, CxA</b>	13. ROLE IN THIS CONTRACT <b>Commissioning Agent</b>	14. YEARS EXPERIENCE	
		a. TOTAL <b>9</b>	b. WITH CURRENT FIRM <b>4</b>

15. FIRM NAME AND LOCATION (City and State)

**RMF Engineering, Inc.** (Charlotte, NC)

16. EDUCATION (Degree and Specialization) <b>Virginia Military Institute</b> BS, Mechanical Engineering / 2013	17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) <b>Certified Commissioning Authority</b>
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18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

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

	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED		
a.	<b>New Parr Center Commissioning</b>	PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
	Central Piedmont Community College   Charlotte, NC	2022	2022	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm		
	The new 107,863 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.			
	SIZE: 170,000 SF	COST: \$113 Million	ROLE: COMMISSIONING AGENT	
b.	<b>Offsite Library Storage Facility Renovation Commissioning</b>	PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
	Wake Forest University   Winston-Salem, NC	2019	2019	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm		
	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.			
	SIZE: 37,411 SF	COST: Unknown	ROLE: COMMISSIONING AGENT	
c.	<b>New Main Campus Student Union Commissioning</b>	PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
	East Carolina University   Greenville, NC	2019	2019	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm		
	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.			
	SIZE: 145,000 SF	COST: \$90 Million	ROLE: COMMISSIONING AGENT	
d.	<b>Central Library Enhanced Commissioning Services</b>	PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
	Fulton County Government   Atlanta, GA	2018	2019	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm		
	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.			
	SIZE: 250,000 SF	COST: \$44 Million	ROLE: COMMISSIONING AGENT	
e.	<b>Salem Hall Renovation Commissioning</b>	PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
	Wake Forest University   Winston-Salem, NC	2019	2021	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm		
	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.			
	SIZE: 53,000 SF	COST: \$15 Million	ROLE: COMMISSIONING AGENT	



## E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME <b>Garrett Holt</b>	13. ROLE IN THIS CONTRACT <b>Commissioning Technician</b>	14. YEARS EXPERIENCE	
		a. TOTAL <b>5</b>	b. WITH CURRENT FIRM <b>5</b>

15. FIRM NAME AND LOCATION (City and State)

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

16. EDUCATION (Degree and Specialization)

NC State University  
BS, Mechanical Engineering / 2019

17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)

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

	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED			
		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)		
a.	<b>New Parr Center Commissioning</b>	2022			
	Central Piedmont Community College   Charlotte, NC	2022			
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm			
	The new 107,863 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.				
	SIZE: 170,000 SF	COST: \$113 Million	ROLE: COMMISSIONING TECHNICIAN		
b.	<b>New Film Studies Facility Commissioning</b>	2021			
	UNC Wilmington   Wilmington, NC	2021			
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm			
	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.				
	SIZE: 4,000 SF	COST: \$2.85 Million	ROLE: COMMISSIONING TECHNICIAN		
c.	<b>New Veterans Hall Allied Health Sciences Building Commissioning</b>	2020			
	UNC Wilmington   Wilmington, NC	2020			
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm			
	This facility houses the new Health and Human Services College, Center for Healthy Living, Health and Applied Human Sciences and Social Work academic programs, support space for military-affiliated students, and related dry, wet and cadaver laboratories and classrooms. The largest project in UNCW history, this project included replacing a chiller in the Wagoner Central Energy Plant and will complete the University's "Healthcare Quad."				
	SIZE: 145,000 SF	COST: \$66 Million	ROLE: COMMISSIONING TECHNICIAN		
d.	<b>New Science and Office Building Commissioning</b>	2021			
	Winston-Salem State University   Winston-Salem, NC	2021			
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm			
	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.				
	SIZE: 122,000 SF	COST: \$82 Million	ROLE: COMMISSIONING TECHNICIAN		
e.	<b>New Fine Arts Center Commissioning</b>	2017			
	Albany State University   Albany, GA	2017			
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm			
	RMF provided commissioning services for a new 80,000 SF three-story Fine Arts Center on the campus of Albany State University. The new building is comprised of: eight studio art classrooms; thirteen classrooms and labs for English and general instruction; individual, studio, classroom and rehearsal spaces for music instruction; forty-nine faculty and professional staff private offices; 100-seat choral rehearsal / recital / lecture hall / classroom; 100-seat theater / multi-purpose classroom; and an art gallery.				
	SIZE: 80,000 SF	COST: \$18.5 Million	ROLE: COMMISSIONING TECHNICIAN		

## E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME <b>Avery Monroe, PE, LEED AP</b>	13. ROLE IN THIS CONTRACT <b>Mechanical Design Review</b>	14. YEARS EXPERIENCE	
		a. TOTAL <b>35</b>	b. WITH CURRENT FIRM <b>21</b>

15. FIRM NAME AND LOCATION (City and State)

**RMF Engineering, Inc., PC** (Charlotte, NC)

16. EDUCATION (Degree and Specialization)  Howard University BS, Mechanical Engineering / 1989 NC State University MS, Management / 2000	17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)  Professional Engineer NC #19794 LEED Accredited Professional
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18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

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

	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED		
a.	<b>New Parr Center Commissioning</b> Central Piedmont Community College   Charlotte, NC	PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
		2022	2022	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm		
	The new 107,863 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. SIZE: 170,000 SF    COST: \$113 Million    ROLE: MECHANICAL DESIGN REVIEW			
b.	<b>New Main Campus Student Union Commissioning</b> East Carolina University   Greenville, NC	PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
		2019	2019	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm		
	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. SIZE: 145,000 SF    COST: \$90 Million    ROLE: MECHANICAL DESIGN REVIEW			
c.	<b>Offsite Library Storage Facility Renovation Commissioning</b> Wake Forest University   Winston-Salem, NC	PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
		2019	2019	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm		
	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. SIZE: 37,411 SF    COST: Unknown    ROLE: MECHANICAL DESIGN REVIEW			
d.	<b>New Facilities Operations and Parking Services Building Commissioning</b> UNC Charlotte   Charlotte, NC	PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
		2019	2019	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm		
	RMF provided commissioning services for UNC Charlotte's New Facilities and Operations Building consisting of approximately 73,000 SF. This new building houses the Facilities Department staff at UNC Charlotte. The building consists of workshops where the Facilities Department on campus will perform their maintenance and other construction or repair related tasks. SIZE: 73,000 SF    COST: \$22.8 Million    ROLE: MECHANICAL DESIGN REVIEW			
e.	<b>Energy Production Facility Commissioning</b> Western Carolina University   Cullowhee, NC	PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	
		2023	2023	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm		
	Western Carolina University hired RMF Engineering, Inc. to provide commissioning services for the new Energy Production Facility located on the Main Campus in Cullowhee, North Carolina. The project will consist of the construction of an approximately 20,000 SF multi-storied steam plant to replace the existing steam plant. The project will be phased to allow for the existing steam production bay to stay operational until the new plant is online. SIZE: 20,000 SF    COST: \$37 Million    ROLE: MECHANICAL DESIGN REVIEW			

## E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME <b>Christina Caldwell, PE</b>	13. ROLE IN THIS CONTRACT <b>Electrical Design Review</b>	14. YEARS EXPERIENCE	
		a. TOTAL <b>14</b>	b. WITH CURRENT FIRM <b>2</b>

15. FIRM NAME AND LOCATION (City and State)

**RMF Engineering, Inc., PC** (Charlotte, NC)

16. EDUCATION (Degree and Specialization) NC A&T State University BS, Architectural Engineering / 2005 NC A&T State University MS, Civil Engineering / 2006	17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) Professional Engineer NC #040724
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18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

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.

### 19. RELEVANT PROJECTS

(1) TITLE AND LOCATION (City and State)		(2) YEAR COMPLETED	
<b>Cato Hall Office Renovations</b>		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
UNC Charlotte   Charlotte, NC		2020	2020
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
a. This project involved modifying approximately 2,800 SF of conference and office spaces for the Title IX and Internal Audit groups. RMF Engineering provided design and construction administration services for the modification of plumbing, fire protection, HVAC, and electrical systems. Ductwork and terminal devices were modified to for 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.			
SIZE:	2,800 SF	COST:	\$135,000
ROLE:	LEAD ELECTRICAL ENGINEER		
<b>Colvard Hall 1040 Active Learning Classroom</b>		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
UNC Charlotte   Charlotte, NC		2020	2020
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
b. This project involved renovating approximately 3,100 SF of classroom and office spaces to create an open active learning classroom. RMF Engineering 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 and HVAC air devices were modified as required for wall removal and ceiling construction.			
SIZE:	3,100 SF	COST:	\$150,000
ROLE:	LEAD ELECTRICAL ENGINEER		
<b>Webb Hall Vivarium Renovation</b>		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
NC A&T State University   Greensboro, NC		2022	2024 (est.)
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
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.			
SIZE:	12,590 SF	COST:	\$5 Million
ROLE:	LEAD ELECTRICAL ENGINEER		
<b>Band Center Sound Attenuation and Lighting Upgrades</b>		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
NC A&T State University   Greensboro, NC		2022	2023 (Est.)
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
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.			
SIZE:	N/A	COST:	\$95,000
ROLE:	LEAD ELECTRICAL ENGINEER		
<b>Harold L. Martin Sr. Engineering Research and Innovation Complex</b>		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
NC A&T State University   Greensboro, NC		2020	2021
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm	
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.			
SIZE:	130,000 SF	COST:	\$90 Million
ROLE:	LEAD ELECTRICAL ENGINEER		

## E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME <b>Meghan McDermott, BECxP, CxA+BE</b>	13. ROLE IN THIS CONTRACT <b>BECx Authority</b>	14. YEARS EXPERIENCE	
		a. TOTAL <b>12</b>	b. WITH CURRENT FIRM <b>8</b>

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

a.	(1) TITLE AND LOCATION (City and State)				(2) YEAR COMPLETED	
	SIZE:	290,000 SF	COST:	\$46.1 Million	PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
	<b>Randall Library Expansion and Renovation</b> UNC Wilmington   Wilmington, NC				2023	2023
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE				<input checked="" type="checkbox"/> Check if project performed with current firm	
	Building envelope commissioning for the 290,000 SF library expansion and renovation included a design review of the plans and specifications, quality assurance inspections during construction, window water testing, fog inspection, thermography inspection and whole building air leakage test.					
	ROLE: BECX PROFESSIONAL					
	<b>New Coastal Engineering Building</b> UNC Wilmington   Wilmington, NC				2022	2022
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE				<input checked="" type="checkbox"/> Check if project performed with current firm	
	Building envelope commissioning services for the 15,000 SF building included a design review of the plans and specifications, quality assurance inspections during construction and final performance testing of the building envelope system including window water testing, fog inspection, thermography inspection and whole building air leakage test.					
	ROLE: BECX PROFESSIONAL					
	<b>Neurology Building - Building Envelope Assessment and Repairs</b> East Carolina University   Greenville, NC				2018	2018
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE				<input checked="" type="checkbox"/> Check if project performed with current firm	
	Building envelope assessment for the 23,000 SF building included reviewing the construction drawings, visual inspection, air leakage testing to evaluate the building envelope system. Completed the repair work for the building envelope.					
	ROLE: BECX PROFESSIONAL					
	<b>Granville Towers Building Envelope Assessment</b> Confidential Client   Chapel Hill, NC				2020	N/A (Assessment)
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE				<input checked="" type="checkbox"/> Check if project performed with current firm	
	Building envelope assessment for a 90,000 SF tower and a 100,000 SF towers included a visual inspection and air leakage testing to evaluate the building envelope system.					
	ROLE: BECX PROFESSIONAL					
	<b>New University Commons</b> Sewanee: The University of the South   Sewanee, TN				2020	2020
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE				<input checked="" type="checkbox"/> Check if project performed with current firm	
	Building envelope commissioning for the 26,000 SF building included a design review, quality assurance inspections and performance testing for the building envelope system.					
	ROLE: BECX PROFESSIONAL					
	SIZE: 26,000 SF				COST: \$15 Million	
	ROLE: BECX PROFESSIONAL					



## E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME <b>Francis Conlin, PE, BECxP</b>	13. ROLE IN THIS CONTRACT <b>BEcx Authority</b>	14. YEARS EXPERIENCE	
		a. TOTAL <b>35</b>	b. WITH CURRENT FIRM <b>8</b>

15. FIRM NAME AND LOCATION (City and State)

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

16. EDUCATION (Degree and Specialization) <b>University of Tennessee</b> BS, Engineering Science & Mechanics <b>University of Tennessee</b> MS, Mechanical Engineering	17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) Professional Engineer NC #14859 Building Enclosure Commissioning Process Provider ABAA QAP Field Auditor # 10095 Qualified Building & Roof Thermographer # 110415-03
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18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

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

	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED		
a.	<b>New Plant Sciences Building</b> NC State University   Raleigh, NC	PROFESSIONAL SERVICES 2022	CONSTRUCTION (if applicable) 2022	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm		
	Conducted preliminary design review, conducted air leakage testing of the BSL3 laboratory space, isolation greenhouse and whole building per the project specifications. Additionally, a thermography inspection of the whole building was conducted to identify areas of thermal bridging, compromised insulation and air leakage sites.			
	SIZE: 185,000 SF	COST: \$160.2 Million	ROLE: BECX PROFESSIONAL	
b.	<b>Public Services Building</b> Florence County   Florence, SC	PROFESSIONAL SERVICES 2016	CONSTRUCTION (if applicable) 2016	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm		
	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.			
	SIZE: 32,784 SF	COST: \$6.6 Million	ROLE: BECX PROFESSIONAL	
c.	<b>Camp Lejeune High School Renovation and Addition</b> Camp Lejeune   Camp Lejeune, NC	PROFESSIONAL SERVICES 2021	CONSTRUCTION (if applicable) 2021	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm		
	Building envelope commissioning for the existing 160,000 SF high school addition and renovations which included a design review and performance testing.			
	SIZE: 160,000 SF	COST: \$40.8 Million	ROLE: BECX PROFESSIONAL	
d.	<b>Carriage House Apartments Building Envelope Assessment</b> Confidential Client   Raleigh, NC	PROFESSIONAL SERVICES 2014	CONSTRUCTION (if applicable) N/A (Assessment)	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm		
	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.			
	SIZE: Unknown	COST: \$21,375	ROLE: BECX PROFESSIONAL	
e.	<b>Holly Tree Elementary School Building Envelope Assessment</b> New Hanover County Schools   Wilmington, NC	PROFESSIONAL SERVICES 2016	CONSTRUCTION (if applicable) N/A (Assessment)	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE	<input checked="" type="checkbox"/> Check if project performed with current firm		
	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.			
	SIZE: 60,000 SF	COST: \$1,800	ROLE: BECX PROFESSIONAL	

**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.)

20. EXAMPLE PROJECT KEY #

1

21. TITLE AND LOCATION (City and State)

**Dining Hall Renovation Commissioning**  
Greensboro, NC

22. YEAR COMPLETED

PROFESSIONAL SERVICES

CONSTRUCTION (if applicable)

2015

2015

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER

UNC Greensboro

b. POINT OF CONTACT NAME

Ken Pearce

c. POINT OF CONTACT TELEPHONE NUMBER

336.334.4447

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)



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


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

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.  <b>RMF Engineering, Inc.</b>		Prime – M/E/S/C Engineering, CA

**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.)

20. EXAMPLE PROJECT KEY #

2

21. TITLE AND LOCATION (City and State)

**Lilly Library Renovation and Addition Commissioning**  
Durham, NC

22. YEAR COMPLETED

PROFESSIONAL SERVICES

CONSTRUCTION (if applicable)

2022

2022

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER

Duke University

b. POINT OF CONTACT NAME

Alphonso Alonzo

c. POINT OF CONTACT TELEPHONE NUMBER

919.660.1485

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)



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

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.

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.

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	 <b>RMF Engineering, Inc.</b>	Raleigh, NC	Prime - Commissioning



**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.)

20. EXAMPLE PROJECT KEY #

3

21. TITLE AND LOCATION (City and State)

**New Parr Center Commissioning**  
Charlotte, NC

22. YEAR COMPLETED

PROFESSIONAL SERVICES

CONSTRUCTION (if applicable)

2022

2022

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER

Central Piedmont Community College

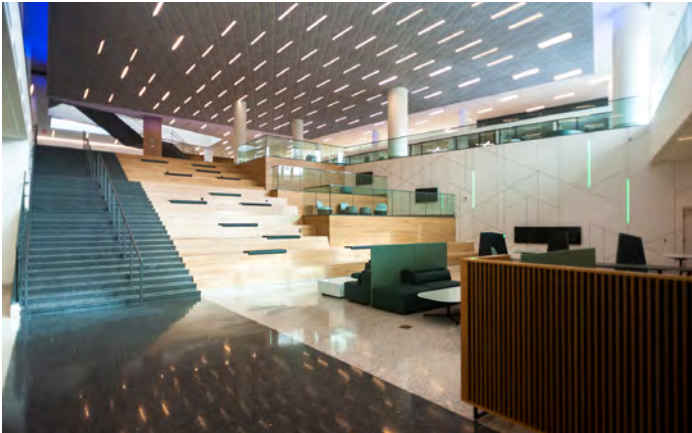
b. POINT OF CONTACT NAME

Gregory Long

c. POINT OF CONTACT TELEPHONE NUMBER

704.330.6316

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)



Commissioning Services Provided

- Design
- Pre-Bid
- Construction
- Acceptance
- Post Acceptance
- Post Construction
- Monitoring and Verification

Construction Cost

\$113 Million

Key RMF Personnel

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

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

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.  <b>RMF Engineering, Inc.</b>	Charlotte, NC	Prime – Commissioning



**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.)

20. EXAMPLE PROJECT KEY #

4

21. TITLE AND LOCATION (City and State)

**Offsite Library Storage Facility Renovation Commissioning**  
Winston-Salem, NC

22. YEAR COMPLETED

PROFESSIONAL SERVICES

CONSTRUCTION (if applicable)

2019

2019

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER

Wake Forest University

b. POINT OF CONTACT NAME

Jill Perry

c. POINT OF CONTACT TELEPHONE NUMBER

336.758.3913

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)



Commissioning Services Provided

- Design
- Pre-Bid
- Construction
- Acceptance
- Post Acceptance
- Post Construction
- Monitoring and Verification

Construction Cost

Unknown

Key RMF Personnel

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

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

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	 <b>RMF Engineering, Inc.</b>	Charlotte, NC	Prime – Commissioning

**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.)

20. EXAMPLE PROJECT KEY #

5

21. TITLE AND LOCATION (City and State)

**New Main Campus Student Union Commissioning**  
Greenville, NC

22. YEAR COMPLETED

PROFESSIONAL SERVICES

CONSTRUCTION (if applicable)

2019

2019

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER

East Carolina University

b. POINT OF CONTACT NAME

Gina Shoemaker

c. POINT OF CONTACT TELEPHONE NUMBER

252.328.6858

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)



Commissioning Services Provided

- Design
- Pre-Bid
- Construction
- Acceptance
- Post Acceptance
- LEED™ Commissioning Services

Construction Cost

\$90 Million

Key RMF Personnel

- Barney York, PE, CxA
- Rob Clegg, PE, CCP, LEED AP
- Travis Campbell, CxA
- Taylor Feuerstein, CxA
- Avery Monroe, PE, LEED AP

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

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.  <b>RMF Engineering, Inc.</b>	Raleigh, NC	Prime – Commissioning

**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.)

20. EXAMPLE PROJECT KEY #

6

21. TITLE AND LOCATION (City and State)

**Central Library Renovation Commissioning**  
Atlanta, GA

22. YEAR COMPLETED

PROFESSIONAL SERVICES

CONSTRUCTION (if applicable)

2018

2019

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER

Fulton County Government

b. POINT OF CONTACT NAME

Forrest White

c. POINT OF CONTACT TELEPHONE NUMBER

404.612.4752

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)



Commissioning Services Provided

- Design
- Construction
- Acceptance
- Post Acceptance
- Owners Project Requirements (OPR)

Construction Cost

\$44 Million

Key RMF Personnel

- Barney York, PE, CxA
- Rob Clegg, PE, CCP, LEED AP
- Taylor Feuerstein, CxA
- Travis Campbell, CxA
- Avery Monroe, PE, LEED AP


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

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	 <b>RMF Engineering, Inc.</b>	Atlanta, GA	Prime – Commissioning



**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.)

20. EXAMPLE PROJECT KEY #

7

21. TITLE AND LOCATION (City and State)

**Campus Center Expansion / Renovation Commissioning**  
Atlanta, GA

22. YEAR COMPLETED

PROFESSIONAL SERVICES

CONSTRUCTION (if applicable)

2022

2022

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER

Georgia Institute of Technology

b. POINT OF CONTACT NAME

Nicolas Palfrey

c. POINT OF CONTACT TELEPHONE NUMBER

470.363.7520

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)



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

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

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.  <b>RMF Engineering, Inc.</b>	Raleigh, NC	Prime – Commissioning



**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.)

20. EXAMPLE PROJECT KEY #

8

21. TITLE AND LOCATION (City and State)  
**Dobo Hall Laboratory Building Renovation and Re-Commissioning**  
 Wilmington, NC

22. YEAR COMPLETED	
PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
2021	2021

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER UNC Wilmington	b. POINT OF CONTACT NAME Tony Patrick	c. POINT OF CONTACT TELEPHONE NUMBER 910.962.7450
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24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)



Commissioning Services Provided

- Design
- Pre-Bid
- Construction
- Acceptance
- Post Acceptance

Construction Cost

\$55 Million

Key RMF Personnel

- Barney York, PE, CxA
- Rob Clegg, PE, CCP, LEED AP
- Travis Campbell, CxA
- Garrett Holt

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.

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.  <b>RMF Engineering, Inc.</b>		Prime – M/E/S/C Engineering, CA

**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.)

20. EXAMPLE PROJECT KEY #

9

21. TITLE AND LOCATION (City and State)

**Salem Hall Renovation Commissioning**  
Winston-Salem, NC

22. YEAR COMPLETED

PROFESSIONAL SERVICES

CONSTRUCTION (if applicable)

2018

2018

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER

Wake Forest University

b. POINT OF CONTACT NAME

Wendy Wooten

c. POINT OF CONTACT TELEPHONE NUMBER

336.758.5689

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)



Commissioning Services Provided

- Design
- Pre-Bid
- Construction
- Acceptance
- Post Acceptance
- LEED™ Commissioning Services

Construction Cost

\$15 Million

Key RMF Personnel

- Barney York, PE, CxA
- Rob Clegg, PE, CCP, LEED AP
- Taylor Thompson, PE, CEA, CCP
- Travis Campbell, CxA
- Taylor Feuerstein, CxA


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	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	 <b>RMF Engineering, Inc.</b>	Raleigh, NC	Prime – Commissioning

**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.)

20. EXAMPLE PROJECT KEY #

10

21. TITLE AND LOCATION (City and State)

**New Film Studies Facility Commissioning**  
Wilmington, NC

22. YEAR COMPLETED

PROFESSIONAL SERVICES

CONSTRUCTION (if applicable)

2021

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)



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.

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

**Systems commissioned included:**

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

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

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



**G. KEY PERSONNEL PARTICIPATION IN EXAMPLE PROJECTS**

26. NAMES OF KEY PERSONNEL (From Section E, Block 12)	27. ROLE IN THIS CONTRACT (From Section E, Block 13)	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.)									
		1	2	3	4	5	6	7	8	9	10
<b>Barney York, PE, CxA</b>	Principal in Charge	X	X	X		X	X	X	X	X	X
<b>Rob Clegg, PE, QCxP, LEED AP</b>	Project Manager	X	X			X	X	X	X	X	X
<b>Taylor Thompson, PE, CEA, CCP</b>	Commissioning Engineer			X	X			X		X	
<b>Travis Campbell, CxA</b>	Lead Commissioning Agent					X		X	X	X	X
<b>Taylor Feuerstein, CxA</b>	Commissioning Agent				X	X	X	X		X	X
<b>Garrett Holt</b>	Commissioning Technician							X			X
<b>Avery Monroe, PE, LEED AP</b>	Mechanical Design Review			X	X	X					
<b>Christina Caldwell, PE</b>	Electrical Design Review										

**29. EXAMPLE PROJECTS KEY**

NO.	TITLE OF EXAMPLE PROJECT (From Section F)	NO.	TITLE OF EXAMPLE PROJECT (From Section F)
1	<b>Dining Hall Renovation Commissioning</b> UNC Greensboro	6	<b>Central Library Renovation Commissioning</b> Fulton County Government
2	<b>Lilly Library Renovation and Addition Commissioning</b> Duke University	7	<b>Campus Center Expansion / Renovation Commissioning</b> Georgia Institute of Technology
3	<b>New Parr Center Commissioning</b> Central Piedmont Community College	8	<b>Dobo Hall Laboratory Building Renovation and Re-Commissioning</b> UNC Wilmington
4	<b>Offsite Library Storage Facility Renovation Commissioning</b> Wake Forest University	9	<b>Salem Hall Renovation Commissioning</b> Wake Forest University
5	<b>New Main Campus Student Union Commissioning</b> East Carolina University	10	<b>New Film Studies Facility Commissioning</b> UNC Wilmington



## 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**

*Adel Pitts*  
Executive Director

**POST IN PLACE OF BUSINESS**

*Issued 06/15/2022*



<b>Telephone</b> (919) 791-2000	<b>FAX</b> (919) 791-2012	<b>EMAIL Address</b> ncbels@ncbels.org	<b>WEB Site</b> www.ncbels.org
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## 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: 033199  
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 Careros 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

## H. ADDITIONAL INFORMATION

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

### 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



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.

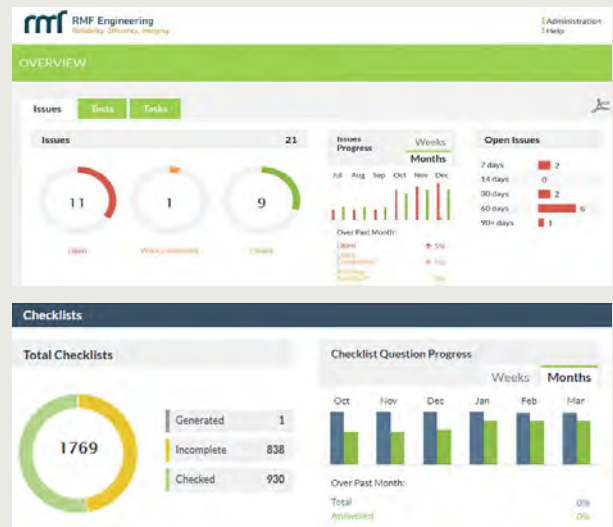
RMF offers unique qualifications and professional services for UNCG's Jackson Library Addition and Renovation project:

- 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

33. NAME AND TITLE

Barney York, PE, CxA - Principal in Charge

32. DATE

May 19, 2023

# ARCHITECT-ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER (If any)

## PART II – GENERAL QUALIFICATIONS

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

2a. FIRM (or Branch Office) NAME <b>RMF Engineering, Inc.</b>			3. YEAR ESTABLISHED 1983	4. UNIQUE ENTITY IDENTIFIER Y7YJFTG997E7
2b. STREET 8081 Arco Corporate Drive, Suite 300			5. OWNERSHIP a. TYPE Corporation	
2c. CITY Raleigh	2d. STATE NC	2e. ZIP CODE 27617	b. SMALL BUSINESS STATUS No	
6a. POINT OF CONTACT NAME AND TITLE Barney York, PE, CxA – Principal in Charge			7. NAME OF FIRM (If Block 2a is a Branch Office) RMF Engineering, Inc.	
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				10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS		
a. Function Code	b. Discipline	c. No. of Employees		a. Profile Code	b. Experience	c. Revenue Index Number (see below)
		(1) FIRM	(2) BRANCH			
02	Administrative	34	5	A06	Airports; Terminals; Hangers; Freight Handling	3
06	Architect			A08	Animal Facilities	5
12	Civil Engineers	9	2	B01	Barracks; Dormitories	5
21	Electrical Engineers	18	5	E02	Educational Facilities; Classrooms	7
42	Mechanical Engineers	52	11	F02	Field Houses; Gymnasiums; Stadiums	5
57	Structural Engineers	4		G01	Garages; Vehicle Maint. Facilities; Parking Decks	1
10	Chemical Engineers			H04	Heating, Ventilating, Air Conditioning	7
08	CADD Technicians	9	13	H09	Hospitals & Medical Facilities	7
15	Construction Engineers	3		L01	Laboratories; Medical Research Facilities	7
12/21/42	Junior Engineers/Designers	24		L06	Lighting (Exterior; Street; Memorials; Athletic Fields)	3
15	Construction Inspector	2		P07	Plumbing & Pipe Design	6
52	Sanitary Engineer			P08	Prisons & Correctional Facilities	3
	Architectural Designer	1		P12	Power Generation, Transmission, Distribution	6
	Civil Designer	14	3	R05	Refrigeration Plants/Systems	7
	Commissioning Agent	19	4	R06	Rehabilitation (Buildings; Structures; Facilities)	5
	Electrical Designer	22	7	R08	Research Facilities	7
	Energy Engineer	3		S09	Structural Design; Special Structures	3
	Inspector			S11	Sustainable Design	7
	Information Technology	7	1	T02	Testing & Inspection Services	2
	Plumbing Engineer	4	1	T06	Tunnels & Subways	6
	Mechanical Designer	42	8	U03	Utilities (Gas & Steam)	6
	<b>Total</b>	267	60	V01	Value Analysis; Life-Cycle Costing	1

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS (Insert revenue index number shown at right)		PROFESSIONAL SERVICES REVENUE INDEX NUMBER	
a. Federal Work	8	1. Less than \$100,000	6. \$2 million to less than \$5 million
b. Non-Federal Work	9	2. \$100,000 to less than \$250,000	7. \$5 million to less than \$10 million
c. Total Work	10	3. \$250,000 to less than \$500,000	8. \$10 million to less than \$25 million
		4. \$500,000 to less than \$1 million	9. \$25 million to less than \$50 million
		5. \$1 million to less than \$2 million	10. \$50 million or greater

<b>12. AUTHORIZED REPRESENTATIVE</b> The foregoing is a statement of facts.	
a. SIGNATURE 	b. DATE May 19, 2023

c. NAME AND TITLE  
Barney York, PE, CxA - Principal in Charge

# ARCHITECT-ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER (If any)

## PART II – GENERAL QUALIFICATIONS

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


2a. FIRM (or Branch Office) NAME <b>RMF Engineering, Inc.</b>			3. YEAR ESTABLISHED 1983	4. UNIQUE ENTITY IDENTIFIER Y7YJFTG997E7
2b. STREET 8720 Red Oak Boulevard			5. OWNERSHIP a. TYPE Corporation	
2c. CITY Charlotte	2d. STATE NC	2e. ZIP CODE 28217	b. SMALL BUSINESS STATUS No	
6a. POINT OF CONTACT NAME AND TITLE Avery Monroe, PE, LEED AP – Principal			7. NAME OF FIRM (If Block 2a is a Branch Office) RMF Engineering, Inc., PC	
6b. TELEPHONE NUMBER 704.909.6612	6c. EMAIL ADDRESS avery.monroe@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				10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS		
a. Function Code	b. Discipline	c. No. of Employees		a. Profile Code	b. Experience	c. Revenue Index Number (see below)
		(1) FIRM	(2) BRANCH			
02	Administrative	34		A06	Airports; Terminals; Hangers; Freight Handling	3
06	Architect			A08	Animal Facilities	5
12	Civil Engineers	9		B01	Barracks; Dormitories	5
21	Electrical Engineers	18	1	E02	Educational Facilities; Classrooms	7
42	Mechanical Engineers	52	3	F02	Field Houses; Gymnasiums; Stadiums	5
57	Structural Engineers	4		G01	Garages; Vehicle Maint. Facilities; Parking Decks	1
10	Chemical Engineers			H04	Heating, Ventilating, Air Conditioning	7
08	CADD Technicians	9		H09	Hospitals & Medical Facilities	7
15	Construction Engineers	3		L01	Laboratories; Medical Research Facilities	7
12/21/42	Junior Engineers/Designers	24		L06	Lighting (Exterior; Street; Memorials; Athletic Fields)	3
15	Construction Inspector	2		P07	Plumbing & Pipe Design	6
52	Sanitary Engineer			P08	Prisons & Correctional Facilities	3
	Architectural Designer	1		P12	Power Generation, Transmission, Distribution	6
	Civil Designer	14		R05	Refrigeration Plants/Systems	7
	Commissioning Agent	19	1	R06	Rehabilitation (Buildings; Structures; Facilities)	5
	Electrical Designer	22	3	R08	Research Facilities	7
	Energy Engineer	3		S09	Structural Design; Special Structures	3
	Inspector			S11	Sustainable Design	7
	Information Technology	7		T02	Testing & Inspection Services	2
	Plumbing Engineer	4		T06	Tunnels & Subways	6
	Mechanical Designer	42	2	U03	Utilities (Gas & Steam)	6
	<b>Total</b>	267	10	V01	Value Analysis; Life-Cycle Costing	1

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS (Insert revenue index number shown at right)		PROFESSIONAL SERVICES REVENUE INDEX NUMBER	
a. Federal Work	8	1. Less than \$100,000	6. \$2 million to less than \$5 million
b. Non-Federal Work	9	2. \$100,000 to less than \$250,000	7. \$5 million to less than \$10 million
c. Total Work	10	3. \$250,000 to less than \$500,000	8. \$10 million to less than \$25 million
		4. \$500,000 to less than \$1 million	9. \$25 million to less than \$50 million
		5. \$1 million to less than \$2 million	10. \$50 million or greater

### 12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

a. SIGNATURE 	b. DATE May 19, 2023
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c. NAME AND TITLE  
Avery Monroe, PE, LEED AP – Principal







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