Michael Baker
INTERNATIONAL

We Make a Difference

March 20, 2018

Melissa Pettrey, Senior Buyer
Department of Administration
Purchasing Division
2019 Washington Street E.
Charleston, West Virginia 25305

Subject: Professional E&A Services for The West Virginia Division of Public Transit
Bluefield Area Transit Transfer Station
CEOI 0805 PTR1800000002

Dear Ms. Pettrey:

The Charleston, WV office of Michael Baker International, Inc. (Michael Baker) is pleased to respond to a solicitation for the Expression of Interest for Engineering and Architectural Services related to the proposed Bluefield Area Transit Transfer Station. Michael Baker is interested in the mission of your agency and would like to engage with the WV Division of Public Transit (WVDPT) as a trusted facilities consultant. We believe that our team of professionals is uniquely qualified to partner with the WVDPT on this important project and help bring their vision for this facility into reality.

Michael Baker is well positioned to assemble a comprehensive design team (in-house) including: Architectural, Civil/Site, Mechanical, Electrical, Plumbing, Fire Protection and Structural expertise. Our diverse team of professionals are well seasoned in the preparation of construction documents, bid specifications, and the application of required code compliance and construction permits. Michael Baker can also provide leadership or assistance during the Bidding process and the appropriate level of Construction Administration during the building process.

We thank you for your consideration and look forward to meeting with the selection committee in person in order to share our thoughts and ideas for this exciting opportunity!

Should you have any questions or require additional information, please feel free to contact me at (304) 769-2132 or by e-mail at pfogarty@mbakerintl.com.

Very truly yours,
Michael Baker International, Inc.

Patrick W. Fogarty, P.E., P.S., LEED®GA

Enclosure

MANDANTORY PROPOSAL SUBMISSION FORMS

Purchasing Divison
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Centralized Expression of Interest
34 — Service - Prof

Proc Folder: 421230

Doc Description: Expression of Interest for WVDOT, Division of Pubic Transit

Proc Type: Central Contract - Fixed Amt

Date Issued	Solicitation Closes	Solicitation No	Version
2018-03-02	2018-03-20 13:30:00	CEOI 0805 PTR1800000002	2

BID RECEIVING LOCATION

BID CLERK
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON ST E
CHARLESTON WV 25305
US

VENDOR

Vendor Name, Address and Telephone Number:

Michael Baker International, Inc.
400 Washington Street East, Suite 301
Charleston, West Virginia 25301

FOR INFORMATION CONTACT THE BUYER

Melissa Pettrey
(304) 558-0094
melissa.k.pettrey@wv.gov

Signature X

FEIN # **25-1228638**

DATE **20Mar2018**

All offers subject to all terms and conditions contained in this solicitation

ADDENDUM

Addendum No. 1 is issued to publish and distribute the attached information to the vendor community.

****

.pression of Interest

The West Virginia Purchasing Division is soliciting Expression(s) of Interest for the Agency, the West Virginia Department of Transportation, Division of Public Transit, from qualified firms to provide architectural/engineering services to develop plans, specifications, estimates and other bidding and construction documents for the construction of a new transit transfer station for Bluefield Area Transit (BAT) per the Expression of Interest, and the Terms and Conditions as attached hereto.

ACCOUNTS PAYABLE PUBLIC TRANSIT DIVISION OF BLDG 5 RM 650 1900 KANAWHA BLVD E CHARLESTON WV25305-0432 US	AUTHORIZED RECEIVER PUBLIC TRANSIT DIVISION OF BLDG 5 RM 650 1900 KANAWHA BLVD E CHARLESTON WV 25305-0432 US

Line	Comm Ln Desc	Qty	Unit Issue
1	Professional Engineering/Architectural Services		

Comm Code	Manufacturer	Specification	Model #
81101508			

Extended Description :

EOI to develop plans, specifications, estimates and other bidding and construction documents for the construction of a new transit transfer station for Bluefield Area Transit (BAT)

ADDITIONAL TERMS AND CONDITIONS

See attached document(s) for additional Terms and Conditions

SOLICITATION NUMBER: PTR1800000002
Addendum Number: 1

The purpose of this addendum is to modify the solicitation identified as PTR180000002 ("Solicitation") to reflect the change(s) identified and described below.

Applicable Addendum Category:

[ ] Modify bid opening date and time

[ ] Modify specifications of product or service being sought

[X] Attachment of vendor questions and responses

[ ] Attachment of pre-bid sign-in sheet

[ ] Correction of error

[ ] Other

Description of Modification to Solicitation:

1. **To publish vendor questions and agency responses.**

Additional Documentation: Documentation related to this Addendum (if any) has been included herewith as Attachment A and is specifically incorporated herein by reference.

Terms and Conditions:

1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.

2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgment, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

DIVISION OF PUBLIC TRANSIT RESPONSES TO SPECIFICATION QUESTIONS

Solicitation CEOI PTR 18*2

Request: WvOASIS says the due date is 3/20, page 4 of the EOI says EOI Opening date is 3/19/18 and page 8 of the EOI says 3/20/18 at 1:30? Which is correct?

Response: The Bid Opening is on 3/20/2018 at 1:30 PM EST

Request: An article mentioned this project cost is approximately $1 Million, is this the total cost of the project including construction cost?

Response: By law the Division is prohibited from releasing budget amounts. However, the EOI is to develop plans, specifications, estimates and other bidding and construction documents for the construction of a new transit transfer station. The Division will be issuing a separate solicitation for the construction of the facility using these documents.

Request: What is the square footage of the facility?

Response: The facility is estimated at being 2,000 square feet without canopies.

Request: WvOASIS says the due date is 3/20, page 4 of the EOI says EOI Opening date is 3/19/18 and page 8 of the EOI says 3/20/18 at 1:30? Which is correct?

Response: See the Response to Question number one (1).

Request: Is the preferred method of submission through wvOASIS or hard copies delivered to your office? If hard copies are providing; how many copies are required?

Response: Online bidding has been prohibited for this solicitation, submit all hard copies to the Purchasing Division, 2019 Washington St., East, Charleston, WV 25305. Please send 2 copies, one for Purchasing Division and one for the Division of Public Transit.

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: PTR1800000002

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:
(Check the box next to each addendum received)

[X] Addendum No. 1	[ ] Addendum No. 6
[ ] Addendum No. 2	[ ] Addendum No. 7
[ ] Addendum No. 3	[ ] Addendum No. 8
[ ] Addendum No. 4	[ ] Addendum No. 9
[ ] Addendum No. 5	[ ] Addendum No. 10

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Michael Baker International, Inc.
Company

Authorized Signature

20Mar2018
Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.

DESIGNATED CONTACT: Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

, SENIOR ASSOCIATE
(Name, Title)

Patrick W. Fogarty, Senior Associate
(Printed Name and Title)

400 Washington Street East, Suite 301, Charleston, WV 25301
(Address)

304-769-0821 / 304-769-0822
(Phone Number) / (Fax Number)

pfogarty@mbakerintl.com
(email address)

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

Michael Baker International, Inc.
(Company)

, SENIOR ASSOCIATE
(Authorized Signature) (Representative Name, Title)

Patrick W. Fogarty, Senior Associate
(Printed Name and Title of Authorized Representative)

20Mar2018
(Date)

304-769-0821 / 304-769-0822
(Phone Number) (Fax Number)

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

CONSTRUCTION CONTRACTS: Under W. Va. Code § 5-22-1(i), the contracting public entity shall not award a construction contract to any bidder that is known to be in default on any monetary obligation owed to the state or a political subdivision of the state, including, but not limited to, obligations related to payroll taxes, property taxes, sales and use taxes, fire service fees, or other fines or fees.

ALL CONTRACTS: Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (*W. Va. Code* §61-5-3) that: (1) for construction contracts, the vendor is not in default on any monetary obligation owed to the state or a political subdivision of the state, and (2) for all other contracts, that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: Michael Baker International, Inc.

Authorized Signature: _____ Date: 20 Mar 2018

State of West Virginia

County of Kanawha, to-wit:

Taken, subscribed, and sworn to before me this 20 day of March, 2018.

My Commission expires January 3, 2022.

AFFIX SEAL HERE

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
Ryan A. Long
400 Washington St. E
Charleston, WV 25301
My Commission Expires January 3, 2022

NOTARY PUBLIC _____

TABLE OF CONTENTS

PROJECT BACKGROUND

The West Virginia Division of Public Transit, the City of Bluefield, and the Bluefield Area Transit are seeking a highly qualified architectural/engineering firm to provide design services and bid documents for the proposed Bluefield Area Transit Transfer Station. The firm will be responsible to evaluate the existing conditions at the chosen site, make recommendations and present cost-effective options and then provide Construction Documents for the new transfer station. As specified in the Expression of Interest (EOI), design tasks could include, but are not limited to; Architectural, Engineering and other professional services to design construction documents for a new facility.

Michael Baker is extremely interested in developing a working relationship with the West Virginia Division of Public Transit

Michael Baker International, Inc. (Michael Baker) is a highly qualified firm with extensive experience in providing the type of services required for these projects, and Michael Baker is extremely interested in developing our working relationship with the West Virginia Division of Public Transit in support of their important mission.

SECTION I

QUALIFICATIONS & EXPERIENCE

Michael Baker's proposed team of experienced professionals has demonstrated the ability to deliver quality work products to our clients, on-time and within budget. Michael Baker can provide the entire depth of services necessary to complete the project without the need for costly sub-consultants. Every individual on this project team has extensive experience in their field of expertise and has demonstrated success on projects of similar size and scope.

According to our understanding of the project scope as stated in the EOI, no additional sub consultants will be required. Michael Baker will execute the entire project with our current staff.

FIRM CAPACITY

Michael Baker is a full-service A/E firm. Our local WV office in Charleston is a "single-stop resource" capable of providing comprehensive professional services, from Mechanical/Electrical and Structural Engineering to Architecture and Planning, final design, and construction management through operational support. Michael Baker will provide the hands-on services needed for this project, from Client meetings to site surveys, design and construction Administration/Inspection. With over 30 in house professionals locally and over 750 regionally, Michael Baker can react quickly and efficiently to the needs of your project. Our Charleston staff has Clients and/or active projects in the southern part of the state so key staff members are regularly travelling in and around the project area.

Central Connecticut FastTrack

Michael Baker's local clients for facility design and renovation projects include, but are not limited to, colleges and universities, schools, counties, cities, local municipalities, state departments of transportation, military facilities, airport complexes, and private sector clients. Michael Baker's geographic location and extensive experience enables us to respond seamlessly to wide-ranging scopes of service to meet our client's needs.

In the past decade, Michael Baker was retained by WV General Service Division to evaluate and provide the A/E design upgrades for 31 restrooms at the historic West Virginia State Capitol Building. Most recently, Michael Baker provided A/E design and construction administration for the renovation of two buildings at the relocated WVU Tech campus in Beckley West Virginia. These renovations included; architectural, interior design, new roofing, a new and upgraded fire sprinkler system, upgrades to fire alarm systems, and HVAC renovations and upgrades.

WVU Tech – Classroom Building

Nationally, Michael Baker, is a leading global provider of engineering and consulting services which includes planning, architectural, environmental, construction, program management, and full life cycle support services as well as information technology and communications services and solutions. Michael Baker provides its comprehensive range of services and solutions in support of U.S. federal, state, and municipal governments, foreign allied governments, and a wide range of commercial clients. With more than $1.3 billion in annual revenue. Michael Baker has more than 6,000 employees in over 90 offices located across the U.S. and internationally. Michael Baker seamlessly integrates architecture, planning, landscape architecture, engineering and construction management. Internationally recognized with a portfolio spanning over half a century, the team provides excellence in solutions: superior technical ability, creative design and collaborative integration.

Bettis Building Complex

The success of our multidisciplinary approach to "built" environments results from the expertise of our design professionals. We solve challenges from multiple vantage points providing unsurpassed holistic, sustainable and innovative solutions that benefit our diverse clients, including institutions, governmental agencies, corporations, developers and builders.

Michael Baker has extensive resources and the required qualifications to provide the WV Department of Transportation/Division of Public Transit the key knowledge in providing a relevant and usable facility for the Bluefield area. We have local and nationally recognized experts with the technical experience necessary for this assignment. In addition, Michael Baker's team of experienced professionals have an established record of delivering quality work products to our clients, on schedule and within budget.

In summary, Michael Baker's staff can provide documentation of our extensive experience in the following areas for this project:

- Nationally recognized expertise in Architecture, Assessment, Programing and Planning
- Nationally recognized expertise in Engineering (Civil, Structural, Mechanical, Fire Protection, Plumbing and Electrical)
- Construction Administration and Construction Monitoring
- Coordination with State and Federal Agencies, as required

From new or renovated building facilities, site planning and infrastructure, aviation facilities, to oil and gas pipeline design, bridges and roadway designs, and water resource projects, Michael Baker has evolved into one of the leading engineering and energy services firms by consistently providing targeted solutions for its clients most complex challenges.

SECTION II

PROJECT TEAM

The Principal-In-Charge will ensure that all required resources including staff and equipment are available to the project manager to execute the project successfully. Team resumes and project profiles provide a brief discussion of team member's experience base relevant to this project.

Michael Baker International, Inc.
Russell Hall, Vice President | 400 Washington Street, Suite 301, Charleston WV 25301
304-769-0821 | RHall@mbakerintl.com

Management and Staffing

The project team will be staffed primarily out of the Charleston West Virginia office, with other professionals working from other offices on an as need basis. Patrick Fogarty is the Architecture and Building Engineering Services Practice Lead and will manage the efforts of the design team, overseeing quality assurance. The selected Project Manager and primary client contact for this Project will be Nicole Riley. She will oversee and manage Architectural portions of the project, with Joseph Chaffin as the Architect of Record. David Hilliard will lead the Mechanical/Electrical/Plumbing/Fire Protection portion of the design team and oversee the other engineering disciplines. They will be coordinating extensively between the architectural and engineering designers to provide the most efficient and practical solutions for the proposed facility. Most of these professionals have worked together on numerous projects and bring a high degree of competency, understanding and experience for potential schedule and budget challenges.

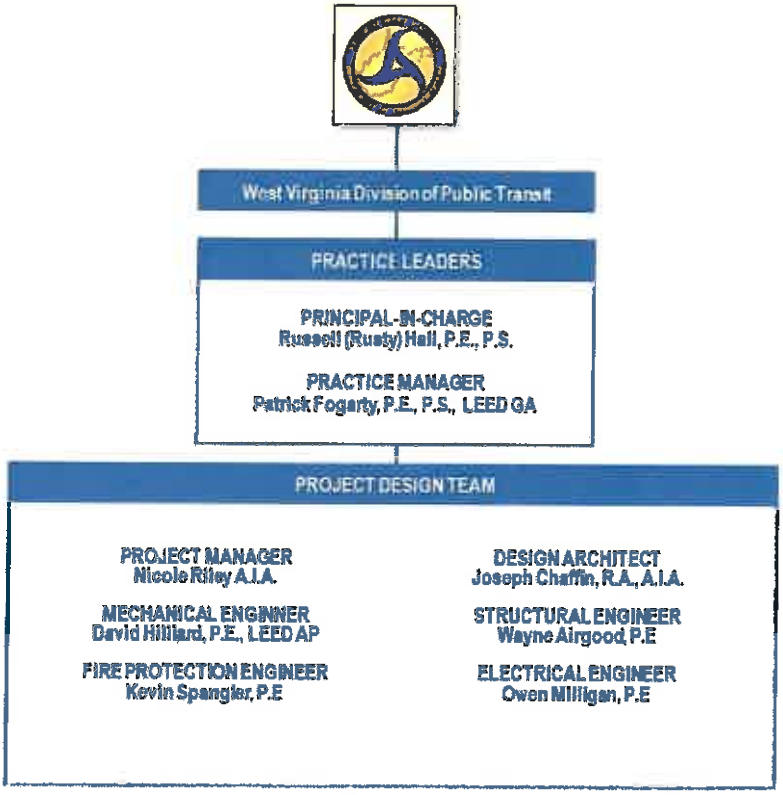
Persons Assigned to the Project ***(Resumes provided in Appendix 1)***

NAME	ROLE
PATRICK FOGARTY, P.E., P.S., LEED GA	Civil Engineer / Practice Manager
NICOLE RILEY	Associate Architect / Project Manager
JOSEPH CHAFFIN, AIA	Architect of Record
WAYNE AIRGOOD, P.E.	Structural Engineer
DAVID HILLIARD, P.E., LEED AP BD+C	Mechanical Engineer / Assistant PM
KEVIN SPANGLER, P.E.	Fire Protection Engineer
OWEN MILLIGAN, P.E.	Electrical Engineer

STATEMENT OR EVIDENCE OF THE FIRM OR TEAM'S ABILITY TO PROVIDE SERVICES

This team was selected based on the current Project understanding. Additional team support members or specialists will be engaged on an as need basis. The process is part of the normal working procedure and is seamless in execution.

MANAGEMENT


West Virginia Division of Public Transit
PRACTICE LEADERS
PRINCIPAL-IN-CHARGE
Russell (Rusty) Hall, P.E., P.S.
PRACTICE MANAGER
Patrick Fogarty, P.E., P.S., LEED GA
PROJECT DESIGN TEAM
PROJECT MANAGER
Nicole Riley A.I.A.
DESIGN ARCHITECT
Joseph Chaffin, R.A., A.I.A.
MECHANICAL ENGINEER
David Hilliard, P.E., LEED AP
STRUCTURAL ENGINEER
Wayne Airgood, P.E
FIRE PROTECTION ENGINEER
Kevin Spangler, P.E
ELECTRICAL ENGINEER
Owen Milligan, P.E

SECTION III

PROJECT AND GOALS

GOAL/OBJECTIVE 1: INVESTIGATION AND EVALUATION

It is Michael Baker's current understanding that a new public transit transfer station is required along Bluefield Avenue in Bluefield, West Virginia and may include Architectural/Engineering design and specifications as well as Construction Administration services.

Historic Lost Creek Train Depot

Michael Baker understands that a connection to existing structure may be necessary and we are willing to work to a viable resolution. As architects and planners, we are excited to incorporate elements of the City of Bluefield's "Depot District" in bringing forth a modern and functional facility.

METHODOLOGY

The approach of the entire project would be holistic in nature. A kick off meeting with the West Virginia Division of Public Transit, Bluefield Area Transit as well as the City of Bluefield will help us determine project requirements for each task assigned. The first step of the project would be to help prioritize work and develop time schedules for the project tasks. This process would include identification of existing conditions through information obtained by a review of as-built drawings, a general site walk-through and any existing geotechnical information that might be available. Our Engineers and Architects will be involved in all aspects of the design, working together to formulate a solution that is both functional and aesthetically pleasing to the community.

GOAL/OBJECTIVE 2: DESIGN

Because of the nature of the planned construction process, the design will generally follow a design / procure / build sequence.

Based on the gathered information, the Michael Baker staff will develop **schematic design** concepts of the major renovation portions for review and approval by the stakeholders. A general code review would also be undertaken to determine the State/Local Codes that would affect concept selection and schedule. The project will be studied in a systematic way to analyze the existing conditions, client needs, affected system demands, budget and construction time frame. Only then will the appropriate solutions to meet those requirements be determined. Analyzing multiple solutions provides the client the ability to choose the most cost-effective approach for the project. Depending upon the project requirements and available time, a minimum of two potential design approaches may be presented.

Michael Baker will provide cost estimating services for each submission. When design concept options are developed and the approach is identified from a technical standpoint, our cost estimating group would be engaged to provide the financial feasibility of each option.

Michael Baker provides a variety of services and therefore has extensive experience in many fields of expertise. This will allow the core team members access to expertise in all areas of study which pertain to the project. Depending on the task, this may include: Architectural, as well as Civil, Structural, Mechanical, Electrical, Plumbing, and Fire Protection Engineering.

Little Kanawha Bus

Design and schedule coordination meetings and/or site visits will be provided as a normal part of the **design development/construction document** process. This will help to ensure that the stakeholders are receiving exactly the facility that they need in the time frame that they require. As required, a project phasing plan may be provided with the construction documents. This will help to ensure limited disruptions to community members. Also included will be plans to show the limitations and requirements for the demolition and removal of the existing components and systems to facilitate the new work. Documentation will include the location of "affected" existing on-site utilities or service lines, if necessary.

Cost opinions will be updated upon the completion of the **Construction Documents** plans and specifications. Final sealed drawings and specifications for each phase of the entire project will be provided.

Michael Baker provides an Internal Technical Review (ITR) as part of our normal quality assurance process. This is performed on every project prior to submittal delivery and is part of "The Baker Way" Project Management Process. This ITR is performed by professionals that are not part of the design team but are experts in the respective fields that they review. This ensures a nonbiased and critical review of the project documents. This process helps to minimize small errors and omissions and yields a smoother bidding/construction process.

Michael Baker will provide necessary design documents and will provide bidding documents in accordance with WV Department of Administration, Purchasing Division requirements. Specifications for the installation of all required products or components will be provided as part of the Construction Document package. Drawings and documentation will be provided based on provided as built drawings, site investigations and selected field measurements. Michael Baker will provide Bidding support and assistance as needed.

Other aspects of this project such as long term sustainability features including: a CNG filling station, LED site and canopy lighting and a clear span pre-engineered building for future growth will all be considered during the Design Phase.

WVU Wise Library

GOAL/OBJECTIVE 3: CONSTRUCTION ADMINISTRATION

Site visits and construction inspection services are part of Michael Baker's holistic project approach. If this project requires, a full-time construction coordinator can be provided for the duration of construction. The project coordinator could assist in ordering materials, planning and scheduling, and expediting responses to contractor questions. The team members that start the project will be the same professionals providing the regular onsite inspections during construction. All products intended to be installed on the project shall be submitted to and approved by the project team.

After the system installations are complete, Michael Baker will perform a final inspection and develop a corrective measure punch list and will coordinate with regulatory agencies to assure prompt award of the Certificates of Occupancy for the facilities as required.

ADDITIONAL PROJECT OPTIONS

GENERAL

Michael Baker has vast experience in technically sensitive renovations as well as from the ground up design and construction. The scope of this project, as presented, poses challenges that are exciting for our team of problem solvers. Between our Charleston West Virginia and Moon Township Pennsylvania offices, we bring diverse expertise and hundreds of years of experience to this progressive endeavor.

The management and coordination for this project will be a top priority for our Charleston staff, as most of our team members are residents of West Virginia and desire to see our State and its educational facilities develop and grow.

Typical Classroom

COST CONTROL

The use of prioritized phasing and additive or deductive alternates during the bidding and construction process can provide flexibility and help control project cost. This allows the Owner to better choose how they wish to spend their resources. Also to control cost, Michael Baker professional staff will have the opportunity to review the plans at each milestone and make comments or make recommendations to the project based on comparison with the Owner's Project Requirements, the current plans and specifications, and the current project cost opinion. If need be, Michael Baker is very familiar with the value engineering process and can work productively with the Division of Public Transit to determine cost saving alternatives. If bids come in over budget or, if during construction, contractor staffing or schedules are reduced, value engineering can help keep the project on tract. These considerations, along with open discussion with the Division of Public Transit staff, will determine whether we move forward with the current design or make agreed-upon adjustments to the design.

DESIGN AND CONSTRUCTION TIME FRAME

We have the resources to deliver the project on time and within budget. Michael Baker has a proven track record of working closely with our clientele and bringing projects to fruition within the structured timeline and the Client's desired budget.

DEMONSTRATED EXPERENCE IN COMPLETING PROJECT OF SIMILAR SIZE AND SCOPE

Project Profiles are included in Appendix 2.
These selected projects are a representative group with similar budgets and with related project components. These include a recent project performed at the Morgantown Airport, a project for WVU at WVU Tech in Beckley, a renovation project for a West Virginia nonprofit 501(c)(3) company, the WVARNG Charleston Armory renovation and an open end 10-year contract with West Virginia State University, now in its' seventh year. We also included samples of an out-of-state project within the last five years and a design for the complete renovation of 31 restrooms in the historic West Virginia State Capitol Building.
Lastly, we have also included, for your review, the project summary for the Little Kanawha Bus Facility in Mt. Zion, WV.

Seven (7) additional **References are provided in Appendix 3.**

APPENDIX 1

RESUMES

Michael Baker
INTERNATIONAL

We Make a Difference

Patrick W. Fogarty, P.E., P.S., LEED®GA

Civil Engineer , Facilities Practice Manager

Years with Michael Baker: 12
Years with Other Firms: 20

Degrees

B.S., 1985, Civil Engineering, West Virginia University Institute of Technology

Diploma, 1993, Surveying and Mapping, International Correspondence Schools

Licenses/Certifications

Professional Engineer –
West Virginia, 1990
Ohio, 1996
Kentucky, 2000

Professional Surveyor –
West Virginia, 1993
Ohio, 1996
Kentucky, 2001

Construction Documents Technologist, 1996

LEED Green Associate, 2011

General Qualifications

Mr. Fogarty has over 30 years of civil engineering project design and management experience. He is responsible for the technical and management aspects of civil design and surveying projects within Baker's Charleston, West Virginia office. Mr. Fogarty has designed and managed projects in numerous disciplines including civil, structural, and transportation engineering; site development planning; and surveying. These projects have included retail/commercial site preparation, airports, streets/highways, bridges, parking lots, buildings, retaining walls/foundations, sanitary systems and structures, as well as boundary and topographic and photogrammetric surveys. Duties included field surveying, drawings and specification preparation, design, design drafting, construction inspection, quality control testing, shop drawing review, project management, contract administration and report preparation.

Experience

Little Kanawha Bus Facility, Calhoun County, West Virginia. *WV Division of Public Transit.* Project Engineer. Responsible for the civil, site and structural engineering components of the project. Michael Baker provided architectural and engineering services, landscape architecture, and construction-phase support for a new, 9,900-square foot, pre-engineered, metal and brick bus maintenance and transit operations facility. The 5,100-square-foot administrative area includes offices, a conference room, a money-counting room, and a driver-training room, and the 4,800-square-foot bus maintenance area includes a dedicated wash bay and storage for seven buses. The facility will be ADA-compliant and was designed to achieve LEED® certification. Services included site survey and design, geotechnical investigations and testing, environmental compliance, utility coordination, bid documents, bid-phase support, construction services and as-built drawings.

Renovations to Classroom Building, Beckley, West Virginia. *WVU Tech/ West Virginia University.* Practice Lead. Responsibilities included overseeing and managing the required resources for the design team and quality control. This fast track design and construction project stemmed from a feasibility study produced by request of the Client. The deficiencies found during the Study were remedied during the design phase with a compressed time frame in mind. Coordination of new and old HVAC designs were a large component of this project. University branding elements were incorporated into the interior design to bring new life to a defunct campus. Special consideration was given to

coordination with the University's existing door hardware products as well as the design and product specifications for a nationally accredited psychological laboratory within the Project. This project is currently under construction.

Renovations to the Benedum Center, Beckley, West Virginia. *WVU Tech/ West Virginia University.* Practice Lead. A sister project to the above referenced Classroom Building, this 21,000 S.F. project ran concurrent and also stemmed from a Feasibility Study requested by the Owner. Primarily responsibilities included overseeing and managing the required resources for the design team and quality control. This project is currently under construction.

West Virginia State Capitol Restroom Renovations. *State of WV General Services Division.* Project Manager. Responsible for the overall management of the project including the coordination of the subconsultant. Michael Baker led a planning study for the renovation of 31 restrooms in the historic West Virginia Capitol Building. The planning study assessed the facilities and their conformance to current code requirements and code-required capacities, compliance with Americans with Disabilities Act (ADA) requirements, quantification of the building occupancy during normal and peak periods, and an evaluation of gender distribution of restrooms within the capitol. Proposed renovations were scrutinized by both SHPO and the Capitol Building Committee with respect to historic aspects. Michael Baker provided design, construction sequence, and scheduling recommendations. Upon approval of the design, Michael Baker will prepare construction documents and provide construction administration services for the renovation of three restrooms on the basement level.

A/E Services for the Office of the Adjutant General, West Virginia Army National Guard, Division of Engineering and Facilities, Charleston, West Virginia. *State Army National Guard Headquarters.* Project Engineer. Responsible for the management and coordination of design activities. The Facilities Management Officer (FMO) for the State of West Virginia, Division of Engineering and Facilities (DEF), West Virginia Army National Guard (WVARNG) selected Michael Baker for a lump sum/fixed fee contract for architectural and engineering services. Michael Baker was selected by the Division of Engineering and Facilities to provide complete design and construction administration services for the renovation of the first floor of the entire wing of the Office of the Adjutant General (TAG). The Owner requested the need for modernization of approximately 12,000 square feet of existing outdated office space - project elements included new acoustical ceilings, flooring, energy-saving light fixtures, duplex outlets, communications jacks, alterations to the existing floor plan, exterior door replacements, new interior doors and hardware, new wall finishes and asbestos removal.

Lost Creek Train Depot Rehabilitation, Lost Creek, West Virginia. *Town of Lost Creek.* Project Manager. Responsible for the management and coordination of all activities as well as all engineering design. The Town of Lost Creek retained Michael Baker for the planning and design of the rehabilitation of a historic train depot adjacent to the Harrison County Rail Trail. Michael Baker prepared a plan to raise the structure, make repairs to the deteriorated timber, excavate and place the concrete foundation system, then lower the structure to rest on the new foundation. Baker provided construction administration and inspection services as well as periodic site review during construction.

Streetscape Improvements, Nitro, West Virginia. *City of Nitro.* Project Manager. Responsible for concept planning, detailed design, construction document generation, and construction administration. Michael Baker provided design, bid-phase support, and construction services for streetscape improvements to Bank Street and 21st Street, located in the city's business district. Michael Baker's services include base mapping, background data collection, design plans, construction document preparation, bid-phase support, construction management, and construction inspection.

Michael Baker
INTERNATIONAL

We Make a Difference

Nicole Riley

Associate Architect / Project Manager

Years with Baker: 3

Years with Other Firms: 16

Education
Bachelor of Architecture, Virginia Tech

Licenses/Certifications
Associate A.I.A.

General Qualifications

Ms. Riley brings more than 17 years of experience to the project. While at Michael Baker, Ms. Riley has focused her time on the client's needs while leading the design team from the early assessment of project planning stages to the construction administration. Ms. Riley's project design experience includes project for entrepreneurs, correctional, educational, institutional, military installations, commercial, residential, and religious facilities. She is experienced with the submittal and construction process for various state agencies including the WV State Fire Marshal.

Experience

Design of Three T-Hangars, Morgantown, West Virginia. *Morgantown Municipal Airport. Architectural Designer.* Responsibilities included the design of three T-hangars on the east side of the airfield and included architectural, and interior design, firewalls, ADA restrooms and Hangar bays. Coordination efforts with structural engineers was a substantial portion of the design process. She also, preformed Construction Administration for architectural shop drawings and coordinated with onsite project managers.

Renovations to Classroom Building, Beckley, West Virginia. *WVU Tech/ West Virginia University. Designer and Project Manager.* Responsibilities included facilitating complete design package and collaboration with WVU Tech staff for the 31,000 S.F. facility. This fast track design and construction project stemmed from a feasibility study produced by request of the Client. The deficiencies found during the Study were remedied during the design phase with a compressed time frame in mind. Coordination of new and old HVAC designs were a large component of this project. University branding elements were incorporated into the interior design to bring new life to a defunct campus. Special consideration was given to coordination with the University's existing door hardware products as well as the design and product specifications for a nationally accredited psychological laboratory within the Project. This project is currently under construction.

Renovations to the Benedum Center, Beckley, West Virginia. *WVU Tech/ West Virginia University. Designer and Project Manager.* A sister project to the above referenced Classroom Building, this 21,000 S.F. project ran concurrent and also stemmed from a Feasibility Study requested by the Owner. Primarily an interior design heavy project, this building required new retrofitted ADA toilet facilities as well as door hardware and HVAC systems coordination. This project is currently under construction.

Renovations to Maclin Hall, Montgomery, West Virginia.* *WVU Tech. Designer and Project Manager.* Responsibilities included facilitating complete renovation design package as programmed by the Owner and collaboration with WVU Tech staff for the four level, mixed use facility. Special consideration given to durable interior design finishes selection, new technology infrastructure and concealment, student safety, West Virginia State Fire Code and ADA.

Multi- Purpose Facility for the West Virginia State Police Academy, Institute, West Virginia.* *Designer and Project Manager.* Responsibilities included site investigation, cost estimate, architectural design and collaboration with geotechnical engineer as well as the West Virginia State Police staff overseeing the project. The facility employs a skylight system in the main gym, intended to provide natural light to the user as well as lowering electricity expense. Special consideration was given to the underground foundation and location of the facility at the Academy.

Economic Development Center, Charleston, West Virginia.* *West Virginia State University Gus R. Douglass Extension*, Designer and Project Manager. Responsibilities included: feasibility study, budget development and construction documents and construction administration services for total renovation of a 5,000 S.F. facility. Diverse use of facility lent to consideration for recording studios, digital green studio, office space for entrepreneurs, and public gathering space.

Glen Jean Armed Forces Reserve Center/ Military Entrance Processing Station, Glen Jean, West Virginia.* *West Virginia Army National Guard/ U.S. Department of Defense. Designer and Project Manager.* Responsibilities included complete design package and collaboration with staffs from both the state and federal entities for the 110,000 S.F. facility. Special consideration given to force protection, geotechnical challenges, helipad design and location, vehicle repair and petroleum storage, adequate mustering space, as well as medical office spaces.

Parkersburg South High School, Parkersburg, West Virginia.* *Wood County Schools. Designer and Project Manager.* Responsibilities included complete design package and collaboration with staffs from both the state and federal entities for the 250,000 S.F. facility. Special consideration given to student security, geotechnical challenges, campus enclosure, music and chorale practice suites, laboratory spaces, fire suppression, and ADA.

Other Notable Projects:

- **St. Alban's High School***; focus on selective demolition and design detailing for the 172,596 S.F. facility.
- **Robert C. Byrd Training Institute***; design/ production team. Interior design work for the 148,000 S.F. facility.
- **Sherrard Middle School***; addition of commons area and commercial kitchen, classroom renovation for the 64,000 S.F. facility
-

*Denotes experience prior to becoming a team member at Michael Baker international.

Michael Baker
INTERNATIONAL

We Make a Difference

R. Joseph Chaffin, R.A., A.I.A.

Lead Design Architect

Years with Baker: 7

Years with Other Firms: 17

Education

B.Arch., 1990, Architecture, University of Cincinnati

Certificate, 1988, Architecture, Ecole d'Art Americaines - Ecole des Beaux Arts

Licenses/Certifications

Registered Architect, West Virginia, 2011

NCARB, 1999

Registered Architect, Pennsylvania, 2001

General Qualifications

In balancing creative, organizational, and technical strengths, Joseph Chaffin's professional experience demonstrates a broad practice of architecture from residential through complex institutional projects. He challenges current capabilities, cultivates leadership, and develops new strengths through his position at Baker. As Director of Architecture, Mr. Chaffin is responsible for the daily operations, design quality, and project execution of the architectural and interior design staff. He performs interdisciplinary technical reviews for all designs and oversees coordination of related engineering disciplines. Ensuring the highest quality design services within budget and schedule parameters, he also emphasizes a "world view," or comprehensive perspective, within which professional services are delivered prioritizing and maintaining client expectations.

Experience

Renovations to Classroom Building, Beckley, West Virginia. *WVU Tech/ West Virginia University. Architect of Record.* Responsibilities included facilitating complete design package and collaboration with WVU Tech staff for the 31,000 S.F. facility. This fast track design and construction project stemmed from a feasibility study produced by request of the Client. The deficiencies found during the Study were remedied during the design phase with a compressed time frame in mind. Coordination of new and old HVAC designs were a large component of this project. University branding elements were incorporated into the interior design to bring new life to a defunct campus. Special consideration was given to coordination with the University's existing door hardware products as well as the design and product specifications for a nationally accredited psychological laboratory within the Project. This project is currently under construction.

Renovations to the Benedum Center, Beckley, West Virginia. *WVU Tech/ West Virginia University. Architect of Record.* A sister project to the above referenced Classroom Building, this 21,000 S.F. project ran concurrent and also stemmed from a Feasibility Study requested by the Owner. Primarily an interior design heavy project, this building required new retrofitted ADA toilet facilities as well as door hardware and HVAC systems coordination. This project is currently under construction.

Aviation Science Center Renovation, Community College of Beaver County, Monaca, Pennsylvania. Architect of Record. Responsible for design/technical quality and project execution provided by the architectural and interior design staff. The Project consisted of architecture, engineering, construction administration and cost estimates to design the auditorium renovations and replacement the HVAC system. Preliminary design services included research of applicable building codes; on site project assessment and verification, measurements, and documentation of the project areas, including a comprehensive field survey of the existing conditions, and the development and prioritization of preliminary scopes of work, schedule development, and oversite of estimates of probable cost. He directed the completion of pre-final 90 percent construction documents and the final construction and bid documents, including architectural, mechanical, electrical, and communications engineering drawings, and specifications. Mr. Chaffin also coordinated with the vendor of the air traffic control simulator throughout the design phase.

Nursing Simulation Renovation and Laboratory Design, Clarion University, Clarion, Pennsylvania. Director. Responsible for design/technical quality and project execution provided by the architectural and interior design staff. This state-of-the-art nursing education facility, included a simulation laboratory with four high-technology mannequins and a control room, related classrooms and skills lab spaces, offices, conference rooms, social lounge, and study lounge. His role also included interdisciplinary technical reviews for all design/construction documents. Baker's tasks included architectural design, building systems engineering, construction cost estimate development, and as-built plans development.

Building 12 Defense Logistics Agency Headquarters Renovation Design, Tobyhanna, Pennsylvania. *Tobyhanna Army Depot.* Director. Responsible for design/technical quality and project execution provided by the architectural and interior design staff. Role also included interdisciplinary technical reviews for all design/construction documents. Baker prepared design documents for the partial renovation of Building 12 to serve as the new Defense Logistics Agency headquarters building. Work was performed under a three-year indefinite delivery-indefinite quantity contract. Baker's tasks included architectural design, building systems engineering, construction cost estimate development, and as-built plans development.

Restroom Renovation Design, TISCOM, Alexandria, Virginia. *U.S. Coast Guard, CEU Cleveland.* Director. Responsible for design/technical quality and project execution provided by the architectural and interior design staff. Role also included interdisciplinary technical reviews for all design/construction documents. Baker is developing specifications, construction drawings, a detailed cost estimate, and a projected construction schedule to renovate two male and two female restroom areas in the Telecommunication and Information Systems Command Navigation Center. The renovated restrooms will be compliant with the Americans with Disabilities Act and will include new plumbing fixtures, toilet partitions, floor coverings, wall coverings, electrical fixtures, and exhaust fans.

U.S. Armed Forces Reserve Center, Rutland, Vermont. *U.S. Army Corps of Engineers, Louisville District.* Director. Responsible for design/technical quality and project execution provided by the architectural and interior design staff. Responsibilities also included detailed interdisciplinary reviews of the RFP design criteria documents with an emphasis on architecture. Baker developed design-build RFP documents for a new 600-member Armed Forces Reserve Center meeting Silver LEED® standards. A 97,634-square-foot training building (AFRC), a 14,600-square-foot multi-use classroom, a 7,302-square-foot Organized Maintenance Shop (OMS), and a 3,113-square-foot unheated storage (UHS) building were included in the RFP package. The center accommodates training and mobilization, and provides for the storage, inspection, maintenance, and repair of combat and tactical vehicles and equipment associated with the regional deployment of Vermont Army National Guard and Army Reserve units. RFP development consisted of conducting a design charrette; providing a topographical survey and geotechnical investigation; performing a utility survey; developing conceptual site plans, floor plans, and building elevations; developing RFP specifications; preparing DD Form 1354 – Transfer of Real Property; and providing a PACES construction cost estimate.

Design of U.S. Army Reserve Center Renovation and Expansion, Homewood, Illinois. *U.S. Army Corps of Engineers, Louisville District.* Director. Responsible for design/technical quality and project execution provided by the architectural and interior design staff. Role also included interdisciplinary technical reviews for all design/construction documents. As designer of record, Baker provided architectural and engineering services for the renovation and expansion of a 400-member U.S. Army Reserve Center to provide a 60,374-square-foot Training Building, including an approximately 3,500-square-foot Unheated Storage Building. The project also includes construction of a 22,300-square-foot parking area for military equipment, and 130 parking spaces for privately owned vehicles. Tasks were performed under an indefinite quantity-indefinite delivery engineering agreement. Baker designed the training facility to meet LEED® Silver certification. Baker's services included architectural design, surveys, environmental and geotechnical investigation, all site and building engineering, cost estimating, value engineering, and LEED® certification administration.

Michael Baker
INTERNATIONAL

We Make a Difference

Wayne Airgood, P.E.

Structural Engineer

Years with Michael Baker: 8
Years with Other Firms: 23

Degrees

B.S.C.E., 1984, Structural Engineering, Geneva College

Licenses/Certifications

Professional Engineer, Pennsylvania, 1999, [redacted]

Professional Engineer, Maryland, 2013, 43414

Professional Engineer, North Carolina, 2014, 041701

General Qualifications

Mr. Airgood is a practicing structural engineer with experience in the design of commercial, institutional, light industrial building structure, and foundation systems.

Experience

Design of Central Issue Facility, Fort McCoy, Wisconsin. *U.S. Army Corps of Engineers, Louisville District.* Mr. Airgood was the senior structural engineer of record responsible for design of the building structure and foundation systems from concept through construction of an approximate 62,553-square-foot large-sized Central Issue Facility (CIF) to expedite the shipping and receiving, distribution, processing, and exchange of soldier equipment. The structural system consisted of steel joist and girder framing supported by interior steel columns and exterior precast, insulated concrete load-bearing walls. Foundations were soil supported, isolated and continuous, reinforced spread footings.

Container-Loading Facility Design, Fort McCoy, Wisconsin. *U.S. Army Corps of Engineers, Louisville District.* Mr. Airgood was the senior structural engineer of record responsible for the design of a clear span steel roof framing system to achieve column-free interior warehouse space of a 30,862-square-foot Container-Loading Facility. Roof framing system is supported by interior steel columns and exterior precast, insulated concrete load-bearing walls. Foundations were soil supported, isolated and continuous, reinforced spread footings.

Montgomery County Public Schools Foodservices Facility. *Montgomery County, Department of General Services.* Mr. Airgood was the senior structural engineer of record responsible for the development and design of structural framing and foundation systems for 70,000-square-foot food production, warehouse and distribution facility. His responsibilities included coordination with owner/user and other engineering disciplines throughout design, performing and overseeing of production structural design calculations and documents and construction administration services such as review of structural product submittals and periodic site visits.

West Haven Commuter Rail Station Engineering Design, West Haven, Connecticut. *Connecticut Department of Transportation.* Mr. Airgood was the senior structural engineer responsible for the structural framing and foundation design of a two story passenger train station building. The station building featured a two story, glass curtain wall enclosed passenger waiting area with exposed to view curved roof structure. The design also included a 75 foot span, glass curtain wall enclosed pedestrian bridge spanning over the four rail line track bed to connect the station building with a new two story stair and elevator tower. His responsibilities included coordination with engineering and architectural disciplines during design, performing and overseeing of production structural design calculations and documents, and review of fabrication shop drawings and other construction administration services as related to the building structural systems.

Penn Hills Operations Center Addition, Penn Hills, Pennsylvania. *Duquesne Light Company.* Mr. Airgood was the senior structural engineer of record responsible for the development, design, and detailing of a load bearing masonry wall and steel framing addition to an existing facility.

Design-Build Tactical Equipment Maintenance Facilities, 31st ADA Brigade, Fort Sill, Oklahoma. *U.S. Army Corps of Engineers, Tulsa District.* Mr. Airgood was the senior structural engineer responsible for the design of the foundation systems to support an 18,000-square-foot, 35,200-square-foot, and 57,031-square-foot pre-engineered steel Tactical Equipment Maintenance Facilities (TEMF), and a 20,000-square-foot Supply Support Activity facility supply support activity warehouse (SSA). Because of existing expansive soil conditions, the ground floors of each building were designed as reinforced concrete floor systems with a void space between the expansive soil and floors. The concrete floor system and PEMB structural columns were supported by a deep foundation system of drilled concrete piers extending to rock. His responsibilities included review of structural fabrication drawings, attending design coordination meetings and periodic site visits during construction.

Buildings 200 & 250 of Imperial Business Park, Imperial, Pennsylvania. Mr. Airgood was the lead structural engineer responsible for the development and design of the structure and foundation systems for two, 250,000-square-foot warehouse facilities. Responsibilities also included construction administration services such as review of structural product submittals and periodic site visits. Each building consisted of steel joist and joist girder roof framing supported by interior steel columns and exterior precast concrete bearing and shear walls. Foundations were soil supported, isolated and continuous, reinforced spread footings.

ABB Manufacturing and Office Facility, Mt. Pleasant, Pennsylvania. Mr. Airgood was the lead structural engineer of a high-bay manufacturing, testing and warehouse facility for electric transformer equipment, including an attached two-story office area. The structural systems consisted of precast concrete wall panels enclosing a steel framed interior column and roof structure, including the support of numerous under-hung crane systems throughout the facility ranging from 5- to 20-ton capacities. The lateral framing system was a combination of steel braced and moment frames, and foundations were soil supported isolated and continuous, reinforced spread footings.

Fuel Cell Facility, Pittsburgh, Pennsylvania. *Siemens Westinghouse.* Mr. Airgood was the lead structural engineer of a high-bay manufacturing facility, warehouse and two-story attached office area. The structural systems consisted of precast concrete wall panels enclosing a steel framed interior column and roof structure. The lateral framing system was a combination of steel braced and moment frames, and the structural design included support of various top running bridge crane systems ranging from 10- to 40-ton capacities. The foundations were soil supported isolated and continuous, reinforced spread footings.

Michael Baker
INTERNATIONAL

We Make a Difference

David J. Hilliard, P.E., LEED® AP

Mechanical/Electrical/Plumbing Engineer

Years with Michael Baker: 6
Years with Other Firms: 20

Degrees

B.S.M.E., 2005, Mechanical Engineering, West Virginia University Institute of Technology

B.S., 2002, Mathematics and Science, West Virginia State College

Licenses/Certifications

Professional Engineer, West Virginia 2011

LEED AP, bd+c, 2010

Professional Affiliations

American Society of Plumbing Engineers

American Society of Heating, Refrigerating, and Air-Conditioning Engineers

American Society of Mechanical Engineers

General Qualifications

Mr. Hilliard has a wide range of "hands on" design, engineering, and construction experience. From his beginnings as a carpenter he has expanded his professional abilities to a senior engineer for Baker. His recent design experience has included the design of new campus water lines and other service utilities at West Virginia State University, the complex mechanical design of such projects as a large Charleston, West Virginia hospital, a Bus Maintenance Garage and office building for the West Virginia Department of Transportation, an Army National Guard Armory HVAC/Electrical renovation, Master Planning and engineering at the West Virginia Capitol Complex including plumbing renovation design on the historic State Capitol Building. His resume covers over 30 years of real world work in engineering, design, fabrication and construction in the mechanical, electrical and general trades.

Over the years, while practicing his profession, Mr. Hilliard continued his education by studying mathematics, civil and mechanical engineering, finally taking degrees in both mathematics and mechanical engineering. He has continued his professional development through his involvement with ASME, ASHRAE, ASPE, USGBC, and other pertinent organizations

Experience

Design of Three T-Hangars, Morgantown, West Virginia. *Morgantown Municipal Airport. Mechanical/Electrical Engineer.* Responsibilities included the Mechanical, Electrical and Plumbing Design of three T-hangars on the east side of the airfield and included, HVAC, plumbing ADA restrooms and drainage systems, fire protection, and electrical utilities design. He also, preformed Construction Administration for advised during construction and help coordinate with the Military IRT staff through an onsite project manager.

Renovations to Classroom Building, Beckley, West Virginia. *WVU Tech/ West Virginia University. MEP Designer and Engineer of Record.* Responsibilities included facilitating complete design package and collaboration with WVU Tech staff for the 31,000 S.F. facility. This fast track design and construction project stemmed from a feasibility study produced by request of the Client. The deficiencies found during the Study were remedied during the design phase with a compressed time frame in mind. Renovation old HVAC systems, electrical upgrades, fire alarm upgrades, and a new building wide sprinkles system were undertaken, as well as the design of new ADA restrooms. Special consideration was given to the design and product specifications for a nationally accredited psychological rat laboratory within the Project. This project is currently under construction.

Renovations to the Benedum Center, Beckley, West Virginia. *WVU Tech/ West Virginia University. MEP Designer and Engineer of Record.* A sister project to the above referenced Classroom Building, this 21,000 S.F. project ran concurrent and also stemmed from a Feasibility Study requested by the Owner. Primarily an interior design heavy project, this building required new ADA toilet facilities, Fire Alarm and sprinkler system upgrades and retrofitted HVAC equipment. This project is currently under construction.

West Virginia State University - Open-End Architectural/Engineering Services, Institute, West Virginia. 10 year IDIQ. Mechanical/Electrical and Plumbing Designer and Engineer of Record for on demand projects at West Virginia State University. Mr. Hilliard has been involved with and coordinated all aspects of the various tasks which have included; programming, planning, design development, construction documentation, systems evaluations, and feasibility studies, as well as cost estimating. Also included were mapping, evaluation and design services for storm and sewer line systems, a campus wide domestic water loop system design, football field upgrades and overall facility maintenance support as requested by the University. He has also been involved with the development and acquisition of WVDEP permits for both MS4 and Air Perming.

Little Kanawha Bus, Calhoun County, West Virginia. *WV Division of Public Transit.*
Mechanical Engineer. Responsible for the Mechanical, Electrical and Plumbing Design, MEP Document Preparation, and Construction Administration for a new bus maintenance and office facility for Gilmer County. Duties include the design of the vehicle storage, cleaning and maintenance mechanical systems, as well as oil pumping and collection systems. The design of an energy efficient HVAC system for the entire building is also part of his responsibilities. The facility was designed as a LEED® project.

Good News Mountaineer Garage, Charleston, West Virginia. Mechanical Engineer. Responsible for the Mechanical, Electrical and Plumbing Design, MEP Document Preparation, and Construction Administration for newly renovated Auto Repair garage and administrative office facility for this non-profit organization. The Good News Mountaineer Garage accepts donations of vehicles that are repairable for a reasonable amount of money. These donated cars are then distributed to families with low incomes for transportation to work.

West Virginia State Capitol Restroom Renovations. *State of WV General Services Division.* Mechanical Electrical and Plumbing Engineer. Mr. Hilliard provided the State of West Virginia General Services Division a comprehensive MEP plan for the renovation and renovation of the 33 restrooms of the West Virginia State Capitol Building. He helped provide design, construction sequence, and scheduling recommendations. And will provide Construction Administration during construction

Army National Guard Headquarters Renovations, Charleston, West Virginia. *State Army National Guard Headquarters.*
Mechanical Engineer. Responsible for all mechanical design oversight and construction management. Baker performed complete planning, design, and construction management services for renovations to the Office of the Adjutant General at the State Army National Guard Headquarters in Charleston, West Virginia. Project elements included a complete renovation and replacement of the HVAC system with a Loop Heat Pumps, new acoustical ceilings, flooring, energy-saving light fixtures, several new wall partitions, new interior doors and hardware, new wall finishes and asbestos removal. Baker provided Construction Administration and inspection services as well as periodic site review during construction.

Michael Baker
INTERNATIONAL

We Make a Difference

Kevin Spangler, P.E.

Fire Protection Engineering Manager

Years with Michael Baker: 8
Years with Other Firms: 1

Degrees

M.S., 2008, Fire Protection Engineering, University of Maryland, College Park Campus

B.S., 2006, Agricultural and Biological Engineering, The Pennsylvania State University

Licenses/Certifications

Professional Engineer, California, 2011[redacted]

Professional Engineer, Virginia, 2012,[redacted]

Professional Engineer, Pennsylvania, 2012,[redacted]

Professional Engineer, Illinois, 2013,[redacted]

Professional Engineer, Idaho, 2014,[redacted]

Professional Engineer, New York, 2014[redacted]

Professional Engineer, Connecticut, 2015,[redacted]

Professional Engineer, South Carolina, 2016,[redacted]

Professional Engineer, Minnesota, 2016[redacted]

Professional Engineer, Mississippi, 2017,[redacted]

General Qualifications

Mr. Spangler is a registered fire protection engineer with an M.S. degree in Fire Protection Engineering and 9 years of experience in the fire and life safety consulting industry. He has been with Michael Baker International since 2009 and has been the fire protection engineering manager since 2014. He provides leadership to the fire protection group and performs project technical reviews of system designs. He also serves as the Designer of Record for his specific project designs. In his wide-ranging fire protection experience and education, he has an extensive technical background and knowledge in the design of fire protection engineering systems, code and life safety analysis, and the commissioning and testing of fire systems. The variety of projects have exposed Mr. Spangler to various types of facilities for military, government, commercial, public, and private clients.

Experience

Renovations to Classroom Building, Beckley, West Virginia. *WVU Tech/ West Virginia University.* Mr. Spangler was the fire protection engineer of record responsible for the design of the fire protection systems at the WVU Tech Beckley Classroom Building. The project consisted of a renovation of an existing building. A new wet-pipe sprinkler system was added to the building, and the existing fire alarm system was adjusted to account for the building renovation. Mr. Spangler provide drawings and specifications for the installing contractor, and reviewed the delegated design submittals for compliance with the project scope and construction codes. This project is currently under construction.

Renovations to the Benedum Center, Beckley, West Virginia. *WVU Tech/ West Virginia University. Designer.* A sister project to the above referenced Classroom Building, this 21,000 S.F. The existing sprinkler and fire alarm systems were adjusted to account for the building renovation.. This project is currently under construction.

Army Reserve Center, Full Facility Revitalization (FFR), Independence, MO. Mr. Spangler was the fire protection engineer for the renovation of the existing army reserve center located in Independence, Missouri. He was responsible for performing a field investigation of existing conditions, performing a fire hydrant flow test and preparing RFP specifications and design criteria documents. The building scope included a new wet pipe sprinkler system in the Reserve Center Building and also the Maintenance Facility. The existing fire alarm system was documented and determined to be removed and replaced with a new fire alarm and mass notification system. The new fire alarm system is designed to serve both buildings and an outdoor speaker system for parking lot notification.

Shaw Headquarters Building Renovation, Shaw AFB, South Carolina
Mr. Spangler was the Fire Protection Engineer of record for the renovation of the three story Headquarters Building at Shaw AFB in South Carolina. The building contained an existing fire alarm and existing sprinkler system. The fire alarm system was removed and installed with a new fire alarm and mass notification system. The existing sprinkler system was modified to account for the new building design. The existing sprinkler system was identified by field investigation and as much of the existing sprinkler system was re-used as possible to keep costs minimal for the client. A life safety analysis was performed according to NFPA 101 Life Safety Code and the IBC to ensure the new system design met all building and egress requirements. Mr. Spangler was responsible for the delegated design review and approval of shop drawings prepared by the installing contractor.

Fire Pump Replacement. *Allegheny County Airport Authority – Pittsburgh International Airport.*
Mr. Spangler was the fire protection engineer designer of record for the project. He completed detailed field measurements of the existing systems and finalized the design for the newly installed fire pumps. The project included the installation of 4 new, electric motor driven fire pumps in two (2) separate fire pump houses (2 pumps per fire pump house). The fire water tanks and existing water supply were analyzed to meet code requirements and the existing piping rerouted as necessary to provide appropriate pump recirculation. The challenges that were faced and solved during in the project included the installation of previously purchased fire pumps into an existing system. The project was successful due to the attention to detail in field measurements of the existing systems and the detailed design of the new system.

Private Corporate Client. *Hangar located at Allegheny County Airport.* Michael Baker was responsible for the building design for a renovation of a historic hangar located at the Allegheny County Airport. Mr. Spangler was the Fire Protection Engineer responsible for the design of fire protection systems throughout the building including sprinkler system, foam system, and fire alarm system. Two fire pumps were designed and retrofitted into the building to provide the adequate flow and pressure for the suppression systems. Detailed hydraulic calculations were performed and discussed with the local Authority Having Jurisdiction in order to remove the existing fire water storage tanks from the project. As part of the project, a site survey of existing building and final inspections of the final systems installations were performed.

Camp Geiger East Infantry Training Complex, Marine Corps Base Camp Lejeune, North Carolina. *Naval Facilities Engineering Command, Mid-Atlantic.* Mr. Spangler was the fire protection engineer of record for Academic Building, CIF and Warehouse buildings. He was responsible for fire protection design of protection systems including sprinklers, fire alarm and mass notification systems to meet the requirements of the RFP, UFC and NFPA codes. He performed life safety analysis for complete compliance with NFPA 101, IBC and the UFC criteria. This includes classifying occupancies, occupant load calculations, egress analysis and rated separations. He also performed an on-site fire hydrant flow test according to NFPA 291 to determine the available water supply. This information was used to perform detailed hydraulic calculations for the building sprinkler systems. He worked directly with the NAVFAC fire protection engineer to analyze the water system and remove the need for a fire pump for each of the buildings. Michael Baker served as the lead designer for the design-build delivery of a 137,850-square-foot infantry training complex on five acres at Camp Geiger. The project included the construction of a two-story headquarters and academic building, a warehouse, a consolidated issue facility, an armory building, and an emergency weather center, the demolition of five buildings and various electrical distribution upgrades. The project was designed to meet the requirements for LEED Silver certification.

Michael Baker
INTERNATIONAL

We Make a Difference

Owen Milligan, P.E.

Electrical Engineering Manager

Years with Michael Baker: 7
Years with Other Firms: 20

Degrees

B.S., 1988, Electrical Engineering, Gannon University

Computer Aided Drafting, Putnam County Technical Center, 1995

Licenses/Certifications

Professional Engineer, California, 2003
Professional Engineer, Pennsylvania, 1999
Professional Engineer, Montana, 2001
Professional Engineer, Kentucky, 2005
Professional Engineer, Oklahoma, 2008

General Qualifications

Mr. Milligan is an electrical engineer who is experienced working with consulting engineering firms in the study and design of electric distribution and control systems, emergency power for process plants and facilities, water/wastewater treatment plants, government and commercial projects, ASHRAE energy-efficient building design, coordination with vendor and contractors, and approval of vendor drawings. He has a strong knowledge of distribution equipment and designs, motor control center layouts and design, and start-up and services during construction. He is capable of handling multiple projects from conception to final design, working as a team member toward meeting project goals. His work includes management of Baker's electrical engineering department, supervising and providing technical advice to designers and coordinating design and construction work with engineers, contractors, vendors, and clients.

Experience

Design/Build SATOC for Military Facilities in the Southwest Region, Various Locations in Southwestern U.S., AR,AZ, CA, LA, NM, NV, OK, TX. *U.S. Army Corps of Engineers, Tulsa District.* Electrical Engineer. Provided design assistance to the electrical engineering subconsultant, and performed a technical quality review of the construction documents for the TEMFs located at Fort Bliss. Electrical systems included lighting, lightning protection and grounding, power distribution, telecommunications, fire alarm, and unique voltage and frequency requirements. Designs were required to meet UFC and military design standards. Projects constructed under this contract include Brigade Combat Team (BCT) Tactical Equipment Maintenance Facilities (TEMF). TEMFs provide facilities for the purpose of maintaining and repairing vehicles, complete with equipment and parts storage, and administrative offices. Task orders awarded to date include the following: Two TEMFs at Fort Bliss in El Paso, Texas to be shared by five Battalions and one Company; and a Unit Operations Facilities consisting of a TEMF and an Organizational (Deployment) Storage facility, at Fort Bliss in El Paso, Texas. Facility designs are required to meet or exceed a Silver LEED® certification.

On-Call Multi-Discipline Services, Pittsburgh International, and Allegheny County Airports (PIT/AGC), Pittsburgh, Pennsylvania. *Allegheny County Airport Authority.* Technical Advisor. Provided technical direction to electrical design staff and performed a technical quality review of the construction documents. Designs were required to meet NEC standards. Since 1989, Baker has provided multidiscipline, on-call services to the Allegheny County Airport Authority (ACAA). The ACAA owns and operates Pittsburgh International Airport (PIT) and Allegheny County Airport (AGC). Baker acted as an extension to the ACAA's staff, providing the depth of resources and experience of the entire company when called upon by the ACAA. Baker provided a full range of services to ACAA on an "On-Call/As-Needed" basis, including architecture, civil, structural, mechanical, electrical and environmental engineering, general engineering administration, construction support, and other areas.

Rescue Swimmer Training Facility, U.S. Coast Guard Support Center, Elizabeth City, North Carolina. *U.S. Coast Guard, Facilities Design & Construction Center Atlantic.* QA/QC. Performed a technical quality review of the electrical design for this building renovation project, including lighting and electrical receptacles. Baker prepared Design/Build RFP Documents for a new Rescue Swimmer Training Facility (RSTF) for the Aviation Technical Training Center (ATTC), a tenant of and located on the SC Elizabeth City, NC. The $13.3 million RSTF is a dedicated aquatic trainer for the purpose of supporting the Aviation Survival Technician (AST) School and recurrent water survival training requirements. Sized appropriately for the curriculum and student loading, the RSTF contained elevated platforms, pool temperature controls, adequate wet and dry storage, male and female locker/shower facilities, classrooms, and office space.

Gymnasium Locker Room Rehabilitation, USCG Training Center Cape May, New Jersey. *U.S. Coast Guard.* QA/QC. Performed a technical quality review of the electrical design for this building renovation project, including lighting and electrical receptacles. Baker prepared the design, construction documents, and cost estimate for the interior rehabilitation of an existing facility to combine two women's locker rooms into one large room.

Relocation and Improvements to the Front Gate, USCG Training Center Cape May, New Jersey. *U.S. Coast Guard.* QA/QC. Performed a technical quality review of the electrical design for this building renovation project, including lighting and electrical receptacles.

Route 52, Contract - "B", Somers Point & Ocean City, New Jersey. *New Jersey Department of Transportation.* Electrical Engineer. Responsible for the electrical systems design to meet NEC standards for a new Visitor's Center, bridge and site lighting, power distribution, and a supplemental photovoltaic solar system.

Non-Baker Project Experience

Siemens Government Services, Inc (formerly SD Engineers), Pittsburgh, Pennsylvania. Senior Electrical Project Engineer. Responsibilities included Senior Electrical Engineer in charge of all electrical work at the Department of Energy's Naval Reactor Facility in West Mifflin, Pennsylvania. Duties included complete electrical design including multiple new office building designs and construction, light industrial type facilities for confidential DOE projects, retrofitting and relocation of existing laboratories, power studies, arc flash calculations, and site power distribution.
Chester Engineers / US Filter Corporation, Pittsburgh, Pennsylvania. Electrical Project Engineer. Responsibilities included the following:

- Lead electrical engineer for multiple site water and wastewater treatment projects for a large automobile manufacturer.
- Lead electrical engineer for design of water treatment plants for several large steel manufacturers.
- Lead electrical engineer on design of numerous remote cellular telephone communication sites for a large, wireless Telecommunications Company.
- Assisted a Senior Electrical Engineer on a Short Circuit and Coordination Study using CAPTOR/DAPPER analysis program.
- Responsible for several large detailed constructions cost estimates.
- Lead Electrical Engineer to many local municipalities for wastewater and water pumping/filtration upgrades.

APPENDIX 2

PROJECTS

Michael Baker
INTERNATIONAL

We Make a Difference

Little Kanawha Bus Administrative and Maintenance Facility

Mt. Zion, West Virginia

Michael Baker provided general Architectural and Engineering services to the West Virginia Division of Public Transit for the Little Kanawha Administrative/Maintenance Facility located near Grantsville, West Virginia.

The WV Division of Public Transit selected Michael Baker to provide complete design and construction administration services to include the construction of a pre-engineered metal and brick building, sited on the available property allowing for future expansion needs. Parking for the buses and employee vehicles will surround the building. The site is approximately 4.55 acres.

The operations facility has approximately 10,000 square feet of which 4,500 square feet houses five offices, a conference room, and money counting room, office storage space, copier and supply room, and a driver training room that accommodates approximately 25 individuals. The remaining 5,500 square feet is dedicated to the maintenance functions and includes a Wash Water Reclaim System. **The building is provided with selective stand-by electrical power from a 50 KW natural gas generator with an automatic switch gear system.** The garage structural roof the overall eave height will be about 18 feet. This area also includes space for indoor bus storage for approximately seven (7) vehicles. The building is designed so that the vehicles can pull through the facility. The building was designed to employ green building practices, but was not LEED (Leadership in Energy & Environmental Design) Certified.

Client

State of West Virginia
Department of Transportation
Division of Public transit
Building 5, Room 906
1900 Kanawha Blvd., East
Charleston, WV 25305-0432

Contract Completion Date

2013

Baker's Role

- Architecture
- Renovation design
- Feasibility studies
- Cost estimates
- Civil engineering
- Surveying
- MEP engineering
- Structural engineering
- Environmental Permitting

Michael Baker
INTERNATIONAL

We Make a Difference

Design & Construction Oversite of Three PEMB T-Hangars

Morgantown Municipal Airport (MGW), Morgantown, West Virginia

Client

Morgantown Municipal Airport
100 Hart Field Road
Morgantown, West Virginia 26505

Completion Date

2017

Michael Baker's Role

- Survey and mapping
- Stormwater management
- Geotech investigation
- Permitting
- Engineer's report
- Pavement design
- Site grading design
- Drainage design
- Environmental assessment
- Architecture
- Structural Engineering
- Mechanical Engineering
- Electrical Engineering
- Construction Documents, Estimating and Bidding phase services
- Construction management

Michael Baker provided design and engineering services for three pre-engineered metal building (PEMB) t-hangars west of the West Virginia Army National Guard Readiness Center known as the East Side Development and east of Runway 18-36. The construction was completed using the Civil/Military Partnership - Innovative Readiness Training Program (IRT).

Phase 1 of the project encompassed development of infrastructure, including site grading, drainage, bituminous taxilanes, pavement markings, vehicle parking, and fencing for the three t-hangars. Phase 2 encompassed the t-hangars on the east side of the airfield and included site civil, structural, architectural, interior, mechanical, plumbing, fire protection, and electrical utilities design. Michael Baker also provided material bidding/procurement services, and construction administration/management services.

Phase 1

Michael Baker surveyed the project site to locate existing drainage structures, determine structure inverts, pipe sizes, orientation, and pertinent utility structures; performed a geotechnical investigation to determine subgrade soil properties for pavement design and building foundations; and developed an engineer's report to serve as the basis of design. Michael Baker also prepared and submitted FAA Form 7460-1 to address the permanent and temporary impacts to the airspace as a result of the project.

Additionally, Michael Baker developed a grading plan with best management practices (BMP), provided a bituminous pavement design with a 20-year structural design-life, developed preliminary airfield lighting and wiring layouts for the existing Taxiway D, and designed electrical and communication utility infrastructure necessary for future hangars. Michael Baker then prepared construction plans and specifications for all required materials for completion of the development.

Phase 2

Michael Baker produced drawings and specifications for the construction of the three PEMB t-hangars and the associated site work. Site/civil design included sewer, sanitary holding tank, trench drains, medium voltage duct bank, concrete access aprons, sidewalks, grading, and drainage. Structural design included spread footing foundation for each t-hangar. Architectural design included floor plans and elevations, restroom, and fire barrier walls. Mechanical and plumbing design included heating, ventilation, plumbing, water heating, and drain-waste-vent

piping for restrooms. Fire protection design included a two-hour rated fire barrier, life safety report and drawings, and a code review. Electrical design included power feed, power distribution, lighting system, controls, and grounding; site lighting photometric calculations, layout, and controls; and exit emergency egress lighting.

Bidding and Construction Management Services

During the bidding phase, Michael Baker distributed bid documents to material suppliers, prepared material lists, evaluated bids for completeness and accuracy, provided a recommendation for award, assisted with preparation of grant application documents, and prepared and coordinated contract documents.

Construction phase services consisted of construction administration, construction management, and construction observation. Michael Baker provided an on-site inspector to observe construction progress and activities were completed in accordance with the plans and specifications. Administrative services consisted of project coordination, meeting attendance, submittal and shop drawing review, and project closeout.

Michael Baker
INTERNATIONAL

We Make a Difference

WVU Institute of Technology, Classroom Building

Beckley, West Virginia

Client

West Virginia University
Beckley Campus
400 Kanawha Street
Beckley, WV 25801

Completion Date

July 2017
Currently under Construction

Michael Baker's Role

- Feasibility studies
- Architecture
- Mechanical engineering
- Fire Protection Engineering
- Electrical engineering
- Plumbing engineering
- Cost estimates
- Construction Administration

Baker provided general Architectural and Engineering services to the West Virginia University Institute of Technology, Beckley Campus. The client requested a feasibility study, which laid the groundwork for the ambitious renovation of two buildings concurrently. The first was the Classroom building, the facility will house engineering labs, computer classrooms, psychological observation and Rat laboratories as well as some administrative services.

The Classroom Building required extensive coordination between generations of building engineering systems as well as selective demolition of architectural interior systems to allow for update use. The 31,000 SF facility was designed originally as a junior high school on the 1940's and was renovated to house technically advanced mechanical, hydraulic and computer engineering laboratories. To bring the facility to the 21st century, a student lounge, student rest and study spaces- where electronics can be utilized and charged- were devised from a former kitchen and corridor locker areas, respectively. A modern mechanical distribution system was designed to support air conditioning while a new, **building-wide fire suppression system**, complete with a larger water supply line, was engineered. The Classroom Building also included the design of a psychological observation laboratory that requires national accreditation and necessitated special design considerations.

The facility also received a completely new EPDM roof to shore up existing water problems. A large energy recovery unit was installed on the roof to provide fresh air to the classrooms throughout the building. The Classroom Building also required technical coordination of the existing door hardware to interface with existing products as appropriate and necessary. These hardware considerations also had to align with campus wide standards. Lastly, both facilities received interior upgrades to emphasize University branding elements and bring renewed life to a defunct campus.

Additionally, all portions-feasibility study to design and cost proposals- of this traditional design, bid, and build project were performed under a compressed and confined time constraint, allowing the client to successfully move one campus to another in one short year.

Michael Baker
INTERNATIONAL

We Make a Difference

WVU Institute of Technology, Benedum Building

Beckley, West Virginia

Baker provided general Architectural and Engineering services to the West Virginia University Institute of Technology, Beckley Campus. The client requested a feasibility study, which laid the groundwork for the fast pace renovation of the building prior to the start of the new school year in August 2017. The facility will house administrative services, student services, student government, a recreational area and upward bound.

The work completed at the 21,000 SF Benedum Center included interior finishes selection to support large numbers of student use. Other notable portions of the work included upgrades to the mechanical and fire alarm and fire suppression systems as well as retrofitted ADA toilet facilities. A conglomerate of three separate buildings, special attention was spent on exiting requirements and coordination of door hardware systems.

Client

West Virginia University
Beckley Campus
400 Kanawha Street
Beckley, WV 25801

Completion Date

July ,2017
Currently under Construction

Michael Baker's Role

- Feasibility studies
- Architecture
- Mechanical engineering
- Fire Protection Engineering
- Electrical engineering
- Plumbing engineering
- Cost estimates
- Construction Administration

The facility also received a completely new EPDM roof and specialized basement wall treatments to shore up existing water penetration problems. The Benedum Center also required technical upgrades including new data lines and server. The project also requires lots of coordination of the existing door hardware to interface with existing products as appropriate and necessary. These hardware considerations also had to align with campus wide standards. Lastly, both facilities received interior upgrades to emphasize University branding elements and bring renewed life to a defunct campus.

Additionally, all portions-feasibility study to design and cost proposals- of this traditional design, bid, and build project were performed under a compressed and confined time constraint, allowing the client to successfully move one campus to another in one short year.

Michael Baker
INTERNATIONAL

We Make a Difference

Good News Mountaineer Garage Administrative and Maintenance Facility

Charleston, WV

Baker provided general Architectural and Engineering services to the Good News Mountaineer Garage (GNMG). The facility is located on the west side of Charleston, West Virginia. The Good News Mountaineer Garage is a nonprofit organization that accepts donations of vehicles that are repairable for a reasonable amount of money. After repair, these donated cars are then distributed to low-income families needing dependable transportation.

The GNMG selected Baker to provide complete design and construction administration services in three phases. Among these design services were the installation of a new HVAC, fire alarm system and fume detection systems. The first phase was to renovate the interior of the building on 4th Avenue in order to provide facilities for the automobile repair and administrative staff. Phase II included the build-out of a show room and Phase III was dedicated to the exterior of the building including vehicle storage and special event areas. Parking for some repaired vehicles and employee vehicles was provided east side of the building. The site is approximately 0.75 acres. The main facility has approximately 7,500 square feet of space of which 4,700 square feet, houses four administrative offices, a board room, a copier/supply room, restrooms and a large show room /event center which can accommodate up to approximately 75 individuals. The remaining 2,100 square feet is dedicated to the automotive repair functions. The garage includes two new vehicle lifts and overhead parts storage. The building was designed so that the vehicles can pull through the garage while the lifts are being used. Baker incorporated green building practices, including passive solar tube lighting in the showroom and maintenance garage. LED lighting was also used in order to help control utility costs for the operation of the facility.

Client

Good News Mountaineer Garage
1637 4th Avenue
Charleston, WV 25387

Ms .Asley Orr,
Executive Director
304-344-8445

Completion Date

March, 2016

Michael Baker's Role

- Architecture
- Civil Engineering
- MEP Engineering
- Landscape architecture
- Structural Engineering
- Bid Phase Services
- Construction Management
- Estimating

GOOD NEWS MOUNTAINEER GARAGE

Michael Baker
INTERNATIONAL

We Make a Difference

WVARNG Charleston Armory HVAC & Architectural Renovations

Charleston, West Virginia

Client

West Virginia Army National Guard
Division of Engineering and Facilities
1703 Coonskin Drive
Charleston, WV 25311-1085

Mr. Joe McClung
304-561-6475

Contract Completion Date

2013

Baker's Role

- Architecture
- Mechanical Engineering
- Feasibility studies
- Cost estimates
- Civil engineering
- Electrical Engineering
- Structural engineering
- Environmental Permitting

The existing building/facility started as the Coonskin Armory constructed in 1961. The Headquarters Building was constructed simultaneously with the Coonskin Armory and occupied the second floor. Also in 1961, as a separate structure, the Adjutant General's Wing (TAG Wing) was constructed nearby. Later, in 1984 the Coonskin Armory/Headquarters Building was physically connected to the TAG Wing with an area of administrative offices. This final major construction project connected all the buildings into one major facility of over 50,000 square feet, referred to as the Charleston Armory.
The West Virginia Army National Guard (WVARNG) Construction and Facilities Management Office (C&FMO) requested a study be conducted of the consolidated mechanical and electrical components of the consolidated facility known as the Charleston Armory. Such items were considered as the condition of existing HVAC/MEP systems and design improvements or upgrades to those systems and examination of the existing building envelope and recommend possible improvements to the Envelope, HVAC, Electrical and Plumbing systems.

A loop pipe water source heat pump system determined the most cost effective for this situation, with fewer pipes, smaller space requirements and a lower installation cost. Various HVAC components included a Fluid Cooler, Boilers, Pumps, Wall Consoles, above ceiling HPs, along with some Rooftop Units and Energy Recovery Units.
During the renovation process, mold was discovered growing in certain areas of the building. An investigation was undertaken, building humidity was logged and measures were implemented to install dehumidification in existing equipment in the building, building leaks were sealed and existing mold was remediated.
Baker's design also addressed the repair of the existing roofing system, addition and repairs of roof curbs for HVAC equipment, repositioning of blocking and walk pads around the roof, and installation, repair and patching of the existing EDPM roofing system and maintaining the existing warranty.

Michael Baker
INTERNATIONAL

We Make a Difference

Open-End Architectural/Engineering Services

West Virginia State University, Institute, West Virginia

Michael Baker was retained by the West Virginia State University (WVSU) under an Open-End Architectural and Engineering contract to perform renovations, alterations, reconstruction and/or extensions of existing facilities. The Indefinite Delivery / Indefinite Quantity (IDIQ) agreement is for a period of 10 years. Michael Baker's specific tasks include programming, planning, design development, construction documentation, evaluations, feasibility studies, cost estimating and construction contract administration services. Major "building" design and "building" renovation projects are not included in this contract.

Client
West Virginia State University
124 Ferrell Hall
Institute, WV 25112

Mr. Marvin Smith /Director of
Physical Facilities
304-766-3010

Completion Date
10-Year IDIQ ending 2021

The following is a summary of some of our experiences:

East Hall Renovations
East Hall is a historic facility housing faculty administrative functions for the University. In the last several years, the original wood siding and window units have begun to show signs of age deterioration. Baker performed an inspection of the building then prepared a scope of work and construction cost opinion for the replacement of the siding and windows as well as the design of a new ADA-compliant entrance ramp.

Ferrell Hall Entrance Improvements
Ferrell Hall is the primary administrative facility for the University. Baker performed a building entrance inspection and code review for ADA compliance. Baker then prepared a scope of work and construction cost opinion for the upgrades to both entry/egress points on the west end of the facility. The work included ADA-compliant walkways, stairs and railing, upgrades to the existing wheelchair ramp, a decorative retaining wall and landscape improvements.

Dawson Hall Humidity Assessment
Dawson Hall is a women's dormitory on the University Campus. Baker performed a building inspection for humidity and mold related problems. It was determined that futher investagation and testing was required. Once the investigation is complete, a report will be prepared outlining recommendations for improvements to the ventilation and insulation within the individual dorm rooms Baker will then prepared a scope of work for corrective measures of the air flow/ventilation and building envelop. .

Hamblin Hall Water Line Location
Hamblin Hall serves as the University's Science Building. A main 10" water line serving the campus runs under the facility and through the adjacent vacant lot. Baker was engaged to locate the line and associated shut-off valve which was inadvertently buried during fill operations circa 1985. Services involved underground line location techniques, the examination of old campus mapping, and coordination with the site survey team that actually located the buried valve.

Storm Drain Assessment and Repair

A study was completed of 72" storm drain system, 42" storm drain system and various combined sewer and storm drains on campus. Camera crews videoed selected pipe sections from the outfalls back to manholes and beyond.

A Deeply buried 72" CMP (Corrugated Metal Pipe) and damaged portions of an existing RCP (Reinforced Concrete Pipe) needed replacement with new RCP, the project was designed and constructed after an extensive study to determine the extents of the damage.

Also a 42" storm drainage system from State Route 25 on the east side of campus that combine at a drop inlet (DI) east of the Hamblin Hall parking area an on to Dubois Street was evaluated for damage. Recommendations and estimates were provided to the university.

An 18" VCP (Vitrified Clay Pipe) main sewer line serving the campus was also evaluated for damage due to the presents of sinkhole forming behind the baseball field. . Old drawings indicate that this pipe extends from Athletics Drive south to a lift station east of the football field and was a "combined sanitary and storm sewer". Recommendations and estimates were provided to the University for the upgrade of this line.

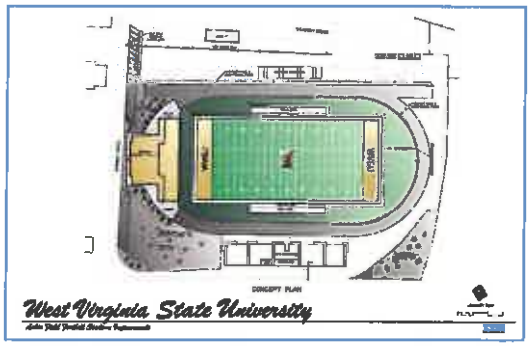
Campus Main Water Loop Assessment and Design

Baker mapped domestic water valves, meters and fire hydrants in and around the main core campus in preparation for new district water piping system design.

A new loop water system for the main campus was designed and included a new secondary service connection from Barron Drive. This will back-feed the main water piping system. The new service mains are being installed in phases to help control costs and minimize disruptions to the campus.

Lakin Field Football Stadium Improvements

WVSU's Lakin Field serves the University's Football Program and is currently in need of upgrades. The field has a natural turf field with an oval track surrounding it, and drainage structures in the area which are aging and need upgrading. The University requested that Baker assist them with planning upgrades to the football field and drainage system. Baker's civil services included a topographical survey of the area including the drainage structures in the football field area. We also prepared an analysis of the conditions and a proposal with costs of upgrading the field to an artificial turf field, addition of an ornamental fence, a new scoreboard with video display, new goal posts, ticket booths, and upgrades to the existing drainage. Baker additionally prepared a preliminary cost analysis of the work for fund raising purposes.



Michael Baker
INTERNATIONAL

We Make a Difference

West Virginia State Capitol Restroom Renovations

Charleston, West Virginia

Client

State of WV General Services Division
Department of Administration
1900 Kanawha Boulevard East
Building 1, Room MB-60
Charleston, WV 25305

Completion Date

Awaiting funding

Michael Baker's Role

- Feasibility studies
- Architecture
- Plumbing engineering
- Mechanical engineering
- Fire Protection Engineering
- Electrical engineering
- Cost estimates

Baker led a team of experts in a planning study for the restoration or renovation of 31 restrooms in the West Virginia Capitol Building. The planning study was intended to assess the facilities and their conformance to current code requirements and code-required capacities, compliance with Americans with Disabilities Act (ADA) requirements, quantification of the building occupancy during normal and peak periods, and an evaluation of gender distribution of restrooms within the capitol. The infrastructure of the plumbing and associated systems were also assessed in the course of the study including; water and sewer, fire protection, ventilation, electrical and structural as it related to the restrooms.

The capitol building was built in three phases between 1925 and 1932, and is on the National Register of Historic Places.

The study and subsequent design addressed the design framework for the renovation of the selected restrooms, provided an overall project cost, and propose a logical sequence of design, construction, and schedule of implementation over three years. The study portion identified and verified physical characteristics, including room layouts; fixture counts; location of all mechanical, electrical, and plumbing (MEP) devices; current level of ADA compliance; and location and condition of vitrolite and carrara glass panels. The study also included an analysis of building population issues, building code issues, and the potential impacts of construction.

The findings and recommendations were presented and accepted, and a complete set of construction documents were developed with for construction sequencing and scheduling. The final plan incorporated the client's comments in the schematic and design development documents.

The project is currently awaiting funding from the State.

APPENDIX 3

REFERENCES

Each of the Project Profiles found in Appendix 2 lists Michael Baker's client and contact information for your use as a reference. Additionally, we offer the following diverse list of past or current clients and contact information:

- **West Virginia State University**
  P.O. Box 1000
  Institute, WV 25112-1000
  Mr. Marvin Smith, Facilities Director
  (304) 550-2839
- **West Virginia University/ WVU Tech**
  410 Neville Street
  Beckley, WV 25801
  Phone: 304-929-0325
  Mr. Robert Moyer, Director of Facilities and Planning
  (304) 550-2839
- **130th Airlift Wing West Virginia Air National Guard**
  1679 Coonskin Drive, Unit 18
  Charleston, WV 25311-5005
  Captain Harry Netzer, P.E., Deputy Base Civil Engineer
  (304) 341-6649
- **West Virginia Army National Guard**
  1707 Coonskin Drive
  Charleston, WV 25311-1099
  Mr. Joe McClung, Project Manager
  (304) 561-6548
- **City of Nitro**
  20th Street
  Nitro, WV 25143
  Honorable David Casebolt, Mayor
  (304) 419-3322
- **City of Winfield**
  1 Main Street
  Winfield, WV 25213
  Honorable Randy Barrett, Mayor
  (304) 586-2122
- **West Virginia Department of Transportation – Division of Highways**
  1900 Kanawha Boulevard East,
  Building 5, Room A 405
  Charleston, WV 25305
  Mr. Elwood Penn, Director of Planning
  (304) 558-9269

Expression of Interest for WVDOT, Division of Public Transit

Submitted to:
State of West Virginia
Centralized Expression of Interest

Solicitation Number: 0805 PTR1800000002

Submitted by:
Michael Baker International, Inc.

Michael Baker INTERNATIONAL | March 20, 2018