

Michael Baker

INTERNATIONAL

rence

February 22, 2019

Stephanie L. Gale, Senior Buyer
Department of Administration Purchasing Division
2019 Washington Street East
Charleston, West Virginia 25305

RECEIVED

2019 FEB 22 PM 1:24

WV PURCHASING
DIVISION

**Subject: Professional A/E Services for the West Virginia Schools for the Deaf and the Blind
EOI – Existing Projects – CE01 0403 DBS1900000002**

Dear Ms. Gale:

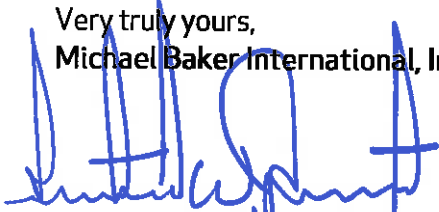
The Charleston, WV office of Michael Baker International, Inc. (Michael Baker) is pleased to respond to a solicitation for Expression of Interest for Architectural and Engineering Services related to Existing Projects at the WV Schools for the Deaf and the Blind in Romney, West Virginia. Michael Baker is interested in this project and for the opportunity to partner with the WV Schools for the Deaf and the Blind.

Michael Baker is well positioned to assemble a comprehensive design team including: Architectural, Structural, Civil, Mechanical, Electrical, Plumbing, and Fire Protection Engineering as well as Educational Facilities Planning 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 Construction Phase.

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

MTAKERINTL.COM

400 Washington Street East, Suite 301 | Charleston, WV 25301

Office: 304.769.0821 | Fax: 304.769.0822



Expression of Interest

ROOFING, CEFR, AND STRUCTURAL PROJECTS
CE01 0403 D851800000002

MANDATORY PROPOSAL SUBMISSION FORMS





Purchasing Division
 2019 Washington Street East
 Post Office Box 58138
 Charleston, WV 25305-0130

State of West Virginia
 Centralized Expression of Interest
 02 — Architect/Engr

Proc Folder: 528243

Doc Description: A&E EOI for Existing Projects at the WV Schools for the Deaf

Proc Type: Central Purchase Order

Date issued	Solicitation Closes	Solicitation No	Version
2019-01-29	2019-02-22 13:30:00	CEOI 0403 DBS1900000002	1

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

Vendor Name, Address and Telephone Number:

Michael Baker International, Inc.
400 Washington Street East, Suite 301
Charleston, West Virginia 25301
304-769-0821

FOR INFORMATION CONTACT THE BUYER

Stephanie L Gale
 (304) 558-8801
 stephanie.l.gale@wv.gov

Signature X

FEIN # 25-1228638

DATE February 22, 2019

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

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.

PATRICK W. FOGARTY, 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)

Russell E. Hall

(Authorized Signature) (Representative Name, Title)

Russell E. Hall, P.E., Vice President

(Printed Name and Title of Authorized Representative)

February 22, 2019

(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 exceeds 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.

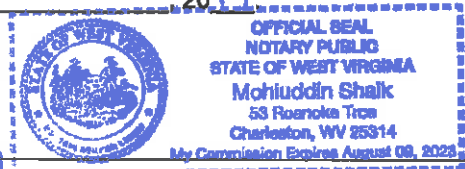
Authorized Signature: [Signature] Date: February 22, 2019

State of West Virginia

County of Kanawha, to-wit:

Taken, subscribed, and sworn to before me this 22 day of February, 2019

My Commission expires AUGUST 9, 2023.



AFFIX SEAL HERE

NOTARY PUBLIC

[Signature]
Purchasing Affidavit (Revised 01/19/2018)

TABLE OF CONTENTS

COVER LETTER

MANDATORY PROPOSAL SUBMISSION FORMS

Project Background	1
Qualification and Experience.....	1
Project Team.....	3
Management	4
Project Specifications	5
Technical Criteria.....	8

APPENDIX 1

Resumes.....	18 Pages
---------------------	-----------------

APPENDIX 2

Project Profiles.....	10 Pages
------------------------------	-----------------

APPENDIX 3

References.....	1 Page
------------------------	---------------

PROJECT BACKGROUND

The West Virginia Schools for the Deaf and the Blind (WVSDB) is seeking a highly qualified architectural/engineering firm to provide design services and bid documents for projects at the School for the Deaf and the Blind, Romney Campus. The firm will be responsible to evaluate the existing conditions at the chosen sites, make recommendation and present cost effective options and then provide Construction Documents for upgrades / renovations to the selected buildings. As specified in the Expression of Interest (EOI), the mission of the project is to provide the necessary engineering and other related professional services for design and construction administration for the following assignments: replacing the existing roofing systems at the Elementary Deaf Multi-Sensory Wing and the Instructional Resource Center; entry repairs at the Administration Building and the Instructional Resource Center; assess and develop a plan to repair or replace the deteriorating brick and potentially sinking foundation at the Administration Building; campus-wide electronic door access upgrades and additions; handicap access and related renovations to include restrooms, fire doors, exterior doors and egress landings and ramps to comply with IBC and ADA requirements; assistance toward the completion of the 2020-2030 Comprehensive Educational Facilities Plan and other related work at the West Virginia Schools for the Deaf and the Blind.

Michael Baker is extremely interested in continuing our successful working relationship with the West Virginia Schools for the Deaf and the Blind!

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 we are extremely interested in continuing our successful working relationship with the West Virginia Schools for the Deaf and the Blind!

QUALIFICATIONS AND EXPERIENCE

Michael Baker's proposed team of experienced professionals has demonstrated the ability to deliver quality work products to our clients, on-time and on budget. Michael Baker can provide the entire depth of architectural and engineering services necessary to complete the project. Each individual on this project team has extensive experience in their field of expertise and have demonstrated success on projects of similar size and scope.

Based upon our understanding of the project scope as stated in the EOI, Michael Baker will execute all A/E Design, Construction Administration and Planning for the project with our current staff.

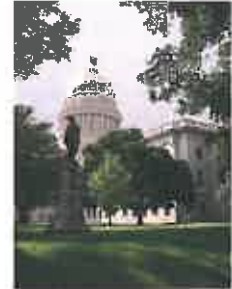
FIRM CAPACITY

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. We have staff members in Morgantown, Martinsburg and Elkins on a regular basis which will allow for quick response for meetings, site visits, and deliveries at your location in Romney as may be required.



Michael Baker's local clients for facility design and renovation projects include, but are not limited to, colleges and universities, K-12 schools, counties, parishes, cities, townships, 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 a wide-ranging scope of service in order to meet our client's needs.

Locally, Michael Baker was retained by WV General Service Division to evaluate and design ADA, and plumbing upgrades for 33 restrooms at the historic West Virginia State Capitol Building, as well as developing a campus-wide Master Planning document for the Capitol Complex. We recently completed the construction administration portion of roof replacement and renovations to buildings at the relocated WVU Tech campus in Beckley West Virginia. The renovations included; new doors, upgraded fire sprinkler systems, upgrades to fire alarm systems, and HVAC renovations and upgrades.



WV State Capitol Master Plan
and Restroom Renovations

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.



VA Medical Center

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 expertise and qualifications to provide the required services for WVSDDB on these important projects. We have local and nationally recognized experts with the technical experience necessary for this assignment. In addition, as you well know, Michael Baker's team has an established record of providing quality services for the WVSDDB on our ongoing assignments.

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

- Nationally recognized expertise in Engineering (Civil, Structural, Mechanical, Fire Protection, Plumbing and Electrical)
- Nationally recognized expertise in Architecture, Assessment, Programing and Planning
- 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.

PROJECT TEAM

The Michael Baker 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 East, Suite 301, Charleston, WV 25301

304-769-0821 | RHall@mbakerintl.com

Management and Staffing

The project team will be staffed mainly out of the Charleston West Virginia office, with other professionals working from other offices on an as need basis. Patrick Fogarty will directly manage and coordinate efforts of the design team, overseeing design quality, budget and schedule. The selected Project Manager and primary client contact for this Project will be David Hilliard. He will also lead the Mechanical/Electrical/Plumbing portion of the design team, with Joseph Chaffin as the Architect of Record. They will be coordinating extensively between the architectural and mechanical designers to provide the most efficient and practical solutions for the affected buildings. Most of these professionals have worked together on numerous projects and bring a high degree of competency, understanding and experience for schedule and budget challenges such as those presented in this EOI.

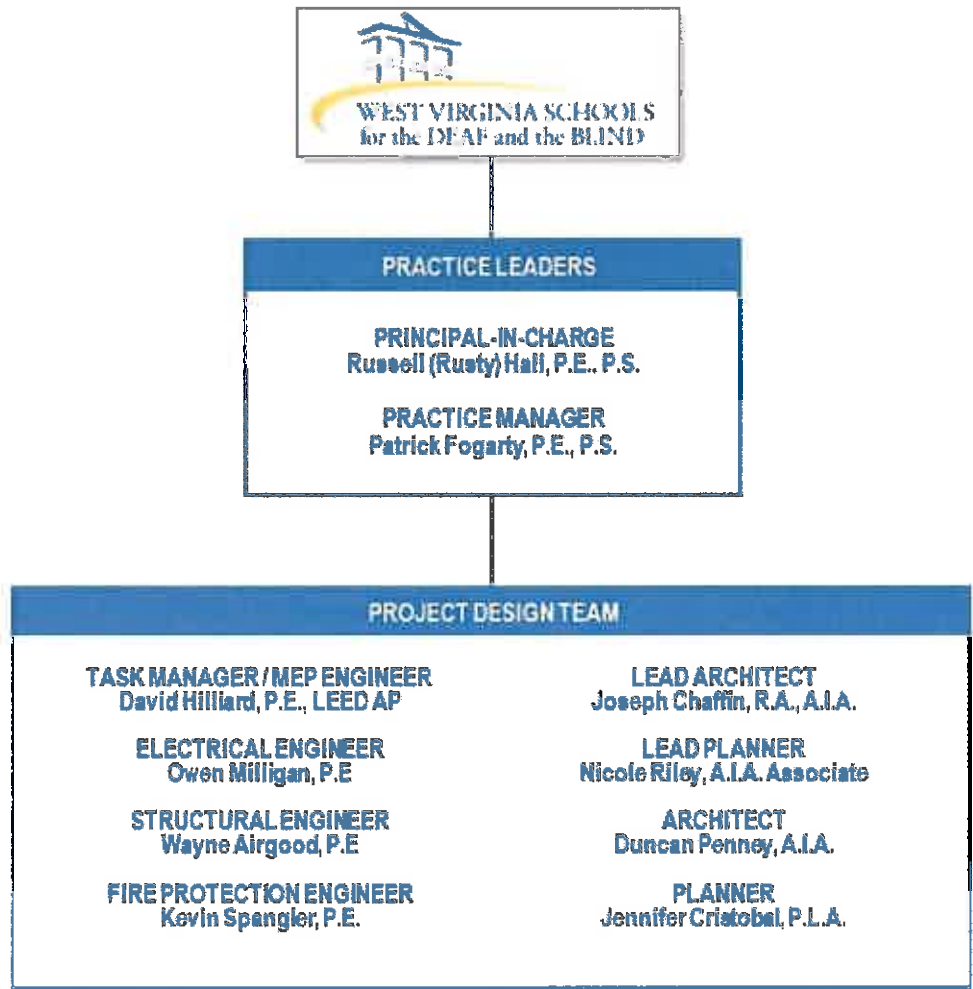
Persons Assigned to the Project *(Resumes Provided In Appendix 1)*

NAME	ROLE
PATRICK FOGARTY, P.E., PS, LEED GA	Project Manager / Civil Engineer
DAVID HILLIARD, P.E., LEED AP BD+C	Task Manager / Mechanical Engineer
OWEN MILLIGAN, P.E.	Electrical Engineer
KEVIN SPANGLER, P.E.	Fire Protection Engineer
JOSEPH CHAFFIN, AIA	Lead Architect
DUNCAN PENNEY, AIA, LEED AP	Architect
WAYNE AIRGOOD, P.E.	Structural Engineer
NICOLE RILEY	Lead Planner (CEFP)

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



See Resumes for more details on team members in **Appendix 1**.



PROJECT SPECIFICATIONS

Project and Goals

GOAL/OBJECTIVE 1:

Provide a complete design including all engineering and architectural disciplines to prepare construction bid documents for West Virginia State Purchasing

Michael Baker provides a variety of services with extensive experience in many fields of expertise. This allows the core team members access to expertise in all areas of study. Our Engineers and Architects will be involved in all aspects of the existing condition assessment and project design. Depending on the task this may include: Civil, Architectural, Mechanical, Electrical, Plumbing, and Fire Protection Engineering, Interior Design/Space Planning. In addition, Michael Baker will provide Structural Engineering to review existing conditions and design any upgrades to the structure at the existing facilities as well as any new components.



Administration Building

As-needed Client design coordination meetings and/or site visits will be conducted as a normal part of the design development process. This will help to ensure that WVSDDB and the WV Department of Administration Purchasing Division (Purchasing Division) is receiving exactly the documentation for facility upgrades that is needed for procurement while providing for a quality experience for the students and staff.

Through the years, Michael Baker has provided bid documents for the Purchasing Division on numerous projects for a variety of Clients across West Virginia. We are very familiar with the requirements for this agency and have recently submitted bid documents on behalf of the WVSDDB.

GOAL/OBJECTIVE 2:

Review existing plans and conditions as well as the operation of the schools and evaluate, while communicating effectively with the agency, to determine a plan that can be implemented in a manner that will minimize disruption to concurrent operation of the facility and meet all objectives

The approach of the entire project will be holistic in nature. Michael Baker will conduct an initial kick-off meeting in order to help us understand the WVSDDB project requirements for each task assigned. This will include the current and upcoming school calendar and any additional scheduled use of the pertinent facilities. The first step will be to prioritize work and develop time schedules for the project tasks. This process will include identification of existing conditions through information obtained by a review of the facilities as-built drawings and site investigations. Michael Baker will plan for site visits during the first weeks of the project and begin developing the concepts required to provide the designs for the most cost-effective systems to achieve the project requirements while minimizing disruption to the operations.

GOAL/OBJECTIVE 3:

Provide all necessary services to design the facilities described in this EOI in a manner that is consistent with West Virginia Schools for the Deaf and the Blind's needs, objectives, current law, and current code; while following the plan to design and execute the project within the project budget.

Michael Baker will provide the necessary design and bidding documents for all aspects of the design in accordance with the WVSDDB Requirements and Guidelines. Specifications for the installation of all required products or components will be provided in CSI format as part of the bid package. Drawings and documentation will be provided based on as-built drawings, site investigations and selected field measurements.



WVU-Tech Classroom Roof

Based on the gathered information, Michael Baker will develop schematic design concepts for review and approval by WVSDDB. A general code review will also be undertaken to determine the Federal/State/Local Codes that affect concept selection. The projects will be studied in a systematic way to analyze the existing conditions, WVSDDB needs, affected system demands, budget and construction time frame. Only then will the appropriate solutions be determined in order to meet all of those requirements. Analyzing multiple solutions will provide the WVSDDB the ability to choose the most cost-effective approach for the project.

GOAL/OBJECTIVE 4:

Provide construction contract administration services with competent professionals that ensures the project is constructed and functions as designed.

Construction Management/Construction Inspection (CM/CI) are part of Michael Baker's holistic project services. The team members responsible for the project design will be the same professionals providing the regular site visits and inspections during construction. Should Resident Inspection be required, Michael Baker can provide full-time competent construction inspection personnel experienced in the given type of installation. All products intended to be installed on the project shall be submitted to and approved by Michael Baker. The shop drawings provided by the awarded contractor will be reviewed by Michael Baker to ensure that they meet all code requirements, specification criteria and are appropriate for the project. Product approvals will be based on meeting those requirements.

After the system installations are complete, Michael Baker will perform a Substantial Completion Inspection and develop a corrective measure punch list. Once corrective measures have been addressed, a Final Inspection will be conducted with all parties present. Regulatory agency coordination is required at this point to assure prompt award of the Certificates of Occupancy for the facility as required.

GOAL/OBJECTIVE 5:

Submit drawings, specifications and revised cost estimates at 35%, 65%, 95% and 100% completion milestones.

Milestone review submissions (35%, 65%, 95% and 100%) will be made to the WVSDDB as determined in the project schedule developed at the beginning of the project. When required, a project phasing plan may be provided with the construction documents. Also included will be plans showing 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 as needed. Construction Cost Estimates will be updated upon the completion of each of the review submissions and at the 100% Construction Documents plans and specifications. Michael Baker will provide the final sealed drawings and specifications for the entire project whether multiple packages are separate or provided as one.

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

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

GOAL/OBJECTIVE 6:**Provide bidding phase services to the Owner.**

Michael Baker will provide Bidding support and assistance as needed. Bidding support services may include; attendance at the Pre-Bid Conference, development of responses to technical questions during the bidding process which will be forwarded to the Purchasing Divison for inclusion in forthcoming addenda, attendance at the Bid Opening, and an independent review of bids received. Michael Baker has recently provided these services to the WVSDb on current projects.

GOAL/OBJECTIVE 7:**Prepare Comprehensive Educational Facilities Plan.**

Michael Baker will work cooperatively with the West Virginia School Building Authority (SBA), WVSDb and the Hampshire County Board of Education to develop a timeline for completion and to execute the preparation of the digital Comprehensive Educational Facilities Plan. Michael Baker will adhere to the general requirements related to data collection and entry into the digital template database. We will also attend the Planning Seminar hosted by the SBA prior to initiating the planning process and submit progress reports to the SBA as required.



School for the Deaf - Roof



Roof Top Curb



TECHNICAL CRITERIA

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. Our West Virginia office brings 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 local staff, as most of our team members are residents of WV and desire to see our State and its educational facilities develop and grow.



WVU-Tech Benedum Building

VALUE ENGINEERING

Michael Baker is very familiar with the value engineering process and can work productively with a selected contractor to provide the WVSDDB with cost saving alternatives; if the bids come in over budget. The use of additive or deductive alternates can also be used to control project cost. Also, to control cost, as stated in the Michael Baker Way, auxiliary 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 specification, and the current project cost opinion. These considerations, along with open discussion with WVSDDB staff, will determine whether we move forward with the current design or make engineered 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 EXPERIENCE IN COMPLETING PROJECTS OF A SIMILAR SIZE AND SCOPE

Project Profiles are included in Appendix 2. They were selected as a representative group with similar budgets and with related project components. These include two out of state relevant projects within the last five years and an open ended 10 year contract with West Virginia State University, now in its' fifth year.

Additional References are provided in Appendix 3.



Expression of Interest

ROOFING, CEFR, AND STRUCTURAL PROJECTS

CECI 0403 DBS1800000002

APPENDIX 1 – RESUMES



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

Lead Design Architect

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 oversight 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.

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

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.

David J. Hilliard, P.E., LEED® AP

Mechanical/Electrical/Plumbing Engineer

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

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.

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

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.

Patrick W. Fogarty, P.E., P.S.,

LEED®GA

Civil Engineer , Facilities Practice Manager

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

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. Baker is leading a planning study for the renovation of 31 restrooms in the historic West Virginia Capitol Building. The planning study will 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

Years with Michael Baker: 13

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 - Civil/Structural, West Virginia, 1990

Professional Surveyor, West Virginia, 1993

Construction Documents Technologist, 1996

LEED Green Associate, 2011

normal and peak periods, and an evaluation of gender distribution of restrooms within the capitol. Baker will provide design, construction sequence, and scheduling recommendations. Upon approval of the design, Baker will prepare construction documents and provide construction administration services for the renovation of three restrooms on the basement level.

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

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 Manager. Responsible for the management and coordination of all 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 Baker for a lump sum/fixed fee contract for architectural and engineering services. 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 Baker for the planning and design of the rehabilitation of a historic train depot adjacent to the Harrison County Rail Trail. 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.

Little Kanawha Bus Facility, Calhoun County, West Virginia. *WV Division Of Public Transit.* Project Manager. Responsible for the civil, site and structural engineering components of the project. Baker is providing 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 will include offices, a conference room, a money-counting room, and a driver-training room, and the 4,800-square-foot bus maintenance area will include storage for seven buses. The facility will be ADA-compliant and is being designed to achieve LEED® certification. Services include site survey and design, geotechnical testing, environmental compliance, utility coordination, bid documents, bid-phase support, and as-built drawings.

Nicole Riley

Associate Architect / Project Planner

General Qualifications

Ms. Riley brings more than 18 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 projects 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. Additionally, she has extensive experience in the preparation of Comprehensive Educational Facility Plan process.

Experience

Comprehensive Educational Facility Plans (CEFP), Various Counties, West Virginia.*

Project Manager/Planner. Responsible for the preparation of numerous CEFPs in accordance with the requirements of the WV School Building Authority. Recent 5 and 10-year plans, approved by the State Board of Education, were prepared for the following County School Boards:

- Boone
- McDowell
- Ohio
- Tucker
- Wood

School Safety Audits, Various Counties, West Virginia.*

Project Manager/Planner. Responsible for the preparation of numerous Safety Audits in accordance with the requirements of the WV School Building Authority. The purpose of the Safety Audits was to verify each facility's structural integrity, mechanical and electrical systems, plumbing, utility drop locations, exterior door and window locations, parking accommodations, and approach conditions. Recent Safety Audits were prepared for the following County School Boards:

- Boone
- Lincoln
- McDowell
- Monongalia
- Ohio
- Tucker
- Wirt
- Wood

Years with Baker: 3

Years with Other Firms: 16

Education

Bachelor of Architecture, Virginia Tech

Licenses/Certifications

Associate AIA

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.

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.

Duncan M. Penney, AIA, LEED AP, DBIA

Senior Architect

General Qualifications

Mr. Penney's exceptional technical, analytical, and architectural skills reflect many years of experience in architectural design and project management. His achievements include delivering multi-million dollar projects on time and within construction budget. Mr. Penney has performed project design, project management, design charrettes, feasibility studies, construction administration, and specification writing. A Certified Construction Specifier (CCS), he is skilled in producing construction documents. Mr. Penney is also a U.S. Green Building Council, LEED® Accredited Professional, with experience on dozens of Silver LEED®-certified U.S. Army Reserve and Army National Guard Readiness Centers. He is a skilled team facilitator and design charrette leader, and is adept in providing cross-functional team leadership. He maintains close liaison with clients.

Mr. Penney has an expressed interest in life safety issues. He is a Past Board Member and Past President of the International Code Council, Pennsylvania Chapter (formerly known as W. PA Professional Chapter of B.O.C.A./International Code Council) and has served as a panelist and co-presenter for a Tri-AIA Regional Conference.

Mr. Penney's computer software experience includes: Microsoft Word, and other spreadsheet, database, and word-processing applications; Revit 2018; AutoCAD 12 and 14; Microsoft Project; Microsoft Excel; Micro-Station; Specsintact; and Adobe Photo Editor.

CBP ATC Master Plan, Harpers Ferry, West Virginia. U.S. Army Corps of Engineers, Fort Worth District. Senior Architect. Responsibilities included the field and document review of 12 buildings for ADA / ABA conformance. Overall findings were included in a Master Plan report for the Government. Michael Baker developed a Vision Plan, Area Development Plan (ADP), Area Development Execution Plan (ADEP), Sustainable Component Plans (SCP), two Customer Concept Documents (CCD), Architectural Barriers Act (ABA)/American Disability Act (ADA) Survey, and Master Planning Digest for the U.S. Customs and Border Protection (CBP) Advanced Training Center (ATC). Michael Baker conducted six different charrettes over the course of two years and met with numerous tenant organizations. The goal of the master planning products was to provide a clear future development strategy and guide the real property direction for the next 20 years.

Woods Run Complex Building 3 Restroom Renovations, Pittsburgh, Pennsylvania. Duquesne Light Company. Senior Architect. Responsibilities included assisting with construction administration by the review and processing of contractor submitted shop drawings. Michael Baker provided architectural and engineering design

Years with Michael Baker: 15

Years with Other Firms: 23

Degrees

B Arch, 1979, Architecture,
Carnegie Mellon University

A.D., 1975, Fine Arts, Cape Cod
Community College

Licenses/Certifications

Construction Documents
Technologist, 2002

LEED Accredited Professional,
2003

NCARB, Pennsylvania, 1990, [REDACTED]

Certified Construction Specifier,
2001

Certified Construction Contract
Administrator, 2004

NCI Charrette System Certificate,
2005

Design-Build Professional, 2010,
[REDACTED]

Registered Architect,
Pennsylvania, 1986 [REDACTED]

services for the renovation of restrooms on the first and second floors, a two-story infill addition with a restroom and storage area, and the replacement of the roof of Building Three of the Woods Run Complex. Michael Baker's services included the preparation of final design documents, bidding-phase support, and construction management.

Indefinite Delivery-Indefinite Quantity Contract for Architectural and General Engineering Services, Tobyhanna Army Depot and, North-Atlantic, Division Locations. *Tobyhanna Army Depot.* QA/QC. Responsibilities included serving as a technical advisor and reviewer for a detailed interdisciplinary technical review of the construction documents. Facilitated QC review process utilizing discipline review checklists, scope checklists, and coordination of drawings. Michael Baker is providing planning, architecture, and general engineering services under a three-year indefinite delivery-indefinite quantity contract for projects at DOD installations within the North Atlantic Division. Representative projects include additions and renovations to the Rotary-Wing Maintenance Hangar at Fort Drum's Wheeler-Sack Army Airfield; Maneuver Enhancement Brigade facilities at Fort Drum, New York (barracks, Brigade Headquarters, Battalion Headquarters with classrooms, a five-Unit Company Operations Facility, and a Tactical Equipment Maintenance Facility); the Fort Drum North Post Space Study; and renovations to a number of buildings and amenities at Tobyhanna Army Depot, such as the Building 12 Defense Logistics Agency Headquarters renovation, Building 1-C roof replacement, family housing unit renovations, an elevator installation, and on-call HVAC engineering support services.

U.S. Armed Forces Reserve Center, Rutland, Vermont. *U.S. Army Corps of Engineers, Louisville District.* Senior Architect. Served as an advisor to the A/E design team for planning and implementing a design charrette with the stakeholders. Michael 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.

Architectural and Engineering Design Services for the Army Reserve 1222nd Engineer Company Readiness Center, Mechanicsburg, Pennsylvania. *U.S. Army Corps of Engineers, Louisville District.* QA/QC. Served as a technical advisor and reviewer for a detailed interdisciplinary technical review of the documents. Facilitated QC review process utilizing discipline review checklists, RFP scope checklists, and coordination of drawings. Michael Baker is providing architectural and engineering services for a 100-member, 26,855-square-foot U.S. Army Reserve Center. The new 23.8-acre site includes two structures: readiness training center, and organizational maintenance shop with an integral unheated storage area. Michael Baker is providing sustainable design and development and Energy Policy Act of 2005 features to meet the Silver LEED® level. Designed to maximize energy efficiency, the readiness center exceeds current energy standards by as much as 30 percent. Featuring water-efficient landscaping that maximizes open space, this structure is designed to reduce its ecological footprint. In addition, many recycled, low-emitting materials and finishes help keep the interior healthy for occupants and the planet.

Owen Milligan, P.E.

Electrical Engineering Manager

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.

Years with Michael Baker: 8

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, West
Virginia, 2005

Professional Engineer, Oklahoma,
2008

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.

Wayne Airgood, P.E.

Structural Engineer

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.

Years with Michael Baker: 9

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, [REDACTED]

Professional Engineer, North Carolina, 2014, [REDACTED]

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.

Kevin Spangler, P.E.

Fire Protection Engineering Manager

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.

Years with Michael Baker: 9

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]

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.

Jennifer Cristobal, PLA, AICP

Master Planner

General Qualifications

Ms. Cristobal is a community planner and landscape architect with thirteen years of varied experience in community development, urban design, and park planning. Her experience in the Pittsburgh region has exposed her to trail planning along abandoned railroad corridors, riverfront development projects, as well as adaptive reuse and planning in communities where populations are continuing to contract. As both a planner and a designer, she excels at identifying policy, programming, and design solutions.

Experience

West Point Military Academy Master Planning. *U.S. Army Corps of Engineers. Senior Planner.* Acted as a senior planner for multiple master planning efforts at West Point. Participated in the creation of a Vision Plan and Planning Standards that divides the campus into districts and provides general planning guidance. Worked on 3 Area Development Plans, which include a weeklong stakeholder-drive workshop, illustrative master plan showing phased projects and cost estimates, and a report documenting the process and results. Currently working with the Academy to schedule a fourth Area Development Plan.

Advanced Training Center. *US Customs and Border Protection. Planner.* Provided master planning concepts and plans. This training/classroom campus is designed to meet the training needs of career CBP Officers, Border Patrol Agents, and Air and Marine law enforcement personnel within Operational Security (OPSEC) parameters. The campus is currently overutilized for the current trainings and conducts numerous trainings at various locations across the country due to lack of space. Michael Baker developed Master Planning products to help address overcrowding and address ongoing facility needs.

Flag Officer Quarters Bahrain. *US Army Corps of Engineers. Landscape Architect.* Provided landscape architecture/landscape design for Officers Quarters at the installation.

Landscape Design & LEED Silver. *Basic Systems, Inc. Landscape Architect.* Provided landscape architecture design for small office campus site in compliance with LEED Silver requirements.

Bloomfield Streetscape Project. *Bloomfield Development Corporation. Pro Bono Landscape Architect.* As a pro bono effort, provided planning assistance and landscape architecture services for a streetscape project. Coordinated the installation of demonstration streetscape improvements like benches, planters, and trash cans. Due to the demographics of the community, produced a visual survey for resident feedback that was designed for users with low literacy and vision issues. The survey was widely distributed and resulted in significant response rates and community engagement.

Years with Michael Baker: 4

Years with Other Firms: 9

Degrees

M.L.A., 2009, Landscape Architecture, Chatham University

B.A., 2004, Urban Studies/Planning, University of Pittsburgh

Licenses/Certifications

Landscape Architect, Pennsylvania, 2015

American Institute of Certified Planners, USA and Canada, 2016,

Mon-Oakland Mobility Plan, Pittsburgh, Pennsylvania. *City of Pittsburgh, Pennsylvania. Planner.* Provided technical planning and community engagement for a stakeholder-driven process for a multi-modal transportation plan. Michael Baker created the Mon-Oakland Mobility Plan with Pittsburgh's Department of Mobility Infrastructure and the Urban Redevelopment Authority. Michael Baker developed an alternative mobility concept that would provide new transit connections for the residents of Hazelwood, Greenfield, and Four Mile Run. Seeking to build community consensus, Michael Baker created a methodology of extensive public consultation and engagement and evaluated five possible alternatives, and through geotechnical, planning, and engineering expertise, proved each alternative's merits, including cost, time of construction, and disruptions to the neighborhoods. Additionally, Michael Baker conducted several site visits to help create the best route for this system. The Mon-Oakland Mobility Plan quantified demand and connectivity access between neighborhoods and Oakland; explored routes and technologies to meet demand; recommended mobility facilities for design that can coincide with the Four Mile Run Green Infrastructure Project; and identified the associated provisions and policies to make a new connection work. The Mon-Oakland Mobility Plan is expected to be implemented by 2021.

Area Development Master Plans. *US Army Corps of Engineers. Planner.* Responsibilities included QA/QC for graphics, reports, and illustrative master plans related to Area Development Plans and other planning documents for US Army installations nationwide. This project supports the holistic Installation Management Command (IMCOM) Master Planning program which focuses on working with diverse installations and regional organizations to build a collaborative planning outreach to engage stakeholders. This results in empowering stakeholders to build consensus and prepare a Real Property Vision Statement, Installation Planning Standards, a set of planning strategies, a development plan strategy, and regulatory planning guidance as part of an Area Development Plan. The project involved Facility Occupancy Verification Surveys (FOVS), Planning Charrettes, and Planning Products at six large IMCOM installations.

Ross Township Bicycle and Pedestrian Plan. *Ross Township, Pennsylvania. Planner.* Provided planning and design on the bicycle/pedestrian plan for Ross Township including overall recommendations, mapping, and report production.

Portage Lakes Water Trail, Summit County, Ohio. *Ohio and Erie Canalway Coalition. Landscape Architect.* Completed designs for non-motorized boat ramps and trails at three overland connections for the Portage Lakes Water Trail. Designs included natural and manmade shorelines, connections with existing communities, additional pedestrian/boater amenities, signage, and landscaping. Completed research for and recommendations related to overall objectives and design guidelines for the creation of land trails. Completed report production including text, graphics, and mapping. Michael Baker performed a feasibility study for connecting the Ohio and Erie Canal with Long Lake and the Portage Lakes for nonmotorized and motorized boating. The water trail would provide residents and visitors the opportunity to travel between Portage Lakes and downtown Akron. Michael Baker's services included cost estimates, project phase development, and examination of the various elevation changes between the Ohio and Erie Canal and Portage Lakes.



APPENDIX 2 – PROJECT PROFILES



WVU Institute of Technology, Classroom Building *Beckley, West Virginia*

Michael 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.

Client

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

Completion Date

July 2017

Michael Baker's Role

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



Good News Mountaineer Garage Administrative and Maintenance Facility

Charleston, WV

Michael 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 Michael 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. Michael 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. Jennifer Thacker,
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



WVARNG Charleston Armory HVAC & Architectural Renovations

Charleston, West Virginia

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.

Michael 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.

Client

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

Lt. Michael J. Beckner
304-561-6333

Contract Completion Date

2013

Baker's Role

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



WVU Institute of Technology, Benedum Building

Beckley, West Virginia

Michael 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.

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.

Client

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

Completion Date

July, 2017

Michael Baker's Role

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



Open-End Architectural/Engineering Services West Virginia State University, Institute, West Virginia

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. 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

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 further investigation 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 and 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.

West Virginia State Capitol Complex Master Plan

Charleston, West Virginia

The West Virginia Capitol Complex was created following the vision of Cass Gilbert, one of America's most significant architect of the first half or the 20th century. The Campus Plan and the Capitol Building represent his most mature work, as they were conceived and executed towards the end of his career and life.

Following his death in 1934, his son, Cass Gilbert Jr., continued his father's vision. Later additions and changes to the campus have shaped the site in different directions since the initial plan. A series of campus wide plans and recent additions and changes of the campus have attempted to address current needs on a piecemeal basis. Today, the State of West Virginia is facing a series of pressing needs and a new reality in a post 9-11 world, and is seeking to:

- Address the needs of the government and its important campus in a comprehensive and holistic manner
- Capture the essence of Cass Gilbert's original vision and design
- Create a framework for addressing future needs, and
- Recommend specific project that can begin to implement the recommendations of the plan.

Client

State of West Virginia
Department of Administration
General Services Division
Building 1, Room MB60
1900 Kanawha Boulevard, East
Charleston, West Virginia 25305

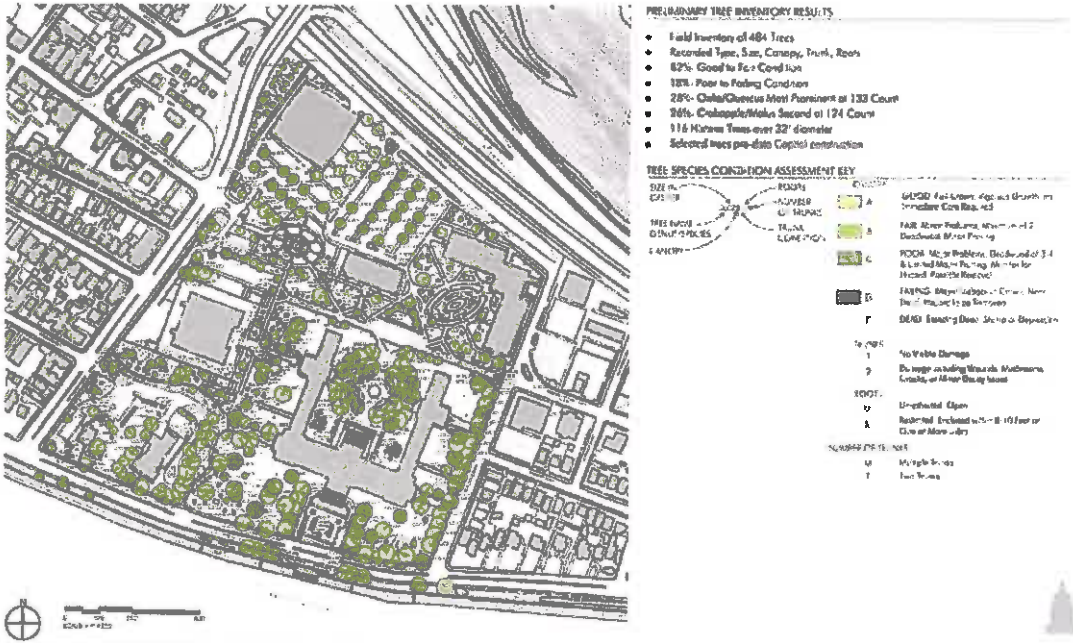
Mr. Michael Q. Evans
304-957-7145

Contract Completion Date

2013

Baker's Role

- Master Planning
- Architecture
- Engineering
- Cost Estimating



Baker-FITZ-Heritage Landscapes TREE INVENTORY West Virginia State Capitol Campus Master Plan February 2008



The 2013 State Capital Complex Master Plan was prepared in a collaborative manner, engaging a wide range of government leaders, stakeholders, users and other entities. Items addressed in the Master Plan include:

- General Campus Planning
- Programming Planning
- Historic Research
- Pedestrian Flow & Accessibility
- Parking
- Security
- Utilities and Infrastructure
- Hazardous Materials
- Future Growth



Community College of Beaver County Facilities Master Plan *Monaca, Pennsylvania*

In 2011, Michael Baker prepared an updated Facilities Master Plan for CCBC. The plan included an existing conditions review, space requirement determination, facility and infrastructure analysis, and the development of a capital improvements program.

Michael Baker conducted and analyzed data from the existing conditions inventory and reviewed documents and information, including the college's 2005 Facility Master Plan, 2002 facilities evaluation, and student and faculty population. Michael Baker provided recommendations for any new construction, continued maintenance, and reallocation of space to maximize efficient building use, based on criteria including space needs, adjacency requirements, and facility condition. The analysis has generated a program to address campus facility needs, and address any current or forecasted space gaps and maintenance requirements. Michael Baker updated the facility master plan to describe current conditions, space requirements and analysis, and projects that could be developed to implement the plan.

Michael Baker is also provided construction management services for a new maintenance facility and renovations to eight of the other buildings at the main campus. Baker performed pre-construction tasks and construction management services for a new maintenance building and renovations to numerous facilities at the College's Center Township campus. The multiphase, fast-tracked project included the design of additions or alterations to nine of 10 existing facilities, totaling more than 300,000 square feet. The scope of work included the updating of mechanical systems and exterior facades for campus administration buildings, classroom facilities, and technology and medical training centers. The 10 buildings were converted from electric HVAC systems to gas, which required a campus-wide distribution system. The improvements resulted in a campus with state-of-the-art audio and video systems, a renovated sports facility, and all new telephone and data technology.

Client

Community College
of Beaver County
1 Campus Drive
Monaca, Pennsylvania 15061

Mr. Stephen R. Danik
724-775-8561

Contract Completion Date

2011

Baker's Role

- Master Planning
- Architecture
- Engineering
- Cost Estimating
- Construction Management



Advanced Training Center Facilities Master Plan

Harpers Ferry, West Virginia

This training/classroom campus is designed to meet the training needs of career CBP Officers, Border Patrol Agents, and Air and Marine law enforcement personnel within Operational Security (OPSEC) parameters. The campus is currently overutilized for the current trainings and conducts numerous trainings at various locations across the country due to lack of space. Michael Baker developed Master Planning products to help address overcrowding and address ongoing facility needs.

Michael Baker conducted seven workshops over the course of the project and met with numerous users of the campus. The goal of the master plan was to provide a clear future development strategy and guide the campus direction for the next 20 years. During this time, participants analyzed the existing conditions, formed a campus Vision, identified program requirements, and developed a plan that provides flexibility and long-range capacity. As part of the Long-Range Component, detailed plans were developed that included the following components:

- Analysis of Vision, Goals, and Objectives for Property
- Analysis of Existing Utilities and Transportation Infrastructure Conditions
- Analysis of Planning Standards
- Development and Evaluation of Alternatives
- Fully Developed Preferred Alternative
- Preparation of the Zoning Plan / Form Based Code
- Illustrative Master Plan

Through the development of the Sustainable Component Plan, Michael Baker was able to work with ATC to establish goals that aid in achieving sustainable practices and working towards Net Zero. The goals were derived from models and research that assessed the current conditions at ATC and distilled the best strategies that can support the missions and operations. This assessment also included the various utilities throughout ATC. The SCP workshops ATC participants established specific goals aimed towards achieving levels of reduction that satisfy the standards set by Federal mandates and optimized Installation missions and operations.

The American Planning Association's Federal Planning Division selected the CBP ATC Master Plan for a Citation Award at the 2018 National Convention for Outstanding Federal Planning Project. This award exemplifies our ability to achieve industry recognition and adaptation of the planning process for specific campus applications.

Client

Customs and Border Protection
US Customs Border Protection Dr
Harpers Ferry, West Virginia 25425

Dariusz ZaGara,
Assistant Director
Enterprise Management
304-535-5394

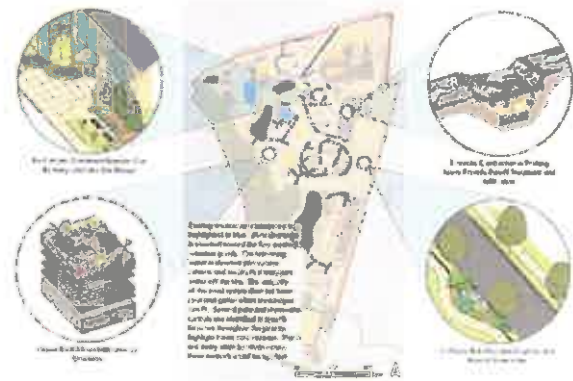
Contract Completion Date

2018

Baker's Role

- Master Planning

"I wanted to let you both know that the ATC truly appreciates your handling of this process and the work of your Team members. You have an outstanding collection of individuals with a great passion for the work that they do. We appreciate each and every member." - Dariusz A. ZaGara, Assistant Director, ATC/OTD/CBP





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 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
- **West Virginia State University**
P.O. Box 1000
Institute, WV 25112-1000
Mr. Dayton Wilson, Facilities Director
(304) 550-2839
- **City of Nitro** since 2009
20th Street
Nitro, WV 25143
Honorable David Casebolt, Mayor
(304) 419-3322
- **City of Dunbar**
210 12th Street
Dunbar, WV 25064
Honorable William E. Cunningham, Mayor
(304) 766-0220
- **West Virginia Department of Transportation – Division of Highways**
1900 Kanawha Boulevard East,
Building 5, Room A 405
Charleston, WV 25305
Mr. C Elwood Penn, N, PE, Director of Planning
(304) 558-9269

