Michael Baker
INTERNATIONAL

*We Make a Difference*

April 19, 2019

Linda B. Harper, Buyer Supervisor
Department of Administration
Purchasing Division
2019 Washington Street E.
Charleston, West Virginia 25305

**Subject: Professional A/E Services for the General Services Division**
**Building 22 HVAC Renovations Project – CEOI 0211 GSD1900000006**

Dear Ms. Harper:

The Charleston, WV office of Michael Baker International, Inc. (Michael Baker) is pleased to respond to a solicitation for the Expression of Interest for Engineering and Architectural Services related to the proposed HVAC renovations to Building Twenty-Two in Charleston, West Virginia. Michael Baker is interested in the mission of your agency and would like to engage with the General Services Division as a trusted facilities consultant. We believe that our team of professionals is uniquely qualified to partner with the General Services Division on this important project and help bring their vision for the Building Twenty-Two HVAC renovation into reality.

Michael Baker is well positioned to assemble a comprehensive design team (in-house) including: Architectural, Interior Design, Mechanical, Electrical, Plumbing, Structural and Fire Protection Engineering, as well as IT and Communications 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 interviewing with the selection committee 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

# TABLE OF CONTENTS

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

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

**Proc Folder:** 558293

**Doc Description:** Building 22 HVAC Renovations Design Project

**Proc Type:** Central Contract - Fixed Amt

| Date Issued | Solicitation Closes | Solicitation No | Version |
|---|---|---|---|
| 2019-03-25 | 2019-04-19 13:30:00 | CEOI 0211 GSD1900000006 | 1 |

**BID RECEIVING LOCATION**

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

**VENDOR**

**Vendor Name, Address and Telephone Number:**

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

**FOR INFORMATION CONTACT THE BUYER**

Linda B Harper
(304) 558-0468
linda.b.harper@wv.gov

Signature X

FEIN # 25-1228638

DATE April 19, 2019

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

## ADDITIONAL INFORMATION:

Expression of Interest

The West Virginia Purchasing Division for the agency, The West Virginia General Services Division, is soliciting CEOI responses from qualified firms to provide architectural/engineering services for Building 22 HVAC Renovations Project located at 1001 Lee Street, Charleston, WV 25301, per the attached documentation.

| INVOICE TO | SHIP TO |
|---|---|
| DEPARTMENT OF ADMINISTRATION<br>GENERAL SERVICES DIVISION<br>112 CALIFORNIA AVENUE, 5TH FLOOR<br>CHARLESTON WV25305<br>US | DEPARTMENT OF ADMINISTRATION<br>GENERAL SERVICES DIVISION BLDG 22 - TAX AND REVENUE<br>1001 LEE ST<br>CHARLESTON WV 25301<br>US |

| Line | Comm Ln Desc | Qty | Unit Issue |
|---|---|---|---|
| 1 | Building 22 HVAC Renovations Design Project | | |

| Comm Code | Manufacturer | Specification | Model # |
|---|---|---|---|
| 81100000 | | | |

**Extended Description :**

Building 22 HVAC Renovations Design Project - Online Responses Prohibited.

## SCHEDULE OF EVENTS

| Line | Event | Event Date |
|---|---|---|
| 1 | Question Deadline 3:00 PM | 2019-04-08 |

## ADDITIONAL TERMS AND CONDITIONS

See attached document(s) for additional Terms and Conditions

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

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

**Proc Folder:** 558293

**Doc Description:** Addendum 1 - Building 22 HVAC Renovations Design Project

**Proc Type:** Central Contract - Fixed Amt

| Date Issued | Solicitation Closes | Solicitation No | Version |
|---|---|---|---|
| 2019-04-04 | 2019-04-19 13:30:00 | CEOI 0211 GSD1900000006 | 2 |

**BID RECEIVING LOCATION**

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

**VENDOR**

**Vendor Name, Address and Telephone Number:**

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

**FOR INFORMATION CONTACT THE BUYER**

Linda B Harper
(304) 558-0468
linda.b.harper@wv.gov

Signature X

FEIN # **25-1228638**

DATE **April 19, 2019**

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

**ADDITIONAL INFORMATION:**

Addendum 1 issued to publish and distribute the attached documentation to the vendor community.

1. To revise the specifications (attached) to now include an additional project goal of designing limited interior renovations within the building in addition to the HVAC Renovations.

. To revise the Technical Questions deadline from 4/8/19 by 3:00pm to 4/10/19 by 3:00pm.

No other changes.

| INVOICE TO | SHIP TO |
|---|---|
| DEPARTMENT OF ADMINISTRATION<br>GENERAL SERVICES DIVISION<br>112 CALIFORNIA AVENUE, 5TH FLOOR<br>CHARLESTON WV25305<br>US | DEPARTMENT OF ADMINISTRATION<br>GENERAL SERVICES DIVISION BLDG 22 - TAX AND REVENUE<br>1001 LEE ST<br>CHARLESTON WV 25301<br>US |

| Line | Comm Ln Desc | Qty | Unit Issue |
|---|---|---|---|
| 1 | Building 22 HVAC Renovations Design Project | | |

| Comm Code | Manufacturer | Specification | Model # |
|---|---|---|---|
| 81100000 | | | |

**Extended Description :**

Building 22 HVAC Renovations Design Project - Online Responses Prohibited.

**SCHEDULE OF EVENTS**

| Line | Event | Event Date |
|---|---|---|
| 1 | Question Deadline 3:00 PM | 2019-04-10 |

# SOLICITATION NUMBER: CEOI 0211 GSD1900000006
# Addendum Number: 1

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

**Applicable Addendum Category:**

[ ] Modify bid opening date and time

[✓] Modify specifications of product or service being sought

[ ] Attachment of vendor questions and responses

[ ] Attachment of pre-bid sign-in sheet

[ ] Correction of error

[✓] Other

**Description of Modification to Solicitation:**

Addendum 1 issued to publish and distribute the attached documentation to the vendor community.

1. To revise the specifications (attached) to now include an additional project goal of designing limited interior renovations within the building in addition to the HVAC Renovations.

2. To revise the Technical Questions deadline from 4/8/19 by 3:00pm to 4/10/19 by 3:00pm.

No other changes.

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

**Terms and Conditions:**

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

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

# ATTACHMENT A

# EXPRESSION OF INTEREST

## Architectural/Engineering Services-Building 22 HVAC Renovations Project

## TABLE OF CONTENTS:



## SECTION ONE: GENERAL INFORMATION

1. **PURPOSE:** The Acquisitions and Contract Administration Section of the Purchasing Division ("Purchasing Division") is soliciting Expression(s) of Interest ("EOI" or "Bids") for the West Virginia Department of Administration, General Services Division ("Agency"), from qualified firms("Vendors") to provide architectural/engineering evaluation and design services as defined herein.

2. **PROJECT:** The Tax & Revenue building, WV State Building #22, is located at 1001 Lee Street, Charleston, WV 25301. The building is approximately 66,000 square feet and has five above grade floors (including a mezzanine) plus a basement. The mission or purpose of the project for which bids are being solicited is to provide thorough analysis of the HVAC system and lighting system resulting in a report with recommendations for remediation including costs to bring the function/performance up to current commercial building standards. Additionally, generator load capacity is to be analyzed and reported. **Some limited interior renovations, to provide private hard-walled offices at least on the first floor of the building during the same construction project, may also be included in the overall construction scope.** Construction documents and construction phase services will be provided. All design work submitted to the Owner will include an electronic version in AutoCad19 format and printed sets of drawings and specifications.

# EXPRESSION OF INTEREST

## Architectural/Engineering Services-Building 22 HVAC Renovations Project

### 3. SCHEDULE OF EVENTS:

| | |
|---|---|
| Release of the EOI..... | March 25, 2019 |
| Written Questions Submission Deadline. | April 10, 2019 |
| Addendum Issued | TBD |
| Expressions of Interest Opening Date | April 19, 2019 |
| Estimated Date for Interviews of Three Firms | TBD |
| Price Negotiations Commence with Highest Ranked Firm | TBD |

# EXPRESSION OF INTEREST

## Architectural/Engineering Services-Building 22 HVAC Renovations Project

## SECTION TWO: INSTRUCTIONS TO VENDORS SUBMITTING BIDS

Instructions begin on the next page.

## INSTRUCTIONS TO VENDORS SUBMITTING BIDS

**1. REVIEW DOCUMENTS THOROUGHLY:** The attached documents contain a solicitation for bids. Please read these instructions and all documents attached in their entirety. These instructions provide critical information about requirements that if overlooked could lead to disqualification of a Vendor's bid. All bids must be submitted in accordance with the provisions contained in these instructions and the Solicitation. Failure to do so may result in disqualification of Vendor's bid.

**2. MANDATORY TERMS:** The Solicitation may contain mandatory provisions identified by the use of the words "must," "will," and "shall." Failure to comply with a mandatory term in the Solicitation will result in bid disqualification.

**3. PREBID MEETING:** The item identified below shall apply to this Solicitation.

☑ A pre-bid meeting will not be held prior to bid opening

☐ A **NON-MANDATORY PRE-BID** meeting will be held at the following place and time:

☐ A **MANDATORY PRE-BID** meeting will be held at the following place and time:

All Vendors submitting a bid must attend the mandatory pre-bid meeting. Failure to attend the mandatory pre-bid meeting shall result in disqualification of the Vendor's bid. No one person attending the pre-bid meeting may represent more than one Vendor.

An attendance sheet provided at the pre-bid meeting shall serve as the official document verifying attendance. The State will not accept any other form of proof or documentation to verify attendance. Any person attending the pre-bid meeting on behalf of a Vendor must list on the attendance sheet his or her name and the name of the Vendor he or she is representing.

Additionally, the person attending the pre-bid meeting should include the Vendor's E-Mail address, phone number, and Fax number on the attendance sheet. It is the Vendor's responsibility to locate the attendance sheet and provide the required information. Failure to complete the attendance sheet as required may result in disqualification of Vendor's bid.

All Vendors should arrive prior to the starting time for the pre-bid. Vendors who arrive after the starting time but prior to the end of the pre-bid will be permitted to sign in, but are charged with knowing all matters discussed at the pre-bid.

Questions submitted at least five business days prior to a scheduled pre-bid will be discussed at the pre-bid meeting if possible. Any discussions or answers to questions at the pre-bid meeting are preliminary in nature and are non-binding. Official and binding answers to questions will be published in a written addendum to the Solicitation prior to bid opening.

**4. VENDOR QUESTION DEADLINE:** Vendors may submit questions relating to this Solicitation to the Purchasing Division. Questions must be submitted in writing. All questions must be submitted on or before the date listed below and to the address listed below in order to be considered. A written response will be published in a Solicitation addendum if a response is possible and appropriate. Non-written discussions, conversations, or questions and answers regarding this Solicitation are preliminary in nature and are nonbinding.

Submitted e-mails should have solicitation number in the subject line.

Question Submission Deadline: Monday, April 8, 2019 by 3:00pm

Submit Questions to: Linda Harper
2019 Washington Street, East
Charleston, WV 25305
Fax: (304) 558-4115 (Vendors should not use this fax number for bid submission)
Email: Linda.B.Harper@wv.gov

**5. VERBAL COMMUNICATION:** Any verbal communication between the Vendor and any State personnel is not binding, including verbal communication at the mandatory pre-bid conference. Only information issued in writing and added to the Solicitation by an official written addendum by the Purchasing Division is binding.

**6. BID SUBMISSION:** All bids must be submitted electronically through wvOASIS or signed and delivered by the Vendor to the Purchasing Division at the address listed below on or before the date and time of the bid opening. Any bid received by the Purchasing Division staff is considered to be in the possession of the Purchasing Division and will not be returned for any reason. The Purchasing Division will not accept bids, modification of bids, or addendum acknowledgment forms via e-mail. Acceptable delivery methods include electronic submission via wvOASIS, hand delivery, delivery by courier, or facsimile.

The bid delivery address is:
Department of Administration, Purchasing Division
2019 Washington Street East
Charleston, WV 25305-0130

A bid that is not submitted electronically through wvOASIS should contain the information listed below on the face of the envelope or the bid may be rejected by the Purchasing Division.:

SEALED BID: Building 22 HVAC Renovations Design Project
BUYER: Linda B. Harper, Buyer Supervisor
SOLICITATION NO.: CEOI 0211 GSD1900000006
BID OPENING DATE: April 19, 2019
BID OPENING TIME: 1:30pm
FAX NUMBER: 304-558-3970

The Purchasing Division may prohibit the submission of bids electronically through wvOASIS at its sole discretion. Such a prohibition will be contained and communicated in the wvOASIS system resulting in the Vendor's inability to submit bids through wvOASIS. Submission of a response to an Expression or Interest or Request for Proposal is not permitted in wvOASIS.

**For Request For Proposal ("RFP") Responses Only:** In the event that Vendor is responding to a request for proposal, the Vendor shall submit one original technical and one original cost proposal plus N/A convenience copies of each to the Purchasing Division at the address shown above. Additionally, the Vendor should identify the bid type as either a technical or cost proposal on the face of each bid envelope submitted in response to a request for proposal as follows:

BID TYPE: (This only applies to CRFP)
☑ Technical
☐ Cost

**7. BID OPENING:** Bids submitted in response to this Solicitation will be opened at the location identified below on the date and time listed below. Delivery of a bid after the bid opening date and time will result in bid disqualification. For purposes of this Solicitation, a bid is considered delivered when confirmation of delivery is provided by wvOASIS (in the case of electronic submission) or when the bid is time stamped by the official Purchasing Division time clock (in the case of hand delivery).

Bid Opening Date and Time: Friday, April 19, 2019, 1:30 PM

Bid Opening Location: Department of Administration, Purchasing Division
2019 Washington Street East
Charleston, WV 25305-0130

**8. ADDENDUM ACKNOWLEDGEMENT:** Changes or revisions to this Solicitation will be made by an official written addendum issued by the Purchasing Division. Vendor should acknowledge receipt of all addenda issued with this Solicitation by completing an Addendum Acknowledgment Form, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

**9. BID FORMATTING:** Vendor should type or electronically enter the information onto its bid to prevent errors in the evaluation. Failure to type or electronically enter the information may result in bid disqualification.

**10. ALTERNATE MODEL OR BRAND:** Unless the box below is checked, any model, brand, or specification listed in this Solicitation establishes the acceptable level of quality only and is not intended to reflect a preference for, or in any way favor, a particular brand or vendor. Vendors may bid alternates to a listed model or brand provided that the alternate is at least equal to the model or brand and complies with the required specifications. The equality of any alternate being bid shall be determined by the State at its sole discretion. Any Vendor bidding an alternate model or brand should clearly identify the alternate items in its bid and should include manufacturer's specifications, industry literature, and/or any other relevant documentation demonstrating the equality of the alternate items. Failure to provide information for alternate items may be grounds for rejection of a Vendor's bid.

☐ This Solicitation is based upon a standardized commodity established under W. Va. Code § 5A-3-61. Vendors are expected to bid the standardized commodity identified. Failure to bid the standardized commodity will result in your firm's bid being rejected.

**11. EXCEPTIONS AND CLARIFICATIONS:** The Solicitation contains the specifications that shall form the basis of a contractual agreement. Vendor shall clearly mark any exceptions, clarifications, or other proposed modifications in its bid. Exceptions to, clarifications of, or modifications of a requirement or term and condition of the Solicitation may result in bid disqualification.

**12. COMMUNICATION LIMITATIONS:** In accordance with West Virginia Code of State Rules §148-1-6.6, communication with the State of West Virginia or any of its employees regarding this Solicitation during the solicitation, bid, evaluation or award periods, except through the Purchasing Division, is strictly prohibited without prior Purchasing Division approval. Purchasing Division approval for such communication is implied for all agency delegated and exempt purchases.

**13. REGISTRATION:** Prior to Contract award, the apparent successful Vendor must be properly registered with the West Virginia Purchasing Division and must have paid the $125 fee, if applicable.

**14. UNIT PRICE:** Unit prices shall prevail in cases of a discrepancy in the Vendor's bid.

**15. PREFERENCE:** Vendor Preference may be requested in purchases of motor vehicles or construction and maintenance equipment and machinery used in highway and other infrastructure projects. Any request for preference must be submitted in writing with the bid, must specifically identify the preference requested with reference to the applicable subsection of West Virginia Code § 5A-3-37, and should include with the bid any information necessary to evaluate and confirm the applicability of the requested preference. A request form to help facilitate the request can be found at:
http://www.state.wv.us/admin/purchase/vrc/Venpref.pdf.

**15A. RECIPROCAL PREFERENCE:** The State of West Virginia applies a reciprocal preference to all solicitations for commodities and printing in accordance with W. Va. Code § 5A-3-37(b). In effect, non-resident vendors receiving a preference in their home states, will see that same preference granted to West Virginia resident vendors bidding against them in West Virginia. A request form to help facilitate the request can be found at:
http://www.state.wv.us/admin/purchase/vrc/Venpref.pdf.

**16. SMALL, WOMEN-OWNED, OR MINORITY-OWNED BUSINESSES:** For any solicitations publicly advertised for bid, in accordance with West Virginia Code §5A-3-37(a)(7) and W. Va. CSR § 148-22-9, any non-resident vendor certified as a small, women-owned, or minority-owned business under W. Va. CSR § 148-22-9 shall be provided the same preference made available to any resident vendor. Any non-resident small, women-owned, or minority-owned business must identify itself as such in writing, must submit that writing to the Purchasing Division with its bid, and must be properly certified under W. Va. CSR § 148-22-9 prior to contract award to receive the preferences made available to resident vendors. Preference for a non-resident small, women-owned, or minority owned business shall be applied in accordance with W. Va. CSR § 148-22-9.

**17. WAIVER OF MINOR IRREGULARITIES:** The Director reserves the right to waive minor irregularities in bids or specifications in accordance with West Virginia Code of State Rules § 148-1-4.6.

**18. ELECTRONIC FILE ACCESS RESTRICTIONS:** Vendor must ensure that its submission in wvOASIS can be accessed and viewed by the Purchasing Division staff immediately upon bid opening. The Purchasing Division will consider any file that cannot be immediately accessed and viewed at the time of the bid opening (such as, encrypted files, password protected files, or incompatible files) to be blank or incomplete as context requires, and are therefore unacceptable. A vendor will not be permitted to unencrypt files, remove password protections, or resubmit documents after bid opening to make a file viewable if those documents are required with the bid. A Vendor may be required to provide document passwords or remove access restrictions to allow the Purchasing Division to print or electronically save documents provided that those documents are viewable by the Purchasing Division prior to obtaining the password or removing the access restriction.

**19. NON-RESPONSIBLE:** The Purchasing Division Director reserves the right to reject the bid of any vendor as Non-Responsible in accordance with W. Va. Code of State Rules § 148-1-5.3, when the Director determines that the vendor submitting the bid does not have the capability to fully perform, or lacks the integrity and reliability to assure good-faith performance."

**20. ACCEPTANCE/REJECTION:** The State may accept or reject any bid in whole, or in part in accordance with W. Va. Code of State Rules § 148-1-4.5. and § 148-1-6.4.b."

**21. YOUR SUBMISSION IS A PUBLIC DOCUMENT:** Vendor's entire response to the Solicitation and the resulting Contract are public documents. As public documents, they will be disclosed to the public following the bid/proposal opening or award of the contract, as required by the competitive bidding laws of West Virginia Code §§ 5A-3-1 et seq., 5-22-1 et seq., and 5G-1-1 et seq. and the Freedom of Information Act West Virginia Code §§ 29B-1-1 et seq.

DO NOT SUBMIT MATERIAL YOU CONSIDER TO BE CONFIDENTIAL, A TRADE SECRET, OR OTHERWISE NOT SUBJECT TO PUBLIC DISCLOSURE.

Submission of any bid, proposal, or other document to the Purchasing Division constitutes your explicit consent to the subsequent public disclosure of the bid, proposal, or document. The Purchasing Division will disclose any document labeled "confidential," "proprietary," "trade secret," "private," or labeled with any other claim against public disclosure of the documents, to include any "trade secrets" as defined by West Virginia Code § 47-22-1 et seq. All submissions are subject to public disclosure without notice.

**22. INTERESTED PARTY DISCLOSURE:** West Virginia Code § 6D-1-2 requires that the vendor submit to the Purchasing Division a disclosure of interested parties to the contract for all contracts with an actual or estimated value of at least $1 Million. That disclosure must occur on the form prescribed and approved by the WV Ethics Commission prior to contract award. A copy of that form is included with this solicitation or can be obtained from the WV Ethics Commission. This requirement does not apply to publicly traded companies listed on a national or international stock exchange. A more detailed definition of interested parties can be obtained from the form referenced above.

**23. WITH THE BID REQUIREMENTS:** In instances where these specifications require documentation or other information with the bid, and a vendor fails to provide it with the bid, the Director of the Purchasing Division reserves the right to request those items after bid opening and prior to contract award pursuant to the authority to waive minor irregularities in bids or specifications under W. Va. CSR § 148-1-4.6. This authority does not apply to instances where state law mandates receipt with the bid.

# EXPRESSION OF INTEREST

Architectural/Engineering Services-Building 22 HVAC Renovations Project

## SECTION THREE: PROJECT SPECIFICATIONS

1. **Background:** The Tax & Revenue building, WV State Building #22, is located at 1001 Lee Street, Charleston, WV 25301. The building is approximately 66,000 square feet and has five above grade floors (including a mezzanine) plus a basement. The scope of this project is to provide a thorough inspection and analysis of the existing HVAC, lighting, and generator systems; and submit a report with recommendations for remediation including cost. Subsequent design, construction documents, and construction administration services may be undertaken to implement the results of the inspection and analysis.

2. **Project and Goals:** The project goals and objectives are listed below. Vendors should discuss any anticipated concepts and proposed methods of approach for achieving each of the listed goals and objectives:

   2.1. **Goal One** of the EOI is to solicit Architectural/Engineering (A/E) services to perform a thorough evaluation of the HVAC systems, lighting fixtures, and existing generator capacity. Results will be provided in a report with recommendations and associated costs.

   Within their proposals, interested firms should include documentation to support having experience with performing HVAC, lighting and generator system analyses which included cost estimating. Firms should also include documentation to explain how they approach conducting analyses of these types.

   2.2. **Goal Two** Construction documents and construction phase services may be provided based upon the results of the evaluation.

   Within their proposals, interested firms should include documentation to indicate their experience with performing design and construction phase services resulting from building evaluations which they performed. Firms should also include documentation to demonstrate their intended approach for working with the Agency to incorporate evaluation findings into the design process.

   2.3. **Goal Three** The construction of any renovations resulting from the evaluation will be competitively bid in a multi-phase construction project in a building which will remain partially occupied (portions of the building – a small section of the second floor, including elevator access - will be required to remain fully functional during renovations).

   Within their proposals, interested firms should include documentation to indicate

their experience with performing design and construction phase services in multiple phases in partially occupied buildings. Firms should also document how they would approach designing and administering construction in these circumstances.

2.4. **Goal Four** is to solicit A/E services to perform Procurement Phase services for competitively bidding a construction project through the WV State Purchasing Division.

Within their proposals, interested firms should include documentation to demonstrate having performed Procurement Phase services while working with governmental agencies.

2.5. **Goal Five** is to solicit A/E services to design limited interior space renovations to provide private office space.

Within their proposals, interested firms should include documentation to demonstrate having experience in design interior office space renovations to augment privacy.

3. **Qualifications, Experience, and Past Performance:** Vendors should provide information regarding its employees, such as staff qualifications and experience in completing similar projects; references; copies of any staff certifications or degrees applicable to this project; proposed staffing plan; descriptions of past projects completed entailing the location of the project, project manager name and contact information, type of project, and the project goals and objectives and how they were met.

4. **Oral Presentations/Interviews:** The Agency will conduct individual interviews with the three vendors that are determined to be the most qualified to provide the required service. During oral presentations/interviews, vendors may not alter or add to their submitted proposal, but only clarify information already submitted. A description of the materials and information to be presented is provided below:

4.1. Materials and Information Required at Oral Presentation/Interviews:

4.1.1. Firms selected for an interview should be prepared to conduct a thirty (30) minute telephone interview, with the option for the vendor to set up an online presentation (e.g., GoToMeeting) event if they so choose. Generally, the first half of the allotted half-hour is for the firm to present to the committee, with the latter half reserved for a question-and-answer session.

# EXPRESSION OF INTEREST

Architectural/Engineering Services-Building 22 HVAC Renovations Project

## SECTION FOUR: VENDOR PROPOSAL, EVALUATION, & AWARD

1. **Economy of Preparation:** EOIs should be prepared simply and economically, providing a straight-forward, concise description of the firm's abilities to satisfy the requirements and goals and objectives of the EOI. Emphasis should be placed on completeness and clarity of content. The response sections should be labeled for ease of evaluation.

2. **BIDS MUST NOT CONTAIN PRICE INFORMATION:** The State shall select the best value solution according to W. Va. Code §5G-1-3. In accordance with Code requirements, no "price" or "fee" information is permitted in the Vendor's EOI response.

3. **Evaluation and Award Process:** Expressions of Interest for projects estimated to cost $250,000 or more will be evaluated and awarded in accordance with W.Va. Code §5G-1-3. That Code section requires the following related to evaluation and award:

   3.1. **Selection Committee Evaluation and Negotiation:** A committee comprised of three to five representatives of the agency initiating the request shall:

      3.1.1. evaluate the statements of qualifications and performance data and other material submitted by the interested firms and select three firms which in their opinion are the best qualified to perform the desired service.

      3.1.2. conduct interviews with each of the three firms selected.

      3.1.3. rank the three selected firms in order of preference

      3.1.4. and commence scope of service and price negotiations with the highest qualified professional firm.

   If negotiations are successful, the contract documents will be forwarded to the WV Purchasing Division for review and approval, and then to the WV Attorney General's office for review and approval as to form. Once approved, a formal contract will be issued to the Vendor.

   Should the agency be unable to negotiate a satisfactory contract with the professional firm considered to be the most qualified at a fee determined to be fair and reasonable,

the agency will then commence negotiations with the second most qualified firm, and so on, until an agreement is reached, or the solicitation is cancelled.

**3.2. Three Firm Evaluation Rankings:** The Agency will evaluate the three firms that have been determined most qualified to perform the desired service. The evaluation criteria are defined in the Procurement Specifications section and based on a 100-point total score. Points shall be assigned based upon the Vendor's response to the evaluation criteria as follows:

| | |
|---|---|
| • Qualifications, Experience, and Past Performance | 50 Points Possible |
| • Goals and Objectives: -- Anticipated Concepts and Methods of Approach | 40 Points Possible |
| • Oral Interview | 10 Points Possible |
| **Total** | **100** |

# EXPRESSION OF INTEREST

Architectural/Engineering Services-Building 22 HVAC Renovations Project

## SECTION FIVE: TERMS AND CONDITIONS

Terms and conditions begin on the next page.

## GENERAL TERMS AND CONDITIONS:

**1. CONTRACTUAL AGREEMENT:** Issuance of a Award Document signed by the Purchasing Division Director, or his designee, and approved as to form by the Attorney General's office constitutes acceptance of this Contract made by and between the State of West Virginia and the Vendor. Vendor's signature on its bid signifies Vendor's agreement to be bound by and accept the terms and conditions contained in this Contract.

**2. DEFINITIONS:** As used in this Solicitation/Contract, the following terms shall have the meanings attributed to them below. Additional definitions may be found in the specifications included with this Solicitation/Contract.

**2.1. "Agency"** or **"Agencies"** means the agency, board, commission, or other entity of the State of West Virginia that is identified on the first page of the Solicitation or any other public entity seeking to procure goods or services under this Contract.

**2.2. "Bid"** or **"Proposal"** means the vendors submitted response to this solicitation.

**2.3. "Contract"** means the binding agreement that is entered into between the State and the Vendor to provide the goods or services requested in the Solicitation.

**2.4. "Director"** means the Director of the West Virginia Department of Administration, Purchasing Division.

**2.5. "Purchasing Division"** means the West Virginia Department of Administration, Purchasing Division.

**2.6. "Award Document"** means the document signed by the Agency and the Purchasing Division, and approved as to form by the Attorney General, that identifies the Vendor as the contract holder.

**2.7. "Solicitation"** means the official notice of an opportunity to supply the State with goods or services that is published by the Purchasing Division.

**2.8. "State"** means the State of West Virginia and/or any of its agencies, commissions, boards, etc. as context requires.

**2.9. "Vendor"** or **"Vendors"** means any entity submitting a bid in response to the Solicitation, the entity that has been selected as the lowest responsible bidder, or the entity that has been awarded the Contract as context requires.

**3. CONTRACT TERM; RENEWAL; EXTENSION:** The term of this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below:

☑ **Term Contract**

**Initial Contract Term: Initial Contract Term:** This Contract becomes effective on Upon Award and extends for a period of One (1) year(s).

**Renewal Term:** This Contract may be renewed upon the mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). Any request for renewal should be delivered to the Agency and then submitted to the Purchasing Division thirty (30) days prior to the expiration date of the initial contract term or appropriate renewal term. A Contract renewal shall be in accordance with the terms and conditions of the original contract. Unless otherwise specified below, renewal of this Contract is limited to Three (3) successive one (1) year periods or multiple renewal periods of less than one year, provided that the multiple renewal periods do not exceed the total number of months available in all renewal years combined. Automatic renewal of this Contract is prohibited. Renewals must be approved by the Vendor, Agency, Purchasing Division and Attorney General's office (Attorney General approval is as to form only)

☐ **Alternate Renewal Term** – This contract may be renewed for _____ successive _____ year periods or shorter periods provided that they do not exceed the total number of months contained in all available renewals. Automatic renewal of this Contract is prohibited. Renewals must be approved by the Vendor, Agency, Purchasing Division and Attorney General's office (Attorney General approval is as to form only)

**Delivery Order Limitations:** In the event that this contract permits delivery orders, a delivery order may only be issued during the time this Contract is in effect. Any delivery order issued within one year of the expiration of this Contract shall be effective for one year from the date the delivery order is issued. No delivery order may be extended beyond one year after this Contract has expired.

☐ **Fixed Period Contract:** This Contract becomes effective upon Vendor's receipt of the notice to proceed and must be completed within _____ days.

☐ **Fixed Period Contract with Renewals:** This Contract becomes effective upon Vendor's receipt of the notice to proceed and part of the Contract more fully described in the attached specifications must be completed within _____ days. Upon completion of the work covered by the preceding sentence, the vendor agrees that maintenance, monitoring, or warranty services will be provided for _____ year(s) thereafter.

☐ **One Time Purchase:** The term of this Contract shall run from the issuance of the Award Document until all of the goods contracted for have been delivered, but in no event will this Contract extend for more than one fiscal year.

☐ **Other:** See attached.

**4. NOTICE TO PROCEED:** Vendor shall begin performance of this Contract immediately upon receiving notice to proceed unless otherwise instructed by the Agency. Unless otherwise specified, the fully executed Award Document will be considered notice to proceed.

**5. QUANTITIES:** The quantities required under this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below.

☐ **Open End Contract:** Quantities listed in this Solicitation are approximations only, based on estimates supplied by the Agency. It is understood and agreed that the Contract shall cover the quantities actually ordered for delivery during the term of the Contract, whether more or less than the quantities shown.

☑ **Service:** The scope of the service to be provided will be more clearly defined in the specifications included herewith.

☐ **Combined Service and Goods:** The scope of the service and deliverable goods to be provided will be more clearly defined in the specifications included herewith.

☐ **One Time Purchase:** This Contract is for the purchase of a set quantity of goods that are identified in the specifications included herewith. Once those items have been delivered, no additional goods may be procured under this Contract without an appropriate change order approved by the Vendor, Agency, Purchasing Division, and Attorney General's office.

**6. EMERGENCY PURCHASES:** The Purchasing Division Director may authorize the Agency to purchase goods or services in the open market that Vendor would otherwise provide under this Contract if those goods or services are for immediate or expedited delivery in an emergency. Emergencies shall include, but are not limited to, delays in transportation or an unanticipated increase in the volume of work. An emergency purchase in the open market, approved by the Purchasing Division Director, shall not constitute of breach of this Contract and shall not entitle the Vendor to any form of compensation or damages. This provision does not excuse the State from fulfilling its obligations under a One Time Purchase contract.

**7. REQUIRED DOCUMENTS:** All of the items checked below must be provided to the Purchasing Division by the Vendor as specified below.

☐ **BID BOND (Construction Only):** Pursuant to the requirements contained in W. Va. Code § 5-22-1(c), All Vendors submitting a bid on a construction project shall furnish a valid bid bond in the amount of five percent (5%) of the total amount of the bid protecting the State of West Virginia. The bid bond must be submitted with the bid.

☐ **PERFORMANCE BOND:** The apparent successful Vendor shall provide a performance bond in the amount of 100% of the contract. The performance bond must be received by the Purchasing Division prior to Contract award.

☐ **LABOR/MATERIAL PAYMENT BOND:** The apparent successful Vendor shall provide a labor/material payment bond in the amount of 100% of the Contract value. The labor/material payment bond must be delivered to the Purchasing Division prior to Contract award.

In lieu of the Bid Bond, Performance Bond, and Labor/Material Payment Bond, the Vendor may provide certified checks, cashier's checks, or irrevocable letters of credit. Any certified check, cashier's check, or irrevocable letter of credit provided in lieu of a bond must be of the same amount and delivered on the same schedule as the bond it replaces. A letter of credit submitted in lieu of a performance and labor/material payment bond will only be allowed for projects under $100,000. Personal or business checks are not acceptable. Notwithstanding the foregoing, West Virginia Code § 5-22-1 (d) mandates that a vendor provide a performance and labor/material payment bond for construction projects. Accordingly, substitutions for the performance and labor/material payment bonds for construction projects is not permitted.

☐ **MAINTENANCE BOND:** The apparent successful Vendor shall provide a two (2) year maintenance bond covering the roofing system. The maintenance bond must be issued and delivered to the Purchasing Division prior to Contract award.

☐ **LICENSE(S) / CERTIFICATIONS / PERMITS:** In addition to anything required under the Section of the General Terms and Conditions entitled Licensing, the apparent successful Vendor shall furnish proof of the following licenses, certifications, and/or permits prior to Contract award, in a form acceptable to the Purchasing Division.

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The apparent successful Vendor shall also furnish proof of any additional licenses or certifications contained in the specifications prior to Contract award regardless of whether or not that requirement is listed above.

**8. INSURANCE:** The apparent successful Vendor shall furnish proof of the insurance identified by a checkmark below and must include the State as an additional insured on each policy prior to Contract award. The insurance coverages identified below must be maintained throughout the life of this contract. Thirty (30) days prior to the expiration of the insurance policies, Vendor shall provide the Agency with proof that the insurance mandated herein has been continued. Vendor must also provide Agency with immediate notice of any changes in its insurance policies, including but not limited to, policy cancelation, policy reduction, or change in insurers. The apparent successful Vendor shall also furnish proof of any additional insurance requirements contained in the specifications prior to Contract award regardless of whether or not that insurance requirement is listed in this section.

Vendor must maintain:

☑ **Commercial General Liability Insurance** in at least an amount of: $1,000,000.00 per occurrence.

☑ **Automobile Liability Insurance** in at least an amount of: $1,000,000.00 per occurrence.

☑ **Professional/Malpractice/Errors and Omission Insurance** in at least an amount of: $1,000,000.00 per occurrence.

☑ **Commercial Crime and Third Party Fidelity Insurance** in an amount of: $100,000.00 per occurrence.

☐ **Cyber Liability Insurance** in an amount of: _____ per occurrence.

☐ **Builders Risk Insurance** in an amount equal to 100% of the amount of the Contract.

☐ **Pollution Insurance** in an amount of: _____ per occurrence.

☐ **Aircraft Liability** in an amount of: _____ per occurrence.

☑ Professional Liability Insurance will be for a minimum of $1,000,000.00 per claim and $1,000,000.00 in aggregate

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Notwithstanding anything contained in this section to the contrary, the Director of the Purchasing Division reserves the right to waive the requirement that the State be named as an additional insured on one or more of the Vendor's insurance policies if the Director finds that doing so is in the State's best interest.

**9. WORKERS' COMPENSATION INSURANCE:** The apparent successful Vendor shall comply with laws relating to workers compensation, shall maintain workers' compensation insurance when required, and shall furnish proof of workers' compensation insurance upon request.

**10. [Reserved]**

**11. LIQUIDATED DAMAGES:** This clause shall in no way be considered exclusive and shall not limit the State or Agency's right to pursue any other available remedy. Vendor shall pay liquidated damages in the amount specified below or as described in the specifications:

☑ N/A for N/A

☐ Liquidated Damages Contained in the Specifications

**12. ACCEPTANCE:** Vendor's signature on its bid, or on the certification and signature page, constitutes an offer to the State that cannot be unilaterally withdrawn, signifies that the product or service proposed by vendor meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise indicated, and signifies acceptance of the terms and conditions contained in the Solicitation unless otherwise indicated.

**13. PRICING:** The pricing set forth herein is firm for the life of the Contract, unless specified elsewhere within this Solicitation/Contract by the State. A Vendor's inclusion of price adjustment provisions in its bid, without an express authorization from the State in the Solicitation to do so, may result in bid disqualification. Notwithstanding the foregoing, Vendor must extend any publicly advertised sale price to the State and invoice at the lower of the contract price or the publicly advertised sale price.

**14. PAYMENT IN ARREARS:** Payment in advance is prohibited under this Contract. Payment may only be made after the delivery and acceptance of goods or services. The Vendor shall submit invoices, in arrears.

**15. PAYMENT METHODS:** Vendor must accept payment by electronic funds transfer and P-Card. (The State of West Virginia's Purchasing Card program, administered under contract by a banking institution, processes payment for goods and services through state designated credit cards.)

**16. TAXES:** The Vendor shall pay any applicable sales, use, personal property or any other taxes arising out of this Contract and the transactions contemplated thereby. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.

**17. ADDITIONAL FEES:** Vendor is not permitted to charge additional fees or assess additional charges that were not either expressly provided for in the solicitation published by the State of West Virginia or included in the unit price or lump sum bid amount that Vendor is required by the solicitation to provide. Including such fees or charges as notes to the solicitation may result in rejection of vendor's bid. Requesting such fees or charges be paid after the contract has been awarded may result in cancellation of the contract.

**18. FUNDING:** This Contract shall continue for the term stated herein, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise made available, this Contract becomes void and of no effect beginning on July 1 of the fiscal year for which funding has not been appropriated or otherwise made available.

**19. CANCELLATION:** The Purchasing Division Director reserves the right to cancel this Contract immediately upon written notice to the vendor if the materials or workmanship supplied do not conform to the specifications contained in the Contract. The Purchasing Division Director may also cancel any purchase or Contract upon 30 days written notice to the Vendor in accordance with West Virginia Code of State Rules § 148-1-5.2.b.

**20. TIME:** Time is of the essence with regard to all matters of time and performance in this Contract.

**21. APPLICABLE LAW:** This Contract is governed by and interpreted under West Virginia law without giving effect to its choice of law principles. Any information provided in specification manuals, or any other source, verbal or written, which contradicts or violates the West Virginia Constitution, West Virginia Code or West Virginia Code of State Rules is void and of no effect.

**22. COMPLIANCE WITH LAWS:** Vendor shall comply with all applicable federal, state, and local laws, regulations and ordinances. By submitting a bid, Vendor acknowledges that it has reviewed, understands, and will comply with all applicable laws, regulations, and ordinances.

> **SUBCONTRACTOR COMPLIANCE:** Vendor shall notify all subcontractors providing commodities or services related to this Contract that as subcontractors, they too are required to comply with all applicable laws, regulations, and ordinances. Notification under this provision must occur prior to the performance of any work under the contract by the subcontractor.

**23. ARBITRATION:** Any references made to arbitration contained in this Contract, Vendor's bid, or in any American Institute of Architects documents pertaining to this Contract are hereby deleted, void, and of no effect.

**24. MODIFICATIONS:** This writing is the parties' final expression of intent. Notwithstanding anything contained in this Contract to the contrary no modification of this Contract shall be binding without mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). Any change to existing contracts that adds work or changes contract cost, and were not included in the original contract, must be approved by the Purchasing Division and the Attorney General's Office (as to form) prior to the implementation of the change or commencement of work affected by the change.

**25. WAIVER:** The failure of either party to insist upon a strict performance of any of the terms or provision of this Contract, or to exercise any option, right, or remedy herein contained, shall not be construed as a waiver or a relinquishment for the future of such term, provision, option, right, or remedy, but the same shall continue in full force and effect. Any waiver must be expressly stated in writing and signed by the waiving party.

**26. SUBSEQUENT FORMS:** The terms and conditions contained in this Contract shall supersede any and all subsequent terms and conditions which may appear on any form documents submitted by Vendor to the Agency or Purchasing Division such as price lists, order forms, invoices, sales agreements, or maintenance agreements, and includes internet websites or other electronic documents. Acceptance or use of Vendor's forms does not constitute acceptance of the terms and conditions contained thereon.

**27. ASSIGNMENT:** Neither this Contract nor any monies due, or to become due hereunder, may be assigned by the Vendor without the express written consent of the Agency, the Purchasing Division, the Attorney General's office (as to form only), and any other government agency or office that may be required to approve such assignments.

**28. WARRANTY:** The Vendor expressly warrants that the goods and/or services covered by this Contract will: (a) conform to the specifications, drawings, samples, or other description furnished or specified by the Agency; (b) be merchantable and fit for the purpose intended; and (c) be free from defect in material and workmanship.

**29. STATE EMPLOYEES:** State employees are not permitted to utilize this Contract for personal use and the Vendor is prohibited from permitting or facilitating the same.

**30. PRIVACY, SECURITY, AND CONFIDENTIALITY:** The Vendor agrees that it will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the Agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the Agency's policies, procedures, and rules. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in http://www.state.wv.us/admin/purchase/privacy/default.html.

**31. YOUR SUBMISSION IS A PUBLIC DOCUMENT:** Vendor's entire response to the Solicitation and the resulting Contract are public documents. As public documents, they will be disclosed to the public following the bid/proposal opening or award of the contract, as required by the competitive bidding laws of West Virginia Code §§ 5A-3-1 et seq., 5-22-1 et seq., and 5G-1-1 et seq. and the Freedom of Information Act West Virginia Code §§ 29B-1-1 et seq.

DO NOT SUBMIT MATERIAL YOU CONSIDER TO BE CONFIDENTIAL, A TRADE SECRET, OR OTHERWISE NOT SUBJECT TO PUBLIC DISCLOSURE.

Submission of any bid, proposal, or other document to the Purchasing Division constitutes your explicit consent to the subsequent public disclosure of the bid, proposal, or document. The Purchasing Division will disclose any document labeled "confidential," "proprietary," "trade secret," "private," or labeled with any other claim against public disclosure of the documents, to include any "trade secrets" as defined by West Virginia Code § 47-22-1 et seq. All submissions are subject to public disclosure without notice.

**32. LICENSING:** In accordance with West Virginia Code of State Rules § 148-1-6.1.e, Vendor must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, West Virginia Insurance Commission, or any other state agency or political subdivision. Obligations related to political subdivisions may include, but are not limited to, business licensing, business and occupation taxes, inspection compliance, permitting, etc. Upon request, the Vendor must provide all necessary releases to obtain information to enable the Purchasing Division Director or the Agency to verify that the Vendor is licensed and in good standing with the above entities.

**SUBCONTRACTOR COMPLIANCE:** Vendor shall notify all subcontractors providing commodities or services related to this Contract that as subcontractors, they too are required to be licensed, in good standing, and up-to-date on all state and local obligations as described in this section. Obligations related to political subdivisions may include, but are not limited to, business licensing, business and occupation taxes, inspection compliance, permitting, etc. Notification under this provision must occur prior to the performance of any work under the contract by the subcontractor.

**33. ANTITRUST:** In submitting a bid to, signing a contract with, or accepting a Award Document from any agency of the State of West Virginia, the Vendor agrees to convey, sell, assign, or transfer to the State of West Virginia all rights, title, and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the State of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to Vendor.

**34. VENDOR CERTIFICATIONS:** By signing its bid or entering into this Contract, Vendor certifies (1) that its bid or offer was made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership, person or entity submitting a bid or offer for the same material, supplies, equipment or services; (2) that its bid or offer is in all respects fair and without collusion or fraud; (3) that this Contract is accepted or entered into without any prior understanding, agreement, or connection to any other entity that could be considered a violation of law; and (4) that it has reviewed this Solicitation in its entirety; understands the requirements, terms and conditions, and other information contained herein.

Vendor's signature on its bid or offer also affirms that neither it nor its representatives have any interest, nor shall acquire any interest, direct or indirect, which would compromise the performance of its services hereunder. Any such interests shall be promptly presented in detail to the Agency. The individual signing this bid or offer on behalf of Vendor certifies that he or she is authorized by the Vendor to execute this bid or offer or any documents related thereto on Vendor's behalf; that he or she is authorized to bind the Vendor in a contractual relationship; and that, to the best of his or her knowledge, the Vendor has properly registered with any State agency that may require registration.

**35. VENDOR RELATIONSHIP:** The relationship of the Vendor to the State shall be that of an independent contractor and no principal-agent relationship or employer-employee relationship is contemplated or created by this Contract. The Vendor as an independent contractor is solely liable for the acts and omissions of its employees and agents. Vendor shall be responsible for selecting, supervising, and compensating any and all individuals employed pursuant to the terms of this Solicitation and resulting contract. Neither the Vendor, nor any employees or subcontractors of the Vendor, shall be deemed to be employees of the State for any purpose whatsoever. Vendor shall be exclusively responsible for payment of employees and contractors for all wages and salaries, taxes, withholding payments, penalties, fees, fringe benefits, professional liability insurance premiums, contributions to insurance and pension, or other deferred compensation plans, including but not limited to, Workers' Compensation and Social Security obligations, licensing fees, etc. and the filing of all necessary documents, forms, and returns pertinent to all of the foregoing.

Vendor shall hold harmless the State, and shall provide the State and Agency with a defense against any and all claims including, but not limited to, the foregoing payments, withholdings, contributions, taxes, Social Security taxes, and employer income tax returns.

**36. INDEMNIFICATION:** The Vendor agrees to indemnify, defend, and hold harmless the State and the Agency, their officers, and employees from and against: (1) Any claims or losses for services rendered by any subcontractor, person, or firm performing or supplying services, materials, or supplies in connection with the performance of the Contract; (2) Any claims or losses resulting to any person or entity injured or damaged by the Vendor, its officers, employees, or subcontractors by the publication, translation, reproduction, delivery, performance, use, or disposition of any data used under the Contract in a manner not authorized by the Contract, or by Federal or State statutes or regulations; and (3) Any failure of the Vendor, its officers, employees, or subcontractors to observe State and Federal laws including, but not limited to, labor and wage and hour laws.

**37. PURCHASING AFFIDAVIT:** In accordance with West Virginia Code §§ 5A-3-10a and 5-22-1(i), the State is prohibited from awarding a contract to any bidder that owes a debt to the State or a political subdivision of the State, Vendors are required to sign, notarize, and submit the Purchasing Affidavit to the Purchasing Division affirming under oath that it is not in default on any monetary obligation owed to the state or a political subdivision of the state.

**38. ADDITIONAL AGENCY AND LOCAL GOVERNMENT USE:** This Contract may be utilized by other agencies, spending units, and political subdivisions of the State of West Virginia; county, municipal, and other local government bodies; and school districts ("Other Government Entities"), provided that both the Other Government Entity and the Vendor agree. Any extension of this Contract to the aforementioned Other Government Entities must be on the same prices, terms, and conditions as those offered and agreed to in this Contract, provided that such extension is in compliance with the applicable laws, rules, and ordinances of the Other Government Entity. A refusal to extend this Contract to the Other Government Entities shall not impact or influence the award of this Contract in any manner.

**39. CONFLICT OF INTEREST:** Vendor, its officers or members or employees, shall not presently have or acquire an interest, direct or indirect, which would conflict with or compromise the performance of its obligations hereunder. Vendor shall periodically inquire of its officers, members and employees to ensure that a conflict of interest does not arise. Any conflict of interest discovered shall be promptly presented in detail to the Agency.

**40. REPORTS:** Vendor shall provide the Agency and/or the Purchasing Division with the following reports identified by a checked box below:

☑ Such reports as the Agency and/or the Purchasing Division may request. Requested reports may include, but are not limited to, quantities purchased, agencies utilizing the contract, total contract expenditures by agency, etc.

☐ Quarterly reports detailing the total quantity of purchases in units and dollars, along with a listing of purchases by agency. Quarterly reports should be delivered to the Purchasing Division via email at purchasing.requisitions@wv.gov.

**41. BACKGROUND CHECK:** In accordance with W. Va. Code § 15-2D-3, the Director of the Division of Protective Services shall require any service provider whose employees are regularly employed on the grounds or in the buildings of the Capitol complex or who have access to sensitive or critical information to submit to a fingerprint-based state and federal background inquiry through the state repository. The service provider is responsible for any costs associated with the fingerprint-based state and federal background inquiry.

After the contract for such services has been approved, but before any such employees are permitted to be on the grounds or in the buildings of the Capitol complex or have access to sensitive or critical information, the service provider shall submit a list of all persons who will be physically present and working at the Capitol complex to the Director of the Division of Protective Services for purposes of verifying compliance with this provision. The State reserves the right to prohibit a service provider's employees from accessing sensitive or critical information or to be present at the Capitol complex based upon results addressed from a criminal background check.

Service providers should contact the West Virginia Division of Protective Services by phone at (304) 558-9911 for more information.

**42. PREFERENCE FOR USE OF DOMESTIC STEEL PRODUCTS:** Except when authorized by the Director of the Purchasing Division pursuant to W. Va. Code § 5A-3-56, no contractor may use or supply steel products for a State Contract Project other than those steel products made in the United States. A contractor who uses steel products in violation of this section may be subject to civil penalties pursuant to W. Va. Code § 5A-3-56. As used in this section:

a. "State Contract Project" means any erection or construction of, or any addition to, alteration of or other improvement to any building or structure, including, but not limited to, roads or highways, or the installation of any heating or cooling or ventilating plants or other equipment, or the supply of and materials for such projects, pursuant to a contract with the State of West Virginia for which bids were solicited on or after June 6, 2001.

b. "Steel Products" means products rolled, formed, shaped, drawn, extruded, forged, cast, fabricated or otherwise similarly processed, or processed by a combination of two or more or such operations, from steel made by the open heath, basic oxygen, electric furnace, Bessemer or other steel making process. The Purchasing Division Director may, in writing, authorize the use of foreign steel products if:

c. The cost for each contract item used does not exceed one tenth of one percent (.1%) of the total contract cost or two thousand five hundred dollars ($2,500.00), whichever is greater. For the purposes of this section, the cost is the value of the steel product as delivered to the project; or

d. The Director of the Purchasing Division determines that specified steel materials are not produced in the United States in sufficient quantity or otherwise are not reasonably available to meet contract requirements.

**43. PREFERENCE FOR USE OF DOMESTIC ALUMINUM, GLASS, AND STEEL:** In Accordance with W. Va. Code § 5-19-1 et seq., and W. Va. CSR § 148-10-1 et seq., for every contract or subcontract, subject to the limitations contained herein, for the construction, reconstruction, alteration, repair, improvement or maintenance of public works or for the purchase of any item of machinery or equipment to be used at sites of public works, only domestic aluminum, glass or steel products shall be supplied unless the spending officer determines, in writing, after the receipt of offers or bids, (1) that the cost of domestic aluminum, glass or steel products is unreasonable or inconsistent with the public interest of the State of West Virginia, (2) that domestic aluminum, glass or steel products are not produced in sufficient quantities to meet the contract requirements, or (3) the available domestic aluminum, glass, or steel do not meet the contract specifications. This provision only applies to public works contracts awarded in an amount more than fifty thousand dollars ($50,000) or public works contracts that require more than ten thousand pounds of steel products.

The cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than twenty percent (20%) of the bid or offered price for foreign made aluminum, glass, or steel products. If the domestic aluminum, glass or steel products to be supplied or produced in a

"substantial labor surplus area", as defined by the United States Department of Labor, the cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than thirty percent (30%) of the bid or offered price for foreign made aluminum, glass, or steel products. This preference shall be applied to an item of machinery or equipment, as indicated above, when the item is a single unit of equipment or machinery manufactured primarily of aluminum, glass or steel, is part of a public works contract and has the sole purpose or of being a permanent part of a single public works project. This provision does not apply to equipment or machinery purchased by a spending unit for use by that spending unit and not as part of a single public works project.

All bids and offers including domestic aluminum, glass or steel products that exceed bid or offer prices including foreign aluminum, glass or steel products after application of the preferences provided in this provision may be reduced to a price equal to or lower than the lowest bid or offer price for foreign aluminum, glass or steel products plus the applicable preference. If the reduced bid or offer prices are made in writing and supersede the prior bid or offer prices, all bids or offers, including the reduced bid or offer prices, will be reevaluated in accordance with this rule.

**44. INTERESTED PARTY SUPPLEMENTAL DISCLOSURE:** W. Va. Code § 6D-1-2 requires that for contracts with an actual or estimated value of at least $1 million, the vendor must submit to the Agency a supplemental disclosure of interested parties reflecting any new or differing interested parties to the contract, which were not included in the original pre-award interested party disclosure, within 30 days following the completion or termination of the contract. A copy of that form is included with this solicitation or can be obtained from the WV Ethics Commission. This requirement does not apply to publicly traded companies listed on a national or international stock exchange. A more detailed definition of interested parties can be obtained from the form referenced above.

## ADDITIONAL TERMS AND CONDITIONS
## (Architectural and Engineering Contracts Only)

**1. PLAN AND DRAWING DISTRIBUTION:** All plans and drawings must be completed and available for distribution at least five business days prior to a scheduled pre-bid meeting for the construction or other work related to the plans and drawings.

**2. PROJECT ADDENDA REQUIREMENTS:** The Architect/Engineer and/or Agency shall be required to abide by the following schedule in issuing construction project addenda. The Architect/Engineer shall prepare any addendum materials for which it is responsible, and a list of all vendors that have obtained drawings and specifications for the project. The Architect/Engineer shall then send a copy of the addendum materials and the list of vendors to the State Agency for which the contract is issued to allow the Agency to make any necessary modifications. The addendum and list shall then be forwarded to the Purchasing Division buyer by the Agency. The Purchasing Division buyer shall send the addendum to all interested vendors and, if necessary, extend the bid opening date. Any addendum should be received by the Purchasing Division at least fourteen (14) days prior to the bid opening date.

**3. PRE-BID MEETING RESPONSIBILITIES:** The Architect/Engineer shall be available to attend any pre-bid meeting for the construction or other work resulting from the plans, drawings, or specifications prepared by the Architect/Engineer.

**4. AIA DOCUMENTS:** All construction contracts that will be completed in conjunction with architectural services procured under Chapter 5G of the West Virginia Code will be governed by the attached AIA documents, as amended by the Supplementary Conditions for the State of West Virginia, in addition to the terms and conditions contained herein. The terms and conditions of this document shall prevail over anything contained in the AIA Documents or the Supplementary Conditions.

**5. GREEN BUILDINGS MINIMUM ENERGY STANDARDS:** In accordance with West Virginia Code § 22-29-4, all new building construction projects of public agencies that have not entered the schematic design phase prior to July 1, 2012, or any building construction project receiving state grant funds and appropriations, including public schools, that have not entered the schematic design phase prior to July1, 2012, shall be designed and constructed complying with the ICC International Energy Conservation Code, adopted by the State Fire Commission, and the ANSI/ASHRAE/IESNA Standard 90.1-2007: Provided, That if any construction project has a commitment of federal funds to pay for a portion of such project, this provision shall only apply to the extent such standards are consistent with the federal standards.

**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.

(Name, Title)
David Hilliard, Senior Mechanical Engineer
(Printed Name and Title)
400 Washington Street East, Suite 301, Charleston, WV 25301
(Address)
304-769-0821 / 304-769-0822
(Phone Number) / (Fax Number)
dhilliard@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)

Patrick W. Fogarty, Senior Associate
(Authorized Signature) (Representative Name, Title)

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

April 19, 2019
(Date)

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

**ADDENDUM ACKNOWLEDGEMENT FORM**
**SOLICITATION NO.: GSD1900000006**

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

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

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

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

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

Michael Baker International, Inc.
Company

Authorized Signature

April 19, 2019
Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.
Revised 6/8/2012

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

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

**Proc Folder:** 558293

**Doc Description:** Addendum 2 - Building 22 HVAC Renovations Design Project

**Proc Type:** Central Contract - Fixed Amt

| Date Issued | Solicitation Closes | Solicitation No | Version |
|---|---|---|---|
| 2019-04-11 | 2019-04-19 13:30:00 | CEOI 0211 GSD1900000006 | 3 |

**BID RECEIVING LOCATION**

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

**VENDOR**

**Vendor Name, Address and Telephone Number:**

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

**FOR INFORMATION CONTACT THE BUYER**

Linda B Harper
(304) 558-0468
linda.b.harper@wv.gov

Signature X

FEIN # **25-1228638**

DATE **April 19, 2019**

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

**ADDITIONAL INFORMATION:**

Addendum 2 issued for the following reasons:

1. To publish a copy of vendor questions with responses.

other changes

| INVOICE TO | SHIP TO |
|---|---|
| DEPARTMENT OF ADMINISTRATION<br>GENERAL SERVICES DIVISION<br>112 CALIFORNIA AVENUE, 5TH FLOOR<br>CHARLESTON WV25305<br>US | DEPARTMENT OF ADMINISTRATION<br>GENERAL SERVICES DIVISION BLDG 22 - TAX AND REVENUE<br>1001 LEE ST<br>CHARLESTON WV 25301<br>US |

| Line | Comm Ln Desc | Qty | Unit Issue |
|---|---|---|---|
| 1 | Building 22 HVAC Renovations Design Project | 0.00000 | |

| Comm Code | Manufacturer | Specification | Model # |
|---|---|---|---|
| 81100000 | | | |

**Extended Description :**

Building 22 HVAC Renovations Design Project - Online Responses Prohibited.

**SCHEDULE OF EVENTS**

| Line | Event | Event Date |
|---|---|---|
| 1 | Question Deadline 3:00 PM | 2019-04-10 |

# SOLICITATION NUMBER: CEOI GSD1900000006
# Addendum Number: 2

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

**Applicable Addendum Category:**

[ ] Modify bid opening date and time

[ ] Modify specifications of product or service being sought

[✓] Attachment of vendor questions and responses

[ ] Attachment of pre-bid sign-in sheet

[ ] Correction of error

[ ] Other

**Description of Modification to Solicitation:**

Addendum 2 issued for the following reasons:

1. To publish a copy of vendor questions with responses.

No other changes

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

**Terms and Conditions:**

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

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

# ATTACHMENT A

GSD190000006

CEOI Building 22 HVAC Renovations
Vendor Questions

Q.1. Regarding Addendum No. 1, Section Three: Project Specifications

**2.5 Goal Five:** is to solicit A/E services to design limited interior space renovations to provide private office space. Within their proposals, interested firms should include documentation to demonstrate having experience in design interior office space renovations to augment privacy.

Is a licensed Interior Designer or a licensed Architect required for the interior space renovations?

A.1. The EOI contemplates a team approach of Architectural/Engineering Professionals. The evaluation and design will have an architectural component with respect to life safety and other code requirements. If an engineer is qualified to provide such services, he or she may choose to provide those services. This answer does not absolve either professional discipline from requirements of the WV Code of State Regulations or the requirements of any board responsible for regulation of professional practice.

Q.2. Is one original hard copy of the technical proposal all that is requested for submission?

A.2. Submitting one (1) hard copy is acceptable.

**ADDENDUM ACKNOWLEDGEMENT FORM**
**SOLICITATION NO.: GSD1900000006**

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

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

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(Check the box next to each addendum received)

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| [ ] | Addendum No. 4 | [ ] | Addendum No. 9 |
| [ ] | Addendum No. 5 | [ ] | Addendum No. 10 |

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

Michael Baker International, Inc.
Company

Authorized Signature

April 19, 2019
Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.
Revised 6/8/2012

STATE OF WEST VIRGINIA
Purchasing Division

# PURCHASING AFFIDAVIT

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

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

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

**DEFINITIONS:**

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

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

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

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

**WITNESS THE FOLLOWING SIGNATURE:**

Vendor's Name: Michael Baker International, Inc.

Authorized Signature: _____ Date: April 19, 2019

State of West Virginia

County of Kanawha, to-wit:

Taken, subscribed, and sworn to before me this 19 day of April, 2019.

My Commission expires July 24, 2023.

**AFFIX SEAL HERE**

NOTARY PUBLIC OFFICIAL SEAL
MEGAN B. SPROUSE
State of West Virginia
My Commission Expires July 24, 2023
400 Washington East, Charleston, WV 25301

**NOTARY PUBLIC** Megan B. Sprouse

# SECTION I

## PROJECT BACKGROUND

The West Virginia Department of Administration, General Services Division (GSD) is seeking a highly qualified architectural/engineering firm ready to provide design services and bid documents for HVAC renovations to the West Virginia State Revenue Center Office, Building Twenty-Two in Charleston West Virginia. The firm will be responsible to perform an HVAC, lighting and emergency generator system analysis of the building, provide an "findings" report, make recommendation and present cost-effective options followed by Construction Documents for upgrades and renovations to the building as specified in the Expression of Interest (EOI).

**Michael Baker is extremely interested in continuing our relationship with WV General Services Division**

**Michael Baker International, Inc. (Michael Baker)** is a highly qualified firm with extensive experience in providing the type of services required for these projects, and *Michael Baker is extremely interested in continuing our relationship with WV General Service Division* and in providing an innovative, efficient and phased renovation project for Building Twenty-Two.

## QUALIFICATIONS & EXPERIENCE

### Firm Introduction

Michael Baker International, Inc. (Michael Baker), is a Pennsylvania-based corporation, founded in 1940, with its headquarters located in Pittsburgh, Pennsylvania. **Michael Baker has maintained a local presence in Charleston for over 50 years and our employees are committed to future of our state.** Corporately with over $1.3 billion in annual revenue, Michael Baker has nearly 3,500 employees in over 90 offices located across the U.S. and internationally, and is ranked as the 5th largest design firm for government office buildings in the U.S. by Engineering News-Record.

Michael Baker's team of experienced professionals has demonstrated the ability to deliver quality work products to our clients, on-time and within budget. Each individual on the selected project team has extensive experience in their field of expertise and have demonstrated success on projects of similar size and scope. Michael Baker can provide the entire depth of design services necessary to complete the project but will engage an independent estimating service to insure an unbiased construction cost opinion. An Elevator inspection and consulting service will also be engaged.

FIRM CAPACITY

Michael Baker has worked across the United States on existing building renovation projects to create energy efficient improvement and revitalization plans; partnering with local governments, NGOs and nonprofits from planning through construction. We have thoroughly reviewed the EOI and are confident we can deliver the services requested.

Professionals from our local office in Charleston WV have worked on many of these nationwide projects as well as projects here at home. Michael Baker is a "single-stop resource" capable of providing comprehensive professional services, from Mechanical/Electrical and Structural Engineering to Architecture and Planning, to final design, and construction management. With the vast resources available from a large company, experts in many fields can be brought together seamlessly to develop innovative solutions for this challenging assignment. The local Michael Baker staff 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'

minutes away from the Capitol and **only a 10-minute WALK from the project site**, Michael Baker can respond quickly and efficiently to the needs of your project.

Some of 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 department of transportation, military facilities, airports, and private sector clients. Michael Baker's geographic location and experience enables us to respond seamlessly to a wide-ranging scope of services in order to meet our client's needs.

Over the past decade, Michael Baker was retained by WV General Service Division to develop a Master Plan for the State Capitol Complex and to provide a study and a renovation design for public restrooms at the historic West Virginia State Capitol Building. More recently, Michael Baker provided a comprehensive study of storm water flooding issues in the State Capitol Building.

Functioning as an extension of WVU's staff, Michael Baker provided full-time, on-site owner representation to monitor the work of the designer, contractor, and construction management team on the projects noted below at WVU Morgantown.

- Life Sciences Building
- Wise Library Renovation and Expansion
- New Student Recreation Center
- Creative Arts Center Facility Condition Assessment
- Creative Arts Center Renovation
- Allen Hall HVAC Upgrade and Asbestos Abatement
- Clark Hall and Boreman Hall South Roof Assessments
- Boreman Hall South Roof Repairs

WVU Wise Library Renovation and Expansion

In addition, Michael Baker has worked on numerous architectural, HVAC, plumbing, electrical, life safety and sprinkler renovations around the region. Recently, Michael Baker designed and provided oversight during the renovation of buildings at the relocated WVU Tech campus in Beckley West Virginia. These renovations included; architectural, interior design, new roofing, a new and upgraded fire sprinkler system, upgrades to fire alarm systems, and HVAC renovations and upgrades. The size and scope of which is very similar to the project presented in this EOI.

WVU Tech Engineering Classroom Building Renovation

Currently Michael Baker is working on numerous renovation projects at the West Virginia Schools for the Deaf and the Blind in Romney WV. Which includes HVAC, Electrical, Fire Alarm, Life Safety, Fire Sprinkler and architectural projects in multiple buildings.

**For Michael Baker, no job is too large or too small locally or nationally!**

**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. Michael Baker seamlessly integrates architecture, planning, landscape architecture, engineering and 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.

The success of our multidisciplinary approach to the built environment 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.

Institute for Scientific Research, Fairmount WV

In summary,
Michael Baker has the resources and the required qualifications to provide planning, architecture, engineering and design services for GSD on this important project. We have local and nationally recognized experts with the technical experience necessary for this assignment. In addition, Michael Baker's team of experienced professionals have an established record of delivering quality work products to our clients, on schedule and within budget.

Michael Baker's staff can provide documentation of our vast experience in the following areas for this project:

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

From major new or renovated building facilities, infrastructure and aviation, 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 client's most complex challenges.

**DEMONSTRATED EXPERIENCE IN COMPLETING PROJECTS OF A SIMILAR SIZE AND SCOPE FOLLOWS IN SECTION II**

## PROJECT TEAM

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

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

**Management and Staffing**

The project team will be staffed 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, PE; he will also lead the design team, with Senior Architect Joseph Chaffin having design oversite and serving as the Architect of Record. Duncan Penny will lead the architecture, structural and interior design aspects of the project while David Hilliard will lead the Mechanical/Electrical/Plumbing/Fire Protection portion. They will be coordinating extensively with building engineers and the architectural designers to provide the most efficient and practical solutions for the affected building. 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.

**Key Personnel Assigned to the Project**

We are a nationwide firm. As such, we can draw from additional staff of designers and technical experts, providing you with a team that has the resources available to meet your deadlines. We are a diverse team. Our group of architects, designers, engineers and construction management specialists can address any technical issue that may be encountered during all project phases. Unlike most firms, we have in-house personnel specializing in telecommunications, LEED/sustainability, historic preservation and construction management.

As Architect of Record, Joseph Chaffin's professional experience demonstrates a broad practice of architecture and the ability of balancing his creative, organizational, and technical strengths for projects from residential through complex institutional projects. He challenges current capabilities, cultivates leadership, and develops new strengths through his position at Michael 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.

Mr. Hilliard, as Lead Engineer, 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 Michael Baker. His recent design experience has included the design and project management of the West Virginia State University IDIQ, various Higher Education facilities, 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, various Army National Guard Armories and Department of Defense projects, numerous HVAC/Electrical renovations, Master Planning and engineering at the West Virginia Capitol Complex including plumbing and HVAC 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.

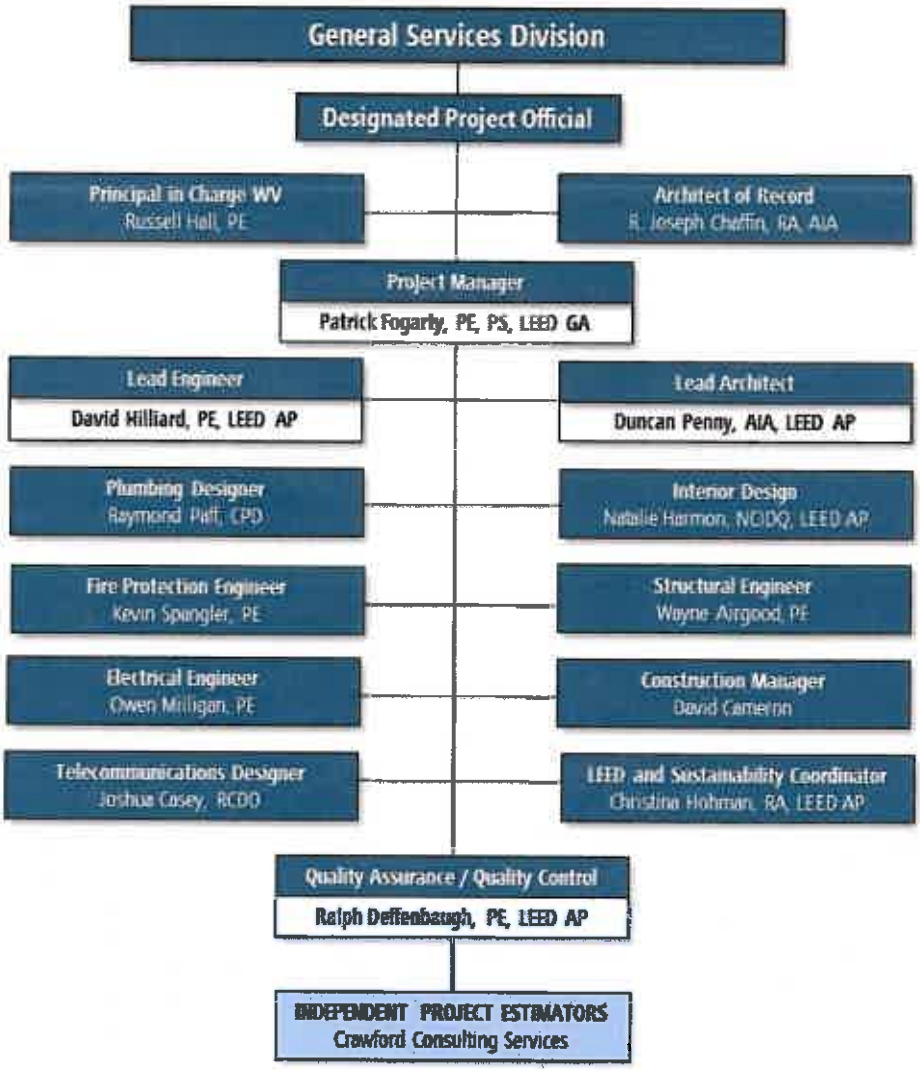
The team pledges our firm-wide resources to provide the GSD with the highest quality product and excellent client service that will exceed your expectations. We truly appreciate your consideration and would be delighted to further discuss our proposal upon request and stand ready to assist at your direction.

In summary, Michael Baker's knowledge of the project building and site, vast building design and inspection expertise, LEED accreditations and sustainable design expertise, and local relationships with GSD staff make us uniquely qualified firm for this important project. Our team is structured around key personnel that have successfully delivered many similar projects and are committed to the quality and schedule required by the GSD.

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

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

## MANAGEMENT




**RESUMES OF TEAM MEMBERS ARE INCLUDED IN SECTION III & SUB CONSULTANT QUALIFICATIONS IN SECTION IV**

## IMPLEMENTATION & METHODOLOGY

GOAL ONE: BUILDING EVALUATION AND REPORT

*Provide a **thorough** evaluation of the HVAC systems, lighting fixtures, and existing generator capacity. Results will be provided in a report with recommendations and associated costs.*

Revenue Center, 1001 Lee Street
Charleston, WV

It is Michael Baker's understanding that HVAC up-grades or renovations to the Building Twenty-Two in Charleston, West Virginia are desired. The approach of the entire project would be holistic in nature. A kick off meeting would be held to help us understand the complete project requirements. The first step of the project would be to gather all existing perinate available information and begin to prioritize work and develop time schedules for the project tasks. This process could include identification of existing HVAC and lighting system 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 evaluating of the building to determine its current performance. Building energy cost will be compared with the 2012 U.S. Commercial Building Energy Consumption Survey (CBECS) and other Michael Baker project to grade current building performance. The CBECS compares average energy use for building of various types in similar areas of the County. This gives a baseline to make comparisons with Building 22.

The building envelope will be reviewed including; insulation, windows and roofing in order to develop an energy model. General layout and space utilization floor plans will also be developed from as found inspections to assist in determining the building load and system upgrade requirements. The data generated from the building model can be used to compared to the current energy usage to schematic design options to help determine the best HVAC lighting and emergency power design solutions.

The projects will be studied in a systematic way to analyze the existing conditions, client needs, affected system demands, phasing, budget and construction time frame. Owner Design Requirements will be established first before the report is started. Design and construction schedules, and budget considerations will be addressed in the Report. While developing the report, Michael Baker will offer to hold On-Site Session Stake-Holder meetings, if desired, to discuss current building issues, identify key criteria and look at some design options. It is important to achieve early consensus to reduce changes during the design process.

The final Repot will include recommendation, design options, and corrective measure cost opinions.

Michael Baker can provide a variety of services with professionals that have extensive experience in many fields of expertise. This allows the core team members access to expertise in all areas of study. Our Architects and Engineers will be involved in all aspects of the existing condition assessment and project design. Depending on the task this may include: Architectural, Structural, Mechanical, Electrical, Plumbing, Fire Protection, Communication and Life Safety engineering. As needed Client design coordination meetings and/or site visits can be provided as a normal part of the design development process. This will help to ensure that GSD is receiving the facility that they need to provide a quality experience for the patrons and staff.

To gain a thorough understanding of the existing building and its usage, the following reviews or inspections could be performed prior to developing the Schematic Design options.

- Building code, ADA and life safety issues
- Mechanical systems
- Lighting and project related electrical systems
- Elevator systems
- Evaluate what would be required to bring the building up to more modern office standards.
- Determine the least disruptive approach for the design of a multi-phase construction project

## GOAL TWO: DESIGN AND CONSTRUCTION DOCUMENTS

*Provide Construction Documents and construction phase services based on the results of the building evaluation to resolve issues noted and to bring the building up to current office standards.*

The back of the Revenue Center Building

Based on the information established in the Report, the Michael Baker staff will develop schematic design concepts required to provide the designs of the most cost-effective systems to achieve the GSD project requirements. A general code review would also be undertaken to determine the State/Local Codes and any special requirement that would affect concept selection. Only then will the appropriate solutions to meet all those requirements be determined. Analyzing multiple solutions provides the client the ability to choose the most cost-effective approach for the project. Regular communication with the Client will be maintained throughout the entire process. Depending upon the desires of GSD, a minimum of two potential design approaches will be presented. When various design concept options are developed, and the approach is identified from a technical standpoint, the cost estimating group would be engaged to provide the financial feasibility of each option. Based on discussions and approvals from GSD, the approved schematic design will be brought into design development (DD) to produce 65% complete plans. DD level technical specifications and construction cost estimates will be provided at this submission.

Once the DD level documents have been approved, the plans will be further developed to provide a 95% set of documents for review by GSD. These plans could be used to submit to the State Fire Marshal as well as the City of Beckley for review and comment.

## QUALITY CONTROL

Michael Baker performs an Internal Technical Review (ITR) as part of our normal design process. This process is done on every project before it goes out the door and is part of "*The Michael Baker Way of Project Management*". This ITR is performed by professionals that are not part of the design team but are experts in the prospective fields that they review. This ensures a nonbiased and critical review of the project documents. This process helps to minimize small errors and omissions and yields a smoother bidding process.

PROJECT DRAWINGS

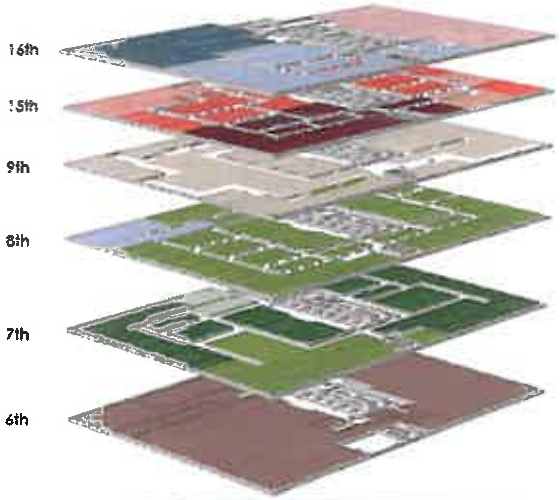
The drawings will be prepared in AutoCAD or Revit format, whichever is preferred by GSD and will have copyright protection. All files will be provided to the client upon completion of the project for future use. The drawings will be 'bound', such that the files will not require external references and allows for easy future use and alteration.

GOAL THREE: DESIGN AND CONSTRUCTION OF MULTI-PHASE PROJECTS

*Provide construction phase services for a multi-phase construction project.*

CONSTRUCTION DOCUMENTS

Regular progress submissions for review will be made to GSD as determined in the project schedule developed at the beginning of the project. **Michael Baker will work with GSD and the Revenue Center management to develop an efficient and practical project phasing plan.** The least disruptive Multi-Phase approach will be determined, and this plan will be included within the construction documents for a multi-phase construction process to maintain ongoing occupancy.




Here is an example of a similar project for the renovation of 7 floors for the 73,000 SF Duquesne Light Company Headquarters building in Pittsburg PA. It included Phased Renovations to maintain Ongoing Occupancy. Phasing plans were developed to move agency staff around during construction while maintaining adjacency to collaborative agencies. These plans were reviewed and approved by the effected agencies prior to the project going out to bib, so the staff could prepare for the disruption well in advance of actual construction.

Also included will be plans to show the limitations and requirements for the demolition and removal of the existing components and systems to facilitate the new work. Documentation will include the location of "affected" existing utilities or service lines as needed for renovation efforts. Cost estimates will be updated upon the completion of the 100% Construction Documents plans and specifications. The Architect / Engineer designer of record will be providing final sealed drawings and specifications for the entire project whether multiple bid packages are utilized or plans, and specifications are provided as one project with multiple phases.

CONSTRUCTION ADMINISTRATION

Site visits and construction inspection serves are part of Michael Baker's holistic project services. The team members that started the project will be the same professionals providing the regular onsite inspections during construction. All products intended to be installed on the project shall be submitted to and approved by the A/E of record. The shop drawings provided by the awarded contractor will be reviewed by the A/E of record to ensure that they meet all code requirements, specification criteria and are appropriate for the project and will be approved based on meeting those requirements.

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

GOAL FOUR: BIDDING AND PROCUREMENT

*Provide approach in performing the Procurement Phase and working with State Agencies.*

BIDDING DOCUMENTS

Michael Baker is well aware of West Virginia State Purchasing Guidelines and has worked though the process many times. We will provide all necessary design and bidding documents for all aspects of the design. Specifications for the installation of all required products or components will be provided as part of the bid package. Michael Baker will provide Bidding support and assistance as needed. Our local office has a good relationship with both GSD and State Purchasing and will work to provide the State Revenue Office with an efficient and comfortable HVAC and Lighting system project for their building.

## COST CONTROL

GENERAL

Michael baker has broad experience in sensitive and partially occupied 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.

The Michael Baker team is very familiar with most of the local contractors and can work productively with a selected contractor to provide the GSD 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, as stated in the *Michael Baker Way*, Michael Baker professional ITR 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 GSD staff, will determine whether we move forward with the current design or make engineered adjustments to the design to stay on budget.

**DEMONSTRATED EXPERIENCE IN COMPLETING PROJECTS OF A SIMILAR SIZE AND SCOPE FOLLOWS IN SECTION II**

**ADDITIONAL REFERENCES ARE PROVIDED IN SECTION V**

# SECTION II

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# Allegheny Professional Building Conditions Assessment

## *Allegheny Professional Building, Pittsburgh, Pennsylvania*

### *Client*

Allegheny Health Network
1300 Sandusky Street
4AC 7th Floor
Pittsburgh, Pennsylvania 15212

### *Completion Date*

2017

### *Project Costs*

$9,000 (Fee)

### *Michael Baker's Role*

- Conditions assessment
- On-site visit

Michael Baker performed a conditions assessment for the existing Allegheny Professional Building in Pittsburgh.

Michael Baker completed a building conditions site visit with a two-person team. Allegheny Health Network staff management also participated in the interior building assessment tour. Michael Baker was provided access to areas of the building and insight on the current conditions of the facility.

The report's purpose was to evaluate the condition of the existing building prior to the potential acquisition. Michael Baker's assessment focused on common areas and overall building systems but did not include condition assessments of each individual tenant space. Several tenant spaces were reviewed to an extent only as needed to assess the overall building condition rather than to discover deficiencies or repairs specific to these spaces. Additionally, building features or conditions required by the property insurance carrier and the identification of asbestos, lead paint, lead water supply lines, or other hazardous materials were not included in this report. The building was previously tested for asbestos-containing materials, but none were found.

Additionally, Michael Baker provided concept for reworking the elevator shafts to provide for ADA elevators in the building.

The building, constructed in 1978-79, is a six-story, 83,543-square-foot caisson-supported, concrete framed building with hollow core concrete floor slabs. Perimeter walls on the ground and first floors are brick masonry veneer over concrete masonry units. Perimeter walls on the upper floors and penthouse are metal stud with a synthetic plaster-coated insulation board as the exterior insulation and finish system.

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# Allegheny Valley Hospital (AVH) Relocate Administrative Spaces

## *Natrona Heights, Pennsylvania*

Michael Baker is providing architecture, interior design, and engineering services for the design for the Allegheny Valley Hospital Relocate Administration and Space Consolidation Renovation. After completing Stage I and Stage II reports (programming and schematic design), Michael Baker provided construction documents for bidding, permitting, and Pennsylvania Department of Health approvals.

The Stage II report documents the intended purpose for the study, the advancement of the design, and the opinion of probable construction cost for the project, which consists of relocating the occupants from the existing administration building to available spaces (after consolidation) within the current hospital. Ten spaces were addressed in the programming phase, with an 11th space added at the kick-off meeting.

The proposed areas of relocation include:

- Area 1 – Convert Hydrotherapy to offices and conference room.
- Area 2 – Convert Occupational Therapy to office space.
- Area 3 – Convert Patient Access Registration (PAR) to include Phlebotomy registration.
- Area 4 – Convert Phlebotomy to HR offices and conference room.
- Area 5 – Convert Cardiac Conference room to gift shop.
- Area 6 – Convert Endoscopy Room 4 to Bronchoscopy.
- Area 7 – Convert Bronchoscopy to employee health administration area.
- Area 8 – Convert Carlisle Café to administration offices and conference room.
- Area 9 – Convert Radiology File Storage to Incident Command Center and administration office and conference room.
- Area 10 – Add lighted display cases in breezeway and lobby.
- Area 11 – Convert transcription to training room.

Additionally, Michael Baker developed construction documents that include the following work:

- Provide overall plans and elevations of all the surfaces that require repair and restoration.

### *Client*

Allegheny Health Network
1300 Sandusky Street
4AC 7th Floor
Pittsburgh, Pennsylvania 15212

### *Completion Date*

Estimated 2019

### *Project Costs*

$95,919 (Fee)

### *Michael Baker's Role*

- Engineering services
- Conceptual design services
- **Architecture**
- Structural engineering
- Mechanical engineering
- Electrical engineering/telecom
- Fire protection

- Alterations to the architectural layout of the renovated spaces.
- Interior design for the renovated spaces and to tie new walls into the existing design.
- Mechanical and plumbing engineering to rework existing systems and provide new equipment where needed.
- Electrical and telecommunications engineering for the new administrative functions.
- Fire protection engineering for fire alarm and sprinkler systems.
- Design for increased accessibility with automatic doors.
- Security design for locking of doors, securing files, and camera locations.

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# WVARNG Charleston Armory HVAC & Architectural Renovations

## *Charleston, West Virginia*

### *Client*

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

*Major 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

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

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

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# WVU Institute of Technology, Classroom Building

## *Beckley, West Virginia*

***Client***

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

Rob Moyer Facilities Director

***Completion Date***

July 2017

***Michael Baker's Role***

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

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

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

The facility also received exterior upgrades and 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.

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# Office Building Design

## *West Mifflin, Pennsylvania*

Michael Baker served as the lead designer for the design-build delivery of two 40,000-square-foot office buildings on a previously developed research laboratory campus.

The project included two identical, mirrored-surface, three-story buildings and conjoining courtyard constructed on the existing parking area, with significant utility infrastructure clearance requirements. Each building achieved LEED® Gold certification.

Michael Baker and its team developed the design plans in compliance with applicable building codes and industry standards, Americans with Disabilities Act (ADA) requirements, the client's existing campus master plan, and low-impact design (LID) principles. The buildings blend seamlessly with the surrounding architectural environment.

Key design features are highlighted below.

### Building Construction

Both office buildings consist of structural steel framing systems with exterior facades consisting of a combination of brick veneer and EIFS. The lateral force-resisting systems are ordinary steel moment frames. Open-web steel joists support the galvanized metal roof deck and insulated white EPDM membrane roofing system. The elevated floor slabs include reinforced concrete over composite steel deck supported by structural steel beams and columns.

Due to varying subsurface conditions, each office building has a different foundation system. Michael Baker designed one building to be founded on a shallow system of spread- and strip-footings bearing on bedrock. The foundation system of the other office building includes a deep system of reinforced concrete grade beams supported by drilled shafts (caissons).

### Plumbing

The plumbing system design included domestic water, fire protection service main, sanitary sewer, and natural gas, with appropriate piping and equipment. Michael Baker specified plumbing fixtures with an ultra-low-flow design to meet LEED® water efficiency requirements for a minimum 35-percent reduction in water use.

*Domestic Water*

The minimum domestic water service size is four-inch piping with a calculated demand flow rate of 106 gallons per minute. The water main enters the mechanical room in each building through a main shut-off valve and includes a water meter with strainer and double-check assembly backflow preventer. A reduced-pressure-zone backflow preventer was installed on the make-up water lines for the HVAC systems.

***Client***

Confidential Client

***Completion Date***

2015

***Project Costs***

$680,208 (Fee)

***Michael Baker's Role***

- Project management
- Sustainable design
- Site and civil engineering
- Structural engineering
- Mechanical engineering
- Plumbing design
- Fire protection engineering
- Electrical engineering
- Communications design
- LEED® credit documentation

Michael Baker's domestic hot-water system design for each building consisted of three electric water heaters, with a 20-gallon storage capacity and an input of 2,500 watts, located in each janitor's closet, and a single electric water heater, with a 30-gallon storage capacity and an input of 2,500 watts, located in the mechanical room. The water heaters provide 140 degrees F storage temperature. Each heater includes a control system and an ASME-rated pressure and temperature relief valve, thermostatic mixing valve compliant with ASSE 1017, and thermal expansion tank.

Michael Baker designed a skid-mounted, variable-speed, duplex pump system with control panel and hydro-pneumatic tank for the domestic hot water system, to be housed in the mechanical room of each building, along with a booster pump system to meet site pressure requirements. Domestic cold and hot water heating systems were designed for a maximum piping loss of 10 PSIG.

*Sanitary Sewer*

The calculated total sanitary sewer load for the buildings is 188 DFU, with a six-inch sanitary sewer lateral provided at 1/8 inches per foot-slope, designed in accordance with the plumbing code. Michael Baker's design combined vent piping as feasible to reduce roof penetrations.

*Natural Gas*

The gas pressure to the buildings is eight PSI. An exterior-mounted gas pressure regulator reduces the gas pressure into the buildings from eight PSI to 0.5 PSI. The gas meter is located in the mechanical room.

**Stormwater Sewer**

Michael Baker designed an interior storm sewer system, with roof drains, in the building central flat-roof area and at exterior canopies. The calculated roof storm sewer collection is approximately 11,710 square feet. The design specifies an eight-inch storm sewer lateral at 1/8-inch per foot-slope, designed in accordance with the plumbing code.

**HVAC Design**

Michael Baker designed the HVAC system with direct digital controls and high-quality HVAC equipment to provide optimal indoor air quality, comfortable indoor air temperatures and humidity levels, low operating equipment noise levels, and energy performance that meets or exceeds ASHRAE 90.1-2010 requirements.

Primary HVAC equipment consists of two variable air volume (VAV) rooftop units (RTU). Each VAV RTU serves approximately 50 percent of the building area and features direct expansion (DX) cooling, natural gas-fired heating, and 100-percent modulating outdoor air economizers with enthalpy controls. VAV RTUs have supply and exhaust fans. Building pressurization is maintained at a net positive relative to the ambient outdoors to improve energy performance by minimizing infiltration. Secondary HVAC equipment includes parallel-fan powered and single-duct VAV terminal units.

The HVAC distribution system consists of low- and medium-pressure supply air ductwork, return air ductwork, and air devices. A general exhaust system of low-pressure ducts collects air from the kitchenettes, shower room, and the restrooms serving all three floors and discharges to the outdoors. A secondary exhaust system serves the elevator machine room and the janitor's closets on all three floors and continuously discharges air to the outdoors.

In compliance with ASHRAE Standard 62.1-2007, outdoor air is provided for ventilation. High-efficiency air filters meet LEED® requirements.

Heating water is provided to each facility by two high-efficiency, condensing, commercial-grade natural gas-fired boilers. The heating water supply and return temperatures are 130 degrees F and 105 degrees F, respectively. The boilers are located in the first-floor mechanical room and will have piped combustion air intakes and exhaust flues. Michael Baker specified the use of boilers with heating water supply temperature reset controls to improve energy efficiency and overall building energy performance. Variable-volume distribution pumps deliver hot water to all VAV box reheat coils and hot water cabinet unit heaters. Constant-volume primary pumps ensure that the minimum flow required through the boilers is maintained.

**Lighting, Electrical, and Telecommunications System Design**

Energy efficiency was also a key focus for overall building power systems design. General illumination is provided by energy-efficient, low-maintenance, fluorescent luminaries. Michael Baker utilized the latest proven design techniques to achieve the required levels of illumination. Offices and conference rooms are provided with dimming and vacancy sensor controls to maximize energy savings when these areas are unoccupied.

The electrical systems design, which complies with the latest version of the National Electrical Code (NEC) NFPA 70-2011, includes primary underground cables, a new pad-mounted transformer, building-mounted exterior courtyard lighting, grounding, distribution and appliance panelboards, and interior dry-type transformers. Electrical power to the buildings is provided via a 13.2 kV primary radial loop, utilizing both existing and new transfer switches. The buildings has 480/277V electrical service to supply power to all major building system loads. A ground and bonding loop is provided for the exterior electrical equipment.

Telecommunications voice, data, security, and emergency alert system cabling are routed to the facilities via an existing duct system. A fiber-optic campus backbone cable emergency alert system is installed between the two buildings. Intrusion detection systems are provided for open storage areas.

**Fire Alarm and Emergency Mass Notification System**

A fully addressable, intelligent, annunciated fire detection and alarm system is provided throughout each building. The electronically supervised fire detection and alarm system enable manual and automatic operation. All initiating, signaling, and notification appliance circuits are wired as Class B systems. The fire detection and alarm system are connected to the existing emergency alert system and will have battery backup.

**Sustainability**

Overall, the two new buildings each consume approximately 22 percent less energy than comparable buildings. The Michael Baker team's sustainable strategies included a continuous exterior wall and roof air barrier to reduce air leakage, light-reflective interior finishes to reduce lighting loads, material and equipment compliant with Energy Star® requirements, exterior wall and roofing systems that exceed ASHRAE 90.1-2010-required R-values, and mechanical and electrical systems that will reduce the building energy demands.

**Project Awards**

LEED Gold A-5 Office Building for New Construction, West Mifflin, PA, February 13, 2015

LEED Gold A-6 Office Building for New Construction, West Mifflin, PA, February 13, 2015

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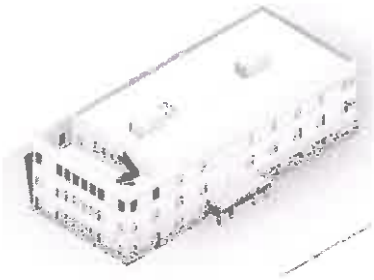

MRTC OFFICE BUILDING - AXON VIEW

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# West Virginia State Capitol Restroom Renovations

## *Charleston, West Virginia*

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

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

### *Client*

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

### *Completion Date*

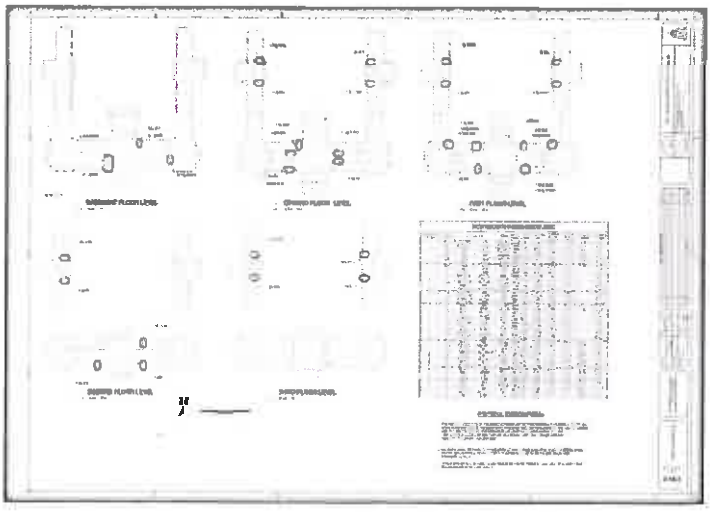
Awaiting funding

### *Michael Baker's Role*

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

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

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



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# Phase 1 Building Systems Study

## *Ashley, Luzerne County, Pennsylvania*

Michael Baker performed a Phase 1 system study and review of the building systems in the Luzerne County Maintenance Office. Michael Baker's services included project management, site investigation, data collection and analysis, report preparation, and cost estimates.

The purpose of the project was to conduct an exploratory review of the building's front office heating, ventilation, and air conditioning (HVAC) system and the building's fire alarm system and to develop recommendations for a Phase 2 scope. Michael Baker performed the study under an open agreement to provide facility design services. The project is multi-phased since the recommendations require follow up site visits and monitoring of the corrective measures. The project was multi-phased, as the recommendations required follow up site visits and monitoring of the corrective measures.

Michael Baker conducted a preliminary meeting with representatives of the department's facility management division, the Penn State Facilities Engineering Institute of Pennsylvania State University, staff of the Luzerne County Maintenance Office, and the HVAC maintenance contractor.

### *Client*

Pennsylvania Department of Transportation, Central Office
Commonwealth Keystone Building
400 North Street, 7th Floor
Harrisburg, Pennsylvania 17120

### *Completion Date*

2017

### *Project Costs*

$52,306 (Fee)

### *Michael Baker's Role*

- Project management
- Site investigation
- Data collection and analysis
- Stakeholder coordination
- Report preparation

The study included a comparison of the original administration office area design with the as-built construction drawings of the building's HVAC system and fire alarm and fire suppression system. Michael Baker reviewed commissioning reports for the boiler units, air handlers, and related equipment of the HVAC and fire protection system supporting the administration office area, and reviewed the compatibilities of the HVAC equipment's and the fire panel controls.

Michael Baker reviewed all operations and maintenance manuals for the building systems and the required preventative maintenance schedules and service requirements, per the manufacturers' recommendations, and compared them with all the maintenance records, maintenance contracts, and service calls for the building systems that were in place since the maintenance staff occupied the facility in the fall of 2011. Michael Baker also reviewed the Penn State Engineering Institute's reports and recommendations and determined whether the recommendations were implemented and functioning.

Michael Baker prepared a final report and recommendations, including cost estimates to develop a Phase 2 scope, which includes diagnostic testing, commissioning, and development of preventative maintenance schedules; development of maintenance contract specifications; and implementation of the Phase 1 findings.

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# Office Space Renovations

## *Pittsburgh, Pennsylvania*

Michael Baker provided interior design and engineering services to renovate the sixth floor and parts of several other floors in a downtown office building. Michael Baker's services included conceptual, preliminary, and final design of interior finishes; plumbing, lighting, and fire protection engineering design; bidding-phase support; and construction support services.

### Project Background

The company leases and occupies multiple floors in a downtown office building. The purpose of the project was to redesign the sixth floor of the multi-story office building in coordination with design work that Michael Baker had recently completed in the elevator lobbies throughout the building. Renovation of the sixth floor was a high priority due to the condition and use of the space. Michael Baker evaluated the space for new interior finishes for walls, floors, ceilings, and lighting.

Michael Baker provided interior design and engineering services for the renovation under a four-year master services agreement for design and construction. Upon completion of the sixth floor renovation, the company modified the scope to include the seventh and eighth floors and a breakroom area on the second floor.

### *Client*

Duquesne Light Company
411 7th Avenue
Floor 16
Pittsburgh, Pennsylvania 15219

### *Completion Date*

2017

### *Project Costs*

$30,720 (Fee)

### *Michael Baker's Role*

- Preliminary and final interior design
- Preliminary and final plumbing, lighting, and fire protection design
- Bidding-phase support
- Construction services

Except for some minor plumbing work in the breakrooms, engineering design consisted of lighting and fire protection modifications associated with the new ceiling work.

### Design Development and Final Design

After meeting with company representatives and surveying the space, Michael Baker presented two proposed design concepts for the sixth floor. The 50 percent design documents included a schematic floor plan, interior elevations, a reflected ceiling plan, and loose finish samples.

Based upon the review comments and approval of the design development documents, Michael Baker prepared a complete set of final construction documents, including building plans, elevations, and detail drawings that established in detail the quantity and quality levels of materials and systems necessary for the bidding and construction of the project.

### Bidding-Phase Support

During the bidding phase, Michael Baker assisted in the selection of and negotiation with the contractor. Michael Baker provided responses to requests for interpretation through written addenda to the construction documents.

## Construction-Phase Services

Michael Baker reviewed product and systems submittals by the contractor during construction. Michael Baker conducted one site observation of the work at substantial completion and issued a punch-list report, and then conducted a follow-up site observation of work at project completion.






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# J.J. Pickle Federal Building Renovations

## *Austin, Texas*

Michael Baker is providing engineering services for building system renovations to the J.J. Pickle Federal Building. Michael Baker's services include mechanical, electrical, and plumbing design; exterior repairs; and space planning.

The 11-story concrete building, constructed in 1964, provides approximately 275,000 gross square feet office to six federal agencies, including the Internal Revenue Service, U.S. Department of Homeland Security, U.S. Department of Transportation, U.S. Department of Agriculture, congressional offices, and other smaller agencies. The building includes large plaza and is connected to the smaller Homer Thornberry Building by an underground tunnel.

The houses a suite of rooms that was used by President Lyndon B. Johnson during his term of office. The suite retains the original finishes and many of the original furnishings chosen by the president, and the building is eligible for listing in the National Register of Historic Places because of the suite's significance.

### *Client*

General Services Administration
7th and D Streets, SW
Room 7600
Washington, D.C. 20407-0000

### *Completion Date*

2018

### *Project Costs*

$1,697,366 (Fee)

### *Michael Baker's Role*

- Mechanical, electrical, and plumbing design
- Exterior repairs
- Drainage system upgrade design
- Space planning

The building systems are outdated and have reached the end of their useful life. Outdated heating, ventilation, and air conditioning (HVAC) control system and related electronic components need frequent repairs and parts are no longer available. The majority of the components of the facility's central plant are approaching the end of their useful life, thereby requiring the removal and replacement of boilers, cooling towers, and a chiller. Upgrades to the building's exterior include roof replacement as well as work on the windows and the plaza. The fire alarm is outdated and needs to be replaced to ensure life safety.

The windows have been leaking at for some time, causing damage to plaster in tenant spaces. Window glazing is extremely stained and window gaskets are near the end of their useful lives. Installation of a waterproof membrane is needed in the plaza between the Pickle and Thornberry Buildings to prevent further water infiltration and prevent leakage into Pickle office space beneath the plaza.

The project involves cleaning and recaulking the exterior of the building, replacing the flexible joint system in the building façade to address water infiltration, refurbishing the windows, replacing the roof, upgrading the life-safety systems, replacing the HVAC distribution system, replacing the toilet exhaust system, fixing the air-flow problem, upgrading the restrooms' finishes and fixtures, replacing the electric drinking water coolers, replacing the sewer and stormwater sump pumps, upgrading accessibility, replacing the carpet in the public corridors, and repairing the plaza and planters to correct drainage issues.

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# Little Kanawha Bus Administrative and Maintenance Facility

## *Grantsville, West Virginia*

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

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

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

### *Client*

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

### *Contract Completion Date*

2013

### *Baker's Role*

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

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# Administrative Space Utilization Study

## *Pittsburgh, Pennsylvania*

Michael Baker developed a comprehensive space utilization plan for the company's headquarters office, three regional offices, and five service centers; approximately 350,000 square feet of administrative space serving approximately 1,300 personnel. Michael Baker's services included data collection and analysis, building surveys, stakeholder interviews, space requirements analysis, conceptual design, space standards update, and report preparation.

The company provides electrical utility services to more than 584,000 customers in Western Pennsylvania, and owns and operates a transmission system consisting of 345-, 138-, and 69-kilovolt lines and equipment. The company maintains customer service, administrative, and substation facilities throughout the service area. Michael Baker performed the space utilization study under a three-year master services agreement to provide design and construction services.

### *Client*

Duquesne Light Company
411 7th Avenue
Floor 16
Pittsburgh, Pennsylvania 15219

### *Completion Date*

2015

### *Project Costs*

$92,067 (Fee)

### *Michael Baker's Role*

- Space utilization study
- Data collection and analysis
- Stakeholder interviews
- Building surveys
- Space requirements analysis
- Conceptual design
- Space standards update
- Report preparation

### Data Collection and Analysis

Michael Baker reviewed the company's organization chart, space standards, and building plans, and performed a survey of each of the nine buildings to verify the sizes and configuration of administrative spaces. Michael Baker conducted on-site interviews with stakeholders at each location to determine current personnel levels, space utilization, and current department configurations, and to project the space needs five years into the future.

### Requirements Analyses

Using the data that was collected regarding current personnel, Michael Baker performed department space requirements analyses based on functional adjacencies, operational requirements, and anticipated future growth.

Michael Baker performed a gap analysis to identify excesses and deficiencies of space, comparing existing space utilization with the company's administrative space requirements. Michael Baker prepared a space utilization report, which included conceptual layouts of recommended projects to resolve excesses and deficiencies.

### Conceptual Design and Space Standards Update

Based on the analysis and report, Michael Baker developed a preferred conceptual layout of spaces, if additional space was required. Michael Baker developed three-dimensional conceptual diagrams for notional projects to illustrate the preferred solutions to excesses and deficiencies.

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# Design of U.S. Army Reserve Center Renovation and Expansion

## *Homewood, Illinois*

As designer of record, Michael Baker provided architectural and engineering services for the renovation of a 400-member U.S. Army Reserve Center (ARC) and construction of two single-story additions totaling 35,694 square feet–a 34,294-square-foot Training Building and a 1,400-square-foot ancillary structure–along with a 3,500-square-foot Unheated Storage Building. The project also includes parking spaces for 140 privately owned vehicles (POV) and approximately 22,000 square yards for military equipment parking (MEP).

Tasks were performed under an indefinite quantity-indefinite delivery engineering agreement.

The project involved complete renovation of the 24,680-square-foot, single-story Vietnam Veterans' Memorial ARC, which was erected in 1985, using the existing footprint. While the ARC had reliably served south Chicago, the structure's building systems were nearing the end of their design life. Replacement was required to enable the facility to accommodate growing U.S. Army Reserve Unit Brigade Combat Team training needs, optimize operations, and achieve mission goals. The client chose renovation as it was a much more cost-effective alternative than replacement.

The 34,294-single-story Training Building addition accommodates core training functions and establishes the main point of entry for the ARC. This new structure includes offices and administrative areas, an assembly hall, classrooms, a library, a learning center, and an assembly hall with a kitchen. The approximately 1,400-square-foot ancillary addition houses a mail room and staging area. The renovated portion of the ARC houses utilitarian areas, including unit storage and heated storage spaces, a physical readiness room that features a 1,643-square-foot fitness center with a full complement of athletic equipment and is served by adjacent showers and locker rooms, a weapons simulator room, an arms vault, mechanical and electrical rooms, and a janitor's closet. A free-standing wash rack is provided near the Unheated Storage Building to meet vehicle cleaning needs.

The Unheated Storage Building provides space for storage of user operational equipment that requires no temperature or humidity control.

### *Client*

U.S. Army Corps of Engineers,
Louisville District
Room 972
600 Dr. Martin Luther King, Jr. Place
P.O. Box 59
Louisville, Kentucky 40202

### *Completion Date*

2015

### *Michael Baker's Role*

- Planning
- Environmental investigation
- Hazardous materials surveys
- Sustainable design
- Site and civil engineering
- Geotechnical investigation
- Architecture
- Interior design
- Structural engineering
- Mechanical engineering
- Plumbing design
- Fire protection engineering
- Electrical engineering
- Communications design
- Cost estimation
- LEED® credit template documentation

Supporting project elements include environmental investigation prior to renovation of the existing ARC; grading, paving, fencing, and signage; force protection measures; exterior lighting; utility and storm drainage system connections; fire protection and fire alarm and mass notification systems; and security lighting. Structures provide access for disabled individuals. The project expanded existing parking facilities by approximately 68,800 square feet to accommodate equipment and serve reservists and visitors.

Michael Baker designed the ARC reconfiguration to meet LEED® NC 2009 Silver certification. Tasks for which Michael Baker was responsible include engineering feasibility evaluation, architecture, surveys, hazardous waste investigation of the existing ARC and remediation recommendation, geotechnical investigation oversight, all site and building engineering, cost estimating, value engineering, and LEED® credit template documentation. Michael Baker convened a design charrette and collaborated with the client in identifying needs and preferences and preferred design alternatives.

Designs comply with applicable federal, state, and local codes and standards, including the following: Unified Facilities Criteria ([UFC] 4-171-05); International Building Code; International Plumbing Code; International Mechanical Code; National Fire Protection Association (NFPA) standards; Uniform Federal Accessibility Standards; the Americans with Disabilities Act; the Environmental Protection Agency Clean Water and Clean Air acts; and the requirements of ASHRAE, American National Standards Institute, American Society for Testing and Materials, and OSHA.

**Site Reconnaissance and Geotechnical Investigation**

Before work commenced, the Michael Baker team evaluated and documented existing surface and subsurface conditions, which entailed making several visits to the site.

Michael Baker also conducted an environmental building survey of the existing ARC. Michael Baker performed a hazardous material investigation, prepared an environmental report, and developed designs to remediate issues.

To evaluate geologic conditions, Michael Baker oversaw a geophysical survey, which involved time-domain electromagnetic technology, ground-penetrating radar, and radio detection. The team identified underground utilities and excavated test pits to expose unmarked utilities, which helped to avoid project schedule delays and complications during construction. Geotechnical evaluations confirmed that shallow spread footings would be an acceptable foundation type for the Training Building and Unheated Storage Building.

**Overall Building Construction**

The Training Building addition is of permanent construction and includes reinforced concrete foundations, concrete masonry load-bearing walls and concrete floor slabs; structural steel framing; mechanical, electrical, information, security, and fire suppression sprinkler systems; automated building HVAC mechanical and lighting system controls; energy-efficient lighting; interior finishes; window systems; standing-seam metal roofing; and exterior finishes consisting of attractive masonry facades.

The Unheated Storage Building is a pre-engineered metal building supported by a reinforced concrete foundation with a cast-in-place concrete on-grade floor and sloped roof.

The vehicle wash rack also has a sloped roof supported by a pre-engineered metal building with steel purlins spanning between steel girders. The girders form steel rigid frames with the building columns.

## Exterior Systems

*Building Envelope*

A structural steel framing system supported by load-bearing concrete masonry walls and steel columns, beams, and joists forms the exterior envelope of the Training Building additions and supports gravity loads. The exterior wall system of the building additions is brick masonry veneer with rigid cavity wall insulation and concrete masonry backup, and the foundation system is slab-on-grade concrete.

A concrete masonry shear wall system will resist lateral loads imposed by wind and seismic forces. The exterior walls are designed to distribute lateral forces to the roof diaphragms and then to the shear walls and foundation system.

The roofing system of each building addition consists of a modified bitumen membrane roof with one-inch-in-12 pitch, sloped towards roof drains that are connected to the site stormwater system. Each roofing system is supported on a one-inch galvanized metal roof deck spanning between open-web joists. Joist members are supported by steel girders and masonry load-bearing walls.

An expansion joint separates the existing ARC from the primary building addition; the smaller addition is directly attached to the existing ARC.

The roofing system and underlying insulation on the low-slope roof of the existing ARC were replaced with new polyisocyanurate insulation with an R-28 value and a low-slope, modified bitumen roofing system. The roofing system over the primary building addition is a low-slope roof with a modified bitumen membrane. The roof sections of the primary and ancillary building additions have integrally manufactured white reflective coating to minimize the heat island effect. The new ARC roof light monitors have standing-seam metal roofs.

The Training Building additions incorporate thermally broken, anodized aluminum, fixed windows with aluminum storefront assemblies for large expanses of glazing and light at the major building entry point. Insulated, painted metal doors in hollow metal frames serve all utilitarian areas.

The Unheated Storage Building is a pre-engineered metal building with insulated metal wall and roof panels, non-insulated exterior walls, and a slab-on-grade concrete floor.

## Interior Systems

The interior design of the reconfigured ARC supports the client's functional and aesthetic needs. Painted gypsum wallboard is used for the majority of interior partitions in the Training Building. Exceptions are the vault, which consists of painted reinforced concrete walls in accordance with UFC, and the unit storage, kitchen, and mail screening room, which incorporate painted concrete masonry units. Wall color and floor coverings comply with UFC 4-171-05.

## HVAC

The HVAC systems reflect an array of design solutions to serve a variety of spaces and building functions.

The Training Building is served by a central, modular, water-to-water heat pump plant, which is tied to a closed-loop geothermal wellfield, along with a closed-circuit fluid cooler for loop-heat rejection; high-efficiency, natural gas-fired boilers; variable-flow hydronics; an HW/CHW VAV air handling system; and a Unit Storage area ventilation unit

featuring direct-fired gas heating. Carbon dioxide and occupancy sensors vary the outside air quantities based on real-time occupancies for energy savings.

The design also features an antiterrorism and force protection-rated mail processing area, humidified TERs, and direct digital controls, which will regulate and monitor all building HVAC systems and monitor all building utilities.

*Electrical Design*

The electrical system includes power, lighting, fire alarm and mass notification, structured cabling raceway, public address, cable television distribution, telecommunications, and security systems. Michael Baker selected the main switchboard, distribution panelboards, and lighting and appliance panelboards for the Training Building for high reliability, low maintenance, efficiency, and maximum flexibility. As well, Michael Baker selected the step-down transformers for low-energy loss and short-term overload capability.

Electrical service is also provided from the reconfigured Training Building to the existing Organizational Maintenance Shop via a 480v feeder circuit and a 480v feeder circuit to the new Unheated Storage Building.

Conserving energy in interior and exterior lighting was Michael Baker's design priority for the Training Building. Interior lighting design incorporates low-maintenance fluorescent fixtures with energy-efficient electronic ballasts and T8 lamps. Interior systems include occupancy sensors and lighting control panels to turn off lights and conserve energy in office areas, corridors, and restrooms. Exterior lighting included building-mounted and site pole security lighting with energy-efficient, long-life LED lamp sources. The parking area hardstand and roadways include pole-mounted security lighting.

Michael Baker designed a photovoltaic energy system consisting of ground-mounted solar panels and DC-to-AC inverter to produce equivalent annual kilowatt hours (kWh) consumed by the site lighting system. The photovoltaic system was designed to produce a nominal peak output power of 15 kW. This "green power" was connected to backfeed the building power distribution system and supplement the utility grid power source to the site, thereby reducing peak power demand from the utility.

Michael Baker also prepared specifications for a complete building lightning protection system with UL master labeling for the Training Building. The system consists of air terminals located at the roofline with grounding cables and down-conductors and a ground loop buried below grade and routed along the building exterior. Building grounding is accomplished by an underground perimeter grounding loop with bonding of the lightning protection

system, metal underground utilities, building steel, and additional code-required items with a single neutral-ground connection point at the main switchboard grounding busbar.

*Security and Communication Systems Design*

Michael Baker designed separate intrusion detection systems for the arms vault and SIPRNET Caf, including raceways, junction boxes, device boxes, electrical power, and communications infrastructure. The project design included an access control system with head-end server, work station, local control panels, card readers at the site security gate and building entrances, and door contacts at all entrances and exits for the Training Building. The building entrances with card readers include electric strike and request–to-exit devices. Michael Baker designed the infrastructure for four telecommunication networks, including voice, within the Training Building, Organizational Maintenance Shop, and Unheated Storage Building and three data networks: ARNET, CAPOC, and SIPRNET. Each network involved the design of raceways, including cable tray, ladder racks and conduits, backbone cabling consisting of single-mode fiber and multi-pair copper, horizontal cabling consisting of CAT 6, outlets with RJ-45 jacks, consolidation points, racks, cabinets, protected entrance terminals, patch panels, 110 blocks, and grounding. The design of the telecommunications systems included outside-plant and inside-plant systems. A CATV system, including amplifiers, taps, splitters, RG-11 and RG-6 cabling, and outlets, was designed for the Training Building and Organizational Maintenance Shop.

*Plumbing and Fire Protection*

Tankless, high-efficiency, natural gas-fired water heaters located in the Training Building mechanical room and manifold provide the flow rate required for the fixtures served. The water heaters incorporate multiple controllers, a temperature and pressure-relief valve, pressure regulators, shut-off valves, and drain valves. In compliance with manufacturer instructions, a small, electrically fired water heater was installed in the re-circulating water line to maintain loop water temperature at 120 degrees F. An in-line circulating pump controlled by a time clock and aqua stat maintains water temperature in the loop to the fixtures.

To fully protect the Training Building in the event of fire, an automatic wet-pipe sprinkler system was installed in accordance with UFC 3-600-01, NFPA 72, and UFC 4-021-01. Michael Baker specified a fully addressable, intelligent fire alarm and mass notification system to serve each of the primary facilities. The annunciated system is configured for manual as well as automatic operation and electronic supervision. The signaling, initiating, and notification circuits are served by a Class B looped system. Fire alarm circuit wiring is installed in conduit.

**Antiterrorism and Force Protection**

Michael Baker integrated protective measures into the ARC renovation design that meet U.S. Department of Defense antiterrorism and force protection setback requirements. These include locating the ARC on the site to achieve the maximum feasible standoff distance from roads, parking areas, and vehicle loading areas; the use of blast-resistant doors and windows; and the incorporation of an emergency shutdown switch to disable all HVAC air distribution systems.

**Sustainable Design**

Sustainability initiatives were implemented throughout building design. Building design incorporates materials and features to reduce environmental effects, save energy, and minimize costs. Materials that are locally available and products with 20-percent recyclable content were used. Occupancy sensors reduce lighting energy consumption.

Interior building water-saving features, such as low-flow plumbing fixtures to reduce water consumption, will be used. Ozone-friendly refrigerants and refrigerant quantities will minimize ozone depletion.

Michael Baker coordinated the installation of a solar photovoltaic array and inverter system, which provides electrical energy to supplement utility provider-supplied electricity. The solar panels will offset the annual energy consumed by the new exterior lighting.

Landscaping includes native, low-maintenance, drought-tolerant plants and preserves existing trees. The landscaping design minimizes the use of potable water.

Michael Baker specified the use of measures during construction to prevent soil loss, sedimentation, and air pollution. In addition, construction waste was diverted from landfills to meet LEED® requirements. This project has achieved LEED certification.

# SECTION III

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# David J. Hilliard, P.E., LEED AP BD+C

## *Mechanical Engineer*

***Years with Michael Baker:*** 10
***Years with Other Firms:*** 19

***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 - Mechanical, West Virginia, 2011, [redacted]

LEED Accredited Professional BD+C, West Virginia, 2012, [redacted]

Professional Engineer - Mechanical, Louisiana, 2016, [redacted]

Professional Engineer - Mechanical, Mississippi, 2016, [redacted]

Professional Engineer - Mechanical, Kentucky, 2017, 32902

### 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 become a senior mechanical engineer for Michael Baker. His recent design experience has included 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 a design for a comprehensive restroom renovations at the historic State Capitol Building. His resume covers over 30 years of real world work in engineering, design, fabrication and construction, and covers the mechanical, electrical, plumbing 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 ASHRAE, ASME, ASPE, USGBC, and other pertinent organizations.

Mr. Hilliard is proficient with the following design programs: AutoCAD, Revit, Trane Trace 700 (HVAC load program), Cook Compute-a-Fan (equipment selection program), Greenheck CAPS (equipment selection program), Price, All-in-One (equipment selection program), Excel Spreadsheets, Bluebeam Revu (pdf editor), and Adobe Photoshop

### Sample PROJECT Experience

*West Virginia Schools for the Deaf & Blind, Various Building Renovation Projects, Romney WV.* Project Engineer and Engineer of Record. Responsible for project team coordination and management, mechanical engineering and electrical design in the renovation of various buildings on the WVSDB campus, work included: HVAC, life safety, electrical, fire alarm, and fire sprinkler projects. One project includes HVAC renovations in one building and the installation of a campus wide Life Safety System for the deaf and blind. A second project includes new sprinkles in one building and sprinkler modifacations in two other building. A third project includes complete HVAC renovation of the schools Physical Education Building, which includes a swimming pool, Gym, weight rooms, locker rooms. These projecs are ongoing and include Construction Administration services which Mr. Hilliard oversees.

**Capitol Flood Study.** *State of WV General Services Division.* Project Engineer. Responsible for providing site evaluation, video of underground sanitary piping systems, research of rainfall events, corrective measure recommendations, and developed a report of the findings.

**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

**Renovations of two existing buildings at the WVUTech Campus.** *West Virginia University.* Mechanical Engineer. Provided project management, mechanical, electrical, and plumbing engineering for the renovation of a 31,000 SF building for engineering labs and a 21,000 SF building for offices and student government.

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

**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.

**Design of U.S. Army Reserve Center Renovation and Expansion, Homewood, Illinois.** *U.S. Army Corps of Engineers, Louisville District.* Mechanical Engineer. Responsible for field inspection and commissioning oversight. As designer of record, Michael Baker provided architectural and engineering services for the renovation of a 400-member U.S. Army Reserve Center (ARC) and construction of two single-story additions totaling 35,694 square feet–a 34,294-square-foot Training Building and a 1,400-square-foot ancillary structure–along with a 3,500-square-foot Unheated Storage Building. The new construction includes a 22,000-square-foot parking area for military equipment and 140 parking spaces for privately owned vehicles. Tasks were performed under an indefinite quantity-indefinite delivery engineering agreement. Michael Baker designed the training facility to meet LEED® Silver certification. Michael Baker's services included architecture, surveys, environmental and geotechnical investigation, all site and building engineering, cost estimating, value engineering, and LEED® credit template documentation. Administrative and training 60,500-square-foot building. This project has achieved LEED certification.

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

## *Civil Engineer , Facilities Practice Manager*

***Years with Michael Baker:*** 10
***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

Coursework, Business Administration, Heriot-Watt University, Edinburgh College of Art

***Licenses/Certifications***

Professional Engineer - Civil/Structural, West Virginia, 1990
Professional Surveyor, West Virginia, 1993

Construction Documents Technologist, 1996

**General Qualifications**

Mr. Fogarty has over 29 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**

**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 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.

**West Virginia Army National Guard - TAG Wing Improvement, Charleston, West Virginia.** *State Army National Guard Headquarters.* Project Manager. Engineer of Record responsible for the coordination of all activities. 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 new acoustical ceilings, flooring, energy-saving light fixtures, duplex outlets, communications jacks, several new wall partitions, exterior door replacements, 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.

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

## *Lead Design Architect*

**Years with Baker:** 9

**Years with Other Firms:** 17

### Education

B Arch., 1990, Architecture, University of Cincinnati

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

### Licenses/Certifications

Registered Architect, West Virginia, 2011

NCARB, 1999

Registered Architect, Pennsylvania, 2001

### General Qualifications

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

### Experience

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

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

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

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

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

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

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

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

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# Duncan M. Penney, AIA, LEED AP, DBIA

## *Senior Architect*

*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]

**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

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.

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# Natalie Harmon, NCIDQ®, LEED AP ID+C

## *Interior Designer*

***Years with Michael Baker:*** 8
***Years with Other Firms:*** 4

***Degrees***

B.S., 2007, Interior Design, Art Institute of Pittsburgh

***Licenses/Certifications***

LEED Accredited Professional ID+C, 2008

National Council for Interior Design Qualification, 2012, [redacted]

**General Qualifications**

Mrs. Harmon has several years of interior design experience. She has provided interior design services for the U.S. Army Corps of Engineers, United States Air Force, University of Pittsburgh, The Allegheny County Airport Authority, Connecticut Department of Transportation, Naval Facilities Engineering Command, The Department of Defense, Metro North Railroad, Duquesne Light Company, Dicks Sporting Goods, Washington Federal Bank, Heinz 57 Center, Fragrasso Financial Advisors, LA Fitness and PNC Bank. Types of projects include corporate facilities, commercial office design, maintenance facilities, training facilities, dormitories, food service facilities, commercial retail and education facilities. She has extensive knowledge of commercial furniture including workstations, desking, tables, lounge seating, technology equipment and accessories. Mrs. Harmon has experience with furniture and equipment procurement, sustainable design, space planning, ergonomics, signage, finishes and specifications. She is proficient in the use of AutoCAD Architecture, Adobe Photoshop, Revit Architecture, and Microsoft Professional Suite as well as SpecsInTact. She has designed, specified and procured furniture packages using Knoll, Steelcase, Kimball, KI, Lyon, UNICOR products and more. She has extensive experience with structural finish element including carpeting, stone flooring, resilient flooring, paint, wallcovering, acoustical ceiling/wall treatment and much more. Mrs. Harmon's career history with design build projects has built her communication skills and vast knowledge of interior constructions materials, resources and reference documents. She has experience on producing Requests for Proposals and Requests for Quotes which has advanced her understanding of projects from initiation to completion.

Experience

**411 7th Ave 7th Floor Reno.** *Duquesne Light Company.* Interior Designer. Responsible for documenting and coordinating finishes for renovation of the sixth floor data center. Coordinated with electrical for new break room casework, selected appliances for break room including sink, microwaves, coffee machine, and more, and assisted in selecting new carpet tile and finishes for the space. Responsibilities also included organizing meetings, creating agendas, and meeting minutes. Efforts have also been put forth to set up finish and furniture standards for client.

**Woods Run Complex Building 3 Restroom Renovations, Pittsburgh, Pennsylvania.** *Duquesne Light Company.* Interior Designer. Responsible for assisting in presentation renderings and CAD drawings. Michael Baker provided architectural and engineering design 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.

**Aberdeen Army Reserve Center.** *Korte Design Inc.* Interior Designer. Responsibilities included providing FF&E, signage and finishes selections, and packages. Also responsible for documenting the selection on construction drawings.

**Architectural and Engineering Services for U.S. Army Reserve and Military Construction Projects, Various Locations.** *U.S. Army Corps of Engineers, Louisville District.* Interior Designer. Responsibilities included providing FF&E, signage and finishes selections, and packages. Also responsible for documenting the selection on construction drawings. Under a third consecutive indefinite delivery-indefinite quantity contract, Michael Baker is providing architectural design and engineering services for a variety of mission-critical projects that serve the U.S. Army Reserve's expanding needs for personnel training and equipment maintenance and support the activation of additional brigade combat teams. Infrastructure projects include equipment concentration site warehouses; tactical equipment maintenance facilities; and central-issue, container-loading, billeting, and dining facilities.

**Interior Design Open-End.** *Duquesne Light Company.* Interior Designer. Responsibilities included communicating with the client for renovations to their downtown offices including selecting and documenting new finishes and the design and install coordination of wall graphics. Employee work spaces have been refreshed including updated break rooms. Furniture and signage was also designed and coordinated with local vendors. Designs are ongoing so scheduling, follow ups and punch list are also part of the interior design services.

**J.J. Pickle Federal Building Renovations, Austin, Texas.** *General Services Administration.* Interior Designer. Responsibilities included providing FF&E, signage and finishes selections, and packages. Also responsible for documenting the selection on construction drawings. Michael Baker is providing engineering services for building system renovations to the J.J. Pickle Federal Building. Michael Baker's services include mechanical, electrical, and plumbing design; exterior repairs; and space planning.

**MDL - Education Center Reno.** *U.S. Army Corps of Engineers, Philadelphia District.* Interior Designer. Responsibilities for the renovation of McGuire's Education Center includes selecting and documenting finishes, creating construction drawings and specifications in Specs In Tact. The project involves renovating existing floor plans and parking area. The Interior finishes includes painting of all walls and new flooring throughout. Architectural/Engineering to provide all ATFP requirements for progressive collapse and blast resistant windows.

**Design and Construction Phase Services for Building 12 Restroom Addition, Tobyhanna, Pennsylvania.** *Tobyhanna Army Depot.* Designer. Responsibilities included FF&E and finishes selections and packages as well as documenting the selection on construction drawings. Michael Baker served as the designer of record for a design-build project for the addition of two restrooms in Building 12. Work was performed under a three-year indefinite delivery, indefinite quantity contract. Tasks included architecture, building systems engineering, and construction cost estimate and as-built plans development.

**014 Bldg 411 Interior Finishes.** *Duquesne Light Company.* Interior Designer. Responsibilities included surveying existing space, choosing and documenting finishes for office renovation, and presenting to users. Michael Baker provided Interior Design services for the renovation of the Executive Suite of a private client. Michael Baker worked with client's executive staff to develop a comprehensive design, suitable for the company's public profile. Michael Baker delivered construction documents for finishes, furniture, and artwork, as well as provided construction management services as required for advertisement and award.

**Office Space Renovations, Pittsburgh, Pennsylvania.** *Duquesne Light Company.* Interior Designer. Responsible for documenting and coordinate finishes for renovation of 6th floor data center. Coordinated with electrical for new break room casework. Selected appliances for break room including sink, microwaves, coffee machine, etc. Assisted in selecting new carpet tile and finishes for space. Responsibilities also included organizing meetings, creating agendas and meeting minutes. Efforts have also been put forth to set up finish and furniture standards for client.

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# Wayne Airgood, P.E.

## *Structural Engineer*

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

***Degrees***

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

***Licenses/Certifications***

Professional Engineer, Pennsylvania, 1999 [redacted]

Professional Engineer, Maryland, 2013, [redacted]

Professional Engineer, North Carolina, 2014, [redacted]

**General Qualifications**

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

**Experience**

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

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

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

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

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

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

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

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

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

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# Kevin Spangler, P.E.

## *Fire Protection Engineering Manager*

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

### *Degrees*

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

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

### *Licenses/Certifications*

Professional Engineer, California, 2011, [redacted]

Professional Engineer, Virginia, 2012, [redacted]

Professional Engineer, Pennsylvania, 2012, [redacted]

Professional Engineer, Illinois, 2013, [redacted]

Professional Engineer, Idaho, 2014, [redacted]

Professional Engineer, Connecticut, 2015, [redacted]

Professional Engineer, South Carolina, 2016, [redacted]

Professional Engineer, Minnesota, 2016 [redacted]

Professional Engineer, Mississippi, 2017, [redacted]

### General Qualifications

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

### Experience

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

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

**West Virginia School for the Deaf and Blind - Architectural/Engineering Services for Multiple Projects**, Romney, West Virginia. 3-year Contact. Mr. Spangler is currently working as the project Fire Protection Engineer for multiple projects at the school including; a campus wide Life Safety System, HVAC upgrades in two buildings, fire alarm upgrades, new and upgraded sprinkler systems in multiple buildings, and a complete renovation of the campus Physical Education Building.

**Army Reserve Center, Full Facility Revitalization (FFR), Independence, MO.**
Mr. Spangler was the fire protection engineer for the renovation of the existing army reserve center located in Independence, Missouri. He was responsible for performing a field investigation of existing conditions, performing a fire

hydrant flow test and preparing RFP specifications and design criteria documents. The building scope included a new wet pipe sprinkler system in the Reserve Center Building and also the Maintenance Facility. The existing fire alarm system was documented and determined to be removed and replaced with a new fire alarm and mass notification system. The new fire alarm system is designed to serve both buildings and an outdoor speaker system for parking lot notification.

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

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

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

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

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# Raymond C. Paff, C.P.D.

## *Senior Plumbing Designer*

***Years with Michael Baker:*** 27
***Years with Other Firms:*** 13

***Degrees***

Certificate, 1987, Visual Arts, Art Institute of Pittsburgh

A.S., 1977, Architectural Engineering Technology, The Pennsylvania State University

***Licenses/Certifications***

Certified Plumbing Designer, 1981, [redacted]Full

**General Qualifications**

Mr. Paff is a senior designer responsible for the design and specification of a variety of projects involving all building plumbing systems, vehicle fluid systems, vehicle fuel systems; gasoline and diesel, medical gas, generator fuel oil systems, site drainage, deionized water systems, fire protection (sprinkler and halon FM 200), life safety systems, water supply systems, and natural gas systems with leak detection. He has worked on military, transit, aviation, commercial, industrial, health care, and institutional projects.

Experience

**West Virginia State Capitol Storm Water Study.** *State of WV General Services Division.* Plumbing Engineer, Mr. Paff assisted in providing the State of West Virginia General Services Division with a comprehensive study of storm water related flooding issues in the basement and ground floor of the Capitol building. He assisted in on site assessments, detailed plan review and in providing overall corrective measures recommendations.

**West Virginia State Capitol Restroom Renovations.** *State of WV General Services Division.* Plumbing Engineer, Mr. Paff provided the State of West Virginia General Services Division with a comprehensive MEP study of the Capitol building related to the renovation and renovation of the 33 restrooms. He assisted in providing overall plumbing design and detail recommendations. Construction Document were developed and completed for an extensive plumbing renovation, but the construction project was defunded and has not been built.

**Comprehensive Architecture/Engineering/Construction Phase Services for the Renovation of Offices and Industrial Facilities.** *Baker-Add-Gilbane.* Designer. Responsible for design of plumbing and fire protection systems to meet International Plumbing Code design standards. Michael Baker provided comprehensive architecture/engineering/construction phase services for the renovation of offices and industrial facilities under an open-end task order contract for the Bureau of Engraving and Printing.

**Building 200, Airside Business Park, Moon Township, Pennsylvania.** *Airside Business Park, L.P.* Designer. Responsible for design of the plumbing and fire protection systems to meet International Plumbing Code design standards. Michael Baker provided planning, architectural, and engineering services for the design of the shell and core of this 93,000-square-foot office building. The office building is precast tilt-up concrete panels with metal accents at entrance canopies, compatible with the nearby airport's terminal.

**Office Building Assessments for Corporate Expansion, VA, IL, and, Massachusetts.** *Legent Corporation.* Designer. Assisted in the design of plumbing and fire protection systems to meet International Plumbing Code design standards. Michael Baker conducted condition assessment surveys of four office buildings that Legent Corporation was considering for purchase to house their software coding and marketing operations. The facilities were located in Virginia, Illinois, and Massachusetts and ranged in size from 27,000 square feet to 140,000 square feet. Reports were generated for each facility stating the suitability to Legent's needs,

assessing all system types, noting their deficiencies and adaptability, logging of all code violations, and making recommendations for improvements (both required and suggested) with associated preliminary cost estimates.

**Manchester Headquarters Office Modifications, Pittsburgh, Pennsylvania.** *Port Authority of Allegheny County.* Designer. Designed the plumbing and fire protection systems to meet International Plumbing Code design standards for the renovation of this office building. Michael Baker designed renovations to the Port Authority of Allegheny County's 80,000-square-foot headquarters building. The project included mechanical, electrical, plumbing, fire protection, and architecture, including construction phasing to coordinate with ongoing building and transit operations. The work included a retrofit of the existing dual-duct HVAC system with new controls and dual-duct boxes, new lighting, a complete sprinkler system throughout the building, new ceilings, additional transformers, and operable partitions. All construction was performed between the hours of 7:00 pm and 4:00 am to minimize disruption to ongoing building and transit operations.

**U.S. Army Reserve Complex, Wheeling, West Virginia.** *U.S. Army Corps of Engineers, Baltimore District.* Designer. Provided fire protection design for a LP gas-driven fire pump, pump house, and 100,000-gallon above ground water tank. The project was designed to meet military design standards. Michael Baker provided a complete design-build package for a new U.S. Army Reserve Center located on a 25-acre site in Wheeling, West Virginia. The $15.5 million project involved design of an 18,000-square-foot OMS/AMSA building and a 24,000-square-foot training center. Both buildings were constructed of steel frames on spread-footing foundations. Facades feature a combination of split-faced block with brick. The roofs are constructed of standing-seam metal, with certain roofs vaulted. Associated site infrastructure work included the removal of a hilltop and construction of parking facilities and a one-half mile access road, as well as landscaping. Due to water pressure issues for fire protection, an on-site 60,000-gallon water storage tank was constructed. This project shared property with a regional general airport authority.

**On-Call Services for A/E Design Services for Bell Atlantic - Real Estate Section, Pennsylvania, West Virginia, New Jersey, Delaware, Virginia.** *Gensler & Associates / Architects.* Designer. Provided design of plumbing systems for toilet rooms and above ground fuel oil system to support back-up generators at several locations, as well as revisions to the existing fire protection system for the New Stanton cable vault. The projects were required to meet International Plumbing Code design standards. As part of a consortium serving a five-state region, Michael Baker provided full-scope architectural, interior design, and multi-disciplined engineering services to Bell Atlantic's Real Estate Section, primarily for renovation projects. The buildings, which ranged in function and size, housed local exchange switches. Other projects included reconfiguration of office space, performance of engineering analyses, and design work to support replacement of electro-mechanical telephone switching equipment with a new electronic switching; general facility upgrades, and building preparations to receive new equipment installed by Bell Atlantic.

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# Owen Milligan, P.E.

## *Electrical Engineering Manager*

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

***Degrees***

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

Computer Aided Drafting, Putnam County Technical Center, 1995

***Licenses/Certifications***

Professional Engineer, West Virginia, 2013

Professional Engineer, Pennsylvania, 1999

Professional Engineer, Kentucky, 2005

Professional Engineer, Oklahoma, 2008

**General Qualifications**

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

**Experience**

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

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

**On-Call Multi-Discipline Services, Pittsburgh International, and Allegheny County Airports (PIT/AGC), Pittsburgh, Pennsylvania.** *Allegheny County Airport Authority.* Technical Advisor. Provided technical direction to electrical design staff and performed a technical quality review of the construction documents. Designs were required to meet NEC

standards. Since 1989, Baker has provided multidiscipline, on-call services to the Allegheny County Airport Authority (ACAA). The ACAA owns and operates Pittsburgh International Airport (PIT) and Allegheny County Airport (AGC). Baker acted as an extension to the ACAA's staff, providing the depth of resources and experience of the entire company when called upon by the ACAA. Baker provided a full range of services to ACAA on an "On-Call/As-Needed" basis, including architecture, civil, structural, mechanical, electrical and environmental engineering, general engineering administration, construction support, and other areas.

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

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

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

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

**Non-Baker Project Experience**

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

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

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# Joshua L. Casey, R.C.D.D.

## *Telecommunications Distribution Designer*

***Years with Michael Baker:*** 1
***Years with Other Firms:*** 11

### *Degrees*

A.D., 2003, Computer Aided Drafting and Design, Pittsburgh Technical Institute

### *Licenses/Certifications*

Registered Communications Distribution Designer, USA and Canada, 2017, [redacted]

**General Qualifications**

Mr. Casey's ability to churn out timely, accurate designs has made him a key-contributor to many successful projects. Using his experience, tempered by working for an international architecture firm, then a leading technology consultant, Mr. Casey navigates a project team with ease and leverages his background and expertise to design technology infrastructure, telecommunications, and security to resolve conflicts using modern software. As a Registered Communications Distribution Designer, Mr. Casey's role will be to communicate with the owner and Michael Baker's design team to provide a high-level of detail for all spaces that require telecommunications, security, and audiovisual systems, including planning and programming, infrastructure and systems design, and bid documentation and management.

**Experience**

**Design and Construction Management Master Services Contract, Southwestern, Pennsylvania.** *Duquesne Light Company.* Communications Designer. Responsible for designing the security system that consisted of gate access control, card access, intrusion detection, and video surveillance. The access control system allowed for employees from any of the companies facilities to have access into the building and rooms that they had clearance for. The video surveillance system allowed for the security personnel to view any camera on campus and control any pan, tilt, and zoom either internally or at a remote location. Michael Baker is providing architectural and engineering services under a three-year master services agreement for design, preconstruction, bid phase, construction management, and other services for the renovation or improvements to the company's facilities and for major capital projects and programs. Michael Baker's services include project management, architectural and engineering design, design management and design reviews, cost estimates, construction sequencing, bidding-phase support, and construction management and inspection.

**Architect-Engineer Design Services, Middle East.** *U.S. Army Corps of Engineers, Middle East District.* Communications Designer. Designed structured cabling, and security for the renovation of a school. Project consisted of the demolition of the current and a design of a new telecommunications structured cabling system and security system. Coordinated with owner locations of equipment that needed a data connection provided for use. Security system consisted of access control locations and door hardware, camera locations. DoD regulations require U.S. Military Installations to update Base Camp Master Plans every five years. Base Camps require a master plan to guide life cycle development, land use, location of facilities and infrastructure, security and defense planning, and to guide future changes of base camp purpose, upgrades, expansion, or reduction. The development of the Camp Buehring and Udairi Range BCMP was developed in accordance with CENTCOM "The Sand Book" and Army Corps of Engineers "Engineer Pamphlet 1105-3-1." The plans are intended to be decision maker documents and serves as the single, integrated, authoritative reference for existing (temporary) and future (permanent) development work.

**Edison Security Upgrades.** *Duquesne Light Company.* Communications Designer. Responsible for designing the security system that consisted of gate access control, card access, intrusion detection, and video surveillance. The access control system allowed for employees from any of the companies facilities to have access into the building and rooms that they had clearance for. The video surveillance system allowed for the security personnel to view any camera on campus and control any pan, tilt, and zoom either internally or at a remote location.

**Ohio Architectural/Engineering Indefinite Delivery Indefinite Quantity Contract (IDIQ), Rickenbacker Air National Guard Base, Columbus, Ohio.** *121 OH Air National Guard.* Communications Designer. Performed ITR of telecommunications design set. Michael Baker designed replacement lighting and dual light level control system for the aircraft ramp and apron that serve PAA KC-135 aircraft at the base. Michael Baker's tasks included overseeing the geotechnical investigation to confirm subsurface conditions; developing the demolition design for the old lighting system; developing the site design relative to the cutting and patching of asphalt drives and concrete sidewalks; coordinating boring beneath aircraft access taxiways to hangars; developing the replacement lighting and control system design, including poles, fixtures, foundations, and underground wiring; and overseeing cost estimate development.

**Non-Michael Baker Project Experience**

**R&D Renovation and Expansion Building, Corning, New York,** *Corning Incorporated.* Designed structured cabling, wireless, and security for renovation and expansion of Corning Inc. Research and Development building. System consisted of main backbone cabling using fiber optics to a wall mounted telecommunication cabinets that distributed copper to a cluster of labs. Coordinated with owner locations of equipment that needed a data connection provided for use. Designed wireless access point placement. Designed Telecommunications Rooms and Rack layouts as well as Telecommunication Cabinet locations and zoning. Security system consisted of access control locations and door hardware, camera locations, RFID tag tracking for all equipment, and security control panel locations in telecommunications rooms. Size: 520,000 SF; $300,000,000

**New Headquarters, Parkersburg, West Virginia,** *Highmark Mountain State Blue Cross/Blue Shield.* Designed structured cabling, wireless, and security for new headquarters. Building consisted of offce and meeting spaces, cafe, and public accessible plaza. Designed Telecommunications Rooms and Rack layouts, outlet locations and doors to be secured for access control. Security system consisted of access control locations and door hardware, security camera locations, and security control panel locations in telecommunications rooms. Size: 123,000 SF

**Infrastructure Renovation, Veteran Affairs Medical Center, Ann Arbor, Michigan,** *Illiana Health Care System.* Designed structured cabling for renovation of VA Illiana Health Care System. System consisted of main backbone cabling to consolidation points which then distributed cabling to local outlets for personal desks. Designed Telecommunications Rooms and Rack layouts as well as consolidation point placement and zoning.

**Corporate Headquarters, Pittsburgh, Pennsylvania,** *Summa Technologies.* Designed the IT/Telecom, audiovisual, and security system for multiple uses allowing the owner to utilize the technology based on numerous furniture layouts, user segments, and event types. Spaces included the Main Entry, Training Room, Conference Rooms, Design Studios and Team Rooms, Board Room, War Room, Café, Tech Stairs, and a small, light-broadcast studio. For spaces with little to no integrated technology, mobile collaboration carts can be wheeled into these spaces transforming them into wireless environments. The security systems consisted of card access and video surveillance which allowed the client to both record video onto a network attached recorder as well as view cameras on either a PC or mobile device. Size: 25,000 SF

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# Ralph T. Deffenbaugh, P.E., LEED AP

## *Technical Manager*

***Years with Michael Baker:*** 11
***Years with Other Firms:*** 26

### *Degrees*

B.A.E., 1980, Architectural Engineering (Structural Design Option), The Pennsylvania State University

### *Licenses/Certifications*

LEED Accredited Professional, 2007 [redacted]

Professional Engineer, West Virginia, 2004, [redacted]

Professional Engineer, Kentucky, 2004, [redacted]

Professional Engineer, Louisiana, 2009, [redacted]

Professional Engineer, Massachusetts, 1992, [redacted]

Professional Engineer, Maryland, 1996 [redacted]

Professional Engineer, Michigan, 2012 [redacted]

Professional Engineer, Ohio, 2004, PE [redacted]

Professional Engineer, Pennsylvania, 1991, [redacted]

Professional Engineer, Virginia, 1991, [redacted]

### General Qualifications

Mr. Deffenbaugh provides leadership for project quality and interdisciplinary coordination for the architecture engineering group. In his wide-ranging experience, he has provided oversight of the engineering efforts focusing on integration of systems, development of energy reduction strategies, and detailed quality assurance reviews of various types of facilities for military, government, commercial, public, and private clients. His experience includes serving as project manager, lead structural engineer, resident structural engineer, or project/design engineer for various types of facilities, including tactical equipment maintenance facilities, vehicle maintenance facilities, barracks, military facilities, administrative/office buildings, bus maintenance facilities, manufacturing plants, fabrication facilities, utility buildings, clean rooms, administrative facilities, transit stations and park-n-rides, water storage, and water/wastewater treatment facilities. In 2007, Mr. Deffenbaugh received his LEED® accreditation from the U.S. Green Building Council.

### Experience

**Campus Master Planning and Architectural and Engineering Services for State Capitol Complex, Charleston, West Virginia.** *State of WV General Services Division.* QA/QC. Responsibilities included quality assurance reviews for civil, structural, architectural, mechanical, and electrical drawings and specifications. Facilitated QC review process utilizing discipline review checklists, RFP scope checklists, and coordination of drawings. Michael Baker is providing comprehensive master planning services, plans and construction specifications, and construction administration for improvements to the historic West Virginia state capitol campus. Master planning services include plans for expansion, location of new buildings, pedestrian and traffic circulation, landscaping, utilities, and site security. Michael Baker is also providing construction plans and contract administration services for some of the security and landscaping improvements.

**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.* QA/QC. Responsibilities included coordinating the quality assurance reviews for architectural, mechanical, and electrical drawings. Facilitated QC review process utilizing discipline review checklists, RFP scope checklists, and coordination of drawings. The Facilities Management Officer (FMO) for the State of West Virginia, Division of Engineering and Facilities (DEF), West Virginia Army National Guard (WVARNG) selected Michael Baker for a lump

sum/fixed fee contract for architectural and engineering services. Michael Baker was selected by the Division of Engineering and Facilities to provide complete design and construction administration services for the renovation of the first floor of the entire wing of the Office of the Adjutant General (TAG). The Owner requested the need for modernization of approximately 12,000 square feet of existing outdated office space - project elements included new acoustical ceilings, flooring, energy-saving light fixtures, duplex outlets, communications jacks, alterations to the existing floor plan, exterior door replacements, new interior doors and hardware, new wall finishes and asbestos removal.

**Little Kanawha Bus Facility, Calhoun County, West Virginia.** *West Virginia Division Of Public Transit.* QA/QC. Responsibilities included quality assurance reviews for civil, structural, architectural, mechanical, and electrical drawings and specifications. Facilitated QC review process utilizing discipline review checklists, RFP scope checklists, and coordination of drawings. Michael 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.

**Design-Build Community-Based Outpatient Clinic, Lake Charles, Louisiana.** *SDA, Inc.* QA/QC. Provided detailed review of VA clinic including challenges in duct and heat pump installation with roof trusses. Michael Baker provided architecture and engineering services for a new 32,000-square-foot, design-build, community-based outpatient clinic for military veterans. Michael Baker's services included design management; conceptual, preliminary, and final architectural design; structural design; landscape design; interior design; mechanical, electrical, plumbing, and fire protection engineering; and construction administration and inspection.

**Lancaster Station Renovations, Lancaster, Pennsylvania.** *Amtrak.* QA/QC. Provided detailed QA review for the contract documents. Michael Baker provided architectural and engineering services for renovations to the historic Lancaster Station. Michael Baker's services included architectural and interior design, mechanical and plumbing design, historic preservation, and construction administration.

**P-478 Navy Gateway Inn & Suites (NGIS), Naval Station Newport, Rhode Island.** *NAVFAC MIDLANT NEIPT.* QA/QC. As design quality manager, established the quality plan for this project. Michael Baker is the designer of record for the new 200 key, 104,000-square-foot Navy Gateway Inns & Suites hotel. Michael Baker's services included architecture, interior design, civil engineering, landscape architecture, mechanical engineering, plumbing design, fire protection design, and sustainable design.

**John F. Kennedy Center for the Performing Arts Pedestrian Access Design Review, Washington, D.C.** *Federal Highway Administration - Eastern Federal Lands Highway Division (EFLHD).* QA/QC. Responsibilities included quality assurance reviews for civil, structural, architectural, mechanical, and electrical drawings and specifications. Facilitated QC review process utilizing discipline review checklists, RFP scope checklists, and coordination of drawings. Michael Baker is performing an independent quality assurance-quality control review of plans for improvements to facilitate riverfront pedestrian access between the John F. Kennedy Center for the Performing Arts and the Rock Creek and Potomac Parkway (RCPP) Trail. The project scope includes the addition of two continuous staircases with integral elevator towers centered on the Potomac River side of the building and extending from the River Terrace to the RCPP Trail, along with various trail and site improvements.

# SECTION IV

# CRAWFORD
## CONSULTING SERVICES

CRAWFORD has been providing high quality full service construction cost estimating services for various private and state universities for more than 20 years, ranging from pre-construction through occupancy. We maintain a highly-skilled team of construction professionals with certifications including Project Management Professionals, Planning and Scheduling Professionals, Construction Quality Managers, Certified Construction Managers, Certified Professional Estimators, Certified Cost Professionals, Associate Value Specialists, and LEED Accredited Professionals with expertise on projects of all types and magnitude. CRAWFORD has completed projects that range in size from under $10,000 to over $8 billion. Our project capabilities range from new construction, renovation, retrofit, infrastructure, to civil works projects and our experience stretches from local, regional, national, to international. We help simplify the procurement process for contracting officers and project managers because we specialize in construction management, cost estimating / cost engineering, value engineering, quality assurance / quality control, inspection, staff support and scheduling. CRAWFORD, **as a woman-owned small business**, assists agencies in meeting small business utilization goals. Our award-winning firm has received the following accolades:

### Why CRAWFORD...

- ✓ 37 Full-Time discipline specific in-house cost professionals
- ✓ 20+ years' experience providing Cost Estimating Services for various universities and k-12 institutions
- ✓ Experience on Federal Government, Public, Private, and Commercial construction projects
- ✓ 25 years in business
- ✓ Working relationship with 8 out of 10 of *The Top 500 Design Firms, ENR*

- Society of American Military Engineers (SAME) 2016 Robert B. Flowers Small Business Award
- 2015 Business Women's First Award
- BTAP Program - Selected by Naval Facilities Engineering Command HQ as one of six Women-Owned Businesses in the United States to participate in the DoD Business Technical Assistance Pilot Program
- 2008 Mayor's Annual Good Neighbor Award
- 2006 Historic Preservation Award from the Pittsburgh Historic Review Commission (Phipps Conservatory)
- 2005 Small Business Woman of the Year Award
- 2004 Minority Business Opportunity Council Woman Business of the Year
- Fifty Best Women in Business Award in 1999 for the Commonwealth of Pennsylvania – Department of Commercial and Economic Development

CRAWFORD has award information on projects totaling $1.74 billion. Our estimate's aggregate delta in comparison is **0.85%**.

**Since 1993 CRAWFORD has provided cost estimating and scheduling services on more than 190 higher education projects at over 25 different colleges and universities.** In addition to our higher education support we have provided 100+ cost estimates at the k-12 education level.

CRAWFORD currently has the capacity in all key cost estimating disciplines with nine cost engineering key personnel who are certified through AACE and ASPE who lead our architectural, structural, civil, mechanical, and electrical estimating groups respectively along with an additional **28 full-time cost engineering specialists** who support these lead estimators. Our estimating group is divided into five (5) subgroups as indicated above and **all personnel work in the same building** out of our headquarters

CRAWFORD
CONSULTING SERVICES

office in Pittsburgh, PA. **The personnel named in this proposal are committed and will be the leaders of our team.**

Our in-house research team is experienced at interviewing construction industry decision makers: architects, engineers, project managers, estimators, large & small contractors, sub-contractors, distributors, wholesalers and equipment suppliers. Our methods do not rely solely on published indices and forecasts; however, we perform detailed market surveys for the specific geographic area that the project is planned to be built. This is a good resource for owners to refer to as a gauge for their project. The analysis can help determine factors that affect the overall budget, schedule, and contracting strategies for an owner. Due to the instability in the global, national, and local construction economy CRAWFORD provides analysis, discussions, material indices, and cost tables to provide real-time information on labor shortages, material costs, fuel, etc.

Providing an accurate cost estimate is paramount to CRAWFORD. We ensure accuracy by having a well-rounded staff of cost estimators in our office. Working closely with the design team along with maintaining our internal unit cost database ensures an accurate, detailed, and defendable end product. Throughout the entire design period, close coordination between the designer and CRAWFORD is exercised to achieve truthful cost control.

| Project | Our Estimate | Bid / Award | Delta |
|---|---|---|---|
| **Indiana University - New Dining Facility, Indiana, PA** | $15,482,443 | $15,423,869 | 0.38% |
| **Duquesne University - Fisher Hall Renovation, Pittsburgh, PA** | $459,205 | $424,750 | 8.11% |
| **Clarion University - Ralston Hall Renovations, Clarion, PA** | $1,281,905 | $1,278,994 | 0.23% |
| **Indiana University of Pennsylvania - Renovation and Addition to Folger Hall, Indiana, PA** | $10,359,209 | $10,319,000 | 0.39% |
| **Indiana University of Pennsylvania - Crimson Café, Indiana, PA** | $5,646,158 | $5,441,300 | 3.76% |
| **USACE Norfolk District - DoDEA - Replace Barkley Elementary School, Fort Campbell, KY*awarded to an 8a firm** | $36,816,258 | $39,876,422 | -7.67% |
| **DoDEA – Bowley Elementary School – Replace HVAC System, Fort Bragg NC** | $3,692,806 | $3,799,450 | -2.81% |
| **USACE Norfolk District - DoDEA – West Point Middle School Addition and Renovation, West Point, NY** | $22,899,697 | $23,974,000 | -4.48% |
| **USACE Fort Worth District - Stadium and Track Facility, Fort Hood, TX** | $12,226,915 | $11,573,215 | 5.65% |
| **USACE New York District – Relocation of US Military Academy Prep School, West Point, NY** | $124,052,346 | $128,632,000 | -3.56% |
| **USACE New York District – West Point Classroom Addition, West Point, NY** | $3,888,274 | $3,716,004 | 4.64% |

**Mission Statement:** Crawford is a trusted leader in providing world-wide pre-construction and construction-phase services to diverse clients on complex projects, delivering innovative, unbiased, responsive premier - quality solutions.

CRAWFORD
CONSULTING SERVICES

# Donald E. Crean, AVS, CCP

*Senior Cost Estimator*

**EXPERIENCE:** 25+ Years

**EDUCATION:**

**Allegheny College;** BA Economics / Political Science

**PROFESSIONAL ACCREDITATION:**

Society of American Value Engineers (SAVE) International

Association for the Advancement of Cost Engineering (AACE) International

**CERTIFICATIONS:**

Certified Cost Professional (CCP)

Associate Value Specialist (AVS)

**Overview:**
Mr. Crean has over 25 years of engineering experience developing cost estimate packages for new MILCON and Sustainment Restoration and Modernization (SRM) projects ranging from $10,000 through $8 billion master plan estimates. He oversees take-off and software input of all AE discipline components of the project. Mr. Crean works closely with the design teams and project owners to ensure all scope requirements are met while keeping the cost estimates within the programmed budget. He's developed over 500+ cost estimates for projects in 23 countries worldwide and is well versed in AACE RP 18R-97 and ER 1110-3-1300. **Training:** MCACES Second Generation (MII), SUCCESS Estimator, WinEstimator, PlanSwift.

**Crawford Consulting Services, Inc., East Pittsburgh, PA**
*Senior Cost Estimator; 2009 – Present*

- Manages construction cost estimating projects with awarded costs between $10K - $5B
- Oversees complete execution and delivery of cost estimating package to owner's and clients with a <5% accuracy rate
- Provide Market Analysis on construction projects across the country which include research, data gathering and reporting on items including but not limited to: general contractor involvement, subcontractor involvement, labor supply, material availability, equipment pricing, construction indices, and construction climate
- Provides cost estimating, scheduling, constructability review, value engineering, risk analysis and other support enabling agencies to improve strategic and tactical decision making
- Performs cost estimating project take-off, product research and pricing quantity take-off, and research pricing
- Provides Life cycle cost analysis

**Relevant Renovation Project Experience**

**United States Air Forces Central (USAFCENT) Headquarters, Building 1130 Renovation,** Shaw Air Force Base, SC
Mr. Crean provided cost engineering services through corrected final and worked with the client to develop six (6) base bid packages and four (4) optional bid items for an 8(a) set-aside solicitation. Renovation of 88,955 SF four-story building including offices, conference rooms, circulation spaces, lobby and related spaces. **Cost:** $19.283M

**City of Pittsburgh – Riverview Observatory Renovations,** Pittsburgh, PA
Mr. Crean provided a construction cost estimating services for the renovations to the Riverview Observatory in Pittsburgh, PA. Renovations of the Observatory included repaving the road, installing new inlets along the road and a new storm line, adding 5 or 6 parking spaces for the dog park, adding a drinking fountain at the dog park and potentially a sanitary line for it, putting the existing overhead electric line underground, and adding the parks department's standard pole light fixtures along the road. **Cost:** $696,793.

Crawford Consulting Services, Inc.
239 Highland Ave.
East Pittsburgh, PA 15112
P: 412.823.0400

**Mission Statement:** To provide unparalleled full construction consulting services for our clients, ensuring a high standard of quality, timeliness, and responsiveness.

## Donald E. Crean, AVS, CCP
*Senior Cost Estimator*

**City County Building Energy Upgrades, City of Pittsburgh Department of Public Works, Pittsburgh, PA**
Mr. Crean provided a construction cost estimating services at the 90% Design Phase. Energy upgrades to the City County Building in Pittsburgh, PA. Upgrades will include all demolition and renovation of the first floor, the first floor mezzanine, and third floor HVAC, plumbing, lighting/electrical, and architectural renovations. **Cost:** $3.4M

**911th Airlift Wing – Repair Administrative Building 218,** Pittsburgh, PA
Mr. Crean provided a construction cost estimate for the repair of Administrative Building 218. Upgrades for the structural support, interior architecture, mold remediation, HVAC, Plumbing, Electrical, and Fire Protection Systems, as well as the Telecommunications and Data center. **Cost:** $2+M

**GSA - USMS Build Out, Federal Stokes Building,** Cleveland, OH
Mr. Crean provided a construction cost estimate utilizing the RS Means Cost Database and historical project costs to determine the material, labor, equipment and subcontractor pricing. Provide a Cost Estimate for construction costs for the USMS 4th Floor build out broken located on the north side / left hand quadrant of the building. **Cost:** $1.5M

**GSA – USAO Renovation,** Evansville, IN
Mr. Crean provided a construction cost estimate with the design basis utilizing the existing and proposed 2nd floor plans, the Design Guide for the Dept. of Justice and Pricing Policy Excerpt for Shell and TI. Renovate and expand USAO 2nd Floor office by renovating the adjacent space for DID and Design requirements. **Cost:** $565,269

**Edinboro University of Pennsylvania - Cooper Science Building Renovation and Addition**
Mr. Crean worked with the professional of record along with Edinboro University, under PASSHE, providing detailed cost estimating services on the renovation of the existing 60,000 SF building. The first phase of the project was the new construction of a 30,000 SF addition to Cooper Science Hall, which includes 'wet' teaching labs and offices for biology, chemistry. **Cost:** $14.M

**USACE Japan District – Renovation of Zama High School,** Camp Zama, Japan
Mr. Crean provided MCACES MII Cost Engineering Services. CRAWFORD attended the Planning Charrette on site with additional DD Form 1391 Validation Services. Renovations to buildings 913,912,915, and 906 to improve site conditions to meet DoDEA Education Facilities Specifications and AT/FP standards. Retrofit blast resistant upgrades to the doors, windows and exterior walls. Seismic upgrades include ceiling suspension brackets, code requirement updates and exterior wall reinforcements. **Cost:** $19.42 million

**USACE Kansas City District – Renovations of Bldgs. 275 & 168,** Ft. Leavenworth, KS
Mr. Crean provided cost engineering services and worked with our design team member to capture renovation scope for Buildings 275 &168 to upgrade existing building systems and improve configuration of interior layout to conform to the mission of CYS – Skies Unlimited. Renovation of the facility shall be consistent with the renovation practices used for civilian sector projects that perform similar functions to the military user. This includes preservation of historic building shell and interior historic character defining features while replacing building systems **Cost:** $5.2M (Draft RFP Submission)

# SECTION V

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 Schools for the Deaf and the Blind**
  301 East Main Street
  Romney, WV 26757
  Phone: 304-822-4810
  *Mr. Mark Gandolfi, Superintendent of Administration*
- **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**
  20th Street
  Nitro, WV 25143
  *Honorable David Casebolt, Mayor*
  *(304) 419-3322*
- **West Virginia Department of Transportation -- Division of Highways**
  1900 Kanawha Boulevard East,
  Building 5, Room A 405
  Charleston, WV 25305
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