



EXPRESSION OF INTEREST

Maintenance Complex for Coonskin Park

DEFK11026

Submitted to:



**State of West Virginia
Division of Engineering & Facilities
Armory Board Section**

Submitted by:



**ISO 9001:2008
CERTIFIED**

Federal I.D. No. 25-1613591

Suite 203
34 Commerce Drive
Morgantown, WV 26501

Phone: 304-296-6492
Fax: 304-296-6495

RECEIVED

2011 FEB 24 A 8:09

PROCUREMENT DIVISION
STATE OF WV

February 24, 2011



GANNETT FLEMING, INC.
Suite 203
34 Commerce Drive
Morgantown, WV 26501-3858

Office: (304) 296-6492
Fax: (304) 296-6495

www.gannettfleming.com

February 24, 2011

PURCHASING DIVISION
2019 WASHINGTON STREET, EAST
P.O. BOX 50130
CHARLESTON, WV 25305-0130

RE: EXPRESSION OF INTEREST (EOI)
DIVISION OF ENGINEERING AND FACILITIES, ARMORY BOARD SECTION
RFQ NUMBER: DEFK11026

Gannett Fleming, Inc. is pleased to submit for your consideration this Expression of Interest (EOI) for Architectural and Engineering Services related to the Charleston Complex Access Road and Utility Upgrades, #DEFK11026.

As the Manager of WV Operations, I will personally ensure that this project meets the expectations of the WV Army National Guard. We have assembled a team of highly qualified individuals in response to your advertisement. Our team consists of multiple Gannett Fleming personnel in key disciplines and office locations (primarily Morgantown, WV, Pittsburgh and Harrisburg, PA) supplemented by one sub-consultant: DRS Architects from Pittsburgh, PA. Our project team has the appropriate staff immediately available to meet your project schedule.

We look forward to your favorable review of our qualifications. We would also welcome the opportunity to present our credentials to you and look forward to the chance to discuss our capabilities with the selection committee. Please contact me at 304-296-6492 if you have any questions or if I can provide any clarifications regarding our qualifications.

Sincerely,

GANNETT FLEMING, INC.

A handwritten signature in black ink, appearing to read 'S. H. Petro', with a long horizontal flourish extending to the right.

Samer H. Petro, P.E.
Manager – WV Operations

Enclosure

A Tradition of Excellence



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

WV PURCHASING ACA SECT Fax 304-558-4115

Feb 16 2011 04:09pm P002/005

**Request for
 Quotation**

RFQ NUMBER
DEFK11026

PAGE
1

ADDRESS CORRESPONDENCE TO ATTENTION OF
**TARA LYLE
 304-558-2544**

RFQ COPY

TYPE NAME/ADDRESS HERE

SHIP TO

**DIV ENGINEERING & FACILITIES
 ARMORY BOARD SECTION
 1707 COONSKIN DRIVE
 CHARLESTON, WV
 25311-1099 304-341-6368**

DATE PRINTED 02/14/2011	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
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BID OPENING DATE: **02/24/2011** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
ADDENDUM NO. 1						
1. QUESTIONS AND ANSWERS ARE ATTACHED. 2. ADDENDUM ACKNOWLEDGEMENT IS ATTACHED. THIS DOCUMENT SHOULD BE SIGNED AND RETURNED WITH YOUR BID. FAILURE TO SIGN AND RETURN MAY RESULT IN DISQUALIFICATION OF YOUR BID.						
EXHIBIT 10						
REQUISITION NO.: DEFK11026						
ADDENDUM ACKNOWLEDGEMENT						
I HEREBY ACKNOWLEDGE RECEIPT OF THE FOLLOWING CHECKED ADDENDUM(S) AND HAVE MADE THE NECESSARY REVISIONS TO MY PROPOSAL, PLANS AND/OR SPECIFICATION, ETC.						
ADDENDUM NO.'S:						
NO. 1 ... <input checked="" type="checkbox"/> ...						
NO. 2						
NO. 3						
NO. 4						
NO. 5						
I UNDERSTAND THAT FAILURE TO CONFIRM THE RECEIPT OF THE ADDENDUM(S) MAY BE CAUSE FOR REJECTION OF BIDS.						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE <i>Same</i>	TELEPHONE 304-296-6492	DATE 2/23/2011
TITLE <i>Office Manager</i>	FEIN 25-1683591	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

WV PURCHASING ACT SECT Fax 304-558-4115

Feb 16 2011 04:10pm P004/005

**request for
 Quotation**

RFQ NUMBER
DEFK11026

PAGE
2

ADDRESS CORRESPONDENCE TO ATTENTION OF
**TARA LYLE
 304-558-2544**

SUBJECT

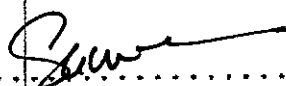
RFQ COPY
 TYPE NAME/ADDRESS HERE

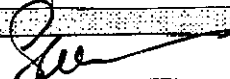
VENDOR

**DIV ENGINEERING & FACILITIES
 ARMORY BOARD SECTION**

**1707 COONSKIN DRIVE
 CHARLESTON, WV
 25311-1099 304-341-6368**

DATE PRINTED: 02/14/2011	TERMS OF SALE	SHIP VIA	FOB	FREIGHT TERMS
BID OPENING DATE: 02/24/2011		BID OPENING TIME 01:30PM		

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
<p>VENDOR MUST CLEARLY 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.</p> <p style="text-align: right;">  SIGNATURE GARNETT Fleming COMPANY 2/23/2011 DATE </p> <p>NOTE: THIS ADDENDUM ACKNOWLEDGEMENT SHOULD BE SUBMITTED WITH THE BID.</p> <p>REV. 09/21/2009</p> <p style="text-align: center;">END OF ADDENDUM NO. 1</p>						
0001	1	JB		906-00-00-001		
ARCHITECT/ENGINEERING SERVICES, PROFESSIONAL						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS			
SIGNATURE 	TELEPHONE 304-256-6492	DATE 2/23/2011	
TITLE office manager	FEIN 25-1613591	ADDRESS CHANGES TO BE NOTED ABOVE	

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

RFQ No. DEFK11026

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

West Virginia Code §5A-3-10a states: 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 the debt owed is an amount greater than one thousand dollars in the aggregate.

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.

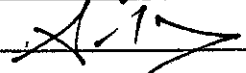
"Debtor" means any individual, corporation, partnership, association, limited liability company or any other form or business association owing a debt to the state or any of its political subdivisions. "Political subdivision" means any county commission; municipality; county board of education; any instrumentality established by a county or municipality; any separate corporation or instrumentality established by one or more counties or municipalities, as permitted by law; or any public body charged by law with the performance of a government function or whose jurisdiction is coextensive with one or more counties or municipalities. "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.

EXCEPTION: The prohibition of this section does not apply where a vendor has contested any tax administered pursuant to chapter eleven of this 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.

Under penalty of law for false swearing (*West Virginia Code §61-5-3*), it is hereby certified that the vendor affirms and acknowledges the information in this affidavit and is in compliance with the requirements as stated.

WITNESS THE FOLLOWING SIGNATURE

Vendor's Name: GANNETT FLEMING, INC.

Authorized Signature:  Date: 2/23/2011

State of _____

County of _____, to-wit:

Taken, subscribed, and sworn to before me this _____ day of _____, 20____.

My Commission expires _____, 20____.

AFFIX SEAL HERE

NOTARY PUBLIC _____

Transmittal Letter
Request for Quotation
Purchasing Affidavit

Table of Contents

- 1 EXPERIENCE AND QUALIFICATIONS**
- 2 PROPOSED PROJECT APPROACH**
- 3 PAST EXPERIENCE AND SIMILAR PROJECTS**
- 4 KEY PERSONNEL - RESUMES**


INTRODUCTION

The Gannett Fleming team is pleased to submit this Expression of Interest for the West Virginia Army National Guard, Construction and Facilities Management Office (CFMO) to provide architectural/engineering services for the design of a maintenance complex including prefabricated metal buildings and site design for coonskin park.

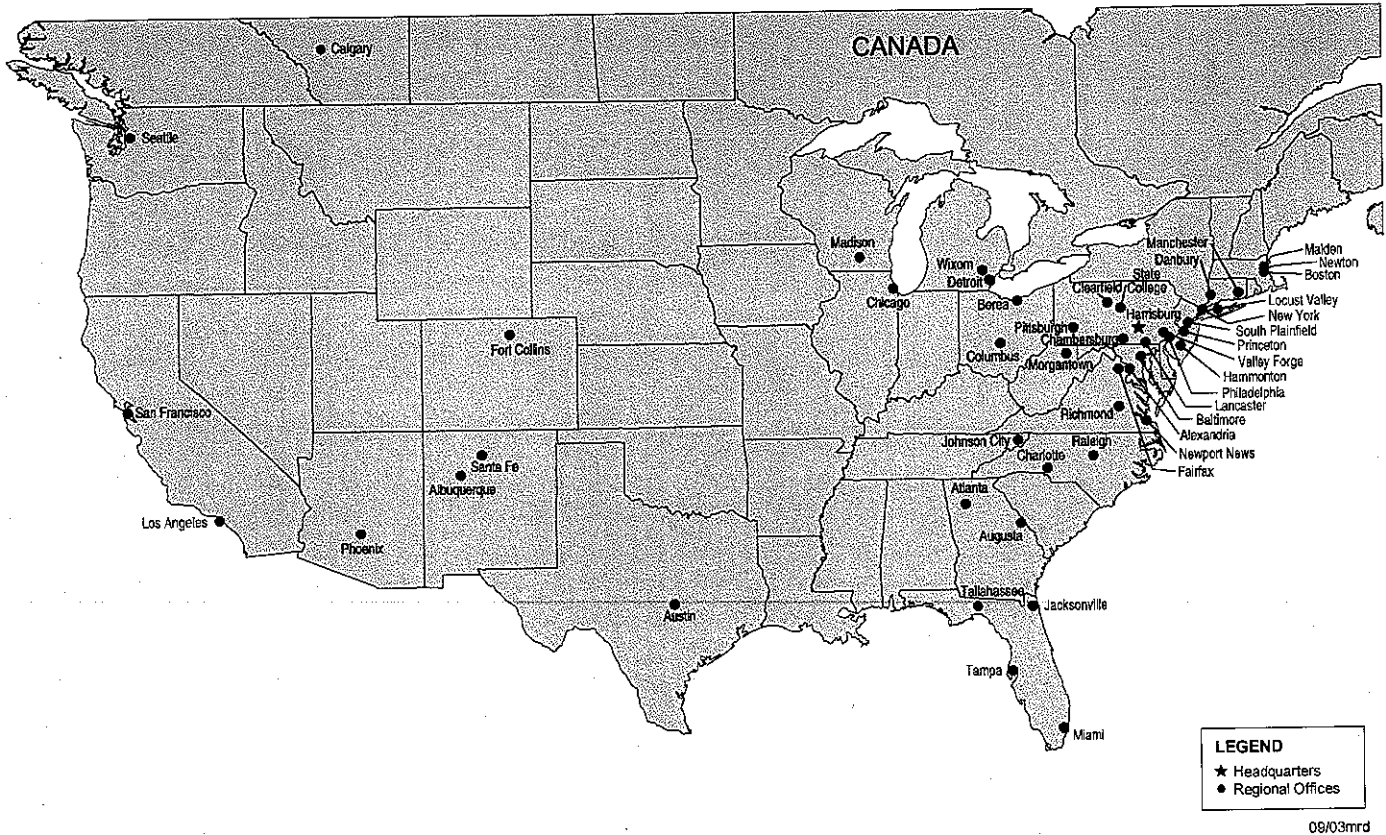
The Gannett Fleming Team represents two outstanding firms with a state-wide and regional reputation for excellence in working with the Army National Guard and agencies that manage and operate parks throughout the country. Our clients have included the Army National Guard, National Park Service, the Natural Resources Conservation Service, the PA Department of Conservation and Natural Resources, the U.S. Forest Service, and many others.

The Gannett Team consists of multiple Gannett Fleming personnel in key disciplines and office locations (Morgantown, WV and Pittsburgh and Harrisburg, PA) supplemented by DRS Architects from Pittsburgh, Pennsylvania.

The following information addresses the experience and qualifications of our firm and also touches on specific evaluation criteria identified in the announcement, offering clear evidence of the experience and capabilities that uniquely qualify Gannett Fleming, Inc to provide the West Virginia Army National Guard CFMO with professional, timely, and cost-effective services.

 **Gannett Fleming** (Gannett Fleming) is an international consulting engineering company active in almost every phase of consulting engineering since its establishment in 1915. Over the years, the company has performed more than 30,000 assignments in 50 states and in 20 countries. Gannett Fleming has expertise in bridge engineering, dam engineering, geotechnical engineering, water resources, environmental, transportation, and industrial services. We provide planning, plan development, construction engineering and management, and specialized services including: economic investigations; environmental analysis; land use planning; architectural, water resources, dams, flood control, structural and transportation design; geotechnical, geophysical and hydrogeologic engineering; mechanical/electrical design, computer-aided design, management information systems, and geographic information systems. The company and its wholly-owned subsidiaries employ nearly 2,000 persons with expertise in numerous disciplines. Gannett Fleming is listed among the nation's most prestigious engineering firms. *Engineering News-Record (ENR)* recently ranked Gannett Fleming as 47th among the 500 leading United States consulting firms and 16th out of the top 20 in transportation based on 2009 annual billings.

- *Ranked among Top 50 Engineering Firms in the United States*
- *Providing multi-disciplined Engineering Services for 95 Years*
- *Some clients served for 40+ years*



Gannett Fleming offers the specialized experiences necessary to successfully perform all of the required services in-house. The firm has extensive experience and professional staffing with expertise in the following activities:

- Surveys and mapping
- Geologic investigations
- Hydrologic and hydraulic modeling
- Water supply engineering
- Diversion of water design
- Seismic assessments
- Construction cost estimates
- Permit applications
- GIS services
- Site/Civil services
- Subsurface site exploration
- Laboratory testing
- Geotechnical services
- Dam seepage analysis/grouting design
- Electrical engineering services
- Plans and specifications
- Design reports
- Landscape design
- Structural design
- Roadway design

Our office in Morgantown, WV is staffed with qualified and talented engineers and technicians. In addition to strong highway/site/civil engineering capabilities, we offer in-house structural and geotechnical services.

Our Commitment to Quality is centered on Project Management

Gannett Fleming has extensive experience with state contracting, including successful management of A/E contracts. We understand the importance of quality, timeliness, and cost control, and have proven records of success in balancing these often-competing realities—even within today's fluctuating construction materials markets.

Gannett Fleming invests considerably in Project Manager training, and provides the latest tools to assist in keeping all assignments, large and small, on schedule and on budget.

Our Project Manager for this contract, Samer H. Petro, P.E. has participated on numerous architectural and engineering contracts for more than 20 years. He will bring the right people to each assignment, including niche subconsultants, through close coordination with our seasoned Task Managers.

The strength of the proposed project team includes:

- An organizational structure with key personnel with prior state and other applicable management and design involvement using established design and quality guidelines.
- A project team consisting of multiple Gannett Fleming personnel in key disciplines and office locations (Morgantown, WV and Pittsburgh, PA) supplemented by one sub-consultant: DRS Architects – Architectural Services



DRS Architects (DRS), (SB)

Architects/Planners/Interior Designers

DRS is one of the leading architectural, planning and interior design firms in this region for over 50 years. DRS is a small business. The firm enjoys a long standing reputation in the management of the design process, in control of project costs and schedules, and design excellence.

DRS offers a broad range of traditional planning/design services which include architectural design, facilities analysis, feasibility studies, master planning, site planning, space programming and interior design. The firm utilizes the services of outside engineering consultants selected for their experience with the particular building type. The engineering consultants are fully integrated into the Project Team through the entire design/construction process.

Over the last fifteen years, DRS has completed ten reserve centers/ readiness centers with maintenance facilities for the U. S. Army Reserve and Pennsylvania National Guard. Most recent relevant projects include the \$19 M Stryker Brigade Readiness Center and Organization Maintenance Shop and the \$4 M Operational Maintenance Shop for the PA Army National Guard. DRS has also completed buildings for the FBI, DEA, and local municipal buildings including police departments. DRS has completed two major maintenance facilities for the Port Authority of Allegheny County. These include the renovations and additions to the Ross & West Mifflin Division Garage and renovations to the Collier Division Garage.

DRS also completed two vehicle maintenance facilities for the U. S. Postal Service in Warrendale and the North Side of Pittsburgh. A privately owned maintenance facility was completed for the Mellon Family at Rolling Rock Farms in Laughlintown, Pennsylvania. DRS has extensive experience in providing professional services to many Government Agencies. These include the City of Pittsburgh, County of Allegheny, Baltimore Corps of Engineers, Department of Energy, U. S. Postal Service, PA DGS, GSA, and VA. The Firm has consistently been ranked "above average" by these various Governmental Agencies.

DRS engages engineering consultants and other specialists for each individual project and fully integrates them into our Project Team for the entire design/construction process. DRS recently completed an Indefinite Delivery Contract with the Baltimore Corps of Engineers. Projects included various engineering projects at Letterkenny; the design/build RFP for the \$46M Advanced Chemistry Lab; the design/build RFP for the Lodging Facility at the Defense Distribution Depot Susquehanna, New Cumberland, Pennsylvania; and the field investigation/preconcept design for the Sample Receipt Facility.

The Firm is fully automated with several computer aided design drafting (CADD) systems including Microstation, Version 8 and AutoCAD 2009 and Revit . Members are currently utilizing building information modeling (BIM) on several projects.

These CAD programs are utilized in the preparation of design and construction documents as well as facility planning, programming and analysis. DRS has been using CADD since 1983 and has completed over \$3 B in projects. DRS is fully networked and our project delivery and productivity is further enhanced by the use of the Internet for electronic construction document management. Further DRS project experience can be viewed at our website, www.drsarchitects.com. DRS has seven LEED Accredited Professionals on staff. As a team effort, DRS emphasizes strategies for sustainable design, site development, water savings, energy efficiency, materials selection and indoor environmental quality.

Contract/Project Management

Gannett Fleming has identified key project personnel in the *Key Personnel Section* of this submission to fill all roles required to successfully complete the project. The project will be managed from our Morgantown, WV office. Mr. Michael A. Neely, P.E. will serve as our Project Manager.

Project Manager- Samer H. Petro, P.E., WV Operations Manager and Senior Project Manager. Mr. Petro, a long- time Morgantown resident and a WVU graduate, has completed his BSCE in 1987 and his MSCE in 1993. His diverse background includes significant experience in both new construction and renovation of existing facilities, bridges, buildings, and civil infrastructure. He brings over 20 years of total relevant experience to this project. Mr. Petro is very familiar with the Canaan Valley Resort State Park and the Morgantown, WV Gannett Fleming office is located within a short driving distance from the site. He is ideal to manage the structural aspects of the maintenance facilities and coordination of this project and will be responsible for ensuring that the requirements for each task are completed in a satisfactory manner and that the schedule is achieved. He will communicate regularly with the project team to ensure that the final products meet all the expectations of the WV Army National Guard CFMO.

Quality Assurance/Quality Control (QA/QC) – Bradley A. Diffenbaugh, P.E., Senior Project Manager. Mr. Diffenbaugh has extensive experience in the inspection, design, and rehabilitation of commercial and industrial buildings; and facilities condition assessment and construction surveillance. This experience is significant because many of the projects he has been involved with have been multi-discipline design and construction projects and having that “field” knowledge gives him a more holistic perspective when performing constructability reviews of projects.

The project team consists of one subconsultant:

- DRS architects will be responsible for architecture considerations.

The Gannett Fleming project team personnel shown in the organization chart and proposed in the *Key Personnel Section* of this submission, possess the registrations and licenses required to perform studies, inspections, testing, design, and construction-phase services for this assignment.

Performance Capability

Our project team reflects sufficient capacity to provide the required engineering services to accomplish the project goals with timely, cost-effective solutions; and the expertise to address unforeseen conditions and schedule aberrations.

Client Satisfaction Evaluation

Gannett Fleming solicits a "Client Satisfaction Evaluation" from every client—state, government, municipal, private industry, etc. Typically, we receive responses from approximately 45-55 percent of those solicited. There are six individual measurement points – technical quality, timeliness, effectiveness, dependability/reliability, cooperation, and communication – and one overall "*performance*" assessment. Ratings are based on a scale of one through five, with five being the highest.

Performance

The records for the prior seven complete years are included for overall "*performance*":

Year	Total # Responses	Highest Rating (#5)	Second Rating (#4)	Subtotal	% Total Responses
2003	320	168	99	267	83.4
2004	283	171	88	259	91.5
2005	302	191	95	286	94.7
2006	250	156	83	239	95.6
2007	263	180	68	248	94
2008	744	162	575	737	98.6
2009	225	151	62	213	94.6

This combined data represents a consistently high level of client satisfaction irrespective of client market sector in an increasingly critical environment.

Technical Quality

An extremely important factor that contributes to the overall "*performance*" assessment is our clients' subjective evaluation of technical quality as shown:

Year	Total # Responses	Highest Rating (#5)	Second Rating (#4)	Subtotal	% Total Responses
2003	230	136	68	204	88.7
2004	242	137	86	223	92.1
2005	275	174	86	260	94.5
2006	243	143	79	222	91.4
2007	69	43	20	63	91.3
2008	744	133	571	704	94.6
2009	225	139	64	203	90.2

Timeliness

One other critical factor that contributes to the overall assessment of "performance" is our clients' perception of our timeliness.

Year	Total # Responses	Highest Rating (#5)	Second Rating (#4)	Subtotal	% Total Responses
2003	231	132	65	197	85.3
2004	242	128	83	211	87.2
2005	275	149	94	243	88.4
2006	234	126	84	210	89.7
2007	69	41	22	63	91.3
2008	744	125	571	696	93.5
2009	225	130	64	194	86.2

Project Control

Gannett Fleming's methodology to manage the project and control the schedule, quality, and costs is briefly outlined below.

Project Understanding – We will make certain that the Gannett Fleming Team members understand the scope of work of the project as communicated with WV Army National Guard C&FMO staff to complete each task/phase of this project efficiently, within budget, and on time for conceptual design phase, construction document phase, and construction administration phase.

Quality Assurance/Quality Control - Gannett Fleming's quality policy is to "provide professional services that meet the requirements of clients and involve all personnel in continually improving work processes." As part of that commitment, in 2007, Gannett Fleming set and successfully achieved its goal of achieving ISO 9001:2000 certification. This certification, along with our corporate quality guidelines, establishes and monitors requirements for:

- Working with the client to establish an appropriate scope of work.
- Allocating necessary resources to the project.
- Monitoring the progress (cost and schedule) of the work.
- Establishing and following project standards.
- Reporting progress to the client.
- Checking and correcting work products.
- Transmitting deliverables to the client.
- Closing out the project.

Schedule Control –The Project Manager will be responsible for maintaining the project schedule. He will be responsible to pull the necessary personnel and resources to meet the needs of the task order and the deadlines established.

The Project Manager will work with the WV Army National Guard CFMO to establish reasonable schedules with associated deadlines for input. He will keep them informed of any seen or unforeseen changes to schedule regardless of reason, and will provide regular updates to the project schedule.

Scope/Cost Control – Gannett Fleming routinely manages well over \$300 million dollars in professional services on major project work each year. Additionally, we provide construction management services on several hundred million dollars of construction services annually. Cost containment is a basic criteria for virtually everything we do. It is imperative to our future that we maintain a competitive position in the marketplace. That means a constant, careful management of our costs. It is critical that our clients receive engineering services that are not only technically sound, but are performed within strict cost-control objectives and responsive to our client's needs and expectations. Gannett Fleming will make certain that during the design process the team delivers a well-conceived and complete work product. The QA/QC review team will be actively involved throughout the entire design process to minimize any engineering related design change. In addition, regularly scheduled stakeholder design and review sessions and associated design minutes should also insure that the owner's input has been properly addressed and recorded. Those issues that do arise during the construction process that necessitate a change will be reviewed thoroughly with the owner and contractor to minimize the cost and scheduling impact of the change.

Budget Tracking and Compliance - Gannett Fleming proposes to use its existing management information system, BST Enterprise, in the planning, budgeting, and cost tracking and control of work assignments under this project. The existing management information system is PC-based and Internet accessible, which allows effective digital communication and use of data throughout the firm.

PROJECT APPROACH

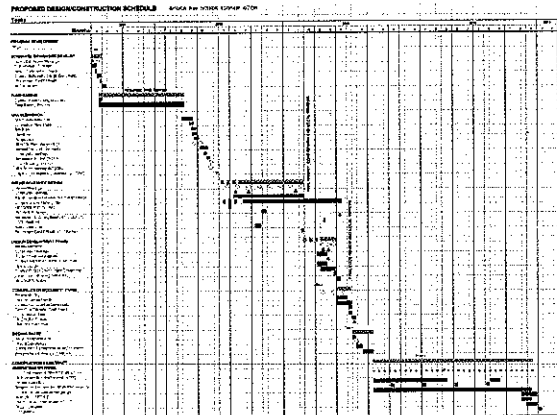
Typically, the design of maintenance facility and associated site grading project consists of five phases. These include schematic design, design development, construction documents, bidding and construction administration. The first step is to identify the stakeholders who will work with the Design Team on the project which we would presume to include the WV Army National Guard CFMO.

Schematic Design Phase

As a first step in the Schematic Design Phase, we will work with the stakeholders to establish a project schedule and set milestones and meeting dates for the project.

Once the schedule is established we will collect all information relative to the project site.

Typical information to be collected includes topographic survey, property line/right-of-way lines/easement locations, existing utility locations/capacities and local permitting requirements.



Once the pertinent information has been collected we will work with the stakeholders to develop alternatives for the access road location. Based on feedback from the stakeholders, we will select a preferred alignment. The preferred alignment will be further developed so that all parties will have an understanding of the schematic design. The schematic design will include drawings depicting the preferred access road alignment, proposed utility locations, preliminary site grading, a project schedule and an opinion of the probable construction cost. The schematic design will be submitted to the stakeholders for review approval.

Design Development Phase

The Design Development Phase will kick off with a meeting with the stakeholders to discuss any comments from the schematic design which need to be incorporated into the design. The Design Development Phase will further refine and develop the drawings with input at review meetings with the stakeholders and local utility providers.

During this phase, maintenance facility design requirements will be considered to provide adequate organizational maintenance support for vehicles and equipment. In addition, geotechnical issues will be examined to determine cut/fill slope requirements and other site issues. A code review will be completed and updated drawings will be submitted for preliminary meetings with local and state agencies to establish regulatory requirements. The design development documents will be finalized and will include more detailed drawings for the access road, utilities and site grading. Outline

specifications will be developed which will define the materials to be used in the construction of the project. The project schedule will also be updated and a more detailed opinion of probable construction cost will be completed. The design development documents will be submitted to the stakeholders for review and approval.

Construction Documents Phase

The Construction Documents Phase will kick off with a meeting with the stakeholders to discuss any comments from the design development which need to be incorporated into the design. Meetings will be held to finalize the design of the project. The construction documents will be completed and will include the final drawings for the access road, utilities and site grading. During the construction document process, submittals will be made for approval to the various utility providers and regulatory agencies which have jurisdiction over the construction of the project. The final drawings will incorporate all comments received from the stakeholders, local utility providers and regulatory agencies. Project specifications which identify all materials to be used on the project will be completed. The schedule will also be finalized and a detailed opinion of probable construction cost provided. The construction documents will be submitted to the stakeholders for review approval. All revisions will be made to the construction documents prior to release for bidding.

Bidding Phase

The construction of the project will be advertised and the documents will be issued to the contractors. During the Bidding Phase, the Design Team will attend the prebid conference, clarify and interpret the documents, issue any addenda as necessary and assist with the analysis of the bids and award of the contract.

Construction Administration Phase

The construction administration portion of the project will begin with notice to proceed to the contractor. The Design Team will attend job conferences on a periodic basis depending on the construction activity, respond to requests for information, review and approve shop drawings, issuing change orders as required and review payment requests from the contractor. At the end of the project a punch list will be completed. As built drawings will be completed based on contractor's marked up drawings and project closeout will occur.

The above description is our understanding of the project scope and approach to the design process for a typical access road project. We have also indicated some of our experience for each of the project elements and refer you to the project descriptions and resumes for a more in depth review of the experience and capabilities of Gannett Fleming.

PAST EXPERIENCE AND SIMILAR PROJECTS

Gannett Fleming has selected a Team with qualifications to match the project requirements. Our proposed Team consists of a highly qualified group of engineers, architects, planners, environmental scientists, and technicians who collectively possess the analytical and technical experience to provide the services necessary for the design of a maintenance complex including prefabricated metal buildings and site design for Coonskin Park. Gannett Fleming offers the following strengths:

- Facility planning, design, and construction inspection experience.
- Employee-owned, discipline-based firm that responds to clients first and is not distracted by outside business concerns.
- 95 years of corporate experience.
- Commitment to sustainability and energy efficiency in our design and practices.

SPECIALIZED EXPERIENCE

The Gannett Fleming Team have provided designs for new facilities that involved a number of renovation-type projects for both the Army and Air National Guard (NG). During the past 31 years, we have designed more than 40 facilities for the NG. We have a good appreciation of the NG's procedures and have substantial experience in using Army and Air Force Design Criteria.

Sustainable Design

In recent years, there has been greater emphasis on using sustainable design practices. Gannett Fleming is an active proponent in the principles of sustainable design (energy conservation, pollution prevention, waste reduction, and the use of recovered materials) and has incorporated this philosophy on specific projects and in our core business practices. We are a member of the U.S. Green Building Council (USGBC), participate in applicable industry workshops, and have certified Leadership in Energy and Environmental Design (LEED) Accredited Professionals, representing various disciplines including mechanical, electrical, and architectural.

Currently Gannett Fleming employs more than 40 LEED Accredited Professionals. These individuals successfully demonstrate knowledge of green building practices and principles and the LEED rating system, resources, and process. They continue to demonstrate Gannett Fleming's commitment to designing high-performance, energy-efficient, and environmentally friendly facilities. Gannett Fleming uses integrated design approach and life-cycle costing to evaluate options that provide the most energy efficient solution for each client.

Our dedication to implementing sustainable technologies and systems focuses on improving our personal performance through an improved working environment using more efficient and cost-effective building systems. Energy conservation (which favorably reduces source pollution) is an important aspect of our design philosophy, beginning

PAST EXPERIENCE AND SIMILAR PROJECTS

with the building envelope, efficient lighting, and efficient heating and cooling systems, supplemented by building management systems.

Our proposed project team for this assignment consists of 19 LEED Accredited Professionals. Additionally Gannett Fleming has received LEED certification or registered (awaiting certification) for the following projects displaying the diversity of usage of sustainable design practices:

Project Title	Square Feet	Cost	Completed
Londonderry School District, Harrisburg, PA	26,000	\$3 mil	2005
Harrisburg Area Community College, Harrisburg, PA	50,000	\$10 mil	2006
Greater Richmond Transit Company, Richmond, VA	100,600	\$35 mil	2010
MTA Metro-North Railroad, Croton-on-Harmon, NY	180,000	\$48 mil	ongoing
Northampton Borough Municipal Authority, Northampton, PA	31,500	\$25 mil	2006
Exelon Renewal Energy Education Center, Fairless Hills, PA	4,000	\$1.5 mil	2008
PAANG Air Support Operations Squadron Bed-Down Facility, Annville, PA	34,100	\$5.27 mil	ongoing
Project Title	Square Feet	Cost	Completed
PAANG Troop Camp Dormitory, Annville, PA	16,150	\$4.7 mil	ongoing
Campus Square Office Building, Harrisburg, PA	75,000	\$8.5 mil	ongoing
PAANG Bldg 75 Maintenance Hangar Renovation, Harrisburg, PA	54,600	\$4 mil	ongoing
Conowingo Dam Visitor Center, Darlington, MD	4,000	\$1 mil	ongoing
New Jersey Turnpike Authority Interchange 8 Toll Facility, NJ	8,000	\$1 mil	ongoing
PAANG Regional Support Group Headquarters Facility, PA	17,000	\$6.3 mil	ongoing
Borland Lab Renovation, State College, PA	76,000	\$1 mil	2008
School of Forest Resources, State College, PA	96,000	\$1 mil	2006

Gannett Fleming provides a qualified team and focused approach to performing energy and sustainability assessments. Our full service in-house capabilities include engineering, architectural, construction management, environmental, and specialty services that are focused on providing comprehensive energy management, design, and operations solutions. Our staff includes Certified Energy Auditors, Certified Energy Managers, Certified Lighting Efficiency Professionals, and High-Performance Building Design Professionals. Gannett Fleming's services include energy consultation and audit studies, energy modeling services, preliminary and final design services, construction management, equipment testing, start-up, commissioning, and ongoing services.

PAST EXPERIENCE AND SIMILAR PROJECTS

Our comprehensive energy assessment program gives our clients an objective analysis of their costs and operations. Such an analysis can provide the basis for energy conservation measures, improved facility management and operations, as well as implementation of sustainability practices. Gannett Fleming's in-house engineering and technical services are organized to positively support our client's energy conservation efforts and their energy service requirements. Our Energy Services Team has developed a detailed approach to identifying and evaluating the potential benefits of energy conservation measures, which has lead to reduced operating costs for our clients. Our areas of expertise include:

- **Structural** - Our structural staff has significant experience in the design of projects requiring the renovation and expansion of existing facilities. The renovation work has varied in complexity from repairing or strengthening existing members to completely replacing them while maintaining the integrity of the overall structural system. We have designed building expansions for single and multiple-level structures as a result of the clients need to expand services or change the function or use of the facility. This design work has often been performed in a manner that allows the continuous operation of the facility during the construction phase.
- **Electrical** - Our electrical design experience includes copper and fiber data networks, router/hub selection, wireless telemetry, and distance learning systems as well as traditional facility design, high-voltage applications, and retail lighting and power design. Our experience in power system design includes the phases of high-, medium-, and low-voltage power distribution systems; substations; protective relaying; emergency power; and cogeneration systems for industrial facilities. The comprehensive electrical services we have provided for special systems include lighting, telephone, security, fire protection/control, closed circuit television, card access, paging/intercom, and Uninterruptible Power Supply systems.

Our state-of-the-art power systems expertise gives us the ability to handle projects where system reliability and performance, along with meeting schedule and budget requirements, are critical client concerns. We have evaluated and modeled the adequacy and reliability of existing systems and auxiliary facilities and completed many major renovations involving phase-by-phase design and construction with minimal disruption to our clients active operations. Our electrical distribution systems are routinely modeled using interactive PC-based load flow and fault duty software programs to evaluate the adequacy of the existing systems. We are also well versed in control theory and application as well as the integration of existing multi-vendor systems. These systems include Building Automation Systems; Energy Management Systems; Programmable Logic Controllers Systems; the types of field instrumentation; computer systems; and operator interfaces such as Human-Machine Interfaces, telemetry links, and data communications in support of a totally integrated design.

PAST EXPERIENCE AND SIMILAR PROJECTS

- **Mechanical** - Our mechanical engineers are trained to use the latest design codes, industry standards, and CADD software. The mechanical services we provide include site inspection; feasibility and energy studies; design development; construction document development; and construction services for heating, ventilating, and air conditioning; and plumbing systems.
- **Site/Civil** - Our civil engineers are trained to use the latest design codes, industry standards, and CADD software. The site/civil services we provide include site inspection; storm water management, site grading, and erosion sediment control. Other services our civil engineers typically provide include waterline and sanitary sewer line connections to the site. In addition, our engineers typically prepare and submit agency permits requirements.
- **Construction Administration Services** - We also have provided construction-related engineering services during the construction phase of almost all of our designs, including buildings, facilities, water treatment plants, site improvements projects, new construction projects, renovation projects, and many miles of water transmission/distribution main and wastewater conveyance/collection systems. Our services are tailored to the specific needs, size, and complexity of each individual project. This means providing all of the necessary management and technical services from planning and pre-design . . . through final design . . . during construction . . . and into operation. Specifically, our approach to Construction Administration includes developing a contract that contains language with specific milestones to be achieved (by the contractor) within a certain time frame, diligently monitoring progress, and challenging any slippage. Liquidated damages may be associated with these milestones. Our goal is to provide comprehensive construction observation and monitoring of contractor progress, catch any schedule slippage early on, and compel corrective action at the earliest point possible. Our experience is that delays in contract completion are often due to slippage occurring early on in the critical path of activities. Our team has provided similar services and are familiar with hospitality projects and know what to look for, where to start, and what questions to ask the contractor. We intend to have the contractor submit a schedule for approval by Engineer/Architect (at the beginning of the project) and we will hold contractor accountable.

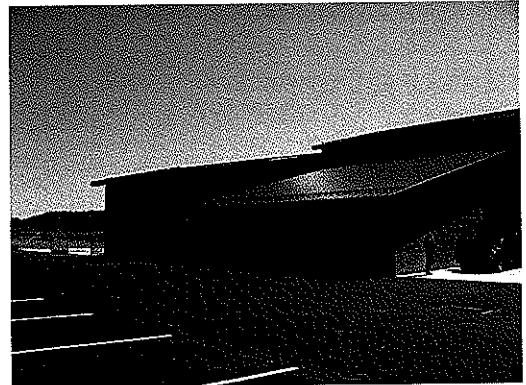
Of the many projects designed for DOD facilities and related agencies, the following projects demonstrate GF's past experience with similar projects, as well as DRS Architects.

Pennsylvania Army National Guard (PAARNG) Readiness Center, New Milford, PA

Our firm provided complete architectural and engineering planning, design, and construction-related services for a new Readiness Center Armory for the PAARNG.

The project consisted of developing an 18-acre site with roadways, walks, utility infrastructure, POV and MOV parking, and a new 25,600-square-foot Readiness Center. Site improvements included an on-lot sewage disposal system and water well to serve the facility. The building is a one-story masonry structure with sloping metal roofs and contains the following:

- 4,925-square-foot assembly hall with a floor slab designed to handle vehicle loads
- 800-square-foot Bradley Full-Crew Interactive Training Simulator Room with vehicle exhaust
- 1,530-square-foot classroom with two movable partitions to create one, two, or three classrooms
- 450-square-foot library/learning center
- 1,415-square-foot full-service commercial kitchen with prep area, storage, cooking area, serving area, and scullery
- 195-square-foot break room
- 3,330-square-foot locker room facilities complete with lockers and benches
- 970-square-foot restroom and shower facilities
- 455-square-foot physical fitness room
- 2,450-square-foot unit storage area with a 280-square-foot arms vault
- 1,150-square-foot unit-level maintenance workbay and 335-square-foot tool and supply area
- 1,600-square-foot administrative areas including individual offices and general administrative areas
- 400-square-foot facility maintenance storage



COST: \$4,313,805 (est.)

PAANG 112th Air Operations Squadron Training Facility, State College, PA

Our firm provided complete architectural, structural, civil, geotechnical, mechanical, and electrical engineering design services for a new training facility for the Pennsylvania Air National Guard's 112th Air Operations Squadron. The project involved a new 19,522-square-foot facility. The facility includes an operations training floor, a Theater Battle Management Core System Training Suite, a secure intelligence training room (SCIF), open office areas, classrooms, auditorium, conference, communications, maintenance, military testing, storage areas, and a break area. The 6.3-acre site has a secure perimeter and is located adjacent to the University Park Airport. The design incorporated all applicable Air Force and DoD standards, codes, and regulations as well as all current Anti-Terrorism Force Protection (ATFP) requirements. Sustainable design features were incorporated into the design of this facility. Even though this project was not registered with U.S. Green Building Council for LEED certification, the project goal was to achieve the equivalent of at least 26 points of the LEED rating system. Daylighting and daylighting controls, enhanced thermal envelope performance, energy efficient HVAC systems, and the use of recycled materials are some of the sustainable strategies incorporated into the design of this facility. All site environmental permits were obtained for this project. The project delivery method used was the traditional design-bid-build.

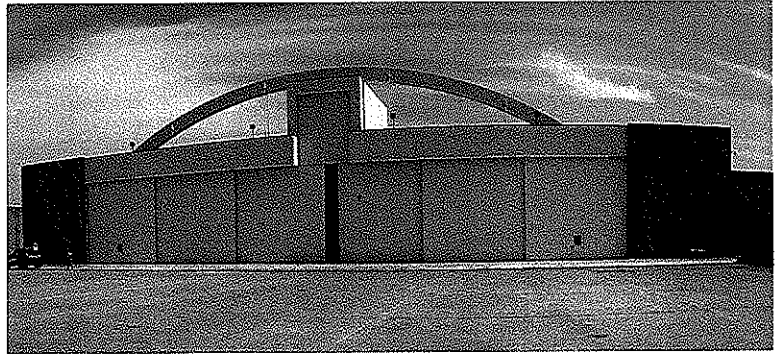


RELEVANT FEATURES

- Design project management
- Architectural and interior design
- Structural engineering
- Electrical and telecommunications engineering
- Compatible with LEED certified requirements
- Secure intelligence training room
- Designed in accordance with ATFP guidelines
- Auditorium and conference and military testing areas
- DoD 5200.1-R: Information Security Program
- DCID 6-9: Physical Security for Sensitive Compartmented Information Facilities
- DG-415: Design Guidelines for Armories
- UFC 4-010-01: DoD Minimum Antiterrorism Standards for Buildings
- UFC 4-010-02: DoD Minimum Antiterrorism Standoff Distances for Buildings

Addition and Renovation of Fuel Cell Hangar, Middletown, PA

Our firm provided complete architectural, structural, civil, geotechnical, environmental, mechanical, and electrical engineering design services for a 19,636 square-foot aircraft hangar renovation project for the Pennsylvania Air National Guard's 193rd Special Operations Wing, Middletown, PA.



This aircraft hangar was designed in 1978 and is used for fuel cell repair and maintenance, and for washing of C-130 aircraft. The project scope included:

- Survey of existing conditions; architectural, structural, mechanical, and electrical systems
- Restroom and office renovations to meet current standards and upgrade finishes
- Enhancements (repair and painting) to the facility façade
- Addition of standing seam roof over existing office/support area
- Hangar door upgrades
- Hangar bay finish upgrades
- Upgrade to existing codes
- Integration of a High Expansion Foam



(HEF) System which was designed by subconsultant Rolf Jensen Associates Inc. in compliance with Air National Guard requirements, Chapter 15 in hangar bay. HEF system pump room, pumps, and storage tank facilities were designed to handle future HEF system for Aircraft Maintenance Hangar (Building 75) This project included all the HEF requirements for buildings 71 and 75, and all items to make both systems complete and useable. Pump house and two water tanks were constructed for HEF system

Sustainable design aspects of this project included re-use of existing facility and site, upgrades to mechanical (HVAC), and electrical (lighting) to improve efficiency and reduce energy consumption.

Anti-terrorism and force protection (ATFP) enhancements were incorporated through upgrades of personnel doors and windows.

COST: \$3,300,000



Conditions Assessment Study: EDC Facility, New Cumberland, PA

Our firm provided architectural, structural, mechanical, and electrical engineering services to provide a current "conditions assessment study" of the EDC Building on the Defense Distribution Depot Susquehanna, PA complex. The results of this study will be used to implement a plan to repair and replace existing equipment and upgrade the major building components, utilities, and equipment as identified in this study to provide another twenty plus years of operational effectiveness for the Eastern Distribution Center.



The EDC facility was initially constructed in 1989. Currently, the facility occupies over 1.6 million square feet primarily for warehouse and distribution needs with appropriate office space for support personnel. The primary objective of the study is to replace the roofing system and at the same time identify HVAC and supporting electrical improvements to meet current and future facility needs.

Specific system evaluations included:

- **Architectural:** Condition assessment of EPDM roof system, standing seam metal roofs, and corrugated metal siding
- **Mechanical:** Condition assessment and capacity of water cooled chillers, hot water heating system, air handling system, water treatment system, and the control/energy management system. A *life expectancy* tabulation was also prepared
- **Electrical:** Condition assessment of unit substation including transformers, medium and low voltage switchgear, distribution capacity/ utilization, and emergency generators

The significant findings of the assessment resulted in the following general recommendations that will be implemented in future milcon contracts:

- Replacement of the current roof with a new roof including insulation to improve building heat loss/heat gain characteristics and reduce energy consumption
- Replacement of the existing chilled water generation equipment with more efficient, higher capacity equipment to accommodate building load
- Installation of a state-of-the-art energy management system to improve control and reduce energy consumption
- Replacement of the emergency generators with higher capacity equipment to meet the building's present and anticipated emergency requirements



PAANG 201ST Red Horse Squadron Training Facility, Fort Indiantown Gap, Annville, PA

Our firm provided complete architectural, structural, civil, geotechnical, mechanical, and electrical engineering design services for a new 22,500-square-foot operations and training facility for the Pennsylvania Air National Guard's 201st Red Horse Squadron. The facility includes operations, engineering, base operating support, readiness, combat arms training, arms vault, logistics, medical, contracting functions training classrooms, administration, storage, planning, recruiting,



conference, testing laboratory, medical, restroom/locker room, and communications areas. The five-acre site has a secure perimeter and is located at Fort Indiantown Gap in Area-1, Block 500. The design incorporated all applicable Air Force and Department of Defense standards, codes, and regulations as well as all current ATFP requirements. Sustainable design features were incorporated into the design of this facility. Even though this project was not registered with the U.S. Green Building Council for LEED certification, the project goal was to achieve the equivalent of at least 26 points of the LEED rating system. Daylighting and daylighting controls; enhanced thermal envelope performance; energy efficient heating, ventilation, and air conditioning systems; and the use of recycled materials are some of the sustainable strategies incorporated into the design of this facility. All site environmental permits are in process of being obtained for this project. The project delivery method being used is the traditional design-bid-build.

RELEVANT FEATURES

- Design project management
- Architectural and interior design
- Structural engineering
- Electrical and telecommunications engineering
- Compatible with LEED certified requirements
- Designed in accordance with ATFP guidelines
- Administration, communications areas
- DoD 5200.1-R: Information Security Program
- DCID 6-9: Physical Security for Sensitive Compartmented Information Facilities
- DG-415: Design Guidelines for Armories
- UFC 4-010-01: DoD Minimum Antiterrorism Standards for Buildings
- UFC 4-010-02: DoD Minimum Antiterrorism Standoff Distances for Buildings



Gannett Fleming

**ACADEMIC RESEARCH FACILITY
ARMY HERITAGE CENTER**

Client: United States Department
of the Army

Location: Middlesex Township,
Cumberland County, Pennsylvania

The Military History Institute (MHI) is the rental repository and primary protector of military history material of the United States. The MHI was interested in developing a new, centralized permanent facility to house its military history collection valued at an estimated \$250 million. The new facility, housing 12,500 square feet of archival storage and 25,000 square feet of office/research space, was sited to provide maximum visibility from the entrance drive and parking areas. Gannett Fleming designed all parking, access drives, and utilities to allow for additional expansion of the building components with minimal disruption to existing improvements.

Services Provided

- Field surveying
- Access drive/parking lot design
- Site grading
- Storm drainage design
- Utility connection design
- Construction document preparation
- Municipal coordination
- Collaboration with Architect
- Permit applications





ARCHITECTS

COMPANY NAME
DRS Architects

**U. S. ARMY RESERVE
CENTER WITH OMS/AMSA
DESIGN/BUILD PROJECT
WHEELING, WEST VIRGINIA**

ROLE: 30% CONCEPT DESIGN

Project Management
Site Planning
Architectural Design
Interior Design
Review of Design/Build Contractors
Submissions

CONSTRUCTION COST

\$10,197,000

COMPLETION

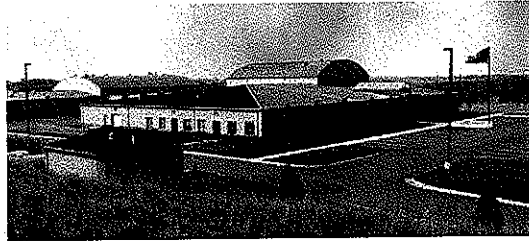
1994 Concept Design
1996 Construction

REFERENCE

U.S. Army District, Baltimore
Corps of Engineers
P. O. Box 1715
Baltimore, MD 21203-1715
Bill Taylor, Design Manager
(410) 962-4453

SCOPE OF PROJECT

The Army Reserves and the Corps of Engineers chose to complete this project by the Design/Build method based on the 30% Concept Design in order to expedite the schedule. The DRS Design Team working in conjunction with the BCOE also developed the RFP Package which primarily used Commercial Standards in lieu of COE requirements. Proposals were obtained from Design/Build Contractors and a contractor was selected. DRS was responsible for reviewing the Design/Build Contractor's submissions.



The project includes a 24,000 SF Training Building and 17,000 SF OMS/AMSA. The Training Building consists of full-time staff offices, unit exclusive offices, unit common space, retention office and

administrative support. Assembly areas include assembly hall, chair/table storage, kitchen, arms vault and armorer. Educational facilities include classrooms, library reading room, library storage, learning center, training aid storage, comsec training and comsec storage. Special training areas include weaponeer room, medical section, soils testing lab and drafting room. Storage areas include unit and individual storage, staging and supply offices.

The OMS/AMSA contains an organizational maintenance shop consisting of shop office, tool storage, parts storage, battery storage and charging, flammable storage and a controlled waste storage.

The area maintenance support activity (larger maintenance facility) consists of shop offices, toilets and locker rooms, classroom and break area, tool room, parts room, battery room, small arms repair shop, small arms vault, AMSA flammable storage and controlled waste storage. Joint areas of the OMS/AMSA include four double work bays with a 10-ton overhead crane and double wash bay.





ARCHITECTS

COMPANY NAME
DRS Architects

**NEW GENERAL MAIL
FACILITY/VEHICLE
MAINTENANCE FACILITY
U. S. POSTAL SERVICE
PITTSBURGH, PENNSYLVANIA**

ROLE: JOINT VENTURE
Project Management
Architectural Design
Interior Design
Coordination of engineering disciplines

CONSTRUCTION COST
\$43,000,000

COMPLETION
1984

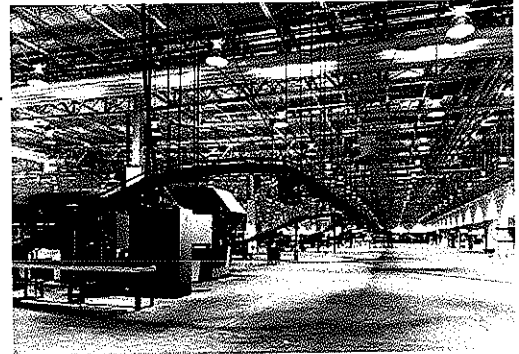
REFERENCE
Mr. Bill Zaken
U. S. Postal Service
Director of Communications, Retired
233 Deerpath Road
New Kensington, PA 15068
(724) 339-8895
(412) 401-0911 (Cell Phone)

SCOPE OF PROJECT



DRS was responsible for the master plan, architectural and interior design, and construction observation services of the Pittsburgh General Mail Facility and Vehicle Maintenance Facility for the U. S. Postal Service. The site for the GMF/VMF is located on a 23 acre parcel on Pittsburgh's North Side. The postal complex replaces the former downtown post office on Grant Street in Pittsburgh which served as a postal headquarters for half a century.

This 1,000,000 SF facility contains a 300,000 SF workroom housing the most up-to-date mechanization equipment for mail handling and distribution. Mail enters and leaves the facility via **126 truck loading docks** adjoining the workroom area.



There is a branch post office located on the first level along with the administrative, computer, locker rooms and support spaces. The second level contains additional administrative space and food service facilities which serve the 3,500 employees.

The Vehicle Maintenance Facility provides service bays, wash bays, parts and equipment storage, and offices which service the post office vehicles. In addition, there are 1,000 employee parking spaces provided below the GMF.

Construction of the new post office took two years and ten months. The facility was phased into operation during the Spring and Summer of 1984.



ARCHITECTS

**STRYKER COMBAT
BRIGADE
READINESS CENTER &
OMS
CAMBRIDGE SPRINGS, PA**

OWNER

Department of Military & Veterans Affairs

ROLE: DESIGN/BUILD ARCHITECT

Project Management
Site Planning
Architectural Design
Interior Design
Submissions

DESIGN/BUILD CONTRACTOR

Mascaro Construction Company

CONSTRUCTION COST

\$19,000,000

SQUARE FOOTAGE

85,000 SF

COMPLETION

June, 2008

REFERENCE

Mark Austin, Director,
Bureau of Facilities and Engineering
Department of Military & Veterans Affairs
Fort Indiantown Gap, Pennsylvania
717-861-2915



The two-story, 65,000 SF, \$19 M Readiness Center is designed to support the consolidation of three units totaling 438 reservists. Each unit has dedicated locker rooms, unit storage, arms vault and administrative offices to permit independent operations. Facilities shared by the three units include a 2,200 SF medical clinic; a 1,200 SF fitness room, a 7,300 SF assembly hall with full service kitchen, 4 large classrooms, break areas, general administrative offices and a recruitment center. In addition, there are areas designated for specific functions. The building is designed to permit community access to the assembly hall and adjacent restrooms while locking out the remainder of the facility. The site development and building construction are appropriate to meet the Anti-Terrorism and Force Protection Level established for the facility.

The maintenance facility is 20,000 SF and designed to provide adequate field maintenance support for vehicles and equipment supported by this Facility.



The facility consists of six (6) maintenance workbays of which two (2) bays are serviced by a 15-ton overhead crane, one (1) warm-up bay, one (1) welding bay plus administrative, personnel, storage and work areas. The six (6) workbays, each 32' x 74', are designed as drive through bays to accommodate the largest equipment supported by the facility. Supporting facilities include one (1) exterior wash rack, one (1) exterior fuel storage and dispensing system, controlled waste handling facility and a building for miscellaneous storage. Primary heating system for the workbays is an in-slab radiant piping system with hot water provided by two (2) gas-fired boilers which is supplemented by gas-fired radiant heaters at the overhead door. Utility services to each workbay include a carbon monoxide exhaust system, compressed air hose reel, overhead power reel and 220v power outlets.

Both buildings are constructed of a steel frame, concrete masonry walls with split face concrete masonry and face brick veneer and a SBS modified bitumen metal roofing system.

Parking for POV and military vehicles is provided.

The Readiness Center is designed to achieve a SPiRiT Bronze rating for energy and environmental design. The project was constructed with the Design/Build method of delivery.



ARCHITECTS

COMPANY NAME
DRS Architects

OPERATIONAL MAINTENANCE SHOP
PENNSYLVANIA DEPARTMENT OF GENERAL SERVICES FOR
PA ARMY NATIONAL GUARD
RICHLAND TOWNSHIP
JOHNSTOWN, PENNSYLVANIA

ROLE:

Project Management
Architectural Design
Interior Design
Coordination of all engineering disciplines

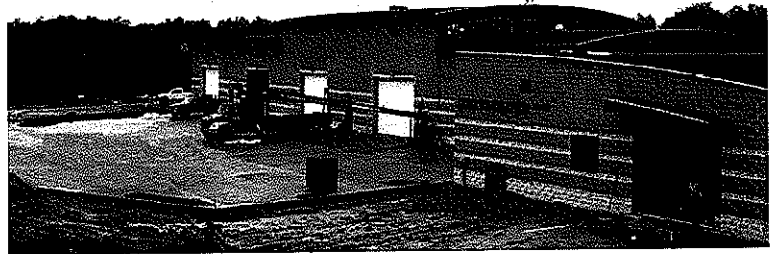
COMPLETION
January 2005

ESTIMATED CONSTRUCTION COST
\$4,161,000

DRS FEE
\$260,000

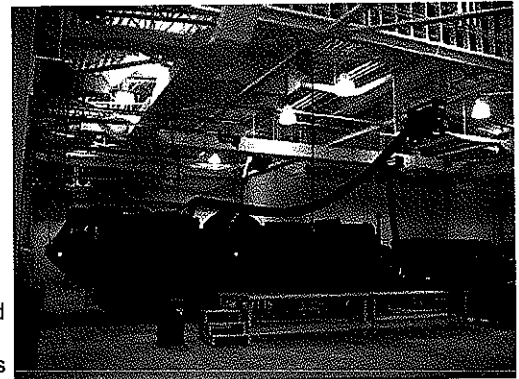
REFERENCE
Major Mark Austin
Pennsylvania Army National Guard
Department of Military Affairs
1129 Utility Road
Anville, PA 17003
(717) 861-2915

SCOPE OF PROJECT



The new maintenance facility is designed to provide adequate organizational maintenance support for vehicles and equipment supported by this Shop. The facility will consist of eight (8) maintenance workbays of which two (2) bays will be serviced by a 30-ton overhead crane, one (1) warm-up bay plus administrative, personnel and work areas. The eight (8) workbays, each 32' x 74', are designed as drive through bays to accommodate the largest equipment system supported by the facility. Supporting facilities include one (1) exterior wash rack, one (1) exterior fuel storage and dispensing system, controlled waste handling facility, building for miscellaneous storage, military vehicle parking (74) and POV parking (31).

The building is constructed of a steel frame, concrete masonry walls with split faced concrete masonry veneer and a curved seamed metal roofing system. Primary heating system for the workbays will be an in-slab radiant piping system with hot water provided by two (2) gas-fired boilers. Utility services to each workbay includes a carbon monoxide exhaust system, compressed air hose reel, overhead power reel and 220v power outlets.



The site configuration and physical constraints had a major impact upon building placement and orientation. The site contains 13.56 acres in an irregular configuration. A 6.15 acre portion of the site is within the runway protection zone of the adjacent airport and is unbuildable. The remaining 7.41 acres is bisected diagonally by an area of wetlands leaving approximately 5.00 acres for development.



ARCHITECTS

U. S. ARMY RESERVE AVIATION FACILITY JOHNSTOWN, PA

ROLE: PRIME

Master Plan
Project Management
Architectural Design
Interior Design
Coordination of engineering disciplines

COMPLETED

1997

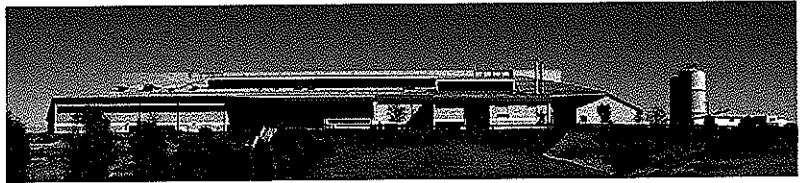
CONSTRUCTION COST

\$22,000,000

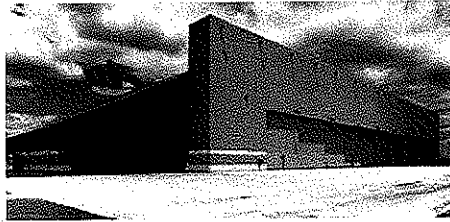
REFERENCE

James K. Payne, Chief, Project Development
US Army Corps of Engineers
Aberdeen Proving Ground-IPO Bldg. E-1356
Bush River & Scully Roads
Aberdeen Proving Ground, MD 21010
Phone: 410-436-0526

SCOPE OF WORK



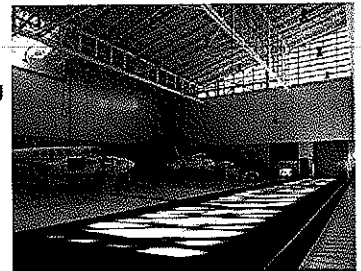
DRS had prime responsibility for the design of a new 120,000 SF U. S. Army Reserve Aviation Facility for both rotary and fixed wing aircraft located at the Johnstown-Cambria County Airport. The multi-building complex is located on a 80-acre site and construction was completed in the spring of 1997. It was determined that the Facility was to be shared by the U. S. Army Reserves and PAARNG. Salient points of the project includes:



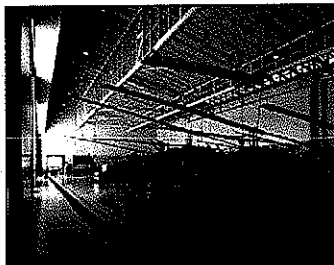
Site development included the entrance roads, site utilities, parking lots, security fencing and landscaping. The scope of the work includes design of taxiways, hangar apron areas, parking for twenty-four AH-1's and four C-12's associated aircraft and taxiway lighting, aircraft signage and

site storm drainage collection and retention.

Hangar floor area of 330 feet x 94 feet with a safety corridor around the perimeter is comprised of flexible work bays and a wash bay. Individually motorized operation sliding doors with door pockets at either side provide access to the Hangar. A 5-ton crane with a 40 foot span serves the entire length of the hangar. A foam water fire suppression system is provided along with a detention area.



Shop areas include hydraulics, air frames, sheet metal shop, rotor shop, engine shop, battery shop, material and maintenance control, corrosion control, arms vault, unit maintenance and GSE storage. Support spaces for the shop areas include parts storage, tool room, ordnance and extensive storage space.



Aircraft related spaces include avionics, navigation and flight planning, flight briefing room, officers ready room, safety and NATOPS, quality assurance and maintenance administration.

Administrative spaces include offices and common administration area, classrooms, legal, medical, computer work area and reserve facilities. Common spaces include lobby, break room, toilets and locker rooms.

The Reserve Center will provide administrative areas, unit common space, assembly hall, classrooms, learning center, library, unit and individual storage and support space. A secured parking area is also provided for military equipment parking.

DRS provided the selection of furniture for 60,000 SF of office space for this project using GSA Furniture & Furnishings Procurement and UNICOR.





ARCHITECTS

**PORT AUTHORITY OF
ALLEGHENY COUNTY
INDEFINITE DELIVERY
CONTRACT
PITTSBURGH, PENNSYLVANIA**

OWNER

Port Authority of Allegheny County

ROLE

Architectural Design
Project Management
Coordination of Engineering Disciplines
Construction Administration

CONTRACTOR

Various

CONSTRUCTION COST

Various

SQUARE FOOTAGE

Various

COMPLETION

2007
Current

REFERENCE

Jerome Maritzel, RA
Project Manager
Engineering & Construction Division
Port Authority Allegheny County
345 Sixth Avenue, Third Floor
Pittsburgh, PA 15222
412-566-5159



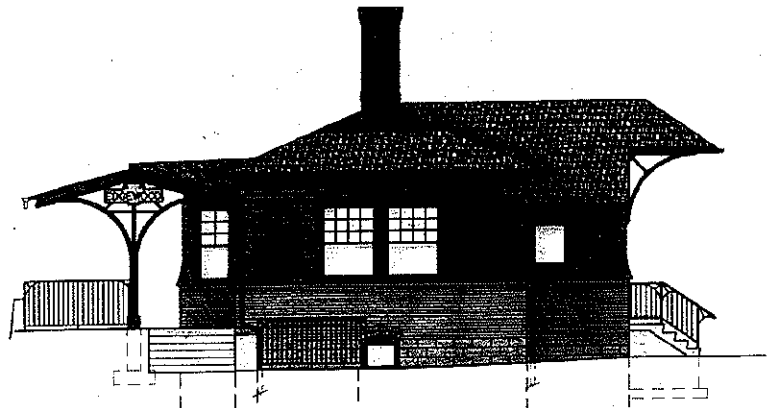
DRS was selected to provide A/E services for an Open Ended Type A-E Contract for Port Authority Allegheny County, Pennsylvania.

IDC Projects from Current Contract:

- Feasibility study for moving the PAAC headquarters office back to the Manchester Office Building on North Side.
- East Liberty Bus Wash Replacement
- Renovation of Paint Booths at the Manchester Garage to accommodate articulated buses
- Renovation of the Ross Garage to accommodate articulated buses in the Body Shop, Tire Change Bay and Wash Lanes
- Wash Bay renovations at the South Hills Garage

Projects completed in 2007 included:

- East/South Busway Rehabilitation Study
- East Busway Landscape Construction Documents
- East Busway Final Design
- Rehabilitation of Collier Garage
- Security Systems for Collier, Harmar, Ross and East Liberty Division Garages
- Renovation to the Edgewood Train Station, a historically significant building
- Renovation of a pedestrian bridge on the East Busway
- Miller Print Building Cost Evaluation





ARCHITECTS

**U.S. ARMY RESERVE
CENTER/OMS
GRANTSVILLE, WEST VIRGINIA**

ROLE: PRIME

Master Plan
Project Management
Architectural Design
Interior Design
Coordination of Engineering Disciplines

COMPLETION

1998

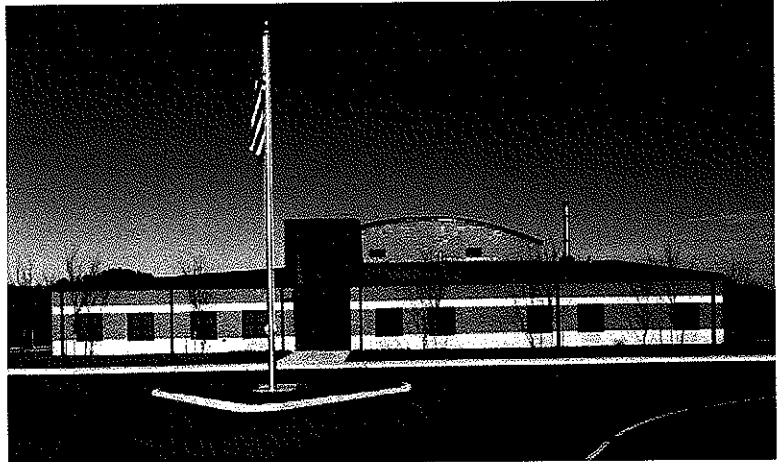
CONSTRUCTION COST

\$4,500,000

REFERENCE

U.S. Army District, Baltimore
Corps of Engineers
P. O. Box 1715
Baltimore, Md 21203-1715
Margie Marcus, Design Manager
(410) 962-6790

SCOPE OF PROJECT



The DRS Design Team was responsible for architectural/engineering and interior design services. Site Delineation Study and Engineering Feasibility Study were required to determine the viability of the selected site.

The project consisted of a 15,300 SF Training Building and 2,400 SF Organizational Maintenance Shop. The Training Building contains full-time staff offices, unit exclusive offices, unit common space, retention office and administrative support. Assembly areas include assembly hall, chairs/table storage, kitchen, arms vault and armorer. Educational facilities include classrooms, library reading room, library storage, learning center, training aid storage, comsec training and comsec storage. Special training areas include weaponeer room and special projects classroom. Storage areas include unit and individual storage, staging area and supply offices. A completed interior design package was developed for this facility.



The OMS contains shop office, tool storage, parts storage, battery storage and charging, flammable storage, hazardous storage and toilet. The maintenance area consists of a double work bay and single wash bay.

KEY PERSONNEL

Gannett Fleming has identified the following key project personnel to fill all roles required to successfully complete the project. The project will be managed from our Morgantown, WV office. Mr. Samer H. Petro, P.E. will serve as our Project Manager.

Project Manager- Samer H. Petro, P.E., WV Operations Manager and Senior Project Manager. Mr. Petro, a long-time Morgantown resident and a WVU graduate, has completed his BSCE in 1987 and his MSCE in 1993. His diverse background includes significant experience in both new construction and renovation of existing facilities, bridges, buildings, and civil infrastructure. He brings over 20 years of total relevant experience to this project. Mr. Petro is familiar with the State Park(s) and Morgantown, WV Gannett Fleming office is located within a short driving distance from the site. He is ideal to manage the structural facilities assessment and coordination of this project and will be responsible for ensuring that the requirements for each task are completed in a satisfactory manner and that the schedule is achieved. He will communicate regularly with park staff and the project team to ensure that the final products meet all the expectations of the WVDNR.

Quality Assurance/Quality Control (QA/QC) – Bradley A. Diffenbaugh, P.E., Senior Project Manager. Mr. Diffenbaugh has extensive experience in the inspection, design, and rehabilitation of commercial and industrial buildings, water and wastewater treatment facilities, health care facilities, and maintenance facilities for bus and rail systems. This experience is significant because many of the projects he has been involved with have been multi-discipline design and construction projects and having that “field” knowledge gives him a more holistic perspective when performing constructability reviews of projects.

Structural - Bradley A. Diffenbaugh, P.E., Senior Structural Engineer/ Senior Project Manager.

Site/Civil - Michael A. Neely, P.E. – Mr. Neely is a Senior Project Manager in Morgantown. With over 12 years of experience, he is responsible for the design and management of highway/roadway, site development, and airport projects, including right-of-way, site grading, stormwater, utilities, signing and pavement marking, erosion and sediment pollution control, final cross sections, quantities, cost estimation and report preparation. Mr. Neely is experienced in the use of various design and drafting software packages including MicroStation, InRoads, AutoCAD, WaterCAD, StormCAD, CulvertMaster, FlowMaster, and PondPack as well as Microsoft Office Suite of programs.

Geotechnical Engineering - Robert H. Yauger, P.E. – Mr. Yauger is a Geotechnical Project Manager responsible for managing geotechnical aspects on projects involving the design of highway, water supply, mine reclamation, landfill, and other geotechnical systems.

Mechanical / Electrical / Plumbing (MEP): - Thomas M. Long, P.E. - Mr. Long is the Mechanical Section Manager and Senior Project Manager responsible for technical direction, staff development, business development, project management, administration, quality assurance/quality control (QA/QC), and overall performance of the Mechanical Section. Experience includes engineering design, economic evaluations, studies, development and preparation of construction drawings and specifications, and on-site review of mechanical construction. Has extensive experience in heating, ventilation, and air conditioning (HVAC) and in the areas of industrial ventilation, engineered plumbing, fire protection, process piping, and control systems for commercial, industrial, and institutional projects.

Additional information including an Organization Chart and resumes of key personnel for Gannett Fleming and DRS Architects follows:

YEARS EXPERIENCE: 20

EDUCATION:

B.S.C.E., Civil Engineering, West Virginia University, 1987
M.S.C.E., Structural Engineering, West Virginia University, 1993

PROFESSIONAL REGISTRATION(S):

P.E.: Ohio - No. 66132 (2001)
West Virginia - No. 15710 (2003)
Kentucky - No. 24682 (2006)

CURRENT RESPONSIBILITIES:

Manager WV Operations - responsible for supervising, directing, and performing structural design activities, as well as the complete development of plans and specifications for highway bridges and other transportation related structures. Experience includes nondestructive testing and evaluation of highway bridges using real time intelligent devices; damage detection using dynamic characterization; load assessment using frequency measurements; ultrasonic testing; and instrumentation. Responsibilities also include structural repair and rehabilitation of conventional and historic structures using fiber reinforced polymer (FRP) composite materials. Also responsible for preparing budget information, scheduling project related submissions, and preparing proposals with man-hour estimates.

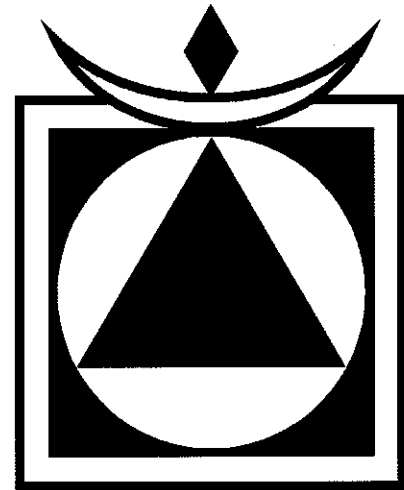
SUMMARY OF EXPERIENCE:

Headsville Bridge Replacement, Mineral County, WV, West Virginia Department of Transportation, Division of Highways. Project Manager and Senior Structural Engineer responsible for designing a bridge replacement. Work includes development of structure geometry; type, size, and location studies; foundation submissions; final design submission; and construction cost estimates. The Headsville Bridge consists of four horizontally curved steel plate girders and the substructure units consist of semi-integral abutments supported by steel piles and two single column post-tensioned integral piers with solid circular column shafts.

Dolls Run Bridge Replacement, Monongalia County, WV, West Virginia Department of Transportation, Division of Highways. Senior Structural Engineer responsible for designing a bridge replacement. Work includes development of structure geometry; type, size, and location studies; foundation submissions; final design submission; and construction cost estimates. The project consists of replacing the existing bridge with a new structure at its existing location using a temporary bridge for maintaining traffic. The structure is on a 30-degree skew and tangent alignment. The superstructure consists of a single span steel structure with integral abutment.

Morgan Run Bridge, Monongalia County, WV, West Virginia Department of Transportation, Division of Highways. Senior Structural Engineer responsible for pier redesign as a VE to Mosites Construction Company.

16th Street Bridge, Phoenix, AZ, City of Phoenix Street Transportation Department. Senior Structural Engineer responsible for retrofit of a two span concrete slab bridge using carbon fiber reinforced polymer (CFRP) composite materials. The project also included preparing bridge repair plans, calculating load ratings, and load testing using strain gages to verify effectiveness of FRP repair.



19th Avenue Bridge, Phoenix, AZ, City of Phoenix Street Transportation Department. Senior Structural Engineer responsible for retrofit of a three span concrete slab bridge using carbon fiber reinforced polymer (CFRP) composite materials. The project also included preparing bridge repair plans, calculating load ratings, and load testing using strain gages to verify effectiveness of FRP repair.

Automated Train Guideway, Phoenix, AZ, City of Phoenix Sky Harbor International Airport. Senior Structural Engineer responsible for the design and plan development for a portion of an elevated automated train. Structures include a portion of the mainline in a switching area and two spans to a maintenance facility. The main line structure is a four-span, multiple steel box girder (tub girder) superstructure. The spur lines consist of three-span curved continuous single steel box girder (tub girder) superstructures.

Evansdale Campus Bridge-Garage, Morgantown, WV, West Virginia University (WVU). Project Manager responsible for development of conceptual renderings for pedestrian bridge over US 19 on the Evansdale campus. These early concepts included cable-stayed and arch truss type alternatives. Project also included a proposed multi-level parking facility accommodating 1017 vehicles.

North Shore Connector, Pittsburgh, PA, Port Authority of Allegheny County/DMJM+Harris. Structural Project Engineer responsible for the design for a portion of 16-span aerial structure consists of structural steel, trapezoidal, plate girders spanning an average of 130 feet per span and is composed of simple, two-span and three-span continuous structures. The bridge carries light rail transit vehicles and also supports a double cross-over and station platform.

King's Covered Bridge, Somerset County, PA, Pennsylvania Department of Transportation, District 9-0. Senior Structural Engineer responsible for the rehabilitation design of a covered bridge. The King's covered bridge spans 120 feet and was built, ca. 1857. The King's bridge is historically significant because it retains its original features until it was bypassed in the 1930s by the construction of an adjacent steel highway bridge for vehicular traffic. The preservation and rehabilitation strategy for the King's covered bridge is to minimize interventions, repair in-place, and to use glass fiber reinforced polymer (GFRP) materials where possible to improve the strength and stiffness of the wooden members.

Bridge Testing and Analysis, Various Locations, WV, West Virginia Department of Transportation. Bridge Engineer responsible for evaluating tension levels of structural members using contact and non-contact (laser) vibration measurements in three bridges, including the Ice's Ferry Cheat Lake Truss Bridge, the Moundsville Tied-Arch Bridge, and the Macomber Truss Bridge.

S.R. 28 over Yutes Run Road Bridge, Allegheny County, PA, Pennsylvania Department of Transportation, District 11-0. Project Bridge Engineer for the widening of a three-span continuous reinforced concrete slab bridge supported on an integral stub abutment. The structure is on a curved alignment.

Wood Bridge, Barbour County, WV, West Virginia Department of Transportation, District 7. Bridge Engineer for the design of a 60-foot-long, single-span bridge. The structure consisted of a Parallam (engineered wood) deck supported on steel rolled beams.

Railroad Bridge, Moorefield, WV, West Virginia Department of Transportation, State Rail Authority. Bridge Engineer responsible for the rehabilitation and repair of a seven-span timber railroad bridge using FRP composite materials.

Bridge Designs, Various Locations, WV, West Virginia Department of Transportation. Bridge Engineer for the design of various short-span highway and pedestrian bridges using fiber reinforced polymer (FRP) decks.

Salt Creek Bridge, Muskingum County, OH, Ohio Historical Society. Bridge Engineer responsible for performing ultrasonic field testing of a historic covered bridge. The in-situ testing indicated that 17 members in the bridge contained defects needing immediate rehabilitation.

Elkins Bypass, Elkins, WV, West Virginia Department of Transportation. Project Bridge Engineer for the design of a 125-foot-long, dual single-span bridge. The structure consists of steel plate girders supported by a reinforced concrete integral-type abutment.

Mon/Fayette I-68 Interchange and Expressway, Morgantown, WV, West Virginia Department of Transportation. Project Bridge Engineer for the design of a 155-foot-long, dual single-span bridge. The structure is on a 30-degree skew and curved alignment. The superstructure consists of curved steel plate girders supported by a reinforced concrete integral-type abutment.

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S.R. 1001 (Freeport Road), Section A14 over Deer Creek, Harmar Township, Allegheny County, PA, Pennsylvania Department of Transportation, District 11-0. Project Bridge Engineer for the design of a widening of S.R. 1001 (Freeport Road), Section A14, Segment 0220, Offset 1890 over Deer Creek. The project involved the design of additional prestressed concrete beams to accommodate one extra northbound lane of traffic. The structure is on a 74-degree skew and curved alignment.

Steel Bridge, Duquesne, Allegheny County, PA, Pennsylvania Department of Transportation, District 11-0. Project Bridge Engineer responsible for the preliminary design of an 81-foot, single-span, steel plate girder bridge supported by reinforced concrete abutments. The structure provides grade-separated access (fly-over ramp) over Norfolk Southern Railroad tracks to the RIDC Riverplace City Center.

S.R. 1001 over I-90, Erie County, PA, Pennsylvania Department of Transportation, District 1-0. Project Bridge Engineer for the foundation redesign for a bridge over an interstate highway. Work included stem widening design, final drawings, material specification, and quantity calculations.

PROFESSIONAL AFFILIATIONS AND PUBLICATIONS:

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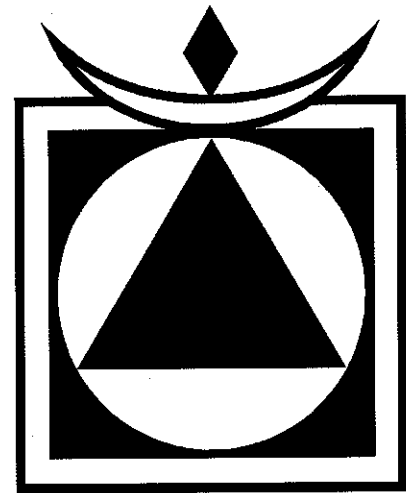
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YEARS EXPERIENCE WITH FIRM: 2

YEARS EXPERIENCE WITH OTHER FIRMS: 10

EDUCATION:

B.S., Civil Engineering, West Virginia University, 1996

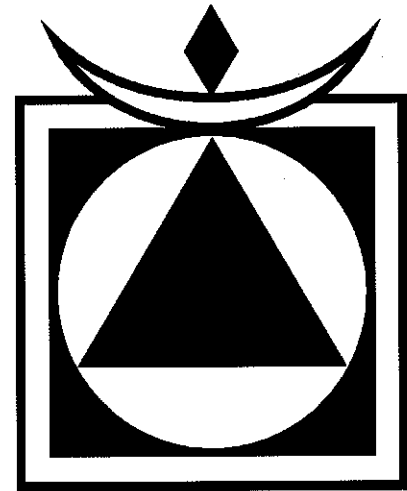
PROFESSIONAL REGISTRATION(S):

West Virginia - No. 015304 (2002)

Florida - No. 61143 (2004)

CURRENT RESPONSIBILITIES:

Project Manager for the West Virginia Regional Office responsible for the design of highway and airport projects, including right-of-way, site development, stormwater, utilities, signing and pavement marking, erosion and sediment pollution control, final cross sections, quantities, and report preparation. Also assists in client consultation, budget preparation, and project scheduling.



SUMMARY OF EXPERIENCE:

Preston County 911 Center, Kingwood, WV, Preston County Commission, Project Manager responsible for final site design, utility coordination, construction plan preparation, permitting and construction observation of a new 911 center located on +/- 5 acres located just outside the City of Kingwood. This project is currently in the design phase.

Sunnyside Up, Morgantown, WV, RBA Group, Inc., Project Manager responsible for utility coordination and preliminary engineering design and cost estimation of a stormwater management system for the Sunnyside area of the City of Morgantown.

Jerome Park Subdivision, Morgantown, WV, Habitat for Humanity of Monongalia County. Project Manager/Project Engineer responsible for final site design, utility coordination, construction plan preparation, permitting and construction observation of a +/- 13 unit single family subdivision located within the City of Morgantown. This project is currently in the design phase.

Mingo County Airport, Mingo County, WV, Chapman Technical Group. Project Manager responsible for the design and preparation construction plans for a +/- 2 mile access road for a new airport in Mingo County. The design includes horizontal and vertical geometry, erosion and sedimentation control, stormwater management, NPDES permitting, quantity calculation and cost estimation.

Logan County Airport, Logan County, WV, Chapman Technical Group. Project Manager responsible for the preparation of an airport layout plan. This package includes a property map of land uses, airspace evaluation and plans for future improvements to the 3600' runway and terminal area.

Evansdale Campus Bridge-Garage, Morgantown, WV, West Virginia University (WVU). Project Engineer responsible for preliminary parking garage layout and access road design for a 1,000-space parking garage at the WVU Coliseum.

North Shore Connector, Pittsburgh, PA, Port Authority of Allegheny County/DMJM+Harris. Project Engineer responsible for the final design of a 12-inch waterline relocation, including quantity

calculations, specification review, and plan preparation. Performed final design of erosion and sedimentation control facilities including quantity calculations, specification review, and plan preparation.

Final Design, S.R. 0022, Section B10, Westmoreland County, PA, Pennsylvania Department of Transportation (PennDOT), District 12-0. Project Engineer responsible for updating stormwater management detention facilities and stormwater drainage systems. Tasks include verifying detention facility and drainage system capacities, updating facilities as necessary, and generating detailed storm water management and roadway drainage reports following PennDOT guidelines.

Mon/Fayette Expressway, PA 51 to Pittsburgh, Section 53M, Pittsburgh, PA, Pennsylvania Turnpike Commission. Project Engineer responsible for developing utility relocation plans for overhead and underground electric and natural gas lines.

WV 705 Connector Design Study Report, Monongalia County, WV, West Virginia Department of Transportation, Division of Highways (WVDOH). Project Manager responsible for preliminary roadway design of an approximately three-mile section of roadway to connect the WV 705 Connector to Beechhurst Avenue in downtown Morgantown, including an interchange at the intersection with the WV 705 Connector. The main alignment follows the Falling Run Valley with multiple alignments between University Avenue and Beechhurst Avenue. This portion of the project required significant coordination between WVDOH, the City of Morgantown, West Virginia University, and developers along the corridor.

Dolls Run Slab Bridge Replacement, Monongalia County, WV, West Virginia Department of Transportation, Division of Highways. Project Manager responsible for quantity calculations, construction cost estimate, construction working-day estimate, final roadway construction plan preparation, and quality control.

Headsville Bridge Replacement, Mineral County, WV, West Virginia Department of Transportation, Division of Highways. Project Manager responsible for highway design, quantity calculations, construction cost estimate, construction working-day estimate, final roadway construction plan preparation, and quality control.

EXPERIENCE PRIOR TO GANNETT FLEMING:

RWA, Inc., Naples, FL

Project Engineer and Project Manager responsible for overseeing an engineering group and providing project coordination, project design, permitting, and contract document preparation. Other duties included client consultation, subconsultant coordination, and project management. Typical permitting efforts required a site development permit through Collier County Community Development and Environmental Services, an environmental resource permit through the South Florida Water Management District, a General Permit for Construction of Water Main Extensions, a General Permit for Constructing a Domestic Wastewater Collection/Transmission System, and a Generic Permit for Stormwater Discharge from Small and Large Construction Activities through the Florida Department of Environmental Protection.

Orchid Cove, Port of the Islands, Collier County, FL, Bayview Villas, LLC. Project Manager responsible for overseeing the design, permitting, contract document preparation, subconsultant coordination, and client consultation for a condominium association containing 160 residential units housed in 40 buildings located on approximately 50 acres. The project included a stormwater management system to collect and detain stormwater on site and provide water quality treatment prior to

discharge offsite, a potable water line extension, a fire/irrigation line extension, internal gravity sanitary sewer lines, and a sanitary sewer lift station to support the community.

Gusto Bella Vita, Naples, FL, *Equity Resources, Inc.* Project Manager responsible for overseeing the design, permitting, contract document preparation, subconsultant coordination, and client consultation for a condominium association containing 160 residential units housed in 40 buildings located on approximately 70 acres. The project consisted of a stormwater management system to collect and detain stormwater on site and provide water quality treatment prior to discharge offsite, a potable water line extension, on-site gravity sanitary sewer lines, and a sanitary sewer lift station to support the community.

Trail Ridge, Naples, FL, *Habitat for Humanity.* Project Manager responsible for overseeing the design, permitting, contract document preparation, subconsultant coordination, and client consultation for a single-family subdivision containing 204 residential units. The project consisted of a stormwater management system, potable water line extension, gravity sanitary sewer lines, and a sanitary sewer lift station to support the community.

Collier County Fleet Facility, Naples, FL, *Disney and Associates, PA.* Project Manager for a facility to house the Collier County vehicle maintenance facility, Collier County Sheriffs administration and vehicle maintenance facility, and a communication tower on approximately 10 acres. Responsibilities involved overseeing the design, permitting, contract document preparation, subconsultant coordination, and client consultation. The project consisted of three buildings, a stormwater management system, potable water line extension, gravity sanitary sewer lines, a sanitary sewer lift station, and parking lot layout.

Golden Gate Fire Station No. 73, Naples, FL, *Golden Gate Fire and Rescue District.* Project Manager responsible for the design, permitting, contract document preparation, subconsultant coordination, and client consultation for a fire station and administration building located on approximately five acres. The project consisted of a fire station building, an administration building, a stormwater management system, potable water line extension, gravity sanitary sewer lines, and parking lot layout.

Golden Gate Parkway, Grade-Separated Overpass, Naples, FL, *Collier County Transportation Department.* Project Engineer for the reconstruction of a 1.6-mile section of the Golden Gate Parkway from a four-lane rural roadway to a six-lane urban roadway with a single-point elevated urban interchange. Responsible for the design of drainage and stormwater management systems and signing and pavement marking plans.

Alpha Associates, Inc., Morgantown, WV

Project Engineer responsible for the design of highway and airport projects including right-of-way, site development, stormwater, utilities, signing and pavement marking, erosion and sediment pollution control, final cross sections, quantities, and the preparation of required reports.

Springfield Grade Road, Hampshire County, WV, *West Virginia Department of Transportation Division of Highways.* Project Engineer for a project to raise the grade of a ½-mile section of County Route 3, a two-lane rural route along the South Branch of the Potomac River, to reduce the frequency of roadway flooding events. Responsible for engineering design including geometric design, stormwater collection, coordination with The Nature Conservancy and geotechnical engineers, as well as the preparation of construction documents including roadway plans, signing and pavement marking, right-of-way maps, and utility coordination and relocation.

Wheatland Road, Martinsburg, WV, *West Virginia Department of Transportation, Division of Highways.* Project Engineer responsible for engineering design for the reconstruction of a two-mile section of U.S. Route 11 from a two-lane rural section to a three-lane urban section with a center left-turn

lane. Project tasks involved geometric design, stormwater collection, and the preparation of construction documents, including roadway plans, signing and pavement marking, right-of-way maps, and utility coordination and relocation.

Rocky Lane, Martinsburg, WV, West Virginia Department of Transportation, Division of Highways. Project Engineer responsible for engineering design to realign the intersection of Rocky Lane and U.S. Route 11 and to widen U.S. Route 11 to provide turning lanes onto Rocky Lane. Project tasks involved geometric design, stormwater collection, and the preparation of contract documents, including roadway plans, signing and pavement marking, and right-of-way maps.

Uvilla-Shepherdstown Road, Uvilla, Jefferson County, WV, West Virginia Department of Transportation, Division of Highways. Project Engineer responsible for engineering design to widen a ½-mile section of County Route 230. Project tasks involved geometric design, stormwater collection, and the preparation of contract documents, including roadway plans, signing and pavement marking, and right-of-way maps.

Market Street Bridge, Wheeling, WV, West Virginia Department of Transportation, Division of Highways. Project Engineer responsible for engineering design to replace the Market Street Bridge. Project tasks involved geometric design, stormwater collection, coordination with geotechnical and structural engineers, and the preparation of contract documents, including roadway plans, signing and pavement marking, and right-of-way maps.

South High Street Bridge, Morgantown, WV, West Virginia Department of Transportation, Division of Highways. Project Engineer responsible for engineering design to replace the South High Street Bridge. Project tasks involved geometric design, stormwater collection, coordination with geotechnical and structural engineers, and the preparation of contract documents, including roadway plans, signing and pavement marking, and right-of-way maps.

Williamstown Information Center, Williamstown, WV, West Virginia Department of Transportation, Division of Highways. Project Engineer responsible for engineering design for a new information center located off of Interstate 77. Project tasks involved geometric design, grading, stormwater collection, and parking lot layout; coordination with geotechnical engineers, structural engineers and architects; and the preparation of contract documents, including roadway plans, signing and pavement marking, utility coordination, and right-of-way maps.

I-68 Welcome Center, Hazelton, WV, West Virginia Department of Transportation, Division of Highways. Project Engineer responsible for quantity estimates, geometric design, grading, and stormwater collection for a new welcome center.

West Buckeye Acrow Bridge, Monongalia County, WV, West Virginia Department of Transportation, Division of Highways. Project Engineer responsible for engineering design to replace the West Buckeye Bridge on County Route 39/1. Project tasks involved geometric design, stormwater collection, coordination with geotechnical and structural engineers, and contract document preparation, including roadway plans, signing and pavement marking, and right-of-way maps.

PROFESSIONAL AFFILIATIONS:

National Society of Professional Engineers

YEARS EXPERIENCE WITH FIRM: 37

YEARS EXPERIENCE WITH OTHER FIRMS: 0

EDUCATION:

B.S., Civil Engineering, The Pennsylvania State University, 1974
Anti-Terrorism/Force Protection Training, Foos & Associates, 2004

PROFESSIONAL REGISTRATION(S):

P.E.: Pennsylvania - No. PE028486E (1979)
Healthcare Construction Certification: American Society for Healthcare Engineering (2008)

CURRENT RESPONSIBILITIES:

Senior Project Manager with extensive experience in the inspection, design, and rehabilitation of commercial and industrial buildings, water and wastewater treatment facilities, health care facilities, and maintenance facilities for bus and rail systems. Responsibilities include project management, design development, contract document production, discipline coordination, and in-house construction-phase supervision for structural and multidiscipline projects.

SUMMARY OF EXPERIENCE:

Milford Mill Academy, Baltimore, MD, Baltimore County Public Schools. Discipline Manager responsible for the design of a one-level building addition to an existing senior high school. The new 24,000-square-foot building addition includes multiple gymnasiums, storage areas, and locker room facilities. The building structural system consists of masonry load-bearing walls supporting the steel roof joist/metal decking system; the building foundations are supported by a compacted aggregate pier system. A new 8,000-square-foot second floor area was constructed above the existing gymnasium for new classrooms. The new floor consists of steel joists and structural steel beams supporting a concrete/metal decking slab structure. New columns pass through the structural concrete gymnasium floor to new foundations placed in a crawl space below the existing floor.

Manufacturing Facility, PA, Confidential Client. Project Manager responsible for civil/site utility and building foundation design for a new 850,000-square-foot manufacturing facility. The new facility consists of a pre-engineered steel-frame building for raw material storage, a conventional steel-frame building for production, and a pre-engineered steel building for warehousing finished products. A separate steel-framed utility building was constructed to serve the new facility. The entire facility, including building columns, perimeter walls, and floor slab, is supported by one of two deep foundation systems: cast-in-place concrete displacement piles or concrete-filled steel pipe piles. The foundation work had to be coordinated with two independent building design teams, two pile installation contractors, and building foundations that remained within the proposed site after existing building superstructures were demolished. The site work design included site grading, the extension of the existing roadway around the new facility, and the installation of a rail spur from the adjacent rail mainline. Existing site utilities were extended to various sections of the facility; utilities included electric power, fire water, domestic water, sanitary sewer, gas, and stormwater.

Borland Lab Building, University Park, PA, *The Pennsylvania State University.* Project Manager responsible for supervising and coordinating the site/civil and structural work for renovations to an existing laboratory building located on the Penn State University main campus. The three-level steel building with an estimated gross area of 76,000 square feet will be renovated into classrooms and studios for the College of Arts and Architecture. The renovation will involve the addition of a new mechanical penthouse structure at the roof level, roof modifications for a new clerestory, the installation of a new elevator, and reconstruction of floor areas within the facility.

Easton Parking Garage and Intermodal Transportation Facility, Study Phase, Easton, PA, *Lehigh and Northampton Transportation Authority.* Project Manager responsible for supervising engineering services of a feasibility study for a new intermodal facility. The new facility would incorporate a bus transfer station with the associated bus support areas, a multilevel parking garage, and retail space within the structure. The study examined bus circulation patterns, car circulation patterns, concerns regarding car/bus interface, retail space placement within the structure, and investigations of future environmental, traffic, and site utility concerns.

Condition Assessment/Adaptive Reuse Study, Harrisburg, PA, *Crossgates, Inc.* Project Manager responsible for supervising the architectural/engineering team that surveyed an existing 76,000-square-foot community building. The survey was performed to assess the condition of the existing building, define maintenance concerns and the associated costs to upgrade the facility, and develop an alternative reuse for the facility. The team was represented by personnel from the architectural, structural, mechanical, and electrical disciplines. A final report was developed defining corrective actions required for the facility to continue functioning in its present capacity, and possible reuse options for the building in the future.

Monongalia County Intermodal Facility, Morgantown, WV, *Monongalia County Commission.* Project Manager responsible for supervising and coordinating architectural and engineering services for a new county intermodal facility. The new facility incorporated a bus transfer station, with associated bus support areas, and a 500-car parking garage. A new elevated pedestrian bridge ties the parking garage to the adjacent county courthouse and to an existing elevated transit station located adjacent to the proposed site. The project was initially a feasibility study to gather information from the various stakeholders, examine bus circulation through the site, determine a final facility layout from several developed schemes, and perform a traffic study of the area based on the new site improvements. The project work task was extended to include a 30 percent preliminary design submittal.

Life Sciences Building, University Park, PA, *The Pennsylvania State University.* Project Manager responsible for leading the structural, site/civil, topographic survey, and the geotechnical work for a new five-level, 120,000-square-foot classroom facility. The new building consists of classrooms, conference areas, laboratory rooms, and a two-story auditorium with a sloping floor surface. The structural system for the building is composed of structural steel framing (beams and columns) that support composite concrete/metal deck floor slabs. A two-level pedestrian bridge links this building to the chemistry building located on the opposite side of the newly developed Shortlidge Mall.

Building Adaptive Reuse Study, Existing Hospital, PA, *Carlisle Hospital.* Project Manager responsible for leading the engineering team in the planning of alternative uses for an existing hospital facility. The engineering team, consisting of structural, mechanical, and electrical disciplines, worked with other team members to determine possible building functions that could be placed within the existing facility. A final written report was developed that discussed the physical building alterations and the associated estimated construction cost to modify the existing facility from a hospital to the suggested adaptive reuses.

Meat Processing Facility, NC, Citterio USA Corp. Project Manager responsible for finalizing the design of a 30,000-square-foot meat processing facility. Managed and coordinated the various engineering disciplines and consulted with the client to make certain the final project met necessary requirements. Major elements of the building included cold-storage areas, warehouse/storage areas, an attached administrative area, and provisions in the building systems for future expansion.

Manufacturing/Warehouse Facility, Easton, PA, City of Easton. Structural Project Manager for the design of foundations and floor slabs for a 200,000-square-foot facility. The foundations were designed for a multiple-span, pre-engineered steel building. An elevated office area within the building was designed using metal joists and a concrete-filled metal deck.

Military Vehicle Manufacturer, York, PA, United Defense. Structural Project Manager for the design of modifications to an existing building floor slab where new equipment was to be installed. The modifications required concrete demolition, protection of adjacent areas within the building from dust, and the installation of a concrete mat that required open trenches for cooling liquids, special anchorages for the equipment, and covered trenches for electrical conduits.

Plant Modifications for a Major Aircraft Manufacturer, Philadelphia, PA, Boeing Defense & Space Group. Structural Project Manager responsible for analyzing and designing modifications to concrete slabs in a 32,000-square-foot portion of a manufacturing plant. Modifications provided flexibility for utility hook-ups to accommodate the ever-changing manufacturing process.

Lime Bin Modification, Lancaster, PA, City of Lancaster. Structural Project Manager responsible for analyzing strengthening modifications for the existing lime bin located on the roof of the Susquehanna Filter Building. The project required determination of methods to strengthen the bin and the replacement of new support beams located within the building.

Office/Laboratory Buildings, Various Locations, Various Clients. Structural Project Manager responsible for design of single-story buildings for municipal wastewater authorities in East Pennsboro Township, Carlisle, Exeter, Pennsylvania; and Greenwich, Connecticut.

Cozine Avenue Ironshop, New York City, NY, MTA New York City Transit. Structural Project Manager responsible for the design of a new 60,000-square-foot steel fabrication shop. This structure included an at-grade truck storage area, a steel-supported mezzanine, and overhead cranes for conveyance of material throughout the shop.

Concrete Tank Rehabilitation, Hagerstown, MD, City of Hagerstown Water Department. Structural Project Manager responsible for inspection of four existing basins. The project included the repair of concrete surface defects, replacement of failed expansion joints, and some structural modifications to the existing building.

Hudson-Bergen Rail Facility, Newark, NJ, *New Jersey Transit*. Structural Project Manager responsible for the preliminary design of the buildings located within a new rail maintenance facility. This project involved developing calculations and drawings to reflect the anticipated structural concepts for a three-level operations control center, a two-level maintenance-of-way building, a car wash facility, a car storage barn, and a railcar maintenance facility.

Bayonne Military Ocean Terminal, Bayonne, NJ, *U.S. Army Corps of Engineers*. Structural Project Manager responsible for designing four single-level buildings located on the Bayonne military facility. Each structure contained a steel frame superstructure erected on concrete pile foundations. A structural ground-floor slab supported on piles was used for two buildings and non-structural slabs cast on-grade were used for the remaining two structures.

Manufacturing Plant, Harrisburg, PA, *TRW, Inc.* Project Engineer/Inspection Team Leader for an in-depth inspection of the fire-damaged TRW building. Inspection was followed with structural design and development of bid documents showing reconstructed roof and wall systems to correct deficiencies resulting from fire damage.

Hillside Car Repair Shop, Jamaica, NY, *MTA Long Island Rail Road*. Project Engineer responsible for the structural design of a maintenance facility. The building included overhaul and inspection shops, a component changeout area, and truck, wheel, motor, and upholstery shops. Some structural design items included a partial second floor, suspended mezzanine, overhead cranes and monorails, lift pits and hoists on-grade, structural floors over a large basement area, and retaining walls for both highway and railroad loadings.

Building Inspections, Port Newark, NJ, *Port Authority of New York and New Jersey*. Inspection Team Leader for a condition survey of seven buildings. Prepared reports documenting inspection findings.

PROFESSIONAL AFFILIATIONS:

American Society of Civil Engineers
American Institute of Steel Construction
Council of American Structural Engineers

YEARS EXPERIENCE WITH FIRM: 17

YEARS EXPERIENCE WITH OTHER FIRMS: 24

EDUCATION:

B.S., Mechanical Engineering, Drexel University, 1969
80-Hour Gannett Fleming/The Pennsylvania State University Collaborative Project Management Certificate Program, 2001
Continuing training courses and seminars in Project Management, Fire Protection Systems, Indoor Air Quality, Building Control and Automation Systems, Risk Management, and Business Management Practices

PROFESSIONAL REGISTRATION(S):

P.E.: Pennsylvania - No. PE021700E (1974)
Virginia - No. 0402010220 (1978)
California - No. 32437 (2003)
North Carolina - No. 018294 (2003)
Delaware - No. 12965 (2003)
New Jersey - No. 24GE04440200 (2003)
Nevada - No. 19540 (2008)
Massachusetts - No. 48333 (2009)
USGBC - LEED 2.0 Accredited Professional (2002)

CURRENT RESPONSIBILITIES:

Mechanical Section Manager and Senior Project Manager responsible for technical direction, staff development, business development, project management, administration, quality assurance/quality control (QA/QC), and overall performance of the Mechanical Section. Experience includes engineering design, economic evaluations, studies, development and preparation of construction drawings and specifications, and on-site review of mechanical construction. Has extensive experience in heating, ventilation, and air conditioning (HVAC) and in the areas of industrial ventilation, engineered plumbing, fire protection, process piping, and control systems for commercial, industrial, and institutional projects.

SUMMARY OF EXPERIENCE:

New Central Chilled Water Plant and Distribution System, Shippensburg University, Shippensburg, PA, Pennsylvania Department of General Services. Project Manager for a multidiscipline project to design and construct a new central plant and underground chilled water piping distribution system as part of the University's master plan. The \$16 million project includes architectural, structural, site/civil, geotechnical, mechanical, and electrical engineering services. The new plant is designed to be expandable to incorporate new central heating boilers to serve the campus in Phase 2. Plant and distribution system cooling capacity is projected at 5,000 tons, considering current needs as well as projected needs based on the master plan.

Afghan National Police Logistics Center, Maydan Shahr, Wardak Province, Afghanistan, U.S. Army Corps of Engineers, Afghanistan Engineer District. Discipline Manager responsible for providing HVAC and plumbing design services for the development of a new complex of buildings to support the Afghan National Police logistics efforts throughout Afghanistan. The project included two vehicle maintenance buildings, four barracks buildings, a Morale, Welfare and Recreation/gymnasium building, fire station,

medical clinic, four warehouse buildings, dining facility, training building, generator building, underground ammunition bunker, four office buildings, three maintenance buildings used for the repair of small arms and communication equipment, and multiple other small support and security structures. Also included was the design of a bulk fueling and storage system serving both the refueling of vehicles and the fuel requirements of the diesel-electric power generators. The design of these building systems took into account the non-Western, South Asian culture and incorporated equipment that is able to be serviced and replaced locally.

Repair or Replace Stacks and Steam Lines, Veterans Affairs Hospital, Bedford, MA, U.S. Army Corps of Engineers. Project Manager responsible for the overall design and coordination of a multi-discipline project to upgrade a hospital facility. The upgrade included the design of individual free-standing stacks for three gas- or oil-fired steam boilers in the central steam plant, and the demolition of an existing 150-foot-tall masonry chimney. Construction phasing was a critical element, since the steam plant load during heating season required two boilers on line and the third operable as standby capacity. The upgrade also involved replacing approximately 700 LF of underground steam and condensate return piping, upgrading existing valve manholes, and installing a new valve manhole. A new steam-pressure-powered pump was also provided to correct a water hammer problem in one segment of the piping system.

Stryker Brigade, Lebanon, PA, Pennsylvania Army National Guard. Project Manager responsible for the final design of building HVAC and plumbing systems in a National Guard facility, consisting of renovations to an existing armory to provide a new readiness center. Multiple and redundant mechanical systems were required to accommodate the unit's mission-critical nature. The renovations were completed as a design-build project.

Commissioning Services for Security and Availability of Operations Improvements, Commonwealth Technology Center, Harrisburg, PA, Pennsylvania Department of General Services. Project Manager for design-phase and construction-phase commissioning services for the installation of new backup generators and an uninterruptible power supply system, and upgrade of the building electrical service and building management system. The project was intended to upgrade the state's Commonwealth Technology Center (CTC), as it had approached the maximum amount of its power capacity. These upgrades significantly increased the reliability and availability of the Commonwealth data center's critical applications. The new equipment provides a redundant electrical infrastructure in accordance with Tier III industry-accepted standards. State agencies count on the CTC facility infrastructure to support their applications as Pennsylvania citizens look for convenient accessibility to the Commonwealth's services. Goals were to provide a remedy and to hold costs down to a minimum by having the project completed in as short a timeframe as possible. Commissioning services included developing a design-phase commissioning plan and commissioning specifications, reviewing design documents, preparing a construction-phase commissioning plan and prefunctional and functional test requirements, conducting on-site commissioning meetings, verifying testing, providing owner training, developing operations and maintenance manuals, and preparing a final commissioning report.

Stryker Brigade, Elizabethtown, PA, Pennsylvania Army National Guard. Project Manager responsible for the design of building HVAC and plumbing systems in a National Guard facility, consisting of a new readiness center and field maintenance shop. Multiple and redundant mechanical systems were required to accommodate the unit's mission-critical nature. The project was completed as a design-build project and was designed and constructed to meet Leadership in Energy and Environmental Design (LEED) certification requirements.

Carlisle Police Headquarters, Carlisle, PA, Borough of Carlisle. Project Manager responsible for designing HVAC, plumbing, and fire protection systems for a new 20,000-square-foot municipal police headquarters facility. The design incorporated energy-efficient mechanical systems using high-efficiency condensing gas boilers, variable-air-volume air distribution, and a high-efficiency gas-fired water heater. A unique feature of the design was the architect's use of an insulating concrete form wall system to provide a high-performance thermal envelope. The relatively high mass and thermal resistance of the exterior walls allowed the capacity of the building heating and air conditioning systems to be sized smaller than normal by taking advantage of the thermal lag of the construction. The building houses police administrative offices, detectives' offices, evidence processing, storage areas, training and classroom areas, shower/locker rooms, holding cells, sally port, and vehicle processing area.

Capitol Complex Central Chilled Water Plant Distribution System Study, Harrisburg, PA, Pennsylvania Department of General Services. Project Manager responsible for analyzing an existing 8000-ton central chilled-water system serving state government office buildings in the Capitol complex. The analysis focused on system operating characteristics, providing sufficient cooling at each building interface, optimizing chiller operation, and reducing pumping energy consumption. The study also addressed the available capacity for future cooling loads. Methodology included developing a computer model of the chilled water distribution system to determine minimum required pumping pressure differential that must be maintained by the plant pumps. The model was also used to evaluate the capacity of the existing system to satisfy existing and future loads, and to maintain adequate flow and temperatures at the terminal users in the buildings. Recommendations were made to improve system operation and reliability.

Pennsylvania State Capitol Building, HVAC Upgrades, Harrisburg, PA, Pennsylvania Department of General Services. Project Manager responsible for designing renovations and upgrades to the State Capitol HVAC systems. A key aspect involved coordinating new work with historical building elements, user agency requirements, other project design professionals, and the construction manager. The project was completed in multiple phases over several years to accommodate continuous occupancy of the building with minimum disruption of personnel. Included were new four-pipe fan coil units, many installed in custom-built enclosures, and connection of the entire Capitol complex to the existing central chilled-water plant distribution system. Indoor air quality was improved by introducing outside ventilation air to all occupied spaces.

Central Steam Plant Renovation, Slippery Rock University, Slippery Rock, PA, Pennsylvania Department of General Services. Project Manager responsible for designing Phase II renovations to a coal-fired central steam heating plant with a maximum capacity of 107,000 lbs of steam per hour. The project included upgrades to existing boilers to meet current Department of Environmental Protection air emission requirements, installation of a new gas/oil-fired boiler to handle summer loads, back-up steam turbines, new coal stokers, and auxiliary steam equipment. The design also incorporated new induced-draft fans and boiler breeching. Architectural, electrical, structural, and site upgrades were also included in the renovations. Air emission standards for particulates were met by a relatively new technology known as co-firing. Co-firing involves the use of natural gas burners installed above the traveling grate stokers to provide for more complete combustion, thereby reducing particulate emissions in the flue gas. The use of this technology eliminates the necessity of bag-house collectors or other maintenance-intensive equipment to meet the emission standards. An added benefit of the co-firing system is the improved response to load changes, which can be accommodated more easily by modulating the gas burners firing above the coal bed. Co-firing was successfully demonstrated on Boilers #1 and #2, which were retrofitted under Phase I.

Warehouse Expansion and Manufacturing Plant Renovations, Quarryville, PA, Stoner, Inc. Project Manager responsible for the mechanical and electrical design for a major expansion and renovation of an industrial facility for Stoner, Inc., a quality-focused manufacturer specializing in aerosol cleaners, lubricants, and coatings for the automotive detailing, electronic servicing, and plastic molding industries. The expansion included a 20,000-square-foot warehouse and aerosol storage building, a new front vestibule, and a third-floor office area. Renovations included office spaces and a new quality-control laboratory. A primary consideration in the warehouse was a fire protection and suppression system to address the flammable and combustible liquids being stored, and the high-hazard nature of aerosol storage. The aerosol storage area is protected by an aqueous film forming foam system, which uses chemical foam dispersed in water to protect against the fire hazards presented by aerosol containers. The project also involved LP gas-fired heating and ventilating systems for the warehouse area, a new packaged air-cooled water chiller for air conditioning and process cooling, high-efficiency lighting systems, and new electric service.

Nanoscience Laboratory, U.S. Naval Research Laboratory (NRL), Washington, DC, Naval Facilities Engineering Command, Chesapeake Division. Mechanical Discipline Manager responsible for the design and coordination of HVAC, plumbing, and fire protection systems for a research laboratory. The building incorporates Class 100 clean rooms, quiet and ultra-quiet rooms (acoustically quiet and free of electromagnetic radiation), and support spaces. Design tasks included providing air-handling and air-distribution systems for all spaces to meet user requirements; connection to the NRL's central chilled-water and steam systems; supplemental glycol chiller to meet low-temperature/humidity criteria; variable-speed pumping systems; and a building automation/control system. Plumbing system design included domestic hot- and cold-water piping, acid waste drainage, high-purity compressed-air and nitrogen systems, and provision for future laboratory vacuum and high-purity water systems. The design also incorporates a complete wet-pipe automatic sprinkler system. The project required close coordination with the design-build mechanical/electrical subcontractor.

Heat Recovery System, Hartford, CT, AETNA Insurance Company. Design Engineer for a two-million-square-foot complex in downtown Hartford. The project involved the installation of a water-to-water industrial heat pump, recovering approximately 600 tons of computer room heat rejection, and providing hot water for space heating and domestic water heating. When fully operational, the system resulted in annual savings of 400,000 gallons of fuel oil.

EXPERIENCE OTHER THAN GANNETT FLEMING:

Rettew Associates, Inc., York, PA

Group Manager-Mechanical/Electrical Engineering responsible for administration, technical direction, marketing, staff development, client management, and overall performance of a 20-person engineering group as part of a 185-person multidiscipline consulting engineering firm.

Alterations and Renovations, Scranton Commons Dining Facilities, Bloomsburg University, Bloomsburg, PA, Murphy & Dittenhafer, Architects. Project Manager responsible for improving the food service delivery and facilities for the university students. This dining facility provides more than 2,000 meals per day, with a one-time seating capacity of approximately 800 diners. The dining room and food preparation area covers 33,000 square feet, while Scranton Commons exceeds 52,000 square feet. Mechanical systems design included upgrade of ventilation systems and controls and extension of utilities to new cooking and serving equipment. Special lighting design was emphasized in the new dining area for atmosphere and food merchandising. The entire building fire alarm system was replaced to meet current codes, Americans with Disabilities Act (ADA) requirements, and university standards.

Training and Service Facility, Lititz, PA, Hammel Associates, Architects. Project Manager for the design of mechanical and electrical systems for a state-of-the-art facility for a major watch manufacturer. The facility incorporates energy-efficient building construction with variable air volume environmental control, high-efficiency lighting, and an integrated facility management control system combining HVAC, lighting, and security/life safety system control and monitoring.

12-Story Hotel, Philadelphia, PA, Hampton Inn. Project Manager for mechanical/electrical design which included stairwell pressurization for smoke control; packaged heating/cooling equipment serving the lobby, meeting/banquet rooms, and retail and restaurant tenant spaces; and an integrated fire alarm system interfaced with the firefighter control center. The basement level houses laundry, mechanical and electrical rooms, additional meeting rooms, and an indoor pool area.

Additions and Renovations, Shippensburg, PA, Shippensburg Episcopal Home. Project Manager for the mechanical/electrical team for the design of an addition and related renovations to this personal care home. Design included a hot water radiant heating system, new emergency generator, and extension of the existing fire alarm and automatic sprinkler systems.

Historic Renovations, York County, PA, York Redevelopment Authority. Project Manager for the engineering design for a historic renovation/adaptive reuse of three city properties at 224-226 West Market Street. Renovations to the existing four-story structure included new HVAC systems, new electrical service and distribution, and new interior lighting. The design of the new systems provided modern office space while maintaining the original appearance and character of the building. Proposed uses for the facility are retail, commercial, and residential apartments.

HVAC Renovations of the York Post Office, York County, PA. Mechanical Engineer assisting in the design of new HVAC systems in the workroom and public lobby areas of the facility.

MEG Engineering, Inc. (acquired by Rettew in 1997), York, PA

Vice President and Mechanical Engineering Manager responsible for sales and marketing, administration, and operation of an 18-person consulting engineering firm.

Chief Mechanical Engineer responsible for technical production of engineering designs and construction documentation for mechanical department of a 20-person consulting engineering firm.

PROFESSIONAL AFFILIATIONS:

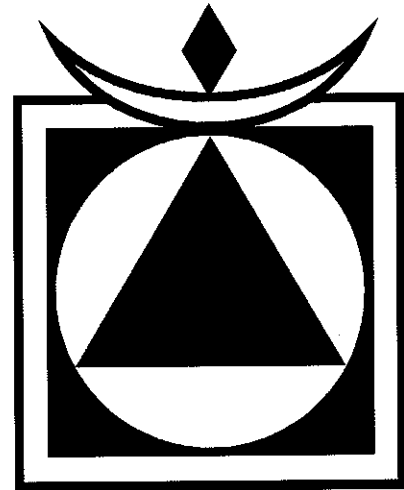
American Society of Heating, Refrigerating and Air-Conditioning Engineers
Past Chapter President
International District Energy Association

YEARS EXPERIENCE WITH FIRM: 28

YEARS EXPERIENCE WITH OTHER FIRMS: 0

EDUCATION:

B.S., Civil Engineering, Worcester Polytechnic Institute, 1981
Construction Scheduling - Time is Money, American Society of Highway Engineers, 2008
Verifying Proper Installation of Site Controls (Erosion and Sedimentation)-Construction Site Inspection, Westmoreland Conservation District, 2008
Negotiating Better Engineering and Architectural Contracts, ASCE, 2006
Trackwork 101, TGC, Inc., 2006
Construction Claims in Pennsylvania, Lorman Education Services, 1998
Contract Review and Revision, Design Professionals Insurance Company's Professional Liability Education Program, 1998
40-Hour Basic Health and Safety Training, Center for Hazardous Materials Research, 1997
Liability IQ, Design Professionals Insurance Company's Professional Liability Education Program, 1997
Project Management Training, Gannett Fleming, 1996
16-Hour Confined Space Operations, Gannett Fleming, 1995
Construction Project Management, Engineers' Society of Western Pennsylvania, 1994
40-Hour Module I Value Management Training Workshop, Society of American Value Engineers, 1994
Continuous Quality Improvement, Gannett Fleming, 1993
Underground Storage Tank Installation, Highland Tank and Manufacturing Company, 1991
Public Speaking, Dale Carnegie, 1991
10-Hour OSHA Construction Health and Safety Training, JC Safety & Environmental, Inc., 2009



PROFESSIONAL REGISTRATION(S):

P.E.: Pennsylvania - No. PE037412E (1988)
Underground Storage Tank Testing Certified: Heath Consultants - No. 121093B1408 (1993)
Standard First Aid: American Red Cross (2009)
CPR - Adult: American Red Cross (2010)

CURRENT RESPONSIBILITIES:

Construction Management Discipline Manager for the Pittsburgh Regional Office responsible for business development; contract initialization, administration, and maintenance; oversight of construction management/construction inspection activities and personnel; and quality assurance and improvement.

Project Manager for construction management and inspection services responsible for contract administration and staff oversight, contract interfacing and scheduling, work scope preparation, schedule preparation, and cost estimation. Projects include bridges, highways, transit facilities, maintenance facilities, industrial buildings, and water and wastewater systems. Manages field inspection crews and verifies contractors' work. Coordinates contractor activities, prepares change orders, negotiates contract changes with contractors, processes and verifies contractors' requests for payment, monitors project schedules, and resolves construction issues.

SUMMARY OF EXPERIENCE:

Water and Wastewater Improvements, Construction Management and Inspection Services, Western PA and OH, Various Agencies, Municipalities, and Private Companies. Construction Manager responsible for general project oversight on a wide variety of water and wastewater projects during the construction phase. Duties include procuring, assigning, and managing field inspection personnel; verifying that internal quality assurance standards are being attained; and addressing issues related to construction contractor compliance with schedule, quality, and budget issues. Projects include water treatment plants and pump stations, water line installations and rehabilitations, sanitary sewage treatment plants and pump stations, storm and sewage line installations and upgrades (forced main and gravity systems); construction observation of developer projects for municipal authorities, and condition inspection by closed-circuit televising (CCTV) of existing sanitary sewer systems. Clients include water companies (such as Pennsylvania American Water, Ohio American Water), regional authorities (such as Breakneck Creek Regional Authority, Monongahela Valley Sewage Authority, Redbank Valley Municipal Authority), and municipalities (such as City of Franklin, Grove City, Jefferson Township).

Northside Revitalization Phase V, Oil City, PA, City of Oil City. Project Manager responsible for overseeing the work efforts of project personnel and providing project management and administrative services. Work involves providing resident project representative services for rehabilitation and construction, including new roadway geometry, curb and sidewalk, lighting, landscaping, traffic signalization, and utility work. The construction is valued at \$1.3 million.

Chestnut Street Bridge Replacement, Construction Inspection, Grove City, PA, Mercer County Bridge Department. Project Manager responsible for overseeing the work efforts of project personnel and providing project management and administrative services. The project consists of the demolition of the existing concrete arch bridge and construction of a new 300-foot, two-span, multi-girder steel structure, including approaches, lighting, and signage.

King's Covered Bridge, Construction-Phase Services and Construction Inspection, Somerset County, PA, Southern Alleghenies Conservancy/Simone Collins Landscape Architecture. Construction Manager responsible for overseeing the work efforts of project personnel and providing field, contractual, and administrative support. The project consists of the complete rehabilitation of the 114-foot clear-span multiple Kingpost truss with nail-laminated arches wooden structure, originally constructed around 1860. Repairs to wood members were accomplished using a combination of traditional joinery methods and glass fiber-reinforced polymer bars and plates embedded in the members. Stone wingwalls were rebuilt, approaches were replaced to accommodate pedestrian traffic only, and siding, roofing, and flooring were restored or replaced.

Hudson Line Rehabilitation, Construction Management Services, Westchester County, NY, MTA Metro-North Railroad. Construction Manager responsible for providing field, contractual, scheduling, and administrative support for the rehabilitation of passenger stations, trackwork, and signals and communications work on the Hudson Line. Passenger service was maintained at the stations during construction.

Litigation Support, PA, Various Clients. Project Manager responsible for various efforts providing technical and scheduling assistance to clients involved with construction contract claims.

Construction Management, Inspection, and Testing Services, Improvements to Babcock Boulevard and Three Degree Road Intersection, Ross Township, Allegheny County, PA, Allegheny County Department of Public Works. Project Manager responsible for overseeing the work efforts of project personnel and providing project management administrative services. Responsibilities also include communicating with the Manager of Construction Engineering and coordinating team efforts in

accordance with Allegheny County's requirements. The project involves improvements to an intersection with complex utility relocations and extensive maintenance and protection of traffic (MPT).

Reconstruction of Painter's Run Road, Pittsburgh, PA, Allegheny County Department of Public Works. Project Manager responsible for supervising all construction inspection and construction management activities for the removal and replacement of two bridges, construction of a soil nail retaining wall, and widening of Painter's Run Road from two lanes to four. The construction is valued at \$3 million.

Stage II Light Rail Transit System, Construction Management and Engineering Support Services, Pittsburgh, PA, Port Authority of Allegheny County. Deputy Project Manager and subsequently Project Manager responsible for providing construction management and engineering support services on an eight-year joint-venture project for a \$400 million light rail transit system expansion and upgrade. Responsibilities included management of field and administrative staff for oversight, inspection, and administration of civil and systems construction. The project involved extensive earthwork and structures construction, including bridges, viaducts, retaining walls, and drainage; extensive coordination with utilities and local residents and businesses; traffic control; erosion and sedimentation control; track construction; traction power/overhead contact system and signals and communications installation; and station construction and architectural fit-up.

Busway Renovation Program, Pittsburgh, PA, Port Authority of Allegheny County. Project Manager for the Martin Luther King, Jr., and South Busway Renovation Program, a five-year effort to rehabilitate and upgrade existing busways. Responsible for providing management and administrative functions, construction monitoring and inspection, maintaining transit operations during construction, coordinating and reviewing contractors' activities and administrative requirements, and resolving construction issues.

Bus Facility Rehabilitation Program, Pittsburgh, PA, Port Authority of Allegheny County (PAAC). Resident Engineer for a \$50 million bus facility rehabilitation program, involving the reconstruction, upgrading, rehabilitation, and expansion of six bus maintenance facilities. Responsible for monitoring construction and inspection, providing management and administrative functions, and maintaining PAAC operations at each facility during construction. These services were provided for 21 construction contracts. Work included removing approximately 21 underground storage tanks (USTs) and installing more than 45 USTs. Work also included the remediation of more than 25,000 cubic yards of contaminated soil associated with the existing tanks.

Construction Services for Hillside Support Facility, Jamaica, NY, MTA Long Island Rail Road (LIRR). Resident Engineer responsible for providing on-site assistance during the construction of complete maintenance, repair, storage, and administrative facilities for LIRR equipment and operations. The project included an undercar cleaning and wheel truing building, employee overpass and platforms, renovations to a four-story warehouse, a new building housing various shops for repair and maintenance, a substation, site work involving utilities and trackwork, an automatic storage and retrieval building, communications throughout the facilities and site, and material handling systems. Also provided on-site design assistance and clarification and processing of shop drawings for all contracts.

Vista Hotel, New York City, NY, The Port Authority of New York & New Jersey. Team Leader for the inspection of the Vista Hotel's exterior.

World Trade Center, New York City, NY, The Port Authority of New York & New Jersey. Team Leader responsible for the inspection of elevator shaft framing at two World Trade Center buildings.

Emergency Bridge Rehabilitation Program, Eastern CT, Connecticut Department of Transportation. Structural Engineer in charge of field inspection for four bridges as part of the Connecticut Emergency Bridge Inspection Program. One of the bridges included a 600-foot, multi-girder structure on the Connecticut Turnpike. Obtained deck samples for chloride ion analysis. Prepared final reports with recommendations and cost estimates.

Emergency Bridge Rehabilitation Program, Eastern CT, Connecticut Department of Transportation. Structural Engineer responsible for the design and construction-phase services of 12 bridges.

Emergency Bridge Rehabilitation Program, Eastern CT, Connecticut Department of Transportation. Resident Inspector at 10 bridge sites responsible for inspecting structural concrete and reinforcement, concrete patching, bituminous paving, excavations, backfill, and other roadway bridge items. Also responsible for construction monitoring and shop drawing review.

East Haddam Swing Bridge, CT, Connecticut Department of Transportation. Structural Designer for modifications to a swing bridge. Tasks involved steel-truss analysis under construction loading and during repair processes.

Central Automated Transit System, Detroit, MI, Detroit Transportation Commission. Structural Designer for an automated transit system, consisting of a 2.9-mile elevated guideway for automated vehicle travel, a maintenance and control facility, and 13 stations. These stations were either new free-standing structures or new facilities integrated into existing structures. Responsibilities included coordinating design among electrical, mechanical, architectural, and structural disciplines throughout the project.

Financial Station, Central Automated Transit System, Detroit, MI, Detroit Transportation Commission. Principal Structural Designer of Financial Station, a structure 113 feet long, 25 feet wide, and 51 feet high. Used steel framing to support open-web steel joist and metal deck roof system. The second-floor level consists of concrete slabs on metal decking supported by steel beams. Masonry and glass walls were supported on grade beams. The building's foundation required belled caissons up to 18 feet deep.

Hillside Support Facility, Jamaica, NY, MTA Long Island Rail Road. Structural Designer for complete maintenance, repair, storage, and administrative facilities for LIRR equipment and operations, which included an employee overpass, employee platforms, and a car maintenance building. The overpass consists of a three-span steel girder bridge with composite concrete deck. Rolled wide-flange sections compose the primary framing of the end spans of 63 feet and 53 feet; welded plate girders compose the primary framing of the 136-foot center span. The overpass is supported on reinforced concrete piers. The bridge enclosure consists of an aluminum walkway, reinforced concrete slabs, and T-beams supported on concrete piers. Reinforced concrete stairs and ramps provide access between the overpass and the platforms. Responsible for designing all structural elements of the overpass and platforms. Principal Structural Designer for an undercar cleaning/wheel truing building that measures 390 feet long, 54 feet wide, and 25 feet high and includes a basement. The structural system consists of rigid steel frames supported on reinforced concrete foundation, reinforced concrete floor slabs, and open-web steel roof joists with metal deck roofing. The floor system supports posted rail, which allows railroad trains to enter the building for maintenance and light repairs. Designed a substation containing 3,600 square feet of floor space on each of two levels supported by reinforced concrete retaining walls with varying heights up to 30 feet.

Catenary Towers, New Haven, CT, National Railroad Passenger Corporation (Amtrak). Structural Engineer responsible for inspecting, analyzing, and redesigning 35 existing Amtrak catenary towers that

supported electrical power cables and communications and signalization lines. The structures, ranging in size from a height of 31 feet to a horizontal span of 113 feet, consisted of riveted steel towers and bridges of rolled sections and built-up members on concrete foundations. Inspected structures in the field to determine existing condition and section losses in members. Principal Designer responsible for analyzing the structures and designing modifications to ensure structural adequacy.

Highway Bridges, Southcentral PA, Pennsylvania Department of Transportation, District 8-0. Engineer in charge of field inspection of three major highway bridges including the South Bridge, M. Harvey Taylor Bridge, and George Wade Bridge, all in Harrisburg. Also assisted in the inspection of three additional highway bridges for the same project including the PA Routes 11/15 Bridge over the Juniata River in Perry County and the Columbia-Wrightsville Bridge and the Holtwood Bridge, both crossing the Susquehanna River in Lancaster County. Visually inspected and rated all pin-and-hanger assemblies as well as other structural components of each bridge.

Maintenance Facility, Wilmington, DE, National Railroad Passenger Corporation (Amtrak). Member of inspection team assigned to inventory and evaluate an Amtrak car maintenance facility. Structural Engineer responsible for the rehabilitation of this facility, which is composed of wood trusses and trussed girders supporting a wood sheathing saw-tooth roof with skylights. The roof system is supported on wood columns and masonry walls. Performed structural field inspection of the building and designed metal deck roofing, wood roof beams, trusses and columns, and open-web steel joists for 30-foot spans. Analyzed masonry walls and reinforced concrete footings for existing and proposed loads.

Turnersville and Newton Avenue Bus Garages, Camden and Turnersville, NJ, New Jersey Transit. Structural Engineer for the rehabilitation of two bus storage and maintenance facilities, consisting of wood and/or steel roof trusses supported by masonry load-bearing walls. Performed field inspection, evaluation, and inventory of existing structures. Operated "high-reach" equipment and prepared reports presenting field observations and recommendations for the facilities.

Maintenance and Repair Facilities, New York City, NY, MTA New York City Transit (NYCT). Engineer in charge of field inspection of NYCT maintenance and repair facilities. Developed floor plans, inventoried existing facilities and equipment, and evaluated the structural integrity of 15 barns and shops. Prepared final inspection/evaluation reports; assisted in feasibility studies for rehabilitation and expansion; assisted in the design and calculation checking of several barn expansions; and performed structural analyses of steel roof trusses, girders, and columns in the Pelham and Jerome barns for the existing and proposed loadings and the design of new steel modifications.

Maintenance Facility, Baltimore County, MD, County of Baltimore Department of Public Works. Designed steel columns, beams, and load-bearing masonry walls.

Wastewater Pumping Station, Atlantic City, NJ, Atlantic City Sewerage Company. Designed steel columns, roof beams, and reinforced concrete slab floor, beams, and walls.

Substation for Kellogg Plant, Lancaster, PA, Kellogg, Inc. Designer responsible for analyzing steel space frames to determine the adequacy of the structure for additional loads. Designed supports for additional electrical equipment on the frames.

Patuxent Water Treatment Plant, Laurel, MD, Washington Suburban Sanitary Commission. Structural Engineer for an in-depth field inspection of a water treatment plant with a filtering capacity of 72 mgd and reservoir capacity of 18 Mgal. Inspected three steel filter units of 160 feet in diameter and seven reservoirs of 150 feet in diameter.

Minsi Trail Bridge, Bethlehem, PA, Pennsylvania Department of Transportation, District 5-0. Structural Designer responsible for developing two alternatives for a 13-span bridge over the Bethlehem Steel Plant, the Lehigh River, and Conrail railroad tracks. Spans ranged from 100 feet to 240 feet.

EXPERIENCE PRIOR TO GANNETT FLEMING:

Intern with a power company in Austria building hydroelectric facilities.

PROFESSIONAL AFFILIATIONS AND PUBLICATIONS:

American Society of Civil Engineers
American Public Transit Association
American Society of Highway Engineers
Association for Bridge Construction and Design
Consulting Engineers Council of Pennsylvania

MacAllister, Michael A., Thomas G. Leech, and Keith Wargo. "A Construction Manager's Challenge for Light Rail Construction in Difficult Terrain - Pittsburgh's Stage II LRT Program." *Proceedings of the American Public Transportation Association Rail Transit Conference*, Baltimore, Maryland, May 2002.

FOREIGN LANGUAGE PROFICIENCY:

Proficient in German

YEARS EXPERIENCE WITH FIRM: 10

YEARS EXPERIENCE WITH OTHER FIRMS: 10

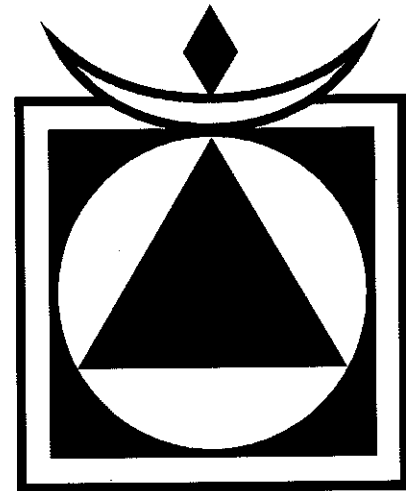
EDUCATION:

B.S., Civil Engineering, Carnegie Mellon University, 1993

PROFESSIONAL REGISTRATION(S):

P.E.: Pennsylvania - No. 055063E (1999)

P.E.: West Virginia - (Pending)



CURRENT RESPONSIBILITIES:

Geotechnical Project Manager responsible for managing geotechnical aspects on projects involving the design of highway, water supply, mine reclamation, landfill, and other geotechnical systems. Responsibilities include preparing technical scopes of work and man-hour estimates, negotiating with clients, preparing project schedules, tracking project budgets, providing technical assistance to staff engineers, preparing and/or reviewing geotechnical work products, and coordinating the geotechnical aspects of projects with other design disciplines and clients.

SUMMARY OF EXPERIENCE:

U.S. Route 35 Widening, Little Five Mile Creek to Coast Guard Station, Point Pleasant, WV, West Virginia Department of Highways. Geotechnical Project Manager responsible for final design geotechnical investigations and recommendations for approximately two miles of new four-lane highway. Developed boring contract and oversaw subsurface exploration program involving over 6,000 linear feet of drilling and multiple drilling subcontractors. Roadway recommendations included numerous cut and fill slope designs and settlement evaluations. Geotechnical recommendations in support of structural design included deep foundation recommendations for three structures. Computations included pile capacity evaluations, negative skin friction considerations, and drivability analyses. Detailed Geotechnical Engineering Reports and Structure Foundation Reports were prepared and updated based on the continually evolving design. Continually worked with the Client and prime consultant to ensure consistent design.

Dolls Run Bridge Replacement, Monongalia County, WV, West Virginia Department of Transportation, Division of Highways. Geotechnical Engineer responsible for foundation design recommendations and roadway approach work for bridge replacement project. Evaluations included bearing capacity, scour, and global stability considerations for new structure. Recommendations for roadway design included evaluations of embankment slope stability, consolidation settlements, and lateral squeeze in soft alluvial soils. Prepared final report of recommendations including detailed analyses.

Beaner Hollow Roadway Improvements, S.R. 4016, Section B01, Brighton, PA, Pennsylvania Department of Transportation, District 11-0. Geotechnical Project Manager responsible for design and construction oversight of approximately 1,200 feet of two-lane state-owned roadway that was failing due to a loss of support caused by a sliding land mass beneath the roadway. Work was performed under an emergency contract, as the roadway provides direct access to Beaver County Medical Center, and an existing eight-inch gas line located directly beneath the roadway was jeopardized by the slide. Developed

innovative slide stabilization designs incorporating drilled soil nails, high-tensile steel wire mesh, and erosion control matting. Developed final design plans, specifications, and estimates. Provided periodic construction oversight and observation of soil nail testing. Coordinated directly with the Department of Transportation, the construction manager, and the contractor to assist in responding to requests for information (RFIs) and inspecting the work in progress.

Monongahela Lock and Dam No. 3 Study, Pittsburgh, PA, U.S. Army Corps of Engineers, Pittsburgh District. Assistant Project Manager responsible for formulating and developing multiple stability and reliability models for an existing 100-year-old lock and dam structure on the Monongahela River, and developing detailed construction rehabilitation recommendations. Stability analyses consisted of modeling and evaluating eight typical two-dimensional models for various individual locks and dam structures in a spreadsheet environment bearing on bedrock or driven timber piles within the river alluvium. Reliability analyses were conducted through Monte Carlo simulation using the Microsoft Excel add-in program @Risk. Developed final geotechnical and structural plans, specifications, and cost estimate for stability improvements to the existing fixed-crest dam, consisting of a sheet pile cut-off wall, downstream stone scour protection, and detailed construction staging and sequencing plan. Developed conceptual recommendations for structure monitoring, construction rehabilitation, and associated cost estimates for the lock structures based on the reliability evaluations.

Emsworth Dams Apron Extension, Pittsburgh, PA, U.S. Army Corps of Engineers, Pittsburgh District. Assistant Project Manager responsible for developing final plans, specifications, and estimates for both the main and back channel Emsworth dams. Completed the development of preliminary cost and feasibility alternative analyses to develop scour protection recommendations and select apron extension type. Technical alternatives considered included a new precast-concrete apron extension, tremie concrete construction, and prefabricated articulated concrete mat apron construction. Planned and monitored a subsurface investigation program, involving 24 geotechnical test borings drilled from a barge in the Ohio River. Developed the final design, consisting of a combination of prefabricated concrete slabs and tremie concrete. Final design also included two combination pipe and sheet pile cut-off walls, downstream stone scour protection, a graded rock filter, and grouted stone for riverbank protection. Developed two distinct sets of plans, specifications, and estimates for both the main and back channel dams.

S.R. 3016, Section B02, Green Garden Road Bridge Replacement, Hopewell, PA, Pennsylvania Department of Transportation, District 11-0. Assistant Project Manager responsible for developing final design geotechnical recommendations in support of a single-span bridge replacement over Raccoon Creek and associated roadway realignments. Developed and executed a subsurface investigation and a soil and rock laboratory testing program for bridge foundations and roadways. Developed detailed cost estimates for bridge foundation alternatives, performed final geotechnical evaluations, and developed construction recommendations for drilled pile-supported abutment structures. Evaluated corrosivity due to the presence of a coal seam within the foundation bearing material, and provided special provisions for the construction of the deep foundations.

Waterford Energy Facility, Waterford, OH, Bowen Engineering Corporation. Geotechnical Engineer responsible for the design of an active landslide stabilization system and pump intake facility at an electric generating facility. Designed an anchored caisson wall system to stabilize the landslide along approximately 250 linear feet of proposed intake pipeline, developed a temporary shoring system for a pump intake facility, prepared project specifications for the installation of caissons and anchors, and provided part-time construction inspection of geotechnical activities.

PA Route 68 Bridge and Culvert Replacements Over Wolf Run and Six Mile Run Creek, S.R. 0068, Sections 016 and B03, Beaver County, PA, Pennsylvania Department of Transportation (PennDOT), District 11-0. Geotechnical Engineer responsible for providing structure foundation recommendations for the removal and replacement of a bridge and culvert structure supporting S.R. 0068 over Wolf Run and Six Mile Run Creek, respectively. Conducted bearing capability and settlement analyses for the proposed structures and developed geotechnical recommendations in accordance with PennDOT *Design Manual (DM)-4*. Developed special provisions for temporary shoring during construction and for concrete corrosion protection. Prepared and produced the structure foundation report for each proposed structure.

EXPERIENCE PRIOR TO GANNETT FLEMING:

Michael Baker, Jr., Inc., Pittsburgh, PA

S.R. 0028, Sections A09 and A10, Pittsburgh, PA, Pennsylvania Department of Transportation, District 11-0. Geotechnical Engineer responsible for preliminary geotechnical alternatives analyses of three proposed roadway alignments of the Route 28 corridor in Etna. Evaluations included consideration of embankment fill and benching requirements, associated right-of-way constraints, and potential alternatives for steepened embankments. Preliminary evaluations of cut slope conditions included a thorough evaluation of existing slope conditions with special consideration to marginally stable claystone, colluvial, and fill conditions, and analyses of potential impacts of the roadway alternatives to the existing slope.

Chester Industrial Highway, S.R. 0291, Section A10, Chester County, PA, Pennsylvania Department of Transportation, District 6-0. Geotechnical Engineer responsible for conducting pile design and liquefaction analysis. Completed settlement analysis for the approach embankment.

Corridor H Section 6 Subsurface Investigation, Hardy County, WV, West Virginia Department of Highways. Geotechnical Engineer responsible for performing a test boring inspection for more than 100 roadway and structure borings. Conducted slope stability analyses for embankment cut-and-fill slope designs. Provided recommended allowable bearing capacities and lateral earth pressures for structure foundations. Calculated and tracked estimated earthwork quantities.

Cargo Interchange, S.R. 3160, Section A03, Allegheny County, PA, Moon Township Municipal Authority. Geotechnical Engineer responsible for inspecting test borings for roadways and structure foundations. Performed slope stability analyses on fill embankments and evaluations of proposed cut-slope ratios and associated coal seam treatments. Calculated and tracked earthwork quantities, incorporating estimates of shrink and swell for construction. Completed detailed pavement evaluations and design for new roadway pavements in accordance with Publication 242 and provided recommendations for subgrade improvements.

PROFESSIONAL AFFILIATIONS AND PUBLICATIONS:

Officer, U.S. Army Reserves, Corps of Engineers
American Society of Civil Engineers
Society of American Military Engineers
Pittsburgh Post Secretary, 2000-2003
Pittsburgh Post Vice-President, 2009

James, James R., and Yauger, Robert H. "Monongahela Locks and Dam No. 3 Risk and Reliability Evaluations." *Association of State Dam Safety Officials, Northeast Region Annual Conference, 2007.*

YEARS EXPERIENCE WITH FIRM: 28

YEARS EXPERIENCE WITH OTHER FIRMS: 0

EDUCATION:

B.S., Mechanical Engineering, The Pennsylvania State University, 1982

80-hour Gannett Fleming/The Pennsylvania State University collaborative Project Manager Training Program, 2001

PROFESSIONAL REGISTRATION(S):

P.E.: Pennsylvania - No. PE036217E (1987)

Maryland - No. 27702 (2002)

New York - No. 080885 (2003)

Kentucky - No. 24983 (2006)

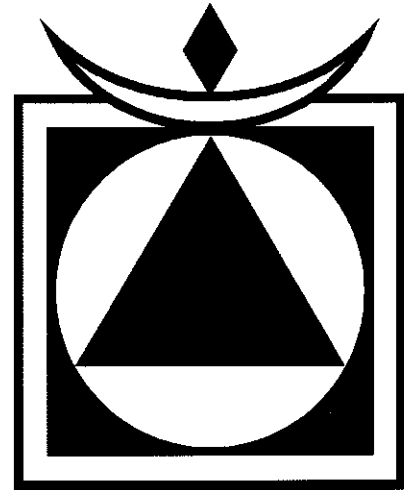
Missouri - No. 2007000410 (2007)

Georgia - No. PE028590 (2003)

District of Columbia - No. PE905649 (2010)

USGBC - LEED 2.2 Accredited Professional (2009)

Certified Energy Auditor: The Association of Energy Engineers (2010)



CURRENT RESPONSIBILITIES:

Mechanical Engineer responsible for design development for a variety of mechanical systems including heating, ventilation, and air conditioning (HVAC) and plumbing for industrial and commercial clients.

SUMMARY OF EXPERIENCE:

Tunnel Inspection Services for Tunnel Operations, Washington, DC, District of Columbia Department of Transportation. Mechanical Discipline Manager responsible for performing quarterly inspections of various tunnels, including the Mall, Air Rights, and 9th and 12th Street Tunnels. Work included visual observations of the equipment, testing and operational observations, and a review of preventive maintenance procedures. Deliverables included a scoring summary of the mechanical and plumbing equipment and devices and a written report.

Indefinite Delivery/Indefinite Quantity Engineering Services, New Cumberland, PA, Defense Distribution Depot Susquehanna Pennsylvania. Senior Project Manager for a multi-year indefinite delivery contract at a military base valued at \$500,000 per year. Projects have included:

- Condition assessment and a report of a 1.6 million-square-foot distribution center. Detailed studies were performed for roofing, HVAC, and electrical systems.
- HVAC upgrades of the Officer's Club, including converting the building to water-source heat pumps.
- Various HVAC replacement projects.
- Roof replacements for five buildings, including the design of the first green roof on the base.
- Structural assessment of 34 buildings. Deliverables included a detailed report and design documents to correct deficiencies.

- Fire protection upgrades at multiple buildings.

Health Department Building Upgrades, Annapolis, MD, Anne Arundel County. Project Manager and Principal Mechanical Engineer responsible for the HVAC renovations of the buildings at One and Three Harry S. Truman (HST) Boulevard. Work included a detailed survey of the existing buildings and systems, updates to floor plans and ceiling plans, load calculations, and replacement of existing water-source heat pumps. Also included were the replacement of the boiler at One HST and the make-up air units at Three HST.

Library Headquarters, Annapolis, MD, Anne Arundel County. Project Manger and Principal Mechanical Engineer responsible for the HVAC renovations of the Library Headquarters at Five Harry S. Truman Boulevard, involving the replacement of package terminal air conditioner units and four water-source heat pumps.

Corbalis Water Treatment Plant, Herndon, VA, Fairfax Water. Mechanical Engineer responsible for the study, design, and construction services associated with replacing air handling units and ductwork in a solids dewatering building. During the study phase, developed a low-cost alternate to replacing units in an inaccessible location.

Chantilly Vehicle Maintenance Facility, Chantilly, VA, Fairfax Water. Mechanical Engineer responsible for the study and design of HVAC renovations to a vehicle maintenance facility. The study included a condition assessment of the facility's mechanical systems and a report with recommendations and construction cost estimates. Design work included the upgrade of HVAC and vehicle exhaust systems in the repair shop portion of the facility.

Fort Meade Senior High School, Anne Arundel County, MD, Anne Arundel County Public Schools. Project Manager responsible for preparing and submitting documentation for converting from a private natural gas system to a public system. Work included a survey of the school and the preparation of a gas load letter and drawings with gas pipe modifications.

On-Call Miscellaneous Services, Frederick County, MD, Frederick County Public Schools. Mechanical Engineer on a contract to provide a wide variety of engineering services for existing facilities. Current projects include:

- Midtown Elementary School elevator.
- Gov. Thomas Johnson High School - Reviewed the existing automatic temperature control system for compliance with contract documents. Submitted a report indicating deficiencies.

Hillside Maintenance Complex Shop Improvements, Queens, NY, MTA Long Island Rail Road (LIRR). Project Engineer assisting in the design of improvements to an existing railroad maintenance facility. The renovated facilities will enable LIRR to efficiently perform life-cycle maintenance activities and unscheduled repairs on its complete fleet of M-7 electric cars, diesel electric locomotives, and bi-level coaches. Responsibilities included HVAC and plumbing design for the reconfiguration of the truck, wheel, motor, and air brake shop work areas. Work elements were prioritized, and four separate design packages were produced to allow LIRR to accelerate the completion of the most critical improvements. Each package included a staging plan designed to keep the shops operational during construction.

Turnkey Replacement Proposal, Camp Hill, PA, Gannett Fleming. Mechanical Engineer responsible for preparing a request for proposal package for the turnkey replacement of a 360-ton, water-cooled

chiller located in the penthouse of a six-story building. Work included preparing a detailed scope of work, procuring bids, and reviewing submittals.

South River High School, Anne Arundel County, MD, *Anne Arundel County Public Schools*. Principal Mechanical Engineer and Project Manager responsible for HVAC renovations, including the replacement of air handling units, cooling tower, and chillers. Work included life-cycle cost analyses for cooling systems, replacement of one water-cooled chiller with two water-cooled chillers, replacement of one cooling tower with two cooling towers, ASHRAE 15 compliance, and related electrical and control upgrades. Services also included bid and construction services.

Center of Applied Technology South, Anne Arundel County, MD, *Anne Arundel County Public Schools*. Principal Mechanical Engineer and Project Manager responsible for HVAC renovations, including the replacement of rooftop air conditioning units with a two-pipe system (hot water/chilled water), addition of air-cooled chiller, chilled-water piping, replacement and addition of make-up air systems in shop areas, replacement of exhaust fan, and conversion of controls from pneumatic to direct digital control. Services also included bid and construction services.

Lothian Elementary School, Anne Arundel County, MD, *Anne Arundel County Public Schools*. Project Manager responsible for HVAC and electrical renovations, including the replacement of classroom unit ventilators, addition of an air-cooled chiller, air conditioning for the gymnasium and cafeteria, and electrical upgrades to air handling units, cooling tower, and chillers. Work included converting existing boilers from steam to hot water, converting the school from self-contained unit ventilators with steam heat to unit ventilators with chilled water/hot water coils, and converting controls from pneumatic to direct digital control. Services also included bid and construction services.

Boiler Building, Confidential Location, U.S. Department of Defense. Mechanical Engineer responsible for the design of mechanical systems in a new 7,000-square-foot, steam-generated boiler plant. The project included three new 300 HP steam boilers, hot-water converters, condensate return system, heating hot-water pumping system, fuel-oil storage and pumping system, forced-air combustion air make-up system with air-cooled chiller, and replacement of underground heating hot-water piping systems. Other systems included office HVAC systems, instrument and shop compressed-air systems, emergency generator exhaust and fueling, and automatic temperature-control systems. Also coordinated the design development, construction document preparation, and construction cost-estimating services.

Stadium Mechanical Renovations, Shea Stadium, Flushing, NY, *City of New York Department of Design and Construction*. Mechanical Engineer responsible for the design of mechanical renovations at a major league baseball stadium. Work included the replacement of three water-cooled air conditioners, one split system, eight heating hot-water pumps, three sewage ejectors, dug-out sump pumps, and upper-level sumps, as well as the design of an energy-management system.

Building Conversion, Swatara Township, Dauphin County, PA, *Capital BlueCross*. Mechanical Engineer responsible for developing contract drawings and specifications for the conversion of a former AMP/Tyco light-manufacturing facility into a new 112,000-square-foot corporate facility for a healthcare provider. The facility includes a cafeteria and full-service kitchen, open and enclosed office spaces, a computer room, and mechanical and electrical spaces. All existing mechanical systems were removed. Water-source heat pumps were placed throughout the facility. Cooling towers and gas-fired boilers were installed to remove or add heat to the heat-pump water loop. Five 100 percent outside-air make-up units were installed and fresh-air-ducted to each heat pump. The make-up air units are water-source heat pumps with enthalpy wheels to recover heat from the exhaust air stream. Other mechanical systems include gas-fired humidifiers, data room cooling, water wash-down kitchen exhaust hood, domestic hot water, and an energy-management system.



Base Hospital, Lajes Field, Azores, Portugal, U.S. Air Force. Deputy Project Manager and Mechanical Engineer responsible for five projects at a 44-building base hospital that included design of a surgical suite HVAC system, design of hospital gas systems, replacement of a fire alarm system, repair of hospital interior walls and floors, and replacement of sanitary plumbing fixtures.

- **Surgical Suites:** Renovated HVAC system for surgical suites. Work included replacement of mechanical equipment, ductwork, diffusers, and automatic temperature controls. Estimated construction cost for the mechanical systems was \$250,000 and \$100,000 for the electrical.
- **Medical Gases:** Designed medical gas distribution system. Work included designing compressed-air and vacuum systems, gas central supply system, and gas distribution system. Gases included air, vacuum, oxygen, and nitrous oxide that were distributed to surgical suites, delivery rooms, recovery rooms, critical care rooms, and patient rooms. Estimated construction costs for the mechanical and electrical systems were \$300,000 and \$100,000, respectively.
- **Architectural Renovations:** Renovated interior walls and floors for a 100,000-square-foot building. Cost of the renovation work was \$500,000.
- **Bathroom Facilities:** Replaced plumbing fixtures and modified the sprinkler system for toilet room upgrades. Cost of this work was \$400,000.
- **Fire Alarm:** Designed a central fire alarm reporting and control system using FM radio frequency telemetry reporting equipment to provide monitoring and control of fire alarm systems for individual buildings. Work included fire alarm detection and annunciation systems design for 41 of the buildings on and off the base. Project also included designing a tower transmitter to allow communications over a large hill located outside the base. Ganflec, an affiliated company of Gannett Fleming, Inc., coordinated design documents with manufacturers located in the continental United States to secure international sales for materials being provided. Total cost of the fire alarm system was \$400,000.

Yards Creek Generating Station, Blairstown Township, NJ, Jersey Central Power and Light. Mechanical Engineer responsible for designing a 1,000-gallon aboveground, double-walled fuel oil storage tank for an emergency generator. Work included tank piping, emergency venting, tank gauge, tank fittings, and spill containment.

Yards Creek Generating Station Office and Storage Building, Blairstown Township, NJ, Jersey Central Power and Light. Mechanical Engineer responsible for designing HVAC and plumbing systems for an office building. Work included surveys, calculations, design, and specifications for a 12-ton variable air volume air conditioning system, electric heat, shop, and toilet room ventilating, and plumbing systems. Also modified plumbing systems in a generating station.

Maintenance and Storage Facility, Pittsburgh, PA, Pennsylvania Air National Guard. Mechanical Engineer responsible for designing HVAC and plumbing systems for a munitions maintenance and storage facility. Work included calculations, system design, cost estimating, and specifications. Systems designed included gas-fired hot water boilers, hydronic heating system, rooftop air conditioner, solvent tank ventilating, oil interceptor, and sanitary lift station.

PROFESSIONAL AFFILIATIONS:

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



ARCHITECTS

GREGORY P. MADEJ, AIA

Principal

NAME OF FIRM

DRS Architects

REGISTRATION

Pennsylvania, West Virginia and Ohio

EDUCATION

B. Architecture/1971/University of Notre Dame

PROFESSIONAL AFFILIATIONS

LEED Accredited Professional
American Institute of Architects
Pennsylvania Society of Architects
Certified, National Council of Architectural
Registration Boards
Past Board Member, Community College
of Allegheny County, Education Founda-
tion

SPECIFIC EXPERIENCE AND QUALIFICATIONS RELEVANT TO THIS PROJECT

Mr. Madej has extensive has extensive experience in all areas of design and construction and has served as Project Manager/Quality Control and has been responsible for numerous projects in more than 30 years with DRS. His career has focused on governmental, educational and healthcare facilities. In addition to his project responsibilities, Mr. Madej serves as a coordinator of the Firm's construction document standards. Some of his relevant experience as Project Manager includes:

\$19M Stryker Combat Brigade Readiness Center & Organizational Maintenance Shop, Cambridge Springs, Pennsylvania.

The 65,000 SF Readiness Center supports 438 reservists and includes locker rooms, unit storage, arms vault and administrative offices there is a medical clinic, fitness room, assembly hall, full service kitchen, classrooms, break areas and recruitment center. The 20,000 SF maintenance facility services the vehicles and equipment supported by this facility and includes six maintenance workbays two of which will be serviced by a 15-ton overhead crane. Other facilities include fuel storage and dispensing system, controlled waste handling facility plus administrative, personnel, storage and work areas.

The PAANG Organizational Maintenance Shop in Johnstown, Pennsylvania

was designed to provide adequate organizational maintenance support for vehicles and equipment supported by this Shop. The facility consists of eight (8) maintenance workbays of which two (2) bays serviced by a 30-ton overhead crane, one (1) warm-up bay plus administrative, personnel and work areas.

24,000 SF Ford City, Pennsylvania, Armory for the PA Army National Guard. The Armory includes common spaces, administrative spaces, educational facilities, assembly hall, food preparation area and maintenance training area.

West Mifflin and Ross Division Garages, Allegheny County, Pennsylvania. Mr. Madej reviewed the construction documents for the renovations and additions of 250,000 SF of space for two Bus Maintenance Garages for the Port Authority of Allegheny County in Pittsburgh, Pennsylvania. Facilities include 25 full service maintenance bays with hydraulic lifts, inspection pits, chassis wash, tire change area and body shops with paint booths. The project was phased to maintain operation during construction.

Drug Enforcement Administration, Pittsburgh, Pennsylvania—

The project was completed via design/build method. The two-story, 48,000 SF DEA Building has 24,000 SF of office space on the upper floor with the ground floor serving as an entrance lobby and garage. The building obtained a LEED certification in 2007.





ARCHITECTS

SARINA BODNAR, AIA

Architect

NAME OF FIRM

DRS Architects

REGISTRATION

Pennsylvania

EDUCATION

B. Architecture/1978/The Pennsylvania State University

PROFESSIONAL AFFILIATIONS

American Institute of Architects
Pennsylvania Society of Architects

SPECIFIC EXPERIENCE AND QUALIFICATIONS RELEVANT TO THIS PROJECT

Ms. Bodnar has extensive experience in many facets of architecture, including the design and detailing of municipal structures. In addition to her project management capabilities, Ms. Bodnar has successfully followed many projects through the construction administration phase, with responsibility for shop drawing approval, site visitation, project meetings and payment requisitions. She is proficient in the use of CADD. As Project Architect she will be responsible for coordination of all consultants. Relevant experience as Project Architect includes:

\$19M Stryker Combat Brigade Readiness Center & Organizational Maintenance Shop in Cambridge Springs, Pennsylvania. Project Architect for this facility. Both buildings total 85,000 SF and support 438 reservists. Spaces include locker rooms, arms vault, administrative, medical clinic, full service kitchen, classrooms, assembly hall, recruitment center and the Maintenance shop contains six bays two of which are serviced by a 15-ton crane.

Operational Maintenance Shop for the Pennsylvania Army National Guard at Johnstown, Pennsylvania. Project Architect for the 23,000 SF Facility includes 8 maintenance bays, a wash platform, fuel storage and dispensing system, flammable storage building, controlled waste handling facility, personnel support areas, office areas and various equipment/storage areas. This \$4.69 M project was completed in January 2005.

Westmoreland County Transit Authority, Bus Maintenance Garage – Project Architect for a 30,000 SF multi-purpose bus maintenance facility. Spaces include administrative, maintenance shop (four bays), indoor fueling, automated bus washing bay, climate-controlled vehicle storage and associated support spaces.

The U. S. Army Reserve Aviation Facility at Johnstown, Pennsylvania, completed in the Spring of 1997. This \$22 M Facility houses the PAARNG and the U. S. Army Reserves. As Project Architect, she was responsible for the preparation of the construction documents for the 15,000 SF Training Building and the 92,784 SF Hangar Facility. She was responsible for coordinating all engineering disciplines.

100-Member, \$4.5M Grantsville, West Virginia, USAR Center/Organization Maintenance Shop for the U.S. Army Reserve. The OMS facility houses work bays, wash bays, shop office, tools/parts storage and flammable storage. Served as Project Architect.

\$11.7 M renovations/additions to South Hills Health System Jefferson Hospital, Pittsburgh, Pennsylvania. Served as Project Architect for this 100,000 SF Multiservice Building that contains offices, laboratories, meeting rooms and a 17,000 SF warehouse/receiving area, a vehicle maintenance garage and an ambulance garage.

150,000 SF West Mifflin Division Garage Renovations/Additions for the Port Authority of Allegheny County, Pennsylvania. Facilities contain 15 full service maintenance bays with hydraulic lifts, inspection pits, chassis wash, tire changing area and body shops with a paint booth. An important aspect of this project was to develop a workaround plan which maintained the operation of the garage 24 hours a day without interruption of service during the construction. Served as Quality Control.





ARCHITECTS

S. PHILIP HUNDLEY, AIA

Principal

REGISTRATION

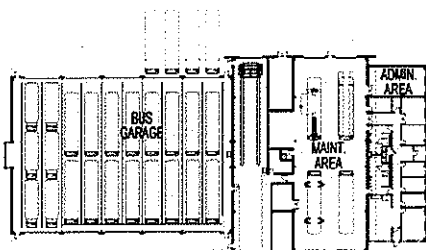
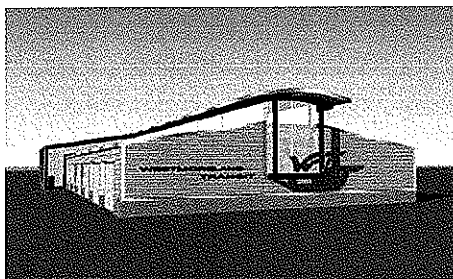
Pennsylvania, Ohio, West Virginia and seven other states

EDUCATION

B. Architecture/1966/Architecture

PROFESSIONAL AFFILIATIONS

American Institute of Architects
Pennsylvania Society of Architects
Certified, National Council of Architectural
Registration Boards
Construction Specifications Institute
Councilman, Sewickley Heights
Historical Architectural Review Board,
Sewickley Heights
Planning Commission, Sewickley Heights
Western Pennsylvania Conservancy
National Historical Trust



Mr. Hundley is a principal of DRS and has extensive experience as a Principal-In-Charge/Project Manager/Project Designer on a wide range of major commissions undertaken by the firm. These include major projects for the private sector, institutional, the Federal Government and corporations in his forty year career with the firm. During the last fifteen years, he has been responsible for the design of ten Reserve Center/Readiness Center/OMS/AMSA projects. In addition, Mr. Hundley has been involved in the site planning, programming and design of numerous administration/maintenance buildings. Projects for which Mr. Hundley has been responsible have received numerous awards for design and technical excellence. Some of Mr. Hundley's present and past experience includes:

Indefinite Delivery Contract, Port Authority of Allegheny County, Pittsburgh, PA

Project Manager for the IDC. Projects included East/South Busway Rehab Study; East Busway Final Design' Rehab of Collier Garage; Security Systems for Collier, Har-mar, Ross and East Liberty Division Garages; Renovation to the Edgewood Train Station; Renovation of pedestrian Bridge on East Busway; Miller Print Building Cost Evaluation; Customer Service Relocation to Steel Plaza; Paint Booth Renovations at the Manchester Garage and wash bay renovations at the South Hills Garage.

Westmoreland County Transit Authority, Bus Maintenance Garage

— Architectural Manager for a 30,000 SF multi-purpose bus maintenance facility. Spaces include administrative, maintenance shop (four bays), indoor fueling, automated bus washing bay, climate-controlled vehicle storage and associated support spaces.

West Mifflin & Ross Division Garage Renovations, Port Authority of Allegheny County, PA

Served as Project Manager for the renovations of the West Mifflin & Ross Division Garages. The 250,000 SF, \$22 M project involved a workaround plan which maintained the operation of each garage 24 hours a day without interruption of service during construction. Both garages contain full-service maintenance bays, lifts, pits, chassis wash, body shops with paint booths, overhead crane fueling islands, bus wash lanes, parking and administrative space.

U. S. Army Reserve Aviation Facility, Johnstown, Pennsylvania

The \$22 M facilities include a training building and hangar facility. The Aviation Facility is comprised of administrative offices, maintenance shops, educational facilities, storage areas and five work bays. DRS was responsible for the site planning, design of all facilities, along with the interior design package.

USAR Center/OMS, Grantsville, West Virginia—Completed the USAR Center/OMS and includes administrative spaces, educational facilities, unit and individual storage, assembly area, work bays and support space. DRS was also responsible for the site delineation study, engineering feasibility study and interior design package for this project.

Three New USAR Centers/OMS, Morgantown, Elkins, Kingwood, West Virginia The facilities include administrative spaces, educational facilities, unit and individual storage, assembly area, work bays and support spaces. DRS was responsible for designing the three USAR Centers/OMS' along with the interior design packages.



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