Expression of Interest

K-12
State of West Virginia
Exterior Enclosure for Generator at
Eleanor Armed Forces Reserve Center in Red House, WV

Solicitation # CEOI 0603 ADJ1700000002
Due 1:30 pm
August 18, 2016

Higher Education

LEED

Commercial

08/17/16 10:31:00
WV Purchasing Division

115 Evergreen Heights Drive #400
Pittsburgh, PA 15229
412-931-8888
www.estower.com
James N. Kosinski, PE - Vice President/Principal
jkosinski@estower.com

TOWER
ENGINEERING

TOWER ENGINEERING

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August 16, 2016

Ms. Jessica S. Chambers, Senior Buyer
State of West Virginia
2019 Washington Street, East
Charleston, WV 25305

Re: Expression of Interest- Exterior Enclosure for Emergency Generator
Eleanor Armed Forces Reserve Center
ADJ # 17000000002

Dear Ms. Chambers and Members of the Selection Committee

Thank you for giving us the opportunity to submit this Expression of Interest for the above-referenced project.

For this project, we are teaming with **omni** associates – architects (Omni), which is headquartered in Fairmont, WV. We are confident that this team will provide you expert service to design. Tower and Omni have worked together for more than 15 years on more than 40 projects, and Tower Engineering has worked throughout West Virginia for decades.

We have designed accommodations for generators in a variety of settings with similar size and scope, and have included examples in the pages that follow.

We received Addendum #1 and the verification form is in the Appendix of this proposal.

If you have any questions or comments, please call or e-mail me. We are available for an interview and look forward to having an in-depth discussion about your project goals and how we can accomplish them.

Sincerely,

James N. Kosinski, PE, LEED AP
Vice President/Principal
412-931-8888 X 135
jkosinski@estower.com

TOWER ENGINEERING

Team Profiles

Tower Engineering, a Pittsburgh-based firm, has been providing innovative mechanical, electrical, plumbing, and fire protection solutions since 1931. While Tower is a generalist firm, it primarily serves the K-12 and higher education, government, healthcare and hospitality sectors in both renovations and new construction. The firm's highly-trained staff of project managers, designers, and technical support personnel is capable of providing consulting services for every type of project- from a small, single-family residence to a high tech research facility incorporating redundant mechanical and electrical systems, DDC energy management and thermal storage.

Tower's engineers utilize state-of-the-art software programs for the design of lighting, electrical power and mechanical systems. Lighting analysis includes point-by-point calculations, ESI analysis, exterior lighting analysis, and life cycle cost comparisons. Electrical power analysis includes fault current and load flow analysis.

Mechanical design and analysis services include energy economy analysis, thermal storage analysis, heating and cooling load calculations, refrigerant piping design, water system designs, along with BIM modeling. Their professional staff utilizes computer selection of air handling units, coils, pumps, terminal devices, fans, cooling towers, chillers, heat exchangers, kitchen hoods, hydronic and steam specialties, humidification equipment and heat recovery equipment.

Sustainability principles are considered at every design point, and firm principals personally lead every project. The firm has 25 employees, including nine (9) Registered Professional Engineers and nine (9) LEED Accredited Professionals.

SERVICES

HVAC
Heating and cooling system design
Ventilation system design
Building automation systems
Control systems and energy monitoring
Geothermal heat pumps
Heat recovery systems
Kitchen and laboratory exhaust systems
Smoke evacuation systems
Computer room environmental control systems

PLUMBING & FIRE PROTECTION
Water resource efficiency analysis
Sanitary drainage systems
Storm water management
Domestic water systems
Waste water treatment systems
Hospital and laboratory piping systems
Fuel oil piping systems
Irrigation systems
Fire protection systems
Standpipe and sprinkler systems

ELECTRICAL
Interior/exterior lighting design and studies
Lighting controls
Primary/secondary voltage power distribution systems
Fire detection and alarm systems
Computer data and power systems
Uninterruptible power supply systems
Reinforced and masking sound systems
Lightning protection systems
Fault current studies
System over-current protection coordination
Arc Flash & Power System Studies

TELECOMMUNICATIONS
Voice communication systems
Data network systems

COMMISSIONING
Building commissioning services

omni associates- architects is an award-winning architectural firm located in Fairmont, West Virginia. They enjoy an excellent reputation and superior work product are a direct result of mutual respect and effective communication with their clients and consultants.

Since its founding in 1980, Omni has earned recognition in the programming, planning, and design for a variety of facility types, including office buildings, recreational facilities, education facilities, religious facilities, health care, military, and multipurpose facilities. Their approach to design has allowed them to avoid the confines of specialization creates the opportunity for a diverse body of work. Each project is a unique undertaking that begins with analyzing the needs and desires of the client and interpreting them into a distinctive design that meets specific needs. They enjoy a repeat client rate of more than 90%- a source of considerable pride.

Omni's design team has developed designs for numerous projects which must comply with State and Federal regulations. Such projects include working with the following Agencies: Federal General Services Administration (GSA); WV General Services Administration; Corps of Engineers; National Guard Bureau; Federal Aviation Administration; Department of the Navy, Federal EDA; WV EDA; HUD, and the WV School Building Authority (SBA).

Their work has involved a variety of funding sources including the WV Development Office – Small Cities Block Grants, State Revolving Fund Loan, Rural Economic and Community Development Administration (Farmers Home Administration), WV Division of Environmental Protection – Construction Grants Branch, US Department of Commerce- Economic Development Administration, Water Development Authority, West Virginia Infrastructure and Jobs Development Council, and Appalachian Regional Commission, either individually or in combination.

Key Personnel

James N. Kosinski, PE, LEED AP – Engineering Principal in Charge

Mr. Kosinski will be your primary source of contact. He is responsible for the design of HVAC systems and their components for all Tower Engineering projects. He has experience with the design of numerous types of HVAC systems, including constant and variable air volume air handling, geothermal heat pump and exhaust systems; chilled water and hot water; electric/electronic, pneumatic and DDC control systems.

Jim's design responsibilities include load calculations, equipment selection, system layout, project specifications, cost estimates, direction of project drafting efforts, coordination with other engineering disciplines, and construction administration. Additional responsibilities include system analysis and energy studies, client contact, and project management and scheduling. He has performed energy conservation analyses, evaluated HVAC system performance, and justified the installation of DDC control systems and other energy saving measures. As a Mechanical Engineering Group Leader, Mr. Kosinski coordinates the efforts of a team of staff engineers, designers and CAD operators.

Richard T. Forren, AIA, NCARB – Architecture Principal in Charge
Mr. Forren has been a Project Architect in charge of design and construction for Omni since 1984. He is responsible for coordinating and designing all aspects of a project from programming through construction administration and project close-out.

He is president of the West Virginia Board of Architects, serves on the West Virginia Design-Build Board and is a retired Colonel in the United States Army Reserves most recently assigned to the Fifth United States Army as the Army's Emergency Preparedness Liaison Officer (EPLO) for West Virginia. He serves on both the Bridgeport City Planning Commission and City of Bridgeport Emergency Services Council, and is a member of the Faculty Advisory Committee for Civil Engineering Technology and Architectural Engineering Technology, Fairmont State College, in Fairmont, West Virginia

Additional project support will be provided by the following, as necessary:
David E. Snider, AIA, NCARB
T. Steffanie Bako, PE, LEED AP
Thomas J. Gorski, PE, LEED AP
Michael S. Plummer, PE, CIPE, LEED AP

Project Management Plan – Approach & Methodology
At Tower Engineering, we recognize the importance of maintaining a high level of client satisfaction to insure that long-term relationships will be maintained. Our clients require that projects have minimal change orders, meet programmatic requirements, and are designed/constructed within the allotted schedule.

At the commencement of all projects, it is important to have meetings during which the project scope is discussed in detail. In most cases, there are multiple system alternatives that need to be evaluated. It is crucial that the design professional makes the owner aware of the advantages/disadvantages of each alternative and that a consensus is reached regarding the design concept.

During the design/construction phase of each project, we are continuously in contact with our client to insure that the project is proceeding smoothly and that all expectations are being met.

At the completion of our projects, we arrange for a debriefing meeting with our client (architect and/or owner) during which the project is reviewed in detail. During this meeting, we discuss actual construction costs versus budgeted costs, change orders and the overall performance of Tower Engineering.

By discussing issues related to the design and construction of our projects in an constructive and professional manner, we aim to insure that our client's expectations are being met so that existing and/or new relationships are maintained.

TOWER ENGINEERING

Qualifications & Experience

Together, Tower and Omni have completed more than 40 projects, including:

New First Energy, Allegheny Energy Transmission Operations Headquarters in Fairmont, West Virginia (now named Mon Power Regional Headquarters). The environmentally friendly facility is located on a 9-acre parcel of land in the I-79 Technology Park. Close communication was a critical part of this fast-track project with an aggressive design and construction schedule. Midway through the design process, the design team learned that the specialized technology for the building had advanced, prompting quick redesign work. The necessary changes could have greatly slowed progress, but because the design team was already utilizing collaborative tools such as building information modeling (BIM), electronic submission of project documents, and virtual meetings, impact on the project timeline was minimal.

BridgeValley Community and Technical College was created in 2014 with the merger of Bridgemont and Kanawha Valley Community and Technical College. The building was built in the 1950's and was in dire need of restoration. Tower Engineering provided mechanical, electrical, plumbing and fire protection design for the complete restoration of the 160,000 SF 5-story building, which included all new mechanical, electrical, plumbing and fire protection systems. Everything, except the structural frame and concrete floors was replaced.

Fairmont State Office Building is a new 5-story, 70,742 SF office building with a penthouse floor. Completed in February 2015, it features a combination of open and private offices, conference rooms, break rooms, administrative and support spaces. The building structure is structural steel on a caisson foundation with an exterior skin of brick, precast concrete, metal panel accents, and a GRFC cornice. The project has a goal of LEED Silver Accreditation and the construction cost was $18 million.

WVARNG Fairmont Armed Forces Reserve Center - Tower Engineering and OMNI designed this new facility in Fairmont, West Virginia. The building's Mechanical, Electrical and Fire Proofing Systems include many high efficiency features/systems as follows:

- Variable Air Volume HVAC System
- High Efficiency Heating Plant
- Variable Speed Pumping
- Carbon Dioxide Sensors for monitoring and control of ventilation air
- Heat Recovery for free preheat/precool of ventilation air
- Daylight Harvesting

New Canaan Valley Institute Headquarters near Davis, West Virginia completed construction in 2010. In accordance with CVI's mission, the Omni/Tower design team planned a "green" building that demonstrates environmentally friendly systems to visitors. The team utilized a number of sustainable technologies and achieved its goal of LEED Silver certification.

A few of Tower's generator projects include:

- Fairmont State University- Colebank Hall Generator Addition
- North Allegheny School District, Intermediate/High School Emergency Generator & Fire Alarm Upgrades
- University of Pittsburgh- Victoria Hall Research Generator
- 600 Grant Generator System Modifications – 64-story office building
- Erie County Technical School Emergency Generator
- Upper St. Clair Municipality, Brush Run Pump Station Phase 2 Generator
- University of Pittsburgh- Emergency Generator
- Indiana University of Pennsylvania Parking Garage Generator
- PNC Bank 2 Office Building UPS Generator Backup
- Pine Richland High School- Generator Upgrade
- Collington Apartment Building Generator
- Upper St. Clair Community & Recreation Center- Emergency Generator Installation
- University of Pittsburgh- Schenley Quad 5KV Switchgear & Posvar Hall 4160V Generator

Relevant project sheets are in the Appendix of this proposal.

Quality Control/Quality Assurance (Meeting Goals & Objectives)

Our professional team works together to complete complex projects every day. We will work with you to carry out a process that is systematic, accountable and has clear communication. Our project management team will regularly review drawings, and coordinate the necessary work across all disciplines.

Our team utilizes a web-based solution for secure file storage and project team coordination. This tool supports building information modeling (BIM) workflows and can be used throughout all phases of a project for such tasks as file storage, RFI and Shop Drawing management, and project milestone tracking. Project information is hosted on secure third-party servers, which means that it is available to team members from wherever they have internet access. The Owner and Architect work together to determine to whom and to what extent site access is given.

BIM: Building Information Modeling/REVIT

Our team is committed to continually upgrading existing technology and driving the evolution of design tools. This commitment springs from the firm belief that the responsible use of technology facilitates innovative design, results in economic benefits for our clients, and assists in efficient communication with clients and consultants.

Tower and Omni have transitioned from traditional CAD software to Autodesk® Revit® Building Information Modeling (BIM). We recognize the basic benefits to both designers and owners: more efficient, cost-effective project delivery and an accurate building model that can later assist in energy analysis and building management.

With a virtual model of the building, clients can clearly see the design intent as the project progresses and design options can be explored with greater ease than ever before. Sharing the model among all disciplines as the design progresses allows early input from all of the design professionals involved, resulting in efficient designs. Creating a building in the virtual world before constructing it in the "real" world allows the design team to anticipate conflicts and objections before they arise, eliminating many issues which could result in project change orders or Requests For Information from the contractor.

Our reputation rests on our clients' confidence in our relationship to each project, whatever the size.

Cost Control

We will prepare opinions of probable cost at strategic intervals to keep close control on budget and schedule, and make design decisions with your project manager(s) and your stakeholder group so that you have an understanding of the options and their effect on the overall project.

Occupancy, Commissioning, Permits and Plan Approvals

West Virginia codes have a major influence on the design of any building. A good working relationship with local and state building agencies is critical for a successful project. The team has extensive experience with code compliance and we have enjoyed an exceptionally compatible working relationship with The West Virginia State Fire Marshal's office for over 30 years and results in many hours saved during design and construction.

TOWER ENGINEERING

APPENDIX

Resumes of Key Personnel
Relevant Project Experience Pages
References
Omni Letter of Reference
Addenda Form

EDUCATION
Bachelor Architectural Engineering
Penn State University 1989

REGISTRATION
PE, Pennsylvania
[redacted]

PE, West Virginia
[redacted]

PE, New York
PE, Maryland

NCEES Registered

LEED Accredited Professional
2009

AFFILIATION
American Society of Heating, Refrigeration & Air Conditioning Engineers (ASHRAE)

James N. Kosinski, PE, LEED AP

Principal, Vice President
Senior Project manager, Mechanical Engineering

Mr. Kosinski is primarily responsible for the design of HVAC systems and their components for Tower Engineering projects. He has experience with the design of numerous types of HVAC systems, including constant and variable air volume air handling, geothermal heat pump and exhaust systems; chilled water and hot water; electric/electronic, pneumatic and DDC control systems. Jim's design responsibilities include load calculations, equipment selection, system layout, project specifications, cost estimates, direction of project drafting efforts, coordination with other engineering disciplines, and construction administration.

Additional responsibilities include system analysis and energy studies, client contact, and project management and scheduling. He has performed energy conservation analyses, evaluated HVAC system performance, and justified the installation of DDC control systems and other energy saving measures. As a Mechanical Engineering Group Leader, Mr. Kosinski coordinates the efforts of a team of staff engineers, designers and CAD operators.

REPRESENTATIVE EXPERIENCE

Allegheny Energy, Fairmont, West Virginia
New Transmissions Operations Center (LEED)

Stryker Readiness Center and OMS - Cambridge Springs, PA
These facilities provide spaces for training and housing of troops, as well as storage and maintenance of military vehicles and equipment. The center was constructed to replace outdated armories in Erie, Corry and Meadville.

Pennsylvania National Guard Readiness Center - Connellsville, PA
a one-story structure with mechanical and electrical equipment. The building contains offices, drill hall, classrooms, locker rooms, kitchen, toilets, storage, arms vault, Abrams Full-Crew Interactive Simulation Training ALIST Simulation Room, and maintenance training work-bays. (LEED)

West Virginia Army Reserve Center - Jane Lew, West Virginia
At 7,400 SF, the facility includes offices, a large Assembly area, a full service Kitchen, Arms Storage, and supporting storage and mechanical areas.

Department of Energy - Morgantown, WV
New Record Storage Facility (LEED)

Richard T. Forren AIA, NCARB

PROJECT ASSIGNMENT
Principal-in-Charge
Project Architect

EDUCATION
Master of Architecture
Virginia Polytechnic Institute, 1983

BS, Civil Engineering Technology
Fairmont State College, 1980

REGISTRATION
American Institute of Architects, Member
American Institute of Architects—West Virginia, Member
NCARB: National Council of Architectural Registration Boards
U.S. Green Building Council, Firm Membership
Associated Builders and Contractors Inc., Firm Membership
International Association of Emergency Managers, Member
International Council of Shopping Centers, Member
Association for Learning Environments, Member
Registered in West Virginia, Pennsylvania, Ohio, Kentucky, Florida, and New Jersey

GENERAL EXPERIENCE
- Project Architect in charge of design and construction for Omni Associates - Architects since 1984.
- Responsible for coordinating and designing all aspects of a project from programming through construction administration and project close-out.
- Previously employed by Robert J. Bennett AIA & Associates, Morgantown, West Virginia 1983 to 1984.

RELATED EXPERIENCE
- West Virginia Board of Architects, President
- West Virginia Design-Build Board
- Retired Colonel in the United States Army Reserves most recently assigned to the Fifth United States Army as the Army's Emergency Preparedness Liaison Officer (EPLO) for West Virginia.
- Bridgeport City Planning Commission
- City of Bridgeport Emergency Services Council
- Member of the Faculty Advisory Committee for Civil Engineering Technology and Architectural Engineering Technology, Fairmont State College, Fairmont, West Virginia

Select Project Experience

New West Virginia State Office Complex
Fairmont, WV

Mon Power Regional Headquarters
Fairmont, WV

West Virginia High Technology Consortium
Fairmont, WV
5000 NASA Boulevard
Allan B. Mollohan Innovation & Incubator Center

West Virginia Army National Guard
Buckhannon, WV
Armed Forces Readiness Center
Fairmont, WV
Armed Forces Readiness Center
Eleanor, WV
Armed Forces Readiness Center
Maintenance Facility
Access Road & Guard House

Fairmont State University
Fairmont, WV
Wallman Hall Renovations
Engineering Tech Addition and Renovations
Library Addition & Renovation
Feaster Center Addition & Renovation
Colebank Hall Renovation
Inner Campus Renovation
New Education and Health Sciences Bldg
Robert C. Byrd Aerospace Center

Pendleton County Schools, WV
Franklin Elementary School

Harrison County Schools, WV
Lumberport Elementary School
Lumberport Middle School

Marion County Schools, WV
West Fairmont Middle School
Fairmont Sr. High School Cafeteria

City of Fairmont, West Virginia
Public Safety Building
Municipal Complex

General Services Administration
Federal Building Renovations
Wheeling, WV
Martinsburg, WV
Huntington, WV
Beckley, WV

Canaan Valley Institute Headquarters
Davis, WV

EDUCATION
BS Mechanical Engineering
Penn State University 1982

REGISTRATION
PE, Pennsylvania
[redacted]

PE, West Virginia
[redacted]

PE, New York

NCEES Registration

LEED Accredited Professional 2009

AFFILIATION
American Society of Heating, Refrigeration & Air Conditioning Engineers (ASHRAE)
Pittsburgh Chapter;Past President

Thomas J. Gorski, PE, LEED AP

Principal, President
Mechanical Engineering Department Head

Mr. Gorski's primary responsibilities are the design of HVAC systems and their components for schools, universities, commercial and light industrial office buildings, laboratory buildings, health care facilities, and military facilities. He has designed HVAC systems including constant and variable air volume, air handling and exhaust systems; chilled water and hot water systems and steam distribution systems; electric/electronic control, pneumatic control and DDC systems.

Tom's design responsibilities include load calculations, equipment selection and system layout, project specifications, cost estimates, direction of the project drafting effort, coordination with architectural and other engineering disciplines, and construction administration. He also performs system analysis and energy studies, maintains client contact, and supervises the engineering effort of the Mechanical Engineering groups.

REPRESENTATIVE EXPERIENCE

Allegheny Energy Headquarters - Fairmont, West Virginia
New Transmissions Operations Center (LEED)

Stryker Readiness Center and OMS - Cambridge Springs, PA
These facilities provide spaces for training and housing of troops, as well as storage and maintenance of military vehicles and equipment. The center was constructed to replace outdated armories in Erie, Corry and Meadville.

United States Army Reserve Center - Jane Lew, West Virginia
Readiness Center and Organizational Maintenance Shop Building

West Virginia University - Morgantown, West Virginia
Current Term Contract
WVU Tech – Interior and Exterior Renovations
New Intermodal Transportation Center
New Student Recreation Center
Student Recreation Center Building Commissioning
Caperton Center for Applied Technology
Parkersburg Applied Technology Center (Parkersburg, WV Campus)

Fairmont State University - Fairmont, West Virginia
Engineering Technology Building

EDUCATION
BS Electrical Engineering
Case Western Reserve University
1997

REGISTRATION
Professional Engineer
PA - [redacted]
OH -
WV -

LEED Accredited Professional, 2009

AFFILIATION
Illuminating Engineering Society of North America (IES) - Treasurer Pittsburgh Section

AWARD
IES Design Award of Merit 2003
Ross Twp. Municipal Complex
Pittsburgh, Pennsylvania

T. Steffanie Bako, PE, LEED AP

Principal, Department Head
Electrical Engineering Department

Mrs. Bako provides engineering services for the design of office buildings, educational facilities, municipal buildings, community/recreational buildings and commercial facilities. Her primary responsibility is for the preparation of electrical opinions of cost, technical specifications, engineering drawings, field observation, and coordination with architectural and other engineering disciplines.

Steffanie's design responsibilities include lighting layout and fixture selection, including calculations and system coordination studies and calculations; computer rooms and associated support facilities; fire alarm and detection systems; emergency power, public address, audio-visual, security and closed circuit television systems. Additional responsibilities include client contact, field observation, and project management.

REPRESENTATIVE EXPERIENCE

Army National Guard - Buckhannon and Fairmont, West Virginia
New Readiness Centers

City of Fairmont - Fairmont, West Virginia
New Parking Garage
Municipal Building Renovations

Fairmont State University - Fairmont, West Virginia
Engineering Technology Building
Musick Library Addition and Renovations

Whitehall Volunteer Fire Company - Whitehall, Pennsylvania
New Fire Company Building

Canaan Valley Institute - Davis, West Virginia
New Office Building (LEED Silver)

West Virginia High Tech Consortium Office Building - Fairmont, West Virginia
Tenant Fit-ups

Twin Falls State Park Resort - Mullens, West Virginia
Lodge Expansion

BridgeValley Community and Technical College
Restoration and Renovation

EDUCATION
BS, Mechanical Engineering
Penn State University 1997

REGISTRATION
Professional Engineer, PA
[redacted] 2003

Certified in Plumbing Engineering (CIPE), 1998

LEED Accredited Professional 2009

Michael S. Plummer, PE, CIPE, LEED AP

Principal, Senior Project Manager
Plumbing & Fire Protection Engineering Department Head

Mr. Plummer is primarily responsible for the design of plumbing and fire protection systems and their components for Tower Engineering projects in all sectors. His responsibilities include performing calculations for hydraulically designed sprinkler systems; designing water supply and pumping systems including fire mains and sizing of fire pumps; design/testing of fire protection and alarm systems; and design of plumbing sewage, gas and water systems.

Mike is an experienced HVAC system designer, and performs load calculations, equipment selection and systems layout. His duties include preparation of project specifications, cost estimates, project management, and coordination with architectural and other engineering disciplines. He also performs construction administration duties including review of submittals, preparation of punch lists, and field problem solving, as well as supervising the engineering efforts of the Plumbing and Fire Protection Department.

REPRESENTATIVE EXPERIENCE

West Virginia University - Morgantown, West Virginia
Current Term Contract
WVU Tech - Interior and Exterior Renovations
New Intermodal Transportation Center
New Student Recreation Center
Parkersburg Applied Technology Center (Parkersburg, WV Campus)

Fairmont, West Virginia
Allegheny Energy New Operations Center

Fairmont State University - Fairmont, West Virginia
Engineering Technology Building

Brooke County Board of Education - Follansbee, West Virginia
Hooverson Heights Primary School
Bethany Primary School

Cacapon Resort - Berkeley Springs, West Virginia
Lodge Renovation and Expansion

City of Fairmont - Fairmont, West Virginia
Public Safety Building

Fairmont State University - Fairmont, West Virginia
Engineering Technology Building
Conference Center Computer Lab
MATEC Hangar Fire Protection Systems Evaluation

BridgeValley Community & Technical College

South Charleston, WV

Year Completed
2014
Tower's Fee
$4,300,000
Total Construction Cost
$25,180,000

BridgeValley Community and Technical College was created in 2014 with the merger of Bridgemont and Kanawha Valley Community and Technical College. The building was built in the 1950's and was in dire need of restoration. Tower Engineering provided mechanical, electrical, plumbing and fire protection design for the complete restoration of the 160,000 SF 5-story building, which included all new mechanical, electrical, plumbing and fire protection systems. Everything, except the structural frame and concrete floors was replaced.

Today, half of the building houses the college and the other holds commercial offices for Dow Chemical Company. It is wired and equipped throughout with state of the art technology designed for optimal comfort, energy efficiency, and data communications. A variable flow chilled water plant powered by two 600 ton water cooled centrifugal chillers provides state of the art, energy efficient mechanical cooling. High efficiency condensing boilers circulate variable flow hydronic heating. A number of variable speed air handling units, with energy recovery wheels distribute ventilation air to VAV boxes with hot water reheat that provide hundreds of temperature and humidity control zones throughout the building. Automatically controlled high-efficiency lighting, low flow automatic faucets and flush valves, and a digital building automation system completes a package that will operate at the highest efficiency – and therefore the lowest operating cost – for the next 30 or more years.

First Energy (formerly Allegheny Energy) New Transmission Operations Headquarters
Fairmont, WV

Year Completed: 2011
Square Footage: 148,000
Total Construction Cost: $35 million

Tower Engineering provided mechanical and electrical engineering services for the new Allegheny Energy Transmission Operations Headquarters in Fairmont, West Virginia. The facility serves as the center for Allegheny Energy's multi state transmission functions, providing round-the-clock management of the electric grid. Totaling 148,000 SF, the building contains the control center, data center, and approximately 85,000 SF Class A office space.

The state-of-the-art facility is specifically designed to meet the needs of Allegheny Energy's transmission business, which includes two new projects, the Trans-Allegheny Interstate Line (TrAIL) and the Potomac Appalachian Transmission Highline (PATH), as well as 4,600 miles of existing transmission line.

The environmentally friendly building is certified under the Leadership in Energy and Environmental Design (LEED) Green Building Rating System.

- (2) 1750 Kw, diesel fired emergency generators, not paralleled; complete N+1 design
- (2) 500 KvA UPS with wet cell battery racks for data center and command room; complete N+1 design. This is all DC power, converted by UPS into AC for general use.

TOWER ENGINEERING
115 Evergreen Heights Drive, Suite 400, Pittsburgh, Pennsylvania 15229 • 412-931-8888 • Fax 412 939-2525 • www.estower.com

Canaan Valley Institute

Commissioning Case Study

Year Completed:
2009

Square Footage:
27,000

Total Construction Cost:
Approximately $6 Million

This project is a Research and Education Center comprised of administrative offices, laboratories, conference rooms, and a tiered classroom. The site was selected to provide a suitable building location within a large contiguous tract of terrestrial and aquatic habitat for outdoor classrooms, research interpretive areas, and restoration demonstration projects. Additionally, the site supports the conservation of Canaan Valley's fish and wildlife habitat while adding public education and recreation. The Center itself is a demonstration project that demonstrates a balance between traditional and innovative design, energy, and resource use while meeting CVI's programmatic requirement for connectivity between research and outdoor education components.

Canaan Valley Institute's mission is to ensure their region has healthy streams and rivers. They focus their resources on providing information and education on stream restoration, wastewater treatment and environment-based education. They wanted their new offices and education center to represent their mission. Tower Engineering was selected to provide LEED Enhanced Commissioning. It was extremely important that the commissioning process provide verification of systems operation so as to enable the owner to acquire the certification they desired.

Scope of Work

- Create a Commissioning Plan to assist the Owner in obtaining the highly desired LEED silver certification.
- Organize Commissioning Team.
- Create and provide pre-functional checklists and functional test forms. Review pre-functional checklists and oversee functional testing.
- Create issues log, deficiency reports and provide Owner with status reports of commissioning progress and deficiency corrections.
- Oversee training of Owner's maintenance staff.
- Complete final Commissioning Report.

Systems Commissioned:

The following systems were commissioned: Pumps, exhaust fans, heat recovery units, unit ventilators, computer room units, fluid coolers, radiant panels, variable air volume boxes, hot water coils, hot water radiant system, piping, automatic temperature controls, eco machine, hot water heat exchanger, hot water recirculation system, composting toilet, automatic sensors, potable water pressure, gray water pressure, occupancy sensors, automatic lighting, exterior lighting and the building envelope.

Deficiencies Identified and Corrected:

It was determined that perforations in the building soffit permitted migration of outside air into the ceiling plenum. In order for the HVAC system to consistently heat, cool and dehumidify the building, the ceiling plenum needed to be sealed off from the possible migration of outside air. It was recommended that the means of sealing off the ceiling plenum should also include materials that would provide an R valve of no less than R-19.

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West Virginia Army National Guard (WVARNG)
Buckhannon Readiness Center

The Buckhannon Army National Guard Readiness Center is a dual-use building funded by a combination of Federal, State, and local money. The 37,000 sf facility houses three units of the West Virginia Army National Guard (WVARNG) and serves the public sector of Upshur County with a multi-purpose conference center. These dual purposes are reflected in the basic design.

The two functional areas are located in separate wings spanning east and west from the main lobby entrance with clear distinctions between public and private spaces. The west wing is a public conference center, which, through the use of operable partitions, can be configured any number of ways to allow for educational, business, community, and private events. The two-story east wing houses the WVARNG units: 601st Horizontal Engineer Company, 1935th Contingency Contracting Team and the 229th Engineer Survey and Design Team. It includes office space, a classroom, storage, sleeping rooms, fitness room, and locker rooms.

The building structure is steel with the exterior consisting mainly of brick veneer with some upper story metal panels and storefront glazing. A 3,200 sf unheated pre-manufactured metal storage building was erected adjacent to the main building. Outside supporting facilities include military and privately-owned vehicle parking, fencing, sidewalks, exterior fire protection, outside lighting, access roads, detached facility sign, wash platforms, fuel storage and dispensing systems and flagpoles. Physical security measurements include maximum feasible standoff distance from roads, parking areas, and vehicle unloading areas, berms, heavy landscaping, and bollards to prevent access when standoff distance cannot be maintained. This project was designed and constructed to achieve LEED® Silver certification. Cost effective energy conserving features include energy management control systems and high efficiency motors, lighting, and HVAC systems.

info@omniassociates.com 304.367.1417 www.omniassociates.com **Omni** Associates - Architects, Inc.

West Virginia Army National Guard (WVARNG)
Fairmont Readiness Center

The specially designed AFRC is permanent masonry type construction with standing seam roof, concrete floors, and mechanical and electrical equipments with emergency power generator backup. This 150 member training facility includes administrative, educational, assembly, library, learning center, vault, weapons simulator and physical fitness areas for one each WVARNG and USAR units. The maintenance shop will provide work bays and maintenance administrative support. The project will also provide adequate parking space for all military and privately owned vehicles.

This project has been coordinated with the installation physical security plan, and all physical security measures are included. All required antiterrorism protection measures are included. Sustainable principles will be integrated into the design, development, and construction of the project in accordance with Executive Order 13123.

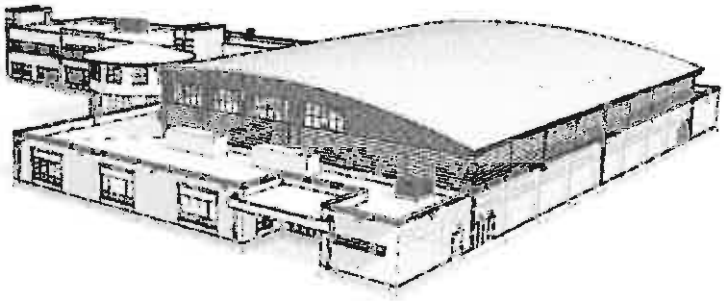
Supporting facilities will include weapons cleaning, maintenance, issue, turn-in sheds, access roads, security fencing and dark motor pool lighting, vehicle wash system and pump house, fuel storage and dispensing systems, loading ramp, flammable materials storage building, controlled waste handling facility, and sidewalks. Extension of gas, electric, sewer, water and communication utilities to the building site is included. Physical security measures include maximum feasible standoff distance from roads, parking areas, and vehicle unloading areas, beams, heavy landscaping and bollards to prevent access when standoff distance cannot be maintained. Cost effective energy conserving features are incorporated into design.

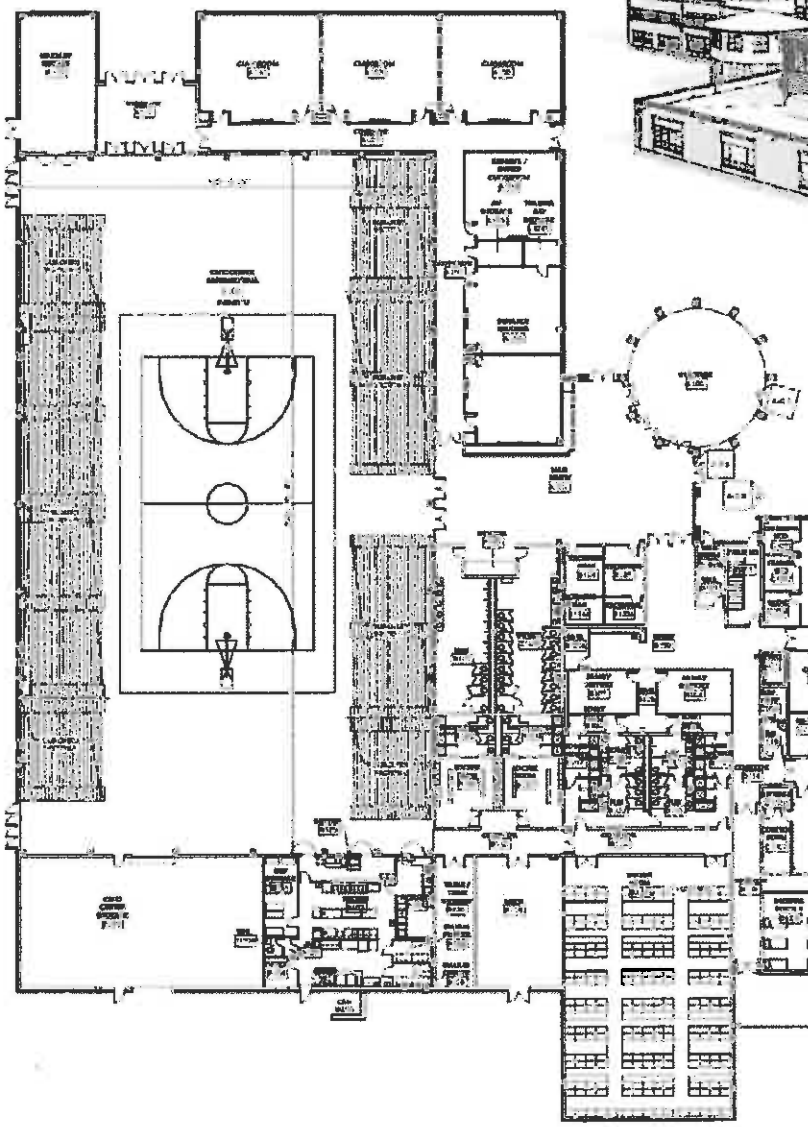
Fairmont Readiness Center
West Virginia Army National Guard
Fairmont, West Virginia

$ 25 Million
91,500 sf

Contact:
COL David Shaffer, CFMO
1707 Coonskin Drive
Charleston, WV 25311
304-541-6539

West Virginia Army National Guard (WVARNG)
Fairmont Readiness Center





info@omniassociates.com 304.367.1417 www.omniassociates.com **Omni** Associates - Architects, Inc.

West Virginia Army National Guard (WVARNG)
Eleanor Readiness Center

The new Armory facility in Eleanor, West Virginia is a single-story, brick masonry and steel structure enclosing approximately 88,200 Net square feet. The building is located adjacent to the new Maintenance Facility on the site, with the main entrance facing **east** toward the main access to the site. The orientation of the building takes advantage of views of the wetland area and the Kanawha River. The Armory houses units of the state Army National Guard and one unit of the Navy.

The aesthetics of the new structure will have a similar character and appearance **as** the Maintenance Facility, incorporating banding of a contrasting color, barrel-vaulted roofing, and similar doors and windows.

The plan configuration is a result of meetings with each of the units and commanders, and consolidates areas under the responsibility of individual units to minimize travel. The separation of public versus unit specific spaces is dictated by the need for logical and efficient circulation as well as the direct relationship of spaces within those areas.

Eleanor Readiness Center
West Virginia Army National Guard
Eleanor, West Virginia
83,900 Square Feet

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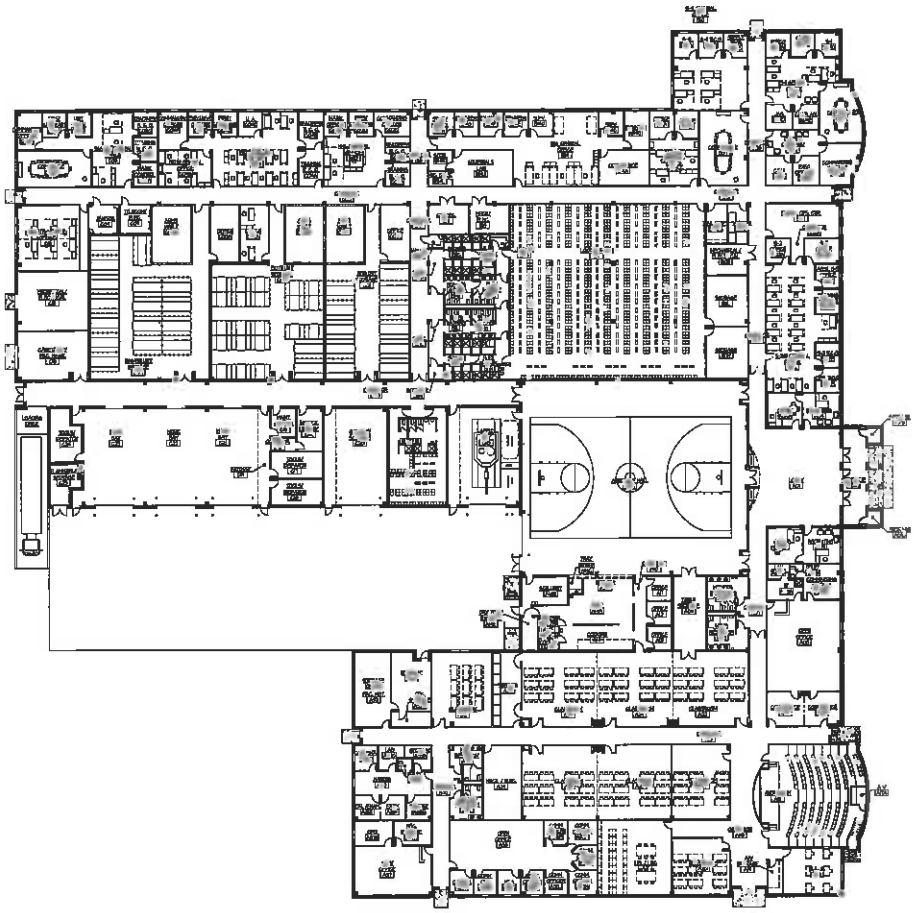
West Virginia Army National Guard (WVARNG)
Eleanor Readiness Center



The relationship of the unit office areas to the unit storage areas is critical to the efficient workflow of the individual units. The unit storage areas are located adjacent to the loading dock at the rear of the building in order to provide access to military vehicles.

The Maintenance Work Bays and AFIST bay are located at the rear of the building for accessibility of military vehicles, as well as shielding the function of the areas from the entrance and the public. The AFIST bay is located adjacent to the Assembly Hall for the purpose of large group instruction within the hall and individual instruction within the bay area.

The location of the Assembly Hall is central to all spaces and adjacent to the main entrance due to its use for public and military functions. The hall is utilized by the military for drill training and dining, and by the public for gatherings such as banquets and dances. The Kitchen is located adjacent to the Assembly Hall to expedite meals to both civilians and the military.

A single story structure of this size requires a lot of area dedicated to circulation. However, when possible, large open areas such as the Assembly Hall were utilized for circulation.

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West Virginia Army National Guard (WVARNG)
Eleanor Maintenance Facility

Eleanor
Maintenance Facility
West Virginia Army National Guard
Eleanor, West Virginia
132,000 Square Feet

"In appreciation of all of your hard work, dedication, and technical support to the Eleanor Maintenance Complex, West Virginia Army National Guard. Your expertise has helped create one of the finest Maintenance Shops in the United States."

Robert D. Davis, CPT, OD, WVARNG
CSMS Superintendent

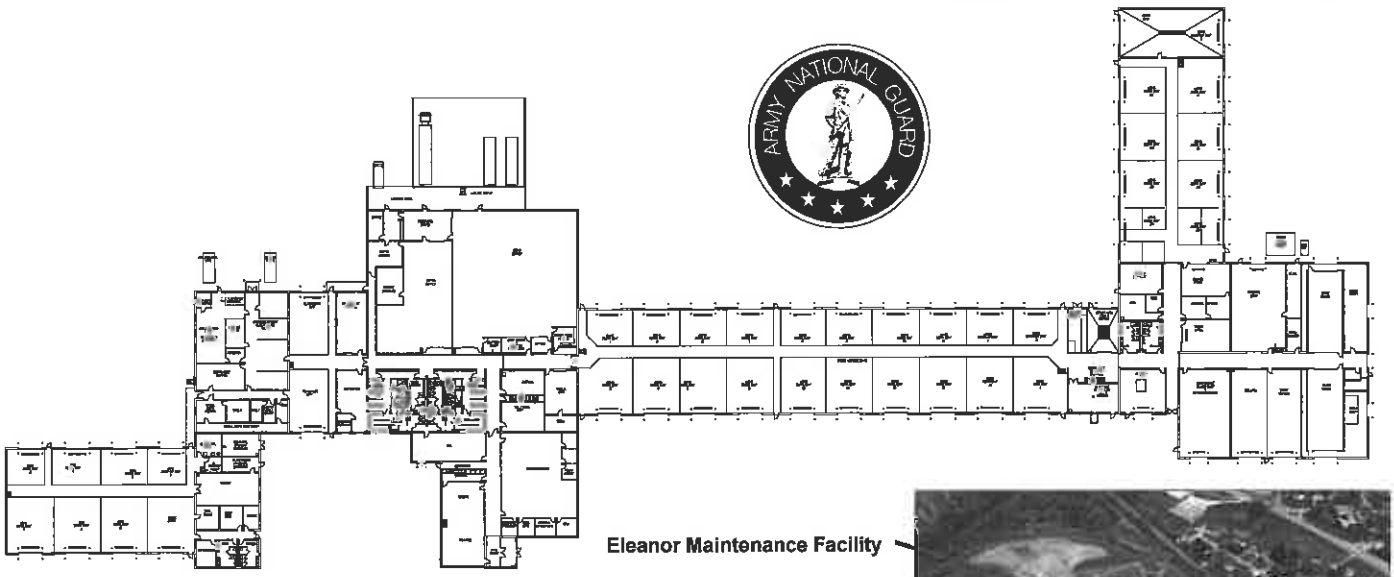
Warren T. Huxley, LTC, EN, WVARNG
Surface Maintenance Manager

The Eleanor Maintenance Complex in Eleanor, WV is a 132,000 square foot state-of-the-art repair and maintenance facility for the West Virginia Army National Guard (WVARNG). This specially designed Army "Combined Logistic Support Facility" houses the Combined Support Maintenance Shop (CSMS), an Organizational Maintenance Shop (OMS) and United States Property and Fiscal Office (USPFO) parts storage warehouse.

The design of the facility is based upon the functional concept of a straightforward flow in and around the facility. This focuses on a logical and efficient flow of work for the maintenance and repair of vehicles as well as the progression of components parts from delivery to installation. This flow also required controlling the movement of vehicles themselves as all vehicles arriving and leaving the complex are required to undergo pre and post inspections.

info@omniassociates.com 304.367.1417 www.omniassociates.com **Omni** Associates - Architects, Inc.

West Virginia Army National Guard (WVARNG)
Eleanor Maintenance Facility



The facility provides a full range of maintenance support for all WVARNG military vehicles throughout the state. It includes 28 maintenance work bays with overhead bridge cranes, an engine rebuild shop, a body shop with blast and paint booths, a carpentry shop, a machine shop, a canvas shop, a small arms repair shop and an electrical / communications repair shop. The facility also has specialized testing capabilities in the form of an engine and transmission dynamometer.

These capabilities truly make the Eleanor Maintenance Complex a state-of-the-art facility for the West Virginia Army National Guard.

info@omniassociates.com 304.367.1417 www.omniassociates.com **Omni** Associates - Architects, Inc.

West Virginia State Office Complex

Omni Associates—Architects was selected by the West Virginia General Services Division to provide all architectural and engineering services for a new state office building located in downtown Fairmont.

It was important that the new building fit within the context of the downtown area's historical buildings while reflecting an era of progress and new growth. To that end, the building's exterior features traditional brick and cast stone masonry integrated with insulated formed metal panels and an aluminum curtainwall.

The building will be occupied by eight state agencies and include offices for the Secretary of State. Programming services included interviews of the individual agencies to determine the specific requirements of each. Interior fitouts include a variety of user-specific spaces including training rooms, interview rooms, waiting areas, individual offices, large open offices, break rooms, and kitchenettes.

Omni also provided all necessary surveying of the site, and all existing infrastructure systems and material to determine appropriateness for construction. Pre-construction services also included the verification, coordination, and documentation of extensions, tie-ins, and relocations of all utilities as well as an extensive demolition package released prior to the new construction package.

In addition to compliance with all applicable local, State, and Federal regulations as well as ADA requirements, the Owner requested that the building be designed with the goal of achieving LEED™ Silver certification. Current calculations suggest the project could achieve LEED Gold.

West Virginia State Office Complex
Fairmont, West Virginia

Contact:
Mr. Robert P. Krause, PE, AIA
West Virginia General Services Division
1900 Kanawha Blvd. East
Building 1 Room MB-60
Charleston, WV 25305
304-558-9018

Tower Engineering and OMNI Associates References:

Bob Krause, Architecture & Engineering
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304-957-7143

COL David P. Shafer
West Virginia Army National Guard
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Charleston, WV 25311-1085
304-541-6539

Mr. Tom Tucker, Fairmont State University
304.367.4276
1201 Locust Avenue
Fairmont, WV 26554

Mr. Rich Donovan, Chief Procurement Officer
304.558.0281 X 212
rich.donovan@wvhepc.edu
1018 Kanawh Blvd.
Charleston, WV 25301

WEST VIRGINIA ARMY NATIONAL GUARD
CONSTRUCTION AND FACILITY MANAGEMENT OFFICE
1705 COONSKIN DRIVE
CHARLESTON, WEST VIRGINIA 25311-1085

26 March 2013

SUBJECT: Recommendation for Omni Associates - Architects, Inc.

To whom it may concern,

It is my pleasure to highly recommend Omni Associates - Architects, Inc. for design projects of any scale. I have had the privilege to work with Omni Associates on several projects in the past totaling over $100M and we are currently in construction with two Readiness Centers designed by Omni. My office has found them to be extremely responsive to any owner needs and concerns and always as the best interest of the government in mind. Their quality assurance and dedication to success distinguishes them from other firms.

I have been very impressed with the team relationship between my office and Omni Associates. Of particular note, the principle Mr Dick Forren has over thirty years of military service as an engineer officer. As a result his firm is extremely knowledgeable about military units, equipment, and terms. Additionally, Omni Associates is very knowledgeable of the requirements for security and force protection. They have experience with numerous building types with the West Virginia Army National Guard and utilize 3D modeling design system that can be utilized for facilities maintenance.

Again, it is my pleasure to highly recommend The Omni Associates – Architects, Inc for your next design project as we will undoubtedly use them for future projects. Please feel free to contact me at 304/541-6539 if I can be of any further assistance.

Sincerely,

DAVID P. SHAFER
LTC, EN, WVARNG
Construction & Facility Management Officer

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: _____

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

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

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

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

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

Tower Engineering, Inc.

Company

Authorized Signature

August 16, 2016

Date

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