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Header 1

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General Information | Contact | Default Values | Discount | Document Information | Clarification Request

Procurement Folder: 929712


Procurement Type: Central Purchase Order

Vendor ID: 000000218570 

Legal Name: GRW ENGINEERS INC

Alias/DBA:

Total Bid: \$0.00

Response Date: 09/07/2021 

Response Time: 10:58

Responded By User ID: lgodshall 

First Name: Louise

Last Name: Godshall

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Phone: 859-223-3999

SO Doc Code: CEOI

SO Dept: 0603



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Solicitation Description: Transfer Switch Gear Design
Camp Dawson 


Total of Header Attachments: 1

Total of All Attachments: 1



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

**State of West Virginia
 Solicitation Response**

Proc Folder: 929712
Solicitation Description: Transfer Switch Gear Design Camp Dawson
Proc Type: Central Purchase Order

| Solicitation Closes | Solicitation Response | Version |
|---------------------|------------------------------|---------|
| 2021-09-09 13:30 | SR 0603 ESR09072100000001622 | 1 |

VENDOR
 000000218570
 GRW ENGINEERS INC

Solicitation Number: CEOI 0603 ADJ2200000004
Total Bid: 0
Response Date: 2021-09-07
Response Time: 10:58:36
Comments:

FOR INFORMATION CONTACT THE BUYER
 Tara Lyle
 (304) 558-2544
 tara.l.lyle@wv.gov

Vendor Signature X **FEIN#** **DATE**

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

| Line | Comm Ln Desc | Qty | Unit Issue | Unit Price | Ln Total Or Contract Amount |
|------|---|-----|------------|------------|-----------------------------|
| 1 | Transfer Switch Gear Design Camp Dawson | | | | 0.00 |

| Comm Code | Manufacturer | Specification | Model # |
|-----------|--------------|---------------|---------|
| 81101508 | | | |

Commodity Line Comments: Expression of Interest for Transfer Switch Gear Design at Camp Dawson

Extended Description:

Provide professional architectural and engineering design services per the attached documentation.



EXPRESSION OF INTEREST

Camp Dawson Transfer Switch Gear Design

West Virginia Department of
Administration | West Virginia
Army National Guard

September 9, 2021

Solicitation Number: CEOI 0603 ADJ2200000004



engineering | architecture | geospatial

GRW | 801 Corporate Drive | Lexington, KY 40503 | 859.223.3999



engineering | architecture | geospatial

Expression of Interest

Camp Dawson Transfer Switch Gear Design

CEOI 0603 ADJ2200000004

WV Department of Administration WV Army National Guard

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COVER LETTER



GRW | engineering | architecture | geospatial

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September 9, 2021

Ms. Tara Lyle, Buyer Supervisor
Department of Administration, Purchasing Division
State of West Virginia
2019 Washington Street East
Charleston, WV 25305-0130

**RE: Camp Dawson Transfer Switch Gear Design
Solicitation No.: CEOI 0603 ADJ220000004**

Dear Ms. Lyle and Selection Committee Members:

Achieving the goals you've established for the electrical project at Camp Dawson is greatly dependent upon selecting the right A/E design partner. GRW would like to work with you on your project – and we believe we offer you the right experience and expertise to successfully deliver the results you require.

Experience & Familiarity

GRW is a full-service A/E design consulting firm that has been working with clients like you on similar projects throughout the region for more than 57 years. Our project team's experience with the National Guard in West Virginia is substantial and ranges from projects with Camp Dawson and the West Virginia ARNG Martinsburg, to the West Virginia ANG's 130th Airlift Wing, 167th Airlift Wing, and 167th Airlift Wing. **See Sections 2.0 and 3.0.**

GRW and its subsidiary Chapman Technical Group (offices in St. Albans and Buckhannon, WV) also have extensive experience in developing projects through the WV Purchasing Division. For example, we have designed, bid, and constructed numerous, major Division of Natural Resources projects throughout the state, as well as projects for the Department of Highways. Although every agency has its own particulars with regard to bidding projects, our experience with the WVARNG and the State's Purchasing Division will help ensure effective and efficient project delivery.

Our Team Offers Electrical/Power Engineering Expertise

By selecting GRW, you will be working with a knowledgeable team who regularly work on the design of electrical power systems for existing buildings, as well as new facilities. These professionals offer specialized experience with power systems for federal campuses and state facilities. **Section 2.0** includes more information about our relevant project experience. You can read more about our team member qualifications in the resumes provided in **Section 3.0.**

A few of the projects featured in our EOI – all of which our Project Manager worked on – include:

- Frankfort Plant Board Water Treatment Alternate Power Generation Facility, Frankfort, KY
- Yazoo City U.S. Penitentiary and Satellite Camp, Yazoo City, MS
- Aliceville Federal Correctional Institution and Satellite Camp, Aliceville, AL
- Gilmer Federal Correctional Institution and Satellite Camp, Glenville, WV
- Canaan U.S. Penitentiary and Satellite Camp, Canaan PA
- Northpoint Training Center Replacement, Burgin, KY

Our Understand Working with the West Virginia Guard

As mentioned, GRW has a long history with the National Guard in West Virginia. For example, a few of these projects include :

- Camp Dawson Relocation of Electrical Power and Communications Lines
- Camp Dawson Live Fire Exercise Shoot House
- Camp Dawson Ranges at Briery Mountain
- Camp Dawson Volkstone Training Area Utility Upgrade
- West Virginia ARNG Martinsburg Secure Facility Renovation
- West Virginia ANG 130th Airlift Wing Building 107 Renovation
- West Virginia ANG 130th Airlift Wing Security Forces Squadron Facility Renovation and Expansion
- West Virginia ANG 167th Airlift Wing C-17 Composite Material Shop
- West Virginia ANG 167th Airlift Wing C-17 Corrosion Control Hangar Modifications
- West Virginia ANG 167th Airlift Wing C-17 Fuel Cell Hangar Modifications
- West Virginia ANG 167th Airlift Wing C-17 Maintenance Hangar Modifications

We Are Committed to Your Success

Taking care to meet your goals for your budget and schedule is a priority, as it is on every GRW project. The ultimate measure of success is how well the completed projects meet your needs and aspirations. To this end, our project team is committed to establishing an inclusive, methodical and logical approach to the design process. **See Sections 4.0 and 5.0.**

Thank you for your consideration and for the opportunity to work with you. We look forward to the next step in your selection process where we can present our additional ideas toward the successful completion of your project.

If you have questions about our qualifications or any other items, please feel free to call or email.

Respectfully submitted,



Monty Maynard, PE, LEED AP BD+C
GRW Vice President

859-223-3999, ext. 262
mmaynard@grwinc.com

SECTION 1.0 | **GRW Introduction**

1.0 GRW Introduction

About GRW

Founded more than 57 years ago, GRW is an employee-owned architectural, engineering and geospatial services firm with approximately 200 employees.

At GRW, we have the ability to address your projects from nearly every angle. Because of our in-house capabilities, we can more easily tailor our approach allowing our teams to deliver more quickly, with greater potential for more accurate cost estimates, and fewer change orders.

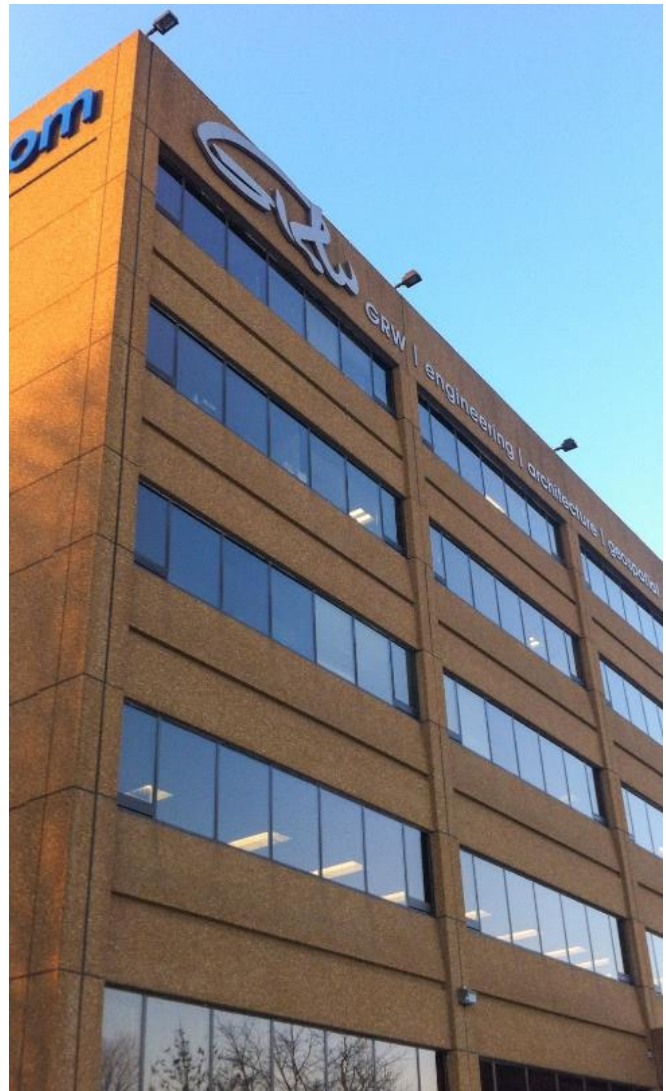
Among our achievements, GRW is listed in *Building Design and Construction's Giants 300* report as one of the nation's top Architecture-Engineering firms. Also, since 1972, GRW also has been recognized nationally as a top producing firm by *Engineering News-Record*.



Our Corporate Culture

Our corporate culture is one of close collaboration with an approach that gives our project managers and their project teams a hands-on approach, as needed, from planning through construction phases.

At GRW, we know that business relationships are built on trust – the ability to trust your business partner to deliver on their promises. By choosing GRW for your professional services, you are choosing a company that delivers on our promises. You can expect our full attention starting on day one, and extending to the day of project completion and beyond. **Listening diligently to your needs, and those of your stakeholders, is the hallmark of our approach.** Delivering projects that meet our clients' goals – honestly, reliably, and efficiently, time after time – is the reason why GRW has achieved a 90% rate of repeat business.



Department of Defense Experience

GRW brings to the table a wide-ranging body of military experience that includes work for the National Guard, U.S. Army, U.S. Air Force, the U.S. Army Corps of Engineers, and the Naval Facilities Engineering Command (NAVFAC). These projects include renovation and new construction work, as well as military master plans, and a broad range of geospatial services.

The map below provides a general geographic overview of where we have provided services to the military.



* U.S Army Corps of Engineers work encompasses multiple IDIQs and task orders in 18 Districts
OCONUS Locations: Kadena Air Base, Okinawa, Japan and Camp Lemonnier, Djibouti

GRW's Experience at Camp Dawson and with the West Virginia Army & Air National Guard - Partial List

GRW has a long history of experience with the West Virginia Army and Air National Guard. Examples of many of these projects are shown on these pages.

West Virginia ARNG Camp Dawson Ranges at Briery Mountain, Kingwood, WV

Project included design and construction of new Hand Grenade Familiarization Range and Live Fire Exercise Breach (LFEB) Training Range at Briery Mountain Training area to conform site to government standard Breach Range Design Requirements. Included design of access road to the remote site, electrical connections, breaching structures, open covered range operations and control shelter, storage building, dry latrine, covered viewing stands, and parking area. **Client Contact:** MAJ Robert Kincaid, Jr., Range Operations Manager, (304) 791-4459, robert.j.kincaid.mil@mail.mil

West Virginia ARNG Camp Dawson Live Fire Exercise Shoot House, Kingwood, WV

Design for innovative re-use of a recently-acquired former industrial complex adjacent to Camp Dawson to provide a \$2 million Live Fire Exercise Shoot House, including shoot house to be housed in a metal warehouse, operations / storage, after action review (AAR) facility, ammunition breakdown facility, warehouse restroom renovation, access road and parking area, and utility services. Completed conceptual design for LFSH facility with final design and construction of LFSH completed by selected vendor

(design / build); balance of facilities delivered with traditional design / bid / build approach.

Client Contact: MAJ Robert Kincaid, Jr., Range Operations Manager, (304) 791-4459, robert.j.kincaid.mil@mail.mil

West Virginia ARNG Relocation of Camp Dawson Electrical Power and Communications Lines, Kingwood, WV

Study and design for 4-phase construction program to relocate overhead electrical power lines and communications lines (telephone, data, etc) to underground duct banks in order to eliminate historic problems associated with overhead services. Phase 1: 3000 LF of power line relocation to new underground duct banks, with the associated replacement of pole-mounted transformers with pad-mounted transformers (1000 KVA to 50 KVA). Phase 2: Relocation of communications service to new underground duct banks along Phase 1 route. Phases 3 & 4: Relocation of approximately 2000 LF of overhead power lines and overhead communications lines to new duct banks, respectively.

Client Contact: MAJ Robert Kincaid, Jr., Range Operations Manager, (304) 791-4459, robert.j.kincaid.mil@mail.mil

West Virginia ARNG Camp Dawson Volkstone Training Area Utility Upgrade, Kingwood, WV

Expansion of

sewer (1,996 LF), water (1,996 LF) and electric (1,797 LF) to all existing and future buildings, unit training equipment site (UTES) and wash rack locations. Also included design of Forward Operating Base (FOB) including 20 14' x 16' wooden buildings, new bath house for approximately 200 people and pavilion. **Client Contact:** MAJ Robert Kincaid, Jr., Range Operations Manager, (304) 791-4459, robert.j.kincaid.mil@mail.mil

West Virginia ANG 130th Airlift Wing Master Plan Update and CIP, Charleston, WV

Engineering consulting for preparation of a Web-Enabled Master Plan Update and GeoBase Common Installation Picture (CIP) for the 130th Airlift Wing in Charleston to evaluate benefits and impacts associated with acquiring additional airfield property for aircraft parking, operations, and maintenance facilities to meet current and future proposed missions. Identified constraints and opportunities that apply to the 130th AW aircraft parking, operations and maintenance areas, including Anti-Terrorism/Force Protection (AT/FP) measures; quantified existing and required airfield facilities; developed new alternatives for long- and short-range plans; and created plan tabs that depict constraints and

opportunities, long- and short-range development plans, land use and circulation plan, real estate plan, and facility utilization plan. **Client Contact:** Capt Harry Netzer, Deputy BCE, (304) 341-6649, harry.g.netzer.mil@mail.mil

West Virginia ANG 130th Airlift Wing Communications Duct, Charleston, WV – Concept Development Report to select a preferred concept for a new duct system for routing the base’s communications network to a new Communications Facility. New fiber optic cable for base network to consist of two ITNs (Information Transfer Nodes); ITN-1 in the new Communications Facility and ITN-2 in new hangar, Building 407. Duct bank designed to carry fiber optic lines, television and coaxial cabling; allows looping of current system; and provides redundancy of assets. A 4-duct and a 12-duct PVC conduit system with inter-duct was proposed. **Client Contact:** LtCol Rick Thomas, Base Civil Engineer

West Virginia ANG 130th Airlift Wing Aboveground Fuel Storage Dispensing Facility, Charleston, WV – Design for a new aboveground fuel station for the installation’s government-owned vehicles, comprising two new aboveground tanks (1 diesel, 1 unleaded gasoline) and a new dispensing system, replacing an older fuel station that included underground fuel storage tanks. **Client Contact:** LtCol Rick Thomas, Base Civil Engineer

West Virginia ARNG Joint Armed Forces Reserve Center and Area Maintenance Support Activity, Ripley, WV – Preparation of a Program Planning Document Charrette (PPDC) for replacement of two local armories and a USAR center with aging facilities and site limitations, with a new, \$17 million Joint Armed Forces Reserve Center and support facilities on a 94-acre site. Resulting plans include an Armed Forces Reserve Center (60,927 SF), unheated storage (6,000 SF), area maintenance support (4,500 SF) and helipad. **Client Contact:** MG Melvin Burch, (304) 561-6458, melvin.burch@us.army.mil

West Virginia ARNG Readiness Center Commissioning Projects, WV – LEED Fundamental Commissioning for four building construction projects: Buckhannon AFRC - Phase I, 38,000 SF and \$13,150,000 construction cost; Morgantown Readiness Center, 58,520 SF and \$20,500,888 construction cost; Moorefield Readiness Center, 57,256 SF and \$17,725,351 construction cost; and Logan Readiness Center, 58,520 SF and \$14,296,326 estimated construction cost. Scope included all commissioning, coordination and documentation required for LEED certification on the HVAC systems and networked controls, the lighting control systems and the domestic hot water distribution systems. **Client Contact:** MAJ Daniel Clevenger, CFMO, (304) 561-6446, daniel.w.clevenger.mil@mail.mil

West Virginia ANG 130th Airlift Wing LOX Storage Relocation, Charleston, WV – Type A and B design and construction administration services to relocate LOX function to south end of flight line to meet operational and installation development plan requirements. Facility included covered storage facility with adjacent tank storage canopy; elevated pads and spill containment structure for storage tanks; paved entry road; protective fencing; and utilities (electric and communications). **Client Contact:** Capt Harry Netzer, Deputy BCE, (304) 341-6649, harry.g.netzer.mil@mail.mil

West Virginia ANG 130th Airlift Wing Squadron Operations Facility Repair, Charleston, WV – Design services for \$3 million renovation and energy-efficient improvements to 25,765 SF facility with history of remodeling activities resulting in a building that inadequately serves its users (Administration and Operations, Base Operations, Command Post, and Life Support and Fitness Center). Work included Charrette to develop alternative floor plans. Selected design allows for efficient use of space; HVAC, electrical and fire protection systems upgrade; and roof repairs. Designed to achieve USGBC LEED Certified rating, meet all ANG Sustainable Design criteria and utilize MILCON/SRM split funding. **Client Contact:** Capt Harry Netzer, Deputy BCE, (304) 341-6649, harry.g.netzer.mil@mail.mil

West Virginia ANG 167th Airlift Wing Basewide Sewer Line Repair, Martinsburg, WV –

Planning, design and construction administration services for replacement of sanitary sewer system, circa 1954. Pipe included combination of various construction materials including vitrified clay pipe (VCP) with dilapidated sections allowing high rates of inflow and infiltration during storm events. **Client Contact:** Col Rodney Neely, MSG Commander, (304) 616-5198

West Virginia ANG 167th Airlift Wing Maintenance Mall (Building 307) Repair, Martinsburg, WV –

Concept Development Report for C-5 aircraft complex which requires electrical modifications to meet needs of current occupants' activities, and investigation/resolution of temperature control in numerous locations. Report included detailed discussion of current electrical, architectural and HVAC system problems; recommendations to resolve large-system problems, as well as particular solutions for small areas; conceptual level drawings; conceptual level outline specification; and construction cost estimate. **Client Contact:** Col Rodney Neely, MSG Commander, (304) 616-5198

West Virginia ANG 130th Airlift Wing Communications Facility Code / Criteria Review, Charleston, WV –

Code/Criteria Review and LEED Update Report for facility designed to 65% three years prior under separate GRW/NGB contract then put on hold pending funding. Twofold project goal included: 1) identify and delineate known codes/criteria that are either new or updated since 65% Design Submittal; and 2) describe revised LEED 3.0 criteria now in effect for project and outline points for LEED Silver certification, compared to LEED Silver 2.2 criteria in effect at the 65% design stage. **Client Contact:** LtCol Rick Thomas, Base Civil Engineer

West Virginia ANG 130th Airlift Wing Building 107 Consolidation Study, Charleston, WV –

Consolidation Study for historic hangar which will be renovated in phases to house Aero-Medical Evacuation Squadron, new Aerial Port Facility and Deployment Processing Center, and mobility storage for Security Forces Squadron. Work included floor plans for each phase as well as final floor plan and construction cost estimate. Major challenge involved consolidation of organizations with a total authorized area of over 50,000 SF into facility with 40,000 SF footprint - no additions were allowed. AT/FP, energy and ADA accessibility measures were incorporated, as well as current ANG guidelines. **Client Contact:** Capt Harry Netzer, Deputy BCE, (304) 341-6649, harry.g.netzer.mil@mail.mil

West Virginia ANG 130th Airlift Wing Security Forces Squadron Facility Renovation and Expansion, Charleston, WV –

Complete architectural and engineering Type A, B and C services for \$2 million renovation of 5,395 SF SFS facility (B142) including addition of 2,500 SF administrative and training space to better serve unit. Project (MILCON/SRM split funded) increased space and improved mission performance and operational efficiency for command and administrative functions in ways that are energy efficient, code compliant and in accordance with current ANG policies. Project met LEED Silver design criteria, and all AT/FP and ADAAG requirements. **Client Contact:** Capt Harry Netzer, Deputy BCE, (304) 341-6649, harry.g.netzer.mil@mail.mil

West Virginia ANG 130th Airlift Wing Building 107 Renovation, Charleston, WV –

Scope of work included design services (LEED Silver design criteria) for two separately funded (MILCON/SRM) sub-projects to repurpose existing unoccupied hangar into space for the Aeromedical Evacuation Squadron (AES). Repairs and building repurposing included: new interior spaces within existing facility to accommodate new functions; building exterior repairs, new interior finishes; mechanical and electrical systems upgrade; fire alarm and fire protection systems repair; and site/building revisions to meet ATFP standards. New functional areas include spaces for medical simulation training, maintenance,

operations, administration, storage, and other mission-related activities. **Client Contact:** Capt Harry Netzer, Deputy BCE, (304) 341-6649, harry.g.netzer.mil@mail.mil

West Virginia ANG 167th Airlift Wing C-5 Apron Repair, Martinsburg, WV – Evaluation and design services to repair fractured/heaved C-5 apron caused by poorly draining base and sub base. Pavement repair of approximately 1,755 SY included demolition and removal of fractured and heaved pavement down to below original base and sub base, compaction of new material, placing of sub base and base and concrete pavement parking apron, asphalt shoulder stabilization, all constructed to support C-5 aircraft. Utility and site improvements were also included. **Client Contact:** LtCol John Poland, Base Civil Engineer, (304) 616-5198, john.r.poland4.mil@mail.mil

West Virginia ANG 167th Airlift Wing C-17 Fuel Cell Hangar Modifications, Martinsburg, WV – Fast-track design of fuel cell hangar modifications required to meet 167AW's change in mission from C-5 to C-17 aircraft. **Client Contact:** Major Emerson Slack, Deputy Base Civil Engineer, (304) 616-5233, emerson.c.slack.mil@mail.mil

West Virginia ANG 167th Airlift Wing C-17 Maintenance Hangar Modifications, Martinsburg, WV – Fast-track design of maintenance hangar modifications required to meet 167AW's change in mission from C-5 to C-17 aircraft. **Client Contact:** Major Emerson Slack, Deputy Base Civil Engineer, (304) 616-5233, emerson.c.slack.mil@mail.mil

West Virginia ANG 167th Airlift Wing C-17 Composite Material Shop, Martinsburg, WV – Fast-track design of composite material shop to the existing corrosion control hangar required to meet 167AW's change in mission from C-5 to C-17 aircraft. **Client Contact:** Major Emerson Slack, Deputy Base Civil Engineer, (304) 616-5233, emerson.c.slack.mil@mail.mil

West Virginia ANG 167th Airlift Wing C-17 Corrosion Control Hangar Modifications, Martinsburg, WV – Fast-track design of corrosion control hangar modifications required to meet 167AW's change in mission from C-5 to C-17 aircraft. **Client Contact:** Major Emerson Slack, Deputy Base Civil Engineer, (304) 616-5233, emerson.c.slack.mil@mail.mil

West Virginia ANG 167th Airlift Wing Munitions Storage, Martinsburg, WV – New munitions inspection building, five magazines (all pre-manufactured modular units), new concrete pads (2,865 SF), all-weather pavement (5,566 SF) for vehicular access, gate/fencing, utilities, exterior lot lighting, communications, and security for the munitions area. **Client Contact:** Major Emerson Slack, Deputy Base Civil Engineer, (304) 616-5233, emerson.c.slack.mil@mail.mil

West Virginia ARNG Martinsburg Secure Facility, Martinsburg, WV – Renovations to 2-story area (6,200 SF per level) to provide new secure office space and related support spaces for specific using agency. Included HVAC replacement; new interior finishes (including raised access flooring), structural roof deck and roofing system, elevator and fire stairs, building security and cameras, and site security fencing, sliding vehicular security gates, exterior parking; and site utility and storm drainage improvements. **Client Contact:** Matthew Reynolds, Deputy Branch Chief - Design & Construction, (304) 561-6568, matthew.t.reynolds18nfg@mail.mil

SECTION 2.0 | **Project Experience**

2.0 Project Experience

Within this section, we have included examples of our recent relevant project experience for your review. We encourage you to contact any of our references to verify our performance.

Relocation of Camp Dawson Electrical Power and Communications Lines West Virginia Army National Guard | Charleston, WV

Camp Dawson is the training site for the WV ARNG and is located along the bank of the Cheat River in Preston County near Kingwood in the hilly, northern part of the state. The 4,180 acre site, originally established in 1909 and used by the WV ARNG since 1928, includes the Regional Training Institute, Special Operations Forces training facilities, and ranges used year-round.

Camp Dawson's electrical service is provided from a grid owned and operated by MON Power (formerly Allegheny Power) that crosses under the Cheat River and is transmitted overhead on the installation on a series of power poles. Transformers are located on these poles to step down the primary service from 12.47 KV to serve individual buildings along the river's edge. Communications lines (telephone, data, etc) are also strung on the same power poles as the electrical power lines. During heavy rain storms and winter ice and snow storms, power and communications services within Camp Dawson have frequently been interrupted by broken overhead lines.

The WV ARNG retained GRW to develop a phased design for the relocation of the overhead electrical power lines and communications lines to underground duct banks. Following a study that established the scope of each phase of the relocation project, GRW prepared plans and specifications for a 4-phase construction program to eliminate the historic problems associated with overhead services. These phases were based on funding limitations that precluded a single, large construction project.

Phase 1 provided for relocating approximately 3000 LF of power lines to new underground duct banks, with the associated replacement of pole-mounted



transformers with pad-mounted transformers. The transformers ranged in capacity from 1000 KVA to 50 KVA. Phase 2 included relocating the communications service to new underground duct banks along the same 3000 LF route. The third and fourth phases included the relocation of approximately 2000 LF of overhead power lines and overhead communications lines to new duct banks, respectively. Vacuum interrupters were added to improve selective coordination between various circuits.

Client Contact: Todd Reynolds, Deputy Branch Chief
- Design & Construction, West Virginia Army National Guard, (304) 561-6568,
matthew.t.reynolds18nfg@mail.mil



Water Treatment Plant Alternate Power Generation Facility

Frankfort Plant Board | Frankfort, KY

GRW provided planning, design, and construction administration services for a 3,500-KW diesel standby power generation facility at the Frankfort Electric and Water Plant Board (FEWPB) Water Treatment Plant in Frankfort, KY. The new facility provides a backup power supply to the water treatment plant and portions of the distribution system during an unexpected utility power outage. Without the new power source, a water outage would occur within two days during a major electric power outage, affecting a service area of more than 15,600 customers.

The new 3,500-KW power generation facility gives the FEWPB the ability to supply standby power to several aspects of its water treatment plant, as well as its distribution system. FEWPB's power generation facility can:

- Run the 18 MGD water treatment plant at full capacity
- Power a distribution pump station that serves

East Frankfort and supplies power to maintain water service to Downtown Frankfort in the event of a city wide outage

- Power the water treatment plant security system to maintain the existing SCADA system, video surveillance system, intrusion detection, access control, electric gate and radio intercom system.

The equipment is housed in a pre-engineered metal building, and consists of two (2), 1,750-KW diesel engine generator sets operated in parallel, with neutral grounding resistors. The generator output is 13,800 volts and is interconnected with the utility line from a nearby substation that provides the normal power to the treatment plant. **Numerous motor operated circuit breakers are contained in the main 13,800V switchgear: a utility main, a generator main, and individual generator main breakers.** These motor-operated circuit breakers are powered through a 125 VDC substation battery set, to be sure they can be controlled during a utility fault or outage. A separate low-voltage control panel



monitors the generators and synchronizes them for paralleling.

The generators and paralleling equipment are built and installed to comply with IEEE 1547, allowing the generators to be synchronized with the utility and provide a closed transition transfer between the two sources. **The control switchgear includes an Allen Bradley ControlLogix PLC, which is networked into the existing treatment plant SCADA system, with all key graphic screens duplicated in the main control room.**

The fuel supply is a 20,000-gallon containment-style diesel tank with remote fill connection and leak

detection/level monitoring. This tank monitoring and alarm system provides continuous tank level and fuel inventory control at the generator building. This fuel level is also input to the PLC and the plant SCADA system is setup to remotely monitor fuel level, alarm leaks and generate reminders for re-ordering fuel.

The project was designed to allow for a future, third, 1,750 KW generator to accommodate a plant expansion to 27 MGD, and to add distribution system loads to the backup power system.

Client Contact: David Billings, PE, Director of Water Operations, Frankfort Plant Board, (502) 352-4468, dbillings@fewpb.com



Yazoo City U.S. Penitentiary and Satellite Camp

Federal Bureau of Prisons | Washington, DC

GRW led the design team, in conjunction with Yates/Caddell JV, for the design/build of a certified LEED Gold, men's high-security United States Penitentiary (USP) and minimum-security Federal Prison Camp (FPC) located in Yazoo City, Mississippi. This \$182,000,000 project has a gross building area of 780,000 SF, and can house approximately 1,200 inmates. The USP campus plan places six, 2-story housing units, a secure housing unit, and program and multipurpose functions in a rectangular campus layout enclosing a central secure compound. The FPC comprises a camp housing building and a camp core building. Other support buildings include a warehouse building, utility building, wastewater building and guard towers.

A summary of the prison's components include:

- Six, 2-story housing buildings, housing 960 inmates (322,907 SF)
- One 2-story special housing building accommodating 120 inmates (33,917 SF)
- Food service (kitchen/dining) building (24,498 SF)
- Medical services building (10,315 SF)
- Warehouse (52,506 SF)
- Wastewater building (667 SF)
- Administrative buildings (46,973 SF)
- Recreational building (18,355 SF)
- Education/psychology/religious facilities (24,671 SF)
- Personal services building (19,989 SF)
- Vocational building (6,824 SF)
- Factory (64,035 SF)
- Central utilities plant (13,896 SF)
- Maintenance shops (17,986 SF)
- Two guard towers (2,325 SF)
- Camp core building (27,147 SF)
- Camp housing building (32,798 SF)
- Physical and electronic security systems
- Utilities (potable and fire water mains, sanitary sewers, site electrical distribution and communication duct banks)

Power to the site is from a three phase distribution line in the area. The utility provides 13.2 KV overhead distribution to the USP site. **The service entrance to the entire facility enters underground into a 1200 ampere bus medium voltage circuit breaker paralleling switchgear lineup in the Utility Plant Building from the riser pole. The load side of the paralleling switchgear consists of two medium voltage circuit breaker feeders, which are wired to a 1200 ampere bus primary selective (split bus) 15 KV class medium voltage circuit breaker switchgear lineup (with a tie breaker) in the Utility Plant, which breaks down**

the underground power distribution feeders to serve all the major areas. Diesel engine driven standby generators were provided to backup the utility service to the entire facility. The four megawatt power generation facility includes two identical gensets (paralleled), each rated 2000 kilowatt (KW) standby with 13.2/7.6 kilovolt, 3 phase output.

Client Contact: Judah Organic, Design Compliance Programs Manager, Federal Bureau of Prisons, (202) 514-9566, jorganic@bop.gov





Aliceville Federal Correctional Institution and Satellite Camp

Federal Bureau of Prisons | Washington, DC

GRW led the design team, in conjunction with Caddell/Yates JV, for the design-build of a women's medium-security Federal Correctional Institution and minimum-security Federal Prison Camp located near Aliceville, Alabama. This \$196 million, LEED Silver certified, project has a gross building area of approximately 665,889 SF, and can house approximately 1,790 inmates. The FCI campus plan places the three, 4-story housing units, and program and multipurpose functions in a semi-circular campus layout enclosing a central secure compound.

A summary of the prison's components include:

- Three 4-story dormitory buildings housing approximately 1,500 inmates (256,493 SF)
- One single-story segregation unit dormitory accommodating up to 48 inmates (19,105 SF)
- Food service (kitchen/dining) building (29,654 SF)
- Medical services building (12,324 SF)
- Warehouses/sanitation building (49,863 SF)
- Administrative buildings (48,264 SF)
- Recreational building (17,319 SF)
- Academic educational buildings (21,926 SF)
- Personal services building (17,491 SF)
- Industrial/vocational buildings (54,916 SF)
- Central utilities plant (12,647 SF)
- Vehicle maintenance building (8,126 SF)
- Physical and electronic security systems
- Utilities (potable and fire water mains, sanitary)

sewers, site electrical distribution and communication duct banks for 17 buildings)

- Minimum-security camp for 256 inmates (55,691 SF)
- Firing range

Power to the site is from a three phase distribution line in the area. The utility provides 12.47 KV overhead distribution to the FCI site. **The service entrance to the entire facility enters underground into a 1200 ampere bus medium voltage circuit breaker paralleling switchgear lineup in the Utility Plant Building from the riser pole. The load side of the paralleling switchgear consists of two medium voltage circuit breaker feeders, which are wired to a 1200 ampere bus primary selective (split bus) 15 KV class medium voltage circuit breaker switchgear lineup (with a tie breaker) in the Utility Plant, which breaks down the underground power distribution feeders to serve all the major areas. Diesel engine driven standby generators were provided to backup the utility service to the entire facility. The four megawatt power generation facility includes two identical gensets (paralleled), each rated 2000 KW standby with 12.47/7.2 kilovolt, 3 phase output.**

Work included a complete electrical power submetering network with a server at the Central Utility Plant. Each low voltage switchboard is

equipped with a Veris Enercept Model H8036 power meter that uses split CT's for ease of installation (ideal to retrofit in close quarters and existing switchgear applications). The meters are connected RS485 to fiber optic repeaters at each building. The communications is a fiber optic bus, using Modbus RTU protocol to an Obvius Model A8812 Acquisuite Server. The server is connected to high-speed internet service allowing Internet access for remote monitoring and reporting. This data will allow for measurement and verification of energy savings achieved from various federal energy initiatives.

“GRW remained committed to a cooperative and team-oriented approach throughout the life of the project. GRW staff - from design team leaders to support staff - were always extremely responsive, demonstrated excellent communication, and were genuinely fun to work with. The Bureau would be fortunate to repeat the positive experience of the FCI Aliceville project on future work and would benefit from the inclusion of GRW on any project team.” - Judah Organic, Design Compliance Programs Manager, Federal Bureau of Prisons

Client Contact: Judah Organic, Design Compliance Programs Manager, Federal Bureau of Prisons, (202) 514-9566, jorganic@bop.gov

Gilmer Federal Correctional Institution and Satellite Camp

Federal Bureau of Prisons | Washington, DC

This \$106,100,000 correctional facility for the Federal Bureau of Prisons is located in Glenville, WV. The prison was built on a 125-acre reclaimed mine site, and consists of a medium-security main complex and a minimum-security camp. The facility is comprised of 13 buildings (603,132 SF) which houses 1000+ inmates at the main complex and segregation unit. The Satellite Camp houses 128 inmates.

A summary of the prison's components include:

- Kitchen & dining building (22,262 SF main complex / 8,883 SF satellite camp)
- Medical services building (9,967 SF)
- Multi-purpose/recreational building (34,401 SF)
- Administrative/visitation building (25,984 SF)
- Three four-story dormitory buildings
- One two-story segregation unit
- Industrial/vocational buildings
- Academic educational buildings
- Personal services building (canteen, barber, laundry)
- General storage warehouse
- Central utilities plant
- Vehicle maintenance building
- Physical and electronic security systems
- Utilities (potable and fire water mains, sanitary sewers, site electrical distribution and communication duct banks for 13 buildings)
- Minimum-security camp for 128 inmates

Power to the prison site is from a three phase transmission line in the area. The utility built a new substation on FBOP property to provide 12.47 KV underground distribution to the FCI site. **The service entrance to the entire facility enters underground**



into a 1200 ampere bus medium voltage circuit breaker paralleling switchgear lineup in the Utility Plant Building from the riser pole. The load side of the paralleling switchgear consists of two medium voltage circuit breaker feeders, which are wired to a 1200 ampere bus primary selective (split bus) 15 KV class medium voltage circuit breaker switchgear lineup (with a tie breaker) in the Utility Plant, which breaks down the underground power distribution feeders to serve all the major areas. Diesel engine driven standby generators were provided to backup the utility service to the entire facility. The 5.25 MW power generation facility includes three identical gensets (two operate together, one is standby), each rated 1750 KW standby with 12.47/7.2 kilovolt, 3 phase output.

Client Contact: Judah Organic, Design Compliance Programs Manager, Federal Bureau of Prisons, (202) 514-9566, jorganic@bop.gov

Canaan U.S. Penitentiary and Satellite Camp

Federal Bureau of Prisons | Washington, DC

Located in Canaan, PA, this \$131,000,000 correctional facility consists of a maximum security main complex and a minimum security camp on 180 acres. This 647,632 SF facility houses 1,000+ inmates at the main complex with an additional 120 inmates in a segregation unit, and 128 inmates at the camp.

A summary of the prison's components include:

- Six two-story dormitory buildings
- One two-story segregation unit
- Administrative building
- Medical services building
- Recreational building
- Industrial/vocational buildings
- Academic educational buildings
- Multipurpose building
- Food service (kitchen/dining) building
- Personal services building (canteen, barber, laundry)
- General storage warehouse
- Central utilities plant
- Vehicle maintenance building
- Physical and electronic security systems
- Utilities
- Minimum-security camp for 128 inmates

Areas of particular interest include the following:

Power to the prison site is from a three phase transmission line in the area. The utility built a new substation on FBOP property to provide 12.47 KV underground distribution to the USP site. **The service entrance to the entire facility enters underground into a 1200 ampere bus medium**



voltage circuit breaker paralleling switchgear lineup in the Utility Plant Building from the riser pole. The load side of the paralleling switchgear consists of two medium voltage circuit breaker feeders, which are wired to a 1200 ampere bus primary selective (split bus) 15 KV class medium voltage circuit breaker switchgear lineup (with a tie breaker) in the Utility Plant, which breaks down the underground power distribution feeders to serve all the major areas. Diesel engine driven standby generators were provided to backup the utility service to the entire facility. The six megawatt (MW) power generation facility includes three identical gensets (two operate together, one is standby), each rated 2000 kilowatt (KW) standby with 12.47/7.2 kilovolt, 3 phase output.

Client Contact: Judah Organic, Design Compliance Programs Manager, Federal Bureau of Prisons, (202) 514-9566, jorganic@bop.gov



Northpoint Training Center Replacement

Kentucky Department of Corrections | Frankfort, KY

GRW provided A/E design and construction oversight services for this fast-track project to rebuild prison facilities at the Northpoint Training Center in Burgin, KY. Originally a 1940's psychiatric hospital, the campus was later converted into a state corrections facility. The institution operates as a medium-security institution with a capacity of approximately 1,200 inmates.

In 2009, a fire rendered five buildings at the site complete losses. Following a week-long programming charrette with GRW and the Kentucky Department of Corrections and Division of Engineering & Contract Administration, the 41,646-SF project program (two new buildings, renovation of seven buildings, as well as the 1,900 SF addition/renovation of the control building) was defined and preliminary building placement locations were determined.

Meeting LEED Certified Design Criteria, the two new buildings include:

- 40,000 SF Program Building (commercial kitchen, two dining rooms, medical and dental clinics, canteen, multipurpose classrooms, library, sanitation, multiple staff and inmate restrooms) centrally located adjacent to the six dormitories
- 6,400 SF Visitation Building with public, staff and inmate restrooms located adjacent to the existing central control building

The electrical scope included the addition of a 2 megawatt central auxiliary power generator (12.47 KV) and power distribution system for the entire prison. HVAC systems use the existing central steam plant, as well as high-efficiency geothermal heat pumps and heat pump energy recovery units, connected to a field of 120 well bores outside the security fencing. The entire project was required to meet the criteria of KRS HB2, requiring a minimum 7

LEED EA1 points for compliance with energy use standards.

The renovation work involved new security electronics (500 +/- cameras total), and egress stairwell interior / exterior door replacement at six, existing, two-story dormitories. Site renovation included fencing design that created segregated recreation yard areas for each dorm within the existing secure perimeter fencing. The central control building received an addition and renovation to include a new control center room and enlarged security electronics room. This building includes the gate entrance controls, communications equipment and a 300 SF area dedicated to security, control and recording equipment, which is now protected by a clean agent (NOVEC 1230) fire suppression system. The tanks, controls and release panel are located in an adjacent room, which is also protected by a separate zone of the clean agent system. An existing 100 kilowatt generator at the facility was

relocated and connected to the central control building.

The project also included developing, sequencing, and specifying security procedures for operating within an inmate-occupied facility during construction work inside the existing secure perimeter.

The project was bid in six bid packages: building demolition, fencing, site/foundation, structural steel, building envelope and mechanical/electrical/kitchen equipment/security electronics/corrections doors/hardware/interior finishes. This approach allowed the contractor to break ground and complete site utilities, foundations, building envelopes before winter weather. Interior work progressed through inclement weather.

Client Contact: Gunvant Shah, PE, Branch Manager, Kentucky Department of Corrections, (502) 564-2094 x227, Gunvant.Shah@ky.gov

Lexington Federal Medical Center Electrical Study/Assessment Federal Bureau of Prisons | Annapolis Junction, MD

GRW was hired by the Federal Bureau of Prison Mid-Atlantic Regional Office to provide an electrical study of the medium voltage distribution system throughout the Federal Medical Center (FMC) Lexington. The facility is an administrative security federal medical center that houses approximately 2,000, currently, male or female inmates requiring medical or mental health care. Located off Leestown Road in Lexington, KY, the facility also has an adjacent minimum security satellite camp.

The electrical study included preventative maintenance testing of medium voltage distribution equipment, as well as recommendations for all found deficiencies. GRW evaluated existing operating conditions and formulated a plan of action for repair strategies. The electrical study was prepared to quantify electrical deficiencies with appropriate action plans, categorized by priority.

CE Power was hired by GRW to properly test/inspect the medium voltage power distribution equipment located in the areas noted below. CE Power

specializes in the testing of medium/high voltage equipment, protective relaying, and metering and owns all the necessary test equipment required to satisfy testing standards as defined in ANSI/NETA MTS-2019. Medium voltage testing was performed by CE Power over the course of five days on site; GRW was on site to observe all testing.

The electrical study focused on the following locations throughout the FMC Lexington facility:

- Main Substation Building
- East Vault Electrical Room
- Hospital Vault Electrical Room
- West Vault Electrical Room
- Food Service Vault Electrical Room
- Segregation Unit Electrical Room

Due to potential funding restraints, the electrical study was broken down and addressed by priorities, with the goal of limiting priority funding to \$1.5 million for each priority, if possible. The ten

priorities were identified from highest priority to lowest and are noted below:

- Priority #1A – Main Substation Building Electrical Switchgear
- Priority #1B – Main Substation Building Modifications
- Priority #1C – Reconditioning (Replacement) of 15K/5KV Vacuum Circuit Breakers
- Priority #1D – Food Service Vault Electrical Room
- Priority #1E – Emergency Power Plan – Substation Failure Prior to Repairs
- Priority #2 – Backup Feeder to Segregation Unit/Replacement of Powerhouse 5KV Manual Transfer Switch/Replacement of Atwood Hall/UNICOR 15KV MVS
- Priority #3 – East Vault Electrical Room
- Priority #4 – West Vault Electrical Room
- Priority #5 – Hospital Electrical Vault
- Priority #6 – Central Backup Generator(s) for Entire Facility

Each priority listed above was followed by applicable drawings defining the proposed revisions/scope of work, estimated construction performance time, and cost analysis. Drawings included with each priority proposal were conceptual level, meant to provide a broad overview of work required.

"GRW's performance was outstanding. The firm showed valuable skills in many areas, including but not limited to: timeliness with schedules when dealing with a fast-track project, management of subconsultants, reporting and explaining of complex technical test results, synopsis of viable solutions pending life safety, budget or timing constraints, provision of rigorous investigative field services and more. The final report shows innovation and flexibility and gives the BOP clear guidelines and solution options." Julie Berbakov Rossi, PE, Mechanical Engineer, Federal Bureau of Prisons

Client Contact: Julie Berbakov Rossi, PE, Federal Bureau of Prisons, (301) 317-3256, jberbakovrossi@bop.gov

SECTION 3.0 | **Staff Qualifications**

3.0 Staff Qualifications

For the transfer switch gear design project at Camp Dawson each GRW team member has relevant experience and availability.

Our clients also directly benefit from **GRW's one-stop business model and multidiscipline staff** who specialize in architecture,

engineering (mechanical, electrical, structural, transportation, civil/site), interior design, and landscape architecture.

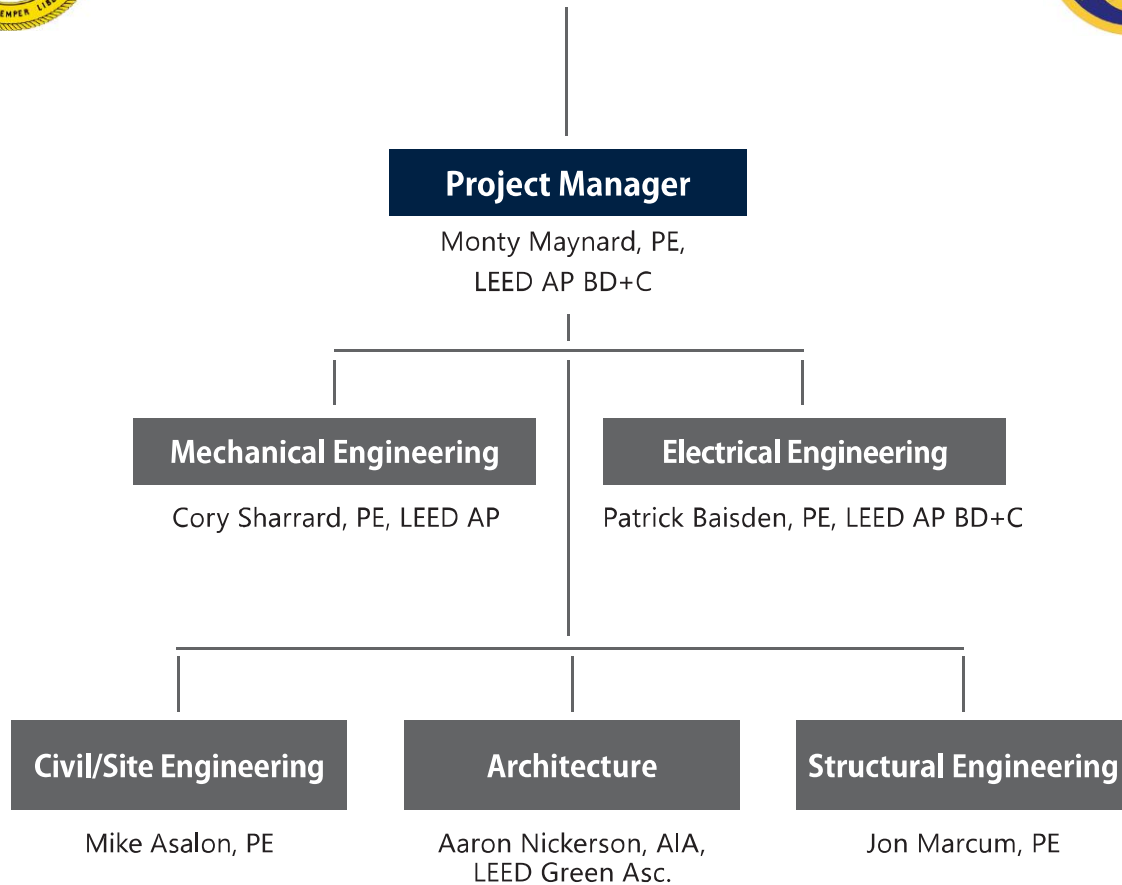
These capabilities allow our teams to **collaborate** more efficiently with you, which makes a

significant positive impact on your project experience.

Resumes are on the following pages. Read more about our **approach** and **methodology**, including an overview of key team member responsibilities in **Section 4.0**.



West Virginia Department of Administration and West Virginia Army National Guard



Monty Maynard, PE, LEED AP BD+C | GRW Project Manager



YEARS OF EXPERIENCE:

With GRW: 25

Total: 44

EDUCATION

B.S., Electrical Engineering, 1978,
University of Kentucky

REGISTRATION

Professional Engineer
(Electrical): KY, WV, IN, GA, TN,
TX, NV, NC, MS, MI, AL, CA, DC,
FL

NCEES Member allows
reciprocity with other states
LEED Accredited Professional,
Building Design + Construction

PROFESSIONAL AFFILIATIONS AND TRAINING

Design-Build Institute of
America
National Fire Protection
Association
International Society of
Automation
American Institute of Architects
American Council of
Engineering Companies
National Council of Examiners
for Engineering and Surveying
Air National Guard Civil
Engineering Association Life
Member (Associate)
Society of American Military
Engineers
American Water Works
Association
Kentucky Society of Healthcare
Engineers

Monty's experience with electrical design, process instrumentation and control design, and project management is extensive. He has been involved with the design of building systems for more than 300 projects -- ranging from water resources projects to the design-build of federal prisons -- with total individual project construction values as high as \$984 million. His areas of technical expertise include electrical power distribution, substation design, alarm systems, communications, lighting, lightning protection, instrumentation/controls/telemetry, power quality, energy efficiency and code compliance.

RELEVANT PROJECT EXPERIENCE

Frankfort Plant Board Water Treatment Plant Alternate Power

Generation Facility, Frankfort, KY – Planning, design and construction administration services for a 3,200 KW diesel power generation facility to provide emergency power supply to the water treatment plant and portions of the distribution system during an unexpected power outage. Also included is one additional large generator to run treatment plus pump to the east and downtown pressure zones.

Aliceville Federal Correctional Institution and Satellite Camp, Aliceville,

AL – Lead Electrical Engineer. Design-build delivery of \$196 million, LEED Silver women's medium-security Federal Correctional Institution (70-acre site) and minimum-security Federal Prison Camp (20-acre site) totaling 665,889 SF, housing approximately 1,790 inmates. Power to the site is from a three phase distribution line in the area. The utility provides 12.47 KV overhead distribution to the FCI site. The service entrance to the entire facility enters underground into a 1200 ampere bus medium voltage circuit breaker paralleling switchgear lineup in the Utility Plant Building from the riser pole. The load side of the paralleling switchgear consists of two medium voltage circuit breaker feeders, which are wired to a 1200 ampere bus primary selective (split bus) 15 KV class medium voltage circuit breaker switchgear lineup (with a tie breaker) in the Utility Plant, which breaks down the underground power distribution feeders to serve all the major areas. Diesel engine driven standby generators were provided to backup the utility service to the entire facility. The four megawatt power generation facility includes two identical gensets (paralleled), each rated 2000 KW standby with 12.47/7.2 kilovolt, 3 phase output.

Yazoo City U.S. Penitentiary and Satellite Camp, Yazoo City, MS –

Electrical Engineer. Design services for design-build delivery of certified LEED Gold, \$182 million medium-security main complex (USP) and minimum-security prison camp (FPC) with a gross building area of 780,000 SF and housing approximately 1,200 inmates. Power to the site is from a three phase distribution line in the area. The utility provides 13.2 KV overhead distribution to the USP site. The service entrance to the entire facility enters underground into a 1200 ampere bus medium voltage circuit breaker paralleling switchgear lineup in the Utility Plant Building from the riser pole. The load side of the paralleling switchgear consists of two medium voltage circuit breaker feeders, which are wired to a 1200 ampere bus primary selective (split bus) 15 KV class medium voltage circuit breaker switchgear lineup (with a tie breaker) in the Utility Plant, which breaks down

the underground power distribution feeders to serve all the major areas. Diesel engine driven standby generators were provided to backup the utility service to the entire facility. The four megawatt power generation facility includes two identical gensets (paralleled), each rated 2000 kilowatt (KW) standby with 13.2/7.6 kilovolt, 3 phase output.

Canaan U.S. Penitentiary and Satellite Camp, Canaan, PA – Electrical Engineer. Design / build delivery of a \$131 million Federal maximum security prison complex (1,000+ inmates at the main complex in six 2-story dormitories and one 2-story segregation unit for 120 inmates) with a minimum security satellite camp (128 inmates), totaling 647,632 SF on 180 acres. Responsible for design of electrical systems which included 12.47 KV underground distribution. The load side of the paralleling switchgear consists of two medium voltage circuit breaker feeders, which are wired to a 1200 ampere bus primary selective (split bus) 15 KV class medium voltage circuit breaker switchgear lineup (with a tie breaker) in the Utility Plant, which breaks down the underground power distribution feeders to serve all the major areas.

McCreary U.S. Penitentiary and Satellite Camp, McCreary County, KY – Principal. Design-build of a new, \$124 million prison complex totaling 533,000 SF on a 430-acre site housing 1,080 inmates in maximum security general population and segregation unit, and 128 inmates in a minimum security satellite camp. Power to the Prison site is from a three phase transmission line in the area. The utility built a new high voltage substation on FBOP property to provide 12.47 KV underground distribution to the USP site. The service entrance to the entire facility enters underground into a 1200 ampere bus medium voltage circuit breaker paralleling switchgear lineup in the Utility Plant Building from the riser pole. The load side of the paralleling switchgear consists of two medium voltage circuit breaker feeders, which are wired to a 1200 ampere bus primary selective (split bus) 15 KV class medium voltage circuit breaker switchgear lineup (with a tie breaker) in the Utility Plant, which breaks down the underground power distribution feeders to serve all the major areas. Diesel engine driven standby generators were provided to backup the utility service to the entire facility. The 6 MW power generation facility includes three identical gensets are used (two operate together, one is standby), each rated 2000 KW standby with 12.47/7.2 kilovolt, 3 phase output.

Gilmer Federal Correctional Institution and Satellite Camp, Glenville, WV – Engineering Manager. Design / build delivery, for a new \$106 million federal correctional complex of 13 buildings totaling 603,132 SF, built on a 125-acre reclaimed mine site. Power to the prison site is from a three phase transmission line in the area. The utility built a new substation on FBOP property to provide 12.47 KV underground distribution to the FCI site. The service entrance to the entire facility enters underground into a 1200 ampere bus medium voltage circuit breaker paralleling switchgear lineup in the Utility Plant Building from the riser pole. The load side of the paralleling switchgear consists of two medium voltage circuit breaker feeders, which are wired to a 1200 ampere bus primary selective (split bus) 15 KV class medium voltage circuit breaker switchgear lineup (with a tie breaker) in the Utility Plant, which breaks down the underground power distribution feeders to

serve all the major areas. Diesel engine driven standby generators were provided to backup the utility service to the entire facility. The 5.25 MW power generation facility includes three identical gensets (two operate together, one is standby), each rated 1750 KW standby with 12.47/7.2 kilovolt, 3 phase output.

Northpoint Training Center Replacement, Burgin, KY – Electrical Engineer. Design and construction oversight services for fast-track project with multiple bid packages to rebuild prison facilities (41,646 SF total) following riot. Meeting LEED Certified Design Criteria, two new buildings include: Program Building (kitchen/dining, medical, canteen, multipurpose classrooms, library, and sanitation) and Visitation Building. Additional work involved security system renovation at six existing two-story dormitories, addition/renovation of the central control building, and a new campus emergency power generator.

Anderson Electric Service for Industrial Park and NTN Driveshaft Plant, Anderson, IN – Electrical Engineer of Record. Design of 1,800 LF underground ductbank consisting of eight 6-inch conduits encased in flowable fill; four medium voltage (13,200/7,620 volts) circuits serving ten 2,500 KVA padmounted transformers; padmounted medium voltage metering at ductbank entering NTN property; and separate medium voltage circuit with padmounted transformer and meter for fire pump. Also included 1.5 miles transmission line insulated to 69 KV to connect to existing transmission substation.

Kentucky American Water Parkers Mill Pump Station Generator, Lexington, KY – Electrical Engineer. Design for a new automatic transfer diesel standby emergency generator, supporting a 9 MGD pump station and 3 MG ground storage tank upgrade. Stationary generator is 500 KW with one 350 HP booster pump and all station accessories, includes a subbase mounted double wall fuel tank, soundproofing weatherproof walk-in enclosure, critical silencer and elevated walk platforms on both sides for OSHA compliant access.

Lexington Federal Medical Center Electrical Study/Assessment, Lexington, KY – Electrical Engineer. Study included preventative maintenance testing of medium voltage distribution equipment in six areas, as well as priority recommendations for all found deficiencies. Work included testing/inspection of medium voltage power distribution equipment located in identified areas. Ten priority repairs were identified from highest priority to lowest and conceptual level drawings defining proposed revisions/scope of work were prepared, along with estimated construction performance time and cost analysis.

Oakwood Electrical System Repair and Replacement, Phase 1 & 2, Somerset, KY – Project Manager. Identification of work needed so that main medium voltage power distribution loop was reliable for foreseeable future. Provided report included cost estimates and repair priorities. Design was completed in two phases. Phase 1 involved replacement of five segments of existing underground, medium voltage power distribution loop (conduit and conductors). Phase 2 involved replacement of last three segments of existing underground medium voltage power distribution loop (conduit and conductors).

Patrick Baisden, PE, LEED AP BD+C, RCDD | GRW Electrical Engineer



YEARS OF EXPERIENCE:

With GRW: 11

Total: 23

EDUCATION

B.S., Electrical Engineering, 1997,
University of Kentucky

REGISTRATION

Professional Engineer, Electrical:
KY, IN, WV, OR, NM, WV

LEED Accredited Professional,
Building Design + Construction

Registered Communications
Distribution Designer

NCEES Member allows
reciprocity with other states

RELEVANT PROJECT EXPERIENCE

West Virginia ARNG Martinsburg Secure Facility, Martinsburg, WV – Electrical Engineer. Renovations to 2-story area (6,200 SF per level) to provide new secure office space and related support spaces for specific using agency. Includes HVAC replacement; new interior finishes (including raised access flooring), structural roof deck and roofing system, elevator and fire stairs, building security and cameras, and site security fencing, sliding vehicular security gates, exterior parking; and site utility and storm drainage improvements.

West Virginia ARNG Camp Dawson Ranges at Briery Mountain, Kingwood, WV – Electrical Engineer. Project includes design and construction of new Hand Grenade Familiarization Range and Live Fire Exercise Breach (LFEB) Training Range at Briery Mountain Training area to conform site to government standard Breach Range Design Requirements. Included design of access road to the remote site, electrical connections, breaching structures, open covered range operations and control shelter, storage building, dry latrine, covered viewing stands, and parking area.

Aliceville Federal Correctional Institution and Satellite Camp, Aliceville, AL – Lead Electrical Engineer. Design-build delivery of \$196 million, LEED Silver women's medium-security Federal Correctional Institution (70-acre site) and minimum-security Federal Prison Camp (20-acre site) totaling 665,889 SF, housing approximately 1,790 inmates. Power to the site is from a three phase distribution line in the area. The utility provides 12.47 KV overhead distribution to the FCI site. The service entrance to the entire facility enters underground into a 1200 ampere bus medium voltage circuit breaker paralleling switchgear lineup in the Utility Plant Building from the riser pole. The load side of the paralleling switchgear consists of two medium voltage circuit breaker feeders, which are wired to a 1200 ampere bus primary selective (split bus) 15 KV class medium voltage circuit breaker switchgear lineup (with a tie breaker) in the Utility Plant, which breaks down the underground power distribution feeders to serve all the major areas. Diesel engine driven standby generators were provided to backup the utility service to the entire facility. The four megawatt power generation facility includes two identical gensets (paralleled), each rated 2000 KW standby with 12.47/7.2 kilovolt, 3 phase output.

Yazoo City U.S. Penitentiary and Satellite Camp, Yazoo City, MS – Electrical Engineer. Design services for design-build delivery of certified LEED Gold, \$182 million medium-security main complex (USP) and minimum-security prison camp (FPC) with a gross building area of 780,000 SF and housing approximately 1,200 inmates. Power to the site is from a three phase distribution line in the area. The utility provides 13.2 KV overhead distribution to the USP site. The service entrance to the entire facility enters underground into a 1200 ampere bus medium voltage circuit breaker paralleling switchgear lineup in the Utility Plant Building from the riser pole. The load side of the paralleling switchgear consists of two medium voltage circuit breaker feeders, which are wired to a 1200 ampere bus primary selective (split bus) 15 KV class medium voltage circuit breaker switchgear lineup (with a tie breaker) in the Utility Plant, which breaks down

the underground power distribution feeders to serve all the major areas. Diesel engine driven standby generators were provided to backup the utility service to the entire facility. The four megawatt power generation facility includes two identical gensets (paralleled), each rated 2000 kilowatt (KW) standby with 13.2/7.6 kilovolt, 3 phase output.

West Virginia ANG 130th Airlift Wing Squadron Operations Facility Repair, Charleston, WV – Electrical Engineer. Design services for \$3 million renovation and energy-efficient improvements to 25,765 SF facility with history of remodeling activities resulting in a building that inadequately serves its users (Administration and Operations, Base Operations, Command Post, and Life Support and Fitness Center). Work included Charrette to develop alternative floor plans. Selected design allows for efficient use of space; HVAC, electrical and fire protection systems upgrade; and roof repairs. Designed to achieve USGBC LEED Certified rating, meet all ANG Sustainable Design criteria and utilize MILCON/SRM split funding.

West Virginia ANG 130th Airlift Wing Security Forces Squadron Facility Renovation and Expansion, Charleston, WV – Electrical Engineer. Complete architectural and engineering Type A, B and C services for \$2 million renovation of 5,395 SF SFS facility (B142) including addition of 2,500 SF administrative and training space to better serve unit. Project (MILCON/SRM split funded) increases space and improves mission performance and operational efficiency for command and administrative functions in ways that are energy efficient, code compliant and in accordance with current ANG policies. Project meets LEED Silver design criteria, and all AT/FP and ADAAG requirements.

West Virginia Department of Highways District 1 Vehicle Maintenance and Equipment Shops Building, Charleston, WV – Electrical Engineer. Approximate 35,000 SF facility includes: 8 heavy vehicle repair bays; 6 light vehicle repair bays; 2 welding bays; wash bay; small engine shop; parts and tire storage areas; offices; 2 cranes serving repair bays; 1 crane serving entire weld shop area; freight elevator; perimeter fencing; keycard entry system; and generator. Structure features cavity walls with concrete panel backup, petroleum resistant concrete floors, and metal roofing over rigid insulation, metal decking, and bar joists.

West Virginia ANG 167th Airlift Wing Munitions Storage, Martinsburg, WV – Electrical Engineer. New munitions inspection building, five magazines (all pre-manufactured modular units), new concrete pads (2,865 SF), all-weather pavement (5,566 SF) for vehicular access, gate/fencing, utilities, exterior lot lighting, communications, and security for the munitions area.

Indiana ARNG 76th Brigade Combat Team Readiness Center, Lawrence, IN – Electrical Engineer. Planning, design and construction administration services for a new 109,555 SF, 2-story Readiness Center and 8,300 SF unheated storage facility. Responsible for electrical systems quality control. Performed and verified the electrical design that included lighting and lighting control systems, site work, power distribution system (including emergency generator), fire alarm and mass notification system, communication system, intrusion detection system and lightning protection system. Compiled items were sent to Lead Electrical Engineer and Project Manager for incorporation into final design.

Cory Sharrard, PE, LEED AP | GRW Mechanical Engineer



YEARS OF EXPERIENCE:

With GRW: 2

Total: 22

EDUCATION

B.S., Industrial Technology, 1996,
Murray State University

B.S., Mechanical Engineering,
1998, University of Kentucky

REGISTRATION

Professional Engineer: KY, IN,
OH, WV, NY, FL

NCEES Member allows
reciprocity with other states

LEED AP

PROFESSIONAL AFFILIATIONS AND TRAINING

Kentucky Local Correctional
Facilities Construction Authority
Board (through 2023)

American Society of Heating,
Refrigerating and Air-
Conditioning Engineers
(ASHRAE) - Board of Governors,
Bluegrass Chapter

Kentucky Society of Professional
Engineers (KSPE) - Professional
Development Committee (Vice
Chair), Bylaws & Operational
Procedures Committee, Ethical
Practices Committee

Society of American Military
Engineers (SAME)

Society of Marketing
Professional Services (SMPS) -
Past President

RELEVANT PROJECT EXPERIENCE

West Virginia ARNG Martinsburg Secure Facility, Martinsburg, WV – Mechanical Engineer. Renovations to 2-story area (6,200 SF per level) to provide new secure office space and related support spaces for specific using agency. Includes HVAC replacement; new interior finishes (including raised access flooring), structural roof deck and roofing system, elevator and fire stairs, building security and cameras, and site security fencing, sliding vehicular security gates, exterior parking; and site utility and storm drainage improvements.

West Virginia Division of Natural Resources Building 74 Renovation, South Charleston, WV – Project Manager. Evaluation and recommendations for possible improvements and upgrades to building systems in three-story, 37,000 SF, masonry-construction facility that houses approximately 100 employees. Among the improvements selected for design are the replacement of the following: heating and cooling systems, windows, T5 lighting with LED fixtures, and replacement of ceilings and floor finishes.

West Virginia Department of Highways District 1 Vehicle Maintenance and Equipment Shops Building, Charleston, WV – Mechanical Engineer. Approximate 35,000 SF facility includes: 8 heavy vehicle repair bays; 6 light vehicle repair bays; 2 welding bays; wash bay; small engine shop; parts and tire storage areas; offices; 2 cranes serving repair bays; 1 crane serving entire weld shop area; freight elevator; perimeter fencing; keycard entry system; and generator.

Berea College Seabury Center Renovation, Berea, KY – Mechanical Engineer. Design services to renovate two existing racquetball courts into office suites for coaches and create separate entry for Athletics Department. Proposed design involves addition of flooring/ceiling system to create two-story office suite, as well as enclosure of portion of lobby with aluminum/glass wall at lower level to create reception space.

Petersburg Federal Correction Institution Food Service Building, Hopewell, VA – Mechanical Engineer. Demolition and replacement of existing aged 22,000 SF dining and food service building with new 23,500 SF medium-security facility completed in two phases to accommodate Owner's funding allocation. Includes new food preparation area (including kitchen, coolers/freezers, dry storage, food prep areas, and dishwash); main dining hall with serving line for approximately 400 persons; separate staff dining area for approximately 40 persons; dock and receiving area; new security fencing and gates; reconfiguration of existing site utilities; and complete integration of new security electronics system with existing campus-wide system.

Clay County BOE Clay County High School Renovations, Clay, WV – Mechanical Engineer. Design and construction administration phase services for gymnasium and locker rooms, commons area, and HVAC system renovations; door/window replacement; and security/communications system improvements. Portion of construction will occur during summer months, but much will be completed while school is occupied.

Jon Marcum, PE, SE | GRW Structural Engineer



YEARS OF EXPERIENCE:

With GRW: 4

Total: 23

EDUCATION

M.S., Civil Engineering, 1996,
University of Kentucky

B.S., Civil Engineering, 1995,
University of Kentucky

REGISTRATION

Professional Engineer/Structural
Engineer: KY

Professional Engineer: KY, WV,
IN, TN, GA, NY, NC, WA, OH

NCEES Member allows
reciprocity with other states

RELEVANT PROJECT EXPERIENCE

West Virginia ARNG Martinsburg Secure Facility, Martinsburg, WV – Structural Engineer. Renovations to 2-story area (6,200 SF per level) to provide new secure office space and related support spaces for specific using agency. Includes HVAC replacement; new interior finishes (including raised access flooring), structural roof deck and roofing system, elevator and fire stairs, building security and cameras, and site security fencing, sliding vehicular security gates, exterior parking; and site utility and storm drainage improvements.

Pulaski County Schools Bus Maintenance Garage, Somerset, KY – Structural Engineer. New 11,036 SF, pre-engineered metal building with three drive-through maintenance bays equipped with motorized, vertical lift sectional doors with space for six buses; tire room; work room; parts room; toilets; break room; waiting area; office; and mezzanine storage/mechanical area. Also included 3 in-ground, adjustable bus lifts; concrete floor with trench drains and oil/water separator; fire suppression system; centralized vehicle fluids system piped to 4 central dispensing locations; compressed air system; vehicle exhaust systems; overhead radiant system and ventilation in bus bays; and complete HVAC in office areas.

Pulaski County Schools Area Technology Center Renovation, Somerset, KY – Structural Engineer. Design for 6,000 SF renovation of approximately 38,000 SF facility. Spaces include industrial technology classroom, robotics tech lab, hydraulics tech lab, weld tech lab, electronics tech lab, and support spaces.

CoreCivic Marion Adjustment Center Renovation, St. Mary, KY – Structural Engineer. Site, security, electrical, and architectural improvements including: roadway, parking, perimeter fencing, exterior lighting at fence line, sallyport and gate control system, security electronics control room, integrated alarm reporting system, IP video system, intercom systems, generator and interior finishes replacement within St. Mary's building (21,500 SF, 3-story structure).

Nicholasville Fire Station #4, Nicholasville, KY – Structural Engineer. Facility programming, facility needs assessments, architectural and engineering design, and construction phase services for new 6,825 SF fire station with two pull-through apparatus bays, and vehicle storage for up to six vehicles.

FibroTex Manufacturing Facility Renovation and Expansion, McCreary County, KY – Structural Engineer. Design-build project including addition/renovation of approximately 80,000 SF to textile manufacturing facility.

Commonwealth of Kentucky Central Lab Plant Boiler Upgrade, Frankfort, KY – Structural Engineer. Study for upgrade and/or replacement of three high pressure steam boilers at utility plant.

Commonwealth of Kentucky Central Lab Cooling Tower Replacement, Frankfort, KY – Structural Engineer.

Aaron Nickerson, AIA, LEED Green Asc. | GRW Architect



YEARS OF EXPERIENCE:

With GRW: 15

Total: 16

EDUCATION

Bachelor of Architecture (with honors), 2006, University of Kentucky

Master of Architecture, 2007, University of Kentucky

REGISTRATION

Registered Architect: KY, TN, IN, WV, FL, NY, WA, DE, AR

National Council of Architectural Registration Boards (NCARB) Certification

LEED Green Associate

Certified Interior Designer: Kentucky

PROFESSIONAL AFFILIATIONS AND TRAINING

American Institute of Architects (AIA)

U.S. Green Building Council (USGBC)

Society of American Military Engineers (SAME)

RELEVANT PROJECT EXPERIENCE

Aliceville Federal Correctional Institution and Satellite Camp, Aliceville, AL – Architectural Designer. Design-build delivery of \$196 million, LEED Silver women's medium-security Federal Correctional Institution (70-acre site) and minimum-security Federal Prison Camp (20-acre site) totaling 665,889 SF, housing approximately 1,790 inmates. FCI includes three 4-story housing units and one single-story segregation unit dormitory.

Yazoo City U.S. Penitentiary and Satellite Camp, Yazoo City, MS – Project Manager. Design services for design-build delivery of certified LEED Gold, \$182 million medium-security main complex (USP) and minimum-security prison camp (FPC) with a gross building area of 780,000 SF and housing approximately 1,200 inmates.

Northpoint Training Center Replacement, Burgin, KY – Architectural Designer. Design and construction oversight services for fast-track project with multiple bid packages to rebuild prison facilities (41,646 SF total) following riot. Meeting LEED Certified Design Criteria, two new buildings include: Program Building (kitchen/dining, medical, canteen, multipurpose classrooms, library, and sanitation) and Visitation Building. Additional work involved security system renovation at six existing two-story dormitories, addition/renovation of the central control building, and a new campus emergency power generator.

Blue Grass Army Depot Personnel Support Facility, Richmond, KY – Project Manager. Design-build project of approximately 7,500 SF, pre-engineered metal building including space for field office activities, conference rooms, locker and changing areas, and laundry and storage.

Blue Grass Army Depot Visitor Control Center and Battlefield Memorial Highway Revisions, Richmond, KY – Architect. Design and construction administration services for design-build project at main visitor control center (VCC). Revisions at the VCC and area involved removing, closing, and relocating it to current parking lot entrance, as well as widening and providing KYTC-required improvements, such as new traffic signals, warning signals, and revised signage to U.S. 421 at new entrance.

Frankfort Plant Board Administration Building, Frankfort, KY – Project Manager. New three-level, 46,000 SF administration building on 30-acre site providing consolidated facility for administrative offices (accounting, human resources, management, IT, dispatch, customer service), as well as exterior drive through tellers, board/community room and designated shelter area. Building construction includes primarily architectural precast concrete panels with design elements such as structural silicone glazing systems and aluminum panels.

Frankfort Plant Board Headend Telecommunications Facility, Frankfort, KY – Project Manager. New 6,725 SF telecommunications "headend" facility containing owners cable, internet and telephone communications systems servicing city. Designed to accommodate forces from natural disasters, facility is hardened structure, including reinforced walls and roof assemblies. Mechanical and electrical system redundancy included backup generator, UPS and DC plant to maintain facilities operations.

Mike Asalon, PE | GRW Civil Engineer



YEARS OF EXPERIENCE:

With GRW: 6

Total: 16

EDUCATION

B.S., Civil Engineering, 2003,
University of Kentucky

REGISTRATION

Professional Engineer: KY

PROFESSIONAL AFFILIATIONS AND TRAINING

Kentucky Society of Professional
Engineers (KSPE)

RELEVANT PROJECT EXPERIENCE

West Virginia ARNG Martinsburg Secure Facility, Martinsburg, WV – Civil Engineer. Renovations to 2-story area (6,200 SF per level) to provide new secure office space and related support spaces for specific using agency. Includes HVAC replacement (including redundant HVAC systems for secure IT room and non-secure IT room); new DDC control system for all new equipment, new interior finishes (including raised access flooring), structural roof deck and roofing system, elevator and fire stairs, building security and cameras, and site security fencing, sliding vehicular security gates, exterior parking; and site utility and storm drainage improvements.

Blue Grass Army Depot Visitor Control Center and Battlefield Memorial Highway Revisions, Richmond, KY – Project Manager. Design and construction administration services for design-build project at main visitor control center (VCC). Revisions at the VCC and area involved removing, closing, and relocating it to current parking lot entrance, as well as widening and providing KYTC-required improvements, such as new traffic signals, warning signals, and revised signage to U.S. 421 at new entrance. VCC structures, signage, fencing, utilities, pavement, and pedestrian facilities improvements were also included.

Berea College Facilities Maintenance and Auxiliary Maintenance Buildings, Berea, KY – Civil Engineer. New 37,445 SF pre-engineered metal Facilities Maintenance (FM) and 15,504 SF pre-engineered metal Auxiliary Maintenance (AM) buildings to unify and improve efficiency for Facilities Maintenance Departments.

Comprehend Medical Office Building, Maysville, KY – Civil Engineer. Design and construction phase services for a new 26,000 SF addition to provide space for clinical and administrative functions. Key design factors incorporated: welcoming, secure environment; brand and identity promotion; large open atrium; public circulation space; easy wayfinding; connection to existing clinic; clearly defined public, clinical, and administrative zones. Building responds to a complex, steeply sloped site by incorporating expanded parking into the lower level adjacent to primary public and staff entrances.

FibroTex Manufacturing Facility Renovation and Expansion, Stearns, KY – Civil Engineer. Design-build project including addition/renovation of approximately 80,000 SF to textile manufacturing facility.

Petersburg Federal Correction Institution Food Service Building, Hopewell, VA – Civil Engineer. Demolition and replacement of existing aged 22,000 SF dining and food service building with new 23,500 SF medium-security facility completed in two phases to accommodate Owner's funding allocation. Includes new food preparation area (including kitchen, coolers/freezers, dry storage, food prep areas, and dishwash); main dining hall with serving line for approximately 400 persons; separate staff dining area for approximately 40 persons; dock and receiving area; new security fencing and gates; reconfiguration of existing site utilities; and complete integration of new security electronics system with existing campus-wide system.

SECTION 4.0

Approach & Methodology for Meeting Goals & Objectives

4.0 Approach & Methodology for Meeting Goals & Objectives

The West Virginia Department of Administration along with the West Virginia Army National Guard are embarking on an important project at Camp Dawson to provide reliable electrical service. It's an important project because it supports elements of the West Virginia Army National Guard Command during power outages.

We understand your current goals and objectives for this project include:

- Modern electrical transfer switch gear capable to parallel three generators
- Capability to parallel utility allowing for a seamless transfer back to utility power
- Ability to load shed and add/delete generators as load dictates
- Redundant control computers
- Control power from current transforms, station batteries, and generator batteries
- Conditioned space for transfer gear and/or components
- Remote monitoring control/annunciator computer for Post Maintenance
- New power coordination study

We also understand we will be responsible for:

- Ensuring the entire project is compliant with all current federal, state, and local building codes, fire codes, and military construction regulations
- Submitting drawings at 35, 65, 95 and 100%, as well as revising and submitting costs estimates at each phase.
- Providing construction bid and administrative services.

An Approach Based on Respect & Clarity

Our approach to accomplishing these goals and objectives for your project is straightforward:

- 1) assemble the best and brightest design talent with knowledge of the national guard/military projects;
- 2) bring an open mind and fresh perspectives; and
- 3) remain accountable to you throughout the process for cost control/budget.

The cornerstone of the GRW design approach is collaboration, which we believe is key to our relationship with you. Communicating in an open dialog helps to vest everyone in the project's success, and is a prerequisite to ensuring buy-in from all.

A Project Team You Can Count On

Our assigned project manager is key to our approach.



Leading you and our team as our project manager will be GRW Vice President, **Monty Maynard**. He has been involved with the design of building systems for more than 300 projects -- ranging from water resources projects to the design-

build of federal prisons -- with total individual project construction values as high as \$984 million. His areas of technical expertise include electrical power distribution, substation design, alarm systems, communications, lighting, lightning protection, instrumentation/controls/telemetry, power quality, energy efficiency and code compliance. We believe you will find him a knowledgeable engineer, skilled leader, and a valuable partner throughout your upcoming project.

Closely supporting Monty will be electrical engineer **Patrick Baisden**. He will assist Monty with all investigation and design aspects of the project. **Cory Sharrard** will provide mechanical engineering design to ensure efficiency, effectiveness, and code compliance of the HVAC systems.

Our in-house architect, **Aaron Nickerson** and our in-house structural engineer, **Jon Marcum**, are prepared to offer the support needed for any required structures. Our assigned civil engineer **Mike Asalon** will lead our team's efforts related to all utilities – above ground and underground – for your project. He'll ensure accurate documents for site and utilities infrastructure as needed and directed.



Kickoff/Charrette | A1 Design | 10%

As part of the first phase of the project, we'll hold an initial meeting with you and the primary project stakeholders to discuss in detail your project goals,

options for accomplishing those goals, and budget and schedule requirements for the work. Following this meeting, we issue a written record of our discussions.

Existing Conditions

After we gain a full understanding of your desires and goals through the kickoff, we also will complete an examination of the existing conditions. We will take stock of the existing equipment, reviewing existing documentation and making field observations.

At the conclusions of this step we will create a report that outlines the condition of the existing building components and systems that will be affected by the

work of this project. This information will include the identification of existing hazardous materials.

Again, we will meet with you to determine likes, dislikes, what working for them, and what's not

This will give us a foundation as we move forward.

We'll use all information we collect to begin an outline for recommendations – including initial cost estimates.

SECTION 5.0 | **Project Management &
Quality/Cost Control**

5.0 Project Management & Quality/Cost Control

Project Management

Our straightforward approach continues throughout the management of the entire project.

Design Submittals | A1 & A2 | 10% & 35%

Using the information from the Kickoff/Charrette and analysis of existing conditions, we continue through the A1/10% phase – and move into the A2/35% design phase. At this time we present the **schematic design** concept to you through the use of drawings, product information sheets, written narratives and an initial cost estimate. After your review of the material, we will meet together to go over the design review comments, review the budget, and document any

desired revisions. We will repeat this process as needed to reach an acceptable solution that meets your goals and budget.

We will also discuss with you potential construction phasing opportunities, if/as needed. We will document each step of the process with thorough meeting minutes.

Design Dev., Pre-final & Final Construction Documents | B1, B2 & B3 | 65%, 95% & 100%

Using the approved **schematic design** documents, the design team will proceed with **design development** docs which likewise, are issued for Owner/User review and approval before proceeding to **pre-final construction documents** and completion of final construction documents for bidding.

remains within budget. We will also reconfirm final decisions on materials, equipment, and finishes.

If needed, we will incorporate a phasing plan into the final documents to minimize the impact of construction on the facility's day-to-day operations.

The **estimate of probable cost** is updated at each design review submittal to check the estimate against the drawings and specs, to make sure the work

The **final construction documents** will consist of drawings, specifications, and instructions to bidders. The completed documents are then ready for bidding.

Construction Bid Services | Construction Phase

The same Project Manager you worked with throughout design continues as your point of contact through the entire construction process. Also, the original designers are the team we use to review shop drawings, attend meetings and observe the work in progress. This provides a continuity that benefits the project, and is an integral part of our quality control process.



GRW manages and tracks our construction administration and resident inspection responsibilities using **Newforma® Project Center** (project information management software); this ensures that the process is transparent to all parties. Newforma has built-in modules specifically developed

GRW and its subsidiary Chapman Technical Group (offices in St. Albans and Buckhannon, WV) have extensive experience in developing projects through the WV Purchasing Division. For many years, we have designed, bid, and constructed numerous, major Division of Natural Resources projects throughout the state. The West Virginia Division of Highways (DOH) recently began working with the State's Purchasing Division for building projects, and our \$10 million equipment shop building for District One was the first project that the DOH bid through the WV Purchasing Division. Our knowledge and experience of the State's purchasing procedures made this an easy transition for all stakeholders. Although every agency has its own particulars with regard to bidding projects, our experience with the West Virginia Purchasing Division will help ensure effective and efficient project delivery.

for the A/E industry.

Using this system, Owners, Design Team, and Contractor/GC all have access to real-time logs showing the current status of all construction-related activities.

During project construction, GRW provides consultation and advice on construction matters including visits to the site to check work progress and quality and to evaluate general conformance with the contract documents.

In addition, we review equipment and materials related to the submittals. Once reviewed, copies of submittals, with comments, are distributed to the team members (Owner, Contractor, etc.) for appropriate action. A comprehensive submittal file is maintained in the Newforma software.

Our team members review and recommend progress payments to the construction contractor based on observation of the work in-place. Project costs automatically update for tracking of project budgets.

Our team performs semifinal inspections of the project and creates a list of work yet to complete prior to the final technical inspection. Upon completion, we will provide a set of record drawings based on mark-ups from the contractor, to show field changes made



during construction. These drawings are reviewed by the Project Manager and serve as the record drawings for the project and are suitable for facility management.

Changes

The GRW project team will not approve any change that affects project cost, time or quality without your approval, and then only after a thorough discussion and vetting of the reasons for the change. Contractor cost proposals are carefully reviewed to ensure the proposed costs are fair and reasonable. When needed, GRW will negotiate on your behalf to reach an equitable solution.

Flexibility

These procedures are not cast in concrete, as GRW prides itself on being an organization which seeks

to simplify and expedite procedures that can impede the work and stifle creative people. Sometimes these procedures are streamlined for smaller projects, and sometimes they are more formalized for larger projects but at all times they remain flexible to accommodate the needs of our client's organizations. We want you to be satisfied with the quality of your facility: the bottom line is that GRW cares a great deal about securing repeat business with our clients.

Quality & Cost Control

At GRW, cost control, scheduling and value engineering are daily components of design rigor. Project planning decisions are assessed in weekly project meetings with all A/E disciplines to confirm budgets and schedules will be met. During these sessions, project status is discussed to direct adequate resources to meet the project schedule. The issues tracking list we create is reviewed to ensure problems are resolved before they impact the schedule or budget. Our vision as your full-service architectural and engineering design firm is to partner with you to simplify the design and construction process for the results you intend.

Quality Control

Monty Maynard, Project Manager, has primary responsibility for the daily management and coordination of the project team. With over 40 years of experience, he has a clear understanding of the most effective methods for maintaining the programming, planning, and design schedule.

COMMUNICATION: At GRW, our highest project-management priority is focused on maintaining clear and effective communication throughout the entire project. This focus includes our communication with you and your stakeholders, with the Contractor, and with our internal design team members. Key to this effort is our use of Newforma project information management software, which allows the storage, sharing, and retrieval of project information both internally and externally.

PROJECT MANAGER: Our process begins initially with the assignment of an experienced Project Manager who is responsible for organizing the design effort and who manages the Quality Control process. While a project design team may involve many different departments or groups, the Project Manager has the ultimate authority over the project at all times.

A key element in effective Quality Assurance/Quality Control (QA/QC) is the use of regularly scheduled progress meetings. A kickoff meeting between key members of GRW's proposed project team and your management and staff will be held to ensure a common understanding of the goals and objectives among all project partners. These issues will be

reviewed and the work plan will be discussed in detail. Lines of communication and coordination will be established. Regular meetings will then be scheduled throughout the project to report on project progress and to review technical issues. These meetings provide a forum for discussing concerns and ideas. The assigned Project Manager is the primary conduit for communication between you and the design team.

TEAM MANAGEMENT: QA/QC is enhanced at GRW since most design disciplines are in-house. Because of this, scheduling internal team meetings or over-the-shoulder reviews is greatly simplified. On this project, the Project Manager will conduct weekly team meetings with the design team members to facilitate coordination of design issues. Any design problems are identified along with a path for their correct resolution. A checklist managed by the Project Manager is used to track the resolution of issues from meeting-to-meeting.

SCHEDULE MANAGEMENT: No QA/QC process can succeed without allocating sufficient time for internal review. The Project Manager will develop a proposed internal design schedule at the beginning of the project for appropriate time for internal review. These internal reviews typically occur prior to normal design submittal dates for the project.

QUALITY CONTROL REVIEWS: QC reviews at GRW includes desk-to-desk, task-to-task, and person-to-person crosschecking of work that takes place on a regular basis within the company. Impromptu meetings to discuss specific issues take place as often as needed. The peer review personnel are determined by the Project Manager at the beginning of the project, and remain consistent throughout the course of the project.

QUALITY ASSURANCE: A major advantage of providing all design disciplines within the same firm is the opportunity to streamline communication and work flow resulting in a well-coordinated set of construction documents. By close collaboration throughout the design stage, ideas can be quickly discussed and evaluated to understand impacts on cost, schedule and effectiveness.

PROGRAMMATIC OVERSIGHT: The Project Manager is tasked with maintaining oversight of the project as the design develops, to ensure that the design decisions are in keeping with the programmatic criteria developed with you at the project's initiation. At each interim submittal, the Project Manager takes a step back, and looks at the project in broad terms to ensure that the design is progressing in accordance with the original criteria.

Cost Control

PROJECT BUDGET ACCOUNTABILITY: Government officials are accountable to the public for the expenditure of public monies. The GRW team understands this obligation and develops a project design that is cost-effective and delivers an efficient and appropriate use of funds assigned to the military. Rarely do projects have sufficient budget to accommodate everything on the programmatic *wish list*. Reconciling the program against the project

budget is done early and often in order to guide the project to a successful conclusion. GRW approaches this process in a pragmatic and open manner. This subject will be on the agenda of every project meeting we have with you for open and frank discussion so that everyone is kept abreast of any potential concerns. Prioritizing the program relative to the budget can be a difficult task, with different stakeholders sometimes at odds over how to resolve differences of opinion. GRW excels at guiding this process and helping you to resolve these differences.

GRW has a strong history of successful estimating of projects, and our design experts will draw upon this knowledge during the development of our construction cost estimates.

We can also develop a list of possible value-engineering for consideration to help manage construction costs and give you the most construction value for your dollar.



GRW provided design and construction phase services for the WV ANG's 130th Airlift Wing Building 107 Renovation.

With a construction budget of \$5M, the awarded bid was \$4,941,290, and the final construction cost was \$4,991,876 (within 1% of awarded bid).



SECTION 6.0 | **References**

6.0 References

GRW understands that professional consulting begins as a relationship built on trust. We fully understand the importance of gaining your respect, proving our worth, and being there long after your successful project is completed. With repeat clients providing more than 90 percent of GRW's current workload, we believe this is a testament to our business philosophy of providing close, personal, high quality service. We invite you to contact our references to verify GRW's performance.

West Virginia Army National Guard

MAJ Robert Kincaid, Jr.
(304) 791-4459
robert.j.kincaid.mil@mail.mil

Matthew T. Reynolds
(304) 561-6568c
matthew.t.reynolds18nfg@mail.mil

West Virginia Air National Guard

Capt. Harry Netzer, Deputy BCE
(304) 341-6649
harry.g.netzer.mil@mail.mil

Maj. Emerson C. Slack, Deputy BCE
(304) 616-5233
emerson.c.slack.mil@mail.mil

West Virginia, Division of Natural Resources

Mark Crites
Building Project Management Specialist
(304) 957-7142
Mark.A.Crites@wv.gov

Federal Bureau of Prisons

Judah Organic, Design Compliance Programs Manager
(202) 514-9566
jorganic@bop.gov

Frankfort Plant Board

David Billings, Director of Water Operations
(502) 352-4468
dbillings@fewpb.com



SECTION 7.0 | **West Virginia EOI Forms**



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

State of West Virginia
 Centralized Expression of Interest
 Architect/Engr

| | | | |
|---|----------------------------|---------------------------------|----------------|
| Proc Folder: 929712 | | Reason for Modification: | |
| Doc Description: Transfer Switch Gear Design Camp Dawson | | | |
| Proc Type: Central Purchase Order | | | |
| Date Issued | Solicitation Closes | Solicitation No | Version |
| 2021-08-26 | 2021-09-09 13:30 | CEOI 0603 ADJ2200000004 | 1 |

| |
|---|
| BID RECEIVING LOCATION |
| BID CLERK DEPARTMENT OF ADMINISTRATION PURCHASING DIVISION 2019 WASHINGTON ST E CHARLESTON WV 25305 US |

| | | |
|--|-----------------------|--------------------|
| VENDOR | | |
| Vendor Customer Code: 000000218570 | | |
| Vendor Name : GRW Engineers, Inc. | | |
| Address: 801 Corporate Drive | | |
| Street: | | |
| City : Lexington | | |
| State: Kentucky | Country : USA | Zip : 40503 |
| Principal Contact : Monty Maynard, PE, LEED AP BD+C | | |
| Vendor Contact Phone: (859) 223-3999 | Extension: 262 | |

| |
|---|
| FOR INFORMATION CONTACT THE BUYER |
| Tara Lyle (304) 558-2544 tara.l.lyle@wv.gov |

| | |
|--|------------------------|
| Vendor Signature <i>William J Maynard</i> FEIN# 61-0665036 | DATE 09/07/2021 |
|--|------------------------|

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

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

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


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

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

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

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

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

Monty Maynard, Vice President 
(Name, Title)
Monty Maynard, PE, LEED AP BD+C, Vice President
(Printed Name and Title)
801 Corporate Drive, Lexington, KY 40503
(Address)
(859) 223-3999 / (859) 223-8917
(Phone Number) / (Fax Number)
mmaynard@grwinc.com
(email address)

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

By signing below, I further certify that I understand this Contract is subject to the provisions of West Virginia Code § 5A-3-62, which automatically voids certain contract clauses that violate State law.

GRW Engineers, Inc.
(Company)

Monty Maynard, Vice President 
(Authorized Signature) (Representative Name, Title)

Monty Maynard, PE, LEED AP BD+C, Vice President
(Printed Name and Title of Authorized Representative)

September 7, 2021
(Date)

(859) 223-3999 / (859) 223-8917
(Phone Number) (Fax Number)

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

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

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

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

DEFINITIONS:

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

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

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

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

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: GRW Engineers, Inc.

Authorized Signature: *William J. Maynard* Date: 09/07/2021

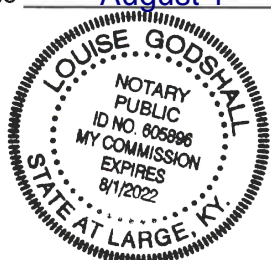
State of Kentucky

County of Fayette, to-wit:

Taken, subscribed, and sworn to before me this 7 day of September, 2021.

My Commission expires August 1, 2022.

AFFIX SEAL HERE



NOTARY PUBLIC

Louise Godshall

Purchasing Affidavit (Revised 01/19/2018)