



**State of West Virginia
Department of Administration
Purchasing Division**

NOTICE

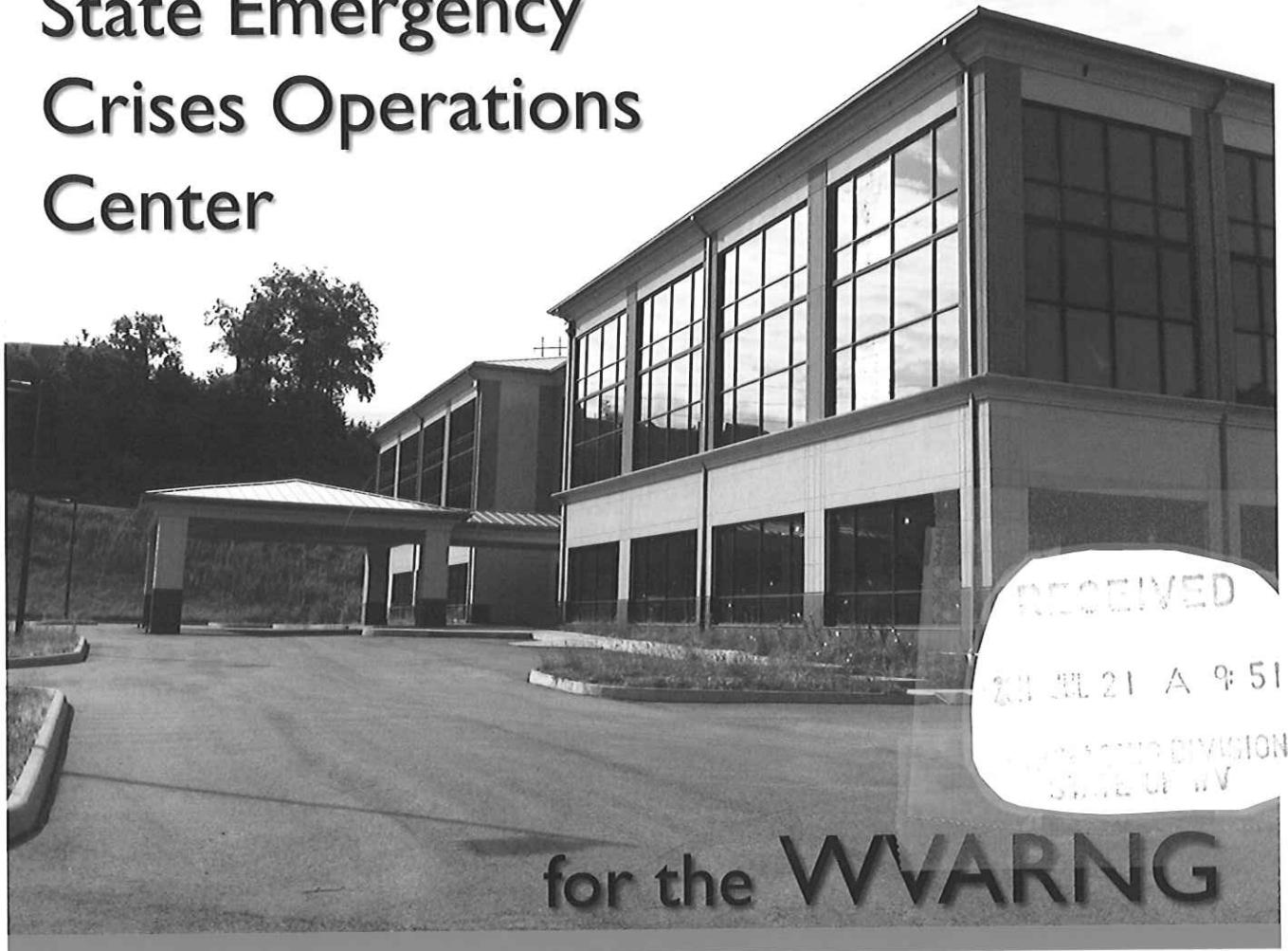
Due to the size of this bid, it was impractical to scan every page for online viewing. We have made an attempt to scan and publish all pertinent bid information. However, it is important to note that some pages were necessarily omitted.

If you would like to review the bid in its entirety, please contact the buyer. Thank you.

RFQ# DEFK11031

July 21, 2011

State Emergency Crises Operations Center



E.T. BOGGESS, ARCHITECT, INC.

101 Rockledge Ave. Princeton, WV 24740 304-425-4491



Jacobs/Wyper Mission Critical Facilities

Kimball Technology

Terradon Corporation

CMA Engineering

Moment Engineers

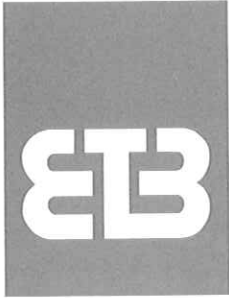
jacobswyper
ARCHITECTS, LLP

Kimball
TECHNOLOGY

CMA
Consulting Engineers

TERRADON
CORPORATION

MOMENT
engineers, inc.



Tara Lyle
Purchasing Division
2019 Washington Street, East
PO Box 50130
Charleston, WV 25305-0130

July 21, 2011

Re: RFQ # DEFK11031 - West Virginia National Guard
State Emergency Crisis Operations Center

Dear Ms Lyle:

In response to your qualifications request for the professional Architectural and Engineering Design services, E. T. Boggess, Architect, Inc. (ETB) is pleased to submit information regarding our experience and specialized expertise. Our team is lead by two highly qualified firms versed in:

- Design Services with the WV National Guard
- Public Safety and Emergency Management facility planning and design
- Public Safety and Emergency Management operations
- Public Safety communications systems, technology and design
- Design of Data Centers, Law Enforcement, and similar Mission-Critical facilities, inclusive of IT Infrastructure
- Experience in secure, hardened essential & mission-critical facilities

Served by this specialized expertise, we are best suited to provide focused feasibility analysis, programming, planning, costing, and detailed design services critical in defining project needs and leading an inclusive, focused design effort for the State and WV National Guard.

The new Joint Operations Center (EOC) will be the central point of control and operations for emergency communications, and emergency management/response for the State and other agencies as may be required by the incident. The new center will support an intensity of use by dedicated staff unlike almost any other type of facility. With staff performing often difficult, stressful tasks over extended shifts, issues including the quality and functionality of the work environment, security, integration of technology, and facility resiliency to external stress shall be critical to ultimate effectiveness.

The ETB Project Team includes Jacobs/Wyper Architects LLP (JWA) specializing in Public Safety planning and design. The Jacobs/Wyper team brings both mission-critical design and operations experience. The members of the team each possess unique and complementary skills with knowledge essential to analyzing needs and formulating appropriate responses addressing WV National Guard's needs. As such, both Todd Boggess and Tim Lisle, principals with their respective firms shall provide fully engaged leadership to the process.

The key team members include firms providing expert services as following:

E. T. Boggess, Architect, Inc. is a West Virginia-based practice bringing a wealth of experience working with State institutions including the WVARNG. The firm enjoys an active practice out of Princeton and provides services for projects over the entire State. Their knowledge of State agency requirements, engineering and construction markets, and the West Virginia design context shall prove invaluable to the process. Todd Boggess is an engaged, talented design leader for the firm and shall play a pivotal role in the organization and on-going direction of the Emergency Crisis Operations Center project.

Jacobs/Wyper Architects LLP shall provide expert programming and planning services based on a depth of expertise in mission-critical and Public Safety projects, particularly emergency communications and emergency operations. Tim Lisle, AIA, is a partner with JWA and leads the firm's mission-critical facilities group. Mr. Lisle is a member of National Emergency Numbers Association (NENA), AIA National Center for Building Science and Performance Disaster Performance Assessment Committee, and the Disaster Assistance Coordinator for Pennsylvania AIA. Mr. Lisle also teaches a PSAP Design class for NENA and APCO. Mr. Lisle has been involved in over twenty-five similar mission-critical design projects and brings a wealth of industry insight and working experience to the planning and design process for essential facilities. Mr. Lisle shall be highly engaged working with Todd Boggess throughout the project.

Kimball Consulting shall provide public safety technology assessment and planning expertise to the conceptual design process, assisting in existing site evaluations and programming for the new facility. Kimball Consulting brings a national reputation in public safety technology and operational consulting. Many of Kimball's key consultants are former staff and directors of public safety communications, first responder/ emergency management, and 9-1-1 technology vendors. Additionally, Kimball technology specialists in the various radio, CAD, GIS, telephony, networking, database, and information technology provide the knowledge base for assessment of current agency technologies as an integral part of the planning for the new center. Kimball's operational consultants provide an added depth of knowledge and focus on threat/vulnerability and site infrastructure analysis, programming, and critical equipment planning. It should be further noted that Tim Lisle of Jacobs/Wyper has worked closely with key Kimball Technology & Telecommunications staff over the past five years.

This team has provided similar services to in West Virginia and with National Guard agencies, related to its new 911/EOC facilities.

Other ETB Project Team members include:

CMA Engineering – Mechanical, Electrical, Plumbing, and Fire Protection Engineering
Moment Engineers, Inc. – Structural Engineering
Terradon Corporation – Site/Civil Engineering & Landscape Architecture

The ETB Project Team stresses a focus on client issues and mutually defined project objectives. Through this focus, we can assure the WV National Guard that needs and project issues will be clearly identified and addressed through an engaged, interactive programming, design, and construction process. Our design process will be conducted with an attention to detail, creative problem solving and passion towards project success. We value this opportunity to serve you and look forward to personally presenting our credentials.

Respectfully submitted,



Todd Boggess, AIA, NCARB, Architect
President, E. T. Boggess, Architect, Inc.



Timothy W. Lisle, AIA
Partner, Jacobs/Wyper Architects
LLP

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SECTION ONE

Approach

Project Understanding

The ETB Team brings a good preliminary understanding of the needs of the WVARNG and other emergency response agencies that will be using the proposed ECOC. Whether caused by natural events, including severe weather, or a result of man-made disasters, our state's ability to assist people in need is of vital importance. In order to successfully accomplish this mission, a highly functional center providing optimal central command and control for the agencies active during a state-of-emergency will be essential.

Our team completed the design of the Elkins Readiness Center, including a Field Maintenance Shop, and construction has begun. To everyone's satisfaction, the bid came in approximately 3 million dollars under the projected budget. We believe our interactive design process addressed the needs of the WVARNG and that we have proven our ability, dedication, and sincere desire to create multi-use facilities that satisfies the many needs of the Guard.



Both Jacobs/Wyper Architects and Kimball Technology bring a depth of expertise in the planning and design of mission critical facilities providing secure, hardened, highly reliable functionality for critical operations. Kimball is currently working with the State of West Virginia on several 9-1-1 initiatives. Both Kimball and Tim Lisle of Jacobs/Wyper Architects were involved in the Cabell County Emergency Response Center. Additionally, CMA Engineering has designed building systems for several emergency communications/operations facilities throughout the State. The ETB Team shall provide immediate benefit to the State and WVARNG in the analysis and initiation of the design for the new SCOC based on experience and current industry knowledge.

Our design for the State Crises Operations Center will incorporate energy management control systems and high efficiency motors, lighting and HVAC systems into the design. Our team has a number of members who are already LEED Certified, including three ETB employees. We feel this direction in designing and constructing buildings is necessary to achieve the minimal impact on our world's natural resources and provides the State with an efficient and high performing building. One further point of consideration is the notion that sustainable design can also play into the concepts supporting sustainable operations. To the extent that the building becomes self sufficient and disconnected from the grid, influence from outside factors on the facility are diminished.

Facility security needs shall be determined both through dialogue with all user groups as well as the development of a site vulnerability and threat assessment. Through these activities historical, anecdotal, and observational data shall serve to determine site exposures along with scenarios for possible mitigations of such. Accepted State, Federal and industry-wide standards shall be referenced to create a program suiting the defined requirements and budgetary parameters of the project. Planning incorporating concepts such 'depth in security' and principles of Crime Prevention through Environmental Design (CPTED) shall serve to inform and guide the process.

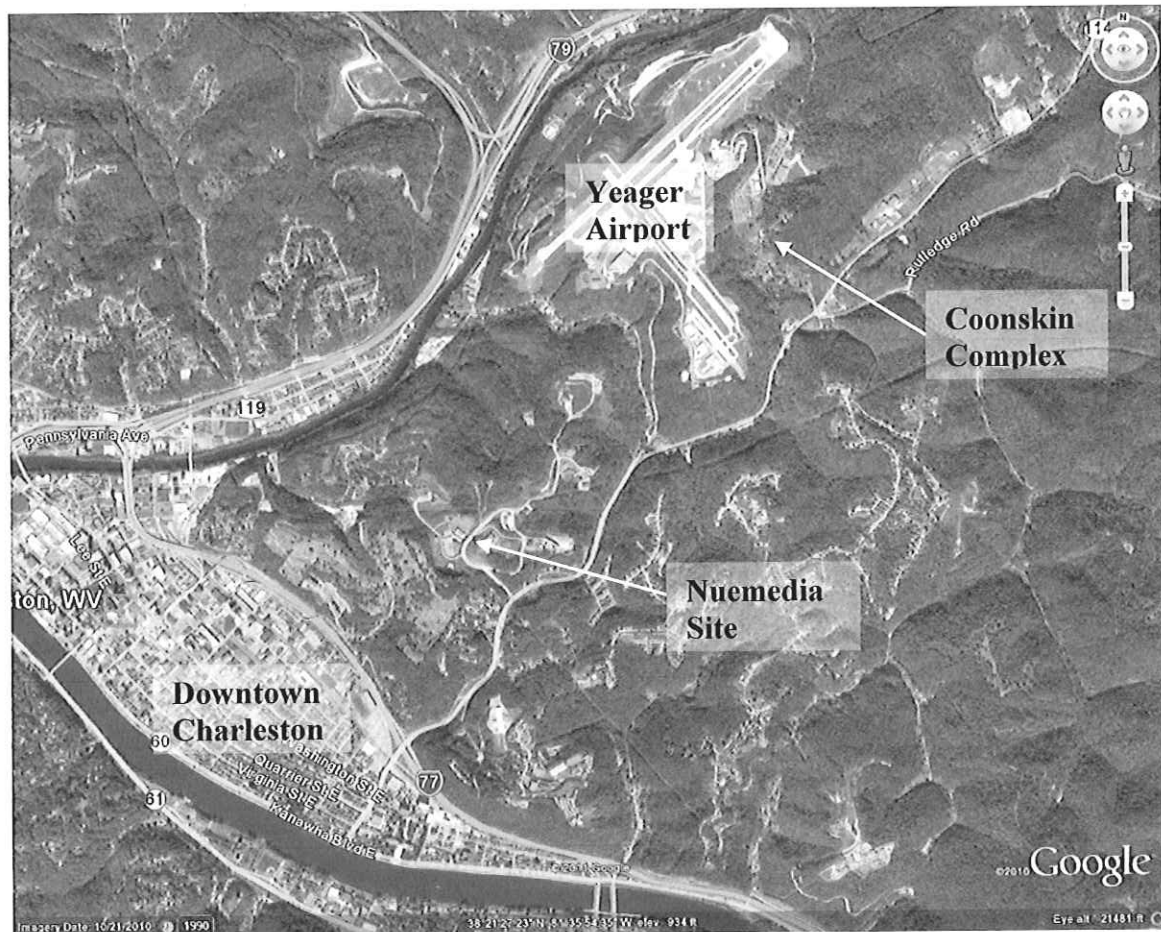
Proper security measures will then be incorporated into the design and landscaping so that access can be controlled even when standoff distance cannot be maintained.

The following are items we consider to be *critical issues* in the design of the ECOC:

- Survivability (needs to be "last building standing")
- Functionality
- Flexibility
- Connectivity
- Site Accessibility
- Security
- Redundancy

Site Observations

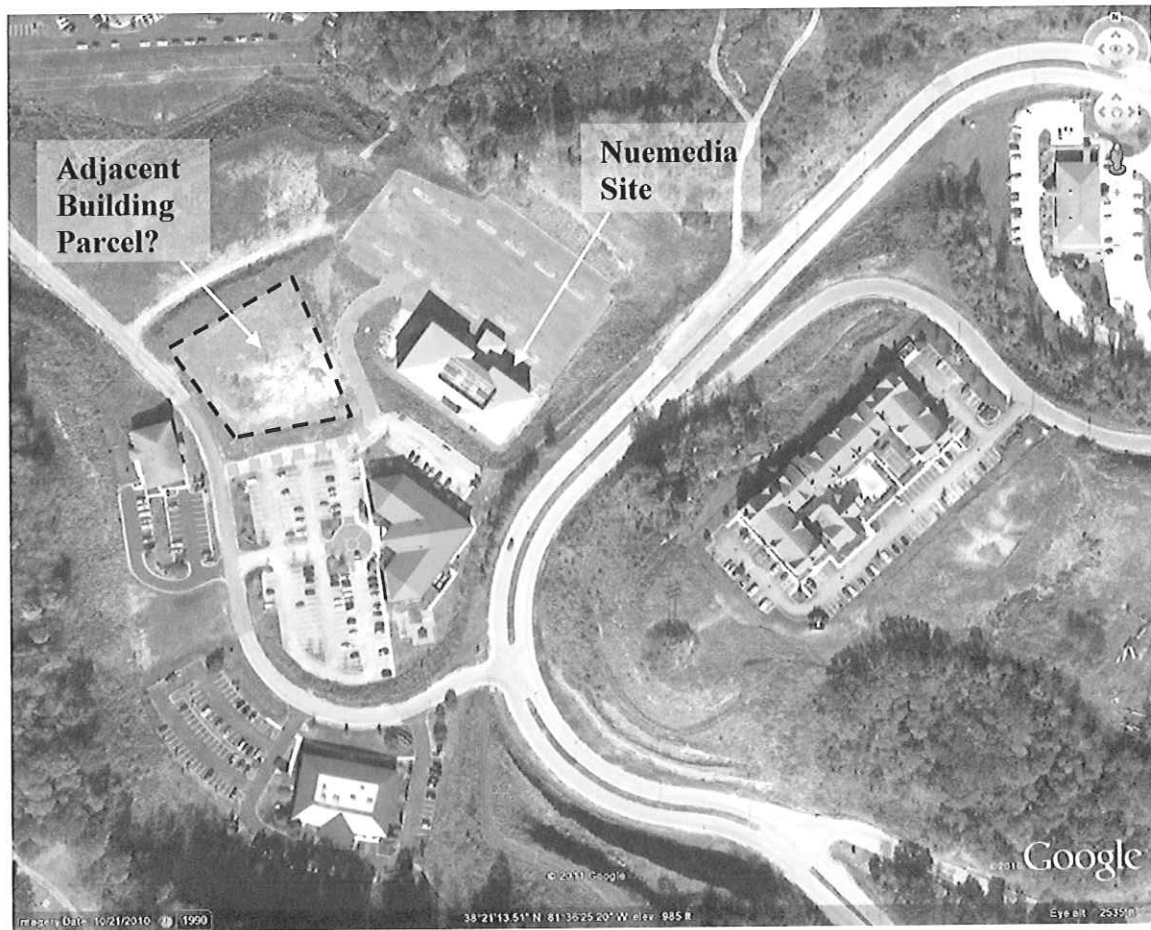
The current request for Express of Interest (EOI) states the comparative analysis of three sites as key component of the required feasibility services leading off the project. Sites include the Nuemedia Building in the Northgate Office Park, east of downtown Charleston, for adaptive re-use and two greenfield sites near existing WV National Guard Armory and Air National Guard facilities on Coonskin Road.



The existing Nuemedia Building is a finished shell office building that was originally to have housed a life-science use. It is a three-story plus full basement, steel framed structure with cold-formed framing and exterior insulating finishing system (EFIS) building facing. Other building data:

Floor Areas:		Floor Heights:	
Basement:	18,097 SF	Basement to 1st:	14'-8"
1/2/3 Floors:	17,056 SF	1st to 2nd:	13'-4"
Total Area:	69,265 SF	2nd to 3rd:	13'-4"
		3rd:	open to higher volumes based on roof slopes

Building Construction Type per International Building Code (IBC): IIB, Unprotected
 While not yet installed, it is assumed that the building will be fully sprinklered.



The Nuemedia Building is situated behind several commercial office buildings within the Northgate Center on Association Drive. In addition to the neighboring existing commercial office buildings, there appears to be an open land parcel between Association Drive and the subject building. Residential occupancies are within 500 to 1,000 feet both to the east and west of the site.

The existing site configuration offers adequate parking but should be reviewed for personnel, activation, and possible response vehicle needs. Other observations/considerations regarding the Nuemedia site include:

- Single route of entry into the Northgate complex and the Nuemedia site. Ideally diverse access paths insure that site remains accessible under severe duress. Additionally, some significant gradients must be climbed from downtown Charleston on Greenbrier Street (Rt. 114) and within the Northgate park to get to the site.
- Aerial power lines, assumed to be high voltage lines, are routed through the site about fifty feet away for the northeast corner of the building.
- Dietrick Boulevard, the main entrance drive into the complex is on the southeast edge of the site at an elevation significantly higher than the ground floor elevation of the site. The elevation differential between the site level and Dietrick Blvd. presents a possible vantage point over the site that suggests some forms of mitigation measures may need to be considered in order to defeat (armoring of the west facade, fence and plantings screens along Dietrick Blvd, etc.)
- Site vehicular access is presently through single drive lane and ideally configured for security and access control. A second means of site vehicular access/exit should be investigated.
- Secure site perimeters and sufficient force protections should be able to be developed base on initial site observation. One point of concern is the proximity of the existing office building and undeveloped land parcel to the south and west of the site and the ability to achieve 75-100 ft. stand-off if required. This may necessitate additional hardening of that exposure of the Nuemedia Building.

The existing building is dried-in but unfinished on the interior. The interior configuration includes internal structural columns and core service elements with stair towers located on the east and west faces of the building. There appears to be a large mechanical loft above the third floor visible for the open ceiling area. Other observations/considerations regarding the existing building include:

- The building appears to provide adequate square footage under roof to accommodate the ECOC needs.
- While existing structural frame appears to be quite robust, it will require re-evaluation and potentially reinforcement to meet structural performance standards for re-purpose as an essential facility use (structural importance factor IV for EOC's per the International Building Code (IBC)).
- The unhardened nature of the building facades and roof will require significant review to determine adequacy and necessary upgrades for the essential facility use. The



quantity of glazing and EFIS stucco system on light-gauged metal framing suggest re-facing of the building exterior. Likewise, the roof construction should be evaluated to determine if a level of hardening is required to achieve desired envelope standards. Typically roofs for such facilities incorporate concrete decks (4-5 inch thickness) for hardening purposes.

- Depending on programmatic need, the primary operations floor may require a clear span footprint that will not fit within the structural bays of the building. Thus some adjustment of layouts to accommodate structure will be required.

Management

All projects and, thus, our services are not as much dependent on our design abilities as architects, but rather on our commitment to perform and implement a set of standards and design to realize the building. Within our project team, ETB actually functions as a team of collaborators with the strengths and abilities emphasized in their role within the team. This has been our management approach for the past 45 years.

Our expertise is very strong with regards to communication and information management, project administration, construction documentation and quality control. These areas of expertise are represented by the team members that will be highly involved on the proposed new construction.

Throughout West Virginia, we have developed relationships with government agencies, contractors, subs, and material suppliers which will be valuable as we address the challenges associated with your project. ETB has worked with many of the code officials, including the state fire marshal, and consider them an extension of our team, another member who is concerned about the final design.

Philosophy

Communication, collaboration, and consensus are the three elements we feel are essential to the planning, design and building process.

The architect is responsible for the finished product, but the design process must include guidance and review by you and representatives from the various agencies. Our goal is to develop a "partnership" with our clients - a relationship that includes a long-term commitment, trust, and shared vision.

The ETB Team believes architectural design should be an interactive process. We work closely with you to identify and define all your project goals, objectives, functions, responsibilities, and relationships. This interactive approach enables us to develop facilities that meet your requirements, as well as being aesthetically distinctive. Design cannot be mass produced or provided in a "cookie cutter" fashion, it must be developed from scratch with the unique attributes of each individual project in mind. Even though we have prepared facilities for both the WVARNG and the WVDOH, we will design an Emergency Crises Operations Center that will address the specific needs of this project as a whole.

In support of maintaining active team communications, we have been successful in the development of project collaboration websites that can have different levels of access and/or security for the review or distribution of many facets of the project. These can range from meeting minutes and submittals to updated CADD plans and graphics to virtual project walk-thrus and photorealistic imagery. We feel that the project website is a key communication component for all types of information related to the project.

Methods

The Integrated Design Process is our process of design in which the users, owners, and the ETB team (architects and engineers) and project participants are all integral team members. This integrated process and the implementation of high performance design requires both efficiency and innovation. Active participation of users, code officials, cost consultants, civil, mechanical, and electrical engineers, and the state officials is critical to the project's success.

In our role with this team as the design leader and project organizer, ETB will be responsible for coordinating and orchestrating the work of the many disciplines and users involved throughout the design, documentation, and administrative functions of the project.

Utilizing the interactive design approach will best serve the needs of the WVARNG and other state agencies by allowing us to better identify your objectives and produce long-term solutions. Your project will be completed by emphasizing the following activities:

- **Understanding goals.** We develop a plan for identifying and prioritizing individual goals as a means for addressing the overall project.
- **Brainstorming ideas.** We investigate opportunities for greater service through value engineering, strategic partnering, or an alternative delivery method.
- **Assuring timelines.** We generate a management plan to fulfill deliverables and meet milestones on schedule. All team members participate in and monitor this plan.
- **Maintaining client contact.** We are accessible, convenient, and committed to success from the beginning through the design process, and after completion.
- **Inviting performance feedback.** We involve all team members and clients in project evaluation at closeout and determine how well time, cost, and design goals were met.

Specific Design Criteria

Recognized mission critical facility standards shall play an important role in the development of specific standards for the proposed ECOC. Several references addressing facility security and hardening may serve to form the basis for the facility design criteria used throughout the development of the project. These may include:

- Existing WV National Guard requirements
- International Building Code (IBC) requirements for Level 4 Essential facilities
- DoD Minimum Antiterrorism Standards for Buildings
- FEMA Guideline 361 - Design and Construction Guidance for Community Shelters
- Crime Prevention Through Environmental Design (CPTED)

- Interagency Security Committee (ISC)/GSA Security Criteria
- NFPA 1221 - Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems

While there are varied references and guidelines to be considered in the design of an essential facility, there exist no concise standards or requirements for EOC or emergency communications facilities. When designing a facility such as that proposed by WV National Guard, we jointly review and promote a series of design criteria on an on-going basis throughout the planning, design and construction process.

The ETB Design Team recognizes that the "hardening" of a facility and the "redundancy" of systems varies from project to project based on the criticality of the threats and absolute need for continuity of operations. Requirements for projects of this type include, but are not limited to:

- Potential hardening of the walls, windows, and roof,
- Redundant mechanical, electrical, and plumbing systems
- Dual feed telephony and power systems, if available from service grids.
- Determinations of run-times for back-up systems and stores for stand-alone operations

In order to determine appropriate necessary design measures, Threat & Vulnerability Assessment encompassing regional and site specific factors are routinely conducted. Within the context of the proposed site and given adjacencies, certain criteria may be positively affected or compromised requiring more detailed review of needs and specific measures to be implemented. Mitigation measures are evaluated with WV National Guard to determine the most critical to be employed in the development of the new facility (and possibly back up site, as well).

The following items will be discussed as a part of the design for these facilities:

Site Planning

- Stand-Off Distance / Force Protection
- Back-of-House/Front-of-House Relationship for all public safety functions
- Limiting Access / Access Control
- Delivery and Service Entries
- Security and Site Monitoring

Structural Design

- Progressive Structural Collapse
- Natural and Manmade Disaster Resistance
- Hardened Roof Design
- Ballistic vs. Blast-Proof Exterior Wall Design, if requested

Architectural Design

- Appropriate Design Statement for WV National Guard
- Increased Strength of Glazing and Glass Framing Systems
- Passive Security (Architectural) Design vs. Active Security (Electronic) Design
- Hardened Line Within the Facility (Front-of-House/Back-of- House Within the Facility)

Electrical/Mechanical Design

- Electrical
 - Provision of Redundancy Within the Electrical System
 - Diverse Routing of Telephony
 - Multiple Power Feeds from Different Power Grids
 - Backup Generator Design for Dual Loads and Requisite Fuel Storage
 - UPS Systems and Provision for UPS Within the Facility
- Mechanical
 - Redundant HVAC for Critical Spaces
 - Possible Consideration of Ground Source Heat Pump or Other Sustainable Heating/Cooling Source
 - Fuel Storage for HVAC Systems
- Water/Sewer
 - With an EOC, it is recommended that provision for stored water/food and the potential of alternative sewer are considered.

Balancing Systems with Economics in Public Safety Design

Development and incorporation of features protecting the facility and all critical building systems is achieved through careful balance of the design of all of such systems with project budget. Real-time analysis coupled with proactive, insightful planning and design provide for the optimization of WV National Guard's investment to achieve these vital project goals. The constant feedback provided by ETB's integrated design team will assure WV National Guard that the design of these systems, integration with other systems, and cost are all monitored in a fluid process as the design evolves.

High Performance Design

High Performance Buildings - those that incorporate the very best design strategies and building technologies - are long-term, critical investments in the future of our state. They simultaneously provide better environments for their users and employees, cost less to operate, and help protect the environment.

High Performance Buildings are healthier (superior indoor air quality); thermally, visually, and acoustically comfortable (day-lighting); energy, water and material efficient (lifecycle cost analysis); safe and secure, adaptable, and easy to operate and maintain. They also incorporate environmentally responsible site planning, stimulating architecture, foster a sense of pride and accountability, and provide a resource for the entire state. The JOC design will help the WVARNG and other state agencies to retain quality staff, reduce operating costs, and reduce liability, all in an environmentally friendly and economical manner by utilizing High Performance Facilities design.

We are committed to providing facilities that incorporate both High Performance and Sustainable Design features so that our state's natural resources and finances are best utilized.

Integrated Design Team Approach - Design Process and Innovation

In an attempt for a more sustainable practice, our team is looking to deepen our partnerships, emphasizing early, open, communication lines, ensuring that all in the end product have the opportunity to influence the project. We want all team members partnering together in the solution in a fully integrated fashion.

Scope of Services

The ETB team of professional consultants can provide any or all of the following services as may be required for the proposed ECOC design:

- Architectural Design
- Structural Engineering, including possible envelop hardening evaluations & development of perimeter force protections
- M/E/P/Fire Protection Design
- Structured Cabling & Technology Systems
- Acoustical & Audio/Visual Design Consulting
- Electronic Security Systems Design
- Site Development / Parking
- Landscaping Design
- Site Evaluation & Design Feasibility Studies
- Computer Visualization

The services listed may be applied at various phases of service as defined in your RFQ. These phases include:

Phase I - Feasibility Study: Initiating the project, these critical activities serve to create the basis for decisions and directions for the entire project. In this phase:

- A. Space requirements will be defined through definition of programmatic needs with all user groups and intensive reviews of modalities of use during periods of activations. The goal is a comprehensive Program of Spaces defining site, function, preliminary service needs, and adjacencies within the facility. Site needs addressing security, user-group vehicular requirements, and other similar needs shall also be defined. Additionally, much discussion shall focus on daily operations and the ability to quickly adapt and activate in response to emergencies of various levels.
- B. Candidate sites shall be fully reviewed and evaluated based on a comprehensive set of criteria including programmatic 'fit,' threats and vulnerabilities, utility life line connections, and the ability to readily address project needs. A jointly developed site evaluation matrix will be used to provide objective comparative analysis of the sites for final review and consideration.
- C. Public Safety design standards shall be jointly reviewed with preliminary determinations made regarding levels of redundancy, envelop hardening, facility security, and overall standards of facility resilience expected.
- D. Building systems and EOC technology needs shall be reviewed based on the above defined requirements and user group requirements. Technology systems may include proprietary incident management, radio/dispatch, GIS/mapping, specialized telephony, and audio/visual systems supporting the level of situational awareness and interactivity needed for user agencies. Building systems including mechanical, electrical/grounding, plumbing, fire protection, and structured cabling shall be closely coordinated to support programmatic needs and the technologies employed, especially in times of stress.

- E. 'Future-proofing' the facility shall be integral to all discussions. This includes provisions for facility expansion as some point in time but, more importantly, planning and designing with an element of flexibility and adaptability in order to readily accommodate changing needs of emergency management and the agencies that may be involved in the future. In this manner, the facility should be developed with the ability to receive new technology overlays or replacements in the future such that operations may continue unimpaired.
- F. Concept planning studies for each site shall be developed to:
- Test the Program of Spaces and overall square footage requirements.
 - Determine best 'fit' for the respective sites both for building and site-related requirements.
 - Further develop programmatic understanding for user groups through the development of functional planning addressing specific needs.
 - Generate final concept planning schemes for the respective sites to serve as the basis for cost analysis.
- G. Preliminary construction cost estimates and project timelines (developed in Gant chart format) based on the above outcomes shall be developed and reviewed.
- H. Narratives and work products from the above activities shall be compiled into a final design feasibility report providing background, analysis and recommendations for the path forward for the project. Key members of the ETB Team shall be available to review in detail or provide overview presentation to key State, WVARNG, and other stakeholder representatives.

Phase II - Design Charrette: This phase shall serve as a detailed review and validation of the Phase I - Feasibility Study as well as defining final approaches chartering course of the project. Among the State's requirements for this phase, establishment of sustainable design concepts and LEED strategies shall prove vital to the next phases of design and engineering for the project. Acceptance and sign-off by key stakeholders and project leadership shall conclude this phase and establish the basis for subsequent design work.

Phase III - Design & Engineering Services: Detailed design and engineering services shall be provided in this phase to further design concepts and create a comprehensive set of bid and construction documents for all aspects of the project. The ETB Project Team shall continue to maintain high levels of communication with stakeholder/project representatives in the continuance of detailing and specifying to meet defined project needs. As previously defined, LEED design initiatives shall be incorporated into the facility design as well as the registration and on-going application process for LEED certification to the level established in the Design Charrette phase. This phase shall include traditional components of service: Design Development, Construction Documents, Bidding, Construction Administration, and Project Closeout/Commissioning.

Throughout the entire process, we continue to utilize an interactive design process and maintain effective communication.

Summary

The ETB Team design process is based on a full analysis of project needs and site threat/vulnerabilities to formulate the most comprehensive design basis for development of the Emergency Crises Operations Center. Security and weather events are critical in the evaluation of both the siting and design criteria for essential facilities. Our team understands the importance of *last building standing* and the factors that insure such. We are frequently an integral member of the site evaluation team with the Owner to assist in determining optimal site characteristics, vulnerabilities or exposures. Beyond the survivability and continuity of operations within emergency operations, command & control facilities, factors such as quality and diversity of vehicular access and vicinity threats potentially affecting continuity of operations are identified and evaluated with key representatives from the various agencies. We, therefore, believe our team is best suited to provide focused programming, planning, costing, and detailed design services critical in defining project needs and leading the design effort of the WVARNG and State of West Virginia.

SECTION TWO

Firm Profiles

Experience - Firm Profile

E.T. Boggess, Architect, Inc.

History

E. T. Boggess, Architect, Inc., is a 14 person architectural firm located in Princeton, West Virginia. Our firm was established in 1966 by Ted Boggess and has been successful because of a team approach and partnership-type attitude with all involved in the design and construction process. Having grown up in the practice and with a life-long love of architecture, Todd became a full time presence with the firm in 1988 after receiving a Masters in Architecture from Clemson University. Their unique relationship as father/son/mentor/ apprentice and, now, partners is both exciting and rewarding as the practice continues to flourish and evolve.

Location

Our firm's location in southern West Virginia is in close proximity to Charleston. Although the majority of our current projects are located in WV, we have satisfied clients from Michigan to Florida. ETB has a reputation for quality service to our clients regardless of the project site, scale, or scope. The location of our firm and knowledge of our state, people, construction materials and contractors, as well as its regional climatological characteristics, are all important considerations for the success of your project.

During the administration phase, our proximity to the project site will allow us to observe the work in a very efficient and cost effective manner. This will help minimize problems and allow for timely solutions whenever our presence is required. We are currently providing construction administration services in Charleston for the Early Sitework at the Dow Technology Park which will be the location of the new Advanced Technology Center we are designing for the WV HEPC.

Reputation

Our firm lives or dies by its reputation. We work for "Pride in Product" and are confirmed by the amount of repeat business we can truthfully claim.

The architects at ETB are well-respected for their high ethical standards, as well as professional and civic activities. They are frequently asked to serve as expert witnesses and arbitrators in legal disputes. They have also been selected to serve on various local, state and national committees. These committees cover areas from determining local zoning ordinances to reviewing and developing educational requirements for future architects, to preserving West Virginia's historic architecture.

Attitude

Bigger is not always better. ETB has purposely controlled size in order to maintain personal involvement and quality control. We feel that it is important to maintain close client contact and availability to respond to your needs and address any situations that may arise. Your project will not get lost in the shuffle.

We are, however, of sufficient size and capabilities to accommodate the needs of your project, as well as ensuring the successful completion of our current workload. The depth of our personnel is such that we can assign individuals to the appropriate task during each phase to ensure all your project's needs are satisfied.

Experience - Firm Profile

E.T. Boggess, Architect, Inc.

Experience

Over the past 45 years, ETB has accomplished many different types of buildings in 12 different states and 1 foreign country. We have not limited ourselves by focusing on one particular type of project or a single location. Instead, we choose to maintain a diverse practice which allows us to begin each project with renewed enthusiasm. Our strength is in the delivery of appropriate and analytical solutions for complex buildings and doing so within restricted budgets and time constraints.

Almost 30 years ago, ETB was one of the first architectural firms in the state to implement the use of computer-aided design and drafting into the everyday practice of architecture. Our firm also has experience with Revit and we have been looking at new opportunities associated with BIM. Today we continue to lead the industry as we utilize photorealistic imagery through computer modeling and digital photography. The building 3-D model and associated imagery can be developed early in the design process for your presentations. The vast opportunities associated with virtual reality allow us to provide you with a "tour" of your finished building long before the foundation has been laid.

We are also utilizing a dedicated ftp website for many of our recent projects. A variety of information can be shared on the website and available for immediate review. The WVARNG will benefit from our experience, combined with ongoing technological research and innovations.

Projects

ETB has been very fortunate over the past ten years to be involved with various state and local government agencies on projects of varying scope and budgets. The majority of our work during the past decade has been public-use projects, with only about 25% representing financial institutions, residential, religious, recreational, and health & fitness for private organizations.

The scope of our work for the state has included office spaces, maintenance/garage facilities, multi-purpose areas, classrooms, conference space, distance learning, laboratories, workshops, judicial courtrooms, and conference rooms. Specifically, we have provided new designs for the following state agencies:

- WV Army National Guard
 - Elkins Readiness Center
- WV DOT/Dept. of Highways
 - District Ten HQ Complex
 - District Six HQ Complex
 - District Nine Office Building
- WV Higher Education Policy Commission
 - Planning & Programming for \$108 mil bond for the Community & Technical College System
- WV Community and Technical College System
 - Advantage Valley Advanced Technology Center
 - North Central Advanced Technology Center
 - New River C&TC Raleigh County Headquarters
 - Allied Health Building

Experience - Firm Profile

E.T. Boggess, Architect, Inc.

- WV School Building Authority
 - PikeView Middle School
 - Panther/laeger Elementary School
 - Greenbrier West High School Addition
- WV Supreme Court of Appeals
 - Mercer County Courthouse Annex

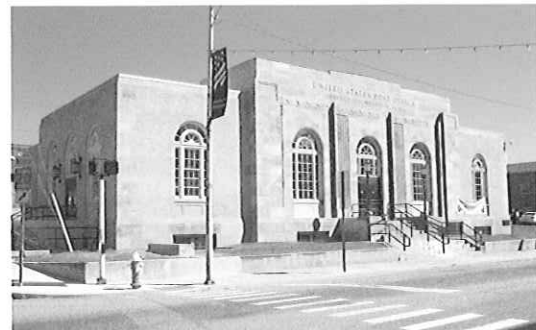
Additional work for local governmental agencies during the past ten years includes:

- Mercer County Commission
 - Mercer County Courthouse Annex
 - Mercer County Health Center
 - Mercer County Courthouse (Energy Improvements)
 - Mercer County War Memorial Building Renovations
 - Mercer County 911 Center Programming for new facility (also designed the original building)
- City of Princeton
 - Railroad Museum
 - Library Adaptive Reuse
 - East Mercer Streetscape
- City of Bluefield
 - Streetscape
 - Chicory Square
- Concord University
 - Rahall Technology Center
- New River Community & Technical College
 - Lewisburg Fine Arts Renovation Design
 - Ghent Renovation Design

ETB has also worked with the GSA on several projects including Social Security Offices for Welch and Williamson and renovations to accommodate the needs of the IRS in Downtown Beckley.

Many of our projects, especially in recent years, have involved state-of-the-art technology and security/communication systems, as well as focusing on energy efficient, sustainable designs.

Section 3 contains more information regarding some of these projects, along with project information provided by our team members.



Princeton Public Library - Adaptive Reuse of Historic former USPO

1 MISSION CRITICAL FACILITIES

Mission Statement

Jacobs/Wyper Mission Critical Facilities (JWMCF) is a consulting group focusing on design and facilities support of Clients critical operations and data housing needs. Both through our in-house expertise and strategic alliances with key engineering and technology specialists, JWMCF provides comprehensive services for mission-critical facilities.

Design within the Essential Facilities world should focus on protecting and sustaining Client mission and vital activities. Various levels of functionality are necessarily addressed in designing essential and critical facilities, from the steady state of daily 24/7 operations to the highly charged, stressful periods of activation and response by both personnel and building systems. Highly functional solutions possess an intuitiveness of design, adaptability and resiliency that absolutely maintain and even enhance operations when under stress.

This approach emphasizes a primary focus on Client needs and mission. Technology and facilities are accordingly developed to optimally support the defined project needs. JWMCF advocates a participatory design process inclusive of all Client constituencies in development of key project parameters and direction. Through JWMCF's experience, intensive up-front engagements assure early identification of project drivers, risks and financial benchmarks, thus focusing subsequent efforts towards crafting the most advantageous solutions.

Current & Recent Projects

- Detailed Design Study for New Public Safety Complex – Morris County, New Jersey
- Department of Public Safety Enhancements – Highland Park, Texas
- County 9-1-1 Consolidation Study – Sussex County, New Jersey
- Greater Harris County 9-1-1 Emergency Network, New Facility – Houston, Texas
- New DC Power Plant Addition, Verizon Wireless – Raleigh, North Carolina
- New SWAT/Bomb/K-9 Facility for Philadelphia Police Department – Philadelphia, Pennsylvania

2 MISSION CRITICAL FACILITIES

Market Definition

JWCMF responds to the need for integrated, solutions- focused design in the mission- critical facilities. JWCMF brings project due diligence and evaluation skills to assist Clients with up- front project definition supported by responsive, insightful design and engaged project management capabilities, insuring complete project success. Teaming with select engineering, technology and security consultants, JWCMF provides all necessary project planning and design services.

Typical Client Profile:

- Municipal and county government
- Corporate clients for data centers, business continuity planning & design, physical security enhancements
- Typically long- term users of facilities, meaning that investment in proper planning, functionality and operability are vital. Green design and LEED certifications are distinct potential.
- Differentiator for most projects is level of technology & security involved.

Project types:

- Public Safety: Police & Fire, PS Training
- Mission Critical: Emergency Communications, Emergency Operations, Command & Control, Call Centers, Data Centers
 - Governmental – Municipal, County, State & Federal
 - Corporate
 - Institutional
 - Research
 - Higher Educational
 - Aviation
 - Commercial: developer- driven data housing facilities, commercial call & operations center
- Civic/Government: Judicial, Administrative, forensics labs
- Support to other Jacobs/Wyper core markets: corporate, pharmaceutical, and higher education
 - I.e., campus security and emergency communications
 - Corporate and bio- pharma security measures and project overview

3 MISSION CRITICAL FACILITIES

Project Types continued

Public Safety

- Emergency Communications Centers
- Emergency Operations Centers
- Command & Control Centers
- Emergency Response Facilities
- Law Enforcement Prime Sites
- Public Safety Training Facilities

Data & Communications Centers

Network Operation Centers

Call Centers

Security Planning & Components for:

- Government
- Corporate
- Institutional & Higher Education
- Research
- Aviation

4 MISSION CRITICAL FACILITIES

Services

JWMCF provides a complete range of services addressing strategic analysis, planning, project formation and execution of essential facilities and mission critical components. Both through our in-house expertise and strategic alliances with key technology and engineering consultants, JWMCF assembles a focused, motivated project team to address in an integrated fashion critical facility needs.

Project Initiation

Existing Facilities & Operational Studies

- Establishment of Security & Survivability Expectations & Standards
- Operational Modalities and Facilities Support of Current/Future Needs
- Need for Flexibility & Scalability within Operations

Candidate Site Evaluation Studies

- Suitability for Essential Facility or Mission Critical Use
- Infrastructure (Lifeline) Assessment
- Threat & Vulnerability Assessment
- Review of Facility & Site Needs against Site Development Parameters

Facility Programming & Planning

- Development of Facility Space Standards
- Interactive Programming Sessions involving Critical Users & Stakeholders
- Early Definition of Performance, Security, Reliability Metrics & Associated Systems Needs
- Identification of Possible LEED goals & building performance standards - Conduct LEED Charette
- Conceptual Planning Studies

Site & Facility Master Planning

- Campus Integration or Development of New Planning Concepts
- Security Planning
- Vehicular/Service Access
- Expansion Planning
- Infrastructure Planning
- Preliminary Project Scheduling including Phasing & Sequencing

Preliminary Cost Modeling

- ROM Facility Budgeting
- Associated Project Costs
- Comparative Costing Evaluation of Planning Options

5 MISSION CRITICAL FACILITIES

Services Continued

Design, Documentation & Construction

Phased Development & Delivery of Documents

- On- going Stakeholder Interaction and Input
- Engagement of Select Specialty Consulting Focused on Specific Project Needs
- Lead & Integrate Utility & Infrastructure Engineering Disciplines
- Cost & Project Schedule Monitoring through All Phases to Bid
- Construction Administration & Extended Project Representation
- Commissioning, Migration & Start- up Support

Consultative Services

- Project Feasibility Services
- Post Occupancy Evaluations
- Facilities Threat & Vulnerability Assessments - Security /Remediation Analysis
- Subject Matter Support to Local Architect/Engineer of Record
- Quality Assurance Reviews for In- Progress Projects

About L.R. Kimball



L. Robert L.R. Kimball & Associates, Inc. (L.R. Kimball) is one of the nation's largest engineering/architecture/consulting firms, annually ranked among the top 200 A/E firms and top 15 telecommunications firms by *Engineering News Record*.

Headquartered in west-central Pennsylvania, L.R. Kimball is a professional services firm comprised of the following collaborative service areas: architecture, engineering, technology and consulting. Founded in 1953 as a civil engineering firm, L.R. Kimball has evolved into a contemporary, multifaceted full-service solution provider. The firm is nationally recognized and serves clients from its 12 regional offices across the United States. L.R. Kimball's continuous growth and success are the result of a talented work force, technical diversification, geographic expansion and an established reputation for delivering high-quality services.

L.R. Kimball has offered public safety and mission critical consulting services for more than 15 years and is comprised of staff dedicated to communications system planning and design projects. The Technology and Communications Consulting Services Groups were originally formed in 1996 to provide telecommunications consulting and engineering services to clients.

L.R. Kimball Facts

- More than 500 employees
- Nearly \$75M in annual revenue
- 1,200 projects per year
- 12 offices across the country including six offices in the Pennsylvania and regional offices in Texas, New Jersey, Florida, Virginia and West Virginia
- **#3 on *Engineering News Record's* list of "Top 20 Telecommunications Firms"**

An Introduction to L.R. Kimball Technology



L.R. Kimball began offering public safety communications consulting services in 1990 and is comprised of a staff dedicated to communication system and facilities planning, design and programming, public safety answer point (PSAP)/dispatch center management, operations and technology assessment, technology procurement assistance and implementation project management. The Telecommunications and Technology consulting group was formed in 1996 to provide core competency services to our clients related to public safety communications.

L.R. Kimball is a recognized national leader in providing full-service consulting assistance to local governments in assessing, planning and managing all aspects relating to the consolidation, collocation and interoperability of public safety communications entities and activities. L.R. Kimball's services are provided in a manner that is independent of hardware manufacturers, software developers, service providers and equipment providers.

L.R. Kimball telecommunications consulting group is unique in that it has significant experience working closely with internal and external architectural and engineering (A&E) staff during facility planning, programming, design, and construction administration activities. These projects typically involve developing the facility design and site requirements for new or renovation of communications centers, many of which result from the consolidation and/or collocation of emergency communications and emergency management activities among jurisdictions or agencies. L.R. Kimball's telecommunications/public safety communications consulting staff work as a unified team to provide full-service expertise on all aspects of facility and programmatic planning, technology assessment, requirements definition, specification, procurement assistance and implementation and transition that support the design and start up of a new or renovated communications facility.

By proving comprehensive subject matter expertise (SME) for mission critical emergency communications facilities, L.R. Kimball is nationally known and recognized for our specialization in the assessment and planning for emergency operations centers' (EOCs) facilities. L.R. Kimball serves a prestigious list of clients throughout the United States.

L.R. Kimball has a tradition and unmatched reputation for providing independent professional services to ensure communications facilities are designed to serve the needs of the operations, technology and activities we support. L.R. Kimball understands that with the complex diversification of emergency services, jurisdictional needs, and the rising costs of support technology, the issues raised by purchasing new mission critical communications technologies are complex, particularly to those striving for better coordination, service improvement, consistency and cost economies in sharing systems that support the delivery of public safety services. The complexity of replacing new technology becomes even more complex in the context of a new or renovated facility, where schedules, building infrastructure, and transition of operations are added concerns.

It is not uncommon to view the building or renovation of a new communications center as an excellent opportunity to evaluate the technologies being used and to make key decisions on replacing, upgrading, or transitioning systems and equipment to the new facility. Growing demands associated with implementing, managing and maintaining a modern mission critical facility dictate that technology choices be evaluated closely as a potential means of addressing service demands, functionality, interoperability, reliability and costs.

L.R. Kimball has extensive experience assisting jurisdictions with defining requirements, selecting, procuring and implementing mission critical communications systems and technologies. Our experience extends to providing assistance to clients in the specification, procurement and managing the implementation and integration of these systems with a wide variety of vendors. Furthermore, L.R. Kimball has performed these services in the context of planning, designing and managing the construction of new, or renovation of existing, emergency communications facilities. We have extensive experience in planning and assisting localities in the orderly selection and transition of critical emergency communications activities from existing to new facilities with minimal impact on critical services.


L.R. Kimball offers our clients and a large pool of talent with experience and subject matter expertise in virtually every aspect of public safety telecommunications and technology, operations and management. L.R. Kimball has provided, and continues to provide, the types of services sought by the County to localities of all sizes and composition. The L.R. Kimball team is adept at customizing our services to fit the needs of our client. L.R. Kimball is an industry leader in providing full-service, consulting, project planning and project management support to public safety agencies and mission critical communications centers.

L.R. Kimball is a national leader in providing consulting services for mission critical communications and is known for applying technological and operational innovation to keep critical infrastructure survivable and sustainable.

Federal and civilian agencies and first responders suffer from considerable communications difficulties as a result of antiquated technology, disparate systems and networks and a lack of coordination. These situations are often plaguing emergency communicator's ability to successfully react and respond to major disasters.

L.R. Kimball stands prepared to respond to this challenge as well as the vital needs and multiple priorities of the Department of Homeland Security and the state and local emergency response officials. We provide advanced voice, radio and data networks communications consulting and telecommunications services to support homeland defense and civil support missions.

We do this by creating greater interoperability between civilian, federal, state and local first responder agencies. Drawing on our experience managing more than 700 emergency response projects nationwide on a local, state and federal level, we can help emergency response personnel deploy, deliver and maintain command and control during a broad range



of incidents. We bring real-world experience that helps to bridge the gap between civilian and federal responders while helping to deliver the underlying mission of both groups --- preserving the safety and security of our nation's citizens.

The first responder networks we are known for create situational awareness, real-time data exchange, mass communications capabilities and command and control systems during incident management. And, we are helping local, state and federal agencies implement secure, joint radio and data networks, design custom web-based and mobile tools and applications and create deployable communications packages.

This statement of qualifications summarizes our experience and services for the mission critical community at the federal level.

Interoperability Planning for Federal, State and Local Governments



Homeland Defense is an essential mission of emergency responders at all levels of government— local, state and federal. Effective communication is the heart of that mission. When mission-critical agencies strive to achieve operable and interoperable communications during large-scale disasters and other emergencies, L.R. Kimball is helping these agencies implement strong interoperability capabilities and policies that address all levels of the interoperability continuum. Because of our understanding of effective governance structures, our advanced technology expertise, our ability to implement standard operating procedures and our experience with first responder training and exercises, we've helped federal, state and local agencies implement effective and far-reaching interoperability programs.

Governance, Policy and Planning

Governance

Interoperability planning requires the establishment of strong, participative governance structures and the implementation of operating procedures and planning efforts that put interoperability theory into action. L.R. Kimball's personnel, many of whom previously worked in and with government and emergency response agencies, have firsthand experience developing governance plans and structures. These plans and structures are designed to allow for input and discussion from diverse stakeholders across all levels of the response community. Our team provides the expertise needed to develop memorandums of understanding (MOUs), organizational charts and governance planning documents.

Policy and Planning

The rapid pace of technological change in the mission-critical communications sector has raised a host of public policy issues for emergency responders. L.R. Kimball is involved in national efforts to address these issues and formulate actionable national policies. We bring the benefit of a broad perspective to our clients. Our staff of highly qualified and highly respected individuals helps our clients review and update their policies, legislation and regulations to keep pace with technological change. L.R. Kimball has a record of success helping states navigate through the interoperability and grant funding processes. Our clients have benefitted from stronger program administration on federal, regional and



local levels and have a greater likelihood for larger funding allocations based on clearly defined, objective and succinct investment justifications.

L.R. Kimball provides both strategic and tactical planning and policy services, including

policy development, program governance and planning expertise to help clients monitor and evaluate the effectiveness of their plans against requirements stipulated by the federal government.

Relevant Experience

State of Missouri The state of Missouri's public safety voice and data communications infrastructure was antiquated and suffering from communication breakdown during multi-jurisdictional response efforts. Missouri officials wanted to establish an interoperable communications program that would benefit public, local, state and federal first responders. L.R. Kimball designed a statewide communications system that accommodated both rural and urban agencies. A component of the project was an assessment that served as the recommendation for the state Department of Public Safety to develop a statewide interoperability strategy directly related to the PSIC grant.



State of New Jersey New Jersey was allocated more than \$30 million of PSIC grants but needed to develop a SCIP in order to receive this allocation. In accordance with DHS's SAFECOM Program, L.R. Kimball developed a SCIP as well as the state's investment justification package. Key components of the strategy were the development of a statewide survey to identify gaps in their former infrastructure and the establishment of a process to consistently evaluate applications from eligible jurisdictions throughout the state. L.R. Kimball completed all components of the SCIP plan, including establishing program governance, operating procedures and ongoing funding mechanisms.

Commonwealth of Pennsylvania Pennsylvania needed to develop a viable interoperability strategy to represent numerous stakeholders and first responders within the state in order to receive their \$34 million allocation of PSIC grant funding. L.R. Kimball successfully used two methods to formulate PA's strategy. First, L.R. Kimball conducted statewide research that identified and analyzed current deficiencies and user needs. Second, L.R. Kimball organized and hosted a statewide interoperability summit to encourage open dialogue and education for the many constituent agencies in the commonwealth. L.R. Kimball delivered Pennsylvania's SCIP plan to the commonwealth in late November 2007. The plan was approved by commonwealth personnel and submitted before the deadline of December 3, 2007. In the spring of 2008, the state was informed that the SCIP had passed all reviews and no modifications were required.

State of Michigan The state of Michigan partnered with L.R. Kimball in 2006 to develop and document the state Tactical Interoperable Communications Plan (TICP). L.R. Kimball deployed a customized web-based survey to capture the interoperability assets in each county or region in the state. Once the TIC plans were completed, they supported the state's development of a communications assets survey and mapping tool (CASM).

After successfully completing the project, the state of Michigan selected L.R. Kimball to assist with the development of the Strategic Communications Interoperability Plan in 2007.

Coordination and Collaboration

L.R. Kimball is helping our clients achieve greater coordination and collaboration to help emergency responders more effectively react to multi-jurisdictional emergencies and share vital information (e.g. voice, data, images, and video). By doing so, emergency communicators are able to share information across traditional boundaries and respond to emergencies with more coordination, greater oversight and, as a result, enhanced preparedness. L.R. Kimball can develop standards-based tools and applications to deploy, deliver and maintain command and control during large-scale incidents that require interagency coordination and collaboration. These tools enhance situational awareness, real-time data exchange and mass communications efforts.

Relevant Experience

The Regional Interoperability Command Center (RICC) Designed for Region 13 The RICC network is a redundant, private, self-healing network designed to enhance cross-jurisdictional communications and collaboration, increase situational awareness and improve interoperability for 13 counties and two cities within southwestern Pennsylvania. It provides Internet protocol (IP) communications infrastructure and supports a number of IP-based applications and services for the region, including an emergency notification system (ENS), geographic information systems (GIS), video conferencing and radio interoperability. It is compatible with federal government security guidelines found in the National Industrial Security Program Operating Manual (NISPOM.) ARDEC currently has access into the network.



The Southeast Pennsylvania Regional Task Force (SEPARTF) Interoperability Project The SEPARTF regional interoperability system is an 11-county project funded by the Department of Homeland Security Grant Program. It includes participants from five southeast Pennsylvania counties, five adjoining New Jersey counties and New Castle County, Delaware. This system connects all 11 county stakeholders with a 22-site microwave network and an IP-based interoperability switch and gateways at each county's primary public safety answering point.

L.R. Kimball helped to implement the network and coordinated tower site availability and clearances for local zoning approvals. In addition to system design and engineering, L.R. Kimball provided fund management oversight, helped to establish a regional governance structure and developed operating procedures and manual and general coordination support. The region now communicates with one interoperable system that significantly improves their

coordination and collaboration capabilities across jurisdictions.

Wireless Voice and Data Communications Expertise

L.R. Kimball's voice and data communications services enable our clients to achieve enhanced interoperability, maximize returns on their radio and wireless investments and improve their capability to communicate during all types of events or exercises. L.R. Kimball is skilled in every aspect of radio and wireless communications, including system design, procurement, implementation, communications site design and complete end-to-end program management services.



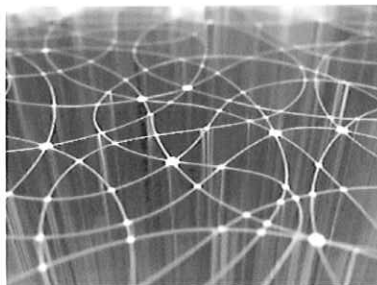
Our radio and wireless engineering solutions enable a smooth, seamless experience for our clients as they migrate from legacy radio and wireless communications systems to innovative, next generation platforms. We apply a time-tested methodology for radio and wireless system design and implementation. L.R. Kimball's all-encompassing service offering provides clients with operational and technical expertise, ensuring a safe, reliable transition with minimal downtime and a smooth deployment. Our clients benefit from independent and unbiased planning and procurement guidance that meets their objectives.

Systems Lifecycle Planning

L.R. Kimball can assist with migration planning from legacy systems to current generation platforms, a process which is often more complex than original system implementation. Our experts are experienced in all vendors' offerings, current standards and trunking issues. Looking to L.R. Kimball's independent knowledge during the planning process helps agencies acquire more competitive pricing and conduct more-effective planning. After determining your system-specific needs and objectives, we make migration possible without interrupting day-to-day operations.

Interoperable Communications System Design

L.R. Kimball engineers and technical staff can provide complete system design services, ranging from conceptual or ready-to-build systems. We are experts in all aspects of accurate land mobile radio system design including conventional or trunked systems as well as voice and data applications. Our experience and advanced product knowledge is for all facets of wireless radio communications and technologies and accepted design practices and standards. This enables us to provide an innovative yet practical application design for our clients.



Relevant Experience

State of Oklahoma When state homeland security officials wanted to inventory all state-owned radio systems and define a strategy to help them achieve statewide interoperability, they looked to L.R. Kimball to perform a statewide assessment and develop a strategic

direction. L.R. Kimball investigated statewide efforts underway and inventoried all state-owned radio assets, including towers and sites, portables, mobiles, repeaters and base stations. L.R. Kimball determined what impacts FCC mandates would have on those assets and used these findings to populate the communications assets survey and mapping (CASM) tool, used by the DHS to track interoperable equipment at the state and national level. L.R. Kimball's contract was extended in winter 2008 to provide a similar assessment on a county-by-county level.

Network Interoperability Analysis


Virtually every radio communications system requires the improvement or replacement of the network support infrastructure. L.R. Kimball's experts are experienced in the design, development and construction of infrastructure components such as communications towers, shelters, HVAC, emergency generator power systems and more.

L.R. Kimball personnel can assess existing network infrastructure and define additional network connectivity requirements to support mission critical radio systems. Depending on customer requirements, funding and desires, the networks can be designed and sized to support the requirements of the radio system or to support the development of a fully functioning converged IP network to support radio, data, video, telephony and various enterprise applications.

Relevant Experience

National Guard Bureau Homeland Defense (HD) / Civil Support (CS) Deployable Communications Sufficiency Study L.R. Kimball is working with NGB personnel to perform a communications sufficiency study that focuses on the requirements, current capabilities and gaps in deployable communications capabilities by US Northern Command/NGB. The study will allow the National Guard to determine how to further enhance the capabilities of the Joint Continental US (CONUS) Communications Support Environment (JCCSE), which focuses on linking the incident site to major commands and federal agencies for the Homeland Defense mission. During the course of this project, L.R. Kimball personnel have been in contact with National Guard representatives from all 54 states and territories.

NGB All Hazard Homeland Defense (HD / Civil Support (CS) Annex K Template The NGB recognized the need to guide states in the development of communications annexes specific to their respective Homeland Defense/Civil Service Security Plans. L.R. Kimball was directed to develop an "All Hazards Annex K Template". The Pennsylvania National Guard was chosen as the initial state to draft the annex and conduct a communications-specific tabletop exercise using the draft that was developed. This resulted in an improved template for all states and provided the Pennsylvania National



Guard with an improved Annex K for inclusion in their All Hazard Homeland Security Plan.

The exercise was held in March at Ft. Indiantown Gap and led to a refined Annex K template to be used for a proof of concept exercise. This tool was again used successfully by the Rhode Island Air National Guard during their participation in the Joint User Interoperable Communications (JUICE) exercise in June of 2009.

Homeland Defense Communications Networks



L.R. Kimball has extensive experience assisting first responder agencies develop advanced voice, data and information networks. Both wired and wireless, these integrated, interoperable networks enable the transfer of critical information rapidly, reliably and securely. They also link civilian state, federal and local emergency responders based on federal requirements and are built on common protocols that transmit bandwidth-intensive information, allow for real-time data exchange across formerly disparate systems and create better situational awareness.

L.R. Kimball's network services include networks assessments, strategic planning, design, implementation and management for enterprise, 9-1-1 and public safety networks. Whether the networks are telephony-based, local area networks, wide area networks, wireless, IP or broadband-based, L.R. Kimball can provide end-to-end oversight for smooth operations and maximum network performance.

Relevant Experience



Maryland State Police and Emergency Number Systems Board L.R. Kimball is helping the Maryland State Police (MDSP) and the Maryland Emergency Number Systems Board (ENSB) implement an advanced, next generation IP-enabled network. When it's completed, the new network will be the first step in the transition to next generation 9-1-1 for the entire state of Maryland. Next generation 9-1-1 represents the evolution from legacy 9-1-1 to a highly innovative system that supports new technologies and applications used by consumers today, such as picture, video and text-messaging. The new network will connect public safety answering points and enable the sharing of substantial amounts of data.

In addition to Maryland, L.R. Kimball is also providing next generation 9-1-1 transition support to Indiana, Minnesota, Michigan, Texas, Tennessee and Montana.

The Commission on State Emergency Communications (CSEC), Texas The Commission on State Emergency Communications (CSEC) recently began planning for the migration to statewide next generation 9-1-1, an advancement that will provide enhanced services to the public and new capabilities for emergency responders in the state of Texas. L.R. Kimball is developing a next generation 9-1-1 master plan to chart the course of the commission in its migration to NG9-1-1. This extensive, multi-year effort is in the preliminary stages and will help Texas public safety answering points convert from their current analog system to a future digital system. Implementing NG9-1-1 will provide Texas emergency communicators with new and improved means of communication including the ability to support new sources of audio, video, text and telematics.

The US Department of Transportation Next Generation 9-1-1 Transition L.R. Kimball partnered with the Department of Transportation and Booze | Allen | Hamilton to develop a cutting-edge solution for a future 9-1-1 communications system. A major component of this project, which L.R. Kimball is leading, is the creation of a technical assistance center that will provide 9-1-1 centers with a new resource to help promote and enhance efforts for deploying advanced 9-1-1 capabilities and improve receiving and processing of 9-1-1 calls and data. It will also track the progress of advanced, next generation 9-1-1 delivery and deployment nationwide.

Systems Integration and Convergence

Today's emergency response process is fueled by a complex and tangled web of varying systems, networks and technologies that present operational barriers when improperly integrated. L.R. Kimball's system integration professionals apply a long-term, strategic view of each client's system and networks, enabling a balanced and a seamless transition to next generation technologies and systems.

Whether it is for radio communications, 9-1-1 or broadband and enterprise applications, a single, key enabling element is required to deliver these critical services: a high-speed, high-capacity IP connectivity backbone. L.R. Kimball is helping our clients develop a plan to take advantage of this common element and implement common networks capable of supporting all emergency responder needs. In doing so, a solid business case to maximize the return on network investment is created.

Information Sharing and Knowledge Management

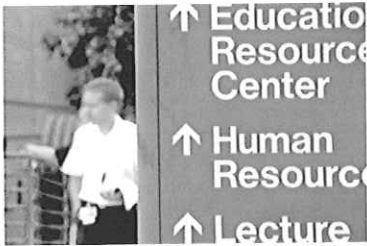
L.R. Kimball is helping our clients implement state-of-the-art information sharing systems that integrate large volumes of data and are instrumental in providing valuable, actionable information to emergency response stakeholders during man-made, natural and other disasters. These systems help to establish coordination with other departments, agencies and organizations who typically suffer from a lack of connectivity and interoperability between their information systems. This can threaten the ability to develop a common operating picture of an emergency scene.



Traditionally housed on converged networks that cross jurisdictional boundaries, these systems can house applications such as GIS data, emergency notification systems and automatic location identification data functions. They can be accessed remotely and updated in a real-time environment so that first responders are working with the most accurate, timely and actionable intelligence of incidents while they unfold. These systems also allow for advanced data analysis, information processing and data archiving.

Relevant Experience

The Northern Ohio Integrated Command Operations Program (ICOP) L.R. Kimball designed and implemented a redundant, secure, self-healing network designed to enhance communications and training, situational awareness and improve interoperability and coordination for the northern Ohio region. The network provides Internet protocol (IP) communications between Lucas County, the City of Toledo and the Toledo/Lucas Port Authority, and will soon be expanded to four other counties in the region. It supports a number of information sharing and knowledge management tools including criminal justice applications, geographic information systems (GIS), video conferencing abilities and radio interoperability. Plans are in place to provide connectivity to the Armament Research Development and Engineering Center (ARDEC) in Picatinny, New Jersey. The network is compatible with federal government security standards as dictated in the National Industrial Security Program Operating Manual (NISPOM).




US Army's ARDEC's Project National Shield: the Hospital Emergency Planning Initiative (HEPI) L.R. Kimball is supporting the interoperability framework for ARDEC's Project National Shield by deploying a hospital emergency planning system that enables the sharing of sensitive information across regional and national levels. Once this system is fully deployed, the HEPI system will help establish interoperable communications between local first responders and the public health system to provide rapid response in the event of a terrorist attack or national disaster.

The system will be built in three phases. During the first phase which was recently completed, L.R. Kimball analyzed coordination efforts between the Department of Defense (DOD) and civilian healthcare agencies. The findings were used to develop a dedicated, networked application that transmits real-time incident site information. The application will exchange vital emergency response information such as patient triage, transport, and care as well as advanced notification information. Laptops, desktops and handheld/PDAs will assess the information from anywhere where an internet connection is available. Eventually, the program will connect southcentral Pennsylvania users and the ARDEC test bed emergency operations center (EOC) in Picatinny, New Jersey, all via a web-portal. Long term, the system designed by L.R. Kimball will serve as a model for future deployment of similar systems across the county.

Emergency Communications Virtual and Regional Consolidation

As the technology demands on emergency communications continues to accelerate at an increasing pace and the costs associated with these demands continue to rise, regionalization and virtualization of emergency operations centers is on the rise. L.R. Kimball has extensive experience managing virtual and regional consolidations around the nation and our services extend the consolidation continuum: needs assessment, planning, transition planning and implementation.



Virtual consolidation helps establish continuity of operations across emergency response centers and creates economies of scale and greater system redundancy. Integrating agencies, whether it is physically or via technology integration facilitates collaboration and coordination, interoperability and increased situational awareness.

State of Minnesota One of L.R. Kimball's major consolidation projects is currently underway for the state of Minnesota. The migration to next generation 9-1-1 and the costs associated with upgrading emergency telecommunications to advanced networks from legacy networks was placing increased cost burdens on 9-1-1 and public safety within Minnesota. Statewide leaders partnered an agreement with L.R. Kimball to assess which type of consolidation would be the most cost-effective long-term. After L.R. Kimball and the state determine the appropriate variation of consolidation, L.R. Kimball will help plan for the transition on regional and countywide levels.

*State of West Virginia
Broadband Initiative*



Client:
State of West Virginia

Client Reference:
Dan O'Hanlon
Department of Commerce
State Capitol
Building 6, Room 525
Charleston, West Virginia
23505-0311
304-558-2234
dohanlon@hecp.wvnet.edu

Scope of Work:

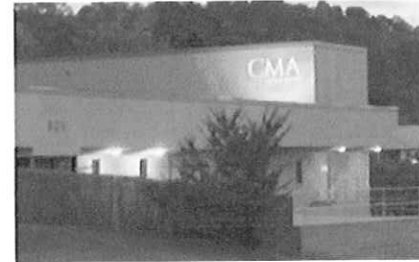
The West Virginia Broadband Development Council contracted L.R. Kimball to support the design, engineering, program management and implementation of broadband infrastructure to underserved areas across the state. **Serving as the program manager for the state's entire broadband initiative**, one of the first tasks was the development and submission of a grant application for a statewide Middle Mile fiber/microwave network designed to bring points of presence to underserved areas, as well as connectivity to community anchor intuitions. L.R. Kimball's staff assisted the state in developing the design of the network, associated costing, sustainability plan and all other required aspects of the grant application and submission. The grant application submission that L.R. Kimball helped the state to prepare and submit was selected for Round 1 funding in the amount of \$126,323,296. L.R. Kimball is currently assisting the state in managing their last-mile broadband deployment.

L.R. Kimball is providing data verification services to the state of West Virginia as part of the NTIA's state broadband data development program. Staff from the state collect broadband mapping coverage information from broadband service providers and normalize the GIS datasets into the NTIA required format. L.R. Kimball provides review and QC of the GIS datasets prior to submission to NTIA. As part of the West Virginia broadband mapping project, L.R. Kimball is providing GIS application development services to develop the state's online interactive broadband Web map. The public facing Web application provides citizens with the functionality to search on addresses and jurisdictions to view broadband availability across the state.

C O R P O R A T E P R O F I L E



Clingenpeel/McBrayer & Associates, Inc.



Services

CMA Engineering is a West Virginia based small business firm, providing services in the areas of HVAC, plumbing, fire protection and electrical engineering. CMA's founders have long believed in the philosophy that a successful project requires a comprehensive approach. This includes all traditional facets of project planning, starting with master planning, working closely with the client, developing the completed construction documents, bidding the project and contract administration. However, our depth of expertise goes far beyond the traditional services. From developing design criteria for owners to designing the mechanical and electrical systems for the West Virginia DEP Consolidated Office Building, the first LEED certified building in the state, CMA is a proven leader in providing engineering services in the design-build delivery method. As we have been involved in LEED Certification and other "LEED-oriented" ventures for several years, we attempt to incorporate the most efficient and sustainable "green" designs in all of our projects.

History

Since 1986, CMA Engineering has provided services on numerous projects of varying size and complexity. Clients include architects, industrial companies, governmental agencies, contractors, engineers, developers and private organizations. With offices strategically located in Charleston and Morgantown, our professional staff can provide clients with exceptional hands-on engineering services for planning, meetings, site visits and construction administration without effecting the project's budget.

Commitment

CMA Engineering's submittal is based on your needs and our experience. Our firm has the experience, service and quality work to create a successful project. We are committing senior design professionals in order to assure you receive top priority. We have extensive experience with projects of this nature. Examples of projects for which we were the Engineer are listed in this proposal.

In 1987, computer aided drafting stations were added to provide the best quality and engineering services for our clients. We are currently operating AutoCad 2009. Our firm is constantly monitoring the latest technology, the cost effects and the end results to the final project.

Present staffing allows CMA to complete work in a timely manner without limiting our ability to perform our ongoing work. The staff of CMA is large enough to handle any size project, yet small enough for direct input and supervision by key personnel.



Clingenpeel/McBrayer & Associates, Inc.

824 Cross Lanes Drive
Charleston, WV 25313
(304) 343-0316 tel
(304) 343-5146 fax

5 Riddle Court
Morgantown, WV 26505
(304) 598-2558 tel
(304) 598-2472 fax

w w w . c m a w v . c o m

Professional Affiliations



Leadership in Energy &
Environmental Design
(LEED)



U.S. Green Building
Council
(USGBC)



American Society of
Heating, Refrigerating and
Air Conditioning Engineers,
Inc.,
(ASHRAE)



American Institute of
Architects— WV Chapter
Affiliate Member
(WVAIA)



National Fire
Protection Association
(NFPA)

ASPE

American Society Of
Plumbing Engineers
(ASPE)



MasterSpec
Specifications
(ARCOM)



The
LIGHTING
AUTHORITY

Illuminating
Engineering Society
(IES)



WV Society of
Healthcare Engineers
(WVSHE)



International Code Council (ICC)



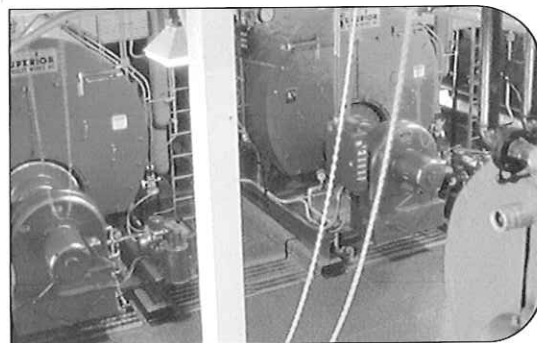
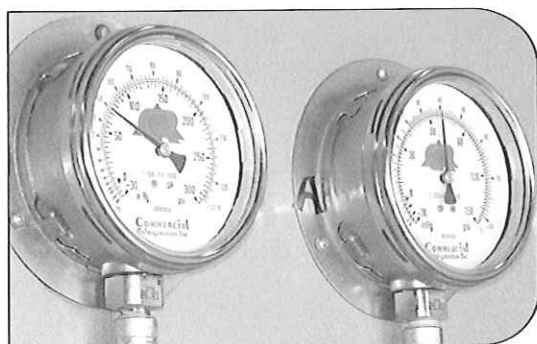
Business Partner

CMA
ENGINEERING

M E C H A N I C A L

CMA Engineering experience includes:

- Constant Volume Air Handling Systems
- Variable Volume Air Handling Systems
- Demand Control Ventilation Systems
- Natorium Dehumidification Systems
- Building Energy and Management Control Systems
- Industrial Ventilation and Exhaust Systems
- Steam and Condensate Systems
- Cooling Plants and Distribution
- Heating Plants and Distribution
- Energy Recovery Systems
- Water Source Heat Pump Systems
- Low, Medium and High Pressure Air Distribution Systems
- Direct Digital, Pneumatic and Hybrid Control Systems
- Kitchen Ventilation and Exhaust Systems



(top) Ruby Memorial Hospital—Morgantown, WV
HVAC Exhaust System

(middle) Memorial Ice Rink—South Charleston, WV
Refrigerant Pressure Gages

(bottom) Alderson Federal Correctional Facility—Alderson, WV
Steam Plant



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www.cmawv.com

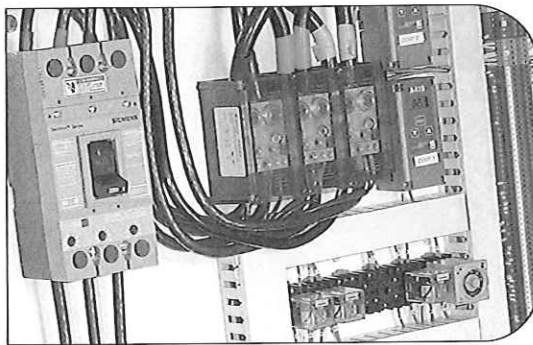
E L E C T R I C A L

CMA Engineering experience includes:

- Underground Ducts and Utility Structures
- Intrusion Detection
- Closed Circuit Television
- Cable and Master Antenna Television
- Medium Voltage Distribution and Substations
- Secondary Voltage Distribution
- Engine Generators and Battery Inverters
- Transient Voltage Suppression
- Interior Lighting
- Exterior Lighting
- Sports Lighting
- Theatrical Lighting
- Lighting Control
- Uninterruptible Power Supply Systems
- Lightning Protection
- Intercommunications Systems
- Nurse Call
- Voice and Data Systems
- Fire Detection Systems



(above) Split Rock Pools—Snowshoe, WV
Indirect Lighting System



(below) Memorial Ice Rink—South Charleston, WV
Chiller Power and Control Panel

CMA
ENGINEERING

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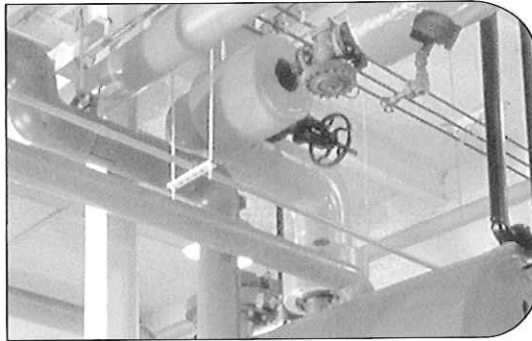
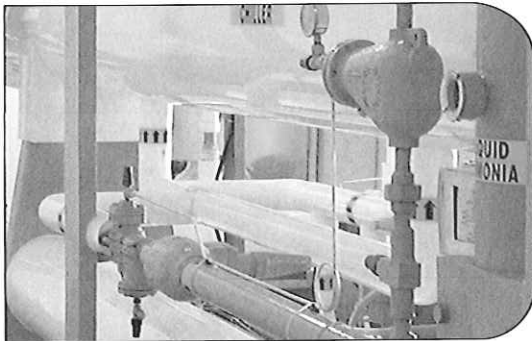
5 Riddle Court
Morgantown, West Virginia 26505
(304) 598-2558 tel
(304) 598-2472 fax

www.cma.wv.com

PLUMBING & PIPING

CMA Engineering experience includes:

- Sanitary Sewer Systems
- Storm Sewer Systems
- Natural Gas Distribution
- LP Gas Distribution
- Fuel-Oil Distribution
- Compressed Air Systems
- Vacuum Systems
- Chemical Waste Systems
- Process Water Systems
- Deionized Water Systems
- Domestic Water Systems
- Helium Distribution Systems
- Domestic Water Pumping Systems
- Sewage Pumping Systems
- Water Heating
- Automatic Fire Sprinkler Systems
- Standpipe Systems
- Fire Pumps, Storage Tanks, Service Mains
- Medical Gas Systems



(top) Split Rock Pools—Snowshoe, WV
Piping & Pump Room

(middle) Memorial Ice Rink—South Charleston, WV
Piping & Chilling

(bottom) Alderson Federal Correctional Facility—Alderson, WV
Steam Piping

CMA
ENGINEERING

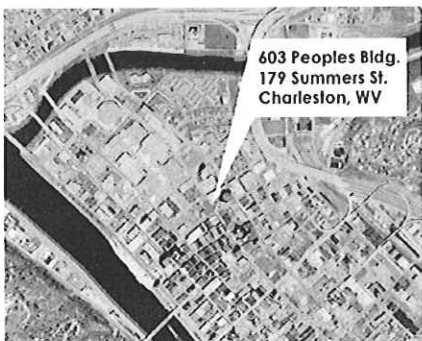
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Background

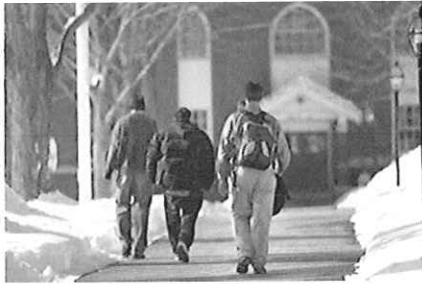
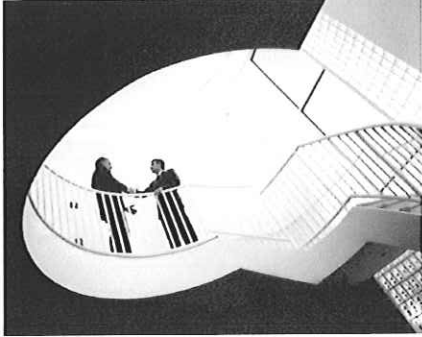


Moment Engineers, Inc. is a professional consulting firm specializing in structural engineering. We serve the architectural and building construction communities throughout West Virginia. Based in Charleston, West Virginia at 179 Summers Street, Moment Engineers was founded by Douglas Richardson in early 2005.

During his more than 20 years of experience, Mr. Richardson has had sole responsibility for the structural engineering design of more than 5 million square feet of built space. The construction costs of these projects exceeded a half billion dollars. His experience, which ranges from small to very large multi-phase projects, is invaluable in providing the technical expertise and creative flexibility to deliver results in a prompt and reliable manner.

Our staff's experience encompasses a wide variety of building types and sectors, and our expertise includes design analysis for steel, concrete, masonry, and wooden structures.

Approach



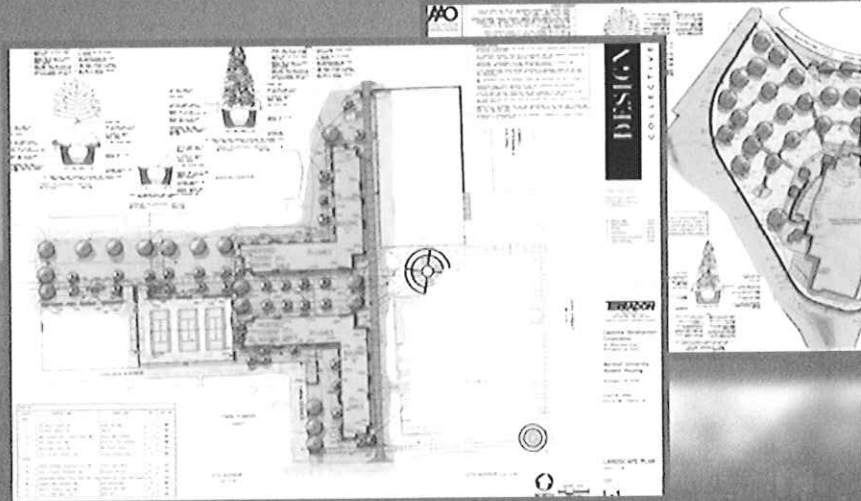
At Moment Engineers, we recognize that the architect is the primary contact for the building owner. Our role is to strengthen that relationship by producing high quality designs in a prompt and cost effective manner. To that end, we emphasize incorporating traditional and technical means of communication and data transfer to ensure a seamless integration of structural integrity and architectural creativity.

We believe that the practice of engineering is the point at which science and society meet. We also believe that the architects and builders we serve are essential in the development of the fundamental dignity of the community. Moment Engineers is strongly committed to developing structural solutions which bring permanence and strength to the expression of architectural thought.

Executive Summary

LAND DEVELOPMENT

TERRADON is recognized as a leader in providing site design and land planning services. The firm's professional landscape architects work closely with the client from the project's initial phase through schematic design, construction documents, and project delivery.



About TERRADON Corporation

TERRADON CORPORATION offers a wide range of engineering and environmental engineering design services, and is particularly suited to utility development in the mountainous areas of West Virginia and the Eastern United States. The company was formed in 1989, and its staff includes engineers, landscape architects, surveyors, planners, environmental scientists, designers, and technicians. TERRADON's services are organized into seven service areas that work together or independently, depending on client needs and the scope of the project.

Due to the breadth of services offered, TERRADON is regarded as one of the region's leading infrastructure planning and design firms. The firm has built its reputation by providing cost effective design solutions and maintaining the highest level of customer service .

SERVICE OFFERINGS

LAND PLANNING &
SITE DESIGN

SURVEYING &
MAPPING

CIVIL ENGINEERING

GEOTECHNICAL
INVESTIGATIONS

MATERIALS
TESTING &
CONSTRUCTION
MONITORING

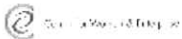
ENVIRONMENTAL

ROADWAY &
BRIDGE
DESIGN

Certifications



Women's Business Enterprise National Council
in partnership with
Ohio River Valley - Women's Business Council
certifies that the criteria for certification as a



Women's Business Enterprise
(WBE)
has been met by



Terradon Corporation



Expiration Date: 01/29/2011
Certificate Number: 2005112195
SIC Code(s): 8711
NAICS Codes: 541330

Rea N. Warden, Ph.D.

Authorized by Rea N. Warden, Ph.D., Executive Director
Ohio River Valley - Women's Business Council

Women's Business Enterprise Certification

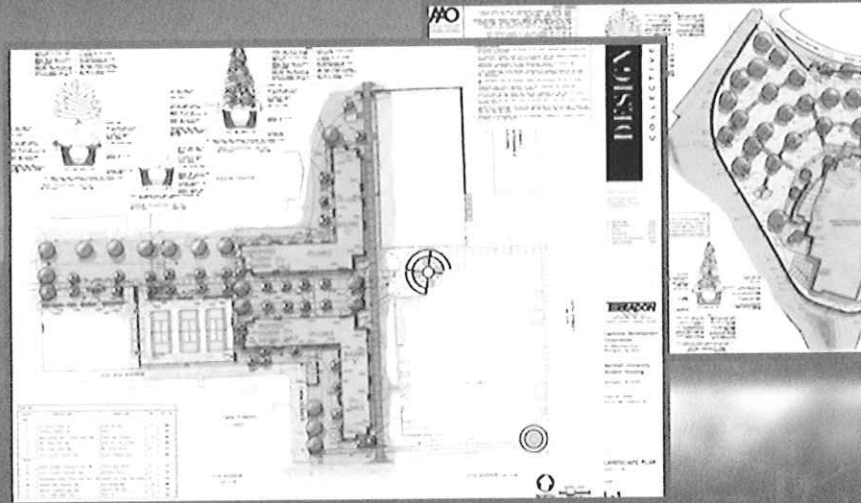
TERRADON CORPORATION is a certified Women's Business Enterprise as defined by the Women's Business Enterprise National Council. TERRADON is controlled by Virginia King, who provides more than 32 years of administrative experience to the company.

The Women's Business Enterprise National Council (WBENC), founded in 1997, is the nation's leading advocate of women-owned businesses as suppliers to America's corporations. It also is the largest third-party certifier of businesses owned and operated by women in the United States. WBENC works to foster diversity in the world of commerce with programs and policies designed to expand opportunities and eliminate barriers in the marketplace for women business owners. WBENC works with representatives of corporations to encourage the utilization and expansion of supplier/vendor diversity programs.

TERRADON Land Development

LAND DEVELOPMENT

TERRADON is recognized as a leader in providing site design and land planning services. The firm's professional landscape architects work closely with the client from the project's initial phase through schematic design, construction documents, and project delivery.



Land Development covers a broad swath of TERRADON's service offerings and sees a large percentage of its annual revenue from repeat clients or referrals. The group is comprised mainly of Landscape Architects and CAD designers and works closely with every other department within the company. TERRADON's Land Development department works with public and private entities and has a strong presence in the educational, recreation and commercial development sectors.

TERRADON Landscape Architects remain on the forefront of sustainable design, providing LEED Accredited Professionals to clients. Projects utilizing sustainable design best practices aid clients in significantly reducing energy costs on projects.

TERRADON's Land Development department Services include:

- » Master Planning
- » Site Feasibility Studies
- » Schematic Design
- » Layout Plans
- » Grading Plans
- » Stormwater Management Plans
- » Erosion Control Plans
- » Planting Plans
- » Presentation Drawings/Renderings
- » Graphic Design
- » Construction Observation

KEY PERSONNEL

Greg Fox, ASLA, LEED AP

Department Head: Land Development

TERRADON's Land Development Services are managed by Gregory D. Fox, ASLA, LEED AP. Mr. Fox, a native of West Virginia, has been responsible for a number of notable recreation, commercial, and educational site development projects since joining TERRADON in February of 2000.

His group earned numerous Engineering Excellence awards from industry associations, and provided site design for West Virginia's first LEED Certified building.



SURVEYING & MAPPING

A critical piece to the engineering and construction industry, TERRADON is regarded as a top-tier firm in the surveying and mapping trade. TERRADON focuses on construction stakeout, ALTA survey, topographic survey, and boundary survey services.

TERRADON has developed an extensive resume of successful surveying and mapping projects performed throughout the difficult terrain of West Virginia and surrounding states. The Survey and Mapping group performs services for a large number of private and public sector clients. TERRADON's experienced, staff of licensed professional surveyors and mappers brings expertise and proficiency to every project.

It's commitment and investment in state-of-the-art equipment and technology enable the company to overcome unique and challenging project conditions and obstacles.

Services Include:

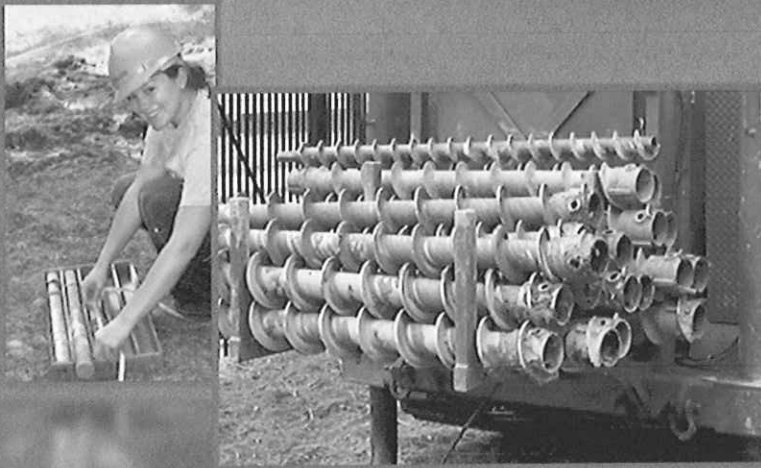
- » GPS Control mapping
- » GIS
- » Underground Utility Location
- » Wetland delineation surveys
- » Base mapping for (GIS) geographic information system
- » Boundary surveys
- » ALTA/ACSM surveys
- » Topographic surveys
- » Engineering design surveys
- » Aerial Imagery
- » Horizontal and Vertical Control Surveys
- » Commercial subdivision platting
- » Residential subdivision platting
- » Cellular / Communications Towers Surveys
- » Hydrographic / Marine Surveying
- » Tree Surveys and Inventories

KEY PERSONNEL

Robert Thaw, PS

Department Head: Survey & Mapping

Mr. Thaw is Manager of Surveying Services for TERRADON. He organizes and supervises survey crews; designs commercial sites for drainage, building site locations, parking and utility easements; reviews project plans; and creates base mapping. Mr. Thaw has more than 22 years of experience in a wide range of land surveying applications. He is experienced with the day-to-day operation of the business and management of personnel.



GEOTECHNICAL ENGINEERING

TERRADON offers one of the most experienced staff in the region for local geotechnical expertise. The company provides a distinct understanding of the difficult soil and groundwater conditions found in the Appalachian region of the United States.

Geotechnical engineering requires specialized technical knowledge. It's most effective however when paired with local expertise and experience, a combination TERRADON offers to projects. A staff of experts brings a distinctive understanding of the difficult soil and groundwater conditions found in the Appalachian region of the United States. The Geotechnical group has provided investigations associated with earthen dams, mining, waste disposal, new building construction, and environmental remediation. TERRADON's team performs sub-surface investigations and geotechnical design services such as:

- » Drilling
- » Test pit excavations
- » Soil and rock logging, sampling, and testing
- » Monitoring well and piezometer installation
- » Foundation design
- » Earthen dams
- » Landslide analysis and remedial design
- » Retaining structure design
- » Municipal and industrial landfills
- » Stability analysis
- » Flexible and rigid pavement design

KEY PERSONNEL

John James, PE

Department Head: Geotechnical

Recognized as an industry expert in West Virginia, Mr. James specializes in innovative and cost saving concepts for his projects. Typical projects include numerous foundation investigations, studies and designs for landfills and environmental facilities, surface and ground water studies and remediation, foundation investigations and designs ranging in size from houses to major industrial complexes, roads, highways and bridges, earth and rockfill dams, storm drainage facilities, airport facilities, landslide analysis and correction, and forensic engineering.

ENVIRONMENTAL ENGINEERING

TERRADON offers a strong environmental engineering team to manage issues in a complex environment. TERRADON's staff closely follows environmental activity on a local, state and federal level. TERRADON's staff is well-versed on environmental permitting processes and regulations as well as site assessment and reporting.



Constantly changing federal and state environmental requirements are difficult to track and can have a serious impact on businesses and other organizations. TERRADON closely follows environmental activities on the local, state, and federal level. TERRADON has a thorough understanding of state and federal environmental permitting processes and regulations. This expertise applies to both the initial permit preparations, as well as subsequent negotiations affecting the permit. The firm's strength in addressing environmental issues is built on the diversity of our staff with credentials in chemical engineering, chemistry, civil engineering, geotechnical engineering, and geology. The company has experience in:

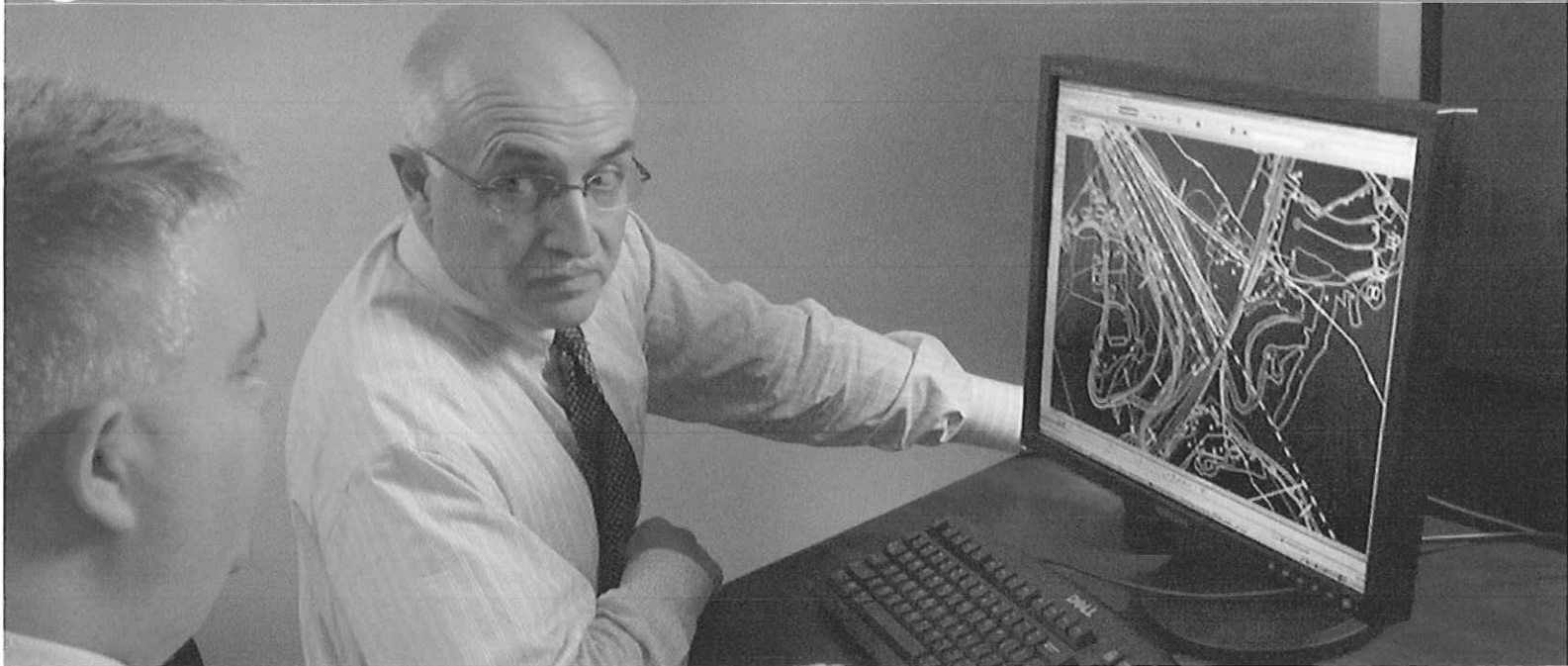
- » Solid Waste
- » Hazardous Waste
- » Process Water
- » Wastewater
- » Storm Water
- » Groundwater
- » Air Pollution
- » Risk Management Plans
- » Vulnerability Assessments
- » Emergency Response Plans
- » Environmental Audits
- » Environmental Site Assessments
- » Environmental Remediation
- » NEPA Compliance
- » Asbestos and Lead Inspection
- » Underground Storage Tanks
- » Impoundment Stabilization and Closure

KEY PERSONNEL

Bill Hunt, LRS, PG

Department Head: Environmental

Bill Hunt serves as TERRADON's Environmental Project Manager. Hunt offers more than 24 years of environmental management expertise during the completion of more than 1000 environmental projects. Hunt is a Licensed Remediation Specialist and a Professional Geologist. His background includes environmental site assessments, permitting, remediation, testing and analysis.



TERRADON maintains the latest office management and design software available. The firm also utilizes a state-of-the-art secured network tied directly to the internet through a T2 connection.

For site design, civil, and planning projects the firm utilizes AutoCAD Civil 3D 2008 along with Land Desktop Companion 2008. Additional AutoCAD modules include Raster 2008, Survey 2008, and Civil Design 2008. For highway, roadway, and structural projects, the firm uses Bentley MicroStation, Bentley InRoads, SAP2000, and MDX. This is the West Virginia Division of Highways preferred format. TERRADON's library of design software also includes SedCad & Pond Pack for erosion/sediment control, StormCAD & HydroFlow for drainage, WaterCAD for water distribution and management, and FlowMaster for hydraulic calculations.

TERRADON makes a significant investment in computers and related hardware. Our systems are consistently upgraded or replaced to maintain highly efficient CAD stations. HP8000 laser printers located conveniently to the design stations provide quick 11x17 proof plots for designers. TERRADON uses the latest

HP Design Jet plotters to provide the highest quality prints of plans available.

Additional Support

TERRADON Corporation also implements the use of a proprietary software call TEAM CENTER, allowing its engineers to efficiently share project documents with clients through secure FTP access with strict security access. Clients are invited to view the project repository through a hyperlink provided in an email. In a two-step process, clients simply click the link provided in the email, create a username and password and they enjoy access to drawings and related projects materials within seconds.

