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WV PURCHASING
DIVISION

Expression of Interest for

Engineering Design Services

for the

Richard Mine Drainage Access

Solicitation No. CEOI 0313
DEP1900000005

submitted to

State of West Virginia
Department of Administration
Purchasing Division

Charleston, WV

October 2018 ©



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

State of West Virginia
 Centralized Expression of Interest
 02 – Architect/Engr

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Proc Type: Central Purchase Order

Date Issued	Solicitation Closes	Solicitation No	Version
2018-10-12	2018-10-16 13:30:00	CEOI 0313 DEP1900000005	3

BID RECEIVING LOCATION

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

VENDOR

Vendor Name, Address and Telephone Number:

CDI-Infrastructure, LLC dba L.R. Kimball
 500 Corporate Landing
 2nd Floor
 Charleston, WV 25311
 304-746-3565

FOR INFORMATION CONTACT THE BUYER

Jessica S Chambers
 (304) 558-0246
 jessica.s.chambers@wv.gov

Signature X

FEIN # 27-2620523

DATE 10/15/18

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

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: CEOI 0313 DEP1900000005

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

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

Addendum Numbers Received:

(Check the box next to each addendum received)

- | | |
|--|--|
| <input checked="" type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6 |
| <input checked="" type="checkbox"/> Addendum No. 2 | <input type="checkbox"/> Addendum No. 7 |
| <input type="checkbox"/> Addendum No. 3 | <input type="checkbox"/> Addendum No. 8 |
| <input type="checkbox"/> Addendum No. 4 | <input type="checkbox"/> Addendum No. 9 |
| <input type="checkbox"/> Addendum No. 5 | <input type="checkbox"/> Addendum No. 10 |

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

CDI-Infrastructure, LLC dba L.R. Kimball

Company



Authorized Signature

10/15/18

Date

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

Revised 6/8/2012

**WEST VIRGINIA
STATE TAX DEPARTMENT
BUSINESS REGISTRATION
CERTIFICATE**

ISSUED TO:
CDI-INFRASTRUCTURE, LLC
DBA L.R. KIMBALL
615 W HIGHLAND AVE
EBENSBURG, PA 15931-1048

BUSINESS REGISTRATION ACCOUNT NUMBER: **2243-7324**

This certificate is issued on: 04/22/2011

*This certificate is issued by
the West Virginia State Tax Commissioner
in accordance with Chapter 11, Article 12, of the West Virginia Code*

*The person or organization identified on this certificate is registered
to conduct business in the State of West Virginia at the location above.*

This certificate is not transferrable and must be displayed at the location for which issued.
This certificate shall be permanent until cessation of the business for which the certificate of registration
was granted or until it is suspended, revoked or cancelled by the Tax Commissioner.

Change in name or change of location shall be considered a cessation of the business and a new
certificate shall be required.

TRAVELING/STREET VENDORS: Must carry a copy of this certificate in every vehicle operated by them.
CONTRACTORS, DRILLING OPERATORS, TIMBER/LOGGING OPERATIONS: Must have a copy of
this certificate displayed at every job site within West Virginia.



500 Corporate Landing, 2nd Floor
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October 9, 2018

Department of Administration
Purchasing Division
2019 Washington Street East
Charleston, WV 25305-0130

Re: Expression of Interest, Engineering Design Services
Richard Mine Drainage Access (CEOI 0313 DEP1900000005)

Attention: Bid Clerk

CDI-Infrastructure, LLC dba L.R. Kimball is pleased to submit one (1) copy of our Response to the Expression of Interest request for Engineering Design Services for the Richard Mine Drainage Access site. CDI-Infrastructure, LLC dba L.R. Kimball representatives have reviewed the request for proposal thoroughly. Upon selection, CDI requests the opportunity to negotiate mutually agreeable terms and conditions.

L.R. Kimball is a diversified organization of consulting engineers, architects, planners, environmental scientists and construction managers. With over 65 years of quality service, we are annually ranked in the top 50 engineering / architectural design and construction management firms in the nation by *Engineering News Record*. The firm is headquartered in Ebensburg, Pennsylvania, and has various regional offices including Charleston, West Virginia, and Pittsburgh, State College, Harrisburg and Philadelphia, Pennsylvania. Our firm employs many professional, technical and administrative personnel.

Thank you for the opportunity to submit our Expression of Interest. With your selection of L.R. Kimball, we will ensure that your goals and objectives for Richard Mine Drainage Access site are satisfied in the most professional and expeditious manner. Please contact us if you have any questions or need additional information.

Sincerely,

Wesley D. Hevener, PE
Project Manager
304-746-3565 / Email Wesley.Hevener@cdicorp.com

Richard E. Genday, PE
Vice President
814-419-7873 / Email Rick.Genday@cdicorp.com

WDH/kag

Enclosure

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1. FIRM OVERVIEW

Established in 1953, *CDI-Infrastructure, LLC d/b/a L.R. Kimball (CDI/L.R. Kimball)* is among the nation's leading professional service companies offering expertise in *transportation design and inspection, engineering, architecture and geosciences.*

CDI/L.R. Kimball is a business unit of CDI Corporation which offers project management, engineering design services, and engineering staffing solutions to transportation, aerospace, federal government and industrial markets. CDI Corporation is headquartered in Philadelphia, is ranked #62 by Engineering News Record and has an annual volume of nearly \$263 Billion dollars.

For 65 years, CDI/L.R. Kimball has recruited talented and experienced employees to ensure that our ability to meet the requirements of our clients maintains the highest possible level of service. Our largest client sector is in the Transportation Industry where we have provided design and inspection services to PennDOT, WVDOH, VDOT, NJDOT as well as FHWA. We have also been involved in a wide range of county and municipal transportation projects which have required full knowledge of DOT requirements, design manuals, policies, procedures and specifications.

CDI/L.R. Kimball has been a major engineering provider *in West Virginia for over 40 years* providing Engineering Design services, Professional Technical Staffing, and IT Helpdesk/Project Management support to various state, municipal and private clients. Our client list consists of WVDOH, Central WV Regional Airport Authority (Yeager Airport), Fairmont Municipal Airport, Tri-State (Huntington) Airport as well as all the local manufacturing firms. We manage projects of varying sizes in a host of industries including Transportation, Chemical, Petrochemical, Power, Refining, Natural Gas, Metals and General Manufacturing. Additionally, we provide IT services to the State of West Virginia.

CDI/L.R. Kimball employs 270 people at 6 locations in West Virginia and Pennsylvania. *Our Charleston office employs over 64 professionals including 16 registered Professional Engineers and a total of 136 professionals in West Virginia.* We have over 51 professionals in the Transportation Group including 23 registered Professional Engineers.

Working with local, regional, state and federal government agencies, as well as school districts, universities, private businesses and industry, CDI/L.R. Kimball has served over 1,500 clients in the following areas:

- Architecture
- Aviation
- Civil Engineering
- Construction Services
- Data Systems
- Education
- Environmental Services
- Facilities Engineering
- Geospatial Services
- Transportation

Our mission is to achieve success for our clients, our staff, and our business. That success can be measured by the satisfaction of our clients, the success of our projects, the quality of our work, and the professional growth and challenges provided to our staff. We are committed to that mission and to our plan for significant future growth.

We assure our clients that CDI/L.R. Kimball will focus on these primary objectives:

- Provide full cooperation to ensure that the client receives a quality product
- Complete all tasks within the scheduled time
- Complete all tasks within the specified budget
- Meet the highest professional standards

The strength and diversity of our expertise enables us to look at every project holistically, ensuring that each aspect of the project's design and engineering integrates perfectly with the others, as well as with the neighboring environment and facilities.

L.R. Kimball's Primary Services



Civil and Environmental. Since the 1950's, we have built an outstanding reputation in civil and environmental consulting services. The wide spectrum of our clients includes industry, institutions, commercial facilities, utilities, private developers, and military and governmental agencies. Starting with the client, our project team conducts assessments and planning, siting, testing, permitting, design and construction monitoring, with the goal of creating innovative solutions to complex, critical issues.

Our clients can expect full civil and environmental support for their projects. Our services also include full engineering support for facility and site designs, site assessments, hazardous materials management, geotechnical investigations and analysis, employee health and safety management and environmental permitting. These projects run the gamut of multimillion-dollar commercial, resort and hotel developments; industrial park and office complex developments; subdivisions; water and wastewater facilities; military facilities; solid and hazardous waste disposal operations; industrial facilities; utilities; and manufacturing facilities. We also assist the client with planning, financing options, grant assistance, cost of service studies, construction monitoring, and operations consulting.



Transportation. Highways, bridges, airports – the infrastructure that supports the movement of people and goods throughout the country. The design, construction, and maintenance of that infrastructure is critical to the economy and to the health and safety of the population. Structural integrity, safety, environmental impact, and design criteria of air and ground transportation facilities require a seasoned, knowledgeable staff who are well-versed in all aspects of integrated planning and context sensitive design. L.R. Kimball's Transportation Division can provide that team.

Using the latest technology, we offer a full complement of planning, project administration, design, environmental permitting, construction inspection, and environmental studies for large and small projects. We take pride in our track record of maintaining successful, long-term relationships with our clients, including state departments of transportation, turnpike commissions, airport authorities, counties, municipalities, and developers.



Mapping Sciences. We offer full-service mapping sciences, including: surveying, aerial photography, analytical aerotriangulation, photogrammetry, planimetric and topographic mapping, digital orthophoto production, cadastral mapping, E9-1-1 addressing, environmental mapping and GIS. Our self-contained mapping operation is supported by an array of technical personnel. Throughout the years, L.R. Kimball has evolved to meet the ever-changing needs of our clients, from traditional land surveys to the most advanced digital mapping, remote sensing and GIS applications. With over 50 mapping experts, we have the capacity, expertise and equipment resources to undertake projects of varying sizes and technical complexity.



Architecture and Engineering Building Systems. Our services include innovative design for new buildings as well as renovation and adaptive reuse of existing buildings. A L.R. Kimball project is designed not only with aesthetics in mind, but also to meet the specific environmental needs of the people who work, learn, or live in that space. We consider the responsible stewardship of natural resources and energy sources in our projects to be a top priority. We have established a reputation as leaders in high-performance sustainable green building design.

A successful architectural project requires an integrated approach from all of our divisions. Every project is assigned to a design team under the direction of a talented project manager, who coordinates the work of all involved.

Transportation Services

Highway Engineering Services

- Feasibility Studies
- Preliminary Engineering
- Final Design
- Construction Consultation
- Design / Build
- Highway Occupancy Permits
- Municipal Design / Review



Highway Design

- Urban & Rural Design
- Horizontal & Vertical Alignments
- Interchange Design
- Intersection Design
- Pavement Design / Pavement Management
- Rehabilitation Design
- Right-of-Way Plans
- Erosion & Sediment Pollution Control
- Drainage Design / Storm Water Management



Construction Inspection & Management

- Project types**
- Interstates
 - State roadways
 - Structures
 - Municipal roads & bridges
 - Private roads & bridges



Bridge Design

- BRADD3 experience
- Multi-span design
- Curved girder design
- Rehabilitation design
- Culvert design



Bridge Safety Inspection

- Certified bridge safety Inspection (CBSI)
- CBSI, PE team leaders
- Groups of NBIS inspections
- Fracture critical inspection
- Tunnel inspection
- Snooper inspections
- Diving oversight
- Rehabilitation inspection
- Electronic data collection



Other Structures

- MSE wall design
- Soil nail wall design
- Reinforced concrete wall design
- Tie-Back retaining wall design



- Services provided**
- Construction in accordance to Plan and procedures
 - Specification enforcement
 - Concrete and asphalt testing
 - Drainage and erosion control inspection
 - Recording construction change orders
 - Measuring quantities of materials used
 - Making payment estimates



Traffic Engineering & Design

- Traffic Impact Studies (TIS)
- Traffic Data Collection
- Traffic Safety Studies
- Corridor and Phasing Plans
- Feasibility Studies
- Traffic Signal Design and Traffic Signal Network Optimization
- Traffic Signal Warrants
- Queuing Analysis
- Trip Generation and Distribution
- Parking Demand and Analysis
- Truck Route Studies



Transportation Engineering & Design

- Highway Occupancy Permits (HOP)
- Urban Roadway Design
- Unconventional Design
- Traffic Roundabouts
- Safety and Mobility Improvements
- Maintenance and Protection of Traffic
- Signing and Pavement Markings
- Interchange Design and Justification Studies
- Point of Access Studies
- Bicycle Trail Design
- Subsurface Utility Engineering



Transportation Planning

- Neighborhood Traffic Management
- Traffic Calming and "Taming"
- Complete Streets / Sustainable Streets
- School Zone and School Trip Safety
- Zoning and Permit Reviews
- Origin and Destination Studies
- Pedestrian Safety Studies
- Bicycle Planning
- Transit / Maglev Studies
- Stakeholder and Community Planning



Transportation Systems Management

- Intelligent Transportation Systems (ITS)
- Transit Revitalization
- Investment Districts (TRID)
- Congestion Mitigation Strategies
- Transportation Management Studies
- TIP and CMAQ Planning and Programming
- Integrated Corridor Management
- Roadway Pavement System Management



Transportation Environmental Services

National Environmental Policy Act (NEPA) Documentation

- Categorical Exclusion Evaluations
- Environmental Assessments
- Environmental Impact Statements
- Technical Supporting Documentation (Primary and Secondary Research Findings)
 - Section 4(f) Evaluations
 - Purpose and Need Studies
 - Farmland Assessment & ALCAB Judiciary Process
 - Public Involvement Processes
 - Environmental Justice
 - Alternative Evaluations

Natural Resource Services

Aquatic Resource Inventories

- Wetland Identification and Delineation (Federal Manual and Individual State Findings Procedures)
- Wetland Habitat Classification and Geomorphic Orientation
- Wetland Functional Assessments Methods
- Stream Habitat Characterizations Methods
- Water Quality Analysis
- Aquatic Community Evaluations
 - Fin fish and benthic macro-invertebrate surveys
 - Population Estimates / Community Composition and Structure Dynamics
 - Floodplain/Floodway Evaluations

Terrestrial Resources

- Wildlife Distributions/Movements/Patterns
- HEP, PAMHEP, THAM Assessment Methods
- Predictive Modeling (Population and Habitat)
- Land Use / Land Features Classification via Geographic Information System Database

Threatened and Endangered Species Surveys

- Habitat Suitability Surveys
- Individual Species Presence/Absence Surveys
- Post Construction Surveys and Consultation
- Habitat Conservation Plans (ESA, Section 10)
- Biological Assessments (ESA, Section 7)

Terrestrial and Aquatic Enhancement/Restoration/Mitigation Design and Monitoring

- Ecological-Based Approaches
- Mitigation Sighting
- Feasibility Assessments
- Natural Design and Replication of Existing Characteristics and Functions
- Monitoring Methods (Systematic Quadrant Sampling)

State and Federal Water Obstruction and Encroachment Permitting

- PADEP Chapter 105 (General and Joint Permit Applications)
- USACOE Section 404 (Individual and Nationwide Permits)

Agency Consultation and Coordination

- Impact Avoidance, Minimization and Alternatives Analysis Evaluations
- Promulgation and Implementation of Best Management Practices
- Species Conflict Resolution Planning
- USACOE Jurisdictional Determinations
- Informal and Formal Resource Agency Consultation
- Pre-Application Permit Coordination



CE Services

L.R. Kimball provides a wide range of civil and environmental services to industry, institutions, commercial facilities, and utilities, as well as local, state, and federal government. We work with many of our clients on acquiring project financing, grant applications, administration and implementation plans to assist them in reaching their goals. Our approach to civil and environmental projects is to provide cost-effective, value-conscious solutions while reducing the project risk for our clients. These solutions have often demonstrated significant "bottom line" improvements. The following pages illustrate our primary service areas.

Civil and Environmental Services

- Abandoned Mine Land Reclamation
- Land Development and Site Design
- Demolition Consulting
- Geotechnical Engineering
- Drilling
- Stockpile Inventories
- Hazardous Waste Management
- Environmental Site Assessment and Permitting
- Solid Waste Management
- Electric Utility
- Environmental Management Systems
- Air Quality Compliance and Permitting
- Water and Wastewater Engineering
- Water Resource Management
- Stormwater Management



Land Development and Site Design



L.R. Kimball knows what it takes to get the job done right the first time. From providing land planning, civil and environmental services for small community parks to big box retail, commercial, and industrial facilities, L.R. Kimball knows what is important to you.

L.R. Kimball has completed numerous land development projects including retail, residential, commercial, office, educational, recreational, and brownfields. A wide variety of comprehensive and master plans have been developed for local and county governments; state agencies; regional authorities; and residential, commercial, and industrial developers.



L.R. Kimball's expertise in the acquisition of regulatory approvals for land development projects is unsurpassed. From municipal zoning approvals to state transportation and environmental permits, L.R. Kimball has successfully secured permits for small- and large-scale land development projects.

"Kimball can be proud of the quality of work the staff is producing and be assured that it is noticed and appreciated. I have no reservations in recommending Kimball to any client requiring similar work."

-Jeffrey J. Raymond, President

Services

- | | |
|--|--|
| <ul style="list-style-type: none"> • Pre-development feasibility • Plan processing and regulatory approvals • Stormwater management • Land planning and landscape architecture • Survey and mapping • Site and civil engineering • Environmental site assessments • Brownfields evaluations • Utility transmission line design and coordination • Pavement designs | <ul style="list-style-type: none"> • Right-of-way acquisitions • Subdivision and land development compliance • Erosion and sediment control plans preparation • NPDES permitting • Comprehensive and master planning • Geotechnical evaluations • Wetland investigations • Photo enhancements and renderings • Project siting studies • 3-D visualization services • Zoning approvals |
|--|--|

Geotechnical



Geotechnical engineering is vital to the success of any construction project. Early inclusion of geotechnical engineering professionals into the planning stages of a project is critical in identifying and minimizing potential problems. Geotechnical engineering adds value to projects and saves money.

Our in-house geotechnical laboratory has been accredited by the American Association of State Highway and Transportation Officials (AASHTO) Accreditation Program (AAP) in the fields of soils and Portland cement concrete testing. This accreditation includes the participation in semi-annual reference sample analysis and bi-annual inspections by AASHTO's Materials Reference Laboratory and Cement and Concrete Reference Laboratory. Our laboratory has also been validated by the Army Corp of Engineers to perform concrete and soils testing for their projects.

Services

- Slope stability analysis and design
- Transportation project investigation and design
- Dam design, inspection, and analysis
- Soils, concrete, and aggregate laboratory testing
- Geophysical surveys
- Permitting studies
- Site selection feasibility studies
- Landslides and other soil and rock instability assessments
- Landfill investigation, design, and closure
- Foundation investigation
- Geosynthetic QA/QC
- Material stockpile density determinations (Nuclear Methods)
- Groundwater studies
- Construction inspection and management
- Mine and quarry investigations
- Hazardous mine entry investigations
- Geologic hazards analyses
- Subsidence investigations
- Mine subsidence studies
- Mine and refuse fires assessments
- Ground improvement engineering
- Earth retention systems
- Project reviews



The geotechnical engineering services... have been professional and responsive. With Kimball input, we have developed a drilled shaft foundation solution that will save costs for our customer, the Pennsylvania Turnpike Commission.

*William J. Rohleder, Jr.
Figg Bridge Engineers, Inc.*

Drilling



L.R. Kimball has been providing comprehensive drilling services for over 30 years. We have experienced crews that provide services on a full-time, year-round basis with modern drilling equipment. We maintain eight drill rigs, including an all-terrain rig for use on engineering and environmental projects.

Our drillers have an average of over 10 years of experience, qualifying us to perform drilling services in very diverse subsurface conditions and terrain. Crews are experienced using 4.25, 6.25, and 8.25 inch I.D. hollow-stem augers; HQ, NX, and NQ2" rock and concrete coring; continuous split-spoon sampling using 2-inch and 3-inch spoons; CME continuous sampling; thin-wall tube sampling; and geotechnical in-situ testing. Drilling and sampling operations are conducted in accordance with ASTM standards. Our drillers are OSHA HAZWOPER trained.

Services

- Geotechnical borings
- NQ2" and HQ wire line rock and concrete coring
- Angle and horizontal borings
- Monitoring wells
- Unconsolidated material coring
- Slope indicator installation and instrumentation
- Down hole nuclear density testing
- Concrete coring and analysis
- 40-Hour OSHA trained and medically qualified crews
- Standard split-spoon and undisturbed sample collection
- Underground storage tank investigations, inspection, and analyses



"L. Robert Kimball is very customer service oriented and performs a valuable professional service. The department thanks you for current service and is looking forward to this continued service in the future."
 David J. Whitlatch, PE
 PennDOT

Water and Wastewater Engineering



L.R. Kimball has successfully produced and/or assisted in the evaluation, design, financing, construction and implementation of hundreds of water and wastewater facilities projects for the past 50 years. L.R. Kimball is capable of completing all elements of the planning project. We have developed work plans involving the application of unique planning and design strategies developed in response to stringent compliance orders, statutory or regulatory requirements, and financial and institutional issues related to authority needs. L.R. Kimball is experienced in working with (and within) multi-jurisdictional authorities and has achieved great success in meeting state and/or local permitting and other regulatory requirements. We are pro-active with regulatory and financial agencies and maintain routine contact with agency personnel. This approach ensures that project issues and constraints are understood by all parties, facilitates the permit and funding approval process, and minimizes potential delays in project implementation. L.R. Kimball has assembled an experienced project team of dedicated professionals who have established working relationships with federal, state, county, and local agencies.

Water Services

- | | |
|--|---|
| <ul style="list-style-type: none"> • Water facility and corrective action planning • Surface and groundwater source investigations • Hydrologic and hydrogeologic modeling • Wellfield designs | <ul style="list-style-type: none"> • Dam designs and inspection • Water storage and distribution designs • Water treatment facility designs • Project financing, administration, and implementation plans • Underground utilities • Wellhead protection studies |
|--|---|

Wastewater Services

- | | |
|--|--|
| <ul style="list-style-type: none"> • Wastewater collections • Treatment plant designs • Industrial pre-treatment • Sludge disposal planning and permitting • Corrective Action Plans • Combined Sewer Overflow (CSO) studies and permitting • Flow monitoring studies • Smoke and dye testing • Project financing, administration, and implementation plans | <ul style="list-style-type: none"> • Video inspection of sewer lines • Construction inspection • Surveying and mapping • Funding assistance/grantsmanship • Geographic Information Systems (GIS) <ul style="list-style-type: none"> - Data management services • Operations and maintenance programs • Permitting • Subsurface geotechnical investigations and designs |
|--|--|



"We wish to extend our sincere compliments regarding the manner in which you handled our wastewater treatment plant upgrade project. Your input beyond the treatment project on various problems of the system has been proven to be productive."

Sandra L. Teeter, General Manager
North & South Shenango Joint Municipal Authority

Water Resource Management



L.R. Kimball has been supplying consulting services associated with water control, supply, treatment and protection to homeowners; industry; watershed organizations; and local, state, and federal government agencies since 1953. L.R. Kimball's professional staff of civil engineers, geologists, hydrologists, geotechnical engineers and hydrogeologists are experienced in the preparation of water resources projects for private development, industrial site expansion, and government-funded restoration and reclamation. We can provide professional services necessary for the development of these projects, from environmental site assessments and geotechnical investigations, through the preparation of necessary permits, to final construction quality assurance. We have also participated in water resources public meetings to address local concerns, and have prepared educational materials for presentation of stormwater management and water allocation issues to municipal leaders.

Services

- High- and low-hazard dam safety inspections and assessments
- Coal mine tailings dam insurance certifications
- Emergency action plan preparation for permitted dams
- Dam break analyses and inundation mapping
- Federal Energy Regulatory Commission dam inspections and report preparation
- Water supply dam designs and mass balance analyses
- Erosion and sedimentation control dam designs
- Stormwater control impoundment and infiltration basin designs
- NPDES permit application preparation
- Miscellaneous permit application preparations for stream crossings
- Construction quality assurance for water resources projects
- Flood control structure designs and assessments
- FEMA flood insurance studies and existing study modification
- Regional stormwater management studies and ordinance preparation
- Abandoned mine drainage remediation assessment and designs
- Wetland assessments, delineation, and mitigation site designs



"I just wanted to thank you and commend you on the exceptional work that you have performed. Thank you for providing us with an invaluable tool for watershed conservation, protection, and remediation; but also setting a standard for all future assessments."
 Ryan D. Koch, Watershed Specialist
 Schuylkill Conservation District

Stormwater Management



Since 1953, L.R. Kimball has provided comprehensive environmental and engineering services related to stormwater management for various commercial, industrial, municipal, government and private clients. We utilize evolving stormwater management practices based on the philosophy of maintaining, as nearly as possible, natural runoff flow characteristics. Our stormwater management practices include structural (detention ponds, pipes, etc.) and/or non-structural (land use planning to effectively preserve existing drainage patterns, vegetation, pervious areas, etc.) methodologies in which we provide the basic elements of a stormwater management program. The effectiveness of a stormwater management program is a result of good planning and engineering design, based on current concepts and practices.

L.R. Kimball's stormwater management experience is two-fold. We have experience in providing comprehensive watershed stormwater management plans utilizing state-of-the-art GIS based modeling technology. These plans support the development of which results in municipal land development and stormwater ordinances for regulatory based clients. We also have experience in providing services to numerous private sector landowners and developers to comply with federal, state, watershed-specific, county, and municipal stormwater management requirements and ordinances. This experience provides us with a clear understanding of currently accepted stormwater management methods and techniques, agency expectations and review processes, and the implementation of practical, yet economical, best management practices for our clients.

Services

- | | |
|--|--|
| <ul style="list-style-type: none"> • Comprehensive stormwater management master planning • Municipal stormwater management ordinance development • Stormwater management ordinance compliance • Regulatory stormwater permit compliance • Phase II NPDES assessment and permitting • Regulatory erosion and sedimentation control compliance • Emergency action plans • Annual dam inspections | <ul style="list-style-type: none"> • Flood assessment and control • Geographic Information System (GIS) development • Floodway and floodplain assessments • Construction monitoring and documentation • Stormwater and drainage assessment, analysis, evaluation and designs • Stormwater quality control • Stormwater monitoring, sampling and analyses • Existing facility and site expansion, improvement or rehabilitation |
|--|--|



"I wish to extend our sincere compliments regarding the manner in which you handled our project. You can be proud of the quality of work your staff is producing and be assured that it is noticed and appreciated."

Tyrone Petrich, President
Enon Valley Borough Council

2. QUALIFICATIONS, EXPERIENCE, AND PAST PERFORMANCE

Qualifications

CDI/L.R. Kimball has provided successful highway, bridge, traffic, and environmental project services for WVDOH, the Pennsylvania Turnpike Commission, PennDOT, NJDOT, VDOT, and local governments for over 65 years. With a staff comprised of highly motivated and trained professionals, the firm has built a solid reputation in the transportation engineering industry. CDI/L.R. Kimball is capable of completing a wide variety of transportation projects. Our qualifications and capabilities range from bridge engineering, intersection improvements and upgrades, to roadway rehabilitation and reconstruction efforts, to new corridor alignments. CDI/L.R. Kimball can provide all support services required including, but not limited to: public involvement, environmental investigations and permitting, traffic analysis and studies, transportation planning, surveying and mapping, geotechnical engineering, hazardous waste evaluation, subsurface utility evaluation, railroad coordination, traffic control plans, signalization, and all associated highway and structural design tasks.

Project Manager

Mr. Hevener is a Project Manager and Design Engineer with over 17 years of experience in the design and development of transportation projects. Those projects have ranged from simple to complex in nature with project delivery methods varying from traditional Design-Bid-Build to Design-Build/P3. His responsibilities have included project management, construction inspection and management, bridge design and rating, structural analysis and design, NBIS bridge inspection and transportation design. Over his career, he has worked on numerous projects in coordination with and for the West Virginia Division of Highways along with other state agencies. This experience will prove to be a great advantage to this project.

A sample of Mr. Hevener's project experience includes:

West Virginia Division of Highways, District One Engineering Assistance, Boone, Kanawha, and Mason Counties, WV - Mr. Hevener is currently serving as the Project Manager and Lead Bridge Engineer for the replacement of five (5) county bridges varying from 50' to 90' in length over various creeks/waterways. CDI is performing all aspects of this project including surveying, geotechnical, roadway and bridge design, hydraulic analysis, right-of-way, and environmental permitting under Mr. Hevener's direction. All work is being performed in compliance with WVDOH and AASHTO specifications.

West Virginia Division of Highways, Henrietta Bridge – Calhoun County, WV - Mr. Hevener was responsible for the initial layout, preliminary design and quality assurance of calculations for the Span Arrangement study. Additionally, he managed and assisted with the design, plan preparation and report for the Type, Span and Location study.

West Virginia Division of Highways, Rock Creek Development Park P3 – Boone County, WV – Mr. Hevener assisted with the initial layout for the 725' bridge that was part of the new roadway for the Rock Creek Development Park P3 project. He additionally was responsible for various tasks for the completion of the bridge design and plan development.

West Virginia Division of Highways, US Route 35 P3 – Mason County, WV - Mr. Hevener was responsible for the management of the LRFD substructure design for the County Route (CR) 29 and County Route (CR) 40 bridges. The bridges were both two-span structures with lengths of 380' (170'-210') and 350' (195'-155'), respectively. Both bridges consisted of steel I-girders with integral/semi-integral abutments and two-column and cap pier bents. CR29 was on a horizontal alignment while CR40 was located on a curved alignment with a radius of 6,140'. He was responsible for the quality assurance and control of the design calculations and drawings for the piers, deck and overhang systems and integral abutments for each bridge. He also performed the design calculations and plan preparation for the semi-integral abutment on CR40 founded on a spread footing and the approach slabs for each bridge.

West Virginia Division of Highways, Kanawha Falls Bridge - Fayette County, WV - Mr. Hevener served as a Design Engineer/Lead Bridge Inspector for the hands-on inspection and LFD rehabilitation design of a three span simple through truss (265'-400'-265') over the Kanawha River supported on steel bent columns and concrete pier caps. He performed the finite element modeling in LUSAS of this truss bridge to provide forces necessary for this truss rehabilitation project. In addition, he was responsible for the load rating calculations which included the implementation of section loss for each primary member and the gusset plate rating calculations. He worked on the design and development of various repair types for the truss members based on the deterioration and capacity in order to strengthen the bridge for HS-20 live loading and assisted with the general notes and quantity calculations for the final plan submittal.

West Virginia Division of Highways, Thomas Buford Pugh Bridge - Fayette County, WV - Mr. Hevener served as a Task Manager/Design Engineer responsible for the Type, Span and Location and Final LRFD pier designs for the single column hammerhead piers on drilled shafts for this three span bridge (217'-250'-190'). The bridge consisted of five steel plate girders with tapered curved end spans (130' radius) and 33 degree skewed semi-integral. Additionally, he was responsible for the deck, railing and approach slab designs

and various quality assurance and control checks for the substructure and MSE wall elements. He also assisted with the plan preparation, general notes and quantity calculations for the final plan submittal.

West Virginia Division of Highways, Fifth Street Bridge, Wood County, WV - Mr. Hevener served as Project Manager and Bridge Inspector (Team Leader) for the Routine and Special inspections of this 905' bridge that consists of a 350' simple span riveted Warren Through Truss and 13 steel wide flange beam spans ranging in lengths from 22' to 63'. The bridge carries WV Route 14, which is a heavily-traveled State Route with an ADT of over 25,000 vehicles, over the Little Kanawha River and CSX Railroad. A comprehensive hands-on inspection of all components, members and connections above the ground line/water line which includes substructure units was performed. All fracture critical members and fatigue prone details were identified and particular attention was given to these areas during the inspection to detect if any cracking or fractures may have developed.

Experience

Assisting Mr. Hevener will be an outstanding selection of key professionals who bring a wealth of knowledge, experience and superior technical capabilities to the team. We have included these team members based on their current and upcoming staffing projections as well as their experience with projects similar in scope to this Richard Mine Drainage Access Project. Each of the individuals listed below have consistently performed at a high level, putting the client's needs first by delivering projects on time and on budget and will be dedicated to their project assignments throughout the life of the project.

LEAD BRIDGE ENGINEER – GEOFFREY S. HOLMES, PE, CBSI (WV PE # 18078)

Mr. Holmes, with 21 years of experience, was the project manager and lead bridge designer for the replacement of seven structures in PennDOT District 1-0 as part of the project specific open-end agreement, E01397. These structures included four precast concrete box culverts, a cast-in-place concrete rigid frame, a precast ConSpan arch, and a single span, spread box beam bridge on integral abutments. Mr. Holmes was the lead bridge designer for two sets of dual, grade-separated bridges (one with integral abutments) and three precast concrete box culverts on the PennDOT District 9-0 SR 6219-020 project, lead bridge designer for the preliminary design and preparation of design/build documents for the two-span, adjacent box beam Seward Bridge replacement for PennDOT District 12-0, and project manager for multiple work orders to design several precast box culverts replaced by maintenance forces as part of the E01316 agreement, also for PennDOT District 12-0.

SENIOR BRIDGE ENGINEER – CHARLES E. NELMS, PE, CBSI

Mr. Nelms is a Bridge Engineer who has 25 years of experience with responsibility for all aspects of structure design and project development. His design experience includes many bridge types, including prestressed (P/S) concrete, curved steel plate girder, and P/S and cast-in-place culverts. Rehabilitation experience includes P/S concrete, steel I and box shape girders, steel trusses, decks, substructure components, and other incidental bridge items. Miscellaneous structures include cantilever concrete walls, mechanically stabilized earth walls, soldier pile walls, tieback walls, sheet piling and other temporary structures, and sign structures. Project development responsibilities include engineering studies, report preparation, plans, specifications and cost estimates. Services during construction include shop drawing review, responding to requests for information, and erection plans. Bridge inspection experience includes NBIS, FCM and In-depth inspections, reports and load ratings. Other experience includes the design of a wide variety of buildings and miscellaneous structures, and construction experience in structural steel fabrication and erection.

SENIOR BRIDGE ENGINEER – SCOTT SHAMBLIN, PE, CBSI (WV PE # 11057)

Scott has 30 years of experience in the design and development of transportation, industrial, commercial and residential projects. He has additionally been involved in the inspection, design and ratings of bridge structures during the three (3) years he worked at the West Virginia Division of Highways and various experience with other consultants. Past inspection and design projects include Smith Bridge in Wetzel County, Sulphur Springs Bridge over Opequeon Creek in Jefferson County, I-64 Bridge over Davis Creek in Kanawha County, Route 21 Bridge over Tupper's Creek in Kanawha County, and Ronceverte Railroad Bridge Inspection in Greenbrier County. In addition, Scott has inspected and rated over a dozen private bridge structures for various private clients throughout West Virginia.

LEAD HIGHWAY ENGINEER – EDWARD J. JONES, PE (WV PE # 013853)

Mr. Jones, with over 28 years of experience, will lead the roadway design effort for this assignment. Mr. Jones has experience in all phases of transportation design. His experience includes all aspects of highway design including horizontal & vertical alignments,

stormwater management, hydrology, hydraulics, utilities, right-of-way plans as well as the management of numerous large scale projects and environmental clearance documents.

HIGHWAY ENGINEER – ROBERT N. RENZI, PE (WV PE # 17228)

Mr. Renzi has over 16 years of experience and has served as a Transportation Project Manager with CDI/L.R. Kimball, with assignments in all aspects of the highway design. Mr. Renzi was part of the design team for the Keyser-McCoole Bridge Project located in Keyser, West Virginia and McCoole, Maryland. The project involved replacing the existing 2,272 ft long two-lane bridge carrying US 220 over the North Branch of the Potomac River spanning between Keyser, WV and McCoole, Maryland. The new two-lane bridge included realignment of existing US 220 with associated roadway approach work, which required a considerable amount of right-of-way clearance for the project. Mr. Renzi was responsible for developing the Right-Of-Way Plans (RW-1 and RW-2) and Advanced Acquisition Plats in accordance with the Design Directives and in coordination with both WVDOH and MDSA.

GEOTECHNICAL ENGINEER (TRIAD) – DANNY LIPSCOMB, PE

Mr. Lipscomb is currently a Project Engineer at the St. Albans branch of Triad. In this capacity, he has been involved in development and management of subsurface exploration projects and development of geotechnical engineering reports providing recommendations based on field observations and laboratory results for bearing capacity, earthwork operations, earthen dam embankments, slope stability, flexible and rigid pavement design, lateral earth pressures, sinkhole remediation, geophysics (electrical resistivity and ground penetrating radar), and rock excavation. These projects have included freshwater dams, shopping centers, roadway/bridges, buildings, retaining walls, residential communities, water storage tanks, waste water treatment facilities, and structures for coal mining facilities. Duties included assignment of laboratory testing, visual inspection of soil/rock specimens, geophysics, and earthen embankment evaluation. Mr. Lipscomb has additional experience in areas relating to civil site design, hydrologic and hydraulic design, grading plans, water line plans, sewer line plans, hydraulic calculations, storage tank sizing, booster station design, roadway layout and design, storm water management plans, technical specifications, environmental and regulatory permitting, blast monitoring, and construction quality control.

ENVIRONMENTAL MANAGER – TAMMY L. SHERWIN

Ms. Sherwin, with 23 years of experience, will be responsible for public involvement and all environmental aspects of the project including: all related investigations and documentation for NEPA approval, Section 4(f) evaluations, stream evaluation and impacts, wetland delineations, surface water studies, habitat assessments (terrestrial and aquatic), Section 7 consultation, farmland evaluations, floodplain identification, land use studies, and socioeconomic evaluations. Recent experience includes: PennDOT 9-0 - SR 36 Section 07S Corridor Improvements and the SR 6219 Section 020; and PA Turnpike – Allegheny Tunnel Transportation Improvement Project.

E & S – BRIAN A. CANARY, PE, CPESC

Mr. Canary (25 years of experience) serves as a Transportation Engineer assigned to highway design and small bridge projects. His responsibilities include preparing roadway design plans, horizontal and vertical alignment, hydraulic analyses, cross sections and profiles.

UTILITIES – TIMOTHY A. BLISS, PE

Mr. Bliss (28 years of experience) is a Senior Transportation Engineer in the Transportation Department. He is assistant project manager on several projects. His duties include all aspects and supervision of highway layout and design including vertical and horizontal alignments, cross sections, storm water management, erosion and sedimentation control, traffic control, signing and pavement marking plans, traffic signal design, earthwork diagrams, quantities and estimates. He is also experienced in utility coordination and right-of-way plan preparation, with prior experience in roadway construction inspection.

H & H – KAREN A. MUESER, PE

Ms. Mueser (15 years of experience) is a hydrologic and hydraulic engineer in the Transportation Department, which includes bridge and culvert hydraulics, drainage design, erosion and sediment pollution control, natural stream design and scour analysis. Ms. Mueser has completed the four Rosgen courses in natural stream design and restoration and has experience analyzing a wide variety of hydrologic and hydraulic conditions.

RIGHT-OF-WAY – DOMINIC A. MARTUCCIO, PE, PLS

Mr. Martuccio has over 26 years of experience in civil/transportation engineering experience and has been responsible for project managing and engineering work such as highway design, report preparation, traffic analysis, plan preparation as well as supervising associate analysts and technicians. Technical skills include the use of MicroStation with InRoads/InSurvey/GEOPAK software, AutoTurn, Scheduling Software; and Synchro.

SURVEYING – STEPHEN LANDGREBE

Mr. Landgrebe (30 years of experience) serves as a Senior Survey Party Chief. He has been responsible for various aspects of survey field work, data reduction, and production of the required survey deliverables. His years of experience include horizontal and vertical control networks, geometry, boundary and ALTA/ACSM surveys, right of way surveys, erosion and sedimentation control relating to stakeout of silt fence, etc. along with utility surveying and construction inspection. Since joining L.R. Kimball, Mr. Landgrebe has gained valuable knowledge in various phases of surveying relating to architectural, civil design, photogrammetric mapping, stockpile volumes, and GIS projects.

Past Performance

Bridge/Roadway Projects:

PennDOT Bureau of Design, Pennsylvania Rapid Bridge Replacement P3 Project

Various Locations, PA

L.R. Kimball was a subconsultant to HDR on the Pennsylvania Rapid Bridge Replacement (RBRP) P3 Project to design, construct, finance and maintain 558 bridges throughout the Commonwealth of Pennsylvania. The project created efficiencies through economies of scale, innovation and optimal risk-allocation that allowed the Department to deliver more bridges faster at a lower whole-life cost than was possible when using a traditional "design, bid, build" procurement. The project helped to improve the connectivity of the Commonwealth's transportation network, while minimizing the impacts on the traveling public. The improved connectivity, including removal or modification of certain weight restrictions on certain Replacement Bridges, increased the efficiency of freight and commercial movements, which benefited the economy of the Commonwealth.

L.R. Kimball's role on the project included providing bridge and highway expertise, located within HDR's project office to assist with the startup of the project and development of design standards and templates to be used by more than 20 design squads developing the design calculations and construction plans. L.R. Kimball staff also assisted with the total project design management (Deputy Design Discipline Lead for Bridge) and quality control.

L.R. Kimball provided several engineers and designers to provide complete preliminary and final design documents for 12 of the 558 structures. These deliverables included: Line & Grade, TS&L, Design Field View, Foundation, and Final Structure and Roadway Plans, as well as E&S Control and MPT Plans for each of the 12 sites. This also included direct coordination with other project personnel on H&H design, geotechnical design, right-of-way, and environmental permitting. The largest bridge designed by L.R. Kimball was a 2-span, 246' long structure.



PennDOT, District 10-0 – E01744 – Mayport Bridge

Redbank Township, Clarion County, PA

L.R. Kimball performed final design for the replacement of the Mayport Bridge in PennDOT District 10-0. The Mayport Bridge carries SR 536 over Red Bank Creek. The bridge replacements were constructed off-line to utilize the existing structure for traffic control during construction. The replacement structure was a 2-Span, 252' long steel plate girder bridge.



PennDOT District 1-0, E01397 – Group 1 Bridges

Crawford, Mercer, Venango & Warren Counties, PA

The E01397 Project Specific Open-End included seven structures and effort that consisted of bid document preparation for four design/build structures, preliminary and final design of three structures and construction consultation for all seven. Supplemental surveys and geotechnical services were provided by Monaloh and AGES.

Design/build bid documents, including Preliminary TS&L, Design Field View Plans, Utility Coordination, E&S Plans, Traffic Control Plans, Final Right-of-Way Plan, H&H studies and waterway permit applications, streamlined Foundation Reports, and specifications packages were prepared for four structures – SR 0258-B07 in Mercer County, SR 0699-B00 & SR 1013-B02 in Crawford County & SR 0027-B04 in Warren County. Public involvement was also completed for all structures. The designs included a cast-in-place rigid frame, precast box culverts and a ConSpan. SR 0027-B04 was completed in 2010 and the others were completed in 2011. Many deliverables were approved on the first submission and all were provided in advance of or on the scheduled due date.



Traditional delivery projects included two precast culverts – SR 0062-B06 in Mercer County and SR 0008-B10 Venango County. These structures were also completed in 2011. L.R. Kimball met and exceeded the District schedule for each structure, accelerating the lettings to enable the District to utilize available funding and complete construction of SR 0062-B06 prior to the 2011 Stoneboro Fair. Our efforts included TS&L and Final Structure Plans, Design Field View Plans, E&S, Traffic Control and Right-of-Way Plans, cross-sections and Final Construction Plans, H&H studies and waterway permit applications, streamlined Foundation Reports, utility coordination and public involvement.



The PS&E package for a seventh structure, SR 0058-B05 over Mowry Run in Mercer County, was constructed in 2013. This structure was a single span, prestressed concrete spread box beam bridge on integral abutments. A portion of the existing cut stone abutments were being maintained to optimize the span length and also eliminate the need for shoring or other costly stream control measures during construction.



Twelve Department evaluations were received. Five have been **Consistently Exceeds Expectations** – the highest evaluation possible, with four **Exceeds Expectations**, and three **Expected Performance**.



PennDOT, District 11-0, E00566 - New York Avenue, Beaver, PA - This project included the phased rehabilitation and widening of the 12-span, 709' long New York Avenue Bridge in Rochester Borough, Beaver County. The structure was rehabilitated under traffic using a phased, half-width reconstruction. Services provided included structure rehabilitation, approach roadway work, temporary traffic signals, right-of-way plan preparation, utility coordination, railroad coordination, and other services.

The traffic and signal design services associated with this project included data collection, capacity and queuing analyses, temporary signal design and post-construction signal modifications to the existing six-legged intersection of New York Avenue (SR 1032) with Pleasant Street / Kossuth Street / Brighton Ave / SR 0065 Ramps.

During the half-width reconstruction, traffic traversing the bridge between Harrison Street and the signalized intersection of New York Avenue (SR 1032) with Pleasant Street/Kossuth Street/Brighton Ave and the SR 0065 Ramps were reduced to a single lane of alternating one-way travel. In order to accomplish this, temporary signal heads and loop detectors were installed at the existing unsignalized intersection of New York Avenue (SR 1032) and Harrison Street. This equipment was directly wired to the current controller located at the intersection of New York Avenue (SR 1032)/Pleasant Street/Kossuth Street/Brighton Ave/SR 0065 Ramps.



PennDOT, District 9-0 – Pemberton Bridge Rehabilitation Warriors Mark Twp, PA – The Pemberton Bridge Rehabilitation project refurbished a two-span, 460' long haunched steel girder structure on SR 0453 over the Little Juniata River, Norfolk Southern Railroad, and a private drive in PennDOT District 9-0 on the Blair-Huntingdon County line approximately 4.5 miles south of Tyrone, PA.

CDI/L.R. Kimball performed an in-depth bridge inspection and analysis of the existing structure and prepared an Alternatives Analysis for PennDOT. The result of this Alternatives Analysis recommended a rehabilitation plan including a new, widened bridge deck, replacement of exterior stringers, as well as overall repair, cleaning and painting of the remaining steel girder-floorbeam-stringer superstructure. Substructure work was limited to an analysis of the existing pier for proposed loadings and minor concrete repairs to the abutments and pier, as well as a seismic retrofit of the fixed pier bearings. The design was prepared to accomplish the rehabilitation and widening over two construction seasons, maintaining one lane of alternating traffic on the structure at all times.

CDI/L.R. Kimball prepared a comprehensive and detailed set of construction and rehabilitation plans on time and within the client's budget, enabling them to meet the construction letting schedule. The result of this clear and detailed set of plans was a complex project accomplished with minimal questions from the field and construction completion nearly three months ahead of schedule.



PennDOT, District 11-0 – E01494 – Tank Farm Road Bridge

Independence Township, Beaver County, PA

L.R. Kimball provided preliminary design, final design, and services during construction for the replacement of the 2-Span, 145' long Tank Farm Road Bridge, SR 3022-B04 over Raccoon Creek in Independence Township, Beaver County.

The services provided by the L.R. Kimball team for this agreement included:

1. *Preliminary Engineering* – field surveys, public involvement, Open Plan scheduling, geotechnical engineering, determination of preliminary right-of-way needs, and 80% completion of the following prior to the design field view; roadway design, structure design, drainage design, development of a maintenance & protection of traffic scheme, signing design, and pavement marking design, along with all required utility coordination.
2. *Final Design* – type, size, and location (TS&L) submission and approval, foundation design, preparation and approval of interagency permits and erosion & sedimentation permit, structure design, quality development plan, Open Plan scheduling, final design office meeting/field view, drainage design, roadway design, right-of-way plan completion, utility coordination, traffic control plan, signing/pavement marking plan, erosion and sedimentation control plan, all coordinated into a PS&E package.
3. Services during construction included shop drawing review, preparation of as-built drawings, and consultation during construction.

This project was a Limited Design Review (LDR) pilot project for PennDOT District 11-0. As part of the LDR process, L.R. Kimball staff independently performed several of the final design reviews normally conducted by Department personnel including: Final Foundation Report, Final Structure Plans, Final Construction Plans, E&S Control Plans, Traffic Control Plans and the Constructability Review and Final Plan Check. L.R. Kimball received a rating of "Exceeds Expectations" for the Final Design portion of this project. The Department identified in the project After Action Review (AAR) meeting that 12 weeks of scheduled time had been saved through the LDR process.



PennDOT, District 4-0 – E00648 – SR 2004, Sec 670

Wayne County, PA

The scope of this project included preliminary design, final design, and construction services for the replacement of the two-span bridge carrying SR 2004 over Middle Creek in Wayne County, PA. The replacement bridge for this two-span structure maintains the two-span arrangement, utilizing rolled steel beams. The span lengths are approximately 90 feet each. The final design required a three-dimensional finite analysis to address uplift at the acute corners of the ends of the continuous structure.

Before



Before



After



After



PennDOT, District 2-0 – E01840 - Haslett Run Bridge Replacement**Greenwood Township, PA**

SR 219 Section A08 over Haslett Run – Clearfield County, PA – The L.R. Kimball team completed this prestressed concrete beam design with integral abutments for District 2-0. We reconstructed this hydraulically controlled structure on the NHS system using a temporary road. The team maintained horizontal and vertical alignments to minimize impacts to ROW and construction cost. The design retained a portion of the existing abutments to provide scour protection and optimize span length.

Kane Hill Road Bridge**Greene Township, Erie County, PA**

This project included preliminary design, final design, and construction services for the replacement of the Kane Hill Road Bridge over Fourmile Creek in Greene Township, Erie County. The replacement structure was a single span, prestressed concrete beam bridge on integral abutments. L.R. Kimball completed project management, preliminary and final roadway design tasks, design field view, H&H, final TS&L, right-of-way activities, Level 1B CEE, utility coordination, final structure foundation report and final structure plans, waterway permitting, traffic control plan & PS&E package. Field surveys were conducted by Monaloh and the boring contract was administered by AGES.



PennDOT District 12-0 - SR 0519, Sec K20 @ SR 980 & I-79 Ramps, North Strabane Township, Washington County, PA - The purpose of this project is to improve safety along S.R. 0519 at and between the intersections of S.R. 0519 and S.R. 0980 and the S.R. 0079 Houston Interchange Ramp intersections with S.R. 0519. This will include designing intersection improvements at the intersection of S.R. 0519 and S.R.0980 and the S.R. 0519 and S.R. 0079 Houston Interchange Ramp intersections, and evaluating the need for turning lanes along S.R. 0519 between the intersections. Also included will be an investigation of the feasibility of separating the S.R. 0019 WB exit and WB entrance ramps from the S.R. 0519/S.R.0980 intersection and relocating them near the existing S.R. 0019 Bridge to form a half diamond configuration. Depending on the results of the investigation, this may be included in the project as well.

PennDOT District 5-0 - SR 2054 & 2004 Betterment Projects - Berks County, PA - Located in the City of Reading and Mt. Penn Township (Berks County, PA), this project consists of the resurfacing / rehabilitation of SR 2054 (Perkiomen Avenue) from Mineral Spring Road to Howard Boulevard. The total length is approximately 1.18 miles. Also, the resurfacing / rehabilitation of SR 2004 (Bingaman Street) from 5th Street to Perkiomen Avenue. The total length is approximately 0.90 miles. These work orders include both preliminary engineering and final design and will follow the PennDOT Minor Project Review Process. Design activities include horizontal and vertical alignment development, traffic data collection and analysis, drainage, development of the maintenance and protection of traffic plans, ADA ramp design, utility coordination, erosion and sediment pollution control, signing and pavement markings, traffic signal design,

environmental studies, preparation of a Level 1B Categorical Exclusion Evaluation, and public involvement. The project will follow PennDOT's 3R criteria and be constructed within the existing legal right-of-way.

PennDOT District 12-0 - SR 0021, Section C10, German Township, Fayette County, PA - This 5 mile project located in Fayette County, German Township involved preliminary design, including the environmental clearance document for upgrading of the existing 2-lane facility to a 4-lane highway with an 18-foot median and incorporation of jug handles at a 2 mile interval. The western termini was at the intersection of SR 0021/SR 0166 and the eastern termini was near the intersection with township road T-475 (S&T Drive). The project was originally scoped as an EA; however, through the development of a downgrade report the design team received approval from the FHWA to use a CEE as the environmental clearance document. The preliminary design was through design field view and included preliminary signal plan, preliminary traffic control plan, preliminary right-of-way plan, utility coordination, H&H reports, preliminary E&S plan, preliminary signing and pavement marking plan, and public involvement (plans display, PAC meetings, web page and special purpose meetings). For this project an innovative GIS application was developed to assist with right-of-way. This application included the linking of information such as the right-of-way claim block, deeds, cross sections, and photography to each parcel, as well as, tools to assist with locating parcels, placing notes, and measuring areas.

In addition to the projects listed previously, L.R. Kimball has experience with multiple projects involving intersection improvements across the Commonwealth of Pennsylvania:

Project Name	PennDOT District	County	Description
Schaefferstown Road Intersection	5-0	Berks	Safety and capacity improvements, realignment and signalization of SR 183 / SR 4016 intersection and single span bridge replacement
SR 36 Corridor	9-0	Bedford	Modification of the intersection of SR 36 and SR 869 and safety improvements to the corridor
SR 22 Sec 495	10-0	Indiana	A 4-mile widening to a 4-lane with median including realignment of multiple intersections and jug handles
SR 22 Sec 005	9-0	Cambria	A 4-mile widening to a 4-lane with median including realignment of multiple intersections and jug handles
Southpointe II	HOP in 12-0	Washington	The design of multiple signalized intersections and a round-a-bout

We will take a proactive approach to communicating with project stakeholders in an effort to overcome roadblocks. Our experience on past projects has shown us that this type of approach enables the project manager and the team to advance the critical path portions of the project in a timely manner to maintain the overall schedule. In our communication efforts, we will seek to build strong relationships with the DOH, the same kind of relationships that have contributed greatly to our recent project successes with PennDOT and the Pennsylvania Turnpike Commission. Also, we will call on our extensive past experience with bridge/highway/environmental projects, and use similar approaches where possible, to efficiently reach resolution and ultimately save design cost.

*CE Projects:***Galloway RAMP Site Remediation and Refuse Fire Quenching, USDA/SCS, Barbour County, WV**

Kimball provided surveying, mapping, geotechnical and engineering services for the investigation, assessment and design of site remediation for the Galloway Refuse area, located on both sides of Route 76, just west of the Town. Portions of the site had burning gob, and the geotechnical investigation was used to identify "hot spots", with a subsequent design to permit quenching as part of the site regrading. The project also involved an abandoned deep mine entry, which required installation of piping and valves to reduce the mine pool prior to closure. The project was transferred from the USDA to the WV DEP after being finalized, and ultimately completed by the State under a separate contract.

OSM Emergency Response Contract, Multi-Year Agreement for the Region Encompassing Southern WV / Western VA / Eastern KY

Kimball obtained a multi-year agreement with the USDI / Office of Surface Mining for Emergency Responses to Abandoned Mine Land projects throughout the Region noted above. Services required in response to these emergencies included geotechnical investigations, site survey and mapping, the design of access roads and retaining walls, fire quenching, site regrading, and stormwater management. Since these were emergency responses, the projects required site visits within days of the events, followed by rapid response designs.

Kimball completed approximately 25 emergency projects in a 4 year period. Fifteen of these projects came during a 2 month period when heavy rains and a flood occurred in the middle Appalachian states. Many of these projects threatened the life of many individuals. Kimball was selected to perform an assessment of whether the project was an emergency and was related to mining. Kimball performed a field investigation, surveying and remedial design to cure the problem. All projects required very rapid response. For a number of the projects, Kimball completed an interim emergency action as a first step to reduce the emergency. Some of these actions included: cleaning of debris, moving of a house, stabilization, filling of mine openings or subsidence holes. The projects included: landslides, subsidence, mine blow-outs, refuse fires, and mine openings.

Yellow Creek Watershed AMD Treatment Systems Phased Restoration Plan, Blacklick Creek Watershed Association, Indiana County, PA

The Yellow Creek Watershed is a sub-watershed of the Blacklick Creek Watershed, which encompasses an area of approximately 420 square miles in Indiana and Cambria Counties. The Yellow Creek Watershed covers an area of approximately 52 square miles. The upper portion is of exceptional value and classified as a cold water fishery. The fishery resources of the Lower Yellow Creek Watershed are impacted by non-point sources of acid mine drainage (AMD) and siltation, especially the section of Yellow Creek below the Route 954 bridge which is not included in the Pennsylvania Fish and Boat Commission trout-stocking program because of AMD.

**Phase IA and IB AMD Remediation**

This Phase I restoration plan was completed by Kimball in 2000. This phase consisted of two treatment "modules" consisting of settling ponds, anaerobic wetlands, vertical flow reactor (VFR) drain systems, and a clean water "polishing wetland." A unique aspect of these projects was that they incorporated approximately 2.3 acres of mitigation wetlands ("polishing wetlands") as a final treatment prior to discharge to Yellow Creek.

This project was a true public/private/volunteer partnership supported by the Pennsylvania Game Commission, Natural Resources Conservation Service, PADEP, Indiana County Conservation District, Indiana University of Pennsylvania, Pennsylvania Boat and Fish Commission, and the Heinz Endowment.

Funding for Phases IA and IB was from a combination of EPA Act 319, PA Growing Greener and the Heinz Endowment, along with numerous hours of voluntary time by Watershed members and others.

Phase IIA AMD Remediation

The Phase II subwatershed represents the second portion of the five-phase restoration area, and includes multiple coal refuse disposal areas, numerous AMD mine discharges and extensive highly-eroded areas resulting from the AMD flows. Following completion of the Phase I portion of the site (with construction of the IA and IB passive treatment modules), the BCWA and Kimball were awarded additional funding for the development of the Phase IIA area, located immediately downstream of the current sites. The Phase IIA portion incorporates a modular system for AMD treatment and construction was completed in 2001.

The Phase IIA system is capable of treating up to 150 gallons of acidic mine discharge per minute. Funding for the majority of this work was supplied by PA Growing Greener and Act 319 funds. Since a considerable volume of fill was required for the Phase IA and IB modules, the Phase IIA passive treatment system was designed to be constructed using the excavation required for the IA/IB soil borrow.



Kimball prepared mapping for this facility as well as site environmental investigation, design, construction oversight and post-construction monitoring.

Following completion of the construction, a series of additional modifications were made, including the implementation of an experimental treatment pond (site IIB, by another consultant) which discharges into the Phase IIA final pond. These changes have rendered the outlet pond inadequate for settlement of the suspended solids treated by the systems, and a modification of the final pond was implemented in 2004 to incorporate a larger, U-shaped settling pond. These modifications have resulted in substantial improvements in the treatment system effluent.

Phase IIC AMD Remediation

The Phase IIC project included the geotechnical site investigation, development of mapping and site design for AMD Remediation, and is located roughly 1/2 mile downstream from the previously completed Phase IIA project.

This site included collection of AMD from a deep mine discharge, and treatment in a state-of-the-art system utilizing sulfate reducing bacteria (SRB) and an aerobic wetland. This work was funded by a combined grant from PA Growing Greener and Act 319.

Prior to the start of the Phase IIC work, the local AMD discharge location had been known as "the borehole", since flow exited from a vertical hole adjacent to the stream. Before beginning the construction, Kimball staff and BCWA members attempted to insert a pipe into "the borehole" to estimate the static head available. However, in the process, it was discovered that the vertical hole was actually the end of a horizontal pipeline buried roughly 3' below grade. Tracing the pipeline upslope, we found a roughly 150' long terra cotta pipeline leading to a previously unknown deep mine portal, apparently constructed to drain the mine workings. This discovery forced a complete modification in the construction concept, but was fortunately identified early in the design process.

In 2006, the Phase IIC system was modified to incorporate AMD flows from the adjacent Judy 14 Tributary, which are routed through a holding pond, and then into the SRB treatment system. During this construction modification, the final pond was expanded to permit increased settling of suspended solids, and the system is again working very well.

Contact: Dr. Robert Eppley

52 Oakland Avenue, Indiana, PA
724-479-0672

Laurel Run Site #2 AMD Remediation, Blacklick Creek Watershed Association, Indiana County, PA



Kimball prepared a site remediation plan for the Laurel Run #2 abandoned mine land site in Indiana County, PA. The project included aerial photography and mapping of the site limits, geotechnical investigations of the existing spoil material, installation of several borehole/monitoring wells above the highwall, design of the acid mine drainage (AMD) remediation technique, and preparation of a construction bid package, as well as periodic site observation during and after construction.

The site was extremely complex in that it resulted from a face-up type strip mine, and two subsequent deep mine entries. The smaller of the two mines began near the highwall and extended for a short distance to the west. There is little information regarding this entry, and it may have been a "house mine". The larger mine

was quite extensive, and the Laurel Run #2 location represented the low spot in the mine, so there was a considerable flow from the entry. The area immediately below the highwall had an extensive pool of accumulated iron sludge, and this had created a substantial fringe wetland along the perimeter. Portions of this wetland were considered "mining impacted" but other sections were not.

As such, the reclamation design required two mine seals (one "dry" and one "wet"), backfilling of a dangerous highwall, collection of the AMD from the wet seal, and development of a passive treatment facility for the collected AMD. All of this had to be created without negative consequences to the non-mining impacted wetlands.

With cooperation from a local ash hauling contractor, the highwall and sludge pool backfill was completed using ash material from a nearby fluidized bed power plant. This permitted creation of a stable backfill using material designated as a beneficial use product.

The passive treatment system was created using two parallel, state-of-the-art sulfate-reducing bacteria vertical flow reactors (SRB Systems), which drain to a settling basin, and then into a serpentine polishing wetland prior to discharge into the stream. The system is working extremely well with substantial excess alkalinity and low iron and aluminum concentrations at the effluent.

Contact: Dr. Robert Eppley

52 Oakland Avenue, Indiana, PA
724-479-0672

PADEP Palo Alto Mine Void Location, Palo Alto, Schuylkill County, PA

Multiple residences were impacted by potential mine subsidence associated with a horizontal drainage portal constructed to drain a deep mine. Since the mine and portal were abandoned, there were inadequate maps showing the location of the portal. The PADEP hired Kimball to investigate the area, and attempt to identify surface features to assist with location of the mine and portal. Once the portal location was approximated, a series of borings were completed to identify the limits of the boring, and obtain video of the voids. This information (both location and void condition) were then used to develop a mine portal sealing recommendation, that was subsequently used by the PADEP to install a permanent drain and void seal. This project was particularly challenging given the proximity of the residences to the portal void, requiring the drilling crews to coordinate with the landowners.

PADEP Mount Carmel Mine Subsidence Project, Mount Carmel, Northumberland County, PA

A substantial sinkhole had developed in an intersection of a residential neighborhood, associated with an adjacent abandoned deep mine. The PADEP hired Kimball to georeferenced the available mine maps to attempt to locate the mine workings that might be impacting the sinkhole. Following preliminary location of the mine workings, a series of borings were completed to evaluate the mine voids (both approximate location, depth and condition). This data was then utilized to develop recommendations for closure of the mine void by the PADEP.

PADEP Mill Street Mine Void Location, Pittston, Luzerne County, PA

There is an historic abandoned mine extending below large portions of the Town of Pittston, with much of the mine having a very shallow cover. Reports of mine subsidence were received by the PADEP in the area of Mill Street, and Kimball was subsequently hired to assess the condition of the mine(s). Historic mine maps were gathered, georeferenced for horizontal location within the Town, and then the mining maps were "draped" over a vertical surface representing the coal contours. This was used to create a 3D representation of the mines lying below the Mill Street area. This 3D map was used to select multiple locations for borings to assess the condition of the mine voids, and to collect better information regarding the depth to the voids. Recommendations were subsequently developed regarding likely subsidence locations, and these were used by the PADEP to prepare a long-term strategy for sealing the voids.

PADEP Drifton Estates Mine Void Location, South Freeland, Luzerne County, PA

An abandoned deep mine void with a very steep dip was located below a housing development in the Drifton Estates portion of South Freeland. A series of subsidence related incidents were documented and the PADEP hired Kimball to assess the site conditions and provide recommendations for remedial repairs. The mine void dip was so severe that the coal seam outcropped in front of several of the houses, and yet was fifty feet deep at the south end of the development. Kimball completed a series of borings throughout the development to create a 3D representation of the mine, showing the depth to mine roof and floor throughout the site. The volume of the void was estimated and the critical subsidence areas were identified for use by the PADEP in their void remediation efforts.

Upper and Little Schuylkill River Comprehensive Watershed Assessments Schuylkill County Conservation District, Pottsville, PA



Kimball personnel completed the development of a watershed assessment utilizing a GIS database for the Upper Schuylkill River Watershed for the Schuylkill County Conservation District/Schuylkill Riverkeeper. This project began in December 1999, and included the development of a database of non-point source pollution locations throughout the watershed extending from the river's source near Tuscarora to the confluence of the Schuylkill and the West Branch in Schuylkill Haven. The Watershed Action Strategy included identification and assessment of non-point source (NPS) impacts in the region, a prioritization of AMD sites, and general recommendations for future remediation and mitigation strategies. Existing data were input to the system and geo-referenced to readily available commercial base mapping products creating a powerful system for viewing, querying, and tracking the status of all identified AMD sites within the study area. The

system provides tabular data, custom reports and visual representations of site locations, geology, hydrogeology, land use/cover, property ownership, water quality and extent of AMD impacts. Custom interfaces and queries were built into the system to facilitate the prioritization of sites based on location, extent and magnitude of impacts or other selected criteria. The Watershed Action Strategy served as the foundation for subsequent selection and implementation of remediation strategies at prioritized sites and provided overall guidance and direction for the management of the tributary system.

This project was awarded the 2001 Governor's Award for Watershed Stewardship.

In October 2000, Kimball personnel began a similar project for the Little Schuylkill River Watershed, also for the Schuylkill County Conservation District/Schuylkill Riverkeeper. This project included the development of a database of non-point source pollution locations throughout the watershed extending from north of Tamaqua to the confluence of the Schuylkill River and the mainstream of the Schuylkill River near Port Clinton. The Watershed Action Strategy included the identification and assessment of non-point source (NPS) impacts in the region, a prioritization of abandoned mine seeps, agricultural runoff, industrial discharges, and a list of general recommendations for future remediation and mitigation strategies. The principal difference between the reports completed for the Upper and the Little Schuylkill Watersheds was that water quality issues for the former project were primarily a result of abandoned mine land runoff, whereas those for the latter were primarily agricultural and industrial runoff issues.

The Little Schuylkill Watershed project was awarded the 2002 Governor's Award for Watershed Stewardship.

The Watershed Action Strategy served as the foundation for subsequent selection and implementation of remediation strategies at prioritized sites and provided overall guidance and direction for the management of the tributary system.

Contact: Mr. Craig Morgan

1206 AG Center Drive, Pottsville, PA
570-622-4124

Borehole Relocation, Saint Vincent Archabbey College and Seminary, Latrobe, PA

This project involved both the initial study phase and the development of a remedial action plan for the relocation of the borehole, known as the "bubbler", which is located along Monastery Run, on the Saint Vincent College and Seminary grounds.

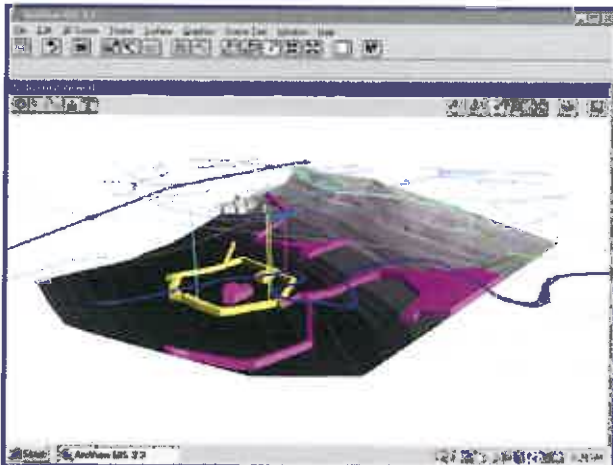
The borehole is a remnant of an abandoned mine borehole that was originally drilled to relieve water pressure from an extensive deep mine. The hole is up to 250 feet deep, extends to the mined coal seam, and penetrates heavily fractured overburden strata.

The mine workings form a "honeycomb" of void areas, lying in a narrow, steeply sided basin formed by the Uniontown-Latrobe Syncline. Most of the mine workings lie beneath drainage of local streams in this area, and as a result, have filled with ground water. The workings are continually recharged at the outcrop of the Pittsburgh Coal and other permeable strata, such as sandstone.

Naturally occurring fracture systems, and those formed by subsidence over the mine workings, facilitate movement of ground water into and out of the mine workings. Pressure created by the pool of water in the workings has forced groundwater along the workings to the outcrop and upwards through fractures (and other conduits, such as boreholes) to the surface, causing surface discharges.

The "bubbler" borehole has an estimated flow of 500 gallons per minute (gpm). It had been cased and connected to a piping system for transport of the collected acid mine drainage to an existing passive treatment system. The borehole casing had been leaking for several years, and due to the artesian flow conditions, required replacement and abandonment to prevent direct discharges to the adjacent stream.





Kimball hydrogeologists prepared a simple 3D model, depicting the mine workings, the overlying strata, and locations of overlying coal seams with respect to the valley of Fourmile and Monastery Runs. Based on an analysis of the model, a report was developed identifying alternative methods for collection of the artesian flows for treatment in the MRIP. The report discussed each alternative and included a list of recommendations, including reuse of the current location.

The 3D model, geologic cross sections and recommended alternative remedial measures were presented at a Public Meeting at the College. Present at this meeting were various members of the coalition, including College staff, PADEP and County Conservation District personnel, and interested citizens involved in the local watershed association.

Following presentation of the 3D model and discussion of the various remedial measures at the Public Meeting, a specific methodology was

selected by the coalition members, and Kimball engineers prepared a bid package, including drawings and specifications, for the installation of the new well and abandonment of "the Bubbler". This work was subsequently completed, with Kimball providing construction oversight of the abandonment and installation of the new well.

Contact: Ms. Angela Belli

St. Vincent College Env. Ed. Center

300 Fraser Purchase Drive, Latrobe, PA
724-537-4555



Enon Valley Watershed Assessment and Restoration Plan, Enon Valley Borough, Lawrence County, PA

This project involved the development of a Watershed Assessment of an unnamed tributary of the North Fork Little Beaver Creek, Enon Valley Borough, Lawrence County, PA. The project included identification and assessment of point source and non-point source pollutant baseline levels, and stormwater management problem areas.

Deliverables included a general watershed hydrologic and hydraulic study, stormwater management ordinance, and Restoration Plan, and creation of a GIS for water quality data access and presentation.

The upper portions of the watershed include an abandoned strip mine area that is significantly overgrown. This area was initially considered a minimal source of pollution to the area, based on the extensive vegetation; however, initial water quality samples indicated significant metals loadings in a natural wetland below the AML site, indicating years of AMD discharges.



Enon Valley Borough utilizes septic systems and shallow dug wells for potable water supply. Some of the on-lot septic systems appear to be inadequate, and significantly high levels of total coliforms were noted at the downstream end of town.

In addition, many of the culverts throughout the town have been shown to be inadequate, as a result of being undersized, partially filled with debris, or a combination of both factors.

The combination of these factors (AMD from the AML source upstream, inadequately-treated discharges from on-lot sewage facilities, undersized/blocked culverts, and shallow potable wells) has created a water quality issue for the Borough. The Watershed Assessment will be used to solicit additional funding for repairs to the various problems noted.

Contact: Mr. Tyrone Petrich
PO Box 295, Enon Valley, PA
724-336-2661

Loyalhanna Watershed Acid Mine Drainage Consolidation, Loyalhanna Watershed Association, Inc., Latrobe, PA

There are a series of boreholes along the Loyalhanna Creek through Latrobe, PA, which were drilled to permit release of mine water during the underground mining in the area. This mining occurred in the first half of the 20th Century, and the resulting AMD discharges had polluted a significant portion of Loyalhanna Creek.

The Watershed Association hoped to collect the water from these boreholes, and direct it to a passive treatment system for remediation. However, the boreholes are located adjacent to, and in some places in, the creek. As such, there is a need to close the existing boreholes and replace them with new holes, at more convenient locations.

Kimball provided an initial study of these boreholes, which involved a study of the local mine pool hydrology, geology, and historical mining activities. From this study, Kimball evaluated the feasibility of drilling into the mine pool located beneath Latrobe Foundation property in Westmoreland County. The final goal was to obtain an artesian flow of mine water which will be treated on-site.

Part of this project involved the collection and georeferencing of historic mine maps so that the extent of the mine voids could be established. This was a particularly difficult effort since the mining in this basin is quite extensive, and was generated by multiple mines over many years. Some of the mines were found to overlap, requiring careful fitting of the maps to surface features.



The final product of the first phase was an assessment of the mine pool hydrology and a discussion of the feasibility of drilling into the mine pool on the Latrobe Foundation property for the purpose of obtaining an artesian flow of mine water. This report was discussed at a public meeting utilizing a Power Point presentation for clarity. The Loyalhanna Watershed Association obtained partial funding for the Phase II operations, which included sealing of some of the boreholes and drilling new access holes for passive treatment at the selected locations. This process is continuing, following the sealing of the first two boreholes and creation of a new borehole near a passive treatment system (designed by the USDA). Kimball geologists have been involved in each step of the process, and continue to assist as project funding permits.

The map shown on above is indicative of the complex nature of the coal mining and the interaction with Loyalhanna Creek.

Contact: Mr. Drew Banas

18 Old Lincoln Highway West, Ligonier, PA
724-238-7560

Gulston Refuse Fire Reclamation Project, US Department of the Interior, Office of Surface Mining, Perry County, KY

Kimball performed field investigations, including site reconnaissance, drilling, sampling, and temperature monitoring, geotechnical evaluation, and remedial design drawings, specifications and cost estimates for the federal Office of Surface Mining Reclamation and Enforcement for this burning coal refuse pile underlying a wooden church in Gulston, Perry County, Kentucky. The remedial solution involved excavation of the burning and hot coal refuse below the toe of the church foundation, quenching in bench ponds, compaction of the exposed refuse, and placement of a compacted layer of soil to seal the refuse pile from air. The proposed remedy was effective in stopping the refuse fire and eliminating the danger to the wooden church and its congregation.

Blaine Gob Pile II Reclamation Project, ODNR Division of Reclamation and Abandoned Mine Lands, Belmont County, OH

Kimball prepared a reclamation construction package for the abandoned surface mining lands associated with the Blaine Mine Site. The site had been subdivided by the ODNR into two sections, Blaine Gob Piles I and II, and the former site was reclaimed at an earlier date by others. The Blaine Gob Pile II project involved an approximate 60 acre abandoned strip mine site and two appurtenant areas. These areas were then further subdivided into 3 sites, with very different requirements.

Site 1 was a three acre residential area, which was experiencing slope stability problems resulting from subsurface seepage from the adjacent stripped areas. This area was investigated using a series of test borings and a series of rock underdrains and retaining walls designed to protect the houses from continued earth movement. The second site was the partially mined, and there was evidence of some auger and deep mining areas. The principal design consideration for this site was to regrade the area to approximate original contour, cover the regraded areas with material obtained from the spoil piles, and provided erosion and sedimentation controls until these areas

could be revegetated. Site 3 was a series of small gob piles adjacent to the railroad tracks approximately ½ mile from the strip mine area. This area had apparently once been the site of a small prep plant and the refuse material probably was a result of mining at the Blaine Mine and possible others. The refuse piles encompassed a total area of approximately 17 acres, and again, the principal design consideration was to provide a grading plan to return the area to approximate to the gob piles for soil cover and a construction package prepared which include erosion and sedimentation controls.

Marinucci Subsidence Area, US Department of Interior, Office of Surface Mining, Belmont County, OH

Beginning in 1988, numerous residences east of Flushing, Belmont County, Ohio began experiencing unexplained structural damage. This included: tension cracking, floor slabs separating from basement walls, cracks in masonry block basement walls, water loss in one well, apparent uplift of the furnace into floor joists, basement walls bulging inward, cracking and separation of concrete sidewalks, "staircase" style cracks between and through exterior brick walls, broken water lines, septic system failure, and main floor support beam lifted of pilasters. Based on a site visit and conversations with the residents, three possible causes for the problems were postulated. The options examined were: expansive soils, landslides, mine subsidence. The Pittsburgh No. 8 coal was deep mined from 180 to 220 feet below the site during the mid 70's. The third option, mine subsidence, was concluded to be the most likely cause of the problems. The types of distress and the general trend of the cracking are indicative of mine subsidence. It was determined that roof spalling had occurred in the roof strata above the mine. The height of failure was estimated to range from 1 foot to 13 feet above the top of mine. This resulted in an unstable pillar configuration that was unable to adequately support the roof in some areas. It appeared as though roof failure had contributed to the subsidence. Pillar failure was the primary cause of subsidence in the study area with roof failure as a probably contributing factor.

Triad Engineering Projects:

West Virginia Department of Environmental Protection, Elk Creek Portals Mingo County, West Virginia

The project consists of two sites located near Delbarton, off County Route 65, in Mingo County. The two sites are named "Elk Creek," and "Millstone Branch." Work elements consisted of the sealing and stabilizing of numerous open and collapsed mine portals along Elk Creek and Millstone Branch.

Triad designed, both wet and dry mine seals, bat gate installations, mine structural demolition procedures, limestone rip rap ditches, aprons, and storm drain pipe and structures to properly collect and convey drainage to Elk Creek. Six temporary stream crossings were also designed to provide access for construction equipment to the portal locations.

Services provided by TRIAD on this project consisted of surveying to provide base topographic mapping for design, drilling and geotechnical engineering to determine subsurface water depths and subsurface conditions, NPDES and Water Quality permitting, Corps of Engineer permitting, engineering design, and construction document preparation.

West Virginia Department of Environmental Protection, Kittle Flats Reclamation Project, West Virginia

The Kittle Flats reclamation project involved a large pre-law abandoned surface mine complex producing acid mine drainage (AMD). Initially a subsurface investigation was implemented along with preliminary surveying to establish ground control for future aerial mapping. The initial phase of the project involved design of a "state of the art" passive treatment system based on hydrogeological modeling performed. The system designed was both economical to construct and fairly maintenance free. A second phase of the project involved water sampling and monitoring as well as reclamation analyses and design. TRIAD'S project manager conducted the pre-bid and pre-construction meetings and provided a level of construction oversight.

Major Services Provided:

- Surveying and mapping
- Subsurface investigation
- Laboratory testing/analysis
- Monitoring well construction & development
- Preparation of design drawings
- Specifications and bid documents
- Construction management

West Virginia Department of Environmental Protection, Rumble Stevens Refuse And Portals Boone County, West Virginia

The Rumble (Stevens) Refuse & Portals project is located off County Route 1, along Lick Creek, near the Town of Rumble, in Boone County, West Virginia. Work elements consisted of the regrade of an existing refuse pile to provide a more stable configuration, drainage improvements, and wet mine portal closures. Triad designed a demolition plan for the removal of existing mine conveyor concrete piers, regrade design of an existing refuse pile, wet seal portal closures, limestone rip rap ditches and aprons and piping and storm drain structures to collect and convey drainage to Lick Creek.

Services provided by TRIAD on this project consisted of surveying to provide base topographic mapping for design, drilling and geotechnical engineering to determine subsurface water depths and subsurface conditions, NPDES and Water Quality permitting, Corps of Engineer permitting, engineering design, and construction document preparation.

West Virginia Department of Environmental Protection, Whitman Flats Reclamation Project, West Virginia

The Whitman Flats reclamation project involved an approximately 200 acre abandoned surface mine site. The mining that occurred in the late 1960's and early 1970's, was severely impacting the water quality of the Middle Fork watershed. An exploratory drilling program, and laboratory testing regimen was designed and implemented to determine subsurface conditions, water levels and water quality. Our drilling program indicated the Homewood Sandstone overburden material was the primary acid producer affecting the Middle Fork watershed. The field work on this reclamation project included extensive surveying and mapping, water monitoring and analysis. Upon completion of the field phase of the project, along with compilation and study of the generated data, it was decided the most effective method for treatment, from a maintenance and cost factor, involved the use of a Circulating Fluidized Bed coal combusting ash, in conjunction with a substantial passive water treatment system. TRIAD provided design drawings and technical specifications, conducted the pre-bid and pre-construction meetings, and performed water testing during construction and at completion of construction.

Major Services Provided:

- Surveying and mapping
- Subsurface investigation
- Laboratory testing/analysis
- Monitoring well construction & development
- Preparation of design drawings
- Specifications and bid documents
- Construction management

West Virginia Department of Environmental Protection, Wvu Tech Drainage – Morris Creek Watershed Montgomery, West Virginia

The project consisted of multiple sites within the West Virginia University Tech and Morris Creek Watershed area. The sites contained various mine related issues consisting of wet and dry mine portals, contaminated mine drainage, underground impoundments, abandoned mine structures, and refuse piles. TRIAD designed both wet and dry portal closures, passive water treatment systems both in and out of stream for acid mine drainage, and plans for dismantling and removing abandoned mine structures and regrading refuse piles. This project required close coordination with the West Virginia Department of Environmental Protection AML and Water Resource divisions, the Morris Creek Water Creek Association, and the United States Army Corps of Engineers.

Services provided by TRIAD on this project consisted of surveying to provide base topographic mapping for design, drilling and geotechnical engineering to determine subsurface water depths and subsurface conditions, NPDES and Water Quality permitting, engineering design, and construction document preparation.

3. GOALS AND OBJECTIVES

CDI/L.R. Kimball performed a voluntary site visit of the project location in Monongalia County to obtain a better understanding of the project layout and intent described in the Expression of Interest. Based on our knowledge of this project (Richard Mine Drainage Access), the projected scope will include the design, construction plans and specifications for site access to the Richard Mine Drainage Treatment System. The CDI/L.R. Kimball teams primary goal and objective on the project is to perform the engineering services for the intersection, bridge and access to provide the Department of Environmental Protection, Office of Abandoned Mine Lands and Reclamation (WVDEP/AML) with the most efficient and economical design to meet their needs.

Several visible existing utilities, mainly overhead electrical and telephone lines and an underground sanitary sewer line were noted in the vicinity of the potential tie-in location of the bridge and access road to WV Route 7. The overhead lines are visible in the photo to the right with poles running parallel to the roadway. Our first task after being awarded the contract would to have our surveying, geotechnical and environmental crews on site to provide the necessary mapping, field data and geological samples necessary to development the access road alignment and determine the specific intersection point with WV Route 7.



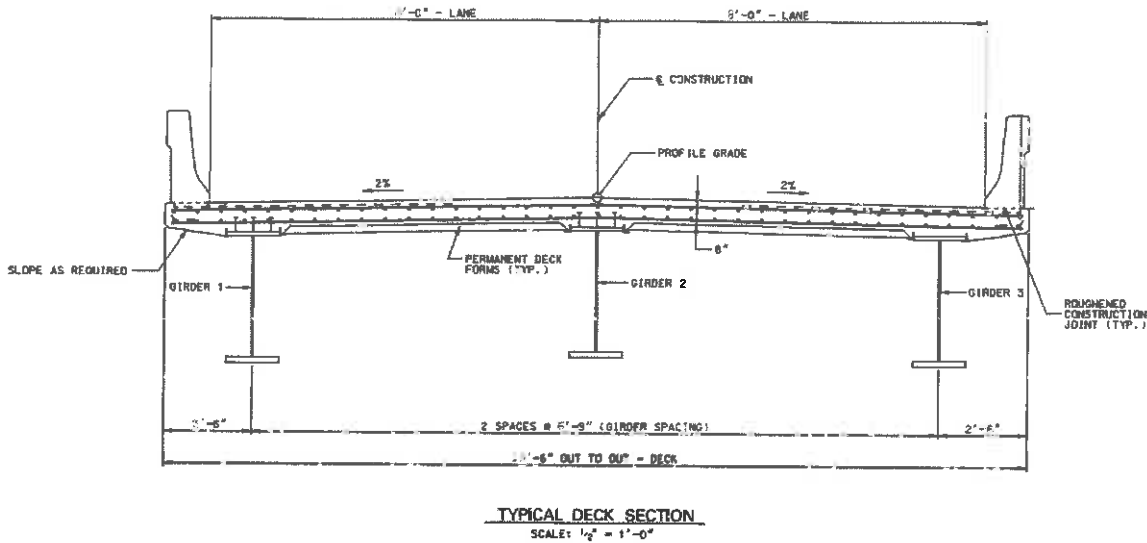
Once the location of the intersection is determined, an Intersection Justification Report (IJR) would be developed and submitted to the West Virginia Division of Highways for approval to ensure the location, design and criteria meet both state and federal regulations. The mapping data would additionally be used to develop any potential utility relocation, right-of-way plans and plats, and the stream profiles 500' upstream and downstream of the proposed bridge location. The stream profiles would be used to develop a HEC model to determine the hydraulic and scour potential of the new location to ensure no adverse effects created from the stream crossing.

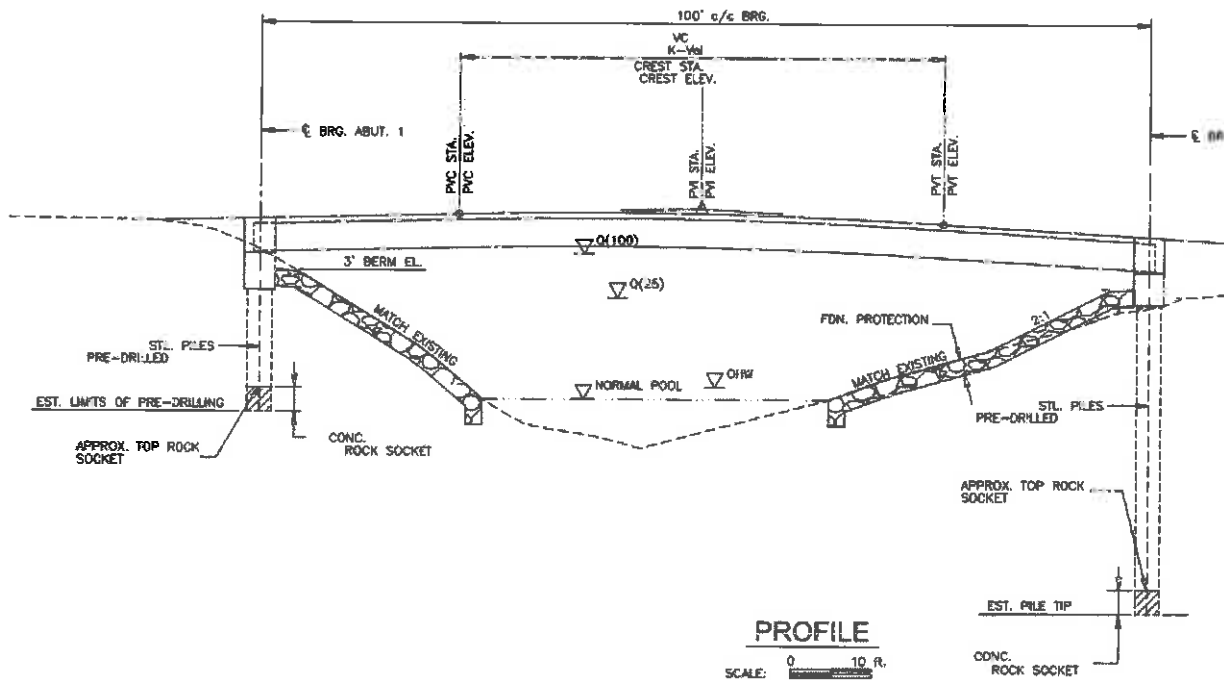
The necessary environment clearance and permitting documents will be developed and submitted for clearance and approval. For this project it is assumed that a Categorical Exclusion, NEPA documentation, NPDES permitting and USACE Section 404 permits would be required unless previously obtained by the WVDEP/AML. The geotechnical borings would provide the foundation constraints and bearing pressures for the roadway and bridge substructure units.

CDI/L.R. Kimball did some minimal preliminary design to develop a conceptual layout for the access road and bridge structure as shown below. Based on approximate minimum design criteria, it was determined the intersection would need to provide at least 450' of sight distance in either direction onto WV Route 7. This was used to develop our theoretical layout and alignment of the proposed access road. The known existing utilities were also plotted to better determine an effective road alignment.



The proposed bridge location was determined and assumed to be approximately 100' in total length. With a required 16' clear roadway width, a three (3) girder cross section could be accomplished with approximately 36" deep beams. Due to the low profile of the creek banks and subsequent water elevation, the use of vertically cambered beam to provide a larger hydraulic opening might be necessary based on the results of the hydraulic analysis. The creek water surface for a 100-year storm (Q_{100}) would be required to flow unimpeded under the girders with no greater impact to the surrounding area. Based on assumptions and past experience, an approximate bridge cross section and elevation would be similar to the ones shown below.





After completion of the design and construction plans, CDI/L.R. Kimball would provide the necessary special provision and specifications for the proposed project. Our team would work united with the WVDEP/AML Management team to ensure the necessary bid documents were developed to bring the project to construction. CDI/L.R. Kimball has the capabilities to provide any post-design work needed during construction as well.

4. ATTACHMENTS

Attachment B - AML Consultant Qualification Questionnaire

Attachment C – Project Experience Requirements

Organization Chart

Triad Engineering Documentation

**WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
AML CONSULTANT QUALIFICATION QUESTIONNAIRE**

Attachment "B"

PROJECT NAME EOI - Richard Mine Drainage Access		DATE (DAY, MONTH, YEAR) October 5, 2018	FEIN 27-2620523
1. FIRM NAME CDI-Infrastructure, LLC dba L.R. Kimball		2. HOME OFFICE BUSINESS ADDRESS 615 West Highland Avenue Ebensburg, PA 15931	3. FORMER FIRM NAME L. Robert Kimball & Associates, Inc. (1992-2010) L. Robert Kimball & Associates (a sole proprietorship) 1953 - 1991
4. HOME OFFICE TELEPHONE Phone: 814-472-7700 Fax: 814-472-7712	5. ESTABLISHED (YEAR) 1953	6. TYPE OWNERSHIP <input type="checkbox"/> Individual <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Joint-Venture	6a. WV REGISTERED DBE (Disadvantaged Business Enterprise) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO

7. PRIMARY AML DESIGN OFFICE: ADDRESS/ TELEPHONE/ PERSON IN CHARGE/ NO. AML DESIGN PERSONNEL EACH OFFICE

500 Corporate Landing
2nd Floor
Charleston, WV 25311
Phone: 304.746.3565
Wesley D. Hevener, PE

8. NAMES OF PRINCIPAL OFFICERS OR MEMBERS OF FIRM Richard E. Genday, PE, Vice President	8a. NAME, TITLE, & TELEPHONE NUMBER - OTHER PRINCIPALS																					
	<table border="0"> <tr><td>Martin S. Karlovic</td><td>President</td><td>215-665-0308</td></tr> <tr><td>Brian D. Short</td><td>Vice President</td><td>215-636-1129</td></tr> <tr><td>Richard E. Genday, PE</td><td>Vice President</td><td>814-419-7873</td></tr> <tr><td>Edward J. Jones</td><td>Vice President</td><td>814-341-7928</td></tr> <tr><td>David S. Kimmel</td><td>CFO, Vice President & Treasurer</td><td>215-282-8723</td></tr> <tr><td>Rory Morrison Smith</td><td>Assistant Treasurer</td><td>215-282-8220</td></tr> <tr><td>Craig H. Lewis</td><td>Secretary</td><td>215-636-1115</td></tr> </table>	Martin S. Karlovic	President	215-665-0308	Brian D. Short	Vice President	215-636-1129	Richard E. Genday, PE	Vice President	814-419-7873	Edward J. Jones	Vice President	814-341-7928	David S. Kimmel	CFO, Vice President & Treasurer	215-282-8723	Rory Morrison Smith	Assistant Treasurer	215-282-8220	Craig H. Lewis	Secretary	215-636-1115
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Rory Morrison Smith	Assistant Treasurer	215-282-8220																				
Craig H. Lewis	Secretary	215-636-1115																				

20 Administrative	0 Construction Administrator	0 Industrial Hygienists	16 Support Staff
8 Architects	19 Construction Inspectors	1 Interior Designer	1 Surveyors
3 CADD Technician/Draftsperson	3 Designers	1 Landscape Architects	13 Transportation EIT
0 Cartographers	11 Drillers	1 Mapping Specialists	5 Transportation Designers
0 Chemical Engineers	13 Electrical Engineers	9 Mechanical Designers	16 Transportation Engineers
1 Chemists	5 Environmental Scientists	2 Mechanical Engineers	31 Other
4 Civil Designers	1 Estimator	3 Photogrammetrists	
24 Civil Engineers	0 Foundation/Geotechnical	24 Piping	270 Total
0 Civil Technicians	1 GIS Specialists	2 Planners	
4 Computer Specialists	4 Geologists	1 Specification Writers	
6 Construction Manager	8 Geotechnicians	9 Structural Engineers	

TOTAL NUMBER OF WV REGISTERED PROFESSIONAL ENGINEERS IN PRIMARY OFFICE: 16
 *RPEs other than Civil and Mining must provide supporting documentation that qualifies them to supervise and perform this type of work.

Brad Blickenderfer	Richard Genday	Diane Glarrow	Richard Holes
Edward Jones	Stephen Landgrebe	Michael Leigh	Ryan Meitzler
David Minnear	Cameron Mock	Christophehr Nasuti	Robert Renzi
David Rispoli	Gregory Schrock	John Vitez	

10. HAS THIS JOINT-VENTURE WORKED TOGETHER BEFORE? YES NO N/A

11. OUTSIDE KEY CONSULTANTS/SUB-CONSULTANTS ANTICIPATED TO BE USED. Attach "AML Consultant Qualification Questionnaire".

NAME AND ADDRESS: Triad Engineering, Inc. 10541 Teays Valley Road Scott Depot, WV 25560	SPECIALTY: Geotechnical Engineering	WORKED WITH BEFORE <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> Yes <input type="checkbox"/> No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> Yes <input type="checkbox"/> No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> Yes <input type="checkbox"/> No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> Yes <input type="checkbox"/> No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> Yes <input type="checkbox"/> No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> Yes <input type="checkbox"/> No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> Yes <input type="checkbox"/> No
NAME AND ADDRESS:	SPECIALTY:	WORKED WITH BEFORE <input type="checkbox"/> Yes <input type="checkbox"/> No

12. A. Is your firm's personnel experienced in Abandoned Mine Lands Remediation/Mine Reclamation Engineering?

YES Description and Number of Projects: L.R. Kimball has performed dozens of AML Remediation projects, in West Virginia, Pennsylvania, Virginia, Kentucky, Ohio and Maryland

NO

B. Is your firm experienced in Soil Analysis?

YES Description and Number of Projects: L.R. Kimball has a full-service Geotechnical Testing Laboratory and Geotechnical Drilling Services, including dozens of projects on AML Sites

NO

C. Is your firm experienced in hydrology and hydraulics?

YES Description and Number of Projects: L.R. Kimball is experienced in Regional and Site-specific Rainfall Hydrology as well as Groundwater Hydrology, and with Hydraulic analysis and design of lakes, streams, channels and pipes.

NO

D. Does your firm produce its own Aerial Photography and Develop Contour Mapping?

YES Description and Number of Projects: L.R. Kimball subcontracts the actual collection of aerial photographs, but performs all other aerial mapping services in-house.

NO

E. Is your firm experienced in domestic waterline design? (Include any experience your firm has in evaluation of aquifer degradation as a result of mining.)

YES Description and Number of Projects: L.R. Kimball has prepared assessments, designs and construction oversights for dozens of domestic waterline projects in West Virginia and Pennsylvania.

NO

F. Is your firm experienced in Acid Mine Drainage Evaluation and Abatement Design?

YES Description and Number of Projects: L.R. Kimball has completed assessments, designs and construction oversights for numerous small and large AMD projects. These have included seep collection and treatment projects, as well as deep mine seals to minimize seepage. We have prepared both passive and active treatment systems for AMD sites.

NO

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Minnear, David G., PE	30	35	5

Brief Explanation of Responsibilities

Primary designer and project manager for AML related projects for Kimball. History of emergency response AML projects, as well as remediation of AMD sites, dangerous high walls, and refuse regrading sites.

EDUCATION (Degree, Year, Specialization)

BS in Civil Engineering, 1978, General Civil with emphasis in Hydrology and Hydraulics

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

Cambria County Solid Waste Management Authority
 National Society of Professional Engineers
 Professional Recyclers of Pennsylvania
 Association of State Dam Safety Officials
 Pennsylvania Society of Professional Engineers

REGISTRATION (Type, Year, State)

WV Professional Engineer, 1985 - 2018

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Mock, Cameron R., PE	2	25	30

Brief Explanation of Responsibilities

Alternate Project Manager for AML sites. Long history with domestic water and wastewater projects and AML remediation.

EDUCATION (Degree, Year, Specialization)

BS in Civil Engineering Technology, 1977, General Civil with emphasis in Water/Wastewater issues

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

American Society of Civil Engineers
 Pennsylvania Society of Professional Engineers
 American Water Works Association
 National Society of Professional Engineers
 American Society of Highway Engineers

REGISTRATION (Type, Year, State)

WV Professional Engineer, 1985 - 2018

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Wright, George B., PE	5	10	10

Brief Explanation of Responsibilities

Project Engineer specializing in site grading, stormwater management, erosion and sedimentation control and construction drawing development

EDUCATION (Degree, Year, Specialization)

BS Geo-Environmental Engineering, 1999, Geosciences specialization

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS
Association of State Dam Safety Officials

REGISTRATION (Type, Year, State)
PA Professional Engineer, 2007 - 2019 [REDACTED]

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Marhefka, James R., PG	5	20	5

Brief Explanation of Responsibilities

Project Geologist specializing in geotechnical investigations, soil analyses, drilling and monitoring wells

EDUCATION (Degree, Year, Specialization)

BS Geology, 1987, Geotechnical

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS
Pennsylvania Council of Professional Geologists, National Groundwater Association

REGISTRATION (Type, Year, State)
PA Professional Geologist, 1995 [REDACTED]

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.) Genday, Richard E., PE, Vice President	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE: 37	YEARS OF AML RELATED DESIGN EXPERIENCE: 37	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Brief Explanation of Responsibilities <u>Mr. Genday is L.R. Kimball's Vice President. Mr. Genday has over 37 years of experience and is Principal-in-Charge for all of the firm's transportation and civil Engineering related projects, including highway, bridge, airport and construction inspection contracts.</u>			
EDUCATION (Degree, Year, Specialization) BS in Civil Engineering, 1980, Civil Engineering			
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS National Society of Professional Engineers American Association of Airport Executives (AAAE) American Society of Highway Engineers		REGISTRATION (Type, Year, State) Design Structure Quality Institute Aviation Council of Pennsylvania (ACP) WV Professional Engineer, 1997 - 2018 [REDACTED]	

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.) Hevener, Wesley D, PE, CBSI	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Brief Explanation of Responsibilities Mr. Hevener is a Project Manager and Design Engineer with over 17 years of experience in the design and development of transportation projects. Those projects have ranged from simple to complex in nature with project delivery methods varying from traditional Design-Bid-Build to Design-Build/P3. His responsibilities have included project management, construction inspection and management, bridge design and rating, structure design, NBIS bridge and tunnel inspection, structural analysis, and transportation design.			
EDUCATION (Degree, Year, Specialization) MBA, West Virginia University, 2006 MS, Civil Engineering, West Virginia University, 2003 BS, Civil Engineering, West Virginia University, 2001			
MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS American Council of Engineering Consultants (ACEC) - Director for Joint Transportation Committee West Virginia Chamber of Commerce West Virginians for Better Transportation		REGISTRATION (Type, Year, State) 2008, WV, Professional Engineer	

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Geoffrey S. Holmes, PE, CBSI			

Brief Explanation of Responsibilities

Mr. Holmes is the Chief Bridge Engineer with over 22 years of experience. Geoff is responsible for all aspects of structure layout and design, project management, and bridge staff resourcing and mentoring. His design experience includes prestressed concrete, steel plate girder and curved steel plate girder bridges. Mr. Holmes was previously employed by the North Carolina Department of Transportation where his experience included the design of many challenging bridges and the coordination and administration of bridge design projects performed for the Department by private engineering firms.

EDUCATION (Degree, Year, Specialization)

BS, Civil Engineering, The Pennsylvania State University, 1996

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

Association for Bridge Construction & Design

REGISTRATION (Type, Year, State)

2009, WV, Professional Engineer

13. PERSONAL HISTORY STATEMENT OF PRINCIPALS AND ASSOCIATES RESPONSIBLE FOR AML PROJECT DESIGN (Furnish complete data but keep to essentials)

NAME & TITLE (Last, First, Middle Int.)	YEARS OF EXPERIENCE		
	YEARS OF AML DESIGN EXPERIENCE:	YEARS OF AML RELATED DESIGN EXPERIENCE:	YEARS OF DOMESTIC WATERLINE DESIGN EXPERIENCE:
Edward J. Jones, PE			

Brief Explanation of Responsibilities

Mr. Jones is the Vice President for the Transportation Planning and Design Group. In this capacity, he is responsible for all design of highway, bridge, environmental and traffic projects. Mr. Jones has 29 years' experience in all phases of transportation design. His experience includes all aspects of highway design including horizontal & vertical alignments, stormwater management, hydrology, hydraulics, utilities, right-of-way plans as well as the management of numerous large scale projects and environmental clearance documents.

EDUCATION (Degree, Year, Specialization)

BS, Civil Engineering Technology, University of Pittsburgh at Johnstown, 1989

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

American Society of Highway Engineers

REGISTRATION (Type, Year, State)

1998, WV, Professional Engineer

14. PROVIDE A LIST OF SOFTWARE AND EQUIPMENT AVAILABLE IN THE PRIMARY OFFICE WHICH WILL BE USED TO COMPLETE AML DESIGN SERVICES

Survey Equipment

Trimble R8 GNSS GPS Units (4)
Trimble R10 GNSS GPS Units (2)
Trimble S6 Robotic/Prismless Total Station (2)
Trimble S3 Robotic/Prismless Total Station (2)
Trimble TSC2 Data collectors (6)
Trimble TSC3 Data collectors (2)
Trimble GX Terrestrial Laser Scanner
Wild NA-2 Levels
Magnetic Locators
Airport-Band Radios

Digital Photogrammetric Mapping, Digital Aerial Triangulation, and Digital Orthophoto Hardware

DELL Precision T7810 workstations (2)
DELL Precision T5500 workstation (1)
DELL Precision T3500 workstations (2)
Alienware 3D HD Monitors
(20) Maxtor 1TB hard drives
(1) Lacie 4TB hard drive
EPSON CD/DVD label printer
HP DesignJet 5500PS
Dell Precision T3500 KLT/Atlas Softcopy and Orthophoto Workstations

Surveying, Photogrammetric, and CADD Software

AutoCAD Civil 3D Software
Bentley Systems Microstation V.8 CAD
GrafNAV / GrafNET ABGPS Post-Processing
ESRI
KLTATLAS Photogrammetric Mapping and Digital Orthophoto Software
Adobe Photoshop (versions CS2 and CS3)
Lizard Tech MrSid Image Compression Software (version 7)

Bridge Software

CDI/L.R. Kimball routinely utilize the standard bridge, roadway and drafting software packages in addition but not limited to the following: Midas Civil, Open Roads, LEAP Steel/Concrete platforms, MDX, In-Roads, Geopak, Staad/Risa 3D, Civil 3D, Microsoft Project, HEC programs, Trafficware and ProjectWise. In addition, we have extensive experience with all design programs utilized by PennDOT for all aspects of roadway and bridge projects including bearing pads, abutments and retaining walls, culverts, bridge analysis and rating, piers, pre-stressed beams, splices, and steel girders.

Project Insight

CDI/L.R. Kimball performed a voluntary site visit of the project location in Monongalia County to obtain a better understanding of the project layout and intent described in the Expression of Interest. Based on our knowledge of this project (Richard Mine Drainage Access), the projected scope will include the design, construction plans and specifications for site access to the Richard Mine Drainage Treatment System. The CDI/L.R. Kimball teams primary goal and objective on the project is to perform the engineering services for the intersection, bridge and access to provide the Department of Environmental Protection, Office of Abandoned Mine Lands and Reclamation (WVDEP/AML) with the most efficient and economical design to meet their needs.

15. CURRENT ACTIVITIES ON WHICH YOUR FIRM IS THE DESIGNATED ENGINEER OF RECORD

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	NATURE OF YOUR FIRM'S RESPONSIBILITY	ESTIMATED CONSTRUCTION COST	PERCENT COMPLETE
Central West Virginia Regional Airport Authority, General Engineering, Kanawha Co. WV	Yeager Airport, 100 Airport Road 175, Charleston, WV 25311	Runway Rehab engineering and construction QA, stormwater control engineering, master planning	\$1.4 Million	75%
Fairmont-Marion Co Reg Arpt Auth, General Engineering, Marion Co. WV	Fairmont Municipal Airport, P.O. Box 387 Fairmont, WV 26555-0387	General Civil and Surveying, Permitting, Apron expansion, obstruction removal, master planning	\$400,000	80%
Arch Coal Inc. topographic mapping Services, multiple sites in West Virginia	Arch Coal, Inc., One CityPlace Drive, Suite 300, St. Louis, MO 63141	Topographic mapping, stockpile volume computations, orthophoto development	Annual budget of roughly \$100,000	On-going efforts
West Virginia DOT, Multiple projects at multiple sites throughout the State	West Virginia DOT, 1900 Kanawha Blvd E Charleston, WV 25305	Environmental and geotechnical assessments of various sites throughout the state	\$100,000	On-going efforts
CPV Power Plant, 1000 MW gas fired power plant, Cambria County PA	CPV 50 Braintree Hill Office Park, Suite 300 Braintree, MA 02184	General Civil and Surveying, Permitting, design of water supply piping and pump stations	\$900 Million	75%
Panda Hummel Power Plant, 1000 MW gas fired power plant, Snyder County, PA	Panda Power Funds 5001 Spring Valley Road Suite 1150 West Dallas, TX 75244	General Civil and Surveying, Permitting, design of stormwater management and site general arrangement layout	\$900 Million	98%
Cambria Somerset Auth., Industrial Water Supplier to 2-county region, Cambria and Somerset Counties, PA	Cambria Somerset Auth Central Park Complex 110 Franklin Street, Suite 200 Johnstown, PA 15901-1831	Engineer of Record for operations and maintenance, permitting and design changes to 100-year old system with 5 dams	Annual budget of roughly \$1.2 Million	On-going efforts

TOTAL NUMBER OF PROJECTS:

Corporately we have hundreds of projects, and the individuals highlight herein are involved in roughly 100

TOTAL ESTIMATED CONSTRUCTION COSTS: \$

As noted, we have corporate projects with construction costs totaling in the multi-\$millions. The individuals highlighted herein are currently involved with projects up to \$20 Million

15. PRESENT ACTIVITIES ON WHICH YOU ARE DESIGNATED ENGINEER OF RECORD

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST (in thousands)	PERCENTAGE COMPLETED
Mon/Fayette 53A, Highway Design Jefferson Hills Borough, PA	Pennsylvania Turnpike Commission Harrisburg, PA	\$1,325	55 %
E00958 - SR 6219, Sec 020, Highway Design Somerset Borough, PA	PennDOT District 9-0 Hollidaysburg, PA	\$13,944	97 %
E02341 - Schaefferstown Road Intersection, Highway Design, Jefferson Township, PA	PennDOT District 5-0 Allentown, PA	\$720	75 %
E02530 - 36 Corridor, Highway Design South Woodbury Township, PA	PennDOT District 9-0 Hollidaysburg, PA	\$498	95 %
E02589 - SR 519 @ SR 980, Highway Design North Strabane Township, PA	PennDOT District 12-0 Uniontown, PA	\$1,604	55 %
E02662 - SR 84, Section 450, Highway Design Greene and Palmyra Townships, PA	PennDOT District 4-0 Dunmore, PA	\$4,170	40 %
E02746 - SR 244 over Ellisburg Creek, Construction Services, Genesee Township, PA	PennDOT District 2-0 Clearfield, PA	\$25	99 %
Stockpile Services Various Sites, Michigan	Consumers Energy Jackson, MI	\$198	95 %
New Correctional Facility, Architectural Services Cape May Court House, NJ	Cape May County of New Jersey Cape May, NJ	\$25,000	80 %
Open End Geotechnical Services Various Sites, KY	PPL Corporation Mountoursville, PA	\$169	95 %
E02909 - SR 2004, Highway Design Reading, PA	PennDOT District 5-0 Allentown, PA	\$382	75 %
Construct New Headquarters Facility, P&S/Garage and Crime Lab, Summit Township, PA	Pennsylvania Department of General Services, Harrisburg, PA	\$918	20 %
GA Detention Center, Complex Improvements Savannah, GA	Chatham County of Georgia Savannah, GA	\$1,167	60 %
New Sheetz Headquarters, Architectural Services Claysburg, PA	Altoona-Blair County Development Corp Altoona, PA	\$24,000	93 %
Maryland IT Radio Systems Annapolis, MD	State of Maryland Dept of Information Tech, Annapolis, MD	\$342	62 %
Governor's Office of CA, Next Generation 9-1-1 Emergency Services, CA	State of California Sacramento, CA	\$134	70 %
VA Public Safety Communications Consulting Services, Powhatan, VA	Powhatan County of Virginia Powhatan, VA	\$89	75 %
State of North Dakota University System Network Security, Bismarck ND	State of North Dakota Bismarck, ND	\$298	60 %
Develop DBE Plan Reporting for Yeager Airport, Airport Services, Charleston, WV	Yeager Airport Charleston, WV	\$15	70 %
NRG Ash Facility, Mapping Services New Jersey	NRG Energy, Inc. Princeton, NJ	\$62	40 %
New Regency Park Elementary School, Architectural Services, Plum Borough, PA	Plum Borough School District Plum, PA	\$492	80 %

15. PRESENT ACTIVITIES ON WHICH YOU ARE DESIGNATED ENGINEER OF RECORD

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST (in thousands)	PERCENTAGE COMPLETED
Rowan College Renovations, Architectural Services Mt. Laurel, NJ	Rowan College at Burlington Co., NJ Mt. Laurel, NJ	\$1,795	75 %
PEMA, Webtool Support PA	Pennsylvania Emergency Management Agency, PA	\$186	70 %
New Garden Flying Field, Reconstruction and Widening of Runway 6-24, Landenburg, PA	New Garden Township Landenberg, PA	\$755	40 %
Washington County Airport/Remove Obstructions, Design and Permitting, Washington, PA	Redevelopment Authority of the County of Washington, Washington, PA	\$63	90 %
Allegheny Tunnel Transportation Improvement Project Allegheny County, PA	Pennsylvania Turnpike Commission 400 North Street Harrisburg, PA	\$4,042	95 %
Rehabilitate GA Terminal Apron, Phase II- Construction-CA Services Wings Field Airport, Blue Bell, PA	Wings Field Preservation Assocs. Blue Bell, PA	\$256	83 %
University Park Airport, Hangar Site Design and Permitting Services State College, PA	Miller Brothers Construction, Inc. Haven, PA	\$31	95 %
Rehabilitate Taxiways Johnstown, PA	Johnstown-Cambria County Airport Authority Johnstown, PA	\$223	50 %
Rehabilitate Apron, Phase II Construction Friedens, PA	Somerset County Airport Somerset, PA	\$69	80 %
Remove Obstructions at Airport Friendens, PA	Somerset County Airport Somerset, PA	\$72	20 %
Wilkes-Barre/Scranton Airport, Taxiway B Lighting, Construction Avoca, PA	Bi-County Board for Luzerne & Lackawanna Counties Avoca, PA	\$68	15 %
Wilkes-Barre/Scranton Airport, Taxiway B Paving, Construction Avoca, PA	Bi-County Board for Luzerne & Lackawanna Counties Avoca, PA	\$222	20 %
Update Disadvantaged Business Enterprise Plan at Reading Airport Reading, PA	Reading Regional Airport Authority Reading, PA	\$14	20 %
Construction Airport Security Fencing, Phase 1, Design at Reading Airport Reading, PA	Reading Regional Airport Authority Reading, PA	\$157	10 %
Airport Maintenance Hangar Development, Site Preparation at Bedford Airport Bedford, PA	Bedford County Airport Authority Bedford, PA	\$83	13 %
Terminal Building Aviation Assistance Services at Williamsport Airport Montoursville, PA	Williamsport Municipal Airport Authority Montoursville, PA	\$10	8 %
Bedford County Airport Proposed Hangar, A/E	Bedford County Airport Authority	\$116	11 %

15. PRESENT ACTIVITIES ON WHICH YOU ARE DESIGNATED ENGINEER OF RECORD

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST (in thousands)	PERCENTAGE COMPLETED
Services Bedford, PA	Bedford, PA		
Talen-Ash Facilities Mapping & Coal Stockpile Inventories Various Sites, PA	Talen Generation, LLC Allentown, PA	\$104	85 %
Soil Boring & Engineering Contract for First Energy Various Sites, OH	First Energy Service Company Akron, OH	\$114	55 %
NIPSCO Stockpile Inventories Various, IN	NiSource Merrillville, IN	\$20	65 %
Allegheny Co DPW – Jail Steam Vault Abandonment Pittsburgh, PA	Allegheny County Department of Public Works Pittsburgh, PA	\$35	10 %
CSA Annual Base Services – Engineering Consultant Johnstown, PA	Cambria Somerset Authority Johnstown, PA	\$27	10 %
E02260 - PA 26/36 Culverts, Culvert Replacement Hopewell Township, PA	PennDOT District 9-0 Hollidaysburg, PA	\$762	92 %
E03470 - Brookville 2nd Street Bridge, Bridge Replacement Brookville Borough, PA	PennDOT District 10-0 Indiana, PA	\$290	85 %
Westmoreland County - (L00016) Bridge # 14 Beaver Run, Bridge Design Salem Township, PA	Westmoreland County Department of Public Works Greensburg, PA	\$280	65 %
RACW-California Technology Drive Reconstruction, Full Depth Pavement Reconstruction California, PA	Redevelopment Authority of the County of Washington Washington, PA	\$155	95 %
Chester Co Airport–2017 Airport Business Planning Chester County, PA	Chester County Airport Authority Coatesville, PA	\$25	51%
Carbon County Airport – Jake Arner Memorial Airport Carbon County, PA	Carbon County Airport Authority Lehighton, PA	\$66	35%
Cenkner – On Call – Geotechnical QC Services Various, PA	Cenkner Engineering, Inc. Bellefonte, PA	\$8	23%
Franklin Borough – Sanitary Sewer Improvements Franklin Borough, PA	Borough of Franklin Johnstown, PA	\$196	12%
Kiewit Corporation – 2017 Site Survey for CPV Fairview Energy Center Jackson Township, PA	Kiewit Corporation Omaha, NE	\$111	15%
Lincoln Park Airport – 2017 Master Plan Update Lincoln Park, NJ	Lincoln Park Airport, Inc. Lincoln Park, NJ	\$288	55%
Munster Twp – Spinner Road NBIS Munster Township, PA	Munster Township Loretto, PA	\$5	33%
PA Turnpike – New Warehouse Building Canonsburg, PA	Pennsylvania Turnpike Commission Harrisburg, PA	\$275	12%
PennDOT District 10-0 – On-Call Laboratory Testing Various, PA	PennDOT District 10-0 Indiana, PA	\$50	42%

15. PRESENT ACTIVITIES ON WHICH YOU ARE DESIGNATED ENGINEER OF RECORD

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST (in thousands)	PERCENTAGE COMPLETED
Rosebud Mining – Fulton Run Site Indiana, PA	Rosebud Mining Company Kittanning, PA	\$18	25%
Renovations to Rowan College Burlington County, NJ	Rowan College Mt. Laurel, NJ	\$7	15%
Reading Regional Airport – Security Fencing Reading, PA	Reading Regional Airport Authority Reading, PA	\$285	60%
Sheetz – White Block Renovation Austintown, OH	Sheetz, Inc. Altoona, PA	\$88	22%
Santee Cooper Stockpile Inventories South Carolina	South Carolina Public Service Authority Moncks Corner, SC	\$42	39%
US Gypsum – Stormwater Design Washingtonville, PA	United States Gypsum Corporation Chicago, IL	\$17	28%
USJMA – SR 403 Sanitary Sewer Relocation Stoystown, PA	Upper Stonycreek Joint Municipal Auth Stoystown, PA	\$31	23%
Venango – Acquire Land Runway 3 Franklin, PA	Venango Co. Board of Commissioners Franklin, PA	\$8	58%
Washington Co Airport–Rehab ABC Hangar & Apron Washington, PA	Red Auth of the Co of Washington Washington, PA	\$59	37%
Indian Creek Water Plant Intake Wall Repair Westmoreland Co, PA	Municipal Authority of Westmoreland County New Stanton, PA	\$32	45%
Wagner College – Master Plan Update Staten Island, NY	Wagner College Staten Island, NY	\$52	29%
TOTAL NUMBER OF PROJECTS: 67	TOTAL ESTIMATED CONSTRUCTION COSTS: \$87,164 (in thousands)		

16. PRESENT ACTIVITIES ON WHICH YOU ARE ASSOCIATED WITH OTHERS

PROJECT NAME, TYPE AND LOCATION	NATURE OF FIRMS RESPONSIBILITY	NAME AND ADDRESS OF OWNER	ESTIMATED COMPLETION DATE	ESTIMATED CONSTRUCTION COST	
				ENTIRE PROJECT (in thousands)	YOUR FIRMS RESPONSIBILITY
9 th Street Bridge Bridge Design Pittsburgh, PA	Bridge Rehab.	Owner - Allegheny County Pittsburgh, PA Client - Michael Baker Moon Township, PA	2018	\$1800	\$113
E03172 - US 222 Widening Roadway Project Berks County, PA	Roadway	Owner - PennDOT 5-0 Allentown, PA Client - Urban Engineers Philadelphia, PA	2018	\$3,814	\$167
E02747 - SR 209/0115 Intersection, Roadways Monroe County, PA	Roadway	Owner - PennDOT 5-0 Allentown, PA Client - RK&K King of Prussia, PA	2018	N/A	\$148
FAA Hughes, HVAC Upgrade Atlantic City, NJ	Design/Engineering	Owner - FAA Client - Maser Consult Red Bank, NJF	2018	N/A	\$113
IUP FF&E for Keith and Leonard Halls Indiana, PA	Renovation	Owner - Indiana University of PA Indiana, PA Client - Massaro Corp Pittsburgh, PA	2018	N/A	\$79
DE Dept of Correction, Powerhouse Design Delaware	A/E Services	Owner - Delaware Corrections Client - R G Architects Middletown, DE	2018	N/A	\$25
Metropolitan Washington Airport, Planning Services Washington, DC	Planning	Owner - Metropolitan Washington Airport Washington, DC Client - Ricondo & Associates Alexandria, VA	2018	N/A	\$9
T-436 Carney's Crossing Road, Geotechnical Lilly, PA	Drilling	Owner - PennDOT 9-0 Hollidaysburg, PA Client - Keller Engineers Hollidaysburg, PA	2018	N/A	\$3
MilePost 49 to 53 - Lowering of Hulton Road Pittsburgh, PA	Design Engineering	Owner - PA Turnpike Commission Harrisburg, PA Client - Mackin	2019	N/A	\$378

16. PRESENT ACTIVITIES ON WHICH YOU ARE ASSOCIATED WITH OTHERS

PROJECT NAME, TYPE AND LOCATION	NATURE OF FIRMS RESPONSIBILITY	NAME AND ADDRESS OF OWNER	ESTIMATED COMPLETION DATE	ESTIMATED CONSTRUCTION COST	
				ENTIRE PROJECT (in thousands)	YOUR FIRMS RESPONSIBILITY
		Engineering Pittsburgh, PA			

17. COMPLETED WORK WITHIN LAST 5 YEARS ON WHICH YOUR FIRM WAS THE DESIGNATED ENGINEER OF RECORD

PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST	YEAR	CONSTRUCTED (YES OR NO)
Quemahoning Pipeline, modifications to 66" diameter pipeline, Johnstown PA	Cambria Somerset Auth Central Park Complex 110 Franklin Street, Suite 200 Johnstown, PA 15901-1831	\$600,000	2016	Yes
Potable Water Storage Tank Recondition, Westmoreland County PA	Westmoreland County Water Authority, 124 Park and Pool Rd New Stanton, PA 15672		2017	Yes
Central West Virginia Regional Airport Runway Rehab	Yeager Airport, 100 Airport Road 175, Charleston, WV 25311			

17. COMPLETED WORK WITHIN LAST 10 YEARS ON WHICH YOU WERE THE DESIGNATED ENGINEER OF RECORD				
PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST (in thousands)	YEAR	CONSTRUCTED (YES OR NO)
WVU-Downtown Tunnel Inspection & Evaluation Morgantown, WV	West Virginia University One Waterfront Place, Room 6301 Morgantown, WV 26506	\$21	2008	N/A
Cabell County Emergency Services Center Cabell County, WV	Cabell County, WV Commission, Cabell County Courthouse Suite 300 750 5th Ave. Huntingdon, WV 25701	\$6,400	2009	Yes
Central WV Regional Airport Auth. 2007 Yeager Rehabilitate T/W A&B at Main Apron, Design, Bidding, and Construction Management Charleston, WV	Central West Virginia Regional Airport Authority, Yeager Airport 100 Airport Rd. Ste. 175 Charleston, WV 25311	\$3,706	2009	N/A
Design Services for Hal Greer Blvd., Planning, Design, and Construction Services Huntington, WV	City of Huntington Sanitary Board, 1217 Adams Ave. Huntington, WV 25704	\$429	2009	No
Harrison County, WV Digital Parcel Conversion and GIS Project Clarksburg, WV	Harrison County WV Assessor's Office Clarksburg, WV	\$210	2009	N/A
Putnam County Parcel Map Conversion Putnam County, WV	Putnam County Winfield, WV	\$403	2009	N/A
Hancock County Public Services District - Rt. 8 Sewer Project Weirton, WV	Hancock County, WV Public Service District, 768 Carothers Rd. Weirton, WV 26062	\$1,614	2009	Yes
Marion County WV Parcel Conversion / GIS, Fairmont, WV	Marion County, WV, 200 Jackson St. 4th Floor Fairmont, WV 26554	\$260	2009	N/A
Allegheny County Jail and Public Safety Facility Design Amity, NY	Allegheny County, NY, County Office Building, Room 207 7 Court St. Belmont, NY 14813	\$17,958	2006	Yes
Buncombe Countywide Digital Orthophoto Base Mapping Buncombe County, NC	Buncombe County, NC, 20 S. Spruce St. Room 205 Asheville, NC 28801	\$299	2006	N/A
West End Bypass Preliminary Engineering Services & Environmental Studies Pittsburgh, PA	Gannett Fleming, Inc., 207 Senate Ave. Camp Hill, PA 17011	\$775	2006	N/A
SR 0021, Sect. C10 Preliminary Design & Environmental Services, Fayette County, PA	Pennsylvania Department of Transportation District 12-0, 825 N. Gallatin Ave. Ext. Uniontown, PA 15401	\$1,105	2006	N/A
E00165-Open End for Northern Altoona Access Engineering and Environmental Services Altoona, PA	Pennsylvania Department of Transportation, District 9-0 Hollidaysburg, PA	\$3,437	2006	N/A
Allegheny County Airport Authority - Engineering Services for Cherrington Office Park Pittsburgh, PA	Allegheny County Airport Authority, Pittsburgh International Airport PO Box 12370 Ste. 4000 Landside Terminal Pittsburgh, PA 15231	\$885	2006	Yes

17. COMPLETED WORK WITHIN LAST 10 YEARS ON WHICH YOU WERE THE DESIGNATED ENGINEER OF RECORD				
PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST (in thousands)	YEAR	CONSTRUCTED (YES OR NO)
GAMESA Allegheny Ridge Wind Farm Survey and Environmental Services Various Locations, PA	GAMESA Energy, USA, LLC, 400 Garnesa Drive-Fairless Hills Philadelphia, PA 19030	\$479	2006	N/A
E00134-WO#22-Bedford Springs Final Design Bedford County, PA	Pennsylvania Department of Transportation, District 9-0, 1620 N. Juniata St. Hollidaysburg, PA 16648	\$290	2006	N/A
Shoplock Sunoco Service Center RI/RASE, Somerville, NJ	New Jersey Department of Environmental Protection, Trenton, NJ	\$166	2006	N/A
New Jersey State Police Emergency Operations Center West Trenton, NJ	New Jersey Department of Treasury, 33 W. State St., 9th Fl. PO Box 034 Trenton, NJ 08625	\$14,377	2006	Yes
Franklin County Jail Chambersburg, PA	Franklin County, PA Board of Commissioners, Franklin County Courthouse 14 N. Main St. Chambersburg, PA 17201	\$24,105	2007	Yes
Sussex County Emergency Operations Center, Georgetown, DE	Sussex County Engineering Department, Sussex County Admin. Bldg. 2 The Circle, 3rd Fl. Georgetown, DE 19947	\$7,161	2007	Yes
TrAIL 500kV Transmission Line Project - Aerial Photogrammetric Surveys Various Locations, PA	Allegheny Energy Supply Company, LLC, 800 Cabin Hill Dr. Greensburg, PA 15601	\$467	2007	N/A
Virginia E-9-1-1 Wireless Phase I & II Project Management Services Various Locations, VA	Commonwealth of Virginia, Department of Technology Planning, Suite 135 110 S. 7th St. Richmond, VA 23219	\$4,563	2007	N/A
Westmoreland County 800 Radio System Design and Implementation Greensburg, PA	Westmoreland County, PA Department of Public Safety, 911 Public Safety Rd. Greensburg, PA 15601-2310	\$421	2007	N/A
York County Emergency Services Center York, PA	York County Controller's Office, 1 Market Way West 4th Fl. York, PA 17401	\$11,882	2007	Yes
Allegheny Co. Small Bridge Inspection/NBIS Inspection, Allegheny County, PA	Allegheny County Department of Public Works, 542 Forbes Avenue, Pittsburgh, PA 15219	\$200	2007	N/A
PennDOT, District 4-0 - E00648-SR 2004, Sect 6 Preliminary Design, Final Design, & Construction Services, Wayne County, PA	Pennsylvania Department of Transportation, District 4-0 55 Keystone Industrial Park Dunmore, PA 18512	\$282	2008	N/A
E00648-SR 1018, Sec 67 Preliminary Engineering, Final Design, and Construction Services Wayne County, PA	Pennsylvania Department of Transportation, District 4-0 55 Keystone Industrial Park Dunmore, PA 18512	\$243	2008	N/A
PennDOT, District 9-0 - Pemberton Bridge Rehab Design & Environmental Services Blair County, PA	Pennsylvania Department of Transportation, District 9-0, 1620 N. Juniata St. Hollidaysburg, PA 16648	\$277	2008	N/A

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PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST (in thousands)	YEAR	CONSTRUCTED (YES OR NO)
University Blvd Feasibility Study, Moon Township Allegheny County, PA	Moon Transportation Authority 1000 Beaver Grade Rd. Moon Township, PA 15108	\$362	2008	N/A
Altoona Area School District, Junior High School Architectural Services Altoona, PA	Altoona Area School District 1415 6 th Avenue Altoona, PA 16602	\$2,259	2008	Yes
SR 2008 over Daniels Run and SR 4029 over Burgetts Run Design/Build Bridge and Roadway Approach, Washington County, PA	PennDOT District 12-0 Uniontown, PA	\$159	2008	N/A
Berks County, Architectural and Engineering Services for Design of Prison Renovations/Additions, Berks County, PA	Berks County Services Center 633 Court St. 14th Fl. Reading, PA 19601	\$22,000	2008	Yes
Waste Management and Pollution Prevention Services, Open-end Agreement E00352	Pennsylvania Department of Transportation, Bureau of Environmental Quality, 400 North St., 7 th Floor Harrisburg, PA 17120-0094	\$1,179	2008	N/A
Kenny Construction - TrAIL Project Soil Boring Study and Core Samples Greene & Washington Counties, PA	Kenny Construction, PO Box 3050, 320 South Adams Street Suite 201 Fairmont, WV 26555	\$458	2008	N/A
SR 30 & 981 (E00875) Construction Inspection Services Westmoreland County, PA	Pennsylvania Department of Transportation, District 12-0, 825 N. Gallatin Ave. Ext PO Box 459 Uniontown, PA 15401	\$18,380	2008	N/A
USG Corporation - Engineering Services for Washingtonville Project Derry Township, PA	United States Gypsum Corporation, 550 W. Adams Chicago, IL 60661	\$1,344	2008	Yes
Butler County Prison New Facility Design Butler, PA	Butler County, PA Board of Commissioners 124 W. Diamond St. Butler, PA	\$34,378	2009	Yes
Design Engineering for Clinton Industrial Park, Pittsburgh, PA	Allegheny County Airport Authority, Pittsburgh, PA	\$309	2009	Yes
City of Alexandria, VA Consolidation Feasibility Study, Alexandria, VA	City of Alexandria, VA General Services Alexandria, VA	\$273	2009	N/A
JRA - RFQ#02-2008 Professional Engineering & Technical Services, Regional Sewer Overflow Elimination Program 2008-2009 Johnstown, PA	Johnstown Redevelopment Authority, Public Safety Building, 4th Floor 401 Washington St. Johnstown, PA 15901	\$1,708	2009	N/A
Franklin Hospital Demolition Consulting Services Franklin, PA	University of Pittsburgh Medical Center Seneca, PA	\$112	2009	N/A
Imperial Oil RE Services Morganville, NJ	New Jersey Department of Environmental Protection, Trenton, NJ	\$1,116	2009	N/A
Beaver County, PA On-Site Consulting Beaver County, PA	Beaver County, PA Emergency Services 250 E. End Ave., Beaver, PA	\$264	2009	N/A

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PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST (in thousands)	YEAR	CONSTRUCTED (YES OR NO)
PADEP BAMR Freeland South Mine Subsidence, PADEP BAMR Mill Street Mine Subsidence, and Subsurface Core Drilling Investigation within Areas I & II Evaluation Projects, Various Locations, PA	PADEP Bureau of Abandoned Mine Reclamation Harrisburg, PA	\$1,220	2009	N/A
Subsurface Core Drilling Investigations on an As-Needed Basis, Various Locations, PA	Pennsylvania Dept of Environmental Protection, Harrisburg, PA	\$879	2009	N/A
Pittsburgh Ewing Interchange, Traffic Study Allegheny County, PA	Allegheny Co. Airport Authority Pittsburgh, PA	\$215	2009	N/A
FirstEnergy 2008 – 2010 Stockpile Inventory Services Various Locations, PA & OH	FirstEnergy Corporation Akron, OH	\$240	2009	N/A
NGB/JCCSE PA Deployment Phase II Capabilities Gap Analysis Arlington, VA	National Guard Bureau Arlington, VA	\$2,057	2009	N/A
Flaugherty Run Bridge Replacement Preliminary Design Allegheny County, PA	PennDOT District 11-0 Bridgeville, PA	\$218	2009	N/A
State of Maine Telecommunications Consulting Statewide, Maine	State of Maine Emergency Services Communication Bureau Augusta, ME	\$275	2009	N/A
TRB ACRP 2007 Guidebook Preservation of Public Use Airports - Planning Washington, DC	Transportation Research Board of the National Academies Washington, DC	\$522	2009	N/A
City of Pittsburgh Transportation Planner Review Allegheny County, PA	City of Pittsburgh, PA 604 City-County Building, 414 Grant St. Pittsburgh, PA 15219	\$30	2009	N/A
Pennsylvania Emergency Management Agency (PEMA) 2008 Deployment Harrisburg, PA	Pennsylvania Emergency Management Agency Harrisburg, PA	\$743	2009	N/A
Region 13 Continued Network Support for RESInet Wireless 911 Consulting Various Locations, PA	Region 13 Planning and Development Council Pittsburgh, PA	\$624	2009	N/A
On-Call Subsurface Drilling Services Indiana County, PA	PennDOT District 10-0 Indiana, PA	\$1,017	2009	N/A
Eastern Patriot Coal 2009 Stockpile Volumes	Eastern Associated Coal Corporation Wharton, WV	\$75	2010	N/A
Boone County WV Digital Parcel Conversion and GIS Project Madison, WV	Boone County Madison, WV	\$143	2010	N/A
Central West VA Regional Airport Auth. - Yeager Airport Master Plan with GIS Component Planning	Central West Virginia Regional Airport Authority, Yeager Airport 100 Airport Rd. Ste. 175 Charleston, WV 25311	\$510	2011	N/A

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PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST (in thousands)	YEAR	CONSTRUCTED (YES OR NO)
Charleston, WV				
Town of Rivesville, WV - Water System Improvements Project, Rivesville, WV	Town of Rivesville 142 Main St., PO Box 45, Rivesville, WV	\$506	2011	N/A
Samuel Fels High School Design & Construction Services Philadelphia, PA	School District of Philadelphia, Samuel Fels HS, Education Center 440 N. Broad St., Philadelphia, PA	\$65,258	2010	Yes
Asbestos Survey & Abatement Term Contract, Statewide, NJ	New Jersey Department of Transportation, Trenton, NJ	\$700	2011	N/A
City of Memphis CAD/RMS Consulting Services Memphis, TN	ACS Government Systems Memphis, TN	\$444	2010	N/A
Allegheny Energy Supply Core Boring Services Blanket Contract, Various Locations, WV, PA, MD, VA	Allegheny Energy Supply Company, Greensburg, PA	\$309	2010	N/A
Allegheny County Additional Consulting, Pittsburgh, PA	Allegheny County 9-1-1, Pittsburgh, PA	\$1,307	2010	N/A
Engineering Services for Southpointe II (Former Western Center)	Washington County Authority, Washington, PA	\$2,664	2011	N/A
Bradford County, PA Planimetric GIS Information	Bradford County, PA Board of Commissioners, Towanda, PA	\$415	2010	N/A
Capital Area Council of Governments FOA of Inter-Connected ESInets, Austin, TX	Capital Area Council of Governments, Austin, TX	\$157	2010	N/A
City of Williamsport Downtown Development Project Williamsport, PA	City of Williamsport, PA Williamsport, PA	\$357	2010	N/A
District of Columbia Verizon Testimony Services for 2009 Washington D.C.	District of Columbia, Office of Unified Communications Washington, DC	\$150	2010	N/A
SR 1031, Sect 671 Design and Final Design Wayne County, PA	PennDOT District 4-0 Dunmore, PA	\$353	2011	No
Lawrence County, PA Countywide Phase II Act 167 Plan	Lawrence County Planning Department New Castle, PA	\$205	2011	N/A
Monmouth County, NJ Design and Installation Administration of a Trunked Radio Communication System	Monmouth County, NJ Sheriff's Office Freehold, NJ	\$502	2011	N/A
Ontario County, NY Emergency Communication System Design	Ontario County NY Planning Department Canandaigua, NY	\$465	2010	N/A
Design, Geotechnical, and Survey Services, Shannopin Water Treatment System, LLC	Reynolds, Inc. Orleans, IN	\$560	2010	N/A

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PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST (in thousands)	YEAR	CONSTRUCTED (YES OR NO)
Various Locations, PA				
State of Michigan Consulting for Safety and Security Services: Internet Protocol (IP) 9-1-1 Feasibility Study Statewide, Michigan	State of Michigan Lansing, MI	\$346	2011	N/A
Texas Commission on State Emergency Communications (CSEC) NG9-11 ESInet Phase II	Texas Commission on State Emergency Communications (CSEC) Austin, TX	\$623	2010	N/A
Allegheny County Airport 2008 AGC Taxiway E Relocation PH II	Allegheny County Airport Authority, Pittsburgh, PA	\$136	2011	N/A
Juniata Transportation Improvement Project Engineering Services Blair County, PA	PennDOT District 9-0 Hollidaysburg, PA	\$2,027	2011	No
City of Williamsport, Trade and Transit Center 2, Williamsport, PA	City of Williamsport, PA City Hall, 245 W. 4th St. Williamsport, PA 17701	\$9,500	2011	N/A
City of Williamsport, Church Street Transportation Center, Williamsport, PA	City of Williamsport, PA City Hall, 245 W. 4th St. Williamsport, PA 17701	\$9,250	2011	N/A
Franklin County, PA Needs Assessment/Specification Development Various, PA	Franklin County Board of Commissioners, Chambersburg, PA	\$402	2011	N/A
Armstrong County, PA Program Management and 9-1-1 Center Enhancements Kittanning, PA	Armstrong County, PA 9-1-1 Courthouse Admin Bldg, Kittanning, PA	\$830	2011	N/A
Indiana County, PA Radio System Procurement and Implementation Services Support Indiana, PA	Indiana Conty, PA Emergency Management Agency Indiana, PA	\$111	2011	N/A
Sullivan County Wireless 9-1-1 Procurement Laporte, PA	Sullivan County Emergency Services Laporte, PA	\$432	2011	N/A
Greater Harris County ALI Database Consulting and Next Generation 9-1-1 Consulting Services Houston, TX	Greater Harris County, TX 9-1-1 Houston, TX	\$1,656	2011	N/A
Rensselaer County Correctional Facility Expansion Troy, NY	Rensselaer County, NY, 1600 7th Ave. Troy, NY 12180	\$2,238	2011	N/A
E00648 - SR 3024, Sec 670 F.D. - Part 11 Final Bridge Design Wayne County, PA	PennDOT, District 4-0, 55 Keystone Industrial Park Dunmore, PA 18512	\$147	2011	No

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PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST (in thousands)	YEAR	CONSTRUCTED (YES OR NO)
PWSA – Misc. Engineering Consulting Services - TO#1 Supplemental CADD Staffing Pittsburgh, PA	Pittsburgh Water and Sewer Authority, Penn Liberty Plaza I 1200 Penn Ave. Pittsburgh, PA 15222	\$1,064	2011	N/A
Route 8 Sewer Project, Weirton, WV	Hancock County Public Services District, Weirton, WV	\$883	2011	N/A
Wal-Mart Kilbuck Engineering Services Kilbuck, Allegheny County, PA	Wal-Mart Stores, Inc. 2001 SE 10th St. Bentonville, AR	\$6,888	2013	N/A
JRA - RFQ#02-2008 Professional Engineering & Technical Services, Regional Sewer Overflow - 2010 Elimination Program, Johnstown, PA	Johnstown Redevelopment Authority 401 Washington St., Johnstown, PA	\$1,200	2012	N/A
Bergen County, NJ PSAP Consolidation Bergen County, NJ	Bergen County, NJ, Hackensack, NJ	\$296	2012	N/A
Blair County PA AMS and Mapped ALI Services Hollidaysburg, PA	Blair County PA 9-1-1, 615 4th St., Altoona, PA	\$277	2012	N/A
District of Columbia Verizon Testimony Services for 2009 Washington D.C.	District of Columbia, Office of Unified Communications Washington, DC	\$150	2012	N/A
SR 6219, Sec 020, Final Design & Construction Consulting, Somerset County, PA	PennDOT District 9-0 Hollidaysburg, PA	\$426	2013	No
Graffius Avenue Bridge Indiana, PA	PennDOT District 10-0 Indiana, PA	\$224	2013	No
Work Order #5 – SR 0030/22R Construction Inspection, Ligonier Township, PA	PennDOT District 12-0 Uniontown, PA	\$152	2013	No
Childrens Home Bridge Design/Build Project Morgan Township, PA	PennDOT District 12-0 Uniontown, PA	\$267	2012	Yes
Department Force Bridge Replacement Design, WO #1, Fayette County, PA	PennDOT District 12-0 Uniontown, PA	\$204	2012	N/A
Countywide Phase II Act 167 Plan Various Locations, Elk County, PA	Elk County Planning Department Ridgway, PA	\$190	2012	N/A
Chestnut Flats Wind Project Environmental Services Logan Township, PA	Gamesa Energy, USA, LLC Philadelphia, PA	\$641	2012	N/A
Hospital Emergency Planning and Integration, Letterkenny Army Depot and Chambersburg Various Locations	Picatinny Arsenal Picatinny Arsenal, NJ	\$1,766	2012	N/A
Huntingdon County, PA ALI Management Services	Huntingdon County, PA 9-1-1 Huntingdon, PA	\$185	2012	N/A

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PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST (in thousands)	YEAR	CONSTRUCTED (YES OR NO)
Huntingdon, PA				
Juniata County PA Wireless 9-1-1 Requirements and Mapped ALI and Address Maintenance Mifflintown, PA	Juniata County, PA Emergency Services Mifflintown, PA	\$577	2012	N/A
State of Oklahoma Statewide Survey of Radio Communications Equipment Statewide, Oklahoma	State of Oklahoma Department of Central Services Oklahoma City, OK	\$852	2012	N/A
State of Wisconsin Assessment, Conceptual Design and Phased Implementation Project Plan for a Statewide Radio Communications System Statewide, Wisconsin	State of Wisconsin Department of Administration Madison, WI	\$903	2012	N/A
Establish and Operate a 9-1-1 Technical Assistance Center Nationwide	United States Department of Transportation (USDOT) National Highway Traffic Safety Administration Washington, DC	\$2,241	2012	N/A
Allegheny County Airport 2009 Taxiways A and C Rehabilitation Projects	Allegheny County Airport Authority, Pittsburgh, PA	\$276	2012	No
Seward Bridge, Bridge Replacement Westmoreland County, PA	PennDOT District 12-0 Uniontown, PA	\$476	2013	Yes
Germany Bridge, Bridge Replacement Indiana County, PA	PennDOT District 10-0 Indiana, PA	\$264	2013	Yes
Department of the Air Force, 911th Airlift Wing - Repair/Renovations to Flight Operations Building 419, Repairs/Alterations to Concrete Paving and POL Access Routes, Repair/Renovations to Visiting Quarters Building 219 and 209, Communications Facility Renovations/Additions Coraopolis, PA	United States Air Force Reserve 911th Airlift Wing CONF/LGC-FA6712 2375 Defense Ave Coraopolis, PA 15108-4495	\$6,466	2012	N/A
Reproductive Health Specialists, Renovation of Former Restaurant Tivoli into a Medical Outpatient Surgery Building (Penn Hills Ambulatory Surgery Center), Pittsburgh, PA	Reproductive Health Specialists 665 Rodi Road, Building 2, 2nd Floor, Pittsburgh, PA 15235	\$3,500	2012	N/A
Luzerne County, Design Services for Correctional Facility, Wilkes-Barre, PA	Luzerne Co. Engineer's Office, Luzerne Co. Courthouse 200 North River St., Wilkes-Barre, PA 18711	\$2,481	2013	N/A
SCI Camp Hill, Renovation/Expansion of Kitchen and Staff Dining Area, Camp Hill, PA	PA Department of General Services 104 Headquarters Building 18th & Herr Streets, Harrisburg, PA 17125	\$4,900	2013	N/A

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PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST (in thousands)	YEAR	CONSTRUCTED (YES OR NO)
Archdiocese of Philadelphia Pope John Paul II High School and Lansdale Catholic Regional High School, Philadelphia, PA	Archdiocese of Philadelphia Secretariat for Catholic Education 222 N. 17th St. Philadelphia, PA 19103-1299	\$54,000	2012	N/A
Portage Area School District, Elementary School Renovations, Portage, PA	Portage Area School District 84 Mountain Ave., Portage, PA 15946-1809	\$5,750	2012	N/A
Quaker Valley Recreation Association, Bell Acres Field Layout and Design, Bell Acres, PA	Pittsburgh Public Schools PO Box 74 Leetsdale, PA 15056	\$5,000	2012	N/A
Pittsburgh Public Schools, Concord Elementary School Renovations/ Additions, Pittsburgh, PA	Pittsburgh Public Schools 1305 Muriel St., Pittsburgh, PA 15203-1513	\$14,600	2013	N/A
Portage Area School District, Portage Area Junior/Senior High School and Football Stadium Additions/ Alterations, Portage, PA	Portage Area School District 84 Mountain Ave., Portage, PA 15946-1809	\$2,384	2012	N/A
Blairsville-Saltsburg School District, Saltsburg Middle-High School Renovations/ Saltsburg Elementary School Addition, Saltsburg, PA	Blairsville-Saltsburg School District 102 School Ln. Blairsville, PA 15717-9683	\$1,340	2012	N/A
Johnstown Area Heritage Association, Festival Park Additions and Alterations, Johnstown, PA	Johnstown Area Heritage Association PO Box 1889, Johnstown, PA 15907	\$3,000	2012	N/A
Bakers Run Bridge, Construction Inspection Green Township, PA	Green Township, 1492 Route 240 Highway Commodore, PA 15729	\$99	2013	N/A
PA Department of General Services, Construction of Readiness Center, Williamsport, PA	PA Department of General Services 104 Headquarters Building 18th & Herr Streets, Harrisburg, PA 17125	\$1,499	2012	N/A
California University of Pennsylvania, Design Services for Multisport Facility at Roadman Park, California, PA	California University of Pennsylvania 250 University Ave.Box 26 California, PA 15419-1341	\$400	2013	No
Indiana University of Pennsylvania, Kovalchick Convocation and Athletic Complex, Indiana, PA	PA Department of General Services 104 Headquarters Building 18th & Herr Streets, Harrisburg, PA 17125	\$3,542	2012	Yes
Central Cambria School District, Additions/Alterations to High School to Accommodate Middle School, Ebensburg, PA	Central Cambria School District 208 Schoolhouse Rd., Rt. 422 West Ebensburg, PA 15931	\$7,250	2012	Yes
Danville Area School District Elementary School and Middle School Renovations/Additions, Danville, PA	Danville Area School District 600 Walnut St. Danville, PA 17821-9131	\$1,803	2012	Yes
California University of Pennsylvania, Convocation Center, California, PA	California University of Pennsylvania 250 University Ave. Box 26, California, PA 15419-1341	\$2,714	2012	Yes
Allegheny County Sanitary Authority, New Operations and Maintenance Facility, Pittsburgh,	ALCOSAN (Allegheny County Sanitary Authority) 3300 Preble Ave., Pittsburgh,	\$1,344	2012	N/A

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PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST (in thousands)	YEAR	CONSTRUCTED (YES OR NO)
PA	PA 15233-1092			
Cumberland County, ME VHF Simulcast System Procurement and Implementation Support Windham, ME	Cumberland County, ME Windham, ME	\$122	2013	N/A
Berkeley County, WV GIS Parcel Conversion Berkeley County, WV	Berkeley County, WV Assessor's Office, 400 W. Stephen St. Suite 208 Martinsburg, WV 25401	\$587	2013	N/A
Brevard County, FL PSAP Consolidation Assessment Titusville, FL	Brevard County Viera, FL	\$148	2012	Yes
The Pennsylvania State University - Softball Stadium University Park, PA	The Pennsylvania State University 235 Deike Building, University Park, PA	\$7,700	2012	N/A
Rensselaer County Correctional Facility Expansion Troy, NY	Rensselaer County, NY, 1600 7th Ave. Troy, NY 12180	\$2,238	2013	N/A
E00648 - SR 3024, Sec 670 F.D. - Part 11 Final Bridge Design Wayne County, PA	Pennsylvania Department of Transportation, District 4-0, 55 Keystone Industrial Park Dunmore, PA 18512	\$147	2012	No
PWSA – Misc. Engineering Consulting Services - TO#1 Supplemental CADD Staffing Pittsburgh, PA	Pittsburgh Water and Sewer Authority, Penn Liberty Plaza I 1200 Penn Ave. Pittsburgh, PA 15222	\$1,064	2012	N/A
GenOn Conemaugh – Engineering Services Cambria County, PA	GenOn Northeast Management Company, Conemaugh Station 1442 Power Plant Rd. New Florence, PA 15944	\$14	2013	N/A
Charleston County SC Dispatch Consolidation	Charlestown County SC Chief Deputy Administrator's Office North Charleston, SC	\$396	2014	N/A
McLaughlin Run & Tank Farm Road, Bridge Replacements, Allegheny & Beaver Counties, PA	PennDOT District 11-0 Bridgeville, PA	\$430	2014	No
Mayport Bridge, Bridge Replacement Clarion County, PA	PennDOT District 10-0 Indiana, PA	\$366	2014	Yes
E02332 – CI for 322/208 Construction Inspection Services Mifflin County, PA	PennDOT 2-0, 70 PennDOT Drive, PO Box 342, Clearfield, PA 16830	\$1,199	2014	N/A
E02446 CI for SR 0001/LHB Construction Inspection Services Bucks County, PA	PennDOT 6-0, 7000 Geerdes Blvd King of Prussia, PA 19406	\$1,382	2014	N/A
Hickes – Construction Services Various, PA	Hickes Associates, Inc. PO Box 379 Alexandria, PA 16611	\$1	2014	N/A

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PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST (in thousands)	YEAR	CONSTRUCTED (YES OR NO)
Brodart Facility, Testing & Inspection Services Williamsport, PA	City of Williamsport, PA 245 West 4 th Street Williamsport, PA 17701	\$195	2014	N/A
Youngwood Borough, Inspection Services Youngwood, PA	Youngwood Borough Authority 17 South Sixth Street Youngwood, PA 15697	\$2	2014	N/A
KJ Environmental Drilling Services Various	KJ Environmental, Inc. 109 S. Oakland Street Denton, TX 76201	\$23	2014	N/A
AGES – Drilling Services	AGES 4 Grandview Circle Canonsburg, PA 15317	\$1	2015	N/A
GBB Engineering, Drilling Services Various	Garvin Boward Beiko Engineering, Inc. 180 Bilmar Drive Pittsburgh, PA 15205	\$60	2015	N/A
Consumers Energy, Stockpile Services Various, MI	Consumers Energy 1945 W. Parnall Road Jackson, MI 49201	\$52	2015	N/A
First Energy, Geotechnical Services	First Energy Corporation 395 Ghent Road Akron, OH 44333	\$3	2015	N/A
RA Glancy, Construction Quality Control Services Ebensburg, PA	RA Glancy and Sons, Inc. 2361 Venture Dr Gibsonia, PA 15044	\$11	2015	N/A
Musser Engineering, Drilling Services Central City, PA	Musser Engineering, Inc. 7785 Lincoln Highway Central City, PA 15926	\$87	2015	N/A
Mountain Research, Drilling Services Various	Mountain Research 825 25 th Street Altoona, PA 156601	\$11	2015	N/A
RJ Albarano, Quality Control Services Various	Ralph J. Albarano & Sons, Inc. PO Box 806 Duncansville, PA 15928	\$3	2015	N/A
CAD Needs Assessment Monterey County, CA	Monterey County of California Salinas, CA	\$167	2016	N/A
Yeager Airport Rehabilitation of Runway 5-23 Access Taxiways, Charleston, WV	Central West Virginia Regional Airport Authority, Charleston, WV	\$277	2016	No
Stockpile Inventory Services Various Sites, PA	PPL Corporation Mountoursville, PA	\$193	2016	N/A
Pittsburgh International Airport, Mapping Services Pittsburgh, PA	Pittsburgh International Airport Pittsburgh, PA	\$161	2016	N/A
PA State Police Hangar at Wilkes-Barre Airport, Site Design & Permitting Services Avoca, PA	Miller Brothers Construction, Inc. Haven, PA	\$27	2016	No

17. COMPLETED WORK WITHIN LAST 10 YEARS ON WHICH YOU WERE THE DESIGNATED ENGINEER OF RECORD				
PROJECT NAME, TYPE AND LOCATION	NAME AND ADDRESS OF OWNER	ESTIMATED CONSTRUCTION COST (in thousands)	YEAR	CONSTRUCTED (YES OR NO)
Santee Cooper Stockpile Inventories Various Sites, SC	South Carolina Public Service Authority (Santee Cooper) Moncks Corner, SC	\$40	2016	N/A
4-082 – I-95/I-276 Connection, Construction Inspection, Trevose, PA	Pennsylvania Turnpike Commission Harrisburg, PA	\$7,284	2017	N/A

18. COMPLETED WORK WITHIN LAST 10 YEARS ON WHICH YOU WERE ASSOCIATED WITH OTHER FIRMS (INDICATE PHASE OF WORK FOR WHICH YOUR FIRM WAS RESPONSIBLE)

CDM – Taylor Borough Superfund Site Environmental Services Taylor, PA	Pennsylvania Department of Environmental Protection - Ebensburg, PA	\$354	2008	N/A	CDM Federal Programs Corporation
PBQ&D NJDOT TP-506 Route 49 & 55 Hazardous Waste Screening Study Cumberland County, NJ	New Jersey Department of Transportation Trenton, NJ	\$57	2008	N/A	PB Americas, Inc.
Sunbury Generation LP Units 1-4 AQCS Project Underground Utility Investigation Geotechnical Services & Drilling Shamokin, PA	Sunbury Generation, LLC Old Trail Road - General Delivery, PO Box 517 Shamokin Dam, PA	\$141	2008	N/A	WorleyParsonsGroup
AGES - Subsurface Boring, Sampling & Testing for SR 0985, Section 012 over Beaver Dam Creek, Somerset County, PA	Pennsylvania Department of Transportation, District 9-0 Hollidaysburg, PA	\$10	2008	N/A	American Geotechnical & Environmental Services, Inc. (AGES)
Mercer County WV 9-1-1 Center Consulting	Technology Consulting Services	\$11	2008	N/A	ET Boggess Architect, Inc.
Kenny Construction – TrAIL Project Soil Boring Study and Core Samples, Greene and Washington Counties, PA	Allegheny TrAILco Greensburg, PA	\$458	2008	N/A	Kenny Construction
WorleyParsons - Sunbury Generation LP Units 1-4 AQCS Soil Testing and Inspection Shamokin Dam, PA	Sunbury Generation, LLC Old Trail Road - General Delivery, PO Box 517 Shamokin Dam, PA	\$78	2009	N/A	WorleyParsonsGroup
Kenny PATH Welton Springs Substation Geotechnical Services Welton Springs, WV	Allegheny Energy 800 Cabin Hill Dr. Greensburg, PA	\$56	2009	N/A	Kenny Construction
Cairone & Kaupp, Inc., Washington Crossing National Cemetery Master Plan (Phases 1 through 5) Upper Makefield Township, PA	The Department of Veterans Affairs, National Cemetery Administration, 810 Vermont Avenue, NW - Washington, DC	\$625	2009	N/A	Cairone & Kaupp, Inc.,
US Coast Guard Support Center, Design and Construction of a Rescue Swimmer Training Facility (RSTF)	Dept. of Homeland Security, Civil Engineering Unit, Cleveland 1240 E. 9th St., Cleveland, OH	\$1,700	2009	N/A	The Oak Group, Inc.,
2008 Yeager Airport Obstruction Removal R/W 5 End-Design	Central West Virginia Regional Airport Authority Charleston, WV	\$436	2010	N/A	S&S Engineers

18. COMPLETED WORK WITHIN LAST 10 YEARS ON WHICH YOU WERE ASSOCIATED WITH OTHER FIRMS (INDICATE PHASE OF WORK FOR WHICH YOUR FIRM WAS RESPONSIBLE)

502 Junction/Meadowbrook Geotechnical Services	Allegheny Energy TrAILco Greensburg, PA	\$321	2010	N/A	Kenny Construction
Empire State Development, Midtown Demolition and Site Preparation Project Rochester, NY	Labella Associates, PC Rochester, NY	\$126	2010	N/A	Labella Associates, PC
MTS Technologies DCOC Phase 2 Johnstown, PA and Mobile, AL	MTS Technologies Johnstown, PA	\$150	2010	N/A	MTS Technologies
SR 6219, Sect 019 Somerset County, PA	PennDOT District 9-0 Hollidaysburg, PA	\$9,828	2010	No	McCormick Taylor
I-79 CPR Washington & Allegheny Counties	PennDOT District 12-0 Uniontown, PA	\$542	2010	No	Trumbull Corp.
3-204 – Environmental Open End Statewide, Pennsylvania	Pennsylvania Turnpike Commission Harrisburg, PA	\$750	2010	N/A	Lotus Environmental
Federal Communications Commission (FCC) National Mapping Program	Federal Communications Commission 445 12 th Street, SW Washington, DC 20554	\$415	2010	N/A	FCC
CostQuest Associates, Inc. State of Alabama Broadband Interactive Mapping Phase 1	CostQuest Associates, Inc. 6261 Ashbourne Place Cincinnati, OH 45233	\$54	2010	N/A	State of Alabama
Ricondo & Associates Metropolitan Washington Airports Authority (MWAA) Intercom/Paging System	Ricondo & Associates, Inc. 8610 N. New Braunfels Ave. Suite 700 San Antonio, TX 78217	\$40	2010	N/A	Metropolitan Washington Airports Authority
Lackawanna County ALI Management Services Scranton, PA	Lackawanna County Department of Emergency Services Jessup, PA	\$400	2011	N/A	Lackawanna County
John S. Fine Bridge Luzerne County, PA	PennDOT District 4-0 Dunmore, PA	\$821	2011	Yes	Susquehanna Valley Construction

PADEP Spangler AML Site, 317 Acres Mapped, Cambria County, PA	C, P		X																				X
PADEP Parker AML Site, 120 Acres Mapped, Butler County, PA	C, P		X																				X

- * List whether project experience is corporate or personnel based or both.
- ** Use this area to provide specific sections or pages if needed for reference.
- *** List Primary Design personnel and their functional capacity for the projects listed.

Attachment "C"



**WEST VIRGINIA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS**



RICHARD MINE DRAINAGE ACCESS

PRINCIPAL-IN-CHARGE
Richard E. Genday, PE
WV PE #013348

DESIGN QA/QC
John A. Vitez, PE
WV PE #18634

PROJECT MANAGER
Wesley D. Hevener, PE, MBA
WV PE #17725

ROADWAY
Edward J. Jones, PE
WV PE #013853
Robert N. Renzi, PE
WV PE #17228

STRUCTURES
Geoffrey S. Holmes, PE, CBSI
WV PE #18078
R. Scott Shamblin, PE
WV PE #11057
Charles E. Nelms, PE, CBSI
Andrew Baumberger, PE, CBSI
Jessica L. Carr, PE
Karen L. Mueser, PE (H&H)
Kevin A. Stiffey

**ENVIRONMENTAL
MANAGER**
Tammy L. Sherwin

H&H/DRAINAGE/SWM/E&S
Brian L. Canary, PE, CPESC
Dave Garhart

UTILITIES
Timothy A. Bliss, PE

**ENVIRONMENTAL
PERMITTING**
Tammy L. Sherwin
Kelly L. Eismont
Lee W. Garner

RIGHT OF WAY
Dominic Martuccio, PE, PLS

SURVEYING
Stephen Landgrebe, PS
WV PS #2859

AML
Dave Minnear, PE
Cameron Mock, PE
Jim Marhefka, PG
George Kopchik

GEOTECHNICAL
Danny Lipscomb, PE (a)
Randy Moulton, PE (a)
Benjamin Campbell, PE (a)

TRAFFIC
Brent J. Dorofey, PE
Joan E. Stanley, EIT

SUBCONSULTANT
(a) Triad Engineering, Inc.

October 4, 2018

Mr. Wes Hevener, PE, MBA
Transportation Practice Leader
CDI, L.R. Kimball
500 Corporate Landing, 2nd Floor
Charleston, WV 2531

Subject: **Geotechnical Engineering Services**
Richard Mine Access - AML
Triad Proposal No. 04-18-0545

Dear Mr. Hevener:

Triad Engineering Inc. (TRIAD) would be pleased to provide geotechnical engineering and materials testing services to CDI on any work that may result from your response to the Richard Mine Access, AML project.

As you may know, TRIAD has provided surveying, project inspection, material testing, laboratory testing, drilling and sampling, as well as full geotechnical and civil design on WVDEP-AML&R projects for WVDOT/DOH projects for over 25 years. Our clients have included WVDIP-AML&R as well as contractors and other designers.

TRIAD is an **employee owned** full service civil engineering consulting firm based in the Mid-Atlantic region that provides professional services in the areas of civil, environmental, mining, geotechnical engineering; site assessment; planning and landscape architecture; geology and hydrogeology; surveying and mapping; construction inspection; and, related services. Our firm has provided services on many thousands of projects of varying size and complexity since its founding in Morgantown, West Virginia in 1975. A significant number of these services are provided in the areas of commercial developers, industrial facilities, manufacturers, mining companies, waste management companies, governmental agencies, contractors, and architects.

Through our 42 plus years of service in West Virginia and surrounding states, both the number and complexity of these projects have grown. Our clients include Federal and State governmental agencies, mining and industrial corporations, contractors, architects, engineers, attorneys, developers, and commercial organizations.

TRIAD was founded in 1975 in Morgantown, West Virginia by three civil engineers from West Virginia University. A second office was opened in Charleston, West Virginia in 1979 and later relocated to our present Scott Depot, West Virginia location. TRIAD expanded into the northern Virginia area beginning in 1989 with an office in Winchester Virginia, and began operations in Pennsylvania in 1990 with a full-service office in Greensburg, which moved to Pittsburgh in 2013. Since that time, TRIAD has opened offices in Hagerstown, Maryland, Ashburn, Virginia, and Athens, Ohio.

TRIAD currently includes a staff of approximately 175 personnel located in seven offices. Our personnel include chemical, civil, environmental, geotechnical and mining engineers, as well as geologists and hydrogeologists, biologists, chemists, environmental scientists, planners, landscape architects, natural resource specialists, regulatory compliance specialists, permitting engineers, risk assessors and health and safety specialists. Our technical support and administrative staff includes designers, draftsmen,

surveyors, technicians, drillers, construction inspectors and clerical personnel. Most of our professional and technical staff have been with the company for many years. We pride ourselves on a very low turnover rate, which adds to continuity and enhances the level of productivity and experience afforded by TRIAD.

Facilities and equipment available to support our staff have grown substantially during the past 42 plus years. Each of our offices contains computer facilities that are utilized for hydrogeologic evaluations, risk assessment, stability analyses, LPILE analyses, pile drivability analyses, survey data reduction, mapping and site design. Our computer based drafting and reproduction facilities are used to develop detailed site plans (monochrome or color), construction details, and other graphic documentation as required for our projects. Our fleet of drilling rigs and support vehicles are based at our West Virginia and Virginia offices and are maintained in-house to meet the needs of our engineering and site assessment projects. Our offices also utilize digital cameras and video recorders to document our projects. Triad also has state of the art Closed Circuit Television camera equipment to perform condition assessment and location of underground storm and sanitary sewer piping and structures.

Well equipped, modern state-of-the-art materials testing laboratories are maintained at all of our offices to support our engineering and construction related projects. These laboratories are all staffed by experienced technicians working under the supervision of Professional Engineers. Each laboratory is staffed with technicians with applicable state agency certifications. Materials tested include soil, concrete, aggregate, asphalt, and rock. TRIAD testing laboratories routinely participate in national quality control programs administered by AMRL and CCRL which follow AASHTO and ASTM testing procedures. TRIAD also maintains AASHTO accreditation in its laboratories.

TRIAD's staff includes professionals with scientific and technical degrees, and many of our professional staff have advanced degrees in their fields and are registered professional engineers, geologists and surveyors. Additionally, TRIAD's Engineering Technicians include individuals that have been certified through the WDOH Certified Technician program and are WVRET certified. Technicians utilized for inspection on this contract will have successfully completed both certifications.

In summary, TRIAD will commit the necessary resources to complete any work awarded and we appreciate the opportunity to work with you.

Very truly yours,

TRIAD ENGINEERING, INC.



David Meadows, P.E., P.S.
Chief Technical Officer
Regional Manager - Southwestern Region

AML and RELATED PROJECT EXPERIENCE MATRIX																				
PROJECT	Exp. Basis C=Corp. P=Personal	Additional Info Provided in Section (s) **	PROJECT EXPERIENCE REQUIREMENTS														PARTICIPATION/CAPACITY *** M=Management P=Professional			
			Abandoned Surface Mine Reclamation	Abandoned Deep Mine Reclamation	Portal/Shaft Closure	Hydrologic/Hydraulic Design/Eval.	Remining Evaluation	Mine/Refuse Fire Abatement	Subsidence Investigation Mitigation	Hazardous Waste Disposal	Project Specifications	Water Quality Evaluation/Mitigation/R eclamation	Construction Inspection/Management	Water Treatment	Equipment/Structure Removal	Stream Restoration	Geotechnical/Stability	Lee McCoy, P.E.	James. R. "Bo" Crinit	Danny Lipscomb, PE
Morris Creek Drainage	C			X	X	X					X	X	X	X	X	X	X	P/M		M
WVU Tech Drainage	C			X	X	X			X	X	X	X			X		P/M			M
Coal Hollow Refuse "A"	C			X	X	X					X	X	X		X	X				P/M
Dille-Widen Water Feasibility	C										X									
Mullens Water Feasibility	C										X									
Logan AMD	C				X	X			X	X		X	X		X					P/M
Elk Creek Portals	C			X	X	X					X	X	X	X			P/M	P		P
Rumble (Stevens) Refuse & Portals	C		X	X	X	X					X	X	X		X	X	P/M	P		P
Mullens Portals	C		X	X	X	X					X	X	X	X	X	X	P/M	P		P
Belington Portals & Drainage	C		X	X	X	X					X	X	X	X	X	X	P/M	P		P
Coaldale Refuse	C		X	X	X	X					X	X	X				P/M	P		P
Richardson Branch Complex	C		X	X	X	X					X	X	X	X			P/M	P	P	P

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