



# EXPRESSION OF INTEREST

To provide

**Professional  
Design Services**

for the

***Redundant Water and  
Sewage Systems Design  
for JFHQ and Camp Dawson  
Kanawha / Preston Counties  
West Virginia***

Prepared for the

**West Virginia Army National Guard  
Construction and Facilities Management  
Office**

By

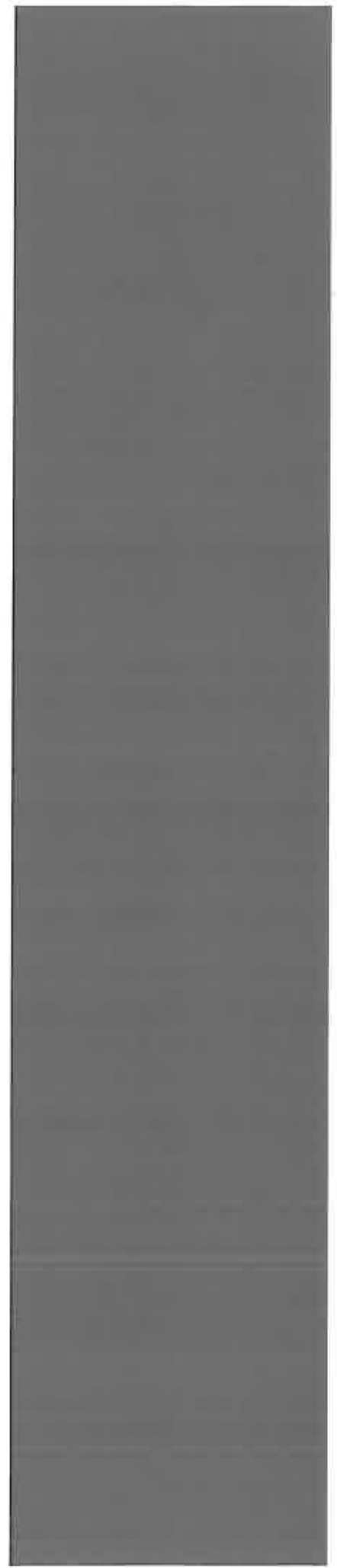
05/31/16 09:23:43  
161 Purchasing Division

**CTL Engineering of West Virginia, Inc.**

1091 Chaplin Road  
Morgantown, WV 26501



**Introduction  
&  
EOI Documents**





August 29, 2016

**West Virginia Department of Administration**

Purchasing Division

2019 Washington Street East

Charleston, WV 25305-0130

**Attn.: Jessica S. Chambers, Senior Buyer**

**Re: CEOI 0603 ADJ1700000004**

**Expression of Interest**

**West Virginia Army National Guard**

**Redundant Water and Sewage Systems EOI Design Services**

CTL Engineering of West Virginia, Inc., headquartered in Morgantown, is pleased to present this Expression of Interest to provide design engineering and related services for the West Virginia Army National Guard. With over 80 years in the business as CTL Engineering and over 30 years in West Virginia, our firm can provide the professionals and facilities the State of West Virginia is looking for to assure success for their design and construction projects.

CTL of WV offers the services necessary to provide a non-subcontract, quality product to support your program. We have 5 Professional Engineers, four of which are registered in West Virginia and have direct Water and Wastewater evaluation and design experience. Our in-house professional disciplines include: Civil & Mining Engineers, CAD Designers, Surveyors, Geologists, Hydrologists, Environmentalists, Biologists and Construction Engineering Technicians. Our capabilities also include laboratory facilities, drilling rigs, surveying systems, design equipment and field testing equipment for quality assurance and quality control on the projects we undertake.

We have extensive contract administration and management experience with the procedures of the State of West Virginia. Our invoicing procedures and accounting software has been accepted, used, and audited by various state agencies.

CTL has provided services for several WVANG projects directly and twelve projects for contractors and architects at Camp Dawson and in Summersville. Attached to this EOI are numerous examples of projects successfully designed and completed that are relevant to the Project being considered for the WVANG. Sample projects include water systems and water treatment systems, waste water systems and waste water treatment systems.

We sincerely appreciate the opportunity to submit this proposal to you for consideration. Should you have any questions or need additional information, please contact our office. We look forward to providing additional more detailed project approach methodology and the success CTL has shared with our clients as we are selected for an interview for this project.

Respectfully submitted,

**CTL Engineering of West Virginia, Inc.**

A handwritten signature in black ink, appearing to read "Royden L. Loucks". The signature is fluid and cursive, with a long horizontal stroke at the end.

**Royden L. Loucks**  
Director Business Development





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

Proc Folder: 240128

Doc Description: Redundant Water and Sewage Systems EOI Design Services

Proc Type: Central Contract - Fixed Amt

Date Issued	Solicitation Closes	Solicitation No	Version
2016-08-02	2016-09-01 13:30:00	CEOI 0603 ADJ1700000004	1

**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:  
 CTL Engineering of West Virginia, Inc.  
 1091 Chaplin Road  
 Morgantown, WV 26501  
 (304) 292-1135

**FOR INFORMATION CONTACT THE BUYER**

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

Signature X

FEIN # 55-063-1834

DATE August 30, 2016

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

**ADDITIONAL INFORMATION:**

Expression of Interest

The West Virginia Purchasing Division is soliciting Expression(s) of Interest for the Agency, The West Virginia National Guard to provide design services to complete a system inventory and vulnerability assessment of the existing infrastructure for water and sewage systems at the Joint Forces Headquarters at the Coonskin Complex in Charleston, WV, and selected areas within Camp Dawson at Kingwood (Preston County), and to provide a prioritized approach with conceptual costs for redundant water and sewage systems at these locations.

INVOICE TO		SHIP TO	
DIVISION ENGINEERING & FACILITIES ADJUTANT GENERALS OFFICE 1707 COONSKIN DR		DIVISION ENGINEERING & FACILITIES ADJUTANT GENERALS OFFICE 1707 COONSKIN DR	
CHARLESTON	WV25311	CHARLESTON	WV 25311
US		US	

Line	Comm Ln Desc	Qty	Unit Issue
1	Redundant Water and Sewage Systems EOI Design Services		

Comm Code	Manufacturer	Specification	Model #
81101508			

**Extended Description :**

CHARLESTON COONSKIN LOCATION-Professional engineering design services to develop construction documents to provide for a complete system inventory and vulnerability assessment of the existing infrastructure for water and sewage systems as needed, at the Joint Forces Headquarters Complex, located at 1703 Coonskin Drive, Charleston, WV 25311, and to provide a prioritized approach with conceptual costs for redundant water and sewage systems at this location per the attached documentation

INVOICE TO		SHIP TO	
DIVISION ENGINEERING & FACILITIES ADJUTANT GENERALS OFFICE 1707 COONSKIN DR		FACILITY MAINTENANCE MANAGER CAMP DAWSON ARMY TRAINING SITE 240 ARMY RD	
CHARLESTON	WV25311	KINGWOOD	WV 28537-1077
US		US	

Line	Comm Ln Desc	Qty	Unit Issue
2	Redundant Water and Sewage Systems EOI Design Services		

Comm Code	Manufacturer	Specification	Model #
81101508			

**Extended Description :**

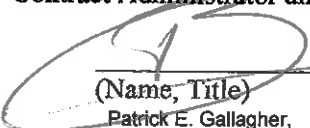
CAMP DAWSON LOCATION- Professional engineering design services to develop construction documents to provide for a complete system inventory and vulnerability assessment of the existing infrastructure for water and sewage systems as needed, at selected areas within Camp Dawson at Kingwood (Preston County), and to provide a prioritized approach with conceptual costs for redundant water and sewage systems at this location per the attached documentation.

ADJ1700000004	<b>Document Phase</b> Draft	<b>Document Description</b> Redundant Water and Sewage Systems EOI Design Services	<b>Page 3</b>
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**ADDITIONAL TERMS AND CONDITIONS**

See attached document(s) for additional Terms and Conditions

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

  
 (Name, Title)

Patrick E. Gallagher, Pres.

(Printed Name and Title)

1091 Chaplin Road Morgantown, WV 26501

(Address)

(304) 292-1135 / (304) 296-9302

(Phone Number) / (Fax Number)

pgallagher@ctleng.com

(email address)

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

CTL Engineering of West Virginia, Inc.

(Company)

  
 (Authorized Signature) (Representative Name, Title)

Patrick E. Gallagher President

(Printed Name and Title of Authorized Representative)

August 30, 2016

(Date)

(304) 292-1135 / (304) 296-9302

(Phone Number) (Fax Number)



ADDENDUM ACKNOWLEDGEMENT FORM  
SOLICITATION NO.:

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

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

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

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6  |
| <input 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.

CTL Engineering of West Virginia, Inc.

Company

Authorized Signature

August 30, 2016

Date

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

STATE OF WEST VIRGINIA  
Purchasing Division  
**PURCHASING AFFIDAVIT**

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

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

**DEFINITIONS:**

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

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

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

**AFFIRMATION:** By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (W. Va. Code §61-5-3) that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

**WITNESS THE FOLLOWING SIGNATURE:**

Vendor's Name: CTL Engineering of West Virginia, Inc.

Authorized Signature: \_\_\_\_\_ Date: August 30, 2016

State of West Virginia

County of Monongalia, to-wit:

Taken, subscribed, and sworn to before me this 30th day of August, 2016.

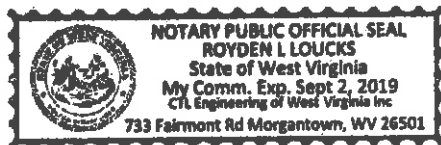
My Commission expires September 2, 2019.

**AFFIX SEAL HERE**

**NOTARY PUBLIC**

*Royden L Loucks*

*Purchasing Affidavit (Revised 08/01/2015)*



# **Section I**

# **Project Management Plan**



# *Project Approach/Management Plan*

This project for Redundant Water and Sewage Systems EOI Design Services is unique in its request. CTL has been involved in other water and sewage projects that make it qualified to provide all necessary services to successfully complete this project for the West Virginia Army National Guard.

While the two sites are unique, both sites will be approached with similar methodology to complete the evaluation and design processes. The Project Approach/Management Plan we have developed for both the Joint Forces Headquarters at the Coonskin Complex and Camp Dawson project sites is as follows:

- *PROJECT MANAGER ROLE*

The project manager will be solely responsible for expedient and accurate completion of each phase of the individual projects performed under this contract. He will review the project sites and discuss the specific scope of work for the project with the project representative from the WVANG. A cost proposal and timeline will be prepared, in accordance with contract unit rates, based upon an estimate of manpower, equipment, and laboratory needs.

- *SITE EVALUATION OF EXISTING CONDITIONS & NEEDS ASSESSMENT*

Full site inspection and review of each site will be made to determine the existing systems in place and the needs assessment performed to determine the size of any redundant systems for both water and sewage.

- *CONDITION OF EXISTING SYSTEMS*

All in-place systems will be assessed to determine the condition of the systems and any areas of potential vulnerability or failure, required major maintenance or rebuild.

- *RISK ANALYSES OF VULNERABILITY OR NEED FOR REDUNDANT SYSTEMS*

Each system will be reviewed to determine where a risk of vulnerability/failure could occur and how such failure would affect the overall operation of the facility. CTL will utilize the WV Rural Water Association Security Forum to provide additional procedures for Vulnerability Assessments.

- *EVALUATION OF RISK BASED REDUNDANT SYSTEMS*

Based upon the risk of failure, redundant systems will be evaluated that will operate with little or no related risk. This evaluation may include hydrogeologic assessment, structural, mechanical and electrical considerations which based upon the type of System, additional manpower will be provided for these services. Multiple systems will be evaluated as possible to provide options for the WVANG.

- *SELECTION OF REDUNDANT SYSTEMS*

CTL will provide the WVANG with the optional redundant systems, along with conceptual designs, timelines and engineer's construction estimates for each. WVANG and CTL will review these options and select the preferred options to continue the design process.

- *DESIGN OF REDUNDANT SYSTEMS*

Design will include all preliminary and final working drawings for both the proposed redundant systems as well as renovations or updating of existing systems. Following the submission of the construction documents, a project design review meeting will be coordinated with the WVANG, CTL, and appropriate individuals to review the proposed plans. Recommendations for plan revisions will be discussed and implemented, as necessary, into the final design documents. Upon completion, all final documents, drawings, plans and specifications will be forwarded to the WVANG for bidding purposes.

- *SPECIFICATIONS, BID DOCUMENTS AND BIDDING PROCESS*

In addition to preparation of the above-described drawings, a complete set of specifications will be prepared and outlined to describe in detail the scope and methods of work to be accomplished. CTL will also assist in analyzing and evaluating bids or proposals for

## **Section II**

# **Corporate History & Services Provided**

# Corporate Qualifications

## CTL Engineering of West Virginia, Inc.



Gateway Development Site: I-79 Exit 155

As part of CTL Engineering, Inc., CTL Engineering of West Virginia, Inc. was founded in 1981 giving us more than 30 years in the state. Our office locations in South Charleston and Morgantown enable CTL to easily provide our services for projects throughout the state as a whole. With approximately 50 employees distributed between our two West Virginia locations, we are well suited to handle projects of all sizes. Our West Virginia staff also includes 5 professional engineers and two professional surveyors.

CTL Engineering of West Virginia, Inc. provides total civil site design for development projects throughout West Virginia. These designs include site layouts, utility design and interconnections, stormwater management design, parking and roadway design, as well as permit preparation and submittal. CTL will work with the project architects, owners, and all involved parties to play our part in bringing your project to fruition.

## Qualified Team

- **5 Professional Engineers with diverse backgrounds including geotechnical engineering, civil engineering, and environmental engineering**
- **Skilled surveying staff equipped with the most up-to-date equipment and GPS units**
- **Extensive experience working with Federal, State, and private entities**
- **30+ Years of working in West Virginia**
- **Working knowledge/understanding of the states geology & geography allowing us to provide custom solutions—we don't just pull plans from a book**

## SERVICES AVAILABLE

**Civil Site Design**  
**Surveying/Mapping**  
**Geotechnical Engineering**  
**Construction Observation**  
**Materials Testing**  
**Site Layout**  
**Project Management & Compliance**

### Client

Our clients are our livelihood and therefore, we make it our personal objective to achieve 100% client satisfaction on every project regardless of size or scope.

### Teamwork

Teamwork is a necessity. Not only from an interdepartmental perspective but also from an external perspective. It is imperative that we work together with architects, owners, and any other stakeholders when taking on a project.

### Listen

In order to provide our clients with the most appropriate solutions to meet their needs, we LISTEN. By listening to our clients' needs and asking the right questions, we are able to clearly identify what is needed to take on a given project in the most efficient manner possible.

For more information on any of our products or services, please visit us on the Web at: [www.ctleng.com](http://www.ctleng.com)



**Analytical Chemistry**

- Organics
- Metals
- Liquid and Solid Fuels
- Soil and Water
- Oils and Sludge
- Solid & Hazardous Wastes
- Construction Materials

**Computer Technology**

- Drafting Services
  - AutoCad
  - Digitizing
  - Microstation
- Software Development
  - Internet & Intranet
  - Application Software

**Construction Administration**

- ODOT LPA Projects
- County & Municipal Projects
- Daily On-Site Inspections
- Owner's Representative

**Construction Services**

- Floor Flatness
- Soils, Concrete, Asphalt, Masonry, Fireproofing, and Steel
- Earth and Concrete Dams
- Pavements for Streets and Airports
- Pre and Post Construction Inspection
- Embankments, Fill, and Cut

**Environmental**

- Phase I & II ESAs
- RCRA Closure & Site Remediation
- Asbestos/Lead/Mold Surveys
- Abatement Design/ Monitoring
- Wetlands Delineation, Permitting & Mitigation
- Endangered Species/ Ecological Surveys
- Stormwater Management
- Water Resource Engineering
- Underground Storage Tank Management per BUSTR
- Hydrogeologic Studies & Aquifer Characterization

**Existing Structure Evaluation**

- Delamination Determination
- Bridges/Buildings
- Sonic Velocity Testing
- Half Cell Potential Testing

**Forensic Science**

- Roofing Failures
- Building Failures
- Legal Testimony
- Product Liability

**Forensic Investigations**

- Landslide, Soil and Foundation Failures
- Accident Reconstruction

**Geotechnical**

- Site Selection
- Pavement Design (including CBR Study)
- Foundation Analysis & Design
- Embankment & Earth Dam Analysis
- Slope Stability Analysis
- Subsurface Exploration - Drilling Services

**Ground Penetrating Radar**

- Concrete Inspection & Evaluation
- Bridge Inspection
- Utility Detection and Mapping

**Materials Testing**

- Concrete
- Aggregates
- Soils and Rock
- Clay & Masonry Products
- Bituminous Materials
- Petrographic Studies
- Concrete & Asphalt Mix Designs

**Metallurgy**

- Metallography
- Failure Analysis
- Fracture Analysis
- Corrosion Studies
- Tensile and Hardness
- Application Recommendations

**Mining Engineering**

- Mine Plan Design
- Permit Preparation
- Refuse Disposal Design
- Mine Reclamation Design
- Environmental Monitoring
- Subsidence Investigation
- Drainage Control Structures

**Nondestructive Testing & Inspection**

- Level II Services
- Ultrasonic Inspections
- Liquid Penetrant Inspections
- Magnetic Particle Inspections

**Pavement Management**

- Budgeting
- Prioritization
- Deterioration Rates
- Condition Assessment
- Maintenance & Rehabilitation Strategies
- Network Needs & Long Range Goals

**Product Testing**

- Calibration
- Design Analysis
- Safety Evaluation
- Hydrostatic Testing
- Mechanical and Physical Property Testing
- Load and Strength Testing

**Roofing Engineering & Building Envelope Services**

- Infrared & Nuclear Testing
- Air/Water Infiltration
- Quality Control
- Roof Surveys Evaluation
- Design & Construction Administration

**Roof Management Systems**

- Budgeting
- Prioritization
- Deterioration Rates
- Condition Assessment
- Maintenance & Rehabilitation Strategies

**Security & Safety Systems**

- Design
- Construction
- Paging Systems
- Video Surveillance
- Intrusion Detection
- Card Access Control
- Audio Visual Solutions
- Digital Video Recording

**Site/Civil Engineering**

- Commercial Land Development
- Infrastructure Planning
- Residential/Community Planning

**Surveying & Mapping**

- Topographic Mapping Development
- Property Surveying & Boundary Determination
- Global Positioning System

**Telecommunication Services**

- Design
- Construction
- Existing Structure Analysis & Maintenance
- Lighting Systems
- Inventory & Warehousing

**Welding & Quality Control**

- QA/QC Programs
- Certified Welding Inspection
- Welding/Brazing Qualification
- Procedure Development

**OFFICE LOCATIONS**

2860 Fisher Road  
**Columbus, OH 43204**  
Phone: (614) 276-8123  
Fax: (614) 276-6377

4343 Saguaro Trail  
**Indianapolis, IN 46268**  
Phone: (317) 295-8650  
Fax: (317) 295-8395

3085 Interstate Parkway  
**Brunswick, OH 44212**  
Phone: (330) 220-8900  
Fax: (330) 220-8944

3902 New Vision Drive  
**Fort Wayne, IN 46845**  
Phone: (260) 482-4503  
Fax: (260) 482-2002

633 High Street  
**Minford, OH 45653**  
Phone: (740) 820-8355  
Fax: (740) 820-5698

510 C Street  
**So. Charleston, WV 25303**  
Phone: (304) 746-1140  
Fax: (304) 746-1143

102 Commerce Drive  
**Wapakoneta, OH 45895**  
Phone: (419) 738-1447  
Fax: (419) 738-7670

1091 Chaplin Hill Road  
**Morgantown, WV 26501**  
Phone: (304) 292-1135  
Fax: (304) 296-9302

2105 Schappelle Lane  
**Cincinnati, OH 45240**  
Phone: (513) 722-8665  
Fax: (513) 834-6650

100 Central Plaza N  
**Canton, OH 44702**  
Phone: (330) 994-1590

Sachina Engineering  
407 "B" Block  
SNS Arcade, Airport Road  
**Bangalore, India**  
560017  
011-91-80-526-8615





▶ **CTL Engineering's in-house staff provides a wide variety of infrastructure design services for municipal and private developers.**

CTL can provide the complete package from conceptual to completion, including all unexpected elements such as Environmental Issues and Geotechnical Investigation. CTL can provide complete GIS Mapping of existing systems and proposed facilities.

CTL provides engineering and design services for municipalities including public water systems, sanitary sewer systems, waste water treatment plants, and storm water design and management plans. Public Water Systems are designed and computations analyzed within the guidelines and regulations set forth by the Bureau of Public Health. Sanitary sewer systems are designed and flow modeling performed on designs prior to submission to the regulatory agencies. CTL performs investigations on existing sanitary sewer systems and determine storm water infiltration issues which are becoming major problems with system surcharging and overflowing.

Storm Systems are designed and analyzed according to the guidelines and regulations set forth by the WV DEP. Storm Water Management Systems are designed with storage volumes and discharge velocities analyzed to minimize the impact on the environment.

Permit submittals and approvals are a requirement prior to any construction project. CTL's professionals have a strong knowledge of the requirements and regulation the West Virginia Department of Health and Human Resources - Bureau of Public Health, WV DEP - Division of Water and Waste Management, and WV DOH. This knowledge and the excellent relationships built with these agencies have allowed for successful submittals, reviews, and approval of permits for municipal infrastructure projects throughout the State of West Virginia.

#### **Municipal Infrastructure Services Include:**

- Commercial Land Development
- Public Water Systems
- Sanitary Sewer Systems
- Landfill Design & Construction Management
- Waste Water Treatment Plants
- Storm Water Infiltration
- Storm Water Management





### ▶ **CTL Engineering's Construction Administration Services include On-Site Daily Inspections**

Federal, State, and Locally funded Construction Projects require a high level of administration and quality control to meet the project's demands. The Counties and Municipalities, through ODOT's LPA Program, as well as private Owners, Developers, and Contractors have selected CTL Engineering for Construction Administration, knowing that we have the experienced staff to be accurate, dependable, and perform these services in a timely manner. Our experienced engineers, inspectors, and technicians are your partners in construction. We help in completing these projects successfully a meeting the specific project requirements.

CTL Engineering's qualified construction inspectors will observe and inspect your construction project and complete the necessary daily documentation required by the Federal, State, and Local funding agencies participating in the project.

CTL Engineering also provides in-house testing services such as concrete, asphalt, and sub-grade compaction, as well as daily on-site inspection services.

### **CTL Engineering provides the following Construction Administration Services:**

- Conduct Pre-Construction Conference
- Project Team Coordination
- Field Reports & Construction Documents' Administration
- Field Engineering and Inspections
- Material Certification and Shop Drawing Reviews
- Progress Meetings and Schedule Tracking
- Payments and Reimbursements
- Change Order Reviews
- Prevailing Wage Compliance
- EEO/DBE Contract Requirements
- Project Closeout Activities

### **CTL Engineering's On-Site Inspector provides and/or participates in the following Daily On-Site Inspection Services:**

- Pre-Construction Conference
- Prepare Field Inspection & Quantities Reports
- Prepare Construction Documentation & provide to Construction Administrator
- Field Engineering in conjunction with Construction Administrator
- Observe & verify materials being used for the project
- Observe, identify and notify Construction Administrator of deficiencies
- Provide Construction Administrator with monthly quantities for payment preparation
- Material Testing, i.e., compaction, concrete, asphalt, etc.



▶ **CTL Engineering's in-house staff provides a full array of services, with support from our Site/Civil Department, including mapping and surveying services.**

**Full Site Layout Design including:**

- Topographical Mapping Development
- Global Positioning Systems (GPS) Services
- Aerial Mapping Layout & Control
- Construction Layout
- Wetlands Delineation / Flood Plain Determination & Certification
- Property Survey & Boundary Determination
- Micrometer Leveling



**Services include:**

- Commercial Land Development
- Residential / Community Planning
- Infrastructure Planning & Design
- Pavement Design and Management
- Conceptual Designs / Presentations
- Recreational Resort / Facility Planning
- Erosion & Sediment Control Design
- Storm Water Management Systems
- Preliminary Cost Estimates / Feasibility Analyses
- Oil & Gas Pad and Pipeline Layout, Design, Survey, & Permitting
- As-Built Surveys and Drawings
- Remediation Plans for AML & Emergency Programs
- Permitting for all Project Types
- Site Development, Utilities, and Appurenances





Prosthetic failure.

▶ **CTL Engineering has experienced mechanical and metallurgical engineers, metallographers, chemists, and engineering technicians to assist you in trouble-shooting problems.**

Our problem solving approach combines technical consulting abilities and laboratory testing. If needed, we can recommend corrective action plans, including material application recommendations, design changes, or improvements to your instructions, warnings, labels, and specification requirements.

Our laboratories can provide you with complete analyses on most types of materials. We perform a wide variety of tension, compression, exposure, flexing, impact, and pressure tests to government, industry, military, and federal specifications.

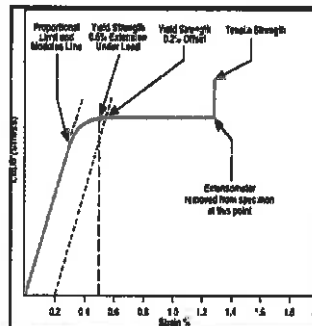
Through our extensive involvement with a wide variety of clients and products, we have a breadth of experience not available from in-house sources. Consultation services are available to assist you with your failure analysis needs, product design, manufacturing methods, and quality control.

**CTL Engineering provides quality assurance and inspection services:**

- Design Review
- Coating Thickness
- Endurance Testing
- On-Site Inspection
- Equipment Calibration
- Specification Verification
- Vehicle Failure Evaluations
- Pressure Gauge Calibration
- Code/Standard Compliance
- Scanning Electron Microscopy
- Identification of Potential Hazards

**Common Tests:**

- Hardness
- Metallography
- Stress Analysis
- Tensile Strength
- Strain Gage Testing
- Coating Evaluations
- Corrosion Resistance
- Load Bearing Capacity
- Dimensional Verification
- XRF Positive Material Identification



(Left) Tensile Testing

(Right) Strain Gauge Testing



▶ **CTL Engineering's Geotechnical Department routinely performs subsurface investigations and soil and rock testing. We prepare engineering reports, make recommendations regarding foundation and construction techniques, and perform other geotechnical services, as dictated by a given project.**

#### **Drilling Services:**

CTL Engineering owns and operates its own fleet of drill rigs. Our rigs are capable of Hollow Stem Augering, Rotary Core drilling and Direct Push Sampling. CTL is able to perform in house energy transfer calibrations on all of its automatic drive hammers. In fact, CTL calibrates many of our competitors' drive hammers as well.

CTL has continuously owned and operated drilling equipment since the 1970's. We have the equipment and experience to perform just about any geotechnical or environmental drilling project you may have.

#### **Analytical Laboratory:**

Our soils laboratory has been accredited by AMRL since 1999. The lab has consolidometers, triaxial and direct shear apparatus, permeability devices, soil compaction, soils classification equipment, and other laboratory testing equipment. We routinely perform testing on undisturbed as well as remolded soil samples. We also provide strength and durability testing services on rock samples.

#### **Geotechnical Services:**

- Complete Subsurface Exploration Study
- Foundation Analysis
- Pile, Pier, and Caisson Analysis & Inspection
- Embankment & Earth Dam Analysis
- Slope Stability Analysis
- Settlement Analysis
- Pavement Design
- Rock & Mineral Testing
- Hydrogeologic Studies
- Field and Laboratory Testing of Soils/Rock
- Legal Testimony
- Dynamic Pile Testing

**CTL Engineering routinely provides subsurface investigations on the following:**

- Roads and Bridges
- Airport Terminals, Runways, and Taxiways
- Water/Wastewater Treatment Facilities
- Hospitals, Parking Garages, Higher Education, and PK-12 School Buildings
- Energy Facilities
- Telecommunication Towers
- Commercial, Retail, and Industrial Facilities



Drilling in Rough Terrain



Drilling on Flat Terrain



▶ **CTL Engineering maintains a full service, in-house surveying and mapping team, which has extensive experience in performing most common surveying needs.**

CTL Engineering has the professional staff and the latest equipment to support eight (8) full survey crews. Our equipment includes a Global Positioning System and robotic surveying instruments which gives us an added dimension to our surveying and mapping capabilities.

We have performed surveying and mapping on many of our civil/site projects and have supplied construction stakeout and monitoring for many of our clients.

#### **Professional Services:**

- Property Surveying and Boundary Determination
- Topographic Mapping Development
- Aerial Mapping Layout and Control
- Gas Midstream Development and Construction Surveys
- Construction Layout
- Settlement Plate Monitoring
- Micrometer Leveling
- Flood Plain Determination and Certification
- Wetland Profiling

#### **Project Synopsis**

- Residential Subdivision Layout
- Commercial Development Layout
- Access Road and Parking Lot Layout
- Bridge Construction Layout and Monitoring
- Elevation Certificates (FEMA)
- Property Survey Projects
- Storm Water Surveillance Mapping
- Water Body Sounding Studies





Vehicular Accident Reconstruction



Vehicular Accident Reconstruction



Roof Collapse

▶ **CTL Engineering staff has the capability and experience to perform a wide range of failure analyses and accident investigations.**

We can pull together the knowledge of our scientists and engineers, combined with the specialized testing capabilities of our various laboratories, to provide a complete and comprehensive investigation report.

CTL's engineers can provide "expert witness" testimony regarding accidents or failures. CTL Engineering is well-known by government agencies, law firms, insurance companies, and industry for providing thorough and accurate investigations. Attorneys can present their cases more confidently and effectively when supported by a CTL investigation.

**CTL provides its clients with detailed analyses and expert representation for many types of accidents and failures, including:**

- Failure Analysis
- Roofing Failures
- Product Failures
- Pavement Failures
- Industrial Accidents
- Tire and Wheel Failures
- Vehicular Accident Reconstruction
- Landslide and Foundation Failures
- Equipment and Machinery Failures
- Buildings, Bridges, and other Structures

**Contact us:**

If you have a technical problem and think that CTL might be able to help, please call. We look forward to working with you to solve it or assist with your case.

# **Section III**

## **Project Experience**





**Project: Pee Wee Hill Water Supply**

**Client: Maryland Department of the Environment – Abandoned Mine Lands Division**

**Location: Kitzmiller, Garrett County, Maryland**

**Project Features:**

The site consisted of 23 residences that had impaired water supply from existing wells and springs. The impairment was both quantity and quality based. Deep mines from the early 1900s to the 1950s in multiple seams underlaid the entire project area. Several of the residences had lost well supply totally and many others had seasonal reductions in available water. Most of the residents displayed adverse water quality.

**Project Scope:**

CTL Engineering of West Virginia, Inc. was retained to provide the following evaluation and design:

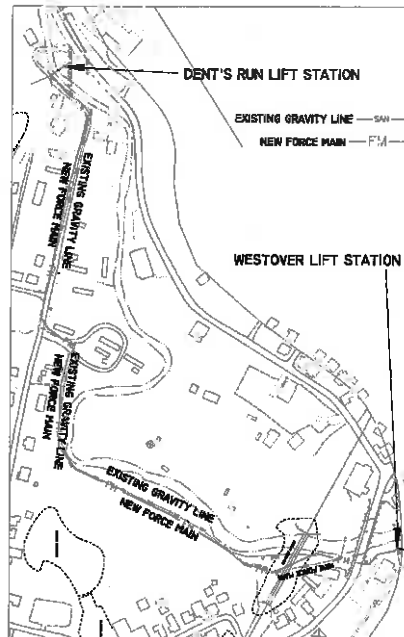
- Investigation of project area to determine if water supply had been effected by abandoned deep mines. This included mine data review, well water sampling and well draw-down and surge testing.
- Design of full water supply and distribution system to all residences.
- Design included 5,900 LF of mainline supply, 7,100 LF of distribution lines with fire protection, 23 tap-in lines, 105,000 gallon supply tank, 60gpm booster pump station from existing system to new supply tank.
- Construction E&S control plans, Construction drawings and specifications, and As-Built drawings.

**Client Reference:**

Mike Garner  
MDE-Land Management – AML Division  
160 South Water Street  
Frostburg, MD 21532  
(301)689-1460

**Design Completion Date: 5/2011**

**Estimated Project Cost: \$1,500,000**



**Project: Dents Run Sanitary – Force Main Project**

**Owner: City of Westover**

**Location: Westover, West Virginia**

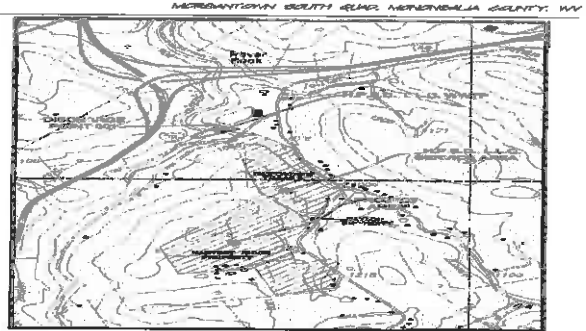
### **Project Features**

The city of Westover was written a violation for a manhole that would discharge raw sewage during heavy flows when both pumps at the Dent's Run lift station would run overwhelming the gravity line. CTL designed a 10" force main that entirely by-passed the gravity system and sent discharge from the Dent's Run Lift station directly to the Westover Lift Station. Addition of the force main greatly reduced discharges at the CSO on Pennsylvania Avenue.

CTL Engineering of West Virginia, Inc. was retained to provide sewer line surveying and mapping, sewer line capacity calculation, force main design and permitting, CNX rail road ROW and permitting. CTL also provided construction documents, bidding documents, meetings, awarding, and construction supervision and inspection.

### **Project Completion**

2008



**Project: WWTP & Lift Station Design & Sanitary Collection System Design**

**Client: Enroute Properties, LLC - Train, LLC**

**Location: Morgantown, Monongalia County, West Virginia**

**Project Features:**

CTL designed the sanitary collection system and 150,000GPD sewage plant to serve two subdivisions located on 220-acres with the potential to serve 535 single family homes treatment plant site. CTL provided all the design and permitting for this project and continues to provide services and technical support as the collection system and plant expand.

The collection system currently has over 26,590 feet of line, one lift station and 103 manholes. The subdivisions have plans to add to the collection system as the developments expand.

The sewage plant consists of a 15,084 gallon Pre-treatment chamber that will pump to three 50,000 GPD Sequencing Batch Reactors (SBR) at full build out. The SBRs will pump sludge to a 22,626 gallon aerated sludge holding tank. The SBRs will pump effluent to an Equalization tank that will pump to a 2,576 gallon chlorine contact chamber with a tablet chlorinator and de-chlorinator and a 1,218 gallon post aeration chamber. When the plant expands to 100,000 GPD the tablet disinfection unit will be replaced with an ultraviolet unit.

**Client Reference:**

Kevin Adrian  
Enroute Properties, LLC  
Morgantown, WV  
(304)692-8402



**Project: Harvest Ridge - Residential Development**

**Client: Enrout Properties, LLC**

**Location: Morgantown, Monongalia County, West Virginia**

**Project Features:**

This project is a 161.99-acre development featuring 317 residential lots for upscale homes with all underground utilities and paved roads. CTL Engineering, Inc. was responsible for permitting, including the following: Erosion and Sediment Control Permit; Highway Access Permit, and sanitary permitting. CTL also performed the Geotechnical Investigation, prepared the design for conceptual and final plans, road layout, and sanitary design, grading plans, construction surveying, subdivision plats, storm water systems and detention. CTL designed and permitted the sewage collection system and 150,000 GPD sewage plant that serves this and another subdivision.

**Client Reference:**

Kevin Adrian  
Enroute Properties, LLC  
Morgantown, WV  
(304)692-8402



**Project: Pleasant Hills Subdivision (Residential Housing Development)**

**Client: City of Westover**

**Location: Westover, Monongalia County, West Virginia**

**Project Features:**

CTL Engineering of West Virginia, Inc. provided investigative services involving Inflow & Infiltration (I&I) issues for the collection system and treatment facility located within the development. Additional services were provided to investigate and develop recommendations for hydraulic loading problems occurring at the waste treatment facility. CTL also completed a system wide video survey of the 8" collection lines and completed a final report of recommendations to eliminate the problems encountered.

The study involved locating and assessing all manhole and cleanout units to determine the existing condition of each, relative to "I & I" potentials. The study required reconnaissance of 40 manholes and cleanouts and approximately 10,000 feet of collection lines. A detailed recommendations report was prepared to assist in remediation efforts.

**Client Reference:**

City of Westover  
Mayor's Office  
Westover, WV  
(304) 296-6860



**Project: Potable Water Systems**

**Client: Various Private Developers**

**Location: Various Locales throughout West Virginia**

**Project Features:**

CTL Engineering of West Virginia, Inc. has provided engineering services and specialized investigations for private residential and commercial developers.

- **Canterbury Woods** – Water System Infrastructure Design, Whitehall, WV  
Design and determine flow requirements including submission to the WV DEP Health and Human Resources and the City of Fairmont and the Town of Whitehall for permit and approvals. Evaluate the existing system for capacities and pressures.
- **Grey Cliff** – Water System Infrastructure Design, Near Morgantown, WV  
Design and determine flow requirements including submission to the WV DEP Health and Human Resources for permit and approvals
- **Monte Vista** – Water System Infrastructure Design, The Woods, Berkley County, WV  
Design and determine flow requirements including fire protection requirements. Submission to the WV DEP Health and Human Resources and the Berkley County Planning Commission for permit and approvals was a requirement of the project.
- **Woodbury Towns** – Water System Infrastructure Design, Bridgeport, WV  
Design and determine flow requirements including fire protection requirements. Submission to the WV DEP Health & Human Resources and the City of Bridgeport for permit and approvals was part of the design requirements. Evaluate the existing system for capacities and pressures.
- **Various Commercial Establishment** – Water services including fire suppression requirements and evaluation of existing for flow requirements and capacity.



**Project: Wastewater Treatment and Collection Design**

**Client: Various Private Developers**

**Location: Various Locales Throughout West Virginia**

**Project Features:**

CTL Engineering of West Virginia, Inc. has provided engineering services and specialized investigations for several private residential and commercial developers.

- **Canyon Mobile Home Park** – System Upgrade
- **Greentree Village** – Infiltration Investigation and Upgrade
- **Foxwood Estates** – Infiltration Investigation & Upgrade
- **Sunshine Estates** – Infiltration Investigation & Upgrade
- **City of Westover** – Evaluation of Private System prior to city takeover
- **Pierpont Property Development** – Package Plant and Collection System
- **Glenmark Development** – Package Plant
- **Kinsley Construction** – Package Plant and Collection System
- **Genco Land and Development** – Package Plant and Collection System
- **Sheetz Convenience Store** – Package Plant and Collection System
- **Silver Tree Estates** – Package Plant and Collection System
- **B & H Properties** – Package Plant and Collection System
- **Morgantown Utility Board, Cheat Lake** – Sewer Line Extension and Plant Expansion
- **Morgantown Utility Board, Chaplin Hill** – Sewer and Water Line Extension and Upgrade

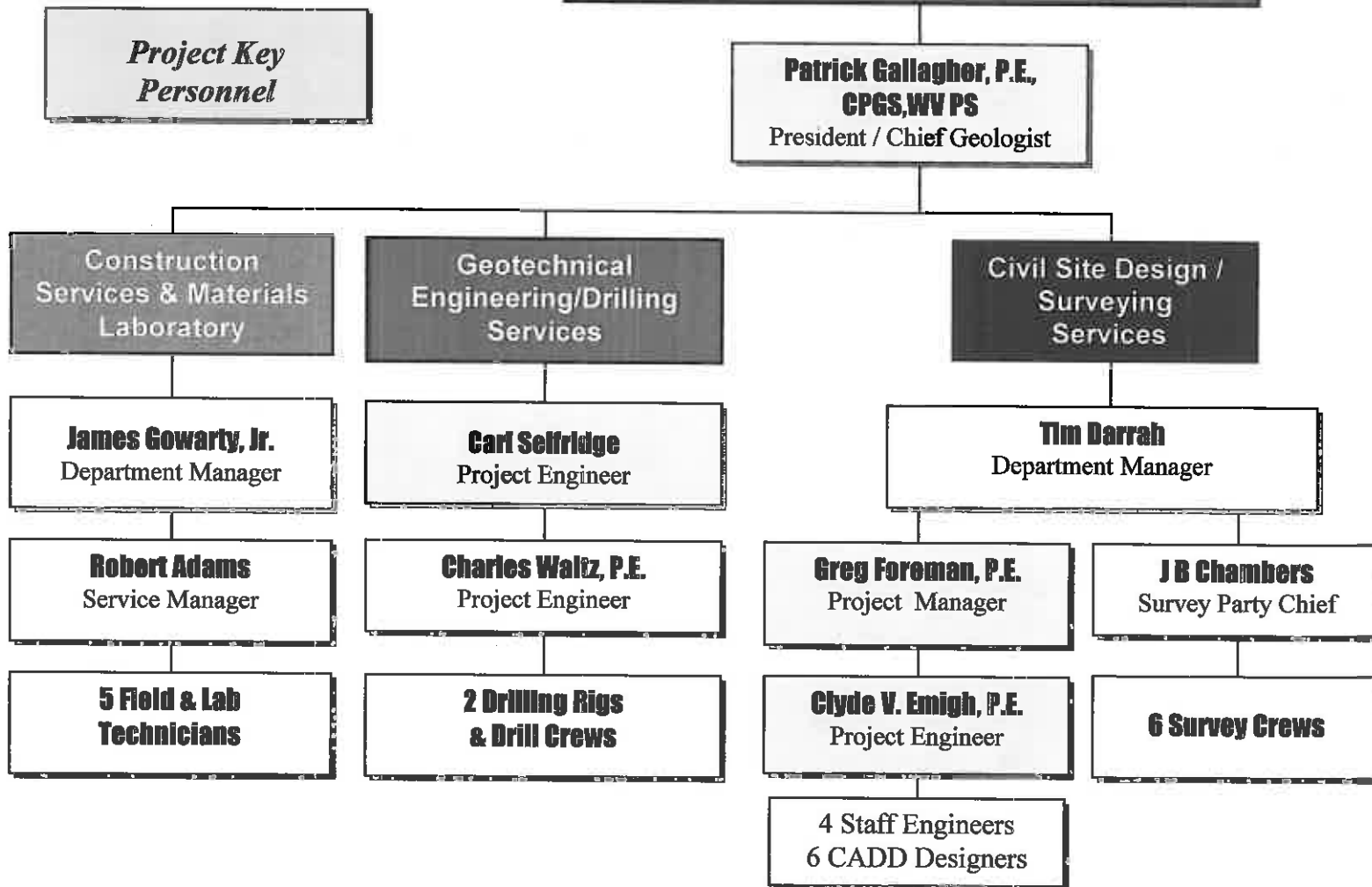
# **Section IV**

## **Resumes**



# CTL Engineering of West Virginia, Inc.

## Project Organization Chart





**Mr. Patrick E. Gallagher P.E., CPGS**  
*President – CTL Engineering of West Virginia, Inc.*

Projects successfully completed under Mr. Gallagher's direction include: Civil Site Design, Foundation Design, Storm Water Management, Waste Water Design, Roadway Design, Parking Lot Design, Geotechnical Investigations & Design, Site Stability Analyses, Mine Subsidence Evaluations, Failure Investigations and Environmental Investigations and Expert Witness Testimony. Prior to joining CTL Engineering,

Mr. Gallagher was the chief of the Abandoned Mine Reclamation Program for the State of Maryland, Department of Natural Resources, and Bureau of Mines. In addition, he was also responsible for overall engineering/geologic support to the Maryland Bureau of Mines Program. His career began in Pittsburgh as a project geotechnical engineer with Orbital Engineering.

#### Education

B.S., Civil Engineering, 1975, Virginia Polytechnic Institute and State University, Blacksburg, Virginia  
Geology (Minor), 1975 Virginia Polytechnic Institute and State University, Blacksburg, Virginia

#### Professional Registration / Certification

Registered Professional Engineer, Ohio, Maryland, West Virginia, Pennsylvania, Wyoming, North Carolina, Kentucky, Certified Professional Geological Scientist, Professional Surveyor, WV  
Adjunct Professor – Civil Engineering – Fairmont State College, 2001 – Present

#### CTL Project Experience

##### Transportation

Emerson Avenue-Slope Stabilization Investigation & Design. Wood County, W.V.  
I-81 Martinsburg to Marlow Interchange-Design Build. Martinsburg, W.V.  
Morgantown Municipal Airport-Geotechnical Services. Morgantown, W.V.  
Black Water Bridge Abutments-Surveying & Design Services. Tucker County, W.V.  
Charles Point Roadway Cut Evaluation-Geotechnical Services. Bridgeport, W.V.

##### Education facilities

New University High School-Variou Services. Morgantown, W.V.  
Church Properties: Central School-Surveying & Design Services. Morgantown, W.V.  
South Jefferson High School-Variou Services. Jefferson County, W.V.  
Morgantown High School Stadium Renovations-Variou Services. Morgantown, W.V.  
Huff Consolidated School-Geotechnical Services. Wyoming County, W.V.  
Fairmont State Athletic Field-Geotechnical Services. Fairmont, W.V.

##### Other

Bridgeport Burger King-Evaluations. Bridgeport, W.V.  
Charleston Sanitary Board Slip-Variou Services. Charleston, W.V.

##### Healthcare

Mon General Site Development-Site Design. Morgantown, W.V.  
Ambulatory Care Center-Geotechnical Services. Morgantown, W.V.  
Preston Memorial Hospital Construction-Variou Services. Preston County, W.V.  
WVUH Data Center-Geotechnical Services. Morgantown, W.V.  
Fresenius Medical Center-Geotechnical Services. Preston County, W.V.

##### Energy

Harrison Step II Construction Monitoring-Variou Services. Harrison County, W.V.  
Harrison Power Station Phase V Step I-Construction Services. Harrison County, W.V.  
Harrison Power Station Cell A Repair-Construction Services. Harrison County, W.V.  
Overland Conveyor Permitting-Permitting & Surveying. Monongalia County, W.V.  
Harrison Power Station Landfill QA/QC Leachate Collection Layer Expansion-Variou Services. Harrison County, W.V.

##### Building Development

University Place-Site, Civil & Geotechnical Services. Morgantown, W.V.  
Grand Central Apartments-Geotechnical Services. Morgantown, W.V.  
Gateway Development-Site & Civil Services. Morgantown, W.V.  
Federal Correctional Institute-Variou Services. Hazelton, W.V.  
Parkview Heights Retaining Wall-Geotechnical Services. Bridgeport, W.V.

##### Mine Related

Morgantown Anderson Highwalls-AML Reclamation Design. Morgantown, W.V.  
Schramm, Gordon, East Franklin Landslide-AML Reclamation. Maryland.  
Douglas Avenue Stormwater System-Geotechnical & Hydrologic Services. Allegheny County, M.D.  
Fairmont Subsidence-AML Reclamation & Geotechnical Services. Fairmont, W.V.  
Ottawa State Route 2 Mine Subsidence-Geotechnical Services & Grouting Plan. Ottawa County, O.H.

##### Forensic / Expert Testimony

Mr. Gallagher has been involved in numerous Failure Investigations and Forensic Projects over the past 40 years. He has been approved as an expert in the areas of Foundation Failures, Blasting, Flooding, Slope failures, Construction Defects, Structural, and Residential Construction Defects.



**Gregory Foreman, P.E.**  
*Manager*  
Water Systems Department

Mr. Foreman serves as Project Manager and Design Engineer for a multitude of civil site design projects for municipal, commercial and private developers. Design services provided include site grading, potable water, sanitary sewer, storm sewer, pedestrian walkways, vehicular thoroughfares,

preparation of permits, project specifications, plans and engineering calculations.

**Education**

B.S. Civil Engineering Technology  
Fairmont State College, Fairmont, West Virginia 1989  
A.S. Mechanical Engineering  
Fairmont State College, Fairmont, West Virginia 1989  
A.S. Drafting and Design  
Fairmont State College, Fairmont, West Virginia 1989

**Professional Registrations / Certifications**

Registered Professional Engineer: West Virginia, 1999,  
[REDACTED] Pennsylvania, 2010, [REDACTED]

Total Dental Office-Civil Site Design. Bridgeport, W.V.  
West Run Apartments Flood Plain-Surveying & Mapping Services. Morgantown, W.V.

**Other**

Bridgeport Burger King-Evaluations. Bridgeport, W.V.  
Preston County High School Evaluations-Sewage Plant Evaluation & Wetland Delineation. Preston County, W.V.  
Industrial Avenue Streetscape-Variou Services. Morgantown West Virginia  
Dorsey's Knob Road Improvements-Variou Services. Morgantown, W.V.  
Boyers Avenue-Demolition Plans. Morgantown, W.V.

**CTL Project Experience**

**Mine Related**

Fairview Feasibility Study-AML Feasibility Study. Marion County, W.V.  
Craigsville/Tioga Water Well Study-Hydrologic Study. Nicholas County, W.V.  
Feasibility Study for Oakland PSD-AML Feasibility Study. Hancock County, W.V.  
Morgantown Anderson Portals & Highwall-AML Reclamation Design. Morgantown, W.V.

**Water / Wastewater and Water Tanks**

Pee Wee Hill Potable Water Design – MDE  
Palisades Place-Sewage Collection, Treatment and Disposal & Various Other Services. Morgantown, W.V.  
Fairmont Water Treatment Plant-Variou Services. Fairmont, W.V.

**Building Development**

West Minister Apartments Phase II-Civil Site, Permitting, Surveying, Geotechnical & Environmental Services. Martinsburg, W.V.  
University Place-Civil Site, Surveying, Geotechnical & Environmental Services. Morgantown, W.V.  
Canterbury Housing Development-Variou Services. Fairmont, W.V.  
Hornbeck Road Development-Surveying, Stormwater, Permitting, & Testing Services. Morgantown, W.V.  
Premier Chevrolet-Site Design & Layout. Morgantown, W.V.  
Mountain State Blue Cross Blue Sheild-Civil Site Services. Parkersburg, W.V.

**Clyde V. Emigh, P.E.**

*Sub-consultant*

Water and Waste Water Projects

Mr. Emigh has thirty years experience from both a regulatory and design perspective working with and providing guidance to potable treatment plants and operators and distribution system operational personnel.

***Education***

B.S. Civil Engineering- 1968

West Virginia University, Morgantown, West Virginia

***Registration***

Registered Professional Engineer, West Virginia [REDACTED]

***Work Experience***

WV Department of Highways

Project Engineer – Lewis County, WV

Project Engineer – Kanawha County, WV

Finals Engineer – Charleston, WV

WV Bureau for Public Health, Environmental Engineering Division

Supervising District Engineer, Wheeling & Philippi District Offices

Vocational Instructor / WVDE Certified Instructor in potable water treatment plants and distribution system operations

Senior Design Engineer – Multiple Engineering Consultant Firms

***Relevant Project Experience***

Mr. Emigh has supervised and actively participated in the removal and replacement of nine greensand filtration systems used in the treatment of groundwater (well) supplies with high iron and manganese concentrations in raw water. Quantities and sizing of filter media and gravel support systems were provided with onsite participation provided in the installation of the gravel support and filter media systems. Raw water chemical quality was obtained through laboratory analysis and chemical feed systems provided to eliminate poor water quality by installation of chemical feed systems to eliminate iron and manganese (potassium permanganate) and provide non corrosive water by addition of soda ash / polyphosphates. Design and installation of chemical feed systems for disinfection (liquid or gas chlorination systems) was provided. On site operational instructions were provided (including chemical mix concentrations and chemical feeder calibration / dose rate).

Assistance was provided to water system personnel regarding implementation of any needed corrective operational practices to secure regulatory compliance and provide both a safe and aesthetically satisfactory potable water supply to system users.

Mr. Emigh has also designed potable water distribution systems and treatment plant components for both surface and groundwater (well fed) sources. The designs included chemical feed systems based on raw water quality, water quality monitoring systems, dual media, mixed media, and greensand filtration systems, chlorine disinfection systems, low/high service pump systems, booster pump stations and water storage facilities.

## **Carl Selfridge**

### **Manage**

#### **Geotechnical & Drilling Services**

Annually manages 100+ various geotechnical projects including; education, transportation, commercial development and a variety of public and private clients. Mr. Selfridge is responsible for directing all aspects of the Geotechnical Engineering Department for CTL Engineering of West Virginia, Inc. This includes the management of field drilling activities, field classification of soil and rock, field and laboratory safety procedures, the assignment of a laboratory testing program, and performing geotechnical evaluations. Engineering evaluations include foundation recommendations, settlement analysis, slope stability analysis, earth pressure coefficients and report preparation.

#### **Education**

A.A.S. Mechanical Technology – Drafting & Design  
Adirondack Community College, Queensbury, N.Y. 1991  
A.S. Engineering Science  
Adirondack Community College, Queensbury, N.Y. 1994  
B.S. Civil Engineering (Geotechnical & Structural)  
Rensselaer Polytechnic Institute, Troy, N.Y. 1996  
Graduate Studies-Civil Engineering (Geotechnical)  
Rensselaer Polytechnic Institute, Troy, N.Y. 1996-1999

#### **Professional Registrations / Certifications**

Engineer Intern (EI): New York, 1996  
Pennsylvania Dept of Transportation Level II Drilling Inspector, 1999

#### **CTL Project Experience**

##### **Mine & Landfill Related**

Pee Wee Hill – Water Well Draw Down Testing- Garrett MD  
Eccles and MacArthur Subsidence-Subsidence Investigation & Mitigation. Raleigh County, W.V.  
Shinns Run Portals & AMD-AML Reclamation & Geotechnical Services. Harrison County, W.V.  
Tunnel Ridge Slurry Cell A-Piezometer Installations & Geotechnical Services. Ohio County, W.V.  
Pine Creek: Omar Landfill-Geotechnical Services. Logan County, W.V.  
Marion County Landfill-Geotechnical Services. Marion County, W.V.  
Wheeling Landfill-Geotechnical Services. Wheeling, W.V.  
Mingo County Landfill-Geotechnical Services. Mingo County, W.V.  
South Charleston Landfill-Geotechnical Services. South Charleston, W.V.

##### **Water / Wastewater Treatment**

Water Treatment Plan Corrective Action Design-Geotechnical Services. Marion County, W.V.

##### **Transportation**

Benedum Airport Towers-Geotechnical Services. Harrison County, W.V.  
I-81 Martinsburg to Marlowe Interchange-Design Build. Jefferson County, W.V.  
Hughes Creek Landslide-Geotechnical Services. Kanawha County, W.V.  
Dick Henderson Bridge-Geotechnical Services. Kanawha County, W.V.  
Morgantown Airport Alternative Access Road-Geotechnical Services. Morgantown, W.V.  
Leon Bridge-Geotechnical Services. Mason County, W.V.  
Morgantown Rest Area-Geotechnical Evaluation. Morgantown, W.V.  
Veterans Memorial Bridge-Geotechnical Services. Hancock County, W.V.

##### **Healthcare**

New Preston Memorial Hospital-Geotechnical Evaluation. Preston County, W.V.  
Mon General Hospital Development-Site Design Services. Morgantown, W.V.  
Pierpont Centre Dental Office-Geotechnical Evaluation. Morgantown, W.V.  
Davis Memorial Hospital Addition-Geotechnical Services. Randolph County, W.V.  
Chestnut Ridge Hospital Addition-Geotechnical Services. Morgantown, W.V.  
WVU Hospitals Data Center-Geotechnical Services. Morgantown, W.V.  
Molecular Lab and Morgue-Geotechnical & Surveying Services. Morgantown, W.V.  
Ambulatory Care Center-Geotechnical Services. Morgantown, W.V.

##### **Building Development**

University Park-Civil Site, Geotechnical, Environmental & Surveying Services. Morgantown, W.V.  
Gateway Development-Civil Site, Geotechnical, Environmental & Surveying Services. Morgantown, W.V.  
Shoney's Restaurant-Geotechnical Investigation. Morgantown, W.V.  
Grand Central Apartments-Geotechnical Services. Morgantown, W.V.  
Oak Valley Garden Apartments-Geotechnical Services. Gilmer County, W.V.  
West Minister Apartments: Phase I & II-Civil Site, Environmental, Geotechnical & Surveying Services. Jefferson County, W.V.  
University Place-Civil Site, Environmental, Geotechnical & Surveying Services. Morgantown, W.V.

##### **Education**

Huff Consolidated Schools-Geotechnical Services. Wyoming County, W.V.  
Central Preston Middle School-Variou Services. Preston County, W.V.  
Bruceeton Mills-Variou Services. Preston County, W.V.  
WVU Stewart Hall Retaining Wall-Geotechnical Services. Morgantown, W.V.  
Alderson Broaddus Football Field-Geotech Services. Philippi, W.V.