



THRASHER

West Virginia Army National Guard
Joint Forces Headquarters
Construction and Facilities
Management Office
1703 Coonskin Drive
Charleston, WV 25311

Coonskin Complex and Camp Dawson
ADJ1700000004

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WV Purchasing Division

August 31, 2016

THRASHER

August 31, 2016

Department of Administration, Purchasing Division
Attn: Jessica S. Chambers, Senior Buyer
2019 Washington Street East
Charleston, WV 25305-0130

RE: Redundant Water and Sewage Systems EOI Design Services

To the Members of the Selection Committee:

The Thrasher Group, Inc. (Thrasher) has had the opportunity to work with the West Virginia Army National Guard (WVANG) on projects for years. Thrasher's expertise in water and sewer systems is unparalleled in West Virginia. We are the only West Virginia based firm ranked in the Engineering News Record Top 500. Our knowledge of both the Coonskin and Camp Dawson facilities make us the right fit for these projects. With offices located in Charleston and Bridgeport, we are able to serve both project locations quickly, saving you travel expenses and money.

Our prior experience, which is further showcased in the following pages features successful projects completed in Charleston, Kingwood, Berkeley County, Bluefield, Oak Hill and Weirton. Additionally, Thrasher has completed source water studies all across the State of West Virginia for both small and large municipalities. Thrasher has assembled a team that features two project managers, Jesse Alden and Travis Adams. Our team is ready to respond to the needs of the WVANG.

We look forward to the opportunity to provide you an oral presentation that will demonstrate how Thrasher can deliver for you. We are ready to begin the process and continue our long standing relationship of working together.

Sincerely,



Jonathan Carpenter, PE
Principal In Charge

Corporation/Personnel Experience

Thrasher is a privately owned engineering firm that specializes in multi-disciplinary engineering and architectural services. Established in 1983, Thrasher is built on stable leadership, financial strength and reputation. Our dedication to creative design solutions, well-managed projects and customer service has made Thrasher West Virginia's largest privately owned engineering firm and an industry leader in the Mid-Atlantic region.

Since our formation, the company has grown to a firm of more than 250 employees. Our diverse staff has the resources to handle many projects, both large and small, simultaneously. Our client base is diverse and includes municipalities, state and federal government agencies, secondary and higher education and private entities, etc. With multi-discipline capabilities, Thrasher covers all of the professional services needed to deliver successful projects to both public and private clientele. The firm's roots were planted in civil engineering and consulting services for public utility projects.

The staff that will be assigned to the WVANG project includes Jonathan Carpenter, P.E. as Principal-in-Charge and Jesse Alden and Travis Adams as Project Managers. Jonathan Carpenter, a firm partner, is experienced in water and sewer engineering design and has performed system inventory analysis and vulnerability assessments of existing infrastructure throughout the Mid-Atlantic region. Both, Jesse and Travis have served as project managers and staff engineers on projects that require design, cost estimates, assessments of existing facilities, system operation and maintenance plans. Resumes for the key individuals on your project team are included in following sections of this qualifications statement.



Corporation/Personnel Experience

Thrasher has performed projects for the WVANG at facilities within West Virginia. To illustrate how our experience meets the needs of the WVANG, we have focused our representative projects on those that feature our ability to design and complete system inventories and vulnerability assessments to existing systems.

The following is a list of our multi-disciplinary services:

- **Civil Engineering**
 - Water
 - Wastewater
 - Natural Gas
 - Electric
 - Utility Services
 - Land & Site Development
 - Roadways
 - Bridges
 - Streetscapes
 - Airports
 - Storm Water Systems
- **Architecture**
- **Land Planning**
- **Landscape Architecture**
- **Construction Monitoring**
- **Pipeline Inspection**
- **GIS Mapping**
- **Source Water Protection Plans**
- **Surveying**
- **Environmental Services**
 - Permitting
 - Appropriate Inquiry (AAI)
 - Environmental Site Assessments
 - NEPA Compliance for Publicly Funded Projects
 - Ecological Studies
 - Brownfield Redevelopment
 - Industrial Hygiene and Demolition Planning
 - Underground Storage Tank (UST)
 - Wetland Delineation, Design, and Mitigation
 - Hydro-geologic and Geologic Investigations
 - Ground Water Monitoring
 - Sampling and Laboratory Analysis
 - Solid and Hazardous Waste Management
 - SPCC, GWPP, SWPP Environmental Compliance
 - Stream Assessments, Design, and Mitigation
 - Erosion and Sediment Control Plans
 - Materials Testing

Thrasher's philosophy is founded on the principle of client satisfaction and repeat business. We do what it takes to assure satisfaction and to ensure project success, and want to work with the WVANG to provide a detailed assessment of the water and sanitary sewer systems at both the Joint Forces Headquarters at Coonskin and Camp Dawson.



Proposed Project Management Plan

Summary

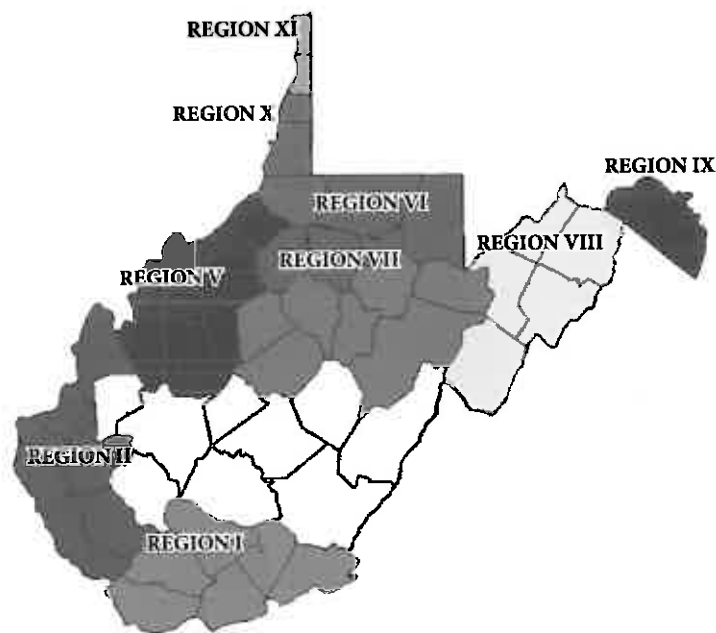
Thrasher has an excellent understanding of the requirements outlined in the Scope of Work. We have intimate working knowledge of the water and sewer systems currently providing service to Camp Dawson. Since we work for both the City of Charleston and the City of Kingwood, we are familiar with the public utility providers for both facilities. Thrasher has served as the Engineer of Record for the Charleston Sanitary Board since 2014 and we have worked for the City of Kingwood on all water and sewer infrastructure projects, including projects serving Camp Dawson, for the past 20 plus years. One of the projects we completed for Camp Dawson included the 2001 Cheat River Utility Crossing Project. This project consisted of designing and overseeing construction of an 8" potable water supply line and 6" sanitary sewer collection system force main from the City of Kingwood across the Cheat River to Camp Dawson. Most recently, Thrasher completed upgrades to both of the sanitary sewer collection system pump stations (Brown Fence and Runway) located at Camp Dawson as well as a large upgrade to the city's wastewater treatment plant and collection system. In addition, Thrasher's completion of the State mandated Source Water Protection Contingency Plans for many entities in West Virginia, including Kingwood Water Works as required under Senate Bill 373, has provided us invaluable insight to evaluate the key components and risks related to source water protection and potable water supply to Joint Forces Headquarters and Camp Dawson.

Project Approach

- Conduct a project kick off meeting to establish project goals and WVANG expectations. Perform a complete review of the existing water and sewage system infrastructure servicing JFHQ and Camp Dawson for the purpose of developing a complete system inventory for both water and wastewater.
- Evaluate the system data collected and complete a vulnerability assessment based on the existing water and sewage system infrastructure, condition, and operation practices.
- Develop a written assessment to include the condition of existing facilities, description of present use, suitability for continued use, analysis of the adequacy of potable water supply, analysis of existing raw water source quantity and quality, analysis of any health related and safety concerns including relevant correspondence from Federal and State regulatory agencies, analysis of system operation and maintenance practices, evaluation of water loss and overall system efficiency.
- Assessment of sanitary sewage collection system availability, capacity, as well as an analysis of the wastewater treatment plant, with special reference to their relationship to existing or proposed water works structures.
- Develop and provide preliminary design concepts and cost estimates for redundant water and wastewater system options including: Raw water supply (i.e. Wells, impoundments, etc.), potable water treatment, potable water storage, water distribution and wastewater collection including pumping stations, wastewater treatment facilities, and development of a financial report detailing annual operation and maintenance costs for proposed systems and development of a project timeline for the implementation of redundant water and wastewater system improvements.

Proposed Project Management Plan

- Meet with the WVARNG (Owner) to review the system data and discuss the specific detail of the options developed.
- Provide full design services, as requested by the Owner that may include civil, mechanical, electrical, and environmental disciplines to facilitate the design and construction of fully functional redundant water and sewage systems to serve JFHQ and Camp Dawson within the proposed project budget. The proposed design services will include the preparation of construction plans and specifications for the proposed water and wastewater system upgrades for the purpose of advertising and awarding construction contracts.
- Preparation of the selected final design including all preliminary and final working drawings, specifications, detailed construction cost estimates, bidding documents, and evaluation of bids received for construction.
- Thrasher will provide engineering during construction services to include the review of contractor shop drawings, preparation of change orders, record drawing preparation, response to contractor RFI's, and attendance at scheduled construction progress meetings.



Thrasher has been retained to develop multiple Source Water Protection Plans as required by Senate Bill 373. The above map clearly outlines all of the Regions that Thrasher is either currently, or has done Source Water Assessments. A detailed list of the municipalities can be found in the following pages.

Key Personnel



Jonathan Carpenter, PE
Principal-in-Charge

Harper Engineering, Inc.
Sub-Consultant
MEP

Jesse Alden, EIT
JFHQ/Coonskin
Project Manager

Travis Adams
Camp Dawson
Project Manager

Michael Stone
JFHQ/Coonskin
Staff Engineer

David Watson
Camp Dawson
Staff Engineer

Jeff Todd
Environmental Scientist

Butch Brown
Inspection and Data
Manager

Key Personnel

Jonathan Carpenter, PE

Principal-in-Charge



Jonathan Carpenter, PE is a partner at Thrasher and serves as managing partner of the firm's Charleston, West Virginia location, overseeing engineering and environmental projects. Jonathan joined Thrasher in 1997. During his tenure with the firm, he has focused his design and project management skills on projects within the public utility realm, with emphasis on water and wastewater treatment facilities. His work as Project Manager and/or Project Engineer in this area has earned numerous awards from the American Council of Engineering Companies (ACEC). As a Project Manager, he is responsible for the oversight of all technical design aspects in addition to regulatory and funding processes. Jonathan is highly adept in client communication, project scheduling and financial aspects to ensure on-time and on-budget quality projects.

Education:

B.S. Civil Engineering, 1997- University of Tennessee

Registrations:

Registered Professional Engineer (PE), State of West Virginia, [REDACTED]

Registered Professional Engineer (PE), State of Maryland, [REDACTED]

Awards:

ACEC WV First Place Gold Award	Wastewater Treatment 2011: Weirton Sanitary Board ATAD Project
ACEC First Place Gold Award	Water Treatment 2001: Weirton Sludge Handling Project
ACEC Second Place Silver Award	Water Treatment 2005: Mingo County Water Treatment Plant

Affiliations:

American Society of Civil Engineers

American Water Works Association – State of WV National Director, Board Member, Past Chairman

Highlighted Experience:

SOURCE WATER PROTECTIONS PLANS - Weirton Water Board, Kenova Water Works, Mingo County PSD, Lincoln PSD, City of Milton

CAMP DAWSON FACILITY: Review of and plan modifications of the Spill Prevention, Control Countermeasure Plan (SPCC) for the facility, Preston County, West Virginia

MINGO COUNTY PUBLIC SERVICE DISTRICT NAUGATUCK TO EAST KERMIT WATER LINE EXTENSION PROJECT - Mingo County, West Virginia

CHARLESTON SANITARY BOARD - Capital Improvement Plant

BERKELEY COUNTY PSSD - Capital Improvement Plan

Key Personnel

Jesse Alden, EIT

JFHQ/Coonskin Project Manager



Jesse Alden joined Thrasher in 2012 and will serve as the Joint Forces Headquarters/Coonskin project manager. As a key member of our staff in the Charleston office, he is a natural fit to fill this role for the ANG. Mr. Alden is responsible for the design, detailed specifications and contract documents, preparation of permitting applications and coordination with equipment manufactures. Jesse works closely with clients throughout the course of the project to ensure that all goals and the project timeline are being met.

Education:

Bachelor of Science, Civil Engineering - Fairmont State University
Associate Degree, Pharmaceutical Science - National Institute of Technology

Certifications and Training:

Engineering Intern: State of West Virginia -FE Exam completed April, 2013
OHSa General Industry Certification
HAZWOPER Certification
T & L Contractor Safety Orientation Certification - 2011
First Aid / CPR Certification

Highlighted Experience:

CITY OF WEIRTON 5TH STREET PUMPING STATION PROJECT - Weirton County, West Virginia

CITY OF WEIRTON WATER BOARD 18" EMERGENCY WATERLINE - Hancock County, West Virginia

MALDEN PUBLIC SERVICE DISTRICT I&I REDUCTION AND WASTEWATER TREATMENT PLANT
- Kanawha County, West Virginia

TOWN OF JUNIOR WASTEWATER TREATMENT PLANT UPGRADES - Barbour County, West Virginia

CITY OF CLARKSBURG WASTEWATER TREATMENT PLANT UPGRADES - Harrison County, West Virginia

MINGO COUNTY PUBLIC SERVICE DISTRICT NAUGATUCK TO EAST KERMIT WATER LINE
EXTENSION PROJECT - Mingo County, West Virginia

Key Personnel

Travis Adams

Camp Dawson Project Manager



Travis Adams joined Thrasher in 2000 and will serve as the Camp Dawson Project Manager. Mr. Adams is a resident of Preston County and has worked for the City of Kingwood on multiple projects since joining the Thrasher team.

He is responsible for sanitary sewer collection system rehabilitation and collection system extension projects, wastewater treatment projects, water distribution systems and construction management on municipal and public utility projects.

Education:

Bachelor of Science, Agricultural and Environmental Sciences, West Virginia University

Certifications and Training:

WVDOH Certified Aggregate Sampling
WVDOH Portland Concrete Testing/Inspector
WVDOH Soil Compaction Inspector

Highlighted Experience:

CITY OF KINGWOOD SANITARY SEWER COLLECTION SYSTEM PROJECT - Preston County, West Virginia

CAMP DAWSON FACILITY: 20 plus years of experience working directly with Camp Dawson to facilitate water and sanitary services from the City of Kingwood, Preston County, West Virginia

PRESTON COUNTY PSD #4 WATER DISTRIBUTION SYSTEM TO HAZELTON FEDERAL PRISON - Preston County, West Virginia

PRESTON COUNTY SEWER PUBLIC SERVICE DISTRICT SANITARY SEWER COLLECTION SYSTEM - Preston County, West Virginia

HAZELTON WASTEWATER TREATMENT PLANT - Preston County, West Virginia

VALLEY POINT SANITARY SEWER COLLECTION SYSTEM - Preston County, West Virginia

PRESTON COUNTY EDA NORTHPOINTE INDUSTRIAL PARK SANITARY SEWER AND WATER DISTRIBUTION PROJECT - Preston County, West Virginia

Key Personnel

Michael Stone
JFHQ/Coonskin
Staff Engineer



Mr. Stone joined Thrasher in 2014 and serves as a Staff Engineer on public utility projects. Michael is responsible for developing, planning and designing construction plans. He is also involved in the bid process and contract document preparation. Michael attends meetings and has become very knowledgeable regarding asset management.

Prior to joining the Thrasher team, Micheal received his Civil Engineering degree from WVU Tech and his Environmental Engineering degree from Colorado State.

Education:

Master of Engineering, Environmental Engineering - Colorado State University
Bachelor of Science, Civil Engineering - WVU Institute of Technology

Certifications and Training:

Engineering Intern: State of West Virginia -FE Exam completed April, 2011

Highlighted Experience:

REGIONS I, II, V, VI, VII, VIII, IX, X AND XI - Planning and Development Councils - Source Water Protection Plan Projects - 60 plus total utilities

CITY OF RIPLEY WASTEWATER COLLECTION SYSTEM- Jackson County, West Virginia

PADEN CITY PHASE II SANITARY SEWER COLLECTION UPGRADE AND STORMWATER MANAGEMENT- Tyler County, West Virginia

ELLENBORO-LAMBERTON WATER LINE EXTENSION PROJECT – Ritchie County, West Virginia

CLAY-BATTELLE PUBLIC SERVICE DISTRICT WATER SYSTEM IMPROVEMENTS - Monongalia County, West Virginia

Key Personnel

David Watson

Camp Dawson Staff Engineer



Dave Watson joined Thrasher in 1995 and currently serves as Project Engineer for the firm. Mr. Watson's responsibilities include planning, design and project management of public utilities projects for municipalities and public service districts. Mr. Watson has worked on a vast array of projects ranging in size and complexity.

Dave is highly knowledgeable in the preparation of funding and permit applications, right-of-way acquisition, survey and project inspection. In addition to engineering planning and design capabilities. In addition to his engineering skills, Dave is an experienced surveyor and construction manager. Mr. Watson oversees and directs administrative staff, CAD technicians and staff engineers throughout the various stages of projects.

Education:

Bachelor of Science, Civil Engineering Technology - Fairmont State University

Highlighted Experience:

REGIONS I, II, V, VI, VII, VIII, IX, X AND XI - Planning and Development Councils - Source Water Protection Plan Projects - 60 plus total utilities

MALDEN PUBLIC SERVICE DISTRICT I&I REDUCTION AND WASTEWATER TREATMENT PLANT
- Kanawha County, West Virginia

RIPLEY SEWER SYSTEM EVALUATION AND IMPROVEMENTS PROJECT - Kanawha County, West Virginia

CLARKSBURG LONG-TERM CONTROL PLAN AND WASTEWATER TREATMENT PLANT UPGRADES
- Harrison County, West Virginia

HUTTONSVILLE PUBLIC SERVICE DISTRICT PHASES I AND II EXISTING SANITARY SEWER UPGRADES - Randolph County, West Virginia

JUNIOR SANITARY SEWER SYSTEM IMPROVEMENTS AND LIFT STATION UPGRADES - Barbour County, West Virginia

PARSONS EXISTING SANITARY SEWER COLLECTION SYSTEM UPGRADES - Tucker County, West Virginia

Key Personnel

Jeff Todd

Environmental Scientist



Jeff Todd joined Thrasher in 2011 as an Environmental Specialist. His experience includes groundwater sampling, the abandonment and installation of monitoring wells, soil drilling and sampling, aquatic resource assessments and permitting, asbestos inspections, and ESA Phase I. Mr. Todd is very well versed in all requirements and regulations on both the national and state level.

Education:

Masters of Science in Environmental Science – Marshall University
Bachelors of Science in Wildlife and Fisheries Resources – West Virginia University

Registrations:

Asbestos Inspector [REDACTED]
40-Hour Hazardous Waste Operations and Emergency Response
Nuclear Portable Gauge Safety Training

Highlighted Experience:

WATER AND GAS LINE THROUGHOUT WEST VIRGINIA - VARIOUS COUNTIES IN WV. Conducted stream and wetland delineations for numerous utility lines ranging from one to thirty-five miles of water or gas lines associated with impoundments and intake structures. Mr. Todd was responsible for processing all data collected to generate maps, photographs, narratives, tables and database records to provide notification and meet permitting requirements to appropriate state and federal agencies. These different agencies included USACE, USFWS, WVDNR and WVSHPO.

LITTLE LAUREL RUN WATER SUPPLY DAM - BARBOUR COUNTY, WV. Completed a delineation of the project area for aquatic resources and determined their classification and impact amounts on the area. He was also responsible for informing the USACE regarding the project and jurisdictional determination for the agency on the resources and their impact.

BAKER SANITARY SEWER SYSTEM- HARDY COUNTY, WV. Conducted a stream and wetland delineation survey within the impacted area of the project. He was able to help redesign the wastewater treatment plant to avoid impact to the resources in the area in order to expedite the permitting process for the plant.

Key Personnel

Donald "Butch" Brown

Inspection and Data Manager



Mr. Brown started his career with Thrasher as a computer aided drafting (CAD) designer in 1987. Within his design responsibility, Butch has worked closely with the utility department and site development engineers, along with the survey department. Using his knowledge in utility line replacements and extensions, Butch played an integral role in the development of the firm's Pipeline Inspection department, developing procedures and training for field personnel.

Butch currently serves as the Pipeline Inspection Supervisor, he is primarily responsible for scheduling and supervising inflow and infiltration investigations and GIS field crews. Butch is responsible for collection of field data and mapping for Long Term Control Plans. He also works with CADD designers and provides mentoring to young professionals work related to those projects. Butch enjoys working with Thrasher's summer interns and teaching them leading techniques used in the field.

Certifications and Training:

Microsoft Networking
AutoDesk Civil Design
OSHA Permit-Required Confined Space Entry
WVDOH – Inspection and Testing

Highlighted Experience:

TOWN OF REEDSVILLE I&I INVESTIGATION - Pipeline Inspection Supervisor

ARTHURDALE SEWAGE ASSOCIATION I&I INVESTIGATION - Pipeline Inspection Supervisor

TOWN OF ROWLESBURG - Pipeline Inspection Supervisor

CITY OF PARSONS - Pipeline Inspection Supervisor and I&I Investigation

CITY OF BRIDGEPORT - Pipeline Inspection Supervisor and GIS Mapping and Long Term Control Plan

CITY OF CLARKSBURG - GIS Mapping and Long Term Control Plan

MALDEN PSD PIPELINE INSPECTION SUPERVISOR - I&I Investigation

PEA RIDGE PSD - Pipeline Inspection Supervisor and GIS Mapping and I&I Investigation

GREATER PAW PAW SANITARY DISTRICT - Pipeline Inspection Supervisor and Long Term Control Plan

HUTTONSVILLE PSD I&I INVESTIGATION - Pipeline Inspection Supervisor

Proposed Subcontractor

Harper Engineering, Inc. *Mechanical, Electrical, and Plumbing*

Harper Engineering was founded in 2008 to provide innovative engineering design services to architects, owners and contractors throughout the state. We are a unique combination of eager young talent and proven experience fused together to serve all of your building systems design needs including heating, cooling, plumbing, lighting, and electrical.

Harper's goal is to design optimized systems that meet all of our client's performance, energy use, and budgetary needs. The staff at Harper Engineering has a combined 80 years of experience working with clients in a variety of fields including but not limited to housing, education, hospitals, offices, airports, manufacturing, and water treatment plants.

Services:

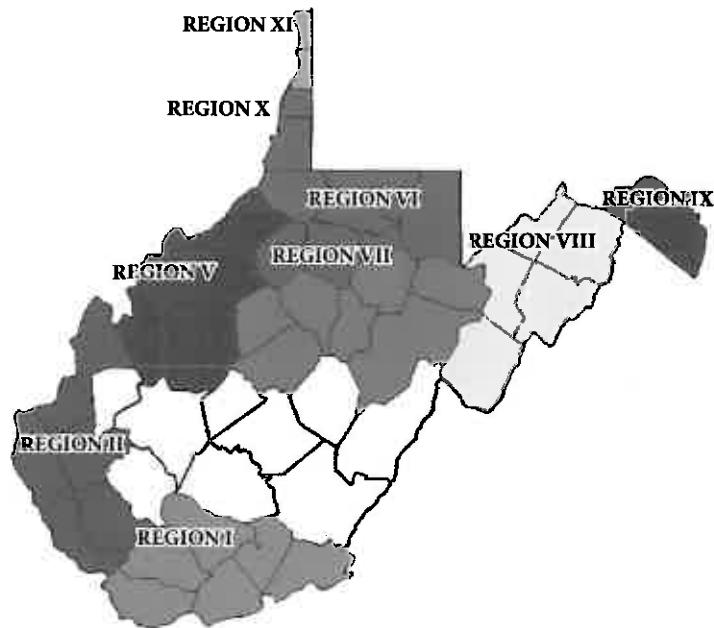
- Specialized in public and multi-family housing
- HVAC design plumbing design
- Lighting construction documents
- Ductwork sizing fixture selection
- Hydronic pipe sizing sprinkler design
- Equipment selection site utilities
- Electrical design drafting
- Panel and switch gear selection project management
- Electrical load calculations specifications
- Heating and cooling load calculations pipe sizing
- Fire alarm
- Site utilities
- Emergency generators
- Security and communications

Related Experience

Source Water Protection Plans State of West Virginia

Thrasher was retained to develop multiple Source Water Protection Plans as required by Senate Bill 373. Below is a comprehensive list of the utilities and map of Regions for which Thrasher is either currently, or has done Source Water Assessments for:

- Athens
- Berkeley Springs
- Big Bend PSD
- Bluewell PSD
- Buffalo Creek PSD
- Burnsville Public Utility
- Cameron
- Central Hampshire PSD - Green Spring
- Chester Water System
- Clarksburg Water Board
- Fairmont
- Flatwoods Canoe Run PSD
- Follansbee Hooverson Heights
- Fort Gay Water Works
- Gilbert Water Works
- Glenville Utility
- Green Valley Glenwood PSD Bulltail
- Green Valley Glenwood PSD Glenwood
- Hammond Public Service
- Harman
- Kenova Municipal Water
- Kermit Water Works
- **Kingwood Water Board**
- Lincoln PSD
- Logan
- Logan County PSD - Greenville
- Logan County PSD - Northern
- Lumberport
- Man Water Works
- Matewan Water Works
- McDowell County PSD Bartley
- McDowell County PSD Berwind
- Middlebourne
- Milton Water
- Mingo County PSD - Naugatuck
- Monongah
- Oceana
- Paw Paw
- Pendleton County PSD - Upper Tract
- Pine Grove
- Pinveville Municipal
- Pocahontas Water System, VA
- Preston County PSD 1
- Red Sulphur PSD
- Ripley
- Rowlesburg Water Works
- Shepherdstown
- Shinnston
- Sugar Creek PSD
- Taylor County PSD
- Timberline Four Seasons Resort Management
- Weirton Area Water System
- West Hamlin Municipal Water
- West Union
- Wayne Water
- Williamson Utility Board

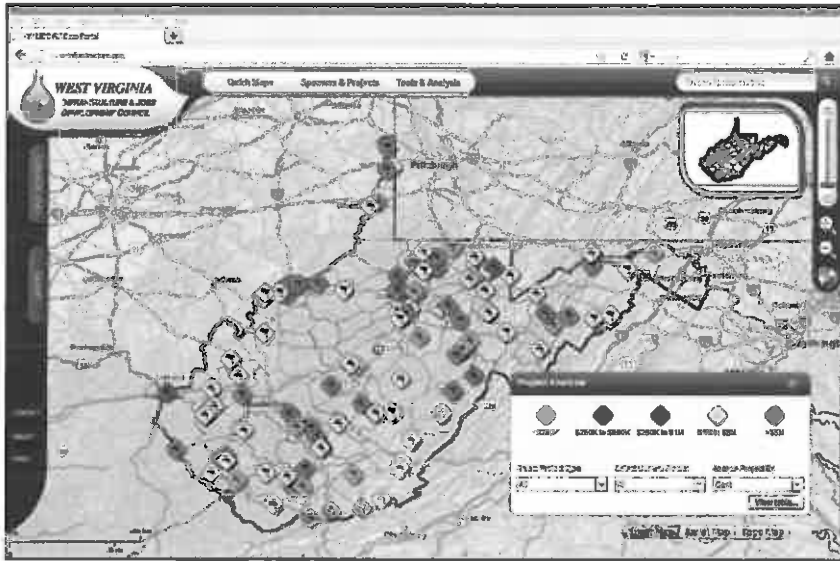


Related Experience

West Virginia Water Development Authority *Statewide Comprehensive Study*

The West Virginia Water Development Authority (WDA) and the Infrastructure and Jobs Development Council (IJDC) retained Thrasher as part of a team effort to prepare a Comprehensive Planning Study for the State of West Virginia that included the development of a Geographic Information System (GIS) and to serve as a project prioritization and management tool to support WDA and IJDC's funding process. The scope of work for this project included collection data for every public water and sewer system in the State.

As a team member, Thrasher, who had over 30 years of water and wastewater experience in West Virginia, was responsible for collection of all raw data that would be developed into the Statewide GIS. To gather the information required, Thrasher worked closely with "stakeholders" including but not limited to WV DEP, WV BPH, WV PSC, Municipal and Private Utilities, PSDs, County Commissions, and Regional Planning and Development Councils. Similar to this current Water Source Protection Plan work, the major factor in data collection was the need for time from each utility to gather data. Thrasher developed a collection process to limit time required from each utility and maximized the data collecting needs so that the overall project schedule could be met.



CONTACT:

WV Water Development Authority
Mr. Jim Ellars
1009 Bullitt Street
Charleston, WV 25301
304-414-6501

Project Experience

City of Kingwood

Wastewater Treatment and Plant Improvements Projects

In order for the City of Kingwood to fulfill their obligation of providing a sanitary sewer collection and treatment system in and around the areas of Kingwood, West Virginia, the City must undergo improvements to its existing collection and treatment system. This project will ensure that the City can continue to collect and treat wastewater within its limits of their NPDES permit.

The City of Kingwood is proposing to complete improvements within their existing sanitary sewer collection system and proposing to extend its system along Route 7 North to provide approximately 70 new customers with sewer service.

The proposed sewer extension will extend the City's existing sewer system along Route 7 North approximately 4.7 miles. This proposed extension will involve the construction of nearly 20,000 LF of 8" sewer line, 4,000 LF of 6" sewer line, 3,800 LF of 4" force main, and one (1) duplex lift station.

The proposed Hollerand Addition replacement involves the construction of a gravity collection system to replace the existing grinder pumps and pressure sewer system. The replacement work will involve the construction of nearly 21,000 LF of 8" sewer line, 7,000 LF of 6" sewer line, 12,500 LF of 8" force main, two (2) duplex lift stations, and the abandonment of 125 existing grinder pump stations. This proposed system will also eliminate two (2) existing lift stations,

The proposed wastewater treatment plant improvements proposed with this project will enable the plant to continue to treat sewer for the City. Improvements included installation of a fine bar screen, gearing for the clarifiers, upgrading the UV system, repairing concrete cracks in the clarifiers, replacing the existing potable water supply for the plant, improving the sludge conveyor system, upgrading the electrical system, and replacing the existing sludge pumps. These improvements will allow the plant operate within the limits of the NPDES permit but also allow the City to treat wastewater for any future growth. These improvements will allow the plant to treat approximately 1.2 MGD.

Finally, the City is also proposing to replace the existing Wellsley lift station with a complete new lift station. The new lift station will be constructed with larger pumps and be controlled by variable frequency drives (VFDs) that will allow the pumps to speed up or slow down depending on the incoming flows.

The City of Kingwood was experiencing inflow and infiltration in specific areas of the City. To alleviate the situation, Thrasher Engineering provided investigation, evaluation, preliminary engineering, funding application assistance, design and construction management services for the following:

- Wastewater Treatment Plant Upgrade including the installation of a mechanical bar screen and UV system
- Replacement of sanitary sewer lines

Additionally, Thrasher provided consulting and design services for a sanitary sewer collection system to the Kinney Shoe Factory Site.

Project Experience

City of Kingwood

Wastewater Treatment and Plant Improvements Projects Continued

Whetsell Settlement Water Line Extension Project

The citizens of the Preston Country Club / Whetsell Settlement area on the outskirts of the City of Kingwood formed a committee to lobby for the extension of water service from the City of Kingwood to the homes and business in the area.

Thrasher Engineering was retained to prepare preliminary engineering, funding acquisition support, design, survey and construction management. Thrasher also served as the liaison between the committee and City.

This project involves the installation of approximately 9,500 LF of 6" water line, 5,400 LF of 2" water line, and 38 new meter settings for new water customers. This project also includes miscellaneous fire hydrants, valves, and trench repair items.



CONTACT:

City of Kingwood
313 Tunnelton Street
Kingwood, WV 26537-1462
304-329-1225

Water Treatment Plant Upgrade

This project consisted of improvements at the water treatment plant and existing water line replacements in addition to water line extensions to the community of Preston, Camp Dawson, and the proposed Armed Forces Reserve Center.

This project included:

- 532 LF of ductile iron water line
- 6,820 LF of PVC water line
- 1,175 LF of copper water line
- 225 LF of steel casing
- 100 meter connections
- Level control valve vault
- Fire hydrants
- Flushing hydrants

The water treatment plant was also upgraded as part of this project. This upgrade including replacing the existing IDT control system with a new Supervisory Control and Data Acquisition System (SCADA). This project also included the replacement of existing transducers for controlling filter levels and clearwell controls and installing two new pH meters.

Project Experience

Weirton Area Water Board

Water Treatment and Distribution System

Over the past decade, the Weirton Area Water Board (WAWB) staff has diligently pursued compliance with the Disinfectant and Disinfection By-product Rule. Upgrades for both the plant capacity and treatment processes were designed by the Thrasher team to meet the needs of the Board and staff.

Water Treatment Plant Residuals Handling Project: Thrasher performed bench-scale and treatability testing, engineering design, prepared construction documents and performed construction management. The project included two filter backwash retention decant tanks, addition of two settlers to two existing circular clarifiers, sludge thickener, addition of tube settlers to two existing clarifiers, a plate and frame sludge press and a sludge press building.

18" Emergency Waterline

In response to a water service disruption to customers in the City of Weirton brought on during system repairs, Thrasher and the Water Board personnel determined an additional line was necessary to prevent future water system disruptions. Thrasher "fast tracked" the design phase of the project which consisted of approximately 35 linear feet of 18-inch ductile iron water pipe within the existing water treatment plant filter gallery and approximately 390 linear feet of pipe outside the water treatment plant.

East Bellview Street: This project consisted of the replacement of 600 LF of water line along East Bellview Street, which is in a highly populated residential area. The Thrasher overcame the hurdles of the project by coordinating with City Council on their re-pavement of East Belleview, developed a traffic pattern with residents safety in mind as well as coordinated their efforts with the WVDOH and other state agencies to complete the water line extension in a timely manner with limited water interruptions for the residents.

Belleview Elevated Water Storage Tank

The Weirton Area Water Board commissioned a hydraulic study of the entire water distribution system which showed the existing 150,000 gallon Belleview Tank should be replaced with a 1.0 Million gallon tank to provide the minimum two day storage required by the WV Bureau of Public Health.

Thrasher designed both a steel hydropiller tank and a composite tank. The City chose to construct the composite tank. By choosing the composite tank, the City was able to utilize the space below the steel tank for offices and storage.



CONTACT:

Weirton Area Water Board
A.D. "Butch" Mastrontoni
125 East Belleview Drive
Weirton, WV 26062
304-740-5020
admast@weirtonutilities.com

Project Experience

Berkeley County PSD

Plant Evaluation and Upgrades

This project is for the mandated upgrade of four (4) existing wastewater treatment plants. This project is not intended to create capacity for new developments as much as it is for complying with the proposed Chesapeake Bay requirements for nutrient removal.

Preparing for Future Regulations

Our team helped BCPSSD prepare for the future Chesapeake Bay Requirements by constructing two additional SBR basins at both its Baker Heights and Inwood treatment plants during the previous upgrade. This project will equip and place those basins in service to provide for capacity for the next 20 years and to enable it to better handle the storm flows without exceeding its nutrient limitations for the facilities.

These plants have been designed to meet the following Biological Nutrient Removal (BNR) Requirements:

- 5 mg/l or less for total nitrogen
- 0.5 mg/l or less total phosphorus

The wastewater treatment plants were designed to have the flexibility to be able to meet Enhanced Nutrient Removal (ENR) Requirements (3 mg/L nitrogen and 0.3 mg/L phosphorus) if required in the future.

SITE	CAPACITY (MGD)
Baker Heights WWTP	2.70 *
Inwood WWTP	2.25
Opequon Hedgesville WWTP	1.30
North Area WWTP	2.00
Gantts Pump Station Diversion	0.00
Total	8.25
*Hydraulic Capacity	



CONTACT:

Mr. Curtis Keller, General Manager
Berkeley County PSSD
PO Box 944
65 District Way
Martinsburg, WV 25401
304-263-8566
EMAIL: cbkeller@bcpsd.com

Project Experience

City of Oak Hill *I&I Reduction and WWTP*

The City of Oak Hill has depended on The Thrasher Group as their Engineer of Record for wastewater, storm water, and community improvements for over a decade. Oak Hill's wastewater treatment plant involved the design and construction of two new treatment plants and the demolition of one existing plant. In addition to the construction of two new plants, 30,000 LF of collection and interceptor lines were installed throughout the City.

As the new plants came on-line, other previously un-served areas of the City were able to receive service. In an effort to reduce infiltration and inflow to the plants, a city-wide study was conducted utilizing city forces under Thrasher's supervision. This study resulted in the elimination of many storm drains that were directly connected to the sanitary sewer system and subsequently reduced treatment costs.

Real issues, real solutions...

Oak Hill's sewer system worked well under normal circumstances, but during heavy rains, storm water crept into the system. Water came from all directions into the city's collection system and overloaded the wastewater treatment plants.



CONTACT:

Mr. Bill Hannabass, City Manager
City of Oak Hill
PO Box 1245
Oak Hill, WV 25901
304-469-9541

Project Experience

Bluefield Sanitary Board

Sanitary Sewer Evaluation Study

Thrasher was selected to provide the Bluefield Sanitary Board (BSB) the services necessary to complete its Sanitary Sewer Evaluation Study (SSES).

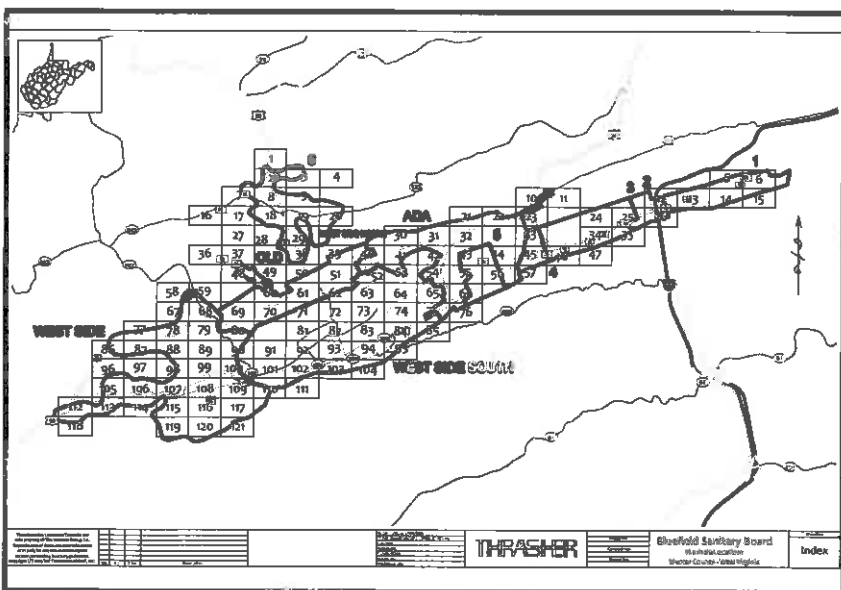
Working with the Beckley Sanitary Board, Thrasher is determining the prioritization of sewer line and manhole rehabilitation and replacement which will provide for continuous reduction of Inflow and Infiltration (I&I).

The approach to the project started with a review of the BSB system's existing information, followed by field investigation and mapping of the system. Working with the BSB staff, the Thrasher team identified and mapped all manholes within the system and determined the testing approach and methodology for all of the identified areas.

Testing methods include flow monitoring, smoke testing, closed circuit television inspections, and manhole visual inspections.

Following the completion of all investigation, a draft comprehensive report will be compiled that will include:

- Approach to reduce Inflow and Infiltration (I&I)
- Current manhole status and needs
- Field reports / logs of all structures evaluated
- Prioritized schedule of work
- Manhole rehabilitation or replacement
- Pipes in need of rehabilitation or replacement
- Identification of sanitary and storm cross connections
- Repair and replacement approach with opinion of probable construction costs and probable system impacts



CONTACT:

Bluefield Sanitary Board
Mr. Shannon Bailey, Executive Director
100 Rogers Street
Bluefield WV 24701
304-325-3681
E MAIL: sbailey@bluefieldsanitary.org

Project Experience

West Virginia National Guard Armory *Environmental Experience*

Thrasher's environmental services on WVANG projects includes the following:

- Review and interpretation of groundwater data generated during sampling activities conducted under the state hazardous waste post closure permit
- Preparation of reports and data submittal activities required by the post closure permit
- Negotiations with the agency to ensure effective implementation and continued compliance; Negotiations have included complex technical issues revolving around the presence of Dense Non-aqueous Phase Liquids (DNAPLs) contaminating the alluvial aquifer beneath the facility
- Complex regulatory jurisdiction negotiations have also been conducted where EPA Region III, the state hazardous waste agency and state water pollution agency have all asserted jurisdiction
- Preparation of SWPP and SPCC plans. Thrasher has continued the updates of these plans throughout the last twenty years on this site.

CAMP DAWSON FACILITY:

- Review of and plan modifications of the Spill Prevention, Control Countermeasure Plan (SPCC) for the facility

PARKERSBURG ARMY AVIATION SUPPORT FACILITY #1 (AASF):

- Preparation of an NPDES industrial storm water permit application for the Parkersburg Facility

WHEELING ARMY AVIATION SUPPORT FACILITY #2 (AASF):

- Preparation of a Storm Water Pollution Prevention Plan (SWPP) for the Wheeling Facility

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.

Jonathan Carpenter, Principal-in-Charge

(Name, Title)
Jonathan Carpenter Principal-in-Charge

(Printed Name and Title)
300 Association Drive Charleston, WV 25311

(Address)
304-343-7601/304-624-7831

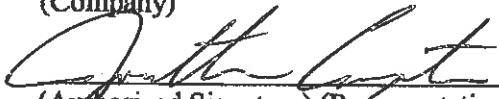
(Phone Number) / (Fax Number)
jcarpenter@thrashereng.com

(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.

The Thrasher Group, Inc.

(Company)



(Authorized Signature) (Representative Name, Title)

Jonathan Carpenter, Principal-in Charge

(Printed Name and Title of Authorized Representative)

August 31, 2016

(Date)

304-343-7601/304-624-7831

(Phone Number) (Fax Number)

ADDENDUM ACKNOWLEDGEMENT FORM

SOLICITATION NO.: *ADJ170000004*

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.

The Thrasher Group, Inc.

Company


Authorized Signature

August 31, 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 exceeds five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (W. Va. Code §61-5-3) that 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: The Thrasher Group, Inc.

Authorized Signature: *Jonathan Cooper* Date: August 31, 2016

State of West Virginia

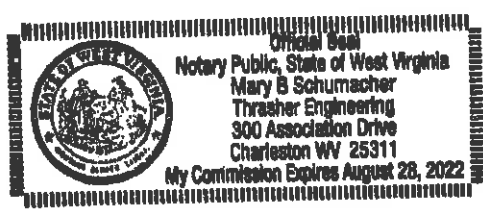
County of Kanawha, to-wit:

Taken, subscribed, and sworn to before me this 31st day of August, 2016.

My Commission expires August 28, 2022

AFFIX SEAL HERE

NOTARY PUBLIC *Mary B Schumacher*
Purchasing Affidavit (Revised 08/01/2015)



THRASHER

West Virginia • Ohio • Virginia • Maryland