

Berkeley Springs State Park

Roman Bathhouse Renovations

November 6, 2017



300 Association Drive • Charleston, WV 25311 • www.thethrashergroup.com • 1-800-273-6541

November 6, 2017

Bid Clerk
Division of Natural Resources
Property & Procurement Office
324 4th Avenue
South Charleston, WV 25303

RE: A/E Services-Berkeley Springs Roman Bathhouse Renovations

Dear Members of the Selection Committee,


Thrasher has a long history of working with the West Virginia Department of Natural Resources. The dedication of this department to the State of West Virginia is unlike any other. We have worked on renovation projects that keep in mind the integrity of the historical aspect of the building.

The Berkeley Springs State Park Old Roman Bathhouse offers a step back in time for visitors. Over time, however, buildings require maintenance to keep them going. Currently, the existing bathhouse is due interior architectural updates to include some plumbing, HVAC, and other repairs and replacements. Thrasher is committed to maintaining operation of the park, and bathhouse if required, during renovation. It is our goal to minimize disruption to visitors during construction.

The Thrasher/Miller team was selected to fulfill your goals and objectives. Miller Engineering will provide expertise for the MEP portions of the project. The Thrasher Group will provide solutions for the architectural, historical, and any site related improvements.

Thank you for your time and consideration. We look forward to partnering with the West Virginia Department of Natural Resources and Berkeley Springs State Park.

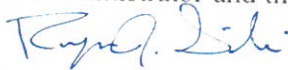
Sincerely,
THE THRASHER GROUP, INC.



Joe Sinclair, AIA, NCARB, LEED, AP BD+C, CDT
Project Manager

GENERAL TERMS AND CONDITIONS:
West Virginia Division of Natural Resources
Agency Delegated Procurements Over \$25,000

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)

Joe Sinclair, AIA, NCARB, LEED, AP BD+C, CDT Project Manager

(Printed Name and Title)

300 Association Drive, Charleston, WV 25311

(Address)

Main: 304-343-7601 Fax: 304-343-7604

(Phone Number) / (Fax Number)

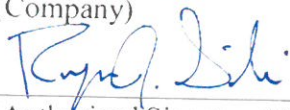
jsinclair@thethrasher.com

(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)

Joe Sinclair, AIA, NCARB, LEED, AP BD+C, CDT Project Manager

(Printed Name and Title of Authorized Representative)

November 3, 2017

(Date)

Main: 304-343-7601 Fax: 304-343-7604

(Phone Number) (Fax Number)

The Thrasher Group, Inc.

With over 35 years of experience in the architecture/engineering industry, The Thrasher Group, Inc. has grown into one of the Mid-Atlantic Region's largest full-service and privately-owned firms. Thrasher's long standing commitment to building business through *"successful projects and repeat clientele"* remains the goal of our ownership.

At Thrasher, we pride ourselves on the wide array of services provided to our clientele. The ability to continuously adapt and be successful is a testament to the over 300 employees Thrasher employees. Each employee is committed to maintaining the highest standards of professional services. Our standards are reflected throughout the quality work of our employees. This commitment to excellence has resulted in establishing offices in Maryland, Virginia, Ohio, Kentucky and expanded our West Virginia footprint. All of the efforts from our employees and clients like you, result in a positive economic impact.

Working with Thrasher means we cover all of the professional services needed to deliver successful projects to both public and private clientele. Our firms' roots were planted in civil engineering and consulting services for public utility projects, but our success has allowed us to branch out, expanding our services to meet the ever growing needs of our clients.



Main Point of Contact:
Joe Sinclair
Project Manager
jsinclair@thetrashergroup.com
office: 304-343-7601
cell: 304-518-9304

Thrasher Information:
www.thetrashergroup.com
Established in 1983

Headquarters:
Bridgeport, WV

Office Locations:
Bridgeport, WV
Charleston, WV
Beaver, WV
Fredericksburg, VA
Canton, OH
Oakland, MD
Lexington, KY

THRASHER

Project Approach

4.1 Goal/Objective 1: Review existing plans and conditions as well as the operation of the park and evaluate while communicating effectively with the owner to determine a plan that can be implemented in a manner that will minimize disruption to concurrent operation of the facility and meet all objectives.

The Thrasher Group will begin by assessing the existing conditions of the Old Roman Bathhouse in conjunction with the Owner's needs and objectives. An initial design meeting will be conducted with all participants to discuss the Owner's objectives and concurrent operation of the facility. A follow-up design meeting will be conducted with all participants to review the proposed design and revisions will be made necessary to meet or realign with the Owner's objectives. Any proposed design element that interferes with concurrent operation of the facility will be subject to revision in a way that minimizes disruption to facility operations. If possible, it is our intent to maintain operation of the existing bathhouse until renovations are complete. If necessary, temporary facilities could be utilized until the new facility is substantially complete.

4.2 Goal/Objective 2: As a portion of this process outlined in Objective 1, provide all necessary services to design the facilities described in this EOI in a manner that is consistent with The Division of Natural Resources needs, objectives, current law, and current code; while following the plan to design and execute the project within the project budget.

The Thrasher Group will meet the Owner's objectives, West Virginia State building code, and design and execute the upgrades within the Owner's budget. Historical requirements will be identified and following per State regulations. Estimating services will be used at each design milestone to keep the project on budget. Renovation quantity and quality will be monitored and revisited throughout design to maintain the Owner's budget objectives.

4.3 Goal/Objective 3: Provide Construction Contract Administration Services with competent professionals that ensures the project is constructed and functions as designed.

The Thrasher Group is comprised of a large and experienced architectural staff with personnel dedicated to construction contract administration. Thrasher's experienced construction administrator works proactively with the Owner, Architects, Engineers, and Contractor to ensure the Owner's needs and Objectives are being met during construction.



Project Team

BERKELEY SPRINGS STATE PARK



Craig Baker, CEFP
Principal-in-Charge
304-669-3022



Joe Sinclair,
AIA, NCARB, LEED, AP BD+C, CDT
Project Manager
304-518-9304

MEP SERVICES



Lee Gustafson, AIA, NCARB
Historic Preservation

**Thrasher In-House
Historic Preservation Consulting**



Bill Ratcliffe, REFP
Construction Contract
Administrator

**Thrasher In-House
Construction Services**

Craig Baker, CEFP

Principal-in-Charge



Mr. Baker has extensive experience in designing, renovating and planning building additions for academic clients. Mr. Baker has designed, managed and completed many projects during his tenure at Thrasher. He has a vast knowledge centered on the following: sports complexes, administrative office space, classroom design, academic building expansion, government buildings, residences, medical facilities and restaurants.

Craig is experienced in all CADD and building information modeling design programs relative to architecture. Craig has excellent client communication, coordination of construction, detailed construction document preparation, bidding, construction management and contract administration and is an experienced project manager.

Education:

- Bachelor of Science, Architectural Engineering - Fairmont State University
- Advanced Certificate, Educational Facilities Planning - San Diego State University

Registrations and Certifications:

- American Institute of Architects - Associate, West Virginia and National Chapters
- Certified Educational Facilities Planner (CEFP)
- Council of Educational Facilities Planner
- West Virginia Energy Services Coalition

Related Experience Includes:

- **WVDOH Statewide On-Call Architecture Contract** - Statewide, West Virginia
- **McDowell County Board of Education Open End Architecture** - McDowell County, West Virginia
- **Boy Scouts of America Welcome Center** - Fayette County, West Virginia
- **Barbour County Board of Education Open End Architecture** - Barbour County, West Virginia
- **WVDOH I-64 New Weigh Stations** - Putnam County, West Virginia
- **City of Oak Hill New Police Station Facility** - Fayette County, West Virginia

Joe Sinclair, AIA, NCARB, LEED, AP BD+C, CDT
Project Manager



Joe brings over ten years of architectural experience in all phases of design ranging from commercial renovations, additions, and new construction to historic preservation and multi- and single-family residential projects. Joe's resume is built with architectural experience from Savannah, GA, Atlanta, GA, Charleston, WV, and North Central West Virginia. Joe joined the Thrasher team in 2017.

Joe is an Iraq War Veteran and former member of the West Virginia Army National Guard. In addition to working full-time as an Architect at Thrasher, Joe serves as an Adjunct Professor in the Construction Management program at BridgeValley Community & Technical College in South Charleston, WV. Joe's expertise lies in utilizing building information modeling (BIM) software for project development, documentation, and management.

Education:

- Master of Architecture – Savannah College of Art & Design
- Bachelor of Science, Architectural Engineering – Fairmont State University

Registrations and Certifications:

- Registered Architect – West Virginia - #4244
- LEED Accredited Professional, Building Design & Construction – GBCI#: 10052110
- NCARB Certificate#: 69740
- Construction Documents Technologist (CDT) – Construction Specifications Institute (CSI)
- Member – American Institute of Architects (AIA) – West Virginia Chapter
- Member – United States Green Building Council (USGBC) – West Virginia Chapter

Related Experience Includes:

- **Design of the Beech Fork Lodge and Conference Center** – Wayne County, West Virginia
- **West Virginia Turnpike Rest Area** – Exit 69
- **WV Division of Weights and Measures HVAC & Envelope Retrofit** – Kanawha County, West Virginia
- **Design of the Harrison/Taylor E911 Center** – Harrison County, West Virginia
- **Boy Scouts of America Dining Hall and Bunkhouse** – Fayette County, West Virginia

Lee Gustafson, AIA, NCARB

Historic Preservation



Mr. Gustafson brings over 35 years of experience to the table in both design and architectural management. Lee has a diverse portfolio of work that spans all facets of architecture including historical projects, academic facilities, athletic complexes, healthcare facilities, government and community buildings. Mr. Gustafson has spent a large portion of his career focusing on endeavors within the realm of historical preservation and rehabilitation.

Lee has a profound ability to take a client's vision and shape it into a project that is not only realistic, but Eco-friendly and aesthetically pleasing. His knowledge of the intricacies that go into historical work has allowed him to work on several preservation and rehabilitation projects all throughout the State of West Virginia. With his understanding of funding agencies and grant programs, Lee is able to provide funding alternatives that get these projects under construction quick.

Education:

- Bachelor of Science, Architecture - University of Cincinnati

Registrations:

- Registered Professional Architect
 - States of West Virginia, Virginia, Pennsylvania, Ohio, and Maryland

Affiliations/Certifications/Trainings:

- West Virginia Society of Architects
- AIA Committee on Architecture for Historic Resources
- AIA Committee on Architecture for Education, Healthcare, and Justice
- National Council of Architectural Registration Boards (NCARB Certification)

Related Experience Includes:

- **City of Weston Assessment** - Lewis County, West Virginia
- **Edel Building Rehabilitation** - Harrison County, West Virginia
- **Empire Bank Rehabilitation** - Harrison County, West Virginia
- **Pendleton County Courthouse Rehabilitation** - Pendleton County, West Virginia
- **Bland Drug Store Restoration**- Harrison County, West Virginia
- **Taylor County Courthouse Window Restoration** - Taylor County, West Virginia
- **Doddridge County Courthouse Restoration Plans** - Doddridge County, West Virginia
- **Grafton Mother's Day Shrine**- Taylor County, West Virginia



Bill Ratcliffe, REFP, joined the Thrasher team in 2016 and brings over 25 years experience to Thrasher's construction services and architectural divisions. Mr. Ratcliffe has spent the last 10 years of his career working as a construction administrator on both public and private projects. Bill also spent nearly 14 years of his career working for the West Virginia School Building Authority where he worked in educational facilities planning. This experience makes him a valued member of the Thrasher team.

Mr. Ratcliffe has built strong working relationships with countless regulatory and building entities all throughout the Mid-Atlantic region. These relationships and industry knowledge allow Mr. Ratcliffe to be a superb construction estimator and deliver accurate project oversight time and time again.

Education:

- Regents Degree - WV State University

Registrations and Certifications:

- Recognized Educational Facility Planner (REFP)

Related Experience Includes:

- **Convention & Visitors Bureau Addition and Renovations** - Jefferson County, West Virginia
- **WV Public Service Commission Façade Replacement** - Kanawha County, West Virginia
- **Fairmont State University Janes Hall Renovations** - Marion County, West Virginia
- **WVU Robert C. Byrd Testing Center Renovations, Charleston Area Medical Center** - Kanawha County, West Virginia
- **Moorefield High School Addition and Renovations** - Hardy County, West Virginia



Craig founded Miller Engineering in 2003, and serves as President and Principal Engineer. He has more than 20 years experience in design, specification, operations and project management. During his employment with WVU, Craig was directly involved with approximately \$130 million in new capital construction. His experience with a wide range of projects including HVAC, electrical, plumbing, infrastructure upgrades, building automation, energy efficiency and maintenance/renovation, among others, allows him to serve in multiple capacities within a given project. Craig will serve as the "Relationship Manager" for Miller Engineering as the main communication interface between the Owner, the design team, contractors and end users.

Education:

- Bachelor of Science, Civil Engineering - West Virginia University
- Bachelor of Arts, Mass Communication - University of Charleston

Registrations:

- Registered Professional Engineer (PE)
 - States of West Virginia, Virginia, Pennsylvania, Ohio and Maryland
- Licensed Master Plumber
- LEED-AP Certified

Related Experience Includes:

- Bobtown Elementary HVAC
- Blackwater Falls State Park Lodge (Dining Room, 2nd Fl, Spa, Boiler)
- Hawks Nest/Twin Falls HVAC
- Mapletown High School HVAC Replacement Phase I & II
- McKeever Lodge HVAC Piping
- Holly River State Park Primary Electric Service Replacements Phase I & II
- Beech Fork State Park – MEP New Construction Design
- Cheat Lake Elementary & Middle School Renovations
- Cacapon Old Inn

Robert Angus Construction Representative



20 Years of maintenance, operations, and construction management precede Rob's engagement with Miller Engineering. Professional expertise of construction project management was gained as an owner of his own contracting company specializing in residential and commercial construction, electrical, plumbing, and HVAC projects. Rob's hands-on approach, common sense and valuable work history knowledge enables him to interface with construction personnel seamlessly alongside engineers and architects. He is adept at preventing and handling issues. Rob is involved at the estimation phase to allow for continuity within the project's design and construction.

Education:

- Heating, Cooling, and Refrigeration Certification - Monongalia County Technical Education Center
- Bachelor of Science in Recreation, Recreation and Parks Administration - West Virginia University

Licenses and Certifications

- Licensed West Virginia General Contractor
- Licensed West Virginia HVAC Contractor
- Certified HVAC Mechanical Contractor
- Licensed West Virginia Journeyman Electrician
- Licensed West Virginia Master Plumber
- OSHA 10-Hour Construction Safety & Health

Related Experience Includes:

- 3RD Party Construction Observation - Canaan Valley Resort
- Hawks Nest/Twin Falls HVAC
- Cacapon Old Inn
- Suncrest Middle School Gym HVAC Upgrade
- Freedom Dealerships (Ford, Kia, Volkswagen)
- Mapletown Jr./Sr. High School HVAC/Boiler Upgrade
- Blackwater Falls Lodge (Dining, 2nd Fl, Spa, Boiler)

Travis Taylor, PE MEP Designer



Experience in project management facilitates Travis's ability to create and design constructible projects. Prior to joining the Miller Engineering team he was directly responsible for managing \$10 million in electrical construction budgets. His experiences encompass both new construction and renovation. Travis maintains professional competencies by attending seminars and continuing education classes. As lead engineer he provides HVAC, mechanical, plumbing and electrical design solutions and services for our clients. In addition, he is part of our team's complete assessment process in both planning and MEP design through construction administration.

Education:

- Bachelor of Science, Mechanical Engineering - West Virginia University

Registration:

- Registered Professional Engineer (PE)
 - State of West Virginia

Licenses and Certifications

- OSHA 10-hour Course: Construction Safety & Health

Related Experience Includes:

- Suncrest Middle Gym HVAC
- Holly River State Park Primary Electric Service Replacements Phase I & II
- MHS Area 4 HVAC
- McKeever Lodge Fire Alarm
- Pipestem Lodge McKeever Lodge HVAC Piping Replacement
- Blackwater Falls Lodge (2nd Fl, Spa, Boiler)
- Cacapon Old Inn
- Freedom Dealerships (Ford, Kia, Volkswagen)

Joseph Machnik
MEP Designer



Joe has extensive experience with AutoCAD, MEP and Revit MEP. He provides design modeling, drafting and supervised design services and construction support for Miller Engineering.

Education:

- Associate of Science, Building Engineering Systems Technology: *Building Environmental Systems Technology* - Penn State University, Fayette, Pennsylvania
- Associate of Science, Building Engineering Systems Technology: *Architectural Engineering Technology* - Penn State University, Fayette, Pennsylvania

Related Experience Includes:

- **Bobtown Elementary HVAC**
- **Suncrest Middle Gym HVAC**
- **MHS Area 4 HVAC**
- **North Elementary Boilers**
- **Freedom Dealerships (Ford, Kia, Volkswagen)**
- **Pipestem Lodge HVAC Piping Replacement**
- **Blackwater Falls Lodge (2nd Fl, Spa, Boiler)**
- **Cacapon Old Inn**

Lost Creek Trailhead Related Experience



CONTACT:
Harrison County Parks and
Recreation
Terry Schulte - Executive
Director of Planning
Commission
304-624-0481

TYPE OF PROJECT:
Parks and Recreation -
Trailhead



PROJECT STATUS:
Complete

PROJECT DESCRIPTION:
Rails to Trails trailhead and
parking area, including a
gravel parking area, restroom
facilities and small pavilion.



WVU Natatorium Renovations

Thrasher's architectural division provided design and construction documentation and oversight services to allow for improvements and upgrades to the men's and women's locker rooms and coaches' offices at the Natatorium on the Evansdale Campus of WVU.

The project entailed creating more open locker rooms, adding privacy walls at the entrances from the main exterior corridor, adding additional drainage in the shower areas, improved ventilation within the locker rooms and numerous cosmetic improvements throughout the area.

Additionally, in the second floor coaches' offices and reception area, cosmetic improvements were made including the removal and replacement of existing carpet, and repairs to, and painting of walls.

Thrasher's scope of service included : Project management, preliminary design, design and construction documentation, oversight of MEP sub-consultant Harper Engineering, Inc. and management during construction.

In initial planning stages, the parties involved in the project developed a program of needs for the renovation, which included, in addition to the items completed, a new ventilation system and renovations to the vestibule and hallway. Due to the limited budget of the project, all items could not be completed. Thrasher's architects applied "value engineering" analysis to the project, determining the items within the scope to eliminate. In doing so, the most pressing items within the project were addressed within the budget parameters.



CONTACT:

West Virginia University
Intercollegiate Athletics
PO Box 877
Morgantown, WV 26507
304-293-5621

City of Bridgeport Recreation Complex

Thrasher had the pleasure of working with the City of Bridgeport to develop the City's state of the art recreation complex which opened in 2012. The complex hosts a wide array of events and amenities include:

Ball Fields

Features on each field:

- Irrigated grass areas
- Warning track around all fence
- Large brick dugouts with storage rooms
- Intercom to the scorekeeper in each dugout
- Bullpens
- Electrical outlets at each mound for pitching machines (Field #2 only)
- Musco Sports Lighting to minimum levels of 50 foot-candles in the infields and 30 foot-candles in the outfields
- Loudspeaker system
- Scoreboards
- Bleacher seating
- Two batting cages

Restroom/Concession/Press Box

- Size - 3,626 square feet.
- The first floor includes: a large concession stand with three serving windows; large restrooms; family restroom; and office.
- The second floor press box area includes an umpire changing room, restroom, and the scorekeepers' station overlooking each field is equipped with an intercom to the dugouts, loudspeaker system, and scoreboard controls.

All Purpose Field: 2.5 acres

Size - 3,626 square feet.

- Multipurpose field for soccer, football or Lacrosse
- Large Picnic Shelter
- 1 mile Walking trail
- Full size Basketball court



Harrison County Board of Education High School Fieldhouses

Liberty High School Fieldhouse

The project was the design and construction of a 5,500 square foot fieldhouse. The one story concrete masonry unit (CMU) walled unit includes roll up service doors and counter shutters. The structure houses two (2) team locker rooms, an officials' locker room, men's and women's restrooms, and the concession stand. Construction cost for this aspect totaled \$967,503.00.



South Harrison High School Fieldhouse

The project was the design and construction of a 4,400 square foot masonry field house, weight room, and the associated site work. Included in this project was the demolition of the existing 6,000 square foot field house and press box. The demolition required Thrasher to remove the floor slab, below grade footings, foundations, and utilities.

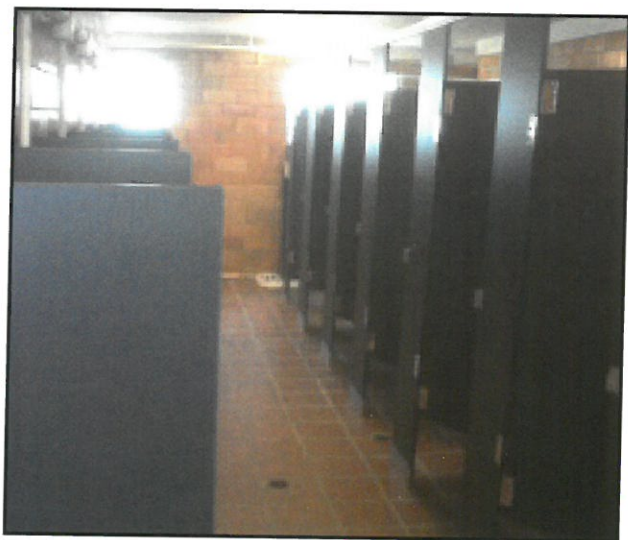


United States Marine Corps

Camp Upshur Marine Core Base - Quantico, VA

BATH HOUSE:

Renovations to the on-site bath house and restroom facility included exterior painting, roofing, and windows. Interior upgrades were all new flooring, restroom and shower layouts, new fixtures, ceilings, lighting, and updated HVAC equipment as needed.

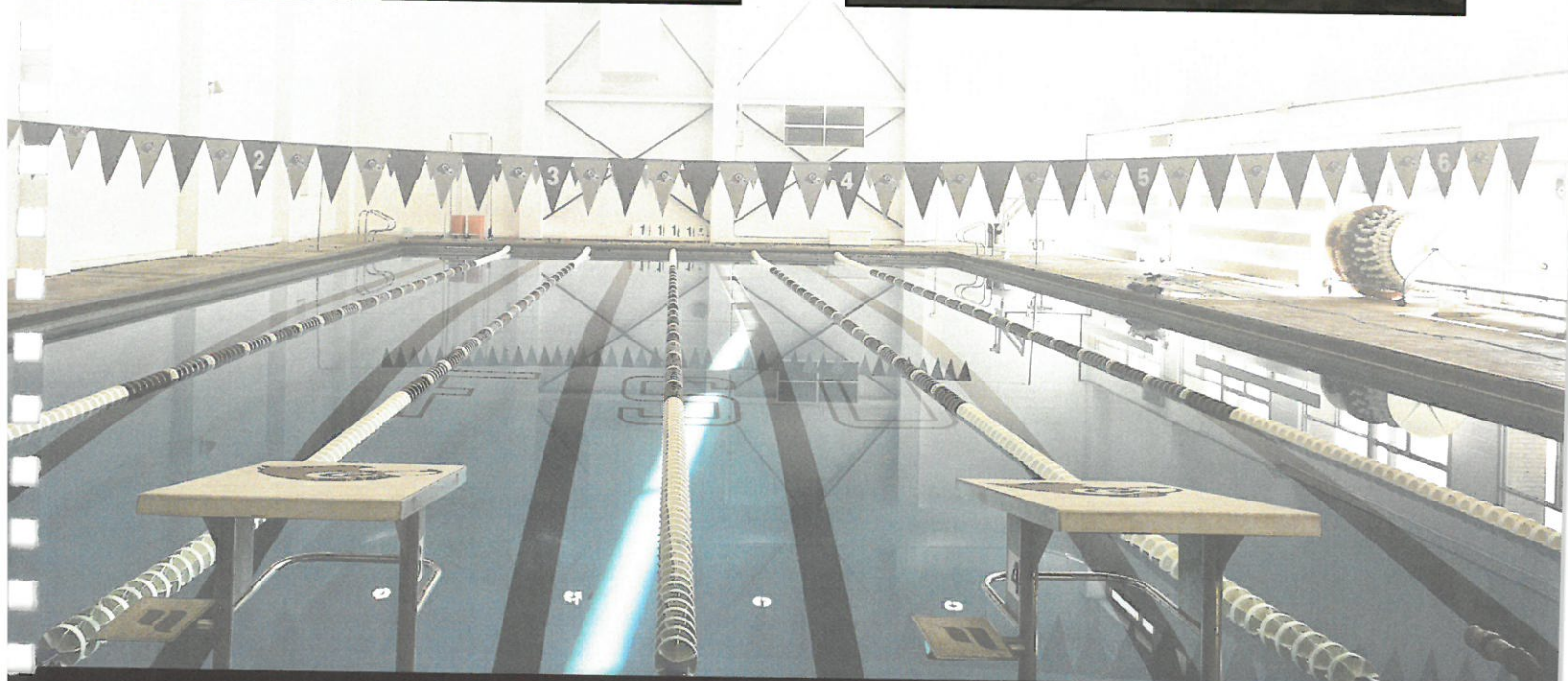
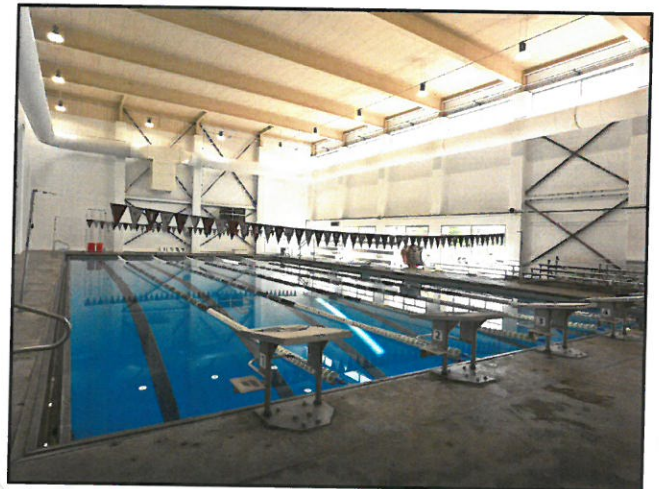


Fairmont State University Natatorium Pool

Thrasher was hired by Fairmont State University to complete a bid package to renovate the nearly 6,500 square foot swimming facility. The building was originally completed in the late 60's and had multiple structural issues that were taken into account.

New brick and window lintels were installed for structural support, and allowed new aluminum storefront sliding doors to be installed. The upper parapet walls were in such bad shape that the brick veneer had pulled away from the building structure.

With the building envelope being completed, the other half of the renovation was a new HVAC unit that would provide cooling, heat and exhaust for the swimming space.

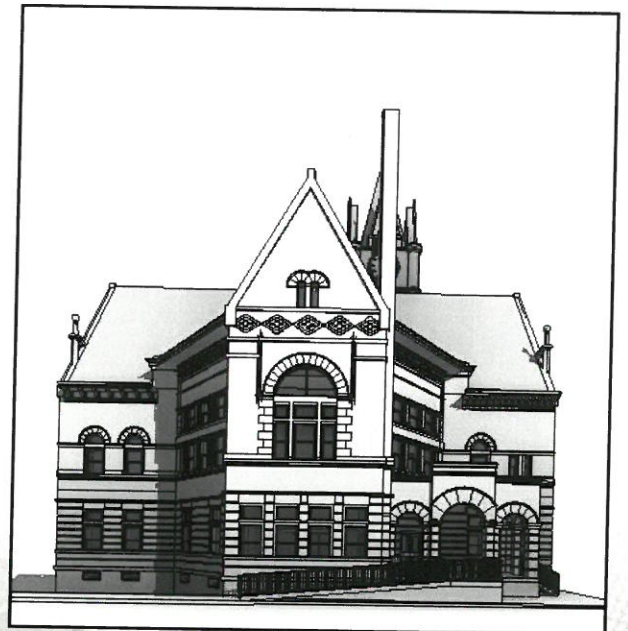
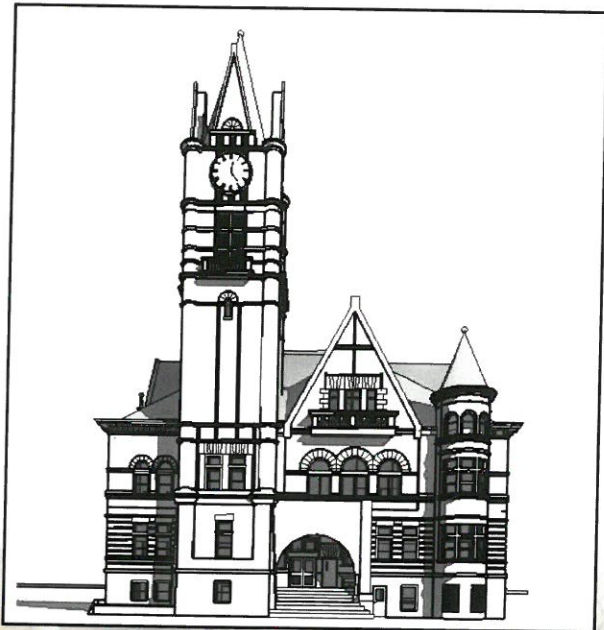


Doddridge County Courthouse

Roof Replacement

Thrasher was selected by Doddridge County Commission to provide professional services for Doddridge County Courthouse located in West Union, West Virginia. The courthouse is listed on the National Register of Historic Places and the site and surrounding buildings are listed as part of a Historic Neighborhood. The Courthouse was in need of an interior renovation to provide adequate space for new and growing departments, a sprinkler upgrade to the whole building for fire safety, and extensive repointing and repair work to the exterior masonry and tile roof.

Thrasher surveyed and prepared documentation of the existing conditions through BIM modeling; producing detailed plans, elevations, and details for the scope-of-work bid documents as well as , a 3D model of the entire structure. The project bid came in on target with the Owner's budget and the construction estimates prepared by Thrasher, and the project was awarded to a contractor that specialized in historic restoration.

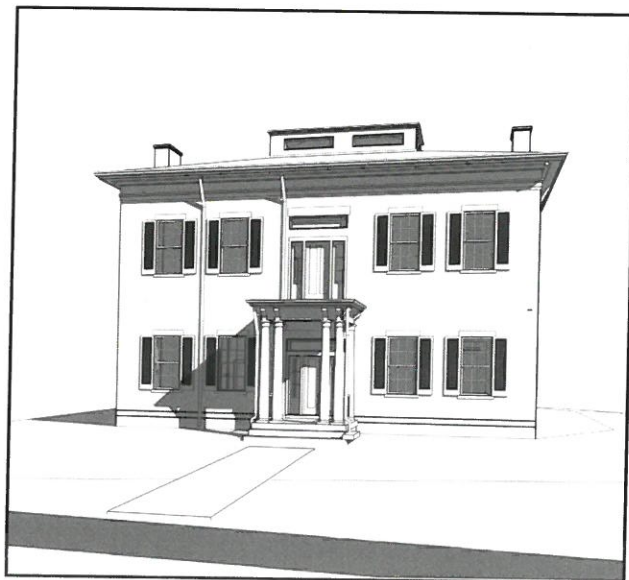


Stephenson House

Historic Preservation and Restoration

In late 2015 Thrasher was selected by WVU-Parkersburg to provide professional services for the recently acquired Stephenson House in Parkersburg. This valuable property, listed on the National Register of Historic Places as a Contributing Structure since 1980, was in need of MEP upgrades, interior renovation and re-finishing, security system, as well as ADA accessibility upgrades, new sidewalks and stormwater management system.

Thrasher performed an extensive survey and documentation of the existing conditions, produced 3D interior and exterior BIM models of the entire structure, developed detailed scope-of-work bid documents in accordance with the Owner's budget, and bid the project. The project bid came in on target with the construction estimates prepared by Thrasher, and the project was awarded to a



Berkeley Springs Bathhouse Renovation

The heated 1000-gallon per minute flow of 78.4 degree, mineral-laden water is used by spa guests prior to other activities via tubs or large Roman baths. The existing structure was lacking in proper ventilation and dehumidification systems. The goal of the MEP system design was to provide reliable, cost-effective, energy efficient systems that would enhance clients' spa experiences and protect the historic nature of the structure. The successful renovation entailed replacement of all MEP systems and their associated piping. With a need for hot water supply that is exceptionally large, it required a split into two systems: domestic (2,000 GPH) and Roman Bath water (3,000 GPH) units to fulfill demand requirements. A full VAV-HVAC system with terminal reheat and comfort radiant heating was installed over the client tubs and massage tables to produce optimal atmospheric temperatures. Upon completion, goals of proper ventilation and humidity conditions were met.



Tomlinson Run State Park Pool Repair

The existing pool was constructed in approximately 1980 by a local pool contractor. The owner indicated they were experiencing significant leaking and could not determine the precise cause. Additionally, the pool was experiencing significant cracking at the tops of the pool walls. The water slide was reportedly difficult to keep in operation due to various maintenance issues. The pool also had a rather unique CMU (concrete block) and tension rod wall configuration which was evaluated for the potential to perform an extensive repair. As part of the repair, the owner wished to significantly alter the depth profile of the pool and make the pool ADA accessible. The repair also included the installation of a new filtration system, gutter system, PVC liner and addressed several longer term maintenance concerns.



Greenbrier State Park Pool Replacement

A field study and assessment determined that several plumbing and mechanical systems were inadequate and needed more efficient, code-compliant replacement. The goal of the project was to efficiently use existing piping tunnels that were in good condition and place a new basin within the existing one in order to meet budget demands. The innovative isolation method saved on excavation cost and construction time. New filtration and heating systems were designed for the wading pool and an attractive aquatic design element was also added to increase water movement. The filtration and heating systems were sized and configured not just for the existing pool but also to accommodate a larger pool renovation that was planned during our design process and implemented the following year. High-rate fiberglass sand filters provide circulation and filtration of the pool water.





THRASHER

West Virginia • Virginia • Ohio • Maryland • Kentucky

