

# State of West Virginia

## CE01 0211 GSD2000000001 Architectural/Engineering Services Capitol Campus Steam Distribution System

August 26, 2019

P19-0653



# COVER LETTER

August 26, 2019

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

Re: State of West Virginia, CEOI 0211 GSD2000000001  
Capitol Campus Stream Distribution System Project  
CJL #P19-0653

Bid Clerk,

CJL Engineering (CJL) is very interested in supporting this project. Thank you for the opportunity to submit qualifications for this very important project. CJL is currently the MEP/FP Design Professional for the New WVU Medicine Children's Hospital and The New West Virginia University Business and Economics Building. Our new West Virginia office is located at 1097 Chaplin Road, Morgantown, WV, 26501. Jesse Bierer, a WVU Graduated and Mechanical Designer is the Manager of that office. In 2013 CJL provided professional MEP/FP design services for the WV Capitol Building #5, #6 and #36 Boiler Plant Upgrades. In 2014, CJL supplied Building #1 electrical upgrade design and Building #3 MEP/FP and Civil design service. CJL has 8 Licensed Professional Engineers in the State of West Virginia.

For more than 80 years, CJL has delivered high quality service and expertise in the MEP, fire protection, LEED, energy solutions, lighting design, civil and structural engineering disciplines. CJL's design approach is to deliver professional engineering consultation, understand our clients' needs and anticipate what they may need in the future. Our engineers approach each project with fresh perspective, technical ingenuity, and a wealth of experience. We deliver expertly drafted documentation, and detailed specifications, all cost-effectively customized for a singular design.

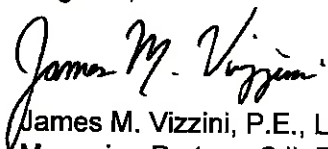
**Highly Skilled:** With our wide-ranging expertise in MEP, fire protection, LEED/green building, lighting design, energy solutions and commissioning, you can trust CJL to deliver a functional, quality project on time and on budget.

**Client Trusted:** Our comprehensive approach ensures a successful project while minimizing your risk. We actively listen to you, making sure we clearly understand and prioritize your perspective and goals. We know our job is to ensure our clients' success, and our track record speaks for itself.

**Lasting Value:** We carefully evaluate and anticipate operational, maintenance, and future requirements of your project, ensuring that the result is functional, cost-effective and long-lasting. Our unparalleled technical expertise gives you the peace of mind that you've made a sound investment for the future of your project.

Thank you again for considering CJL Engineering. Should you have any questions or would like additional information for this project, please do not hesitate to call me directly on my cell phone at 814.322.5458

Regards,



James M. Vizzini, P.E., LEED® AP  
Managing Partner, CJL Engineering

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# 1 FIRM OVERVIEW

Established in 1938, CJL Engineering is a full service, mechanical, electrical, plumbing, fire protection, and civil/structural consulting engineering firm known for mastering the most challenging projects in the region. With offices in western Pennsylvania, eastern Ohio, northern West Virginia and Maryland, our super-regional focus has enabled us to become one of the preeminent MEP firms in the industry, proudly serving a wide range of specializations and clients.



### Range of services:

- Analysis and concept
- Construction budgeting
- Building information modeling (BIM)
- Energy modeling
- Detailed construction documents
- Construction phase services
- Building commissioning



### More than 165 personnel, including:

- 40 Professional Engineers
- 28 LEED® Accredited Professionals
- A Certified Energy Manager (CEM)
- Commissioning Process Management Professionals (CPMP)
- Building Energy Assessment Professionals (BEAP) and NICET Fire Protection
- Life Safety Systems Certified Engineers



### A broad range of clients

- Green Buildings, Science, Laboratory and Research Facilities
- Healthcare - Hospitals, Urgent Care, Medical Centers and Labs
- Education - Colleges, Universities, Trade Schools, K-12
- Corporate, Commercial, Office Buildings
- Industrial - Light and Heavy Manufacturing, Warehousing
- Performing Arts Centers, Museums, Theaters and Libraries
- Government and Secure Facilities
- High Tech Buildings/ Mission Critical Data Centers
- Hotels, Ice Arenas and Sports Facilities
- Apartments, Dormitories and High Rise
- Central Plants, Energy Facilities and Utility Distribution Centers
- Historic and Adaptive Retrofit
- Master Planning and Design



### Specialization

- HVAC Systems
- Electrical Systems
- Fire Detection and Protection
- Plumbing Design
- LEED® Green Building Design
- Commissioning
- Energy Modeling Solutions
- Civil / Structural Engineering
- Architectural Lighting and Controls
- Telecommunications
- Life Safety Systems
- Voice/Data/Audiovisual
- Security Systems
- Power System/Quality Evaluations
- Life Cycle Analyses
- Retrofit Evaluations
- REVIT® / BIM



## 2 PROJECT APPROACH

**Goal One:** A successful strategy in any building upgrade/renovation project is to first and foremost understand what the Design Team has to work with in regard to existing building construction. At the start of every project CJL conducts a field survey of the existing systems. We believe this is the most important tool in analyzing existing systems. Teams of experienced mechanical, electrical and plumbing engineers go to the building site to visually inspect and evaluate the age and operating condition of existing equipment. CJL engineers will typically meet with operations staff to determine how the systems are maintained and controlled, whether there are existing operating issues, and any insights they may have on potential improvements. Operating personnel are typically an invaluable resource on how the facility could best be served by MEP systems. This step aids our team in ensuring that all existing equipment has been inspected and evaluated. We believe when you are more hands on, there will be less that will go wrong. The next step we would take is to utilize the previously completed system assessments. We would use this information use to the maximum extent possible to cross-check against the survey information.

**Goal Two:** We have been the Prime Professional for several recent successful projects in the area. The most recent recognition of our design solutions, excellent service and client satisfaction was received in 2018 in the form of an email from Mr. Drew Chidester:

To CJL Engineering:

"I would like to take a moment and thank you and your team for a successful design and startup of the new NRG plant and related projects within UPMC Mercy. Your teams, both Johnstown and Pittsburgh, have performed beyond my expectations. I would like to mention that I was especially impressed with the smooth interaction between Johnstown and Pittsburgh offices (NRG vs. Mercy), there never appeared to be a problem, the communication between each division was flawless.

A project of this size can be difficult to manage, with two owners and multiple contractors, design teams can get caught in the middle of disputes both internally and externally. Your team was tight, cohesive and very attentive to the needs of the contractors, project managers and most of all the owners NRG and UPMC. Your teams communicated well and were well managed!

The efforts and genius of your team has created a successful project, one that will serve UPMC and NRG for a lifetime!

Below are a few specific call outs, I know I'm probably missing several people, I would appreciate it if you could forward my appreciation for their personal efforts and sacrifices.

Nick Rosko, **Bruce Grasser**, **Don Gramling**, Kris Rickabaugh, Ari Finkel, **Jim Vizzini**, Greg Alexander, Craig Duda

In closing I look forward to working with your firm in the future! (Vision Center and Presby Tower)"

University of Pittsburgh Medical Center (UPMC)

Senior Director, Energy and Environmental Engineering/Affairs

This was a very complex project, under very challenging circumstances. The Staff at UPMC Mercy were extremely happy with the design and structure, as well as, the steam and the chilled water system performance. They are both operating smoothly and much more efficiently than the old systems.

**Goal Three:** The initial focus would be on the arrangement of such systems and how portions of them could remain on line during construction of a phased project while occupants remain in the building. A thorough understanding of the routing of air, water and electrical systems must be established. Whether the systems are set up on a floor-by-floor basis, or vertical shafts or perhaps even a combination will be what set the logistical rules for a successful "renovation while occupied" project.

# 3 QUALIFICATIONS

**Our team is full of smart, talented people and strong leadership.**

We like to say “our bench is deep.” Our more than 160 professionals with diverse backgrounds have a wide range of experience and expertise.



**Jim Vizzini, P.E., LEED® AP**  
Principal-In-Charge  
WV License #14468  
Expires: 12/31/2020



**Adam Hale, P.E.**  
Project Manager  
WV License #23509  
Expires: 12/31/2020



**Bruce Grasser, P.E.**  
LEED® AP  
Steam SME



**David Duray, P.E.**  
Civil Engineer  
WV License #012912  
Expires: 12/31/2020



**Rodney Wolfe, P.E.**  
Electrical Engineer  
WV License #15969  
Expires: 12/31/2020



**Don Gramling, E.I.T.**  
Steam Designer



**Tim Nicholson, P.E.**  
Structural Engineer



**Tim Bertolino, P.E.**  
Electrical Design



**Jesse Bierer**  
Mechanical Design



James M. Vizzini, PE  
LEED® Accredited Professional  
Managing Partner | Mechanical Engineering

Contact Information

☎ 412.262.1220, ext. 112

✉ [jvizzini@cjlengineering.com](mailto:jvizzini@cjlengineering.com)

### PROFESSIONAL SUMMARY

Jim Vizzini is a Managing Partner of CJL Engineering. He has been with CJL since 1992. Jim is responsible for management decisions, overseeing current projects, and maintaining relationships with architect and clients.

While at the Partner level, Jim maintains a close connection to all facets of his projects. His responsibilities continue to include on-site surveys, systems comparisons, scope determination, plan and specifications review as well as construction inspection. Jim also supervises HVAC systems facility evaluation and design for commercial and institutional projects, various schools (K-12), universities and health care facilities. These projects have ranged from large equipment replacement such as chillers, cooling towers, boilers and air handling units, entire HVAC systems design to district heating and cooling plants. Jim has been responsible for over \$2.5 billion of mechanical and electrical construction projects.

### RELEVANT PROJECTS

West Virginia University, NASA  
Independent Verification and Validation  
Center, Fairmont, WV  
West Virginia Capitol Complex, State Office  
Buildings #3, Charleston, WV  
Union Trust Building, Renovation & Retrofit,  
Historic Building, Pittsburgh, PA  
NRG Uptown District Energy Center, UPMC  
Mercy, Pittsburgh, PA  
UPMC Mercy Hospital 6000-Ton Central  
Plant Design, Pittsburgh, PA  
Carnegie Museum of Natural History,  
Upgrade and Renovation, Pittsburgh, PA,  
University of Pittsburgh, Chevron Science  
Center (Retrofit), chilled water tie-in,  
40,000 # / hr. high-pressure steam tie-in,  
Pittsburgh, PA (2,100-Ton)  
Financial Institution Data Center, Central  
Chilled Water Plant, Pittsburgh, PA  
Three PNC Plaza, LEED® Gold, Central  
Chilled Water Plant, Commissioning and  
upgrade, Pittsburgh, PA (1,700-Ton)  
Green Building Alliance Offices - Riverwalk  
Center, Pittsburgh, PA  
Westinghouse Building, Pittsburgh, PA

Erie Insurance Headquarters, Erie, PA  
Clarion County Courthouse, Clarion, PA  
United Steelworkers of America Headquarters,  
Gateway Center, Pittsburgh, PA  
GNC Corporate Headquarters, Pittsburgh, PA

### NOTEWORTHY PROJECTS

Cambria County Central Parking Complex,  
Johnstown, PA  
University of Pittsburgh, Cathedral of  
Learning, Multiple Floor Renovations,  
Pittsburgh, PA  
Bucknell University, Carnegie Building,  
Historic Renovation, Lewisburg, PA  
Allegheny County Soldiers and Sailors  
Memorial Hall a Historic Retrofit, Chilled water  
plant & steam plant upgrade, all part of a  
complete HVAC renovation, Pittsburgh, PA  
The Pittsburgh Cultural Trust, Historic  
Retrofit, included a 550-Ton Chilled Water  
Plant design and commissioning  
Carnegie Library, Historic renovation,  
Pittsburgh, PA  
University of Pittsburgh, Historic Hillman  
Library Renovations, Pittsburgh, PA  
Duquesne University, Energy Center Master  
Plan and new Cooling Tower, Pittsburgh, PA

### EDUCATION

1987 - Bachelor of Science  
Mechanical Engineering Technology  
University of Pittsburgh at Johnstown

### SPECIALIZATIONS

Mechanical Engineering  
Master Planning & Facility Studies  
District Heating and Cooling Plants  
On-site Trouble Shooting

### REGISTERED PROFESSIONAL ENGINEER

Pennsylvania, West Virginia,  
District of Columbia, North Carolina,  
Massachusetts, Maryland, New Jersey,  
Alabama, Virginia, Delaware, Nebraska

### MEMBERSHIPS/ACTIVITIES

ASHRAE  
U.S. Green Building Council (USGBC)  
Building Commission, Diocese of  
Altoona-Johnstown, PA Construction  
Specifying Engineer October, 2006  
Featured in: "Full of Hot Air?" The  
Chevron Science Center Renovation,  
University of Pittsburgh

### Presenter

Energy and Education Conference  
(Geothermal Design) St. Francis  
University, Loretto, PA - 2009  
2012 Johnson Controls Leadership  
Conference, Potomac, MD  
Topic: Consulting Engineers Business  
Strategies and Vendor Teaming  
2013 KAPPA Conference, Bedford, PA  
2017 KAPPA Conference, Altoona, PA



Bruce A. Grasser, P.E.  
LEED® Accredited Professional  
Principal | Mechanical Engineering

Contact Information

☎ 412-262-1270, ext. 108

✉ [bgrasser@cjlengineering.com](mailto:bgrasser@cjlengineering.com)

**PROFESSIONAL SUMMARY**

Bruce Grasser is a Principal of CJL Engineering who joined the firm in 1999. Previously, he provided technical engineering services for various power plant locations operated by GPU Genco (Penelec), Johnstown, PA.

Bruce has more than 30 years experience in the design and specification of Mechanical Systems, HVAC, Boilers, Chillers, Steam Plants, and other systems for commercial, institutional, industrial, and private clients. He is proficient in conducting engineering studies, facility assessments, establishing design criteria, and estimating project costs.

**EDUCATION**

1983 - Bachelor of Science  
Mechanical Engineering  
University of Pittsburgh

**SPECIALIZATIONS**

Mechanical Engineering  
Systems Troubleshooting  
Project Management

**REGISTERED PROFESSIONAL ENGINEER**

Pennsylvania

**MEMBERSHIPS/ACTIVITIES**

American Society of Mechanical Engineers (ASME)

**ASHRAE**

President, ASHRAE Johnstown Chapter, 1988-89, winner of Region III Best Chapter Award, and ASHRAE Region III Chapter Regional Conference Co-Chairman, 1991

**REPRESENTATIVE PROJECTS**

NRG Energy Center - Pittsburgh, PA - Three (3) 2250-ton Chillers

University of Pittsburgh, Pittsburgh, PA, Carrillo Street Steam Upgrade

NRG Energy Center, Pittsburgh PA, Steam Plant Equipment Upgrade

Clarion University, Underground Steam Line Replacement, Clarion PA

Grove City College, Grove City, PA, Steam Plant, New Boiler

UPMC East, New Chilled Water Plant, Monroeville, PA

UPMC East, New Boiler Plant, Monroeville, PA

UPMC Mercy Hospital, Central Plant, Pittsburgh, PA

University of Pittsburgh, Center for Bioengineering, Deaerator Replacement, Pittsburgh, PA

Youngstown State University, Chiller Plant, Youngstown, OH

Akron Thermal, Akron OH, Steam Absorption Chiller Addition, District Chilled Water System

**NOTEWORTHY PROJECTS**

Northside Medical Center, Steam Boiler, Youngstown, OH

Point Park University, Dance Studio, Steam Boilers, Pittsburgh, PA

Cambria Care, Steam Boilers, Ebensburg, PA

Point Park University, Lawrence Hall Steam Boilers, Pittsburgh, PA

SCI Cresson, Biomass Steam Boiler, Cresson, PA

Elk Regional Medical Center, Biomass Boiler, St. Marys, PA

Sewickley Hospital, Steam Boilers, Pittsburgh, PA

Union Trust Building, Historic Restoration/Retrofit, Pittsburgh, PA, three (3) 500 ton chillers

Forum Health / Trumbull Memorial Hospital, Chilled Water Line Extension, Warren, OH

St. Vincent Hospital, Erie PA - Chilled Water Plant Study

Wooster Community Hospital, Wooster, OH, Addition and Chilled Water Plant - Three (3) 950 Ton Chillers





David G. Duray, PE  
LEED® Accredited Professional  
Principal | Civil Engineering

Contact Information

☎ 412.262.1220 ext. 119

✉ [dduray@cjlengineering.com](mailto:dduray@cjlengineering.com)

### PROFESSIONAL SUMMARY

Dave Duray is the Department Head of Civil Engineering at CJL Engineering. He started with the firm in 2007. Dave's 35 years of experience includes a wide variety of Civil Engineering and Surveying disciplines, plus the management and ownership of his own consulting engineering firm for over 19 years. His responsibilities include scheduling and coordination of personnel, client liaison work, project development, design and quality control.

Dave's technical background includes structural, water systems, sanitary sewer systems, stormwater management, site development, roadways, paving, drainage, municipal and permitting. He performs feasibility studies, cost analysis, total project cost estimates and evaluation of funding alternatives.

### REPRESENTATIVE PROJECTS

#### STRUCTURAL

Carnegie Museum Heat/Cool Plant Master Plan, Pittsburgh, PA  
University of Pittsburgh, Fisher Hall Chiller Replacement, Pittsburgh, PA  
University of Pittsburgh, Steam Line, Pittsburgh, PA  
St. Francis University, DeGol Field House, Loretto, PA  
Mt. Nittany Medical Center, Blood Lab, State College, PA  
Elliott Company, Jeanette, PA  
Westinghouse Electric Co., Waltz Mills, PA  
Single Source Roofing Office Renovation, Pittsburgh, PA  
Marion Manor Renovations, Pittsburgh, PA  
Callahan Ice Rink, Bradford, PA

#### SITE DEVELOPMENT

Frederick National Laboratory, Fort Detrick, Chilled Water Plant Expansion Phase I, Frederick, MD  
UPMC Mercy Hospital, Pittsburgh, PA  
UPMC, New Physician's Office, Mount Jewett, PA  
Jameson Hospital Site Work, New Castle, PA  
St. Francis University (New Science Center and DeGol Field House - Expansion), Loretto, PA  
PNC Bank - 35 Summit Central Plant, Pittsburgh, PA

City of Johnstown - 2012 Street Reconstruction Project, Johnstown, PA  
CamTran Operations Facility, LEED® Compliant, Johnstown, PA  
WRC Assisted Living Facility, Clarion, PA  
Ebensburg Animal Hospital, Ebensburg, PA  
Liberty Grace Brethren Church Parking Lot, Johnstown, PA

#### WATER AND SANITARY

Ferndale Borough Sanitary Sewer Project, Johnstown, PA  
CTMA Rt. 985 Waterline Extension, Johnstown, PA  
Glendale High School Sewer and Water, Glendale, PA  
Maple Avenue Waterline, South Fork, PA  
Wagner Road Waterline, Vinco, PA  
Jerome-Hyasota Sewer System, Jerome, PA  
Pegasus Sewer System, Johnstown, PA  
Duman Lake Sanitary Sewer System, Belsano, PA

#### RECREATION

City of Johnstown Playground Rehab., Johnstown, PA  
North Star High School Athletic Field Renovation, Boswell, PA  
Roxbury Park Improvements, Johnstown, PA  
Greater Johnstown Community YMCA, Johnstown, PA

### EDUCATION

University of Pittsburgh  
B.S. - Civil Engineering - 1980

### SPECIALIZATIONS

Civil Engineering  
Structural Engineering  
Feasibility Studies  
Stormwater Management

### REGISTERED PROFESSIONAL ENGINEER

Pennsylvania, Colorado, District of Columbia, Kentucky, Maryland, Missouri, New York, Ohio, Oklahoma, Texas, Virginia, West Virginia



Adam B. Hale, P.E.  
Senior Associate | Mechanical Engineer

Contact Information

412.262.1220, ext. 139

ahale@cjlengineering.com

### PROFESSIONAL SUMMARY

Adam Hale is a Mechanical Engineer at CJL Engineering. He joined the firm in 2008 as an intern and became a full-time employee in 2010.

Adam is responsible for the design and specification of HVAC and other mechanical systems for educational, healthcare, commercial, and corporate clients. He surveys existing facilities and systems to confirm and evaluate their condition. He conducts engineering studies, establishes design criteria, and estimates project costs. He is also responsible for communicating project needs and requirements between owner, architect, engineer and client.

### REPRESENTATIVE PROJECTS

- West Virginia University Medicine, Children's Hospital, Morgantown WV
- West Virginia Capitol Complex, Building 5, 6 and 7 Steam Upgrade, Charleston, WV
- UPMC, Multiple Locations
- UPMC East LEED® Silver, New Medical Center, Monroeville, PA
- UPMC Hamot, Regional Center for Mother and Baby Health, Erie, PA
- UPMC Hamot, New Patient Care Tower, Erie, PA (In-Design)
- UPMC Passavant Pavilion, LEED® Silver, Expansion Pittsburgh
- UPMC Presbyterian, Deconstruction & Redesign, Pittsburgh, PA
- Duke LifePoint, Conemaugh Health Systems, Johnstown, PA
- East Hills Outpatient Center
- Ebensburg Outpatient Center Conemaugh Memorial, Steam Condensate Study
- Conemaugh Memorial, Lab Pressure Project
- Conemaugh Memorial, Plastics Department, Tennant Fit-out Conemaugh Memorial, 'D' Building Infill Tower
- UPMC Lemieux Sports Complex, Penguins New Dual Rink Training Facility, Cranberry, PA
- The Pennsylvania State University, Behrend - Knowledge Park, Advanced Manufacturing and Innovation Center, Erie, PA
- Meadville Medical Center, Vernon Place - Medical Office Building, Meadville, PA
- St. Francis University, Loretto, PA
- New Science Center and Vivarium
- Degol Fieldhouse Renovation
- Sullivan Hall Renovation
- Cambria County War Memorial Arena, Ice Rink Floor Replacement / Hockeyville HVAC Coordination, Johnstown, PA
- CamTran Operations Center, Johnstown, PA
- One PNC Tower - 14<sup>th</sup> Floor Renovations, Pittsburgh, PA
- Autodesk, Inc. Tenant Fit-Out, Bakery Square Business Complex, Pittsburgh, PA
- Stoneham Arena, Rink Refrigeration and Floor Renovation, Stoneham, MA
- University of Pittsburgh, Salk Hall Renovation, Pittsburgh, PA
- Southwestern Veterans Center, Pittsburgh, PA
- McGuffey High School, Renovation, Claysville, PA
- Carmichaels Junior-Senior High School, Renovations, Carmichaels, PA

### EDUCATION

University of Pittsburgh at Johnstown, Johnstown, PA  
Bachelor of Science  
Mechanical Engineering Technology  
2010

### SPECIALIZATIONS

Mechanical Engineering  
HVAC Design  
Facility Analysis  
Master Planning  
On-site Troubleshooting

### REGISTERED PROFESSIONAL ENGINEER

Pennsylvania  
West Virginia

### MEMBERSHIPS / CERTIFICATES

ASHRAE  
ASHRAE HFDP (Healthcare Facility Design Professional)  
ASHE



Rodney A. Wolfe, PE  
Principal | Electrical Engineer

Contact Information:

☎ 412.262.1220 ext. 115

✉ [rwolfe@cjlengineering.com](mailto:rwolfe@cjlengineering.com)

### PROFESSIONAL SUMMARY

Rodney Wolfe is an Electrical Engineer and Principal of CJL Engineering. He started with the firm in 1993 and he is responsible for overseeing the electrical drafting, design and specifications of projects to assure compliance with local, state and federal codes, regulations and standards, establish company electrical design criteria, and schedule electrical department personnel to complete project assignments. Rodney is involved in the design and specification of low and medium voltage distribution systems, lighting systems, emergency power systems, local area networks, sound and communications systems and site utilities. His noteworthy projects, comprising new construction, expansions and adaptive retrofit include:

### RELEVANT PROJECTS

(DGS 514-28, Phase 1) Warren State Hospital, Renovate Fire Alarm and Fire Suppression Systems, Warren County, PA

(DGS 961-31 Phase 1) Hamburg Readiness Center, Pennsylvania National Guard, 75 kW Generator, Hamburg, PA

(DGS 963-57, Phase 1) Greensburg Readiness Center Rehabilitation, Greensburg, PA,

(DGS A970-221 ) Southwestern Veterans' Center, Emergency Generator Installation, Pittsburgh, PA

(DGS A964-46) Stryker Brigade Readiness Center, Punxsutawney, PA

Pennsylvania State Correctional Institutions Renovations

SCI Dallas, Dallas, PA

SCI Huntingdon, Huntingdon, PA

SCI Cresson, Cresson, PA

SCI Frackville, Frackville, PA

SCI Greensburg, Greensburg, PA

SCI Cambridge Springs, Cambridge Springs

PA State Regional Correctional Facility Mercer, Mercer County, PA

Westmoreland County Juvenile Detention Facility, Greensburg, PA

CamTran Operations Building LEED® Certified 750 kW Generator, Johnstown, PA

Lincoln Primary Care Center, 100 kW Generator, Charleston, WV

GE Transportation Division, Erie, PA

Water's Edge – Polar Bear Exhibit LEED® Compliant, Pittsburgh Zoo and PPG Aquarium, Pittsburgh, PA

Animal Health Center LEED® Compliant, Pittsburgh Zoo and PPG Aquarium, Pittsburgh, PA

University of Pittsburgh at Johnstown, Owen Library, Johnstown, PA

Jamestown Dual-Rink Ice Arena and District Cooling System Chilled Water Plant, Jamestown, NY

Garrett County Memorial Hospital, Oakland, MD

Greater Johnstown Community YMCA, Johnstown, PA

### NOTEWORTHY PROJECTS

Allegheny College, Meadville, PA

Clarion University of Pennsylvania, Clarion, PA

Community College of Allegheny County, Pittsburgh, PA

Edinboro University of Pennsylvania, Edinboro, PA

Indiana University of Pennsylvania, Indiana, PA

Mansfield University of Pennsylvania, Mansfield, PA

Mount Aloysius College, Cresson, PA

Slippery Rock University of Pennsylvania, Slippery Rock, PA

University of Pittsburgh at Titusville, Titusville, PA

### EDUCATION

B.S. / 1988 / Electrical Engineering  
University of Pittsburgh

### SPECIALIZATIONS

Electrical Engineering

Primary Power

Industrial Power

Government and Healthcare

Schools K-12

Colleges and Universities

### REGISTERED PROFESSIONAL ENGINEER

West Virginia

Pennsylvania

Maryland

Ohio

### MEMBERSHIPS/ACTIVITIES

Member of the Building Industry Consulting Service International (BICSI).

Pennsylvania Society of Professional Engineers (PSPE)

National Society of Professional Engineers (NSPE)



Timothy D. Nicholson, P.E.  
Structural Engineer

Contact Information

☎ 412.262.1220, ext. 154

✉ [tnicholson@cjlengineering.com](mailto:tnicholson@cjlengineering.com)

### PROFESSIONAL SUMMARY

Tim Nicholson is a structural engineer at CJL Engineering. He started with the firm in 2013 and has over 14 years of experience in the field of architectural engineering. Tim's experience includes a wide variety of building types and uses. He is responsible for the entire structural design process from schematic design, and construction documents, to construction administration. Tim also is experienced with creating three-dimensional building information models (BIM) using the Autodesk Revit® software. His technical background includes the structural engineering and the design of masonry, concrete, steel, wood, and a variety of lateral force resisting systems.

### EDUCATION

The Pennsylvania State University  
B.S. – Civil Engineering - 2000  
M. Eng. – Civil Engineering - 2001

### SPECIALIZATION

Structural Engineering  
Building Evaluation  
Structural Design REVIT®  
• Masonry, Concrete  
• Wood, Steel

### REPRESENTATIVE PROJECTS

Elliott Group, Jeannette, PA

- Building 48, Office Renovation
- Gauge and Instrument Lab
- Research and Development Facility
- Roof Structure Evaluation

Columbia Gas of Pennsylvania,  
Adamsburg, PA

Bakery Square, Self-Storage Structural  
Renovations, Pittsburgh, PA

Mercer County I-79, (DGS A251-685)  
Roadside Rest Site #17 & #18,  
Mercer County, PA

SCI Forest, (DGS 377-3 Phase 2) HTHW  
Piping, Marienville, PA

Greater Johnstown YMCA, Additions and  
Alterations, Johnstown, PA

Bottle Works, Johnstown, PA

- Green Roof
- Structural Design of Improvements

Paramount Senior Living,  
Rehab Renovation, McMurray, PA

Westminster Canterbury, Additions and  
Alterations, Winchester, VA

WRC Assisted Living Center, Clarion, PA

University of Pittsburgh, Fisher Hall Chiller  
Replacement & Platform, Bradford, PA

University of Pittsburgh, Pittsburgh, PA

- McGowan Center HVAC Upgrades
- Campus Steam Tunnel & Vault Upgrade

Grove City College, Grove City, PA

- PLC recreation Pool Upgrade
- Competition Pool HVAC Upgrade

Mount Aloysius College, Alumni Hall,  
Cresson, PA

Claysville Elementary School, Claysville, PA

Mount Lebanon School District,  
Cooling Addition, Pittsburgh, PA

Canon McMillan School District, High  
School HVAC Upgrades, Canonsburg, PA

Garrett County Memorial Hospital,  
Oakland, MD

DaVita Dialysis Center, Various Locations,  
MD, OK, MO

Meadville Medical Center, Vernon Place  
MOB, Meadville, PA

Millcreek Community Hospital, Erie, PA

### REGISTERED PROFESSIONAL ENGINEER

Pennsylvania



Donald P. Gramling, EIT  
Senior Mechanical Designer

Contact Information

☎ 412.262.1220 ext. 128

✉ [dgramling@cjlengineering.com](mailto:dgramling@cjlengineering.com)

### PROFESSIONAL SUMMARY

Don Gramling is a Senior Mechanical Designer with 44 years experience in plant layout, piping design, pipe supports for nuclear and fossil fuel power plants, industrial facilities and food grade production plants. Don joined the firm in 2012.

He is experienced in piping system design, computer analysis, steam systems, troubleshooting and field inspections. Don is a 'hands on' engineering designer for complex high temperature heating systems. His noteworthy project experience includes:

### EDUCATION

1972 - Associate Degree  
Mechanical Engineering  
The Pennsylvania State University

### SPECIALIZATIONS

Steam and High Temperature Piping  
On-Site Problem Solving, Design  
and Plant Layout, Steam Systems  
Troubleshooting, High Pressure Direct  
Bury Piping, Energy Modeling

### PROCESS / UTILITY PIPING / HVAC

NRG Uptown District Energy Plant,  
Pittsburgh, PA

NRG, Pittsburgh, PA - Central Steam  
Plant, Design Piping and Equipment for  
(3) 50,000 MBU Steam Boilers and direct  
buried distribution piping

Clarion University, Clarion, PA -  
Replacement of Buried High Pressure  
Steam, Condensate Pipe and High  
Pressure Return Lines

University of Pittsburgh, Pittsburgh, PA  
Upper Campus Chilled Water Plant,  
Systems Upgrade

University of Pittsburgh, Pittsburgh, PA -  
Steam Plant Upgrade Study

Union Trust Building, Pittsburgh, PA  
Renovation / Retrofit of Historic  
Landmark, New Chiller Plant (3)  
500 Ton Chillers

One PNC Tower, Pittsburgh, PA -  
Condensate System Upgrade

Allegheny Center, Pittsburgh, PA -  
Condensate System Upgrade

SCI Forest, Forest County, PA - High  
temperature hot water supply and return  
distribution system, pipe and pipe support  
design between buildings, heat exchanger  
replacement

West Virginia Capitol Complex,  
Charleston, WV - Buildings #5 and #6,  
Boiler and Steam System Upgrades

Cambria Care, Ebensburg, PA - Equipment  
and piping design for multiple steam boiler  
additions (3) 300 HP Boilers

Fort Cherry School District, McDonald, PA,  
Boiler and Piping Upgrade (3) 5,000 MBH  
Boilers

Steel Center AVTS, Clairton, PA, Steam  
Boiler Replacement (2) 7000MBU natural  
gas fired steam boilers and associated  
equipment

Canon-McMillan School District,  
Canonsburg, PA - Boiler replacements  
in Cecil Elementary School and  
Hendersonville Elementary School, (2) 120  
MBH Boilers each

Grove City College, Grove City, PA - Steam  
Plant, New Boiler

Sewickley Hospital, Sewickley, PA -  
Equipment and Piping Design for multiple  
steam boiler replacement (4) 250 HP  
Boilers

UPMC Mercy, Pittsburgh, PA, high-  
pressure steam tunnel piping & direct  
buried steam and condensate pipe

### POWER PIPING

WorleyParsons, Reading PA - High-  
pressure steam, condensate and feed  
water piping design for HRSG associated  
with new combined cycle gas power plant  
construction

Gilbert Associates, Reading, PA - Piping  
design, analysis and support design  
for high-pressure steam and return  
systems in various Met-ED, Penelec and  
PP&L Fossil Power plants. Continuing  
service at Conemaugh Plant (2) 900  
MW (3,000,000 MBH/90,000 HP)  
Boilers, Keystone Plant, (2) 900 MW  
Boilers, Homer City Plant (3) 600 MW  
(2,000,000 MBH/60,000 HP) units.  
Steam Pipe Upgrades at Bruner Island  
Plant, Sunbury Plant and Martins Creek  
Plant and Pipe design in TMI Nuclear  
Power Plant (GPN)



Jesse Bierer  
Mechanical Designer

Contact Information:

☎ 412.262.1220, ext. 161

✉ [jbierer@cjlengineering.com](mailto:jbierer@cjlengineering.com)

## PROFESSIONAL SUMMARY

Jesse Bierer is the Morgantown Office Manager and Mechanical Designer at CJL Engineering joining the firm in 2017. He has been involved in the mechanical system design and commissioning of projects for health care, schools K-12, industrial, college/university, and corporate projects. Jesse specializes in the design and specification of hot and chilled water systems, heating and cooling air systems.

## RELEVANT PROJECTS

West Virginia University Medicine,  
Children's Hospital, Morgantown, WV

West Virginia University Medicine, Central  
Sterile Renovation, Morgantown, WV

Stoneham Rink Renovation, Stoneham,  
Massachusetts

High Rise Tenant Fit Out - East Beaver  
Avenue, State College, PA

AHN St. Vincent Hospital Hardner  
Building, Erie, PA

AHN St. Vincent Hospital Nuclear Imaging  
Renovations, Erie, PA

AHN St. Vincent Hospital - 5<sup>th</sup> Floor, Erie, PA

AHN St. Vincent Infill building, Erie, PA

Bentley Building - CHS Alera, Pittsburgh, PA

Conemaugh Medical Oncology Addition  
East Hills, Johnstown, PA

Conemaugh Good Sam Radiology  
Oncology Renovation, Johnstown, PA

Fox Chapel Area School District, New  
Kerr Elementary, Pittsburgh, PA

Meritus - Robinwood Suite 200  
Residency, Hagerstown, MD

Magee Women's Hospital - Green Zone  
Fire Protection, Pittsburgh, PA

NRG Uptown District Energy Center,  
Pittsburgh, PA

PA Cyber Wexford, Wexford, PA

St. Edmunds Academy, Pittsburgh, PA

Davita Tenant Fit Out, Loch Raven, MD

Union Trust Building - 2<sup>nd</sup> Floor,  
Pittsburgh, PA

University of Pittsburgh Community  
Engagement Center, Pittsburgh, PA

UPMC Hamot Lung Center, Erie, PA

UPMC Magee-Womens Hospital,  
Pittsburgh, PA

## EDUCATION

West Virginia University  
Bachelor of Science  
Mechanical Engineering  
Aerospace Engineering  
2016

## SPECIALIZATIONS

Mechanical Engineering  
Project Management  
HVAC Systems  
AutoCAD  
Revit

## MEMBERSHIPS/ACTIVITIES

ASHRAE

# 4 EXPERIENCE

## West Virginia Projects

West Virginia Capitol Complex, State Office Buildings #1 & #3 LEED® Certified, Charleston, WV

West Virginia University Medicine, New Children's Hospital, Ruby Hospital, Morgantown, WV

West Virginia University, Morgantown, WV

- NASA Independent Verification and Validation Center, Fairmont, WV
- Studio Theater Renovation, Morgantown, WV
- Oglebay Hall, Forensic Science Lab, LEED® Certified, Morgantown, WV
- Brooks Science Hall, Morgantown, WV
- Campus Master Plan, Morgantown, WV

Fairmont State College, Fairmont, WV

- Hunt Haught Hall, Fairmont, WV
- Pritchard Hall, Fairmont WV

Beckley Neville Street Renovation Project, Beckley, WV

Chestnut Manor, Renovation Project, Weirton, WV

Community Bank of Parkersburg, Parkersburg, WV

West Liberty State College, Fire Alarm System, West Liberty, WV

Weirton Medical Center, Weirton, WV, Various Projects

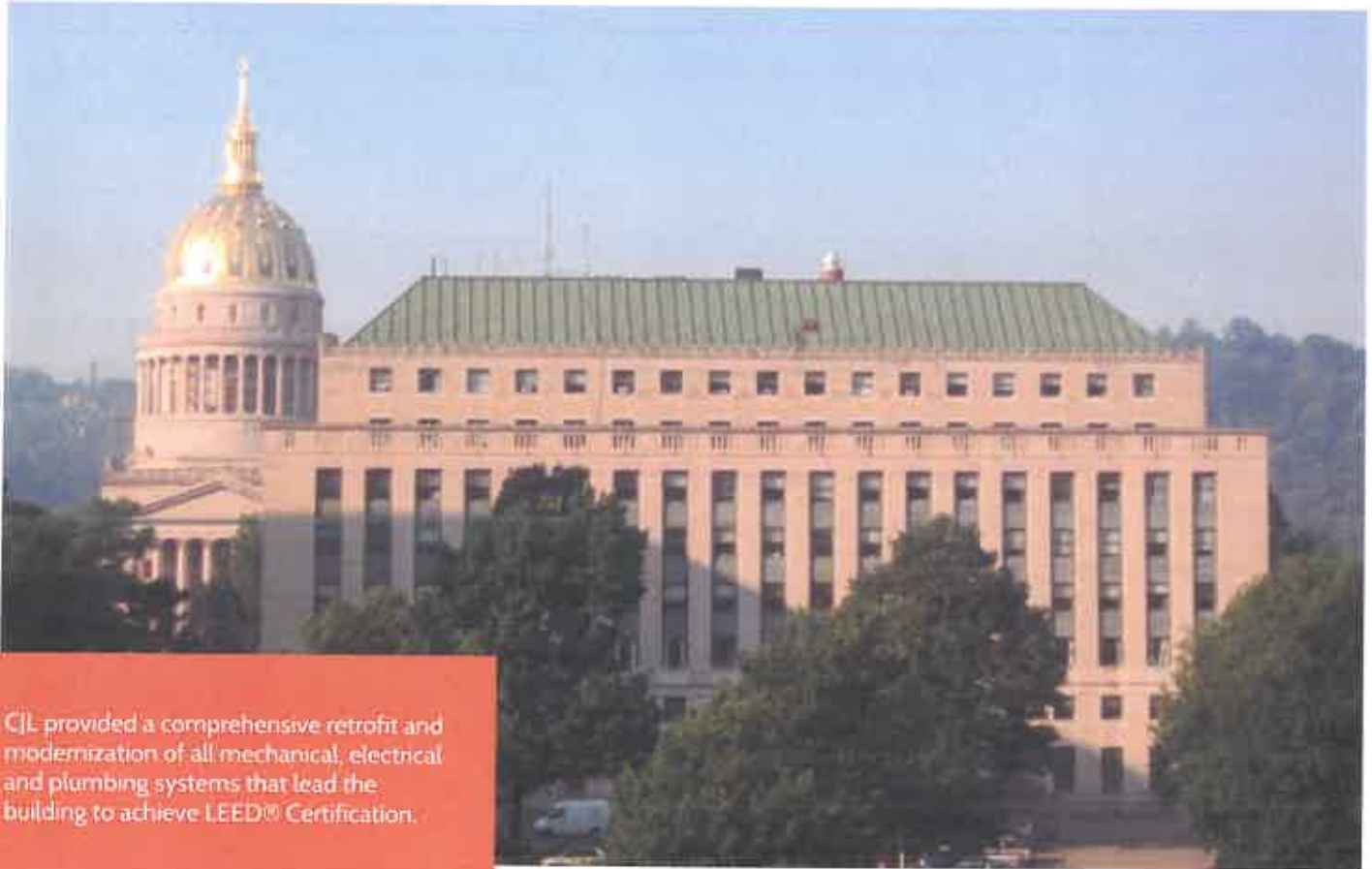
- Administration Suite, CT Scanner, Emergency Power
- Medical Records, MRI, Pharmacy, Sleep Lab
- Women's Center, Endoscopy, Fire Pump
- Medical Office Building, Business Office
- New OR Suite, Physician Lounge and Library

Bluefield Regional Center, Bluefield, WV

Valley Hospice Personal Care Home, Wheeling WV

# State Office Building #3, LEED® Certified

## West Virginia Capitol Complex, Charleston, WV



CJL provided a comprehensive retrofit and modernization of all mechanical, electrical and plumbing systems that lead the building to achieve LEED® Certification.

### THE PROJECT

The West Virginia State Office Building #3 is a 235,000 sf 10-story limestone-faced structure that is part of the Capitol Complex in Charleston, WV. Built in the early 1950's the structure houses a number of different state offices. The building required a comprehensive retrofit and upgrade of all mechanical, electrical and plumbing systems. Following its architectural and engineering retrofit, the building achieved LEED® Certification.

### CJL DESIGN SOLUTIONS

- All existing MEP equipment was replaced with new systems and the building was brought up to meet current code requirements
- Heating and cooling systems were connected to the existing campus wide steam and chilled water systems
- New electrical service and equipment were provided to serve the building including a new emergency generator
- All new plumbing systems, including new fixtures, were installed
- Fire protection systems were installed for a fully sprinklered building with a new fire pump located in the basement
- The building is LEED® Certified

### CJL Engineering

Pittsburgh | Johnstown | Youngstown | Frederick | Erie | Morgantown  
P: 412.262.1220 | [cjlengineering.com](http://cjlengineering.com)

### PROJECT REFERENCE:

Scott Mason, PE  
1900 Kanawha Boulevard, East  
Charleston, WV 25305  
304.558.3490



# Steam Line Extension, Phase II & III

## Clarion University of Pennsylvania, Clarion, PA



### THE PROJECT

This multi-phase steam line project involved the replacement of deteriorated underground steam mains with a 6'-6" by 6'-6" precast concrete tunnel system. CJL Engineering utilized the services of a utility locator company that located all the existing utilities in the proposed path of the tunnels – both horizontally and vertically. Phase II was finished in 1996, and Phase III was completed in 2002.

### CJL DESIGN SOLUTIONS

- Installation of approximately 4,800 ft. in Phase II, and 1,600 ft. in Phase III of 6'-6" square precast concrete tunnel sections, and reinforced concrete manholes.
- Extended tunnels from boiler house to various buildings on campus and connected with existing tunnels and direct burial steam systems.
- Install 12" steam and condensate return piping in tunnels on a metal frame.
- Minimize the rerouting of existing utilities to avoid interference with the tunnels by designing the depth of tunnels below the existing utilities.
- Electrical conduit in tunnel for communication and computers.

### CJL Engineering

Pittsburgh | Johnstown | Youngstown | Frederick | Erie | Morgantown  
P: 412.262.1220 | [cjleengineering.com](http://cjleengineering.com)

# Steam Line Replacement

## University of Pittsburgh, Pittsburgh, PA



### THE PROJECT

CJL Engineering conducted a comprehensive infrastructure analysis of the High-Pressure Steam Lines that serves the main Oakland Campus of the University of Pittsburgh. The steam is generated by seven boilers at the Bellefield Boiler Plant, owned by a consortium of institutions. Findings of the infrastructure analysis included observations, recommendations, and estimates of projected costs for repair or replacement.

### CJL DESIGN SOLUTIONS

- Corrected condensate return problems
- Stress factors of high-pressure lines
- Addressed underground corrosion issues
- Retrofit of replacement chillers
- Investigated chilled water return problems
- Targeted leaks at expansion joints
- Identified asbestos abatement concerns
- Replaced sections of tunnel that were corroding
- Addressed system maintenance concerns
- Provided noise reduction recommendations
- Designed for future expansion of the steam system



### CJL Engineering

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# Energy Center Pittsburgh - Uptown

## Steam, Chilled Water, Emergency Power, Pittsburgh, PA



CJL prepared feasibility analysis and preliminary design, and then detailed design for a highly complex 25,000 SF plant.

- 6000 tons of cooling
- 100,000 PPH of steam
- 7.5MW of emergency generators

### THE PROJECT

The new gas-powered plant energy center will deliver steam, chilled water and backup power to UPMC Mercy and additional future customers with higher efficiency, lower carbon emissions, and lower capital and operating costs compared to multiple, stand-alone systems. The plant was situated in the Uptown District because of the proximity to UPMC Mercy, Chatham Center, Consol Energy Center & future tenants.

### CJL DESIGN SOLUTIONS

The plant is presently designed to serve the chilled water, steam and emergency power requirements of UPMC Mercy Hospital and will produce:

- Chilled Water - 5500 tons operating capacity with another 2750 tons of stand-by capacity.

- Steam - 100,000 LBS / HR operating capacity with another 50,000LBS / HR of stand-by capacity. Steam pressure is at 150 PSIG
- Emergency Generators - 5 MW operating capacity with another 2.5 MW of stand-by capacity.
- Design of the chilled water lines sizes for 30-inch HDPE (high density polyethylene) to exiting plant and 24-inch HDPE after the split.
- Experience with the NRG project includes underground vaults associated with the steam installation as well. Vaults included both precast and poured in place installations.
- The Energy Center Pittsburgh - Uptown project was a design-build effort with collaboration coordination

and review with all stakeholders. Piping and conduit placement review and coordination continued throughout construction to assure that design objectives were met while avoiding underground obstacles, including those which had not been detected by earlier discovery methods. This effort served the project very well, particularly at the massively congested crossings of Forbes and Fifth Avenues.

### PROJECT REFERENCE:

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 Vice President, District Energy Operations  
 NRG Energy, Distributed Generation  
 602.541.4952  
[James.Lodge@nrgenergy.com](mailto:James.Lodge@nrgenergy.com)

### CJL Engineering

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 P: 412.262.1220 | [cjlengineering.com](http://cjlengineering.com)

# University of Pittsburgh, Hillman Library Renovation, Pittsburgh, PA



CJL Engineering provided the original electrical design, and is now working on a complete facility overhaul. Hillman Library is currently striving to be LEED® Silver Certified.

## THE PROJECT

The Hillman Library is a five story facility on the Oakland Campus of the University of Pittsburgh. Dedicated in 1968, CJL Engineering was responsible for both the building's original Electrical Engineering design, and most recently a major renovation and upgrade to the library's systems.

CJL is currently working on a complete overhaul of the facility for the conversion to the "Library of the Future". Also, CJL Engineering designed the MEP/FP for the new addition to the Library now referred to as Student Success and Development Center (SSDC).

## CJL DESIGN SOLUTIONS

- Engineering design of the HVAC, Plumbing, Fire Protection and Electrical systems.
- Redesign of the existing steam and hot water system to serve David Lawrence Hall
- New Lighting controls design including motion sensors controlled stack lighting to achieve energy savings.
- Plumbing and Fire Protection design of a new fire pump system to satisfy Pittsburgh Bureau of Fire standpipe requirements
- Complicated phased construction.

## CJL Engineering

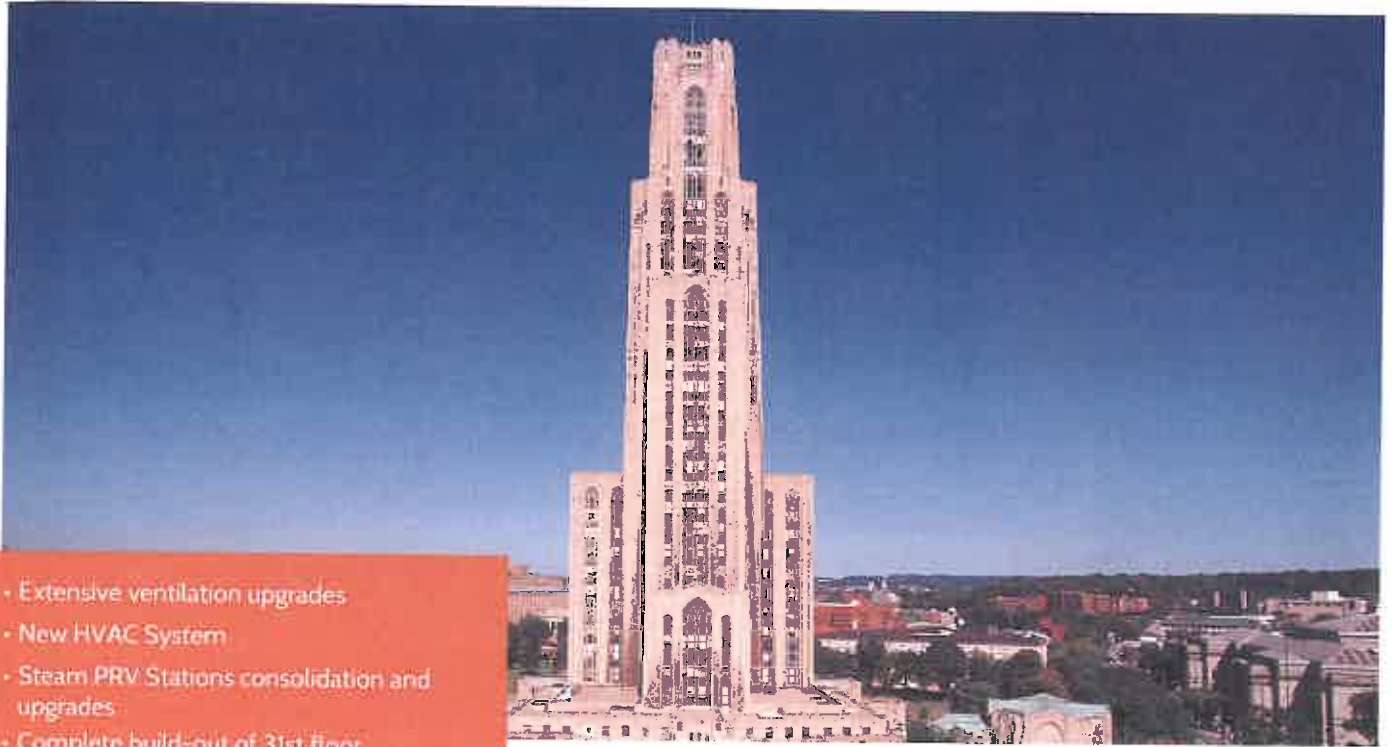
Pittsburgh | Johnstown | Youngstown | Frederick | Erie | Morgantown  
P: 412.262.1220 | [cjlengineering.com](http://cjlengineering.com)

## PROJECT REFERENCE

Dan Fisher, Assistant Vice Chancellor  
for Operation and Maintenance  
412.383.9955  
[daf8@pitt.edu](mailto:daf8@pitt.edu)

# Cathedral of Learning, Cumulative Projects

## University of Pittsburgh, Pittsburgh, PA



- Extensive ventilation upgrades
- New HVAC System
- Steam PRV Stations consolidation and upgrades
- Complete build-out of 31st floor

### THE PROJECT

The Cathedral of Learning towers is the highest educational structure in the United States. Completed in 1937, it is a skyscraper fashioned in gothic style and clad in terracotta. It also serves as the visual centerpiece of the campus.

The Commons Room is the biggest interior space in the Cathedral of Learning. Constructed as a masonry building within a steel skyscraper, it has no steel frames and its walls take all the weight of this entire sub-building. The Cathedral of Learning is included in the National Register of Historic Places and is a U.S. Historic District Contributing Property.

CJL Engineering has designed numerous systems upgrades for renovation projects within the building.

### CJL DESIGN SOLUTIONS

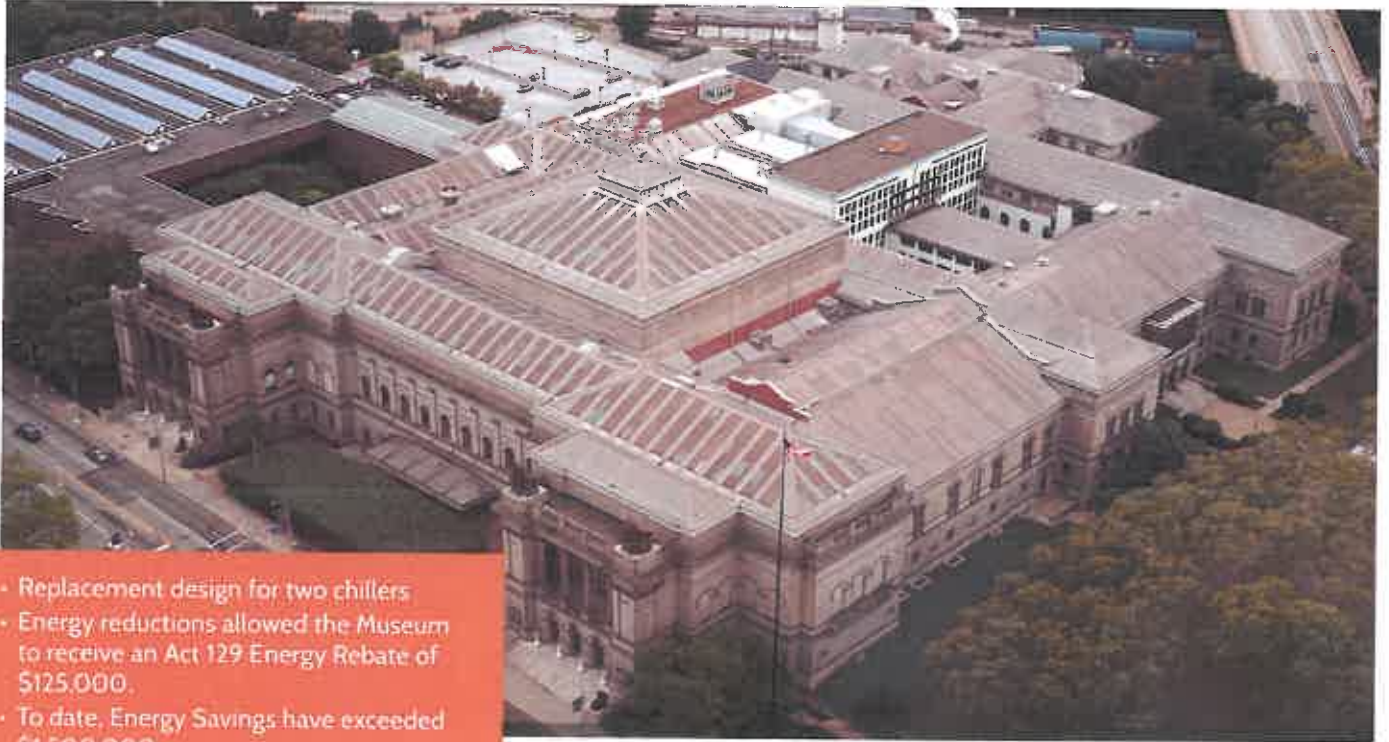
- Extensive ventilation upgrades to improve air quality in 94,000 sq. ft. of the Ground Floor, the Basement, an Auditorium and the Black Box Theatre. The project included five new air-handling units and carbon dioxide sensors
- A new HVAC System for the lecture halls on the 2nd Floor. A variable-volume air system was designed for improved energy efficiency.
- Steam PRV Stations consolidation and upgrades were completed to serve the heating needs of the entire building. Two sets of two-stage parallel PRV stations provide stable control of the steam throughout the range of light steam loads for tempered ventilation during the shoulder periods to high steam loads for heating and ventilation during colder periods. Steam pressure is initially reduced from 175 psig through two stages of pressure reduction to low pressure (10 psig or less) for distribution
- 31st Floor – complete build-out. HVAC System included new fan-coil units utilizing the building's steam and chilled water systems for heating and cooling. New units also included roof penetrations for space ventilation
- Designed all required power and conduit systems for Hydraulic Rising Bollards for vehicular entrances to prevent access near the building
- Studies for Nationality Room upgrades

### CJL Engineering

Pittsburgh | Johnstown | Youngstown | Frederick | Erie | Morgantown  
 P: 412.262.1220 | [cjlengineering.com](http://cjlengineering.com)

# Carnegie Museum of Natural History

## Plant Energy Upgrade, Pittsburgh, PA



- Replacement design for two chillers
- Energy reductions allowed the Museum to receive an Act 129 Energy Rebate of \$125,000.
- To date, Energy Savings have exceeded \$1,500,000.

### THE PROJECT

The 120-year-old Carnegie Museum of Natural History is a National Historic Landmark Building in the heart of the Oakland section of Pittsburgh, located between the University of Pittsburgh and Carnegie Mellon University. CJL Engineering was hired by the Museum to conduct a Heating/ Cooling Plant Master Plan to develop an approach for the upgrade of the Chilled Water System.

### CJL DESIGN SOLUTIONS

- The Museum's existing inefficient system was comprised of two 39- year-old chillers and a third 13- year-old chiller. The system had the potential to fail at any time. The upgrade also provided needed back-up cooling capacity during hot summer weather
- Engineer a replacement design for the two 39 year-old chillers (which were well past their expected life cycle) using new energy efficient equipment
- Additionally, the Museum obtains its high-pressure (175#) steam from the Bellefield Plant, which serves the greater Oakland area (Pitt/ CMU/UP MC). Cross checking the annual steam-use bills, along with historical metering data and general engineering estimates on the facility on this type and size suggest that the Museum could achieve added energy savings with a steam plant of its own, with a projected estimated cost of \$5M dollars
- Energy reductions to the plant were modeled and approved by a third party, allowing for the Museum to receive an Act 129 Energy Rebate from Duquesne Light in the amount of \$125,000. Energy Savings have exceeded \$1,500,000.

### CJL Engineering

Pittsburgh | Johnstown | Youngstown | Frederick | Erie | Morgantown  
P: 412.262.1220 | [cjlengineering.com](http://cjlengineering.com)

# Carnegie Museum of Natural History

## Plant Energy Upgrade, Pittsburgh, PA



### CJL ENGINEERING DESIGN SOLUTIONS INCLUDED THE FOLLOWING ENERGY SAVINGS ENHANCEMENTS:

- Removal of counter-productive chilled water return by-pass line
- Reduction in peak load requirement from 2,000 Tons to 1,550 Tons
- Consolidation of Primary / Secondary / Tertiary Chilled Water Pumps (450 HP total) to a Variable Primary Pumping Arrangement (250 HP maximum)
- 850-Ton Chiller with Variable Speed Drive
- 1,250-Ton Constant Speed Chiller
- Variable Speed Condenser Water Pumps
- Variable Speed Cooling Tower Fans
- Winter "Free-Cooling" Heat Exchanger
- Low condenser water temperature sequences to allow for significant reduction in consumed chiller energy whenever outside wet bulb temperatures allow
- Commissioning performed by CJL Engineering
- Original Plant Efficiency; 1.5 KW / T on
- New Total Plant Efficiency at peak loading confirmed at 0.83 KW / T on, includes; Chillers, Pumps, Cooling Towers

### PROJECT REFERENCE

Contact:  
 Mr. Frank Cardiello  
 CFO, VP of Finance, Treasurer  
 Carnegie Museum of Natural History  
 4400 Forbes Avenue  
 Pittsburgh, PA 15213  
 412.818.2718  
[cardiellof@carnegiemuseum.org](mailto:cardiellof@carnegiemuseum.org)

### CJL Engineering

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 P: 412.262.1220 | [cjlengineering.com](http://cjlengineering.com)

# NASA IV&V Facility

## West Virginia University, Fairmont, WV



CJL modernized the mechanical and electrical systems for this 50,000 square foot super computer center to help achieve total power redundancy.

### THE PROJECT

The Independent Verification and Validation Center was built by West Virginia University for NASA. CJL Engineering was responsible for the facility's Mechanical and Electrical Engineering Design. Achieving total power redundancy was a priority for this 50,000 sf super computer center.

### CJL DESIGN SOLUTIONS

- Chilled water systems with redundant chillers and air-handling units with variable frequency drives.
- Under-floor chilled water loop.
- Redundant chilled water and hot water pumping systems with VFD.
- Energy management system with monitoring and alarm sensors.
- Two 4000-amp 480-volt independent primary power feeds from separate power companies for system redundancy.
- Two 1000 KVA generators, with provisions for a third, provide generator / utility paralleling.
- 1000 KVA uninterruptible power supply (UPS) and 15-minute wet battery backup.
- Emergency diesel generators with a redundant unit, and provisions for a fourth, supply the entire building with back-up power.
- Under-floor duct system for computer, communication, and power cable.

### CJL Engineering

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# Oglebay Hall, Forensic Science Lab

## West Virginia University, LEED® Certified, Morgantown, WV



CJL revamped the mechanical and electrical systems to meet the stipulations for the building transformation, into the state-of-the-art forensic science center that it is today.

### THE PROJECT

West Virginia University transformed its historic 54,000 sf Oglebay Hall into a state-of-the-art forensics laboratory and classroom building. Dating from 1916, the new 74,000 sf building includes DNA and molecular biology laboratories, electron microscopy, bone analysis, gas chromatograph, ballistics analysis, blood, fingerprint, and trace evidence analysis facilities, as well as classrooms, faculty and graduate student offices, and new auditoriums. The project is designed to achieve a LEED® certification.

### CJL DESIGN SOLUTIONS

- HVAC systems provide exceptional indoor air quality and energy efficient performance. Variable speed drives reduce energy use during part load conditions, and the HVAC systems use environmentally friendly refrigerants.
- Ventilation levels in non-lab areas automatically adjust for the number of occupants. Generous fresh air volumes are 'scrubbed' with MERV-13 high efficiency filtration and ultraviolet (UV) lights that reduce airborne contaminants.
- Bridge tie in to new campus wide chilled water distribution system.
- Routing of campus loop piping through the basement and crawlspace.
- Building chilled water pumps equipped with variable speed drives for energy savings.
- Equipment selected with 15 degree chilled water temperature rise to increase central plant efficiency and reduce building pipe sizes.
- High performance window glazing system for beneficial daylight will reduce thermal losses and solar heat gain. Lighting systems adjust to daylight levels and automatically allow for dim and shut off, saving energy.

### CJL Engineering

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P: 412.262.1220 | [cjlengineering.com](http://cjlengineering.com)

#### Project Reference:

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# 5 PAST PERFORMANCE

## References

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Engineering/Affairs  
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District Energy Operations & Asset  
Management  
**NRG Energy, Distributed Generation**  
Pittsburgh, PA  
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# 6 ADDITIONAL INFORMATION

## CJL Engineering Contact Information

**CEOI 0211 GSD2000000001**

**Capitol Campus Stream Distribution System Project**

### **Marketing and Business Development**

Mark F. Sotosky  
232 Horner Street  
Johnstown, PA 15902

(814) 536-1651 Ext. 102  
(814) 619-1040 cell

[marksotosky@cjlengineering.com](mailto:marksotosky@cjlengineering.com)

### **Project Manager**

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(814) 322-5457 cell

[jvizzini@cjlengineering.com](mailto:jvizzini@cjlengineering.com)

**ADDENDUM ACKNOWLEDGEMENT FORM**  
**SOLICITATION NO.: CEOI GSD2000000001**

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

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

**Addendum Numbers Received:**

(Check the box next to each addendum received)

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

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that 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.

CJL Engineering

Company



Authorized Signature

8/26/19

Date

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

STATE OF WEST VIRGINIA  
Purchasing Division

# PURCHASING AFFIDAVIT

**CONSTRUCTION CONTRACTS:** Under W. Va. Code § 5-22-1(i), the contracting public entity shall not award a construction contract to any bidder that is known to be in default on any monetary obligation owed to the state or a political subdivision of the state, including, but not limited to, obligations related to payroll taxes, property taxes, sales and use taxes, fire service fees, or other fines or fees.

**ALL CONTRACTS:** 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 §81-5-3) that: (1) for construction contracts, the vendor is not in default on any monetary obligation owed to the state or a political subdivision of the state, and (2) for all other contracts, 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: CJL Engineering

Authorized Signature:  Date: 8-26-2019

State of Pennsylvania

County of Cambria to-wit:

Taken, subscribed, and sworn to before me this 26 day of August, 2019.

My Commission expires August 15, 2021, 20  .

**AFFIX SEAL HERE**

NOTARY PUBLIC 

*Purchasing Affidavit (Revised 01/19/2018)*

COMMONWEALTH OF PENNSYLVANIA

NOTARIAL SEAL

Brenda I. Szelong, Notary Public

Richland Twp., Cambria County

My Commission Expires Aug. 15, 2021

MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES



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