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## Header

List View

## General Information

## Contact

## Default Values

## Discount

## Document Information

Procurement Folder: 141136

SO Doc Code: CE01

Procurement Type: Central Contract - Fixed Amt

SO Dept: 0211

Vendor ID: 000000161660

SO Doc ID: GSD1600000005

Legal Name: CJL ENGINEERING

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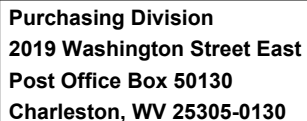
Status: Closed

Response Time: 11:14

Solicitation Description: Addendum 2 EOIA/E Services for HVAC Renovations of Bldg 36

Total of Header Attachments: 0

Total of All Attachments: 0



# State of West Virginia Solicitation Response

**Solicitation Description :** Addendum 2 EOI A/E Services for HVAC Renovations of Bldg 36

Proc Type : Central Contract - Fixed Amt

Date issued	Solicitation Closes	Solicitation No	Version
	2015-11-12 13:30:00	SR 0211 ESR11121500000002207	1

**VENDOR**

000000161660

CJL ENGINEERING

**FOR INFORMATION CONTACT THE BUYER**

Laura E Hooper  
(304) 558-0468  
laura.e.hooper@wv.gov

**Signature X**

**FEIN #**

DATE \_\_\_\_\_

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

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	EOI A/E Services for HVAC Renovations of Building 36				

Comm Code	Manufacturer	Specification	Model #
81100000			

Extended Description :	EOI A/E Services for HVAC Renovations of Building 36



**State of West Virginia  
A/E Services for HVAC Renovations of Building 36  
GSD1600000002**

**EOI Response by CJL Engineering  
November 12, 2015**



The following narrative is offered as CJL Engineering's response to the State of West Virginia's Centralized Expression of Interest for A/E Services for HVAC Renovations of Building 36.

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**A. Understanding of Concept**

CJL Engineering performed the original study of Building 36 in 2013. This included a detailed above-ceiling investigation. We understand the need to fully upgrade the HVAC System as well as the parallel need to keep as much of the Building open during construction as is reasonably feasible. As such, our initial survey outlined a floor-by-floor approach to phasing the project. A further explanation follows:

Given the extent of the proposed recommendations, and anticipating that a complete vacating of tenants will not be possible, a phased approach to construction might be a practical method to incorporate the required upgrades. Phasing of the upgrades could occur a variety of ways. What appears to make the most sense, from a logistical standpoint, would be to perform the work floor by floor. This would break the project into potentially five (5) components plus the main boiler/chiller room. Since the first floor appears to have had the most interior space modifications, it appears to be the logical floor to do first.

**Executive Summary**

The existing HVAC System, circa 1987, serving Building 36 has been reported to have significant issues as it relates to consistently maintaining a comfortable environment. CJL Engineering was engaged to evaluate the System and make recommendations for upgrade. At this time, it is estimated that a full system replacement is unlikely to occur due to building occupancy. As such, a phased approach will also be outlined.

The existing HVAC system serving the Facility is a variable air volume (VAV) type. It consists of five (5) central station heating and cooling air handling units. These are 4-pipe type with hot and chilled water coils. Each unit serves an individual floor with the exception of #6, which serves the west wing of the first and second floors. A separate heating-only air handling unit provides for the outside air needs of the building.

Main ductwork is installed above the ceiling. Original open plenum above ceilings remains an integral part of the System. Past renovations have inadvertently closed off portions of the plenum and have forced subsequent work to re-open. Visual survey showed most of the plenum to now be open.

Zone controls requirements are maintained through the original Variable Air Volume (VAV) and fan-powered boxes equipped with electric reheat coils. Over the years, each floor has been modified in layout to some degree; the most significant has occurred on the both the first and second floors. During these projects, it does not appear that any new VAV boxes were added. Ductwork was modified in an attempt to achieve some level of similar use environmental control from nearby VAV boxes. This poor zoning, along with estimated degradation of exterior zone box heating elements appear to be the main reasons for the continued reports of occupant dissatisfaction.

The existing head end equipment, including boiler, chiller, cooling tower, pumps and controls have been evaluated for energy efficiency, expected longevity, as well as overall system functionality. The equipment is twenty six (26) years old and many of its components are showing signs of degradation due to their continuous use, as well as a function of their age. Only the cooling tower is new (5 years old).

Phased replacement of the HVAC System is recommended.

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**B. Firm/Team Qualifications**

CJL Engineering is a 78-year-old, full service (HVAC, Plumbing, Fire Protection, Electrical, Site, Civil and Structural) engineering firm. With three offices and a professional staff of over 100, we design a wide variety of projects for a diverse nationwide client base. A firm profile and Corporate Organization Chart follow as well as requested resumes and certifications for each staff member listed below.

The following personnel will comprise our team for this project. (Note: These individuals were involved in the 2013 study.)

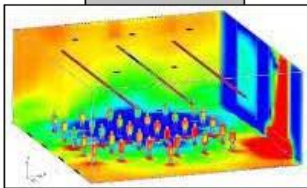
James M. Vizzini, PE

Eric E. Groer, PE

Adam B. Hale, PE

Joseph R. Gaus, PE

Richard Paolini, Revit/BIM Coordinator



## CJL ENGINEERING FIRM OVERVIEW

**CJL Engineering** is a multi-disciplined Mechanical/Electrical/Plumbing consulting engineering firm that offers a full range of services, including analysis and concept, construction budgeting, detailed construction documentation construction administration and commissioning. With offices in Pittsburgh, Johnstown, PA, and Youngstown, OH, CJL has a combined staff of over 130 personnel.

**CJL Engineering** was established in 1938 and has substantial experience in the design, construction and commissioning of high performance and LEED certified buildings, emphasizing integrated design and operational strategies for sustainable site development, water conservation, energy efficiency, resource conservation, and indoor environmental quality.

**CJL Energy Solutions** supplies engineering, process and business consulting and operational services in the energy and sustainability field. Our main market segments are institutional, government, commercial and industrial customers with deep commitment to long term sustainability.

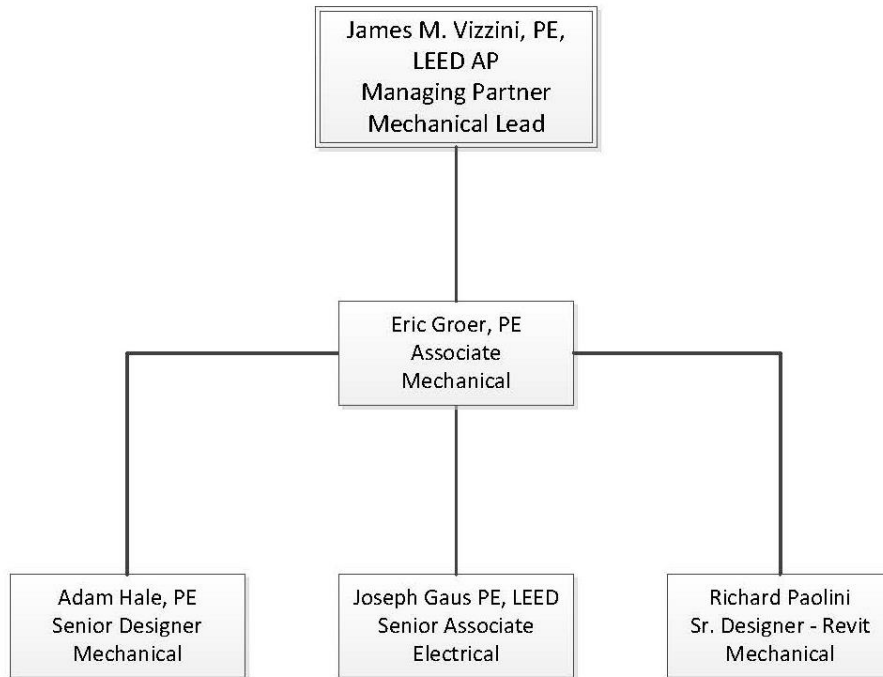
Areas of specialization provided by **CJL Engineering** include:

- HVAC Systems
  - Boiler
  - Chiller Central Plants
  - Geothermal Heat Pump Systems
  - Life Safety Systems
- Electrical Systems
  - Primary Power and Distribution
  - Cogeneration
  - Emergency, Standby Power
- Plumbing
- Fire Detection and Protection
- Civil Engineering
- LEED Green Building Design
- Energy Solutions
- Architectural Lighting and Controls
- Telecommunications
- Voice/Data/Audiovisual
- Security
- Power System/Quality Evaluations
- Energy Conservation Studies
- Life Cycle Analyses
- Retrofit Evaluations
- Building Management Systems
- Commissioning

**CJL Engineering** serves a broad range of clients that include: Green Buildings, Hotels, Resorts, Apartments, Higher Education, Schools (K-12), Healthcare (Hospitals/ Medical Centers), Performing Arts Centers and Theaters, Libraries, Government and Secure Facilities, Retirement and Assisted Living Communities, High Tech Buildings, Mission Critical Data Centers, Central Plants and Utilities, Science, Laboratory and Research Facilities, Telecom Facilities, Office Buildings, Historic and Adaptive Retrofit, Transportation, and Master Planning and Design.

State of West Virginia

A/E Services for HVAC Renovations of Building 36  
GSD1600000002  
CJL Engineering Project Organizational Structure



**James M. Vizzini, P.E. LEED® Accredited Professional**

James M. Vizzini, P.E. is a Managing Partner of CJL Engineering. He is responsible for management decisions, overseeing current projects, and maintaining relationships with architect and clients. He has also served as a project engineer on numerous historic renovation projects.

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. He also supervises HVAC systems design for various commercial and institutional projects, as well as 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. Mr. Vizzini has been responsible for over \$1.5 billion of Mechanical and Electrical construction projects. His noteworthy projects include:

Carnegie Museum of Natural History, Pittsburgh, PA  
3,500-ton Chilled Water Plant – Update

Duquesne University, Pittsburgh, PA Energy Center Master Plan  
and new Cooling Tower

St. Francis University, Loretto, PA New Science Center (LEED Compliant)

Nebraska Wesleyan University, Lincoln, NE  
New Science Building and Central Campus Steam Assessment

West Virginia University, Evansdale Campus, Morgantown, WV  
Utility Infrastructure Master Plan

State Office Building #3, West Virginia Capitol Complex, Charleston, WV

National Geospatial Intelligence Center, Arnold, MO  
Central Chilled Water Plant - Upgrade

DiSepio Health and Wellness Center (*LEED Compliant and Geothermal*),  
St. Francis University, Loretto, PA

Water's Edge (*LEED Compliant*) Pittsburgh Zoo and PPG Aquarium,  
Pittsburgh, PA

Oglebay Hall (*LEED Certified*) West Virginia University, Morgantown, WV

Animal Health Center (*LEED Compliant*) Pittsburgh Zoo and PPG Aquarium,  
Pittsburgh, PA

UPMC Lemieux Sports Complex, Cranberry, PA

Bio-Tech Center, Animal Research Laboratories, University of Pittsburgh,  
Pittsburgh, PA

Naval Air Station - Oceana, Child Development Center  
(*LEED Commissioning Services*) Virginia Beach, VA

Financial Institution – Data Center. Pittsburgh, PA  
2,100-Ton Chilled Water Plant

A. W. Beattie Career and Technology Center (LEED Gold), Pittsburgh, PA

Chevron Science Center- Renovation, University of Pittsburgh,  
Pittsburgh, PA

Central Methodist University, Fayette, MO – Master Plan

Eastern Virginia Medical School, Norfolk, VA – Master Plan, Energy Audit,  
Campus-Wide Energy Upgrade



**TITLE:**  
Managing Partner

**SPECIALIZATION:**  
Mechanical Engineering  
Master Planning  
District Heating and Cooling Plants

**EDUCATION:**  
B.S. / 1987 / Mechanical Engineering  
Technology  
University of Pittsburgh at Johnstown

**REGISTERED PROFESSIONAL  
ENGINEER:**

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

**MEMBERSHIPS/ACTIVITIES:**

ASHRAE  
Building Commission, Diocese of  
Altoona-Johnstown, PA  
U.S. Green Building Council (USGBC)  
Presenter: Energy and Education  
Conference (Geothermal Design) St.  
Francis University, Loretto, PA - 2009  
U.S. Green Building Council (USGBC)  
Presenter: Johnson Controls FY13  
Leadership Forum, Potomac, MD  
Topic: Consulting Engineers Business  
Strategies and Vendor Teaming

***Eric E. Groer, P.E. Associate, LEED A.P.***

Eric Groer, P.E. is a Mechanical Engineer for CJL Engineering. He has been with the firm since 2003. His areas of specialization include Industrial, Commercial, Educational, and Healthcare Mechanical Systems. Mechanical Systems experience includes steam, geothermal, hot and chilled water, and air systems engineering, as well as energy analysis and modeling. His duties involve Project Management, Engineering, and analysis/assessment of existing buildings and systems. He strives to implement energy efficient and cost effective construction strategies.

**LEED**

eCenter@LindenPointe (LEED Silver and Geothermal), Hermitage, PA  
Youngstown Air Reserve Station, Housing Design (LEED Compliant),  
Youngstown, OH

Fort Couch Middle School (LEED Silver), Upper St. Clair, PA

Boyce Middle School (LEED Silver), Pittsburgh, PA

St. Francis University, DiSepio Institute for Rural Health & Wellness  
(LEED Compliant and Geothermal), Loretto, PA

**Projects**

Elliott Company, Building 48 – Office Renovation, Jeanette, PA

PA Cyber Building – New Office Building, Midland, PA

Elliott Company – Plant Heating Conversion, Jeannette, PA

West Virginia Capitol Complex, Steam Plant Extensions,  
Charleston, WV

First National Bank of Pennsylvania - Four-Story Headquarters  
Renovation, Hermitage, PA

Bagram Airfield – U.S. Air Force

Allegheny Ludlum – Hot Rolling and Processing Facility, Pittsburgh, PA

Northside Medical Center (Forum Health), Circulation Pavilion West  
Addition, Youngstown, OH

Trumbull Memorial Hospital, Chilled Water Extension, Warren, OH

Pittsburgh Zoo and PPG Aquarium, Water's Edge (Polar Bear Exhibit -  
LEED Compliant), Pittsburgh, PA

University of Pittsburgh, Darragh Street Housing, Pittsburgh, PA

Richland Township Municipal Building, Gibsonia, PA

VA University Drive, East Wing Mechanical System Upgrade,  
Pittsburgh, PA

Wilmington Area Middle / High School, New Wilmington, PA

Steubenville Dialysis Clinic, Steubenville, OH

Sunnyview Nursing Home, Butler, PA

Capitol City Mall, HVAC Upgrades, Camp Hill, PA

Norwin Middle School, North Huntingdon, PA

**TITLE:**

Professional Engineer  
Associate  
CJL Engineering

**SPECIALIZATION:**

Mechanical Engineering

**EDUCATION:**

B. S. Mechanical Engineering  
Technology - 2003  
University of Pittsburgh at Johnstown

**REGISTERED PROFESSIONAL  
ENGINEER:**

Pennsylvania

**PRESENTER:**

St. Francis University, Renewable  
Energy Center – Geothermal Energy  
Expo, July 2013

**Adam B. Hale, P.E., Mechanical Engineer**

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.

Mr. Hale 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**

St. Francis University, New Science Center and Vivarium, Loretto, PA

Nebraska Wesleyan University, New Science Building, Lincoln, NE

Cambria County War Memorial Arena, Ice Rink Floor Replacement /  
Hockeyville HVAC Coordination, Johnstown, PA

CamTran Operations Center, Johnstown, PA

Meadville Medical Center, Vernon Place – Medical Office Building,  
Meadville, PA

UPMC Presbyterian Hospital, South Tower Demolition Project,  
Pittsburgh, PA

Economic Development Corporation – Advanced Manufacturing and  
Innovation Center, Knowledge Park, Erie, PA

St. Francis University, Sullivan Hall - Renovation, Loretto, PA

Hazleton Oncology, Hazleton, PA

Harley Davidson Dealership, Erie, PA

ArtWorks – Adaptive Retrofit, Johnstown, PA

University of Pittsburgh, Salk Hall – Renovation, Pittsburgh, PA

Southwestern Veterans Center, Pittsburgh, PA

McGonigle Ambulance Garage – Renovation, Sharon, PA

Roxborough Hospital – Renovation, Philadelphia, PA

Kliment Building – Renovation, Pittsburgh, PA

McGuffey High School – Renovation, Claysville, PA

Prospect Community Co-Op, Johnstown, PA

First Summit Bank – Renovations, Latrobe, PA

One PNC Tower – 14<sup>th</sup> Floor Renovations, Pittsburgh, PA

West Virginia Capitol Complex, Buildings 5,6 and 7 - Steam Upgrade,  
Charleston, WV

Carmichaels Junior-Senior High School- Renovations, Carmichaels, PA

**TITLE:**

Mechanical Engineer  
CJL Engineering - Johnstown

**SPECIALIZATION:**

Mechanical Engineering

**EDUCATION:**

University of Pittsburgh at Johnstown,  
Johnstown, PA

Bachelor of Science  
Mechanical Engineering Technology  
2010

**MEMBERSHIPS / ACTIVITIES:**

ASHRAE

**Joseph R. Gaus P.E. Sr. Associate, LEED Accredited Professional**

Mr. Gaus is an Associate at CJL Engineering. He joined the firm in 2005 and has ten years of experience in designing electrical and lighting systems for various types of facilities. He has knowledge of numerous power distribution systems. He has completed design projects of varying size and complexity. Joe has served as project manager on numerous projects including a full campus renovation as well as multiple design projects for the U.S. Army Corps of Engineers Transatlantic Programs Center.

**Representative Projects****LEED®/Sustainable Design**

Energy Innovation Center (LEED Platinum pending), Pittsburgh, PA  
Phipps Center for Sustainable Landscapes  
(Living Building Challenge and LEED Platinum, Pittsburgh, PA  
Green Building Alliance Headquarters (LEED Platinum), Pittsburgh, PA  
Financial Institution Branch Banks (LEED Gold/Silver/Certified), Nationwide  
The Pittsburgh Project New Residence Hall (LEED Gold), Pittsburgh, PA  
Macoskey Center for Sustainable Systems, Slippery Rock University, PA  
West Virginia State Capitol Building  
MaCallen Buildings Condominium, Boston, MA  
Point Park University Dance Studio Complex (LEED Gold), Pittsburgh, PA  
Woodcrest Retirement Residence, Coraopolis, PA  
Little Sisters of the Poor Administration Building, Pittsburgh, PA

**Education**

University of Pittsburgh, Clapp, Langley, Crawford Building, Pittsburgh, PA  
Thomas Jefferson University, Research Building, Philadelphia, PA  
Rensselaer Polytechnic Institute, Lab Building, Troy, NY  
Cornell University, Olin & Baker Partial Laboratory Renovations, Ithaca, NY  
University of Texas, Institute of Molecular Medicine, Houston, PA  
UCLA Nanosystems Institute, Los Angeles, CA  
Drexel University, Edward Bosson Research Building, Philadelphia, PA  
Pennsylvania State University, Fayette Campus Multipurpose Building  
Community College of Beaver County, Monaca, PA  
Lebanon Valley College, Neidig-Garber Science Building, Pittsburgh, PA  
Grove City College, Cafeteria Renovation, Grove City, PA  
Pittsburgh City Schools, Colfax Elementary School, Pittsburgh, PA

**Health Care**

Frick Hospital, New Stanton, PA  
Weirton Medical Center Third Floor Endoscopy Suite, Weirton, WV

**Corporate/Business**

Roomful Express Warehouse Survey and Renovation, Pittsburgh, PA  
4 Northshore Associates Office Renovations (Law Offices), Pittsburgh, PA  
First National Bank of Seven Fields, Seven Fields, PA  
US Investigative Services Pine Grove Square Expansion, Grove City, PA

**International Government Work**

Afghanistan National Army Border Patrol Bases (2 base models)  
Afghanistan National Army Police Battalions (7 battalion models)  
Afghanistan National Army Garrison Utility Connection Study (8 garrisons)

**TITLE:**

Sr. Associate – Electrical  
CJL Engineering Pittsburgh

**EDUCATION:**

2002, Grove City College  
Grove City, PA  
BS in Electrical Engineering  
4 year ABET accredited curriculum

SKM Powertools for Windows  
Standard/Advanced Training Courses

**REGISTERED PROFESSIONAL ENGINEER:**

Pennsylvania  
Ohio  
Louisiana  
Massachusetts  
Iowa  
New Jersey  
Florida  
West Virginia

**MEMBERSHIPS/ACTIVITIES:**

2004, LEED Accredited Professional  
  
2004, National Society of Professional Engineers

2004, Pennsylvania Society of Professional Engineers (PSPE)  
President – Midwestern Chapter

***Richard Paolini, Revit / BIM Coordinator***

With over 30 years in the industry, Richard Paolini joined CJL Engineering in 2011 as the Revit /BIM Coordinator. Before joining the firm, Rick worked at a local A/E firm. His experience includes corporate, commercial, state correctional projects, elementary schools, higher education, hospitals and other medical facilities, government facilities, public housing, and churches. Rick's responsibilities include project management, mechanical engineering design and construction services support. He educates both clients and staff on new industry trends within his field. Rick is actively involved in the management, design, coordination and completion of all Revit projects at CJL Engineering.

**Healthcare**

Barnes-Jewish Hospital St. Peters Surgery Renovation, St. Peters, MO  
Barnes-Jewish Hospital, Institute of Health, St. Louis City, MO  
UPMC Lemieux Sports Complex, Cranberry, PA  
UPMC Mercy Hospital Central Plant and Garage, Pittsburgh, PA  
Meadville Medical Center, Vernon Place, Meadville, PA

**Education**

St. Francis University Science Center, Loretto PA  
Duquesne University, Des Places Residence Hall (LEED Gold),  
Pittsburgh, PA  
Penn State University, Knowledge Park, Behrend Campus, Erie, PA  
University of Pittsburgh at Bradford, O Dorms, Bradford, PA  
Plum Borough School District, New Pivik Elementary School, Plum, PA\*  
California University of Pennsylvania Convocation Center,  
California, PA\*  
University of Pittsburgh Olympic Sports Complex, Pittsburgh, PA\*

**Corporate/Commercial**

Cambria County Transit Authority Bus Garage, Johnstown, PA  
ATI Allegheny Ludlum Mill, Brackenridge, PA  
PNC Bank, 160 Branch Bank Locations Nationwide  
(LEED Gold, Silver, Certified)

**Government**

AT/MOB Dining Facility, U.S. Army, Ft. McCoy, Wisconsin  
U.S. Coast Guard Support Center, Rescue Swimmer Training Facility  
Elizabeth City, NC \*  
Beaver County 9-1-1 Emergency Services Center, Ambridge, PA\*  
Allegheny County Sanitary Authority Operations Facility  
Pittsburgh, PA\*  
Saint Mary's County Prison Addition, Saint Mary's City, MD\*  
Plaquemines Parish Prison, Plaquemines Parish, LA\*

*\*Work done through previous employment.*

**TITLE:**

Revit/BIM Coordinator  
CJL Pittsburgh

**SPECIALIZATION:**

Architectural and MEP Design

**EDUCATION:**

The Pennsylvania State University  
1982 – Associate Degree  
Electrical Engineering Technology

**PROFESSIONAL CREDENTIALS:**

Revit Architecture 2013  
Certified Professional

**MEMBERSHIPS/ACTIVITIES:**

Founding member of the  
Steel City Revit User Group  
Pittsburgh, PA

Former Vice-President  
Greater Pittsburgh AutoCAD  
Users Group

DISPLAY THIS CERTIFICATE PROMINENTLY • NOTIFY AGENCY WITHIN 10 DAYS OF ANY CHANGE

**Commonwealth of Pennsylvania**  
**Department of State**  
**Bureau of Professional and Occupational Affairs**  
PO Box 2649 Harrisburg PA 17105-2649

**License Type**  
Professional Engineer

**License Status**  
Active

**Initial License Date**  
10/05/1994

**Expiration Date**  
09/30/2017

**License Number**  
[REDACTED]

**JAMES MICHAEL VIZZINI**  
CJL ENGINEERING  
232 HORNER STREET  
SUITE 200  
JOHNSTOWN PA 15902

  
Commissioner of Professional and Occupational Affairs

  
Signature

ALTERATION OF THIS DOCUMENT IS A CRIMINAL OFFENSE UNDER 18 P.A.C.S. §. 4911



**West Virginia State Board of Registration  
for Professional Engineers**

**JAMES M. VIZZINI**  
[REDACTED]

This is to certify that the above named PROFESSIONAL ENGINEER has met the requirements of the law, is duly registered and is entitled to practice engineering in the State of West Virginia.

**EXPIRES December 31, 2016**



STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS

**To** all to whom these presents shall come Greeting  
*"Know Ye" That The State Board of Registration for Professional Engineers*  
*of the State of West Virginia, reposing special confidence in*  
*the Intelligence, Integrity and Discretion of*

**Joseph R. Gaus**

**DOES IN PURSUANCE OF AUTHORITY VESTED IN IT**  
*by law hereby certify that he having submitted*  
*satisfactory evidence of his ability and experience is a*

**REGISTERED PROFESSIONAL ENGINEER**

Registration Number [REDACTED]

*"To Hold" and use such title in the practice of his profession,*  
*subject to the conditions prescribed by law.*



*Given under the hand of the*  
*Seal of the Board at the Capitol in the*  
*City of Charleston,*  
*This 28th day of May*  
*in the year of our Lord 2013*  
*and of the State*  
*the One Hundred Forty-Ninth*

Members of the Board

*James D. Timms, Jr.* *Richard E. Dignall*  
*Blayne S. Saluja* *William E. Nielsen*

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C. **Project Organization**

CJL will take the following approach with respect to these HVAC Renovations:

CJL Engineering has considerable experience in commercial building design, including state-of-the-art facilities. This experience enables us to help clients in incorporating best practices, anticipating future requirements, establishing priorities, evaluating technical issues and avoiding MEP system problems.

- Experienced Leadership - CJL has a significant track record of successful projects and long term clients. We pride ourselves on client satisfaction and quality engineering. John Wilhelm, President of CJL Engineering, and Alan Traugott, one of the Managing Principals, both carry the experience and perspectives of a major global engineering firm. They have brought the best “lessons learned” from that experience to the benefit of CJL’s clients. Mr. Traugott also has substantial experience with environmentally responsible or “green” projects. He is a founding member of the USGBC.
- Experienced Engineering Team - The proper balance between design and cost is integral to CJL Engineering's approach to good engineering. As your engineer, it is our responsibility to develop a comprehensive, efficient, and reliable design for the MEP systems at a cost that is both reasonable and in line with the project budget. We accomplish this through substantial involvement by our most experienced engineers, including those who participate in the QA process. Our experience enables us to get right to the heart of issues early on in the project design process, when decisions can be made most cost effectively.

The same engineers that developed the design will remain involved through the completion of the project, insuring continuity and the benefits of experience in the construction of the project. The Senior Engineers spend time in the field working with the construction team to resolve any issues, thereby creating a better understanding of the design intent and a less adversarial relationship between the engineers and the contractors. This will enable CJL Engineering to identify and resolve problems encountered during construction more effectively.

- Communication - One of CJL Engineering’s fundamental working philosophies is a strong emphasis on interaction with the Owner, Architects, Construction Manager and other professionals on the design team from the onset of the project. This helps to integrate the MEP design into the beginning phases of the project design. CJL Engineering’s Principals and Senior Staff represent the firm at all meetings, and prepare and review all communications. We work hard to be responsive and timely in our communications.

CJL is used to working in a collaborative fashion. We listen well to the client and team members in order to understand the project needs and the client's wishes or concerns. Our green background particularly emphasizes collaboration, partnering charrettes, and integrated design, so we are very open to good ideas, no matter who on the team may suggest them.

- Quality Documents - The high quality of our documents also results in a fewer problems during the construction process and a more effective relationship with contractors.

Our firm strongly emphasizes thorough documentation and the issuance of written communications throughout the project, including MEP minutes of meetings to supplement those of the Architect. Project documentation is rigorously maintained in a project manual, including reports, calculations, correspondence, punch lists, and utility coordination. This process ensures maximum clarity of engineering concepts and design decisions.

- Ongoing Value Engineering - Our engineering team members plan, develop, evaluate, analyze, and value engineer throughout each phase of the project, while coordinating with the client, the project team, appropriate agencies, and utilities at each step. The resulting design decisions are documented in the project team minutes of meeting, in CJL reports, and our drawings. Through this process, project changes are minimized. We consider this to be true "value engineering", allowing our clients to make informed decisions during each design stage, while the opportunity to influence project direction still exists. The Value Engineering process, when done effectively and in collaboration with the construction team, also results in a better understanding of the design intent on the part of the construction team. This further reduces misunderstandings and construction problems in the field.

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**D. Demonstrated Experience in Completing Similar Projects of Size and Scope**

In addition to the information provided below, project pages for each project mentioned is included.

**Carnegie Museum of Natural History**

Location: Pittsburgh, PA

Project Manager: James Vizzini, PE;  
CJL Engineering  
232 Horner Street  
Johnstown, PA 15902  
814-536-1651  
[jvizzini@cjlengineering.com](mailto:jvizzini@cjlengineering.com)

Type of Project: Central Air Conditioning Plant and Building Chilled Water/Controls Upgrade

Project Goals and Objectives: Develop a much more efficient and reliable air conditioning system to better satisfy the Museum's cooling and humidity control needs. Implement the project while maintaining full building operation/occupation.

How Goals/Objectives were met: Since there were no as-built drawings for this 120 year old facility, the project started out with multiple survey teams traversing the entire complex. The purpose of the survey was to develop a single line set of plans that accurately reflected the installed chilled water piping system and equipment. From these accurate plans, a strategy for valving and tie-ins was worked out that allowed for major installation and renovation work to commence while the Museum remained fully online.

The surveys also uncovered incorrect piping arrangements that had been functioning to the detriment of maintaining space temperature and humidity. These also had as an end result that more chilling capacity was always generated thereby increasing electricity usage and cost, but with no tangible beneficial result.

Detailed design and thorough outline of work scope allowed for the successful installation contractor to expand on the schedule and to perform all the work as anticipated by the engineers. This turned out to be most beneficial to the Museum as during the first few months of the project, maintaining temperature and humidity with the old chillers off line was of paramount importance. This was due to a sharing with the Smithsonian of one of Vincent Van Gogh's last paintings. Conservatively estimated at \$45 million, the protection of this one of kind exhibit was at the forefront of most discussions.

CJL also assisted in the startup operation and commissioning of the plant. Operation was confirmed and when the first stretch of hot/humid weather came around, we received numerous notes of thanks as to the improved indoor environmental conditions.

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**Duquesne University Energy Center**

Location: Pittsburgh, PA

Project Manager: James Vizzini, PE;  
CJL Engineering  
232 Horner Street  
Johnstown, PA 15902  
814-536-1651  
[jvizzini@cjlengineering.com](mailto:jvizzini@cjlengineering.com)

Type of Project: Energy Center Master Plan

Project Goals and Objectives: Replace aging and undersized cooling towers along with increasing Chilled Water Plant capacity all the while maintaining plant operations.

How Goals/Objectives were met: This project was tasked with building up a new main Energy Center cooling tower array at a location removed from the existing towers. Plant shutdowns had to be kept to a minimum. These were usually at night for piping tie-ins, drain downs and the like. New tower array then had to be actively commissioned and proven to function as designed before allowing for the switchover. Reason for such a priority is that the cooling towers also provide process water cooling for the University's 5MW gas-fired turbine that generates most of the electricity for the campus.

Final design allowed for simultaneous generation of two temperatures of condenser water so that both the absorption steam and the electrical centrifugal chillers can be operated in tandem.

Phase 2 was the installation of a new 1,890 ton electric centrifugal chiller to improve both plant capacity and efficiency under all load conditions. With the piping tap in locations and isolation valves installed during the first phase work, the installation of this machine (Chiller #6) was accomplished with no downtime to the plant.

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**Financial Institution Main Data Center**

Location: Pittsburgh

Project Manager: James Vizzini, PE  
CJL Engineering  
232 Horner Street  
Johnstown, PA 15902  
814-536-1651  
[jvizzini@cjlengineering.com](mailto:jvizzini@cjlengineering.com)

Type of Project: Chilled Water Plant Construction

Project Goals and Objectives: Develop a much more efficient and reliable air conditioning system to better satisfy the Facility's cooling and humidity control needs. Implement the project while maintaining full building operation/occupation. Full load commissioning prior to "spin in" of new plant.

How Goals/Objectives were met: To meet the challenge of constructing the new Chilled Water Plant while maintaining existing plant operations, CJL designed a parallel cooling plant. Once installed, the new plant was actively commissioned, under false loading from rental boilers. Commissioning was a two-month process to account for every possible failure scenario.

A seamless eight-step "spin-in" sequence was developed to allow for the new 2,100-ton cooling plant to be brought online while disconnecting the original plant.

CJL was physically involved with the scheduling of operations at numerous switch-over valve locations to effect this transition of plants.

## Chilled Water Plant Upgrade Carnegie Museum of Natural History Pittsburgh, PA



### **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 Engineering Survey and 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 are well past their expected life cycle) using new energy efficient equipment
- Additionally, the Museum is currently served with high-pressure (175#) steam from the Bellefield Plant, which serves the greater Oakland area (Pitt/CMU/UPMC). 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 an estimated cost of \$5M dollars
- Energy reductions to the plant were modeled and signed-off on by a third party, allowing for the Museum to receive an Act 129 Energy Rebate from Duquesne Light in the amount of \$124,000

## Chilled Water Plant Upgrade Carnegie Museum of Natural History Pittsburgh, PA

(Page 2)



### **CJL Engineering Design Solutions included the following Energy Savings Enhancements:**

- Removal of counter-productive chilled water return by-pass line
- 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

**Contact:** John Lyon, Manager, Maintenance and Operations  
Carnegie Museums of Pittsburgh (Four distinctive museums)  
4400 Forbes Avenue, Pittsburgh, PA 15213  
**Tel.** (412) 622-3346  
**Email:** [lvoni@cameqiemuseums.org](mailto:lvoni@cameqiemuseums.org)

## Energy Center Master Plan

Duquesne University  
Pittsburgh, PA



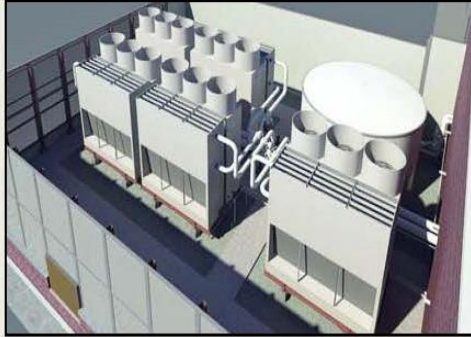
### **The Project:**

CJL Engineering was hired by Duquesne University as the Professional to provide a Master Plan to evaluate its existing Energy Center. The project consisted of a review of the existing energy center to house the new condenser water equipment and electrical panels. The project was phased to allow the existing cooling towers to remain operational while the new condenser water system is being installed. The chillers will be able to be individually phased over to the new condenser water system. The field fabricated cooling towers were designed to provide the University the flexibility to expand in the future when the cooling load increases.

### **CJL Engineering Design Solutions:**

- 5,240 Ton capacity with combined absorption and centrifugal chillers
- 1,440-ton electric centrifugal chiller with the capability to generate ice for thermal storage via 28 ice storage modules
- The absorption chillers take advantage of “free” steam generated by turbine waste heat and the Heat Recovery System
- Two main chilled water distribution loops: the Main Campus Loop and the Viceroy Hall Loop
- 9,000-ton capacity field fabricated cooling towers on top of the campus’ Forbes Parking Garage with the ability to expand to 12,500-tons
- Ice Storage modules are charged overnight when energy costs are lower, and then provide an additional 1,000-tons of cooling for approximately a five hour peak demand period during the day

## Existing Data Center New Central Plant Pittsburgh, PA



### **The Project:**

The new \$18 million, 12,000 sq. ft. Central Plant for an existing Data Center in Pittsburgh, PA is located adjacent to the existing facility. The Central Plant replaced an existing system and reduced mechanical energy usage by 50 percent.

### **CJL Engineering Solutions:**

- The Central Plant was built for uninterrupted reliability including 2N utility power sources, automatic and manual transfer switches for mechanical equipment, variable primary pumping and N+2 redundancy for mechanical equipment
- Commissioning
- A 60,000 gallon thermal energy storage tank was designed to provide 15 minutes of ride through chilled water capacity
- Plant can be operated through BAS system or run locally through distributed manual control panels
- Full responsibility and coordination of "hot" cut-in of new system while taking old system offline
- The Data Center cooling load heat rejection will also be recovered and used for sidewalk snow melt
- Ability for future expansion of M/E systems
- Temporary connections for emergency generator or portable chillers



**ADDENDUM ACKNOWLEDGEMENT FORM**  
**SOLICITATION NO.: GSD1600000005**

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

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

**Addendum Numbers Received:**


(Check the box next to each addendum received)

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

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

CSL Engineering

Company

  
Authorized Signature

November 11, 2011

Date

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

Revised 6/8/2012

### CERTIFICATION AND SIGNATURE PAGE

By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation in its entirety; understand the requirements, terms and conditions, and other information contained 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.

CJL Engineering

(Company)

[Signature]

(Authorized Signature) (Representative Name, Title)

814-536-1651 / 814-536-5732 / 12 Nov 2015

(Phone Number) (Fax Number) (Date)

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

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

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

**DEFINITIONS:**

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

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

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

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

**WITNESS THE FOLLOWING SIGNATURE:**Vendor's Name: CJL ENGINEERINGAuthorized Signature: *James M. Vezini* Date: 11-12-2015State of PennsylvaniaCounty of Cambria, to-wit:Taken, subscribed, and sworn to before me this 12<sup>th</sup> day of November, 2015.My Commission expires Sept. 26, 2019.

AFFIX SEAL HERE

COMMONWEALTH OF PENNSYLVANIA  
NOTARIAL SEAL  
June J. Furman-Janakovic, Notary Public  
City of Johnstown, Cambria County  
My Commission Expires Sept. 26, 2019  
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

NOTARY PUBLIC

*June J. Furman-Janakovic*  
Purchasing Affidavit (Revised 07/01/2012)