PROFESSIONAL SERVICES CAPABILITY STATEMENT

UEID DBH6LKGE3WV6 / CAGE 8KAL2

Veteran Owned Company

OUR MISSION: To provide our clients positive, strategic, innovative solutions in an open and professional environment while advancing the overall wellness of our employees.

COMPANY OVERVIEW

Innleadair is a VOSB / MBE / DBE Certified Engineering firm providing Electrical Engineering and Engineering Consulting Services for State & Local governmental agencies. Experience includes:

- Power generation modification design & engineering support (nuclear, fossil & solar)
- Electrical distribution design for Industrial & Commercial electrical systems
- Data Centers
- Electrical Studies (load flow, arc flash and protective fault coordination
- Electrical systems of large pump / lift stations (Infrastructure)
- Transportation sector roadway lighting & Intelligent Transportation Systems (ITS).

Professional Engineers

Our staff are registered and licensed in multiple states: AL, AZ, CA, CO, IL, MA, MD, NC, NM, NY, SC, TX, WI

NAICS CODES

Innleadair provides services under the following codes:

North American Industry Classification System Codes (NAICS)

541330	Engineering Services / Engineering Consulting Services
221111	Electric Power Generation
221122	Electric Power Distribution

Standard Industrial Classification (SIC)

8711	Engineering Services

Product and Services Codes (PSC)

C211	Engineering - General Services
C213	Engineering - Inspection Services
C222	Engineering - Electrical Systems
K059	Modification of Electrical and Electronic Equipment

QUALITY COMMITMENT

Innleadair is committed to providing quality engineering and technical solutions that manage change and adversity in an ethical manner.

BACKGROUND

Founded in 2017 as a veteran-owned engineering firm, Innleadair provides expertise in Electrical Engineering to their clients serving the private and public sectors.

EXPERIENCE

Arc Flash

Since 2017, performed 50 DC Arc Flash projects for multiple integrators and various companies using Battery Energy Storage System units to store electricity.

Illinois Capital Development Board (CDB)

- 321-000-095 Provided electrical engineering support for assessments, guidance and design services for the implementation of medial isolation spaces for the Illinois CDB and the Illinois Department of Human Services to accept Covid-19 patients.
- 546-035-007 Provided electrical engineering design services for the Schematic Design of the Marion National Guard Post. Awaiting commencement of the Detailed Design portion of the project.
- 630-012-004 Design Building electrical engineering design services for a new Salt Storage Facility.
- 125-110-015 Providing electrical construction administration services to the Illinois Youth Center High Mast Lighting upgrade project.
- 810-012-009 Electrical engineering design support services for the replacement of the fire alarm system at Kennedy-King college (awarded – awaiting kickoff).
- 630-000-271 Support the demo and construction of two new heated pole buildings for IDOT.
- 291-222-010 Electrical engineering design of a new Canine training facility and Kennel for the Illinois State Police (awarded – awaiting kickoff).

Illinois Department of Transportation (IDOT)

- P-98-009-22 Providing independent QA reviews of various IDOT lighting & ITS projects (Region 5 / District 8).

Illinois State Toll Highway Authority (ISTHA)

- I-20-4531 Provide ITS Design Upon Request orders on I-294 (awarded – awaiting kickoff).
- I-21-4812 Provide Electrical Design Engineering to upgrade 2 toll plazas.
- I-21-4599 Provide ITS Design Services (awarded – awaiting kickoff).
- I-21-4802 Provide Electrical Engineering on IL-390 to support the design to rehabilitation of electrical systems along the corridor.
- I-21-4804 Provide Electrical Design Engineering to upgrade 5 toll plazas.

Illinois University System

- PSSU20029 Electrical engineering design services for UIUC's Illinois Autonomous and Connected Track (I-ACT) project.
- PSS600-C21014 Retainer to support elevator repair services.
- PSS600-C21015 Electrical Commissioning Administrative (CA) services at UIC.

Water Reclamation

- Provided new PLC based system to operate the rehabilitated MWRD Melas Centennial Fountain.
- Performing AC power system studies (short circuit, breaker coordination and arc flash) for a confidential client.

COMPANY INFORMATION

UEID: DBH6LKGE3WV6
CAGE CODE: 8KAL2
SET ASIDES: Minority Business Enterprise, Disadvantaged Business Enterprise, Veteran Owned Small Business

Innleadair ENGINEERED SOLUTIONS LLC

Veteran Owned Company

Peter Stephenson
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Rolling Meadows, IL 60008

Innleadair's Transportation Experience includes:

- ISTHA Project I-20-4531: Tri-State Tollway, Construction Management Services Upon Request (ITS Services). Awarded and waiting for assignment from the prime.
- ISTHA Project I-21-4812: Tri-State Rollway, Design Services Upon Request; On-call and as-needed Phase II Engineering Services. Task Orders 2 & 3, Innleadair provided support to the prime for surface pavement and markings; Task Order 5, Innleadair provided Plaza 34B conversions to the new IPDC Open Road Tolling (ORT) style plaza and completed the proposed Plaza 36A ORT design.
- ISHTA Project RR-21-4599: Systemwide, Intelligent Transportation Systems (ITS) Design Services Upon Request; On-call and as-needed Phase II Engineering Services. Awarded and waiting for assignment from the prime.
- ISHTA Project RR-21-4802: IL 390, Pavement and Structural Preservation and Rehabilitation, MP 6 to MP 12, Phase II Engineering Services. Innleadair is providing electrical engineering design support for lighting, ITS and utility coordination. This project is on hold at the 60% submittal while the Tollway converts this project to a Design-Build project.
- ISHTA Project RR-21-4804: Systemwide, Facilities, Phase I and II Engineering Services. Innleadair is providing electrical and mechanical engineering design to modernize 5 existing toll plazas to the new IPDC ORT style Plazas.
- ISHTA Project RR-21-9245R: Systemwide, ITS Deployment and System Management. Innleadair will be providing engineering support for maintenance and repair program through a field maintenance contract. This contract is still in the negotiation phase.
- Innleadair contracts directly for the Vehicle Arresting Barrier (VAB) manufacturer to provide electrical engineering services support. Work includes design adjustments to meet state DOT design requirements. Innleadair provides Intelligent Transportation System (ITS) coordination for the awarded system integrator. Scopes vary based on state DOT requirements, climate specifications, CCTV, sensor outputs and ITS requirements. Projects currently in progress or starting include:
  - I-90/94 Kennedy Expressway VAB for IDOT
  - I-30/35 TEXpress Reversible Managed HOV Lane Safety Gate System for TXDOT
  - I-17 Flex lanes VAB for ADOT
  - I-495 Capital Beltway, Woodrow Wilson Bridge VAB on the MDOT-SHA

Innleadair's Staff Previous Experience includes:

- INFRASTRUCTURE: Electrical design for various forced main lift stations and large dewatering stations for:
  - Illinois Department of Transportation: US 41 at Deerpath Road Pump Station 38 (Project 62B65) - Electrical Engineer - Responsible for electrical and I&C portion of engineering services for the Pump Station 38 relocation and design in Lake Forest, Illinois. The new pump station and related drainage improvements will address significant historical flooding of the U.S. Route 41 underpass with Deerpath Road. The project will include extensive storm sewer and storm water detention improvements that will protect against underpass flooding.
  - Cook County Department of Transportation and Highways: Touhy Avenue (IL 72) from Elmhurst Road to Mount Prospect Road (Project 15-34117-01-RP) - Electrical Engineer - Responsible for electrical engineering services for the design. This is a major piece of the Elgin O'Hare Western Access program and the largest single roadway design project ever undertaken by the Cook County Department of Transportation and Highways. Scope of work included a sanitary lift station.

- Centennial Fountain Rehabilitation for the Metropolitan Water Reclamation District of Greater Chicago (MWRD): Innleadair's scope of work included the lighting upgrades with new energy efficient fixtures, new CCTV camera system and new fiber communications. The largest portion of the work was to provide a complete redesign of the monitoring and controls system of the fountain which included layout, I/O and control strategy. The existing flood damaged relay control system was removed and replaced with a new Allen Bradley PLC system. This new PLC is designed with the new fiber communications capacity so that the system can be remotely monitored and operated by the MWRD's System Dispatcher's Waterways Control Room.

- TRANSPORTATION
  - Illinois Department of Transportation
    - Des Plaines River Road, US 12 to Devon Avenue (Project 62267) – Provided Phase II engineering services for improvements to Des Plaines River Road from US 12 (Rand Road) to Devon Avenue. Overall work scope consisted of preparing plans, specifications, and estimates for the reconstruction and widening of the Des Plaines River Road, and included survey, geotechnical borings, preparing TS&L plans, completing and updating existing, partially complete design plans, and finishing the contract plans. The improvement provided traffic signal modernization, an enclosed drainage system, retaining walls, culverts, modifications to existing lighting, and other incidental work required to complete the Phase II contract plans. Mr. Stephenson provided QA/QC review and worked closely with the MWRDGC regarding their deep tunnel system as well as with the Department of Homeland Security and Cook County OMEC's camera systems.
    - I-55 at Weber Road (Project 60X10) – Electrical Engineer – Responsible for electrical engineering services for the improvement of Weber Road from south of Normantown Road to north of Rodeo Drive / Remington Boulevard. Continuous proposed roadway lighting, including high-mast lighting at the interchange, is included in the project. Mr. Stephenson provided QA/QC review for the electrical component of the IDOT I-55 at Weber Road project.

  - Illinois State Toll Highway Authority
    - DSE (Design Section Engineer)
      - Elgin O'Hare Western Access (Project I-11-4014) – Electrical Engineer - Responsible for providing sub-consultant services to CH2M for Design Corridor Management (DCM) and contract PS&E preparation. Project consisted of constructing a new, all-electronic toll road around the western border of O'Hare Airport linking the Jane Addams Memorial Tollway (I-90) and the Tri-State Tollway (I-294), as well as extending the Elgin O'Hare Expressway east along Thorndale Avenue to O'Hare. Major elements of this multi-billion-dollar endeavor included lane additions, numerous interchange improvements, multiple new interchanges, new toll roads, toll road conversions and extensions, new ramps, and a new four-lane connector. Mr. Stephenson provided QA/QC review for the project lighting and Toll Plaza electrical system.
      - Tri-State Pavement (Project RR-16-4277) – Project Engineer for Lighting Design - Performed field inspection of all ITS and lighting equipment within the project limits to assess the condition and verify compliance with current Tollway standards. Prepared a concept report on the field inspection findings with recommendations on ITS and lighting improvements. Prepared plans, specifications and estimates for the lighting and ITS disciplines. The lighting work included switching out existing luminaries with LED luminaries, control cabinet improvements, relocating light poles, inspection of light poles, miscellaneous light pole repairs, and installation of mast arm cable assemblies. The ITS work included replacing an existing DMS with a proposed DMS on an existing truss, replacing existing analog CCTV cameras with proposed digital CCTV cameras, improvement to the CCTV control cabinets, and replacing and re-aiming MVDS detectors.

- DCM (Design Corridor Manager) Team Member
  - Subconsultant to Jacobs Engineering Group performing independent reviews of over 50 construction contracts for Lighting and ITS portions of the project on the I-490 corridor.

- GEC (General Engineering Consultant) Team Member
  - Subconsultant to WSP - The Tollway is required to retain an Engineering Consultant to ensure the Tollway system facilities are in good condition, the existing system is maintained and conditions are reported to the Tollway stake holders annually. Performed over 2 years of facility inspections and ensuring accurate conditions are entered into the Tollway's Cartegraph database system. Inspections include generating tasks for conditions that need repair or maintenance. Work also includes independent plan reviews and pre-acceptance site reviews of all new facilities prior to turnover to the Tollway.
  - Design Upon Request Task (Project I-16-4264) - Designed the security camera and the emergency help call station systems for the Park N Ride facility at I-90 and Barrington Road.

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Relevant Project Experience

Title & Location: Vehicle Arresting Barriers Support, Various
Professional Services: Since 2022 to present
Construction (if applicable): Various
Project Owner: Various state Department of Transportations (DOT)
Project Budget: Varies

Innleadair works directly for a Vehicle Arresting Barriers (VAB) manufacturer to provide electrical engineering services support. The manufacturer has a base design that requires engineering design adjustments to meet local site requirements. Innleadair provides support for CCTV, sensor interfaces, ITS requirements as well as coordination with the awarded project system integrator.

Projects currently in progress include:

- I-90/94 Kennedy Expressway VAB for Illinois DOT
- I-30/35 TEXpress Reversible Managed HOV Lane Safety Gate System for Texas DOT
- I-17 Flex lanes VAB for Arizona DOT
- I-495 Capital Beltway, Woodrow Wilson Bridge VAB on the Maryland DOT-SHA

Relevant Project Experience

Albuquerque Air Tanker Base Upgrades Phase 2 – ABQ, NM
Address: Kirtland AFB Albuquerque, NM 87123
Professional Services: 2019
Construction (if applicable): 2019 - 2020
Contract number: 12837119R4002 (www.sam.gov)

The prime consultant was awarded a project to update the base's infrastructure to accommodate new fire-fighting capabilities. New "PHOS CHEK" tanks and pumping system was installed to assist the National Park Service firefighting crews spread fire retardant as needed. The scope of work included the Electrical Engineering Design that:

- Replaced the aging electrical distribution sectionalizer Z05253 with a new S&C pad-mounted, 4-way switch for the base's 112.5 KV ring
- Designed 2 new transformers to support pumping PHOS CHEK onto firefighting planes
- Design of new electrical distribution to support a new building and the PHOS CHEK pumping system area.

Innleadair LLC was brought onto the project for independent QA/QC reviews of the electrical portion of the project.

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Relevant Project Experience

DC System Studies

Since 2018, Innleadair has been providing electrical engineering consultant services to solar site integrators by providing DC Arc Flash system studies and UV labels for projects.

To date, 50 studies totaling 600 MWh of power have been completed. Several projects required DC Load Flow, short-circuit, and protective device coordination.

State	Sites	MWh
California	2	352.0
Massachusetts	31	159.8
Maryland	4	10.0
New York	11	63.5
North Carolina	1	3.9
Ontario	1	10.0

Battery Energy Storage system at UMass Amherst (additional data)

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Relevant Project Experience

Project 321-000-095 Create spaces to receive Covid-19 patients
Project Sites:

- Shapiro – Kankakee, IL
- Ludeman – Park Forest, IL

Professional Services: 2020
Construction: 2020

Emergency Purchase Statement/Notice of Award was awarded to the Prime Consultant by the Illinois Capital Development Board (CDB). To support the end user agency, Illinois Department of Human Services (IDHS), in being able to receive mental health treatment who might be diagnosed with Covid-19, the IDHS requested emergency services from CDB to assess and renovate space in buildings at the Ludeman Developmental Center and Building 603 at Shapiro Developmental Center for Isolation rooms.

Innleadair provided electrical engineering support for assessments, guidance and design services for the implementation of the needed medical isolation spaces for both sites.

For Ludeman: Medium voltage transformers were installed to provide additional power as the building's existing electrical configuration could not support the new HVAC equipment for COVID isolation. To protect against power outages to the medical isolation equipment, natural gas driven emergency generators were installed at the 5 buildings of the project. Each of these buildings will now have 3 power supplies (existing building loads, new HVAC system, and the emergency backup system for the HVAC system).

For Shapiro: An evaluation was performed to the electrical systems of a building that was not in use for years. Reviewed the plans to demo all existing wiring and install all new wiring.

Staff submitted daily CDB observational reports for each site to the prime consultant.

Innleadair ENGINEERED SOLUTIONS LLC

Relevant Project Experience

Title & Location: Marion National Guard Post – Marion, IL
Address: 11427 Reveille Rd, Marion, IL 62959
Professional Services: 2019 - 2023
Construction (if applicable): 2023 - 2024
Project Owner: Illinois Capital Development Board (263/546-035-007)
Project Budget: $3.8 Million

The Illinois CDB (Capital Development Board) awarded the Prime Consultant a project to construct an addition to the Marion National Guard post to support the Illinois Department of Military Affairs (DMA). Innleadair was selected as the electrical subconsultant providing the electrical engineering design for this project.

The scope of work provides for constructing an addition to the Marion Readiness Center (~8,000 total square feet), including a locker room, bathrooms, secured storage area with vault, administration area and POV parking. The A/E will ensure that the new addition meets all ATFP requirements and criteria and the National Guard Bureau regulations and design guideline.

In addition to the lighting (interior and exterior), parking lot lighting, power distribution; Innleadair is also providing new incoming service feed and updated power distribution, lighting, EV chargers, low voltage (network, security and communications) design services.

The project includes a Build Alternative for a proposed backup generator should the using agency desire to include this option.

The project is near completion of the Detailed Development phase. The bidding and construction management phase portions of the project remain.

The project is to be designed / specified to meet LEED silver certification.

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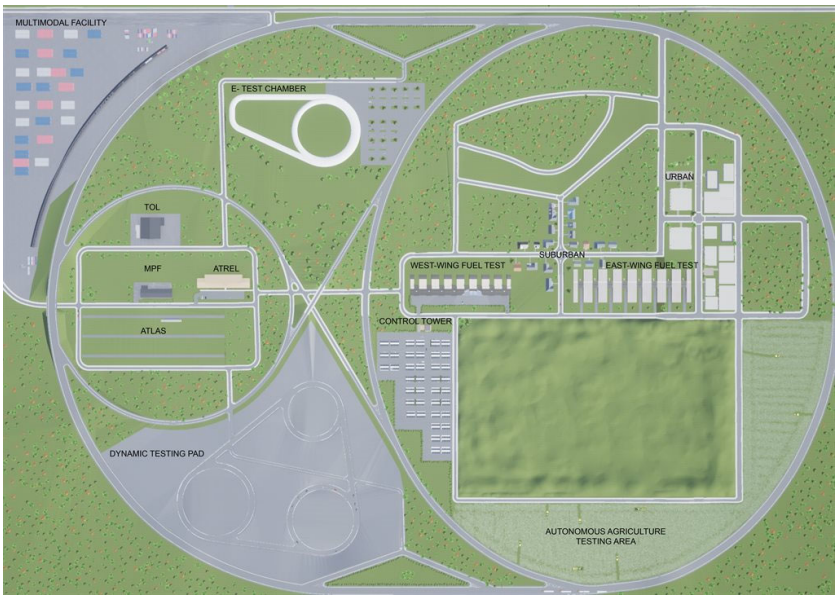
Relevant Project Experience

Title & Location: UIUC Illinois Autonomous and Connected Track (I-ACT), Rantoul Illinois
Professional Services: 2021 - present
Construction (if applicable): TBD
Project Owner: Illinois Procurement Gateway QBS #PSS20029
Project Budget: $ 30,000,000.00
UIUC Website: https://ict.illinois.edu/i-act



The Prime Consultant was awarded the lead Professional Service Consultant (PSC) the Illinois Autonomous and Connected Track (I-ACT) project. The goal of this project is to site I-ACT mainly on the former Chanute Air Force Base (CAFB) in Rantoul, Illinois while identifying adjacent lands for procurement to complete a world-class facility to demonstrate, research and evaluate autonomous and connected transportation systems. The capabilities of I-ACT will include a robust network of laboratories, autonomous multi-modal operations, freight autonomous high-speed test loops, urban and metropolitan road courses, urban-rural boundary road courses, autonomous agricultural activities and an interstate corridor to create a setting for development and evaluation of the next-generation technologies for nationally automated freight, passenger, and agricultural systems.

The system is observed by the Computing and Operational (CCO) support building. This approximately 10,000+/- SF building will house the data communication, collection and computing equipment, provide limited office space and an observation/command deck (third floor 360 windowed space) that would double as a conference room.

The project includes a separate building to house automobile and truck servicing, maintenance, and instrumentation areas. This building's design includes the ability to service standard cars (internal combustion engines) as well as electric vehicles (EV), Hydrogen and Natural Gas vehicles.

The project's intent is for the facility to be design with the goal of becoming a LEED Silver or better certified facility v4 for New Construction & Major Renovation.

Innleadair is the subconsultant providing the electrical design for the following systems:

- Electrical distribution for the site including buildings and roadways
- Solar collectors and battery storage
- Roadway lighting for the automated track and access roads for staff/students
- Atmospheric monitoring systems for the vehicle servicing building

Relevant Project Experience

- Datacenter electrical design, including
  - Backup generators
  - UPS batteries
  - Electrical supplies to HVAC equipment
- Security systems
  - Access control
  - Security cameras
  - Emergency assistance call stations
- Communications
  - Fiber optic system around the test track
  - Fiber optic system connecting the remote UIUC Rantoul campus to the main campus in Champaign-Urbana
- Condition / weather monitoring systems
- Digital signage around the test track
- Camera systems around the track
- LEEDS consideration and design for electrical systems

The project has just completed the Program Analysis phase at the 10% project mark. UIUC is currently reviewing the submitted report. The next stage of the project is the Schematic Design phase.

https://www.youtube.com/watch?v=n0u1uulDDNc

Innleadair ENGINEERED SOLUTIONS LLC

Relevant Project Experience

Title & Location: Construct Salt Storage Facility IDOT, Grayslake, Illinois
Address: 219 Barron Blvd, Grayslake, IL 60030
Professional Services: 2021 - Ongoing
Construction (if applicable): To be completed in 2022
Project Owner: Illinois Capital Development Board (630-012-004)
Project Type: Design-Build
Project Budget: $1,946,500

The CDB awarded the Prime Contractor a project to design-build a salt storage barn. Innleadair LLC was brought onto the project to provide electrical engineering for the salt storage building.

Innleadair provided the electrical design to support the demo of the existing circular salt dome the new electrical design including CO/NO_2 interlocks for ventilation controls of the new salt barn.

In addition to the Grayslake storage facility, the electrical staff also designed the Ashkum salt storage facility for IDOT (second of its kind). Other salt storage experience includes multiple years of salt storage facility inspections for the Illinois Tollway.

Innleadair ENGINEERED SOLUTIONS LLC

Relevant Project Experience

Title & Location: UIC Bone Marrow Unit, Chicago, IL
Professional Services: 2022
Construction (if applicable): 2022
Project Owner: Illinois Procurement Gateway QBS #PSS600-C21015

Burns & McDonnell was awarded a retainer to provide professional services, concentrating on commissioning services for building systems being remodeled and new building projects. One of the task orders awarded; the University of Illinois Chicago is undertaking the replacement of the air handling systems serving the Bone Marrow Unit. This includes replacement of the air handling unit, exhaust fans and coil pumps.

Innleadair is the subconsultant providing independent electrical engineering peer design reviews of the CD documents and bid documents.

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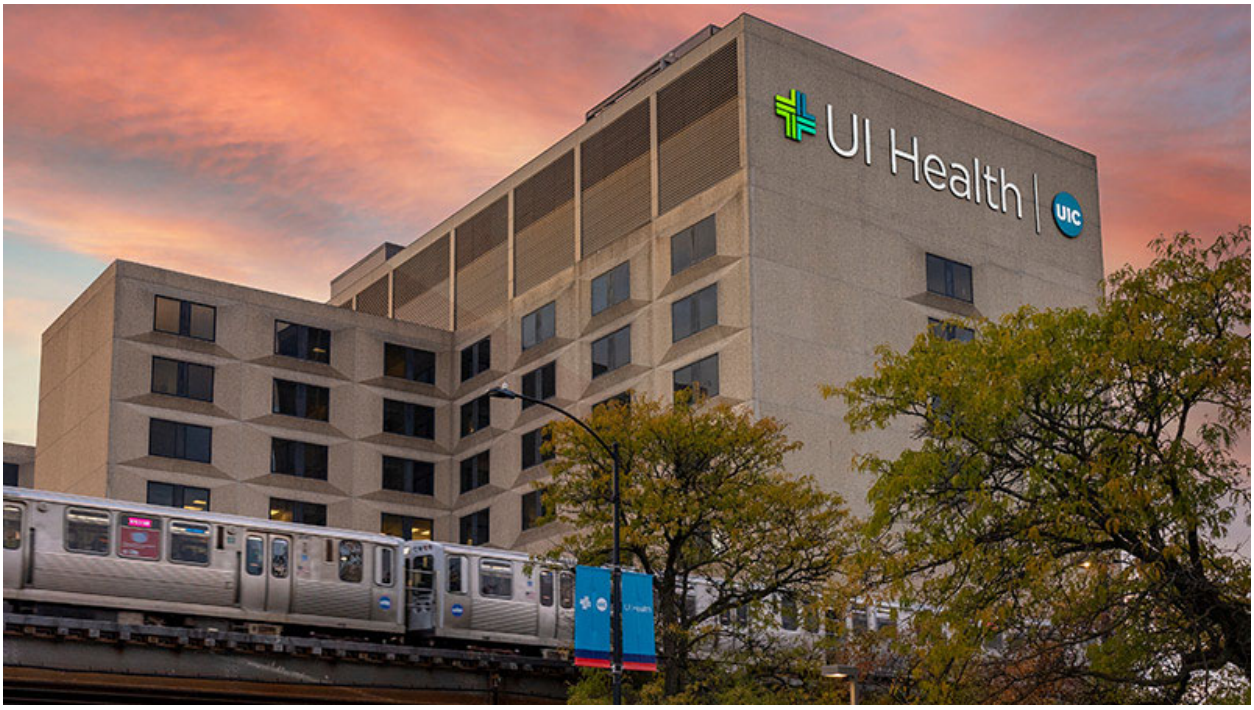
Innleadair ENGINEERED SOLUTIONS LLC

Relevant Project Experience

Title & Location: University of Illinois Health, Chicago, Illinois
Address: 1740 W Taylor St, Chicago, IL 60612
Professional Services: 2022
Construction (if applicable): 2022
Project Owner: Illinois Procurement Gateway QBS #PSS600-C21015
Project Type: Design-Bid-Build

The prime consultant was awarded a retainer to provide professional services, concentrating on commissioning services for building systems being remodeled and new building projects. One of the task orders awarded; The University of Illinois Chicago/University of Illinois Health is undertaking the replacement of air handling units S4 and S10 in the University of Illinois Hospital located in the 9th floor penthouse. AHU-S4 (serves east core) and AHU-S10 (serves east concourse and first floor areas). This includes replacement of the air handling unit and associated exhaust fans.

Innleadair is the subconsultant providing independent electrical engineering peer design reviews of the CD and DD documents.



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Relevant Project Experience

Title & Locations:

- Galva Team Section Headquarters – Galva, Henry County, IL
- Lynn Center Team Section Headquarters – Lynn Center, Henry County, IL

Professional Services: 2022 - 2023
Construction (if applicable): 2023 - 2024
Project Owner: Illinois Capital Development Board (630-000-271)
Project Budget: $1.3 Million

The IL CDB awarded the Prime Consultant a project to:

- Galva: Demolish the existing material building and construct a new 5,000 sf heated pole building with overhead doors, man doors, building heating and electrical for exterior and interior lighting.
- Lynn Center: Construction of a new 6,000 sf heated pole building with overhead doors, man doors and electrical for exterior and interior lighting.

Innleadair is providing the electrical engineering design for both sites of the project.

Existing material building at Galva

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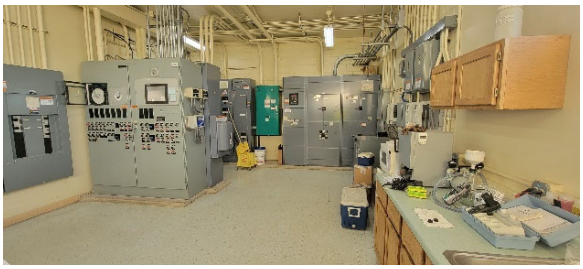
Relevant Project Experience

Arbury Water Reclamation Facility – Mokena, IL
Address: 9471 W La Porte Rd, Mokena, IL 60423
Professional Services: 2021-2022
Construction: 2022
Project Budget: $2 Million



Illinois American Water Company (ILAWC) operates the Arbury Water Reclamation Facility (WRF) in Mokena, IL. Since the original installations, the electrical system has become increasingly difficult to operate and maintain. This has included issues with underground electrical infrastructure and above grade outdoor electrical equipment. The deterioration of the electrical system has required emergency conductor splices and replacements to maintain operation. The outdoor electrical equipment and underground distribution system at the WRF are in poor condition and are in need of replacement to maintain the long-term reliability of the power supply for the WRF.

This project will design and construct the recommended improvements from that study including:

- New main disconnecting means for Main Switchboard MSDS-1
- Replace all outdoor electrical equipment with new stainless-steel mounting and equipment enclosures
- Replace entire underground distribution system with new concrete encased ductbank system
- New surge protective devices throughout the WRF
- New lightning protection systems at the Control Building, Filtration Building, Disinfection Building, and Blower Building
- Update the arc flash study after improvements are complete

Innleadair was brought to the project as a subconsultant provide:

- Site walkdown, data collection and modelling,
- Provide a power system studies (short circuit, breaker coordination and arc flash) summarizing findings, methodology, recommendations and deficiencies, and
- Recommendations towards the selection of the new main disconnecting means for the site.

Innleadair has been awarded a follow-on contract, for 2023, to provide a revision to the evaluation post site upgrade and to provide arc flash training for the local maintenance staff.

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Relevant Project Experience

Title & Location: MWRD Centennial Fountain Rehabilitation, Chicago IL
Address: 400 N McClurg Court, Chicago, IL 60611
Professional Services: 2022-2023
Construction (if applicable): Starting late 2023
Project Owner: Metropolitan Water Reclamation District of Greater Chicago (MWRD)
Project Budget: $2,100,000.00

In 2020, the Centennial Fountain was flooded and damaged. This project's scope of work was to provide MWRD design level detail specifications, drawings and construction estimate for the replacement and modernization of the Fountain.

Innleadair's scope of work included the lighting upgrades with new energy efficient fixtures, new CCTV camera system and new fiber communications. The largest portion of the work was to provide a complete redesign of the monitoring and controls system of the fountain which included layout, I/O and control strategy. The existing flood damaged relay control system was removed and replaced with a new Allen Bradley PLC system. This new PLC is designed with the new fiber communications capacity so that the system can be remotely monitored and operated by the MWRD's System Dispatcher's Waterways Control Room.

Innleadair ENGINEERED SOLUTIONS LLC

Relevant Project Experience

Nuclear Fire Panels - Nine Mile Point Nuclear Generating Station
Address: Oswego, NY
Professional Services: 2016
Construction: 2018
Project Owner: Exelon Nuclear

As a former employee of AECOM's nuclear engineering division, Peter Stephenson prepared seven (7) different Engineering Change Packages (ECP) who's scope was to repair Nine Mile Point Unit 1 Local Fire Panels by replacing the existing Pyrotronics System 3 components and Fire Systems Incorporated (FSI) components with a microprocessor based Siemens XLS system and other control circuit components as needed to duplicate the existing panel functions. These repairs will improve system reliability and address existing availability issues with spare parts. Existing 120 VAC Motor Operated Valves (MOVs) used for pilot service on related suppression valves will be replaced with 24 VDC Solenoid Operated Valves.

The existing cabinet shells of the LFPs were to be retained. The project gutted all terminal boards, wiring, relays, etc from the interior of the cabinet so that the new Siemens FireFinder XLS system could be installed in the existing cabinets. The nuclear plant's control room maintained remote control of certain aspects of the LFP. As part of this project, many old detectors (smoke, heat, infrared, etc) were replaced with current versions of equipment.

Innleadair ENGINEERED SOLUTIONS LLC

Relevant Project Experience

Title & Location: STREAM Data Center CHI-1 – Elk Grove Village, IL
Address: 2080 Lunt Ave, Elk Grove Village, IL 60007
Professional Services: 2017-2019
Construction (if applicable): 2018-2020
Project Owner: Critical Project Services
Project Budget: $52 Million

STREAM awarded Critical Project Services (CPS) LLC a project to convert an existing 126,000 sf warehouse into a hyperscale datacenter in Elk Grove Village, IL for a major cloud provider. The project required significant modifications to the following areas to support the conversion:

- The roof structure was redesigned to support new large, air-cooled condensing units to reject the heat from rooms.
- The significant mechanical system upgrade was required to remove the heat produced by the servers. A large infrastructure room for mechanical cooling is required to remove the heat produced and then transfer the heat via the chilled water system to the roof top air cooled condensing units
- The electrical system was upgraded to support 15 MW of critical capacity load in a 2N configuration which installed two new 34.5 KV feeds were brought from unique utility substations for a redundant power feed ring. In addition multiple 2,250 KW fuel oil generators provide backup power via Static Transfer Switches to the server loads.

As a former CPS employee, Peter Stephenson provided electrical engineering and CxA site support as the owner's representative for the data center conversion.

Project activities included:

- Independent peer review of electrical drawings (power, lighting, security) for the end client during the design phase. Interface with the Design Engineer of Record (EoR) to address CPS independent review comments and the Owner’s comments / concerns.
- Provide peer reviews of the suitability of material submittals proposed by the Electrical Contractor.
- Providing onsite observations and construction activity reports to the Owner during construction activities.
- Reporting and documentation of discovered safety violations to the Owner.
- Providing the communication conduit between the General Contractor (GC) and the Owner for issues discovered during construction.
- Independently review the Design EoR responses to RFIs (Requests for Information) during construction activities.

Relevant Project Experience

Title: Energy Performance Contracting (EPC) Project 006 (U21080)
Location: University of Illinois at Urbana-Champaign (UIUC)
Professional Services: 2022-2023
Construction (if applicable): 2023-2024
Project Budget: $223,500.00

UIUC's Facilities & Services Department awarded the Prime Consultant a project to provide energy audits of the Oak Street and North Chiller Plants to:

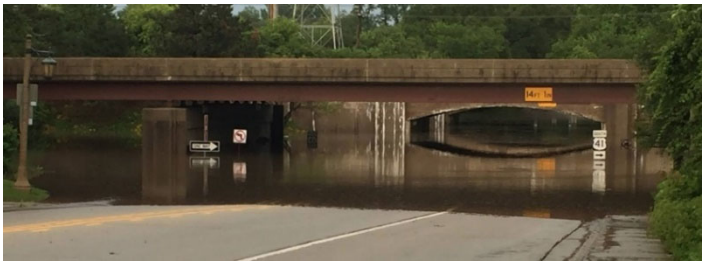
- Analyze the central chilled water plants and distribution systems,
- Provide campus chilled water system energy analysis and simulation for Excel 8760 hour-by-hour simulations,
- Provide a Basis of Design for mechanical, electrical and controls upgrades for an optimization solution,
- Provide Design and Integration to expand the existing Delta-V hardware control infrastructure.

Innleadair provided CAD support for the P&ID electrical drawings.

Innleadair LLC
ENGINEERED SOLUTIONS

Relevant Project Experience

Title & Location: IDOT Pump Station 38 – Lake Forest, IL
Address: Corner of Deerpath Road and Ahwanee Lane, Lake Forest, IL 60045
Professional Services: 2016-2019
Construction (if applicable): 2020-2023
Project Owner: Illinois Department of Transportation / Brian Kuttab
Project Budget: $12,550,000



Existing Pump Station 38 (PS-38), located under IL-41 just south of Deerfield Road was designed in the 1930s when the local area was primarily farmland. The station is no longer capable of handling water runoff during heavy rain events and coupled with neighborhood developments, this underpass has experienced periodic significant flooding events to the point where the road is unpassable. Deerpath Road bisects Lake Forest with the Police and Fire Departments on the east side of IL-41 and the local hospital on the west side of IL-41. Any emergency that requires a police or fire response when the underpass is flooded requires a detour 1.5 miles north or 1 mile south. In 2016, Illinois Department of Transportation awarded the project to Knight E/A, Inc. This scope of work is to design a new replacement pump station, water retention, overflow to the Skokie River and decommissioning of the existing inadequate Pump Station.

The design of the new Pump Station pumps water from the underpass area into a new retention pond which overflows to a second pond. The second pond releases to the Skokie River if the water level rises to a predetermined height.

The Station consists of multiple redundant main pumps with a standby pump that has an approximate capacity of 11,400 gal/min. The design includes a natural gas emergency backup generator to ensure pumps are operable during an electrical blackout. The system is designed to run autonomously and also has private connectivity so it can be remotely monitored and operated if required.

NEW Pump Station 38 MCC

https://www.cityoflakeforest.com/deerpath_41_pump_station/

At a prior firm, Peter Stephenson designed the electrical and I&C (Instrumentation & Controls) portions of PS-38. The design included backup power options, design of controls, and remote monitoring and operation functionality.

- Multiple options for power were evaluated: different ComEd feeds including different voltages, backup generators (fuel oil and natural gas).
- The I&C design calls for a new Rockwell Automation PLC system to replace the relay logic system.
- New communication capabilities were designed to include private fiber connections for future City of Lake Forest interconnection.
- Integrated security and fire systems with the PLC for alarms and reporting.