



Department of
Transportation

REQUEST FOR INFORMATION (RFI)

HAMILTON LYTTLE TUNNEL AND FORT WASHINGTON WAY PUMP STATION MONITORING, OPERATIONS, AND MAINTENANCE

State of Ohio, Department of Transportation
Jack Marchbanks, Director

Submission Deadline:

June 19, 2024, at 2:00 p.m. eastern time

Submitted by: Nichole Salyer

Name of Company/Entity Representing: Advanced Solutions & Controls

Federal Tax ID No.: 84-3498734

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Contact Information:		
Contact Person and Phone Number: (authorized to answer questions about your company's RFI)	Nichole Salyer (937) 301-0800 - Mobile/ (937) 865-2592 - Office	
E-Mail Address (required): (person who filled out RFI)	nsalyer@as-controls.com	
E-Mail Address (required): (for notification of future RFI or bid opportunities)	nsalyer@as-controls.com	
Telephone Number	800 Number	Fax Number
(937) 865-2592		

This response does include information considered a 'trade secret' (check one)	Yes	<input checked="" type="radio"/> No
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**SUBMIT ANY QUESTIONS, CLARIFICATIONS, OR INQUIRIES REGARDING THIS RFI
TO THE FOLLOWING E-MAIL ADDRESS:**

DOT.D08.Tunnel-PumpStation@dot.ohio.gov

1. Introduction

The Ohio Department of Transportation (ODOT) is issuing this Request for Information (RFI) to gain input and information from interested vendors, contractors, consultants, or design-build teams; hereinafter, vendors, to determine opportunities that exist to monitor, operate, and maintain two critical interstate assets in Hamilton County, Ohio. The following assets and general tasks would be included in the contract:

- Lytle Tunnel passing I-71 below Lytle Park in the City of Cincinnati
 - Upgrade the Lytle Tunnel Supervisory Control and Data Acquisition (SCADA) system.
 - Provide on-going support and necessary upgrades of the SCADA system software.
 - Provide in-person and remote monitoring of the tunnel equipment including SCADA system, respond to site for evaluation, and complete necessary minor/routine maintenance.
 - Provide on-going operation and maintenance of the tunnel elements as outlined in the Operations and Maintenance manual.
- I-71, Fort Washington Way (FWW) Pump Station
 - Provide on-going operation and maintenance of the pump station elements as outlined in the Operations and Maintenance manual. Including monthly FWW pump station and backup generator inspections.
 - Conduct the emergency flood operations when flood conditions require the FWW pump station to go into service per the Operations and Maintenance manual.

These assets are unique to ODOT, District 8 and the goal of the RFI is to inform ODOT in the development of a potential procurement and project implementation. This RFI does not constitute a commitment, implied or otherwise, that ODOT will take further action in this matter.

This RFI is designed to provide vendors with the information necessary for the preparation of an appropriate response. It is not intended to be comprehensive, and each vendor is responsible for determining all factors necessary for submission of a comprehensive response. Responses should be based on the material contained in this RFI or any other relevant information the vendor thinks is appropriate. By submitting a response, each Vendor agrees that it will not bring any claim or have any cause of action against the State of Ohio or any employee of the State, based on any misunderstanding concerning the information provided or concerning ODOT's failure, negligent or otherwise, to provide the vendor with pertinent information as intended by this RFI. Information submitted in response to this RFI will become property of ODOT. The State of Ohio will not pay for any information herein requested nor is it liable for any cost incurred by the vendor.

RFI Confidentiality

All vendors are strongly discouraged from including in a response any information that the vendor considers to be a "trade secret," as that term is defined in Section 1333.61(D) of the Ohio Revised Code. All information submitted in response to this RFI is public information unless a statutory exception exists that exempts it from public release. If any information in the response is to be treated as a trade secret, the response must:

- Identify each and every occurrence of the information within the response with an asterisk before and after each line containing trade secret information and underline the trade secret information itself.
- Check the "This response does include information considered a 'trade secret'" box on the Vendor Information Page.
- Include a page immediately after the Vendor Information Page that lists each page in the response that includes trade secret information and the number of occurrences of trade secret information on that page.

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To determine what qualifies as trade secret information, refer to the definition of “trade secret” in the Ohio Revised Code, which is reproduced below for reference:

- “Trade Secret” means information, including the whole or any portion or phase of any scientific or technical information, design, process, procedure, formula, pattern, compilation, program, device, method, technique, or improvement, or any business information or plans, financial information, or listing of names, addresses, or telephone numbers, that satisfies both of the following:
- It derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use.
- It is the subject of efforts that are reasonable under the circumstances to maintain its secrecy.

2. Background

The safe and efficient movement of motorists and freight on I-71 in Cincinnati Ohio requires monitoring, operating, and maintaining two critical assets. A tunnel with reliable and functioning safety equipment is vital. During and after extreme rain events the continued operation of the FWW pump station is critical in order to keep I-71 open to motorists. Documents may be found on at the following link: [\\ftp.dot.state.oh.us\pub\\$\Districts\D08\HAM-Lytle Tunnel and FWW Pump O&M RFI info](\\ftp.dot.state.oh.us\pub$\Districts\D08\HAM-Lytle Tunnel and FWW Pump O&M RFI info)

To support this requirement, ODOT completed upgrades to the Lytle Tunnel and its associated mechanical systems in 2017 ([\\ftp.dot.state.oh.us\pub\\$\Districts\D08\HAM-Lytle Tunnel and FWW Pump O&M RFI info\Lytle Tunnel 2017](\\ftp.dot.state.oh.us\pub$\Districts\D08\HAM-Lytle Tunnel and FWW Pump O&M RFI info\Lytle Tunnel 2017)) and the major rehabilitation of the FWW Pump Station in 2019 ([\\ftp.dot.state.oh.us\pub\\$\Districts\D08\HAM-Lytle Tunnel and FWW Pump O&M RFI info\FWW Pump station 2019](\\ftp.dot.state.oh.us\pub$\Districts\D08\HAM-Lytle Tunnel and FWW Pump O&M RFI info\FWW Pump station 2019)). Location maps of these two assets are provided in Figure 1.



Figure 1: Asset Location Map

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The Lytle Tunnel includes the following systems:

- **Environmental Monitoring System:** There are 8 total air quality sensors, 6 located in the tunnel roadways, one located in the electrical room, and one located in the fan plenum. Carbon-monoxide monitors will trigger the SCADA system when unacceptable levels are imminent.
- **Lighting System:** The tunnel lighting system is powered from multiple panelboards located within the electrical room. All lights are LED.
- **Supervisory Control and Data Acquisition (SCADA) System:** The SCADA system links every tunnel operating system into a main control system. The current software is iFix by General Electric.
- **Ventilation System:** The Lytle tunnel ventilation system is a single point extraction/supply type system, consisting of three, axial, reversible ventilation fans; associated ductwork and sound attenuators; three sets of dampers that control airflow in and out of the tunnel bores and an air quality monitoring system that in part controls the system operation. The fans, dependent on the operating mode, can exhaust or supply air to all three Lytle tunnel bores via dampers. The tunnel ventilation system emergency modes are controlled by linear heat detectors in the tunnel bores. An automated duty cycle for the fans exercises them once every 10 days.
- **Fire Protection System:** consists of smoke detectors, duct detectors, heat detectors, linear heat detector in tunnel with power supply, pull stations, and Audio/Visual devices. Additionally, the tunnel has two discrete fire protection systems; a fully interconnected manual dry standpipe system with fire hose valves, risers, 3 fire department connections, and 3 low point drains: and a set of 12 fire extinguishers spaced evenly throughout the tunnel bores.
- **Closed-Circuit Television System (CCTV):** Tunnel CCTV cameras will be utilized by control room staff. Cameras are monitored remotely by ODOT's Traffic Management Center in Columbus.
- **Power Supply System:** This system consists of dual redundant utility feeds as allowed by NFPA 70 Section 700.12(D) for the main tunnel system controlled by a switchgear. The lighting system has an independent a battery back-up system.

The Fort Washington Way Pump Station has the following systems:

- **Pump House and Discharge Chamber:** The Pump House, accessed via a flush-mount hatch in the sidewalk along Second Street, contains a storm water channel with overflow wall and a wet well with four (4) submersible pumps designed to handle major flooding events. An additional small sump pump is in the wet well to handle occasional nuisance water. During normal conditions, storm water flow is by gravity from FWW to the Ohio River. During large rain events and/or high river levels, the internal channel will overflow into the wet well and the pumps are manually activated to discharge the water. A sluice gate on the gravity discharge outlet pipe is also manually activated to prevent backwater from the Ohio River to flow into the Pump House.
- **Pumps:** One (1) – KSB Model KRT K80-217/24XG-S IE3 sump pump; One (1) – KSB Model KRT K200-316/156XEG-S pump; three (3) – KSB Model KRT K500-634/1308XNG-K pumps.
- **Control Room:** Houses all electrical controls for the pumps, sluice gate operation and atmospheric monitoring system. It is immediately adjacent to the Pump House and Discharge chamber and accessed via a flush-mount hatch in the sidewalk along Second Street.
- **Back-up Generator:** Emergency back-up power is supplied by a 750kVA CAT Diesel Generator and Automatic Transfer Switch. These items sit on an elevated platform near the western entrance to the Transit Center, just north of Paul Brown stadium.

ODOT contracts directly with a consultant to perform inspections per the National Tunnel Inspection Standards. We also power wash the tunnel twice a year. ODOT will typically close I-71 for 4 consecutive nights for these operations. While we don't intend to make these services a part of the Monitoring, Operations and Maintenance

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contract, it is anticipated that some maintenance and repair activities will coincide to minimize disruption to traffic.

3. Scope

The Ohio Department of Transportation is looking for a vendor to advance a project that would provide on-going monitoring, operation, and maintenance of the Lytle Tunnel and FWW Pump Station for a defined contract period. ODOT anticipates establishing contract criteria that would define Critical Items, Routine Items, and Non-Routine Items. Each definition would include contractual response times to address the issue.

This project would include identification and implementation of an upgraded SCADA system to interface with the tunnel systems. A SCADA system is not required the FWW pump station.

Though not part of the initial project, ODOT District 8 will have two additional pump stations coming online in the next 5 years. These pump stations may be added/included in the anticipated contract. These pumps stations may include SCADA systems.

There are many forms that this project may take, including but not limited to the following examples.

Example 1 – Progressive Design Build: The Department would develop a Request for Proposals to select a design build team. The awarding of the contract to the Design Build Team would be based primarily on qualifications with a competitive bidding element for an item of work to be determined. Upon award, a preconstruction phase would be utilized to identify and develop the necessary scope for the tunnel SCADA system upgrade. ODOT and the Design Build Team would mutually develop the Monitoring, Operating, & Maintenance requirements for the tunnel and pump station and establish agreed upon rates, performance criteria, and estimated maintenance quantities. After the preconstruction phase and establishment of the agreed costs, a change order would be issued for the construction phase to upgrade the SCADA system, monitor, operate, and maintain the assets.

- **Length of Contract:** A short 3-month preconstruction phase followed by a construction term of 5 years.

Example 2 – Design Bid Build: The Department would select a consultant to develop the SCADA system upgrade then procure the upgrade, monitoring, operations, and maintenance via a low bid construction contract.

- **Length of Contract:** 5 years.

Example 3 – Two-Step, Value-Based, Design Build Contract: The Department would develop a Request for Qualifications, post a Request for Proposals to select three design build teams to provide a fixed price and a Technical Proposal describing the approach to upgrade the SCADA system monitor, operate, and maintain the assets.

- **Length of Contract:** 5 years.

While the above are examples, ODOT is not limiting the proposals to types described above. ODOT will consider any potential concept, within the limits of its legal authority, in awarding a contract to meet its asset monitoring, operating, and maintenance needs. ODOT is open to collaborating on solutions proposed by the private sector and is seeking both traditional, novel, and creative approaches to addressing this need.

Evaluation

ODOT will use the information received to help determine a path forward which may include development of a future Request for Proposal (RFP).

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This RFI will not result in a formal agreement. For this RFI, a Respondent can be an individual, corporation, general partnership, limited liability company, limited partnership, joint venture, business trust, public benefit corporation, nonprofit entity, or other business entity.

Timeline

ODOT will determine any future activity and timelines with information provided to this RFI. Future procedures will depend on the types, quality, and feasibility of the responses.

4. RFI Procedures

Respondents to this RFI should include the information in the “RFI Content” section in their submittal. There will be an opportunity to provide verbal responses via interviews, in lieu of written submittals. If you are interested in submitting a verbal response, please let us know at the email address below.

All written responses must be emailed as PDF or Word documents to:

DOT.D08.Tunnel-Pumpstation@dot.ohio.gov

Responses are due no later than: **June 19, 2024, at 2:00 p.m. eastern time.**

ODOT will allow access to the Lytle Tunnel and the FWW Pump Station on **May 23, 2024, between 11:00 a.m. and 2:00 p.m. eastern time.** Questions may be asked of ODOT staff during this time.

The Department, at the potential respondent’s request, is willing to hold a one-one-one discussion to allow potentially interested parties to gain further understanding of this RFI.

5. RFI Content

ODOT is interested in collecting potential ideas and supporting information for a future project(s). All respondents should answer the general questions. In addition to these general questions, the respondents may provide other information for consideration by the Department. While allowable, respondents should refrain from supplying promotional materials which do not advance or support the responses to the General Questions.

General Questions

1. Do you have an alternative, creative, approach to addressing the asset monitoring, operation, and maintenance that you would like to propose? Please describe.
2. Is any information in the response considered a “trade secret”? (Yes/No)
 - If yes, each and every occurrence of the information within the response that is a trade secret should be identified with an asterisk before and after each line containing trade secret information and underline the trade secret information itself.
3. Example 1 in the Scope notes an approach where a State DOT contracts with a design build team through a progressive design build delivery. Please provide your perspective and preferences on this approach.
4. Example 2 in the Scope notes an approach where a State DOT contracts separately with a designer and with a contractor via a traditional design-bid-build method. Please provide your perspective and preferences on this approach.

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5. Example 3 in the Scope notes an approach where a State DOT contracts with a design build team through a two-step, value-based design build delivery. Please provide your perspective and preferences on this approach.
6. What is your preferred approach?
7. What is your perspective on the risks of advancing a monitoring, operations, and maintenance contract, and how you would want such risks assigned between the public and private sectors, or otherwise mitigated?
8. Describe a potential concept or opportunity to upgrade the SCADA system and to monitor, operate, and maintain the Lytle Tunnel and the FWW Pump Station
9. What is your perspective on the reasonableness of different contract lengths (2, 5, and 7years) and the ability to comply with same?
10. Please provide any additional relevant information or additional comments that pertain to this RFI.

To: ODOT

By: Julia Hurst – President

Subject: RFI Response: HAMILTON LYTLE TUNNEL AND FORT WASHINGTON WAY PUMP STATION
MONITORING, OPERATIONS, AND MAINTENANCE

Attached: 2 Page Response, Experience Summary

ASC RESPONSE

Based upon ASC's current knowledge of ODOT's SCADA requirements and current scope of work regarding the SCADA under current Hamilton pump station contract, ASC would propose the following response to this RFI, maintenance, and the approach to the development of SCADA system upgrades at the Lytle Tunnel and other existing and future sites.

- The current Hamilton Pump Station project under construction will have a SCADA with the capability to expand to additional ODOT monitoring needs. The following is ASC's unbiased recommendation for future expansion of SCADA including points of maintenance, monitoring and operation with or without the use of ASC.

- **MAINTENANCE AND OPERATION**
When selecting this type of Contractor/Consultant it can be difficult because of the knowledge base in the different disciplines that is required. You would want a well-rounded Contractor/Consultant that would understand the following:
 - o Repair/Replacement of Electrical Distribution Devices, Switchgear, Electrical Actuators, Motors
 - o Repair/Replacement Mechanical Equipment, Fans, Piping, Valves etc.
 - The replacement of LARGE MAJOR equipment such as switchgear or fans should be understood that it is outside of scope. This will require a quote, estimate, or contract.
 - o Ability to understand Sequence of Operation for each location
 - Fire system operation, Camera Operation, Sequence of all equipment, and SCADA system as an operator.
 - o Maintenance PLC and SCADA controls troubleshooting
 - With the understanding that programming is not a part of trouble shooting due to programming code being completed under build contracts. There is a possibility of adding something small outside of a contract, or changing something out that has been made obsolete. (But normally this would rely on you contracted integrator.)
 - The Contractor/Consultant needs to know how to troubleshoot PLC's, Networking Devices, Monitors, PC, Analog and IO devices as in a "Replace to Repair mentality."
 - In the event that a PLC main controller (CPU) needs to be replaced, they will need access and have the ability to replace CPU and reload PLC code or HMI

(Human Machine Interface) screen. (OR work with your contractor SCADA Integrator if separate)

- **SCADA and Control Consultant**

Based on ASC experience, this recommendation is unbiased. It is our belief that this discipline will more than likely not be a specialty of the Maintenance and Operations Contractor/Consultant. We recommend that the SCADA and controls should be a separate Contractor/Consultant in most cases. This is important because ODOT needs to have the ability to control this Contractor/Consultant for existing and future SCADA PROGRAMMING needs. The Hamilton pump station contract will put in place the BACKEND of the SCADA system. Therefore, the SCADA/Controls Contractor/Consultant will need to have the ability to add additional equipment, and programming to the soon to be existing SCADA for additional sites. As well as the following:

- Administer the AWS cloud.
- Add additional points, graphics alarms in SCADA system.
- Add equipment to upgrade Lytle Tunnel and other sites.
- Work as an ODOT Contractor/Consultant with future design firms and create controls specs for future sites.
 - This is important because the selection of equipment needs to be controlled to ensure that future bidders know what must be provided with this equipment to be able to work with current SCADA. Example IPC, PLC etc. This type of equipment selection/callouts is allowed in government contracts to be able to maintain an existing controls infrastructure. It also gives ODOT the benefit of minimizing spare parts.
 - We recommend that you add programming and SCADA upgrades on future projects to be addressed by an ODOT Contractor/Consultant. As well as add on future contracts or specs that your selected ODOT Contractor/Consultant must provide price in project to add into SCADA. If you have too many contributors in your software, it is a major possibility that it will fail or become unresponsive. You must remember that you have one system for everything so having only one integrator touching it is very important because they will have the best understanding of the details.
- Normal Contract lengths we see are 3-5 years for integration.
 - There are additional considerations to parse out in this contract. Some would be response per maintenance/troubleshooting request or future project implementations.

ASC Capabilities

Regarding the needs listed above and in this RFI, ASC can provide all the above recommendations as a full turn-key Contractor/Consultant. ASC is currently developing the SCADA backbone for ODOT under the Hamilton Pump Station project and has the capability and experience to provide requested services from above. Attached is our experience and qualification package. This experience includes design, building, installing, and commissioning of the Environmental Monitoring System, Lighting system, SCADA, Ventilation System, Fire Protection System, CCTV, Power Supply, Pumps, Fans, Generators, and Distribution equipment.

Company Introduction

Advanced Solutions & Controls prides itself on being a leading custom solutions provider in industrial, wastewater/water, transit, and aviation industries. ASC is a qualified DBE (Disadvantaged Business Enterprise) inclusive of Federal Highway Administration, Federal Transit Administration, and Federal Aviation Administration. ASC provides state of the art solutions to complex engineering projects, leveraging over 20 years of custom engineering experience. ASC delivers robust end to end solutions by continually investing in people, technology, and processes. Projects are managed through a partnership approach that ensures alignment between problem, vision, and solution. Our proven and proprietary methods deliver robust and long-lasting solutions backed by industry leading technology. From start to finish, all custom automation solutions are designed, built, tested, and supported by ASC. Our team of engineers expertly deliver custom control panels, automation solutions, integration, troubleshooting, retrofitting, SCADA, PLC programming, installation, startups, and commissioning of cutting edge turn-key automation systems. We work with original equipment manufacturers (OEM's) from around the world.

Executive Personnel Experience Summary

Christopher Hurst – CEO

Education: Master of Electrical Engineering
Master of Aeronautical Engineering
UL Certified MTR, CSIA Certified Integrator
Microsoft MCSE, Cisco CCNA, GE Digital Proficy & Predix Certified Developer

Experience Summary: 20+ Years in Military, Industrial and Electrical industries including large scale engineering design build ranging from large data centers, construction and design of power plants, large manufacturing facilities, Federal and Municipal Contracts, aviation tooling and design, onsite commissioning, and systems training. Ability to develop in multiple programming languages, SCADA development and implementation, OEM solutions, electrical design, and solution implementation. Provides engineering services throughout the US and internationally and currently serves as ASC's Chief Engineer.

Julia Hurst – President

Education: Bachelor of Business
Certified UL Quality Rep

Experience Summary: 15+ Years of experience in large project management focusing on deployment and design services, scheduling and implementation, intelligent solutions, industrial controls, and site development. Robust industry experience in transportation, rail, aviation, and infrastructure. Business management experience focusing on large, multi-year contracts with National Customers.

Allece Moreland – Director of Operations & Quality

Education: Bachelor of Mechanical Engineering
Certified Quality Engineer

Experience Summary: 12+ in Quality Engineering focusing in product development and manufacturing. Experience over multiple facilities including inspection, accountable for company quality management system, and product quality. Communicating to global customers and Vendors on behalf of the company for issue resolution and improvements. Highly experienced in ISO 9001:2015, QMS, compliance (REACH/RoHS). Accountable and responsible for internal and external audits, Inspection, CAPA's, process improvement, environmental compliance program, vendor quality improvement programs, data analysis, company QMS and training administration.

ASC Company Certifications Summary

- UL 508A - Industrial Control Panels US & CA
- UL 698 - Industrial Control Panels for use in hazardous (classified) locations:
 - Class I, Division 1, Groups A, B, C, and D, and Class II, Division 1, Groups E, F, and G
- UL 891 – General Coverage of Switchboard Design and Manufacturing
- CE Certified as Notified Party for European Union
- UKCA Certified as Notified Party for United Kingdom
- ETL Certified for Industrial Controls
- EPRI Certified for Nuclear Power Applications
- Rockwell Certified Integrator
 - Optix Scada, PLC's, Distribution Systems
- GE Digital Certified Systems Integrator
 - I-Fix Scada, Proficy, Complicity
- ABB Certified Robotics Integrator
- IDEC Certified Integrator
- Automation Direct Certified Integrator
- Member of NFPA

Additional Integration Experience Summary

- Wonderware Scada Development
- Ignition Scada
- Eaton Power Scada Energy Management
- SEL, Schweitzer Engineering Laboratories
- Schneider Automation

DBE Registration's

- Ohio DOT
- Washington Area Transit Authority (WMATA)
- Maryland DOT
- California DOT

5 Year Major Project Experience Summary

- WMATA \ MASS Electric: \$12.4M – Subway Train AC & DC Switchgear & Controls
- WMATA \ Kiewit TCR: \$4.1M – Subway Train Control System with SCADA Monitoring, 14 Stations.
- Versar \ EPA \ Army Core: \$1.6M – Ground Water Extraction Plant Controls, Electrical, SCADA Development
- WMATA IDW \ MASS: \$420,000 – Manufactured & Integration of the IDW control panel, other equipment.
- PRIVATE: \$620,000 – Conveyor Sorting system controls. Building BMS/SCADA Upgrade
- Lumileds CA Plant Control: \$230,000 – Plant Control, System Monitoring, Fan Exhaust Control
- WMATA\Kiewit Platform 4: \$820,000 – WTP, DPS, Sump Pump, Electrical Distribution, System Monitoring.
- CECO\Materion Phase B: \$250,000 – Factory and Mill Monitoring, SCADA Development
- IMS: \$376,000 – Indiana Candy Factory Process Line, PLC, Mechanical, SCADA development
- WMATA \ Evigilant: \$134,000 – Fiber Network Systems ENC
- WMATA\Kiewit Platform 3: \$2.8M – DPS, Sump Pump, Electrical Distribution, System Monitoring, DTS.
- GE Aerospace: \$58,800 – Aviation Tooling Design with CE Testing and Certification
- HydroTech: \$350,000 – OEM Machine Build and Monitoring System
- Montgomery WWTP: \$625,000 – PLC, RIO and SCADA Upgrade
- PACE Construction: \$230,000 – WWTP Mannis UV System, Chem-feed System
- GE Aerospace: \$162,000 – GE IOT Edge Device Development & Manufacturing
- Microsoft: \$246,000 – Data Center LV Switchgear, EDG PLC Upgrades
- RMS: \$148,000 – Dayton Power & Light SEL & Relay Distribution Panel
- WMATA Enviro Monitoring: \$425,000 – Control Panels, Smoke and Gas Tunnel Monitoring Pilot Program
- GE Aerospace: \$2.1M – Aeroderivative Engine Maintenance System
- WGK Construction: \$62,000 – WWTP Annunciator Panel and Monitoring System
- Nippon Seiki: \$120,000 – Robotic Assembly System General Motors Dash Cluster
- Materion Phase A: \$438,000 – Factory and Mill Monitoring, SCADA Development
- Smithsonian National Zoo: \$135,000 – Enclosure Gate Controls and Monitoring
- WMATA \ Core Secure: \$172,000 – Fiber Network Systems ENC

Notable Previous Major Project Experience Summary

- Microsoft / Cummins: \$2.3M – Virginia Data Center Generator Systems PACC controls & Switchgear
- Microsoft / Cummins: \$1.7M – Iowa Data Center Generator Systems PACC controls & Switchgear
- Microsoft / Cummins: \$1.7M – WA Data Center Generator Systems PACC controls & Switchgear
- Yahoo / Cummins: \$800,000 – NY Data Center Generator Systems PACC controls & Switchgear
- GE Power: \$1.9M – California Aeroderivative Power Plant Controls

Project References

- Michael Mooney, Wash. DC Metro: mcmooney@wmata.com Mobile: 202-740-6464
- Brian Chadwick, Mass Electric: brian.chadwick@kiewit.com Mobile: 202-845-4843
- Chad Forster, CBT Company: cforster@cbtcompany.com Mobile: 513-722-6137