



Bridge Construction Inspection Services for the Replacement of Bunker Hill Road Bridge over Hop River | RFP AN-2024-25 01 | State Project #0001-0106

February 22, 2024



CORPORATE OFFICE:

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February 12, 2024

Mr. Jeffrey Maguire, First Selectman
Town of Andover
17 School Road
Andover, CT 06232

RE: Construction Inspection Services for the Replacement of Bunker Hill Road Bridge over Hop River | RFP AN-2024-25 01 | State Project #0001-0106

Dear Mr. Maguire,

AI Engineers, Inc. (AIE) is pleased to submit our letter of interest and qualifications for the above-referenced contract. AIE is a local firm with **over 33 years of experience providing construction engineering and inspection services**. The firm has grown to become an ENR Top 500 Design Firm and an ENR New England, ENR New York, and ENR Mid-Atlantic Top 100 Design Firm. Our success is attributed to the quality of construction management and inspection services offered throughout the Northeast.

Since the founding of our company in 1991, AIE has grown steadily to a staff size of approximately 295 talented professionals. **Our corporate headquarters in neighboring Middletown will serve as the base of operations** for this assignment. Because we are so close by, we can dispatch resources to the project site or Town Hall within minutes to respond quickly, accommodate time-sensitive or unexpected occurrences, and facilitate coordination with municipal and design staff.

AIE has proposed highly experienced personnel for this project who have worked on several similar projects for many municipalities and state DOTs. Their combined experience will prove to be an asset for this important project.



Of AIE's more than 295 professionals, 80 are construction inspectors/managers.

AIE is prepared to make our local staffing resources available to the Town of Andover to start this project on time. Our experienced staff members include PEs, CCMs, NICET (I-IV), NETTCP, ATSSA, NACE, and SSPC BCI-certified personnel. Additionally, AIE has significant in-house technologies, such as unmanned aircraft systems (UAS), laser scanners, etc., which will enhance the capabilities of our field staff.

Over the past 33 years, AIE has acquired extensive construction inspection experience through projects of all sizes and complexities. These projects have included major infrastructure improvements such as bridges, culverts, roadways, streets, sidewalks, pedestrian ramps, storm and sanitary sewers, utility relocation/installation, permitting, and other incidental work. AIE is known for providing prompt responses to the demands and needs of clients on very short notice. We pride ourselves in having the ability to deliver exceptionally qualified inspectors and maintaining close communication with our clients, ensuring the successful completion of the project.

AIE has been a key player in providing construction engineering and inspection services for complex bridge, highway, and railroad projects. A significant number of our projects have involved bridge/culvert reconstruction and replacement, roadway resurfacing and reconstruction, relocation of utilities, drainage design and improvements, pavement restoration and reconstruction, signage, and signalization. Our commitment to excellence ensures the successful completion of projects contributing to the overall infrastructure and community development.

We greatly appreciate the opportunity to provide our qualifications to the Town for this project, and we have read, understand, and will comply with all requirements and conditions as stated in this RFP. As Senior Vice President, I can assure you that we are fully committed to this contract, and I hope there will be an opportunity for us to discuss our qualifications with you in further detail.

Very truly yours,



Rohit Pradhan, PE - Senior Vice President

Top 500 Design Firm Engineering News Record (ENR)

Top 100 Design Firm



Our Services

- ▶ Construction Services
- ▶ Roadway/Highway Design
- ▶ Site/Civil Engineering
- ▶ Bridge/Structural Engineering
- ▶ Transportation/Traffic
- ▶ Water/Wastewater Engineering
- ▶ Building Systems Engineering (MEP/FP)
- ▶ Design-Build Services
- ▶ Survey & Mapping
- ▶ Technology

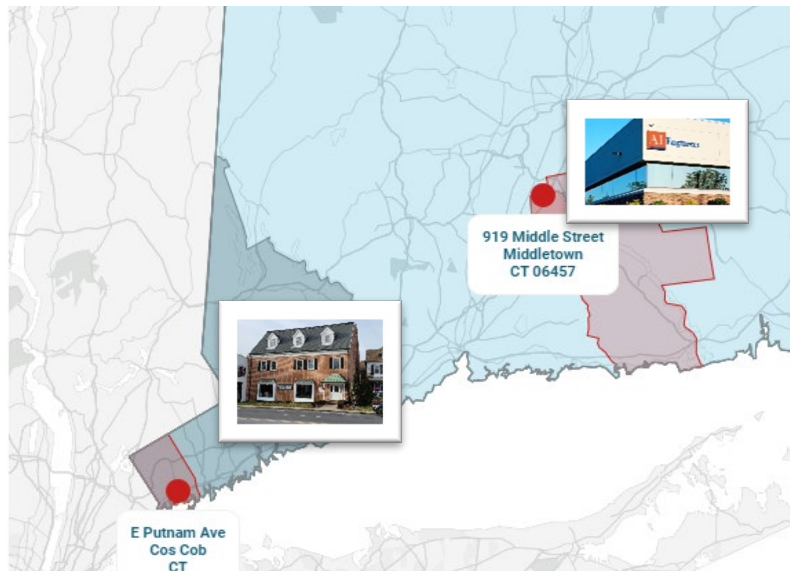
Firm History

AI Engineers, Inc. (**AIE**) is a local, multidisciplined consulting engineering firm with **principal expertise in construction administration/inspection**. Our focus on construction management, administration, and inspection entails project management, planning, cost management, quality management, constructability review, value engineering, and safety management.

Since the founding of the corporation in 1991, **AIE** has grown steadily to a staff size of approximately 295 employees. The firm's staff includes 100 licensed Professional Engineers, over 80 construction managers/inspectors, 10 licensed Land Surveyors (LS), five (5) Certified Construction Managers (CCM), and four (4) LEED-certified staff. Our staff is thoroughly familiar with municipal, state, and federal policies, procedures, and guidelines.

Location

AIE is headquartered at 919 Middle Street, Middletown, CT, with a regional office at 406 East Putnam Avenue, Cos Cob (Greenwich), CT. Additionally, AIE has several regional offices located throughout the United States located in New York, NY; Elmsford, NY; Charlestown, MA; Providence, RI; Richmond, VA; Chantilly, VA; Daleville, VA; Greenville, SC; Exton, PA; and Trenton, NJ.



Construction Administration & Inspection

With over **80 construction management/construction inspection staff**, our Construction Services Group includes licensed Professional Engineers, Certified Construction Managers (CCM), NICET (Level I-IV), and NETTCP-certified construction inspectors. Several of our inspection staff members are OSHA, ATSSA, and railroad safety trained. We have been providing a full range of construction management, construction engineering, and inspection services for various projects. AIE has completed many large and complex CEI assignments while meeting owners' time, quality, cost, and budgetary expectations. These projects have included numerous construction engineering and inspection projects for municipalities, government agencies, government utilities, and private clients. Many of these assignments involved bridge/culvert rehabilitation and replacement, roadway design, intersection improvements, new sidewalks and bikeways, curbing, sanitary sewers, stormwater drainage, distribution water mains, trunk water mains, utility relocation (water, electric, gas, telephone, and fiber optic), retaining walls, street lighting, traffic signals, streetscaping and environmental permitting.

"AI has worked for the Town of East Hartford in the past on several Engineering and Construction Inspection projects and has always met or exceeded our expectations with their performance." Town of East Hartford

Our Construction Services Group is very experienced and prepared to assist during the entire construction project, including:

- ▶ Bid
- ▶ Advertisement
- ▶ Clarification and response to contractor inquiries
- ▶ Bid review
- ▶ Recommendations for award
- ▶ Shop drawing and submittal review
- ▶ Coordinating and chairing project meetings
- ▶ Preparing minutes of each meeting and project correspondence
- ▶ Reviewing payment requisitions and recommendations
- ▶ Handling change order requests
- ▶ Preparing punch lists and final review for closeout

▶ Past Record of Performance

We can offer the unique advantage of being a **one-stop solution** for all our clients, quickly adapting to suit their specific needs and establishing and maintaining long-term working relationships with project owners.

This cursory roster of prior and current clients shows our long history of providing quality consulting engineering services to CT municipalities:

- | | | | |
|-------------------------|-------------------------|-----------------------|-----------------------|
| ▪ Town of Avon | ▪ Town of North Canaan | ▪ Town of Winchester | ▪ City of Norwich |
| ▪ Town of Berlin | ▪ Town of Oxford | ▪ Town of Windham | ▪ City of Stamford |
| ▪ Town of Bloomfield | ▪ Town of Plainfield | ▪ City of Bridgeport | ▪ City of Waterbury |
| ▪ Town of Burlington | ▪ Town of Redding | ▪ City of Bristol | ▪ City of Willimantic |
| ▪ Town of East Hartford | ▪ Town of Ridgefield | ▪ City of Danbury | ▪ City of Winsted |
| ▪ Town of Easton | ▪ Town of South Windsor | ▪ City of Hartford | ▪ NVCOG |
| ▪ Town of Enfield | ▪ Town of Southington | ▪ Town of Watertown | |
| ▪ Town of Greenwich | ▪ Town of Trumbull | ▪ City of Middletown | |
| ▪ Town of Groton | ▪ Town of Watertown | ▪ City of New Britain | |
| ▪ Town of Manchester | ▪ Town of Weston | ▪ City of New Haven | |
| ▪ Town of Mansfield | ▪ Town of Westport | ▪ City of Norwalk | |

Similar Experience

AIE has an extensive portfolio in construction engineering and inspection, with a specialized focus on roadway projects. Our expertise spans milling, reclamation, paving operations, curb and sidewalk improvements, and storm drainage enhancements on various roadways. From urban road network expansions to revitalizing existing infrastructure, our projects exemplify a commitment to excellence and innovation in road construction. AIE's meticulous inspection processes ensure projects surpass industry standards, emphasizing timely completion and long-term durability. **Refer to Section 4 - Firm Experience and Section 6-SF330 for detailed project descriptions.**

Capacity & Capability to Perform Work & Staff Availability

We understand the significance of staff availability throughout the duration of this contract, and we are committed to delivering this project on time. Our team consists of highly skilled professionals who are dedicated to your project's success. We have carefully assessed our resources and allocated the necessary personnel to ensure their availability throughout the project. Our Construction Coordinator will closely monitor and coordinate the schedules of our staff members, ensuring that they are fully committed and accessible for any project-related requirements. Should any unforeseen circumstances arise, we have contingency plans in place to promptly address any potential gaps in staff availability. With our unwavering commitment to meeting your needs, you can trust that our staff will be accessible, responsive, and fully engaged throughout the duration of this project.

Knowledge of Federal, State & Municipal

Over the years, we have completed many large and complex projects while meeting owners' time, quality, cost, and budgetary expectations. As such, **our staff has acquired a thorough knowledge of municipal, state, and federal policies, procedures, and record-keeping requirements.** Our personnel have extensive construction engineering and inspection experience, and the AIE Team is familiar with the construction standards, policies, and procedures, so there is no learning curve.

Quality Assurance/Quality Control (QA/QC) Program

AIE employs a defined QA/QC program on all projects to ensure the high caliber of design and construction inspection services performed. QA/QC is the responsibility of every person involved in the daily activities of design, management, and/or inspection operations. The QA/QC program engages an independent QA/QC team to review design and inspection services. It includes a senior engineer who is not otherwise involved in the project work to provide an unbiased review and coordination of the QA/QC activities. The QA/QC team is engaged from the initial internal kickoff meetings to the submission of design deliverables. Our Quality Control philosophy is communicated to all staff members and is reinforced at monthly project status meetings.

PROJECT UNDERSTANDING & APPROACH

PROJECT UNDERSTANDING

AI Engineers, Inc. (AIE) understands that the Town of Andover is seeking construction inspection services during 2024-2025 for the replacement of Bunker Hill Road Bridge over Hop River (Bridge No. 04583). The AIE staff has reviewed publicly available program information, and we are confident, based on our program understanding, past experiences on similar projects, and our general knowledge of the Town and the surrounding area, in our team's ability to deliver quality service to the Andover community.

We understand that the project aims to replace the current triple culvert structure because of its culvert rating. The proposed replacement is an 80-foot clear-span AASHTO concrete box beam on pile-supported concrete foundations.

AIE is poised to deliver construction inspection services per the specified requirements. Our dedication encompasses appointing a **Construction Coordinator** who will oversee coordination among the Municipality's administering unit, Department, Consulting Firm, and project personnel to address issues related to project activities. Additionally, we will provide a highly proficient Chief Inspector (Level 2) possessing requisite certifications, such as NICET III, along with an inspector as necessary. Moreover, AIE will provide a seasoned Survey Party Chief who possesses extensive knowledge of land surveying principles and methods and highway engineering practices. AIE will furnish the appointed personnel with all necessary resources and tools essential for day-to-day operations.

AIE's main office is centrally located in Middletown, CT. Our current construction inspection staff of over 80 professionals includes licensed Professional Engineers, CCM, NICET, NETTCP, ACI, ATSSA, and OSHA-certified personnel and handles roughly a third of AIE's annual workload. They are committed professionals, possess strong communication skills, and have experience in transportation-related work, including bridges, site/civil, roadway, paving, traffic signals, and environmental compliance/permitting pertaining to roadway projects that include sidewalks, landscaping, and other incidental work. The proposed personnel are experienced in the type of work anticipated under this project, have worked with various municipalities, and understand the assignment well.

PROJECT APPROACH

AIE has a highly qualified engineering, inspection, and survey staff that will be available for this project. We are proposing **Patrick Carufe, CCM, NICET IV**, as the **Construction Coordinator**, who has over 33 years of experience in construction engineering and inspection on projects that include bridge, roadway, railroad, and facilities reconstruction and improvements. **David Curtis, EIT, NICET III**, is proposed as the **Chief Inspector** and has over nine (9) years of field inspection experience, with most of his time spent working on bridge replacements, reconstruction, and roadway improvement projects. His recent experience includes **CTDOT Replacement of Bridge #5115, New Milford, CT, and CTDOT Median Reconstruction & Resurfacing of I-95, Norwalk & Westport, CT**. Mr. Curtis possesses EIT and a NICET III certification and is also certified as an ATSSA Traffic Control Supervisor and ACI Concrete Field-Testing Technician.

Jeremy Oskandy, PE, LS, FAA Part 107, is our proposed **Survey Party Chief**, who has over 23 years of experience in land surveying. He has extensive experience in land use permitting at the local, state, and federal levels and residential, commercial, and industrial property surveys. His expertise includes site layout, grading, utility design, erosion and sedimentation control, and drainage design.

AIE's focus on construction engineering and inspection consists of design and constructability review, contract administration, field inspection, office engineering, schedule and cost management, and quality assurance. Our goal is to provide the Town with a great degree of confidence that the project is proceeding as intended and in accordance with the contract documents, project schedule, and budget. We succeed by organizing the right project management team, implementing project controls, defining roles and responsibilities, developing communication protocols, and identifying project design and construction elements that may result in disputes and claims. Our key personnel have extensive experience managing and coordinating projects included in this assignment. AIE's CEI team has the experience needed to evaluate baseline and progress schedules to ensure the timeliness of the project's completion and adds a no-cost, value-added service of in-house schedulers who can assist with the evaluation to suggest ways of schedule acceleration if needed. Based on our experience, we believe our firm's depth and expertise are ideal for managing a project of this magnitude, and our key personnel have extensive experience managing and coordinating projects of similar construction in the past two seasons.

PROJECT UNDERSTANDING & APPROACH

At AIE, we judge success in delivering a project as one that:

- Fulfills Project Objectives
- Exceeds Safety Requirements
- Delivers Quality
- Minimizes Construction Time
- Delivers Project Within Budget
- Minimizes Overall Administration
- Minimizes Claims
- Minimizes Total Time
- Maximizes City Control

AIE follows a very well-defined internal Quality Assurance/Quality Control Program. For Construction Inspection programs, periodic unscheduled visits are conducted by the QA/QC Manager to review staff performance. AIE also has an excellent safety record and a firmwide, internally prepared Safety Manual. Most of our construction staff have obtained a minimum of an OSHA 10-hour certification.

We understand the importance of adhering to project quality, schedule, and budgetary expectations to maintain the Town's long-term planning. This project, overseen by the CTDOT MSAT Team, will deliver the needed replacement for the deteriorated triple corrugated metal pipe culvert structure. We are confident in our team's depth of experience and ability to provide peace of mind and control for the town while effectively managing overall project safety, environmental compliance, and quality, all within cost and schedule expectations throughout the construction process.

AIE's Construction Engineering and Inspection services for the Town of Andover project will include the following:

Prior to the Start of Construction

- Review plans and specifications. Inspect the site of the proposed work.
- Meet with the Town, establish the scope of work specific to the project, negotiate fees, and establish the network of stakeholders for the project.
- Note: It is assumed that the DOT's Division of Materials Testing (Lab) will perform all off-site materials testing for Project No. 0001-0106. In this case, we will sample all materials to be incorporated into the work as required by the Department's Schedule of Minimum Requirements for Sampling Materials for testing. Set up a meeting with the Contractor to establish materials testing procedures.
- Coordinate Pre-Construction meeting and prepare agenda and meeting minutes as well as a pre-detour meeting with the Town, First Responders (Andover and Coventry), and the School District.
- Coordinate with utilities as required.
- Meet with Town and Contractor: Establish procedures for handling and disposal of excavated material.
- Based on bid sheets, set up requisitions for payment in a format suitable for the Town to obtain reimbursement from the DOT and FHWA.
- Check the Contractor's initial layout surveys.
- Set up a formal Four Volume record keeping system per ConnDOT requirements
 - Volume 1: Inspector's Reports
 - Volume 2: Record of work items performed and payments made
 - Volume 3: Calculations with sketches showing the quantities for supporting payments.
 - Volume 4: Miscellaneous Information, which will include the following:

- | | |
|--|---|
| - General Project Information | - Record of Labor Wage Checks/Labor Wage Checks |
| - Record of Project Personnel | - Record of Certified Payrolls |
| - Inspection of Field Records by Supervisory Personnel | - Payroll/Wage Check Monthly Summaries |
| - Record of Prime and Subcontractors | - Non-compliance/Compliance Notices |
| - Index of Construction Orders | - Sub-contractor approvals |

During Construction

- Daily oversee contractor operations. Ensure that work performed is in accordance with plans and specifications.
- Ensure proper notification and proper signage are installed prior to road closure. Ensure all Town officials, First Responders, and residents are informed and all contingency plans are prepared.
- Prepare Inspector's Reports with the narrative of the contractor's operations and pay quantities completed.

PROJECT UNDERSTANDING & APPROACH

- Update Volume 3 for work performed.
- Oversee erosion control work to ensure compliance with permits.
- Coordinate with utilities.
- Coordinate with police officer's or flagger's work hours.
- Coordinate with the contractor to maintain effective traffic patterns for vehicles and pedestrians.
- Coordinate contractor operations with Town officials.
- Maintain Public Outreach with identified Stakeholders.
- Perform on-site material testing, including air, slump, and cylinders for concrete and temperature and material testing for blacktop.
- Arrange for pick up and testing of concrete cylinders and blacktop cores with testing lab.
- Enter requests for materials tests (MAT-100) in DOT system.
- Attend on/off-site meetings as required, as well as conduct bi-weekly Progress Meetings.
- On a periodic basis, compile work performed from Inspector's Reports into payment requisitions for the contractor. Update Volume 2 accordingly.
- Perform projected budget cost analysis as the project progresses to identify where savings can be captured to help fit the needs of the project.
- Assist the Town in reviewing and preparing Change Orders as required.
- Perform monthly wage checks and compare with Certified Payrolls.

Post-Construction

- Participate in final inspection and oversee punch list work.
- Prepare final requisition.
- Prepare final Change Order.
- Assist the Town with bonds and guarantees.
- Complete Volume 4 records.
- Obtain Materials Testing Certificate.
- Obtain Certificates of Acceptance & Compliance (CON 500M & 502M).
- Prepare As-Built drawings.
- Turn over final project records.

AIE understands the importance of adhering to project schedules and budgets as a means of minimizing overall project costs and maintaining the Town's planning and occupancy schedules.

Upon selection for this assignment, our Project Manager will immediately establish communication with the Town's designated procurement chief and/or individual project managers. AI's proposed staffing plan will be reviewed with the Town to ensure the scope of the project is clearly understood and that the needs of the Town are adequately met. AIE will then initiate a request for Town approval of all AIE project staff to be assigned to specific projects based on agreed classifications and hours.

Once established, the AIE project team will cooperate with the Town management, determine the short- and long-term project needs, and set up a mutually agreed upon administrative and reporting protocol within the Town project management system.

AIE also has construction engineering and inspection unit managers, who previously were responsible for all the construction and maintenance programs for CTDOT. They are well-versed in construction engineering and inspection and maintenance programs. They will be a valuable resource to the Town of Andover personnel and will provide guidance to the Inspectors on the appropriate quality assurance inspection that will give the best service life to the infrastructure. AIE as a Company and all proposed Project staff have a proven track record of success with comparable projects, such as those listed previously.

AIE has provided similar services on a multitude of projects. Below is a summary of some of the relevant experiences. For detailed project information, please refer to **Section 6 - SF330**.

Town of Westport Replacement of Bayberry Lane Bridge over Aspetuck River, Westport, CT
Duration: 2018-2021 | Project Cost: \$2.3M

AIE is providing construction engineering and inspection services to the Town of Westport for the replacement of the Bayberry Lane No. 2 Bridge over the Aspetuck River (Bridge No. 04969). Inspection services include a preconstruction survey of the project limits as well as the initial review of the contractor's baseline schedule. Throughout the project, subsequent schedule updates are reviewed to ensure that all the milestones and the completion date are being met. It also includes setting up, maintaining, and closing out all project record keeping as required by the CTDOT Municipal Manual and overseen by the District 3 MSAT team. AIE coordinates conducts, and documents all progress, utility, environmental, and miscellaneous meetings throughout the project.



Town of Oxford Replacement of Dutton Road Bridge over Little River, Oxford, CT
Duration: 2017-2022 | Project Cost: \$1.5M

AIE provided construction engineering and inspection as well as design services to the Town of Oxford for the replacement of the Dutton Road Bridge over Little River (Bridge No. 04913). Inspection services included a preconstruction survey of the project limits as well as the initial review of the contractor's baseline schedule. Throughout the project, subsequent schedule updates were reviewed to ensure that all the milestones and the completion date were met. It also included setting up, maintaining, and closing out all project record keeping as required by the CTDOT Municipal Manual and overseen by the District 4 MSAT team. AIE coordinated, conducted, and documented all progress, utility, environmental, and miscellaneous meetings throughout the project. All work performed was inspected to ensure that the quality met the standards outlined in the CTDOT Form 818 and supplemental specifications, special provisions, and Town of Oxford requirements.



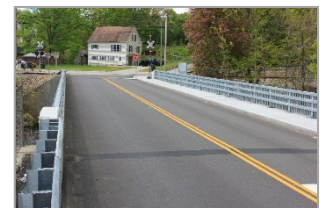
Town of Avon Rehabilitation of Old Wheeler Lane over Roaring Brook, Avon, CT
Duration: 2013-2017 | Project Cost: \$1M

AIE provided survey, design, and construction engineering services for the rehabilitation of the bridge carrying Old Wheeler Lane over Roaring Brook. Inspection services included the initial review of the contractor's baseline schedule and subsequent updated schedules to ensure all the milestone dates were met. It also included setting up, maintaining, and closing out all project record keeping as required by the CTDOT Municipal Manual and overseen by the District 4 MSAT team. AIE coordinated, conducted, and documented all progress, utility, environmental, and miscellaneous meetings throughout the project. AIE also surveyed the existing abutments, low chord, back wall penetrations, beam locations, etc. Additionally, the stream channel was surveyed up and downstream of the existing bridge to cut stream channel sections for use by the drainage engineer for setting the new low chord elevation and providing a scour analysis.



City of Norwich Rehabilitation of Pleasant Street Bridge over Yantic River, Norwich, CT
Duration: 2015-2018 | Project Cost: \$1.3M

AIE provided construction engineering and inspection, as well as design and survey services for the rehabilitation of Pleasant Street Bridge over the Yantic River. Originally constructed in 1968, the bridge was a two-span structure made up of a multi-steel girder superstructure with a cast-in-place reinforced concrete deck supported by reinforced concrete abutments on spread footings. Construction activities proceeded on an accelerated schedule, and the project was completed on schedule. Inspection services included the initial review of the contractor's baseline schedule and subsequent updated schedules to ensure all the milestone dates were met. It also included setting up, maintaining, and closing out all project record keeping as required by the CTDOT Municipal Manual and overseen by the District 2 MSAT team. All work performed was inspected to ensure that the quality met the standards outlined in the CTDOT Form 817, supplemental specifications, special provisions, and the City of Norwich requirements.



CTDOT Rehabilitation of Four (4) Housatonic Railroad Bridges, New Milford, Kent, & Canaan, CT

Duration: 2019-2020 | Project Cost: 8.6M

AIE provided construction engineering and inspection services for this railroad bridge rehabilitation and replacement project. The project scope included both structural rehabilitation and bridge replacement work at four sites and was required due to the existing structures on the Housatonic Railroad's Berkshire Line exhibiting structural deficiencies. In order to meet the contract's aggressive 137-calendar day schedule, the project utilized accelerated bridge construction (ABC) techniques and required extensive coordination between CTDOT, the Housatonic Railroad, the consultant designer, and AIE's project staff. Much of the work was completed during off-peak hours to maintain railroad operations, with major operations completed during a long-term, 9-day continuous track outage.



CTDOT Task Order Construction Engineering & Inspection Services, Districts 2, 3 & 5, CT

Duration: 2018-Present | Project Cost: \$16M (fee)

AIE is providing task-based construction engineering and inspection to support CTDOT Districts 2, 3 & 5. AIE's scope of work includes field inspections, surveys, reviewing plans, specifications, and other documents, providing recommendations on claims and disputes between the Owner and the Contractor, reviewing contractors' submittals, product data, and samples, assisting in change order preparation, and determining the dates of substantial completion and final completion.



CTDOT Replacement of Amtrak Bridge No. 00340 over Route 1, Branford, CT

Duration: 2009-2014 | Project Cost: \$70M

AIE provided construction engineering and inspection services for this project involving the replacement of the Amtrak railroad bridge over Route 1 and approximately 4,400 ft. of Amtrak track and catenary work. This project also included the widening and reconstruction of 2,850 ft. of Route 1 (West Main St.). The project was constructed in four major stages. Critical to the project was the safety and timely implementation of all (4) construction stages designed to minimize interruption to Amtrak traffic as well as limit interference with the traffic on Route 1. Track outages were limited to off-peak periods, and roadway restrictions were confined to nights and weekends. This project required close monitoring of the proposed sequence of construction and CPM schedule, as well as daily coordination with Amtrak. The project also required compliance with environmental permit restrictions and clean up and handling of controlled materials.



City of Waterbury Construction Administration & REI Services for W.A.T.E.R. Project (Tasks 2 & 3), Waterbury, CT

Duration: 2019-2020 | Project Cost: \$6.5M

AIE provided constructability review, construction administration, resident engineering, and inspection services for the Waterbury Active Transportation and Economic Resurgence (W.A.T.E.R.) Project Tasks 2 and 3 - Improvements to Jackson and Meadow Street. This project was funded by the FHWA TIGER VI Grant.



This project consisted of two (2) separate components:

- i. Task 2 - Jackson Street Improvements: This component reconstructed the dead-end Jackson Street from Bank Street to its current terminus and extended it through Freight Street to West Main Street to create a new north-south connection and begin a block network for the redevelopment of the district; and,
- ii. Task 3 - Meadow Street Improvements: This component involved reconstructing concrete sidewalks and driveway aprons and extending the shared-use path from Freight Street to the Waterbury train station to improve access from the riverfront to the station and the downtown.

CTDOT Task Order Land Surveying Services, Statewide, CT

Duration: 2014 - Present | Project Cost: \$4M (fee)

AIE is providing task-based land surveying services for various projects for CTDOT. In addition to traditional ground surveys, the contract requires the utilization of several specialized methods of data collection, like terrestrial LiDAR scanning, bathymetric surveying, and subsurface imaging using ground penetrating radar. Wetland delineation services are also to be provided for the duration of the contract. Assignments under the contract include various data collection surveys for highway and bridge construction projects, including the survey and location of topography, roadway and bridge features, utilities, site, and hydrographic information.



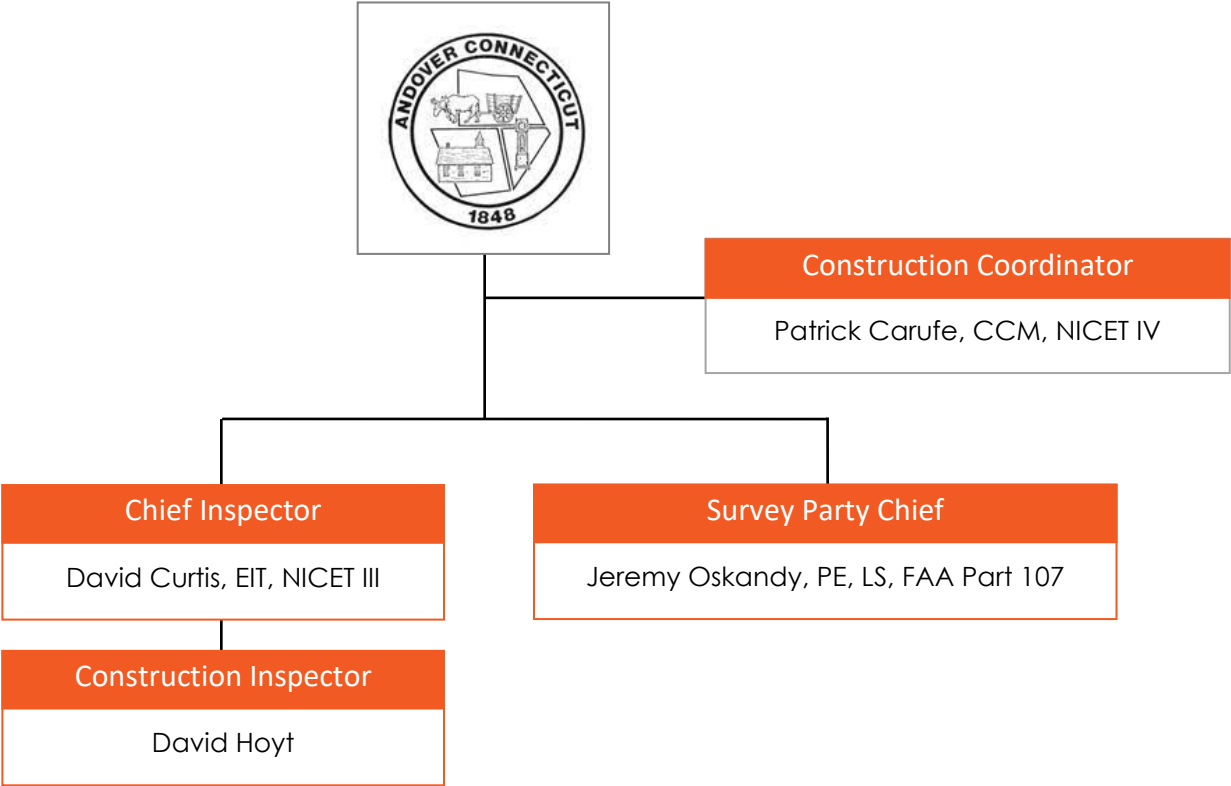
Town of Hamden Topographic Survey of Hamden Middle School, Hamden, CT

Duration: 2020 | Project Cost: \$10,000 (fee)

AIE performed a partial boundary and topographic survey for the Town of Hamden at the Hamden Middle School for a proposed addition to the building. The area covered was approximately 7 acres and mostly open area, which qualified it as a good candidate to implement an Unmanned Aircraft System (UAS) to capture the majority of the site features and contours. The topography in wooded areas was field shot with traditional methods, and all trees over 6 in. diameter were also located and mapped. All underground and overhead utilities within the project area were marked by a third party and then located and mapped by AIE.



ORGANIZATIONAL CHART



Education:

- BS, Construction Management, Utica College of Syracuse University, 1990
- AS, Construction Engineering, Canton College of Technology, 1988
- State University of New York College, Cortland, 1984-1986

Professional Licenses and Certifications:

- Certified Construction Manager (CCM)
- NICET IV

Training:

- NETTCP Certified:
 - Paving Inspector
 - Concrete Inspector
 - Soils Inspector
 - Quality Assurance Technician
 - Drilled Shaft Inspector
- Qualified Compliance Inspector of Storm Water (QCIS)
- ACI Concrete Field-Testing Technician – Grade 1
- OSHA 30-Hour
- OSHA 10-Hour

Years of Experience:

- 32 Years

Mr. Carufe has over 32 years of construction engineering and inspection experience on projects that include bridge, roadway, railroad and facilities reconstruction and improvements. He has provided inspection services on several transportation infrastructure projects and is well-versed in federal, state, and municipal construction policies and procedures. Mr. Carufe has provided field inspection services, supervised other inspectors, overseen the project material testing, assisted with the preparation of necessary construction orders, attended all project meetings, and assisted with resolving construction issues. He has significant experience in steel and concrete structures, roadway resurfacing, railroad track alignments, utility installation, and safety improvements. While executing these projects, Mr. Carufe has effectively coordinated with public owners' representatives, overseen the maintenance and protection of traffic, delivered on safety, as well as met all project compliance requirements per contract documents. His relevant project experience is as follows:

- **Town of Westport Replacement of Bridge No. 04969 Bayberry Lane #2 over Aspetuck River, Westport, CT** - Served as Construction Coordinator for this project. Duties included overseeing the AIE staff and ensuring that all work was performed in accordance with the contract documents, as well as Town and State standards. Attended all Progress and various Project Meetings to stay apprised of the Project development and continued to have a direct contract with the Town of Westport to make certain all the Project requirements were satisfied. Performed spot inspections of project records and checks on computations to ensure inspection staff kept up with project constraints and verified the accuracy of payments. Also, managed construction inspection billing and budget to track costs and ensure the project falls within the CE Construction Inspection Service Agreement.
- **Town of Oxford Replacement of Bridge No. 04913 Dutton Road over Little River, Oxford, CT** - Served as Construction Coordinator for this project. Duties included overseeing the AIE staff and ensuring that all work was performed in accordance with the contract documents, as well as Town and State standards. Attended Progress and various Project Meetings and maintained a direct contract with the Town of Oxford to make certain all the Project requirements were satisfied. Performed spot inspections of project records and checks on computations to ensure inspection staff kept up with project constraints and verified the accuracy of payments. Assisted the Chief Inspector with Project Closeout to minimize the time needed for Project Acceptance and Final Material Certification. Also, managed construction inspection billing and budget to track costs and ensure the project falls within the CE Construction Inspection Service Agreement.
- **City of Norwich Rehabilitation of Pleasant Street Bridge over Yantic River, CT** - Served as Resident Engineer for this project. Duties included performing all construction inspections for the project, which included the reconstruction of Bridge 04745 Pleasant Street over the Yantic River. A new cast-in-place deck was installed on the existing steel frame, and the existing slide and fixed bearings were replaced with elastomeric bearings. The concrete deck was made continuous over the center pier, thus eliminating the deck joint and the potential for future deterioration of the beam ends, elastomeric bearings, and concrete pier cap. New bridge and guide rails were installed along

with new end walls at each corner of the bridge. The bridge deck was waterproofed utilizing a cold-applied membrane, and Pleasant Street was reconstructed on either side of the bridge with full-depth pavement and concrete curbs. Also performed all field tests on concrete, asphalt, and soils. Office Duties were to receive, reply, and log all project correspondence, RFI's, and RFC's. Also reviewed/approved all construction scheduling and was responsible for processing construction orders and material certifications. Performed all workups for payment quantities, administered all payment requisitions and monthly wage checks, and monitored DBE requirements. Conducted bi-weekly progress meetings and recorded minutes. Recorded all changes to the plan sheets and prepared a final project as-built plan.

- **Town of Avon Rehabilitation of Old Wheeler Lane Bridge over Roaring Brook, Avon, CT** - Served as Chief Inspector for this project. Duties included performing all construction inspections for the project, which included the reconstruction of Roaring Brook with 3 ft. of standard rip rap scour protection cover by native material, replacement of the existing prestressed concrete deck with new prestressed concrete deck and asphalt wearing course, new sidewalks on the bridge deck as well as on the approaches, new simulated stone concrete end walls at all four corners of the bridge, new 4 rail steel bridge rail and steel-backed wood guide rail. Old Wheeler Lane and Court were also reconstructed with full-depth pavement and concrete curbs. Also performed all field tests on concrete, asphalt, and soils. Office Duties were to receive, reply, and log all project correspondence, RFI's, and RFC's. Also reviewed and approved all construction scheduling and was responsible for processing construction orders and material certifications. Performed all workups for payment quantities and administered all payment requisitions. Performed monthly wage checks, reviewed certified payrolls, verified proper wages, and monitored DBE requirements. Conducted bi-weekly project progress meetings and recorded meeting minutes. Recorded all changes to the plan sheets and prepared a final project as-built plan.
 - **City of Waterbury Construction Administration & REI Services for Waterbury Active Transportation and Economic Resurgence (W.A.T.E.R.) Project, Task 2 Jackson Street Improvements & Task 3 Meadow Street Improvements, Waterbury, CT** - Served as a Project Manager overseeing AI Engineers, Inc. (AIE) staff and ensuring that all work was performed in accordance with the contract documents as well as City and State standards. Attended all progress and project meetings to stay apprised of project development and maintained continual direct contact with the City of Waterbury to ensure all the project requirements were satisfied. Also, oversaw all aspects of the constructability review for Task 2, Jackson Street Improvements, and Task 3, Meadow Street Improvements. Reviewed 60% plans and special provisions. Constructability for the two roadways was evaluated to ensure all components were correct, such as grading. Drainage plans were reviewed to ensure there was connectivity between basins and that there would be no ponding issues at intersections and at the driveway and R.O.W. limits. Quantity take-offs were also performed as an independent check of the Engineer's workup. Specifications were reviewed to ensure that all aspects of each item had the proper inclusions for materials, construction methods, method of measurement, and basis of payment. All findings of the 60% review were compiled and returned to the design engineer. Another review of the plans and special provisions was done at the 90% review to ensure all proposed changes were carried through. Reviewed any additional plans and specifications not shown on the 60% plans.
 - **CTDOT Reconstruction of Interchange 33 on I-95, Stratford, CT** - Serving as Resident Engineer for this project involving the reconstruction of Interchange 33 on I-95. The major aspect of the project is to construct a new SB off-ramp and new NB on-ramp along I-95 at exit 33, creating a full Interchange. The project includes the construction of 3 retaining walls utilizing the native ACS for backfill. Additionally, the project includes the remediation of a "Raymark Superfund Site." A new GRS-IBS will carry the SB I-95 Off-Ramp over Barnum Avenue Cutoff, and Bridge #134 will be widened to the south to accommodate the new NB I-95 On-Ramp. Minor intersection and traffic signal upgrades will also be done as a part of the Project. Duties include supervising all field inspectors. Also overseeing and administering all construction documents, including payment applications, construction orders, material certifications, and testing approvals, performing construction schedule reviews and approvals and coordination, which includes conducting and recording all construction meetings. Involved in the processing and resolution of all construction RFIs and RFCs. Also, in charge of Environmental coordination between the federal, state, and local authorities. Responsible for the coordination of all the various utility work project-wide and heavily involved with public outreach.
-

Education:

- BS, Civil Engineering, University of Connecticut, 2014

Professional Licenses and**Certifications:**

- Engineer-In-Training: CT
- NICET Highway Construction Inspection III
- NETTCP Certified:
 - HMA Paving Inspector
 - Concrete Inspector
 - Drilled Shaft Inspector
- ACI Concrete Field-Testing Technician – Grade I
- ATSSA Traffic Control Supervisor
- Qualified Compliance Inspector of Stormwater (QCIS)

Training:

- OSHA 10-Hour
- OSHA Confined Space Safety
- Q/C Resource - Troxler Nuclear Density Gauge
- APNGA

Years of Experience:

- 9 Years

Mr. Curtis has over nine (9) years of experience in bridge and highway construction projects. He has extensive experience in field inspections, processing and performing material testing and samples, providing daily work reports on contractor's activities, performing office engineering duties and aiding the field office staff, performing extensive calculations, and managing reference folders and books. Tasks include document control for road, bridge, utility, and structure projects. Mr. Curtis also serves as an Assistant Civil Engineer, providing engineering support services on various projects, including utility, roadway, highway design and bridge rehabilitation or replacement. His work experience includes the following:

- **CTDOT Replacement of Bridge #5115, New Milford, CT** - Serving as Chief Inspector for this DOT MSAT project, which includes the replacement of Bridge #5115, Upland Road over East Aspetuck River. The project is replacing an existing 34' long x 25' wide bridge with steel beams supported on spread footings and expanding the bridge to 45' long x 27.5' wide, supported on drilled micropile foundations and prestressed deck units. The project includes micropile drilling; concrete placement and ACI testing; excavation, backfill, and compaction; full-depth reconstruction; steel guardrail installation; maintaining active detours; placing galvanized rebar, prestressed deck units, and waterproof membrane; and installing a 3-tube curb-mounted guardrail. In addition to field activities, office engineering duties include managing the DOT 5-volume reference system; creating and processing change orders and estimates; reviewing RFIs, RFCs, and submittals; scheduling and coordinating materials acceptance and assurance testing; processing certified payrolls and labor wage checks; creating daily work reports; scheduling and coordinating project meetings; performing extensive calculations; and maintaining working relationships with contractors, engineers, the town, and state officials.
- **CTDOT Reconstruction of I-84, Waterbury, CT** - Served as Construction Inspector performing utility, highway, and site inspection services for the reconstruction and upgrade of 2.7 miles of I-84 eastbound and westbound between Washington Avenue and Pierpont Road in Waterbury, CT. The project included the realignment of interstate roadways, construction/replacement of 8 highway bridges, seven (7) culverts), 20 retaining walls, pile driving over 500 steel H-piles, and paving on mainline I-84 and city streets. Most active inspection roles were the inspection and installation of drilled shaft foundations, cantilever, and overhead 4-chord truss sign structures, retroreflective signs, post- and side-mounted signs, excavation of rock for drilled sign structures, rebar inspection for spiral cages, anchor rods, and bolt connections, and metal beam rail systems, including anchorages, transitions, and 3-cable systems. Also provided MPT and temporary traffic control operations for highway and roadway sign construction.
- **CTfastrak Contract 1, New Britain, CT** - Served as Construction Inspector for Contract 1, which involved roadway reconstruction of Route 72 ramp relocations, combined busway and trail networks, a new 700 ft., five-span bridge, and a new bus station. This section of the new busway included the construction of a parallel multiuse trail for most of its length. Duties included inspecting metal beam rail, permanent signs and breakaway sign structures, sidewalks, electrical connections and IMS, and facility and stormwater structures.
- **CTDOT Replacement of Bridge#4913, Oxford, CT** - Serving as Chief Inspector for this DOT MSAT project, providing construction engineering

and inspection services for the replacement of Bridge #4913, Dutton Road over Little River, in Oxford, CT. The project is replacing an existing 30' long x 20' wide bridge on spread footings with a 45' long x 30' wide prestressed deck unit bridge on micropile foundations. The project included complete demolition and replacement during staged construction; drilling micropiles; setting of concrete and galvanized rebar; full-depth reconstruction and paving; new drainage structures; steel and timber guardrail; concrete form liners; commercial and residential driveways; sidewalks; new signs and line striping. Office engineering duties include processing and reviewing labor wage checks, payrolls, construction change orders, RFIs, RFCs, and submittals, running project meetings, processing estimates, managing the DOT's 5-volume system, maintaining accurate daily work reports, performing extensive calculations, and promoting working relationships with contractors, engineers, town and state officials, and neighbors.

- **CTDOT Rehabilitation of Bridges over Oil Mill Road, Waterford, CT** - Served as a Staff Engineer and provided engineering services for the List 22-25 Bridge Design Program. In Waterford, Bridge Nos. 00352A and 00352B consisted of two separate single-span, simply supported superstructures carrying two lanes of traffic on I-95 NB and SB over Oil Mill Road. This project involved the replacement of both superstructures with pre-stressed concrete "NEXT F Beams" utilizing the lateral slide Accelerated Bridge Construction technique.
- **CTDOT Rehabilitation of Bridge over Route 5 carrying Route 190, Enfield, CT** - Served as Staff Engineer and provided engineering services for the List 22-25 Bridge Design Program. In Enfield, Bridge No. 03361 is a two-span continuous steel girder structure that carries U.S. 5 (Enfield Street) over Route 190 (Hazard Avenue). Traffic signal equipment at two intersections was modified to accommodate the new lane arrangements. There was a storm drainage modification, and a gutter flow analysis was performed to ensure that the existing drainage system adequately conveyed storm flows without flooding travel lanes.
- **CTDOT Pavement Preservation Program, District 2, Norwich, CT** - Served as Senior Inspector on a pavement preservation project on I-395. The project involved the replacement of catch basin tops, milling, paving, and pavement markings. The roadway was resurfaced with Polymer Modified Asphalt (PMA) paving. Tasks included inspecting the existing pavement surface for deformities, defects, damage, smoothness, and rideability issues. Mr. Curtis was responsible for marking out locations that needed repair, such as crack sealing, surface patching, and partial depth roadway replacement. He inspected surface patching, partial depth reconstruction, and crack sealing sequences and monitored operations to ensure the contractor performed all duties within state specifications and per plan. He ensured all surfaces were clean before applying the tack coat, ensured proper rolling and compaction of asphalt was done, inspected bituminous concrete curbing for any damage due to traffic, erosion, snowplows, etc., and marked the location of curbing that needed replacement. He inspected catch basin tops for damage, defects, and deformities, marked the location of and replaced or reset catch basin tops as needed. He reviewed the contract and DOT plans and specifications, contract schedules, and quality control plan requirements and upheld proper MPT. He performed calculations and computations in the field and for Volume 3 book system documentation; documented ongoing field progress on site; wrote daily work reports; tracked equipment and personnel; monitored and made payments; conducted labor wage checks; and recorded the daily weather and contractor times.
- **CTDOT I-95 Median and Highway Safety Repairs, Norwalk, CT** - Served as Assistant Office Engineer for this project, providing construction engineering and inspection services. The project involved median and safety improvements on I-95 in Westport and Norwalk, CT, including accelerated bridge construction. Services included managing and updating project records; performing extensive calculations; processing and managing project documents using AASHTOWare and COMPASS; reviewing and checking inspector's daily work reports; scheduling and coordinating materials testing; providing assistance on daily inspections and concrete pours with material testing per ACI standards; reviewing and processing payrolls; performing labor wage checks; updating plans; creating sample records for new items and materials; and processing estimates and construction change orders.
- **City of Springfield Six Corner Intersection Improvement, Springfield, MA** - Served as the Chief Inspector for the City of Springfield, providing construction engineering and inspection services for a new roundabout with 5 Incoming lanes and 6 exit lanes. The project included installing new post-mounted signs, utility conduits and lighting, full-depth roadway reconstruction, milling, paving, sidewalks, granite curb, stamped-concrete sidewalks, and stormwater and sewer structures connecting to combined-use systems. The project also included writing Daily Work Reports of contractors' activities, estimates, and payable quantities and setting up meetings with city departments and utility companies.

Education:

- BS, Civil Engineering Technology, Central Connecticut State University, 2011
- Diploma in Architectural & Civil Drafting & Design, Porter, and Chester Institute, 2000

Professional Licenses and Certifications:

- Professional Engineer: CT
- Licensed Surveyor: CT
- FAA Part 107 Licensed

Training:

- OSHA 10 - Hour

Years of Experience:

- 23 Years

Mr. Oskandy has over 23 years of experience in land surveying and civil/site design. He has extensive experience in land use permitting at the local, state, and federal levels and residential, commercial, and industrial property surveys. His expertise includes site layout, grading, utility design, erosion and sedimentation control, and drainage design. Mr. Oskandy is proficient with Bentley Microstation, Open Roads Survey, Open Roads Designer, ArcGIS Pro, Pix4D, TopoDOT, HEC-RAS, and BlueBeam. His key project experience includes the following:

- **Town of Westport Sanitary Sewer Extension, Westport, CT** - Served as Party Chief responsible for identifying surface improvements, utilities, measure downs, and other surface features, including topo shots, wetland flags, and detailed three-sided culvert locations. The role extended to topographic mapping of a section of the Right-of-Way (ROW) as required. In addition, Mr. Oskandy was involved in map production, compiling utility mapping, and performing boundary computations developed by senior surveyors while generating the topographic surface.
- **Town of Hamden Topographic Survey of Hamden Middle School, Hamden, CT** - Served as Senior Survey Technician performing a partial boundary and topographic survey for a proposed addition to the building. The scope involved an Unmanned Aircraft Systems (UAS) flight over the property, which collected 20-megapixel geotagged high-resolution nadir photos of the sites and ground control points. The data was processed to generate surfaces, contours, a point cloud, and a base drawing from that flight.
- **CTDOT On-Call Land Surveying Services, Statewide, CT** - Serving as Chief of Survey for this on-call contract involving Traditional Ground Survey, Terrestrial Laser Scanning, GPS, Mobile LiDAR, and other New Technology. Responsible for overall Project Management of the Task order contract: scoping, estimating, and scheduling Task Orders; determining optimum means and methods for performance and delivery of Task Orders; coordinating with subcontractors, including Maintenance and Protection of Traffic providers, local and state Police, Aerial Survey firms, etc. Also responsible for review of research and various computations, QA/QC of maps, and deliverables. Ensure all work is performed and deliverables provided are per CTDOT standards. To date, projects completed include a 3D Scan of the Amtrak/Metro-North Railroad Car & Diesel Maintenance Facility in New Haven, a 3D scan of Darien Station in Darien, a 4-mile section of I-95 in Westport, aerial photogrammetry, and mapping for the 7/15 interchange in Norwalk, CT; and currently finishing up an 8-mile section of I-84 in Southbury and Middlebury. For I-95 in Westport and I-84 in Southbury, Mobile Laser Scanners were utilized to scan the paved portions of the highway for the State's Pavement Rehabilitation Program.
- **CTDEEP Land Surveying Services for Thomas Properties, Canaan, CT** - Served as Instrument Person providing a land survey for property the CTDEEP intends to acquire from a private owner and annex into an abutting State Forest as part of an On-Call Survey contract. This property consists of nearly 300 acres total on both sides of Route 7 in Canaan, CT. Both parcels are challenging concerning the survey aspect because the parcel on the west side of Route 7 consists of approximately 200 acres, about half of which is part of the Robbins Swamp. This swamp has some extremely dense vegetation and a watercourse flowing through it. The parcel on the east side of Route 7,

which consists of approximately 100 acres, has an extreme vertical challenge. From Route 7 to the rear of this parcel, there is a nearly 1,000-ft. vertical climb. Both parcels required marking the boundary lines per CTDEEP standards after the complete survey but before submitting the final maps.

- **Sonoma Woods Active Adult Community, Middletown, CT** - Served as Crew Chief conducting construction layout and as-built surveys for individual buildings. His tasks involved selecting points for occupation and back site. Mr. Oskandy made decisions on how to mark and describe each point based on field conditions and the nature of the point (e.g., corner of the house, limit of grading). Furthermore, he furnished a concise description to the on-site contractor and documented the point as a reference for office check-ins and potential future use.
 - **CTDOT I-91 South, Hartford, CT** - Performed a 3D scan of the viaduct as part of the highway improvement project. His duties included supporting targeting activities, such as setting and orienting targets on bipods and operating the scanner.
 - **Town of Mount Kisco Leonard Street, Mount Kisco, NY** - Served as Party Chief responsible for identifying surface improvements, utilities, measure downs, and other surface features for the topographic mapping of a section along the Right-of-Way (ROW). Furthermore, he undertook additional duties related to map production.
 - **RIDOT Route 1, Westerly, RI** - Served as Senior Survey Technician. Responsible for coordinating Mobile Scanning, providing control/targeting, and adding abutters for 170 residential and commercial properties along 2.5 miles of Route 1. I also assisted with computing the plats and fitting them into existing documentation. Provided quality control on the topography.
 - **Empress Drive Residential Subdivision, Southington, CT** - Served as Instrument Person conducting boundary reconnaissance and establishing the traverse control point locations in the field. Executing the traverse, he carried out the boundary survey, accurately locating all identified items from the reconnaissance relevant to the boundary survey and focusing on precision through double angles. Following the boundary survey, Mr. Oskandy proceeded with the existing conditions survey, encompassing topography and precise location of all elements crucial for property development. Additionally, he performed construction layouts and later conducted as-built surveys for roads, utilities, and various individual houses. Also measured utility inverts and created field book sketches for mapping.
 - **Town of Ridgefield Bear Mountain Road, Ridgefield, CT** - Served as Transit Person. This project entailed a dependent resurvey of the property, involving reconnaissance and boundary location, and setting and running a traverse for the dependent resurvey to mark the property lines. Mr. Oskandy was responsible for retrieving existing documentation and staking the new documentation for the AIE set.
 - **Yarde Metals Warehouse, Newell Street & Redstone Street, Southington, CT** - Conducted boundary reconnaissance for the warehouse site and Redstone and Newell Streets. Executed segments of the existing conditions survey involving the field location and topography of Newell and Redstone Streets, the subject property, and adjacent properties. Mr. Oskandy also measured utility inverts and documented the mapping configuration through sketches in the field book.
 - **Sterling Woods, Silversmith Drive, Danbury, CT** - As Project Engineer, he took partial topographic surveys and created reclamation plans for this multi-family development's roadway, parking area, and driveway infrastructure. The engineering and implementation of the plans were phased out over several years. Mr. Oskandy was responsible for reviewing existing roads and driveways and creating an improvement plan to determine the probable cause of pavement failures and poor drainage and propose cost-effective remedies, including partial reconstruction, full-depth reclamation, mill, and overlay, and adding underdrains. He was responsible for assisting and providing support for clients and contractors as needed throughout construction, including construction inspections, final inspections, reviewing/approving submittals, and change orders.
-

Education:

- BS, Mechanical Engineering, University of New Haven, 1981
- AS, Civil Technology, Hartford State Technical College, 1978

Training:

- NETTCP Certified:
 - Paving Inspector
 - Concrete Inspector
 - Drilled Shaft Inspector
- ATSSA Traffic Control Supervisor

Years of Experience:

- 40 Years

Mr. Hoyt has over 40 years of construction engineering and inspection experience on projects that include roadway, bridge, and railroad reconstruction and improvements. He has provided inspection services on several transportation infrastructure projects and is well-versed in federal, state, and municipal construction policies and procedures. Mr. Hoyt has provided field inspection services, supervised other inspectors, overseen the project material testing, assisted with the preparation of necessary construction orders, attended all project meetings, and assisted with resolving construction issues. His relevant project experience is as follows:

- **CTDOT Replacement of Bridge No. 05588, Rte. 74 over Hockanum River, Vernon, CT** - Served as Chief Inspector for this project, which involved the replacement of the existing twin culvert structure with a 42-foot clear span consisting of precast pre-stressed concrete deck units cast integral on pre-cast abutments, founded on the pile.
- **CTDOT Project 0172-0500 – Ultra-Thin Bond PMA, Bozrah, Groton, Lebanon, Montville, and Norwich, CT** - Served as Construction Inspector, involved with fine milling of bituminous concrete, joint and crack sealing of bituminous concrete pavement, Ultra-Thin Bonded PMA Pavement (Type B), catch basin repairs and top replacement, and traffic signal work including vehicle detection (camera and video) sensors and equipment within the Towns of Bozrah, Groton, Lebanon, Montville, and Norwich and included work on Route 2, I-395, and I-95.
- **CTDOT 2021 Pavement Preservation Program Ultra-Thin Bonded PMA, District 2, CT** - Served as Senior Construction Inspector for the pavement preservation project within the Towns of Bozrah, Groton, Lebanon, Montville, and Norwich along Route 2, I-395 and I-95. Work involved fine milling of bituminous concrete (0"- 4"), joint and crack sealing of bituminous concrete pavement, Ultra-Thin Bonded PMA Pavement (Type B), catch basin work, and traffic signal work including vehicle detection (camera and video) sensors and equipment.
- **CTDOT 2022 Pavement Preservation Program Ultra-Thin Bonded PMA, District 2, CT** - Served as Senior Construction Inspector, involved with fine milling of bituminous concrete (0"- 4"), joint and crack sealing of bituminous concrete pavement, Ultra-Thin Bonded PMA Pavement (Type B), catch basin repairs and top replacement, and traffic signal work including vehicle detection (camera and video) sensors and equipment within the Towns of Colchester, Essex, and Salem along Routes 11 and 153.
- **CTDOT Realignment of Route 319 (Orcuttville Road) Between Gale Drive and Furnace Avenue, Stafford, CT** - Served as Chief Inspector. Description: This Project involved improving roadway cross slopes through the curves on Rte. 319, the reconstruction of the roadway and upgrading of the existing drainage systems.
- **CTDOT Charter Oak Greenway Shared Use Path, Manchester & Bolton, CT** - Served as Chief Inspector for this project, which involved the construction of a shared use path to provide a dedicated recreational area for pedestrians, bicyclists, skaters, wheelchair users, joggers, and other non-motorized users. The project consisted of two bi-directional paved travel lanes with five-foot grass shoulders on either side, improvements on the Bridge No. 03598/ Route 85 overpass (deck, joints, parapet, fencing), installation of pre-cast units to separate vehicular traffic and the path, surface, and subsurface drainage improvements and the

installation of Pedestrian bridges over Rte. 6/44 and minor water courses. The project began at the intersection of Camp Meeting Rd (SR 534) and Finley St. (Manchester), continued east across the Manchester/Bolton Line, and ended at the existing parking lot for the Hop River State Park Trail.

- **CTDOT Project W-308- C1 – Rehab Runway 11-29, Worcester Airport, Worcester, MA** – Served as Chief Inspector. Rehabilitation work for these runways involved extensive milling and paving, with the Contractor laying over 17,000 tons of blacktop. Had to meet FAA standards for runway safety.
 - **CTDOT Traffic Control Improvements, Manchester, CT** - Served as Chief Inspector. This Project involved the interconnecting, installation, and upgrading of numerous traffic signals, controllers, span poles and foundations, the installation of various signage and pavement markings on Hale Rd., Buckland Hills Drive, Buckland Street, Pleasant Valley Road, and Tolland Tpke. In the Town of Manchester.
 - **CTDOT New Exterior Building Signs Bradley International Airport, Windsor Locks, CT** - Served as Chief Inspector. This Project involved the installation of new exterior building signs at Bradley International Airport, the installation of overhead sign supports and foundations along Route 20, and the installation of various signage and side-mounted signs and foundations along Route 75.
 - **CTDOT West Willington Rest Areas Septic System Rehabilitation, Willington, CT** - Served as Chief Inspector for this project, which involved the rehabilitation of the septic systems at the eastbound and westbound rest areas on I-84 in Willington. Each new septic system will include a nitrogen pretreatment system, an equalization tank, and a replacement leaching field. Renovations within the buildings include plumbing and fixture replacement, retiled restrooms, standby generators, and electrical upgrades.
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ARCHITECT – ENGINEER QUALIFICATIONS

PART I – CONTRACT-SPECIFIC QUALIFICATIONS

A. CONTRACT INFORMATION

1. TITLE AND LOCATION (City and State)

Town of Andover Bridge Construction Inspection Services for the Replacement of Bunker Hill Road Bridge over Hop River, Andover, CT

2. PUBLIC NOTICE DATE

1/24/2024

3. SOLICITATION OR PROJECT NUMBER

AN-2024-25 01 | State Project No. 0001-0106

B. ARCHITECT-ENGINEER POINT OF CONTACT

4. NAME AND TITLE

Rohit Pradhan, PE - Senior Vice President

5. NAME OF FIRM

AI Engineers, Inc.

6. TELEPHONE NUMBER

860-635-7740

7. FAX NUMBER

860-635-7312

8. E-MAIL ADDRESS

rpradhan@aiengineers.com

C. PROPOSED TEAM

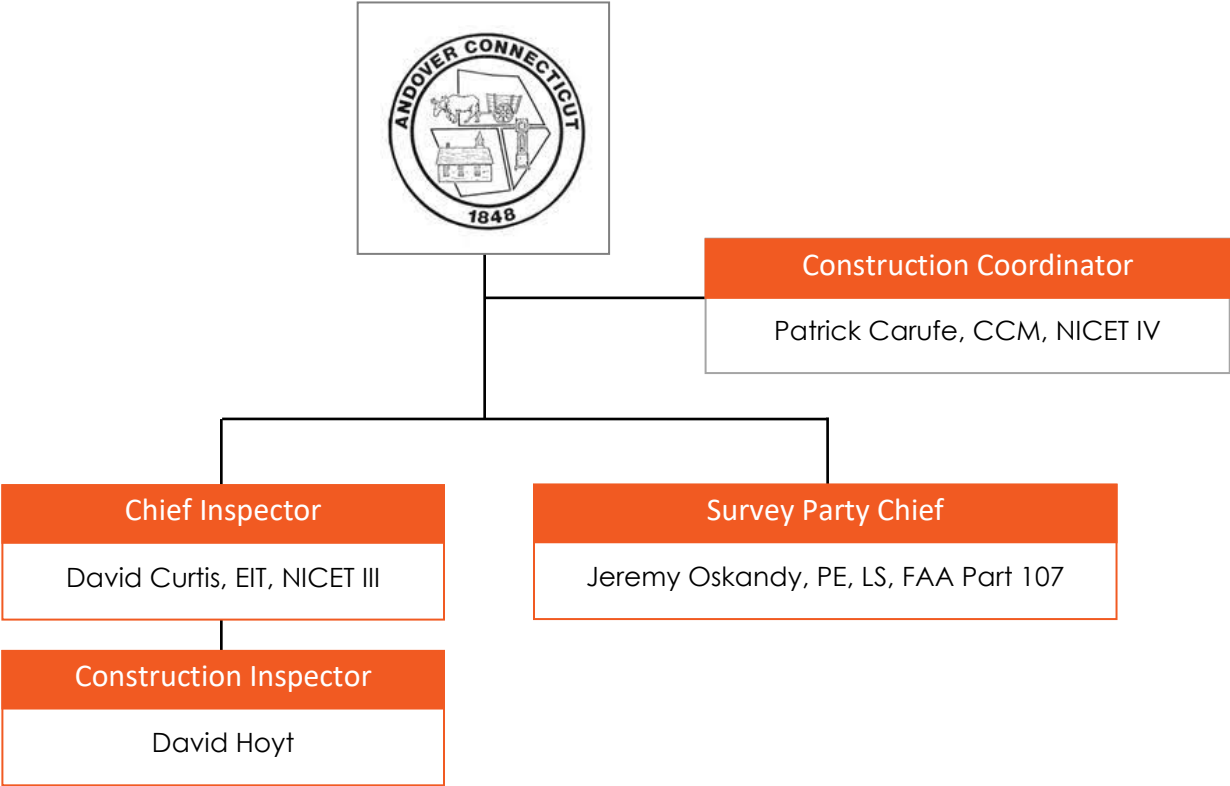
(Complete this section for the prime contractor and all key subcontractors)

	(Check)			9. FIRM NAME	10. ADDRESS	11. ROLE IN THIS CONTRACT
	PRIME	J-V PARTN	SUBCO			
a.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	AI Engineers, Inc. <input type="checkbox"/> CHECK IF BRANCH OFFICE	919 Middle Street Middletown, CT 06457	▪ Construction Inspection
b.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	 <input type="checkbox"/> CHECK IF BRANCH OFFICE		
c.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	 <input type="checkbox"/> CHECK IF BRANCH OFFICE		
d.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	 <input type="checkbox"/> CHECK IF BRANCH OFFICE		
e.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	 <input type="checkbox"/> CHECK IF BRANCH OFFICE		

D. ORGANIZATIONAL CHART OF PROPOSED TEAM

☒ (Attached)

ORGANIZATIONAL CHART



E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME Patrick Carufe, CCM, NICET IV		13. ROLE IN THIS CONTRACT Construction Coordinator		14. YEARS EXPERIENCE	
				a. TOTAL 32	b. WITH CURRENT FIRM 23
15. FIRM NAME AND LOCATION (City and State) AI Engineers, Inc. Middletown, CT					
16. EDUCATION (Degree and Specialization) BS, Construction Management, Utica College of Syracuse University, 1990 AS, Construction Engineering, Canton College of Technology, 1988 State University of New York College, Cortland, 1984-1986			17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) Certified Construction Manager NICET IV		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) NETTCP Certified: HMA Paving Inspector, Concrete Inspector, Drilled Shaft Inspector, Soils & Aggregate Inspector, Quality Assurance Technician; OSHA 10-Hour; ACI Grade I Technician					

19. RELEVANT PROJECTS

	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
a.	Town of Westport Replacement of Bayberry Lane Bridge over Aspetuck River, Westport, CT	PROFESSIONAL SERVICES 2018-2021	CONSTRUCTION (if applicable) 2021
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Served as Construction Coordinator for this project. Duties included overseeing the staff and ensuring that all work is performed in accordance with the contract documents, as well as Town and State standards. Attended all progress and various project meetings to stay apprised of the project development and continued to have direct contact with the Town of Westport to make certain all the project requirements were satisfied. Performing spot inspections of project records and checks on computations to ensure inspection staff keeps up with project constraints and verifies the accuracy of payments. Also managed construction inspection billing and budget to track costs and ensure the project is within the CE Construction Inspection Service Agreement. Project Cost: \$2.3M		
b.	Town of Oxford Replacement of Dutton Road Bridge over Little River, Oxford, CT	PROFESSIONAL SERVICES 2017-2022	CONSTRUCTION (if applicable) 2022
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Served as Construction Coordinator for this project. Duties included overseeing the staff and ensuring that all work was performed in accordance with the contract documents, as well as Town and State standards. Attended progress and various project meetings while maintaining direct contact with the Town of Oxford to ensure all project requirements were satisfied. Checked computations to ensure inspection staff kept up with project constraints and verified the accuracy of payments. Assisted the Chief Inspector with project closeout to minimize the time needed for Project Acceptance and Final Material Certification. Also managed construction inspection billing and budget to track costs and ensured the project was within the CE Construction Inspection Service Agreement. Project Cost: \$1.5M		
c.	City of Norwich Rehabilitation of Pleasant Street Bridge over Yantic River, Norwich, CT	PROFESSIONAL SERVICES 2015-2018	CONSTRUCTION (if applicable) 2018
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Served as Resident Engineer. Duties included performing all construction inspections for this project. Office Duties were to receive, reply and log all project correspondence, RFIs, and RFCs. Also reviewed and approved all construction scheduling and was responsible for processing construction orders and material certifications. Performed all workups for payment quantities and administered all payment requisitions. Performed monthly wage checks, reviewed certified payrolls, verified proper wages, and monitored DBE requirements. Conducted bi-weekly project progress meetings and recorded all meeting minutes. Recorded all changes to the plan sheets and prepared a final project as-built plan. Project Cost: \$1.3M		
d.	Town of Avon Rehabilitation of Old Wheeler Lane over Roaring Brook, Avon, CT	PROFESSIONAL SERVICES 2013-2017	CONSTRUCTION (if applicable) 2017
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Served as Chief Inspector, where duties included performing all construction inspections for the project, which involved the reconstruction of Roaring Brook with standard rip rap scour protection cover by native material, replacement of the existing prestressed concrete deck with new prestressed concrete deck and asphalt wearing course, new sidewalks on the bridge deck as well as on the approaches, new simulated stone concrete end walls at all four corners of the bridge, new 4-rail steel bridge rail and steel-backed wood guide rail. Project Cost: \$1M		
e.	CTDOT Reconstruction of Interchange 33 on I-95, Stratford, CT	PROFESSIONAL SERVICES 2019-Present	CONSTRUCTION (if applicable) Present
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Serving as Resident Engineer for this project involving the reconstruction of Interchange 33 on I-95. Duties include supervising all field inspectors, overseeing/administering all construction documents, including payment applications, construction orders, material certifications, and testing approvals, and is responsible for performing construction schedule reviews and approvals and coordination, which includes conducting and recording all construction meetings. Involved in the processing and resolution of all construction RFIs and RFCs. Project Cost: \$30.1M		

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
David Curtis, EIT, NICET III	Chief Inspector	a. TOTAL	b. WITH CURRENT FIRM
		9	9

15. FIRM NAME AND LOCATION (City and State)

AI Engineers, Inc. | Middletown, CT

16. EDUCATION (DEGREE AND SPECIALIZATION)

BS, Civil Engineering, University of Connecticut, 2014

17. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)

EIT; NICET III

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

NETTCP: Hot Mix Asphalt Paving, Concrete Inspector, Drilled Shaft Inspector; OSHA 10-Hour; OSHA Confined Space Safety; ACI Concrete Field Testing Technician; ATSSA Traffic Control Supervisor; Qualified Compliance Inspector of Stormwater

19. RELEVANT PROJECTS

(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
CTDOT Reconstruction of I-84, Waterbury, CT	PROFESSIONAL SERVICES 2015-2019	CONSTRUCTION (if applicable) 2019
a. (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Served as Inspector providing construction engineering and inspection, including utility inspection services for the reconstruction and upgrade of 2.7 miles of I-84 eastbound and westbound between Washington Avenue and Pierpont Road in Waterbury, CT. Project Included the realignment of the interstate roadway, construction/replacement of 8 highway bridges, 7 culverts, 20 retaining walls, pile driving over 500 steel H-piles, and paving on mainline I-84 and City streets. <i>Project Cost: \$330M</i>	Check if project performed with current firm <input checked="" type="checkbox"/>	
(1) TITLE AND LOCATION (City and State) CTDOT Replacement of Bridge #5115, New Milford, CT	PROFESSIONAL SERVICES 2023-Present	CONSTRUCTION (if applicable) 2023-Present
b. (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Serving as Chief Inspector for this DOT MSAT project, providing construction engineering and inspection services for the replacement of bridge #5115, Upland Road over East Aspetuck River, New Milford, CT. The project is replacing an existing 34' long x 25' wide bridge with steel beams supported on spread footings and expanding the bridge to 45' long x 27.5' wide, supported on drilled micropile foundations and prestressed deck units. The project includes micropile drilling; concrete placement and ACI testing; excavation, backfill, and compaction; full-depth reconstruction; steel guardrail installation; maintaining active detours; placing galvanized rebar, prestressed deck units, and waterproof membrane; and installing a 3-tube curb-mounted guardrail. <i>Project Cost: \$1.8M</i>	Check if project performed with current firm <input checked="" type="checkbox"/>	
(1) TITLE AND LOCATION (City and State) CTDOT Replacement of Bridge #4913, Oxford, CT	PROFESSIONAL SERVICES 2021-Present	CONSTRUCTION (if applicable) 2021-Present
c. (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Serving as Chief Inspector for this MSAT project, providing construction engineering/inspection services for the replacement of Bridge #4913, Dutton Road over Little River, in Oxford, CT. The project is replacing an existing 30' long x 20' wide bridge on spread footings with a 45' long x 30' wide prestressed deck unit bridge on micropile foundations. The project included complete demolition and replacement during staged construction; drilling micro piles; setting of concrete and galvanized rebar; full-depth reconstruction and paving; new drainage structures; steel and timber guardrail; concrete form liners; commercial and residential driveways; sidewalks; new signs and line striping. <i>Project Cost: \$1.5M</i>	Check if project performed with current firm <input checked="" type="checkbox"/>	
(1) TITLE AND LOCATION (City and State) CTfastrak Contract 1, New Britain, CT	PROFESSIONAL SERVICES 2015	CONSTRUCTION (if applicable) 2015
d. (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Served as Inspector for this project involving 2,000 ft. of Route 72 on and off ramp relocation, 800 ft. of secondary roadway reconstruction, 1,000 ft. of combined busway and multi-use trail, a new 700 ft. 5-span bridge, and a new bus station. The project included drainage, temporary structures, pile foundations, retaining walls with ground anchors, bridge construction, embankments, signalized intersections, illumination, controlled materials handling, environmental controls, maintenance and protection of traffic, staged construction, and building construction. <i>Project Cost: \$32M</i>	Check if project performed with current firm <input checked="" type="checkbox"/>	
(1) TITLE AND LOCATION (City and State) CTDOT Pavement Preservation Program, District 2 (Norwich), CT	PROFESSIONAL SERVICES 2014-2015	CONSTRUCTION (if applicable) 2015
e. (3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Served as Senior Inspector on a pavement preservation project on I-395. The project involved the replacement of catch basin tops, milling, paving, and pavement markings. Responsible for marking out locations that needed repair, such as crack sealing, surface patching, and partial depth roadway replacement. He inspected surface patching, partial depth reconstruction, and crack sealing sequences and monitored operations to ensure the contractor performed all duties within state specifications and per plan. He ensured all surfaces were clean before applying the tack coat, ensured proper rolling and compaction of asphalt, inspected bituminous concrete curbing for any damage due to traffic, erosion, snowplows, etc., and marked the location of curbing that needed replacement. <i>Project Cost: \$6.7M</i>	Check if project performed with current firm <input checked="" type="checkbox"/>	

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME David Hoyt	13. ROLE IN THIS CONTRACT Construction Inspector	14. YEARS EXPERIENCE	
		a. TOTAL 40	b. WITH CURRENT FIRM 4

15. FIRM NAME AND LOCATION (City and State)

AI Engineers, Inc. | Middletown, CT

16. EDUCATION (Degree and Specialization)

BS, Mechanical Engineering, University of New Haven, 1981

AS, Civil Technology, Hartford State Technical College, 1978

17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

NETTCP (HMA, Concrete, Drilled Shaft Inspector); ATSSA Traffic Control Supervisor

19. RELEVANT PROJECTS

	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
a.	CTDOT Replacement of Bridge No. 05588, Rte. 74 over Hockanum River, Vernon, CT	2020	2020
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input type="checkbox"/> Check if project performed with current firm Served as Chief Inspector for this project, which involved the replacement of the existing twin culvert structure with a 42-foot clear span consisting of precast pre-stressed concrete deck units cast integral on pre-cast abutments, founded on pile. Project Cost: N/A		
b.	CTDOT 2021 Pavement Preservation Program Ultra-Thin Bonded PMA, District 2, CT	2021	2021
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Served as Senior Construction Inspector for the pavement preservation project within the Towns of Bozrah, Groton, Lebanon, Montville, and Norwich along Route 2, I-395, and I-95. Work involved fine milling of bituminous concrete (0"-4"), joint and crack sealing of bituminous concrete pavement, Ultra-Thin Bonded PMA Pavement (Type B), catch basin work, and traffic signal work including vehicle detection (camera and video) sensors and equipment. Project Cost: N/A		
c.	CTDOT 2020 Pavement Preservation Program Ultra-Thin Bonded PMA, District 2, CT	2020	2020
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Served as Senior Construction Inspector for a pavement preservation project along I-395 between Exits 5-18 within the Towns of Montville and Norwich. The project involved fine milling of bituminous concrete, joint and crack sealing of bituminous concrete pavement, Ultra-Thin Bonded PMA Pavement (Type B), and catch basin repairs. Project Cost: N/A		
d.	CTDOT Realignment of Route 319 (Orcuttville Road) Between Gale Drive and Furnace Avenue, Stafford, CT	2020	2020
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Served as Chief Inspector. Description: This Project involved improving roadway cross slopes through the curves on Rte. 319, the reconstruction of the roadway and upgrading of the existing drainage systems. Project Cost: N/A		
e.	CTDOT 2022 Pavement Preservation Program Ultra-Thin Bonded PMA, District 2, CT	2022	2022
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Served as Chief Inspector, involved with fine milling of bituminous concrete (0"-4"), joint and crack sealing of bituminous concrete pavement, Ultra-Thin Bonded PMA Pavement (Type B), catch basin repairs and top replacement, and traffic signal work including vehicle detection (camera and video) sensors and equipment within the Towns of Colchester, Essex, and Salem along Routes 2, 11, and 153. Project Cost: N/A		

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)


12. NAME Jeremy Oskandy, PE, LS, FAA Part 107		13. ROLE IN THIS CONTRACT Survey Party Chief		14. YEARS EXPERIENCE	
				a. TOTAL 23	b. WITH CURRENT FIRM 4
15. FIRM NAME AND LOCATION (City and State) AI Engineers, Inc. Middletown, CT					
16. EDUCATION (Degree and Specialization) BS, Civil Engineering Technology, CCSU, 2011 Diploma in Architectural & Civil Drafting & Design, Porter and Chester Institute, 2000			17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) Professional Engineer: CT, NY Licensed Land Surveyor: CT FAA Part 107 Licensed Remote Pilot-in-Command		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Southern Connecticut State University Drone Academy; Topodot, Open Roads Survey, Open Roads Designer, BlueBeam, Pix4D, ArcGIS Pro, HEC-RAS					

19. RELEVANT PROJECTS

	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
a.	CTDOT Task Order Land Surveying Services, Statewide, CT	2022-Present	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Serving as Chief of Survey for this on-call contract involving Traditional Ground Survey, Terrestrial Laser Scanning, GPS, Mobile LiDAR, and other New Technology. Responsible for overall Project Management of the Task order contract: scoping, estimating, and scheduling Task Orders; determining optimum means and methods for performance and delivery of Task Orders; coordinating with subcontractors, including Maintenance and Protection of Traffic providers, local and state Police, Aerial Survey firms, etc. Also responsible for review of research and various computations, QA/QC of maps, and deliverables. Ensure all work is performed and deliverables provided are in accordance with CT DOT standards. To date, projects completed include 3D Scan of Amtrak/Metro-North Railroad Car & Diesel Maintenance Facility in New Haven, 3D scan of Darien Station in Darien, a 4-mile section of I-95 in Westport, aerial photogrammetry and mapping for the 7/15 interchange in Norwalk, CT; and currently finishing up an 8-mile section of I-84 in Southbury and Middlebury. For I-95 in Westport and I-84 in Southbury, Mobile Laser Scanners were utilized to scan the paved portions of the highway for the State's Pavement Rehabilitation Program. Project Cost: \$4M		
b.	Town of Hamden Topographic Survey of Hamden Middle School, Hamden, CT	2020	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Served as Senior Survey Technician performing a partial boundary and topographic survey for a proposed addition to the building. The scope involved an Unmanned Aircraft Systems (UAS) flight over the property, which collected 20-megapixel geotagged high-resolution nadir photos of the sites and ground control points. The data was processed to generate surfaces, contours, a point cloud, and a base drawing from that flight. Project Cost: \$10,000 (fee)		
c.	CTDEEP Land Surveying Services for Thomas Properties, Canaan, CT	2021	2021
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Served as Instrument Person providing a land survey for property the CTDEEP acquired from a private owner and annexed into an abutting State Forest as part of an On-Call Survey contract. This property consists of nearly 300 acres total on both sides of Route 7 in Canaan, CT. Both parcels were challenging concerning the survey aspect because the parcel on the west side of Route 7 consists of approximately 200 acres, with about half of that being part of the 'Robbins Swamp.' From Route 7 to the rear of this parcel, there is nearly a 1,000 ft. vertical climb, which made the survey an extremely difficult task. Both parcels required marking of the boundary lines per CTDEEP standards after the survey was complete but before submitting the final maps. Project Cost: \$42,500 (fee)		
d.	Town of Mount Kisco Leonard Street, Mount Kisco, NY	2021	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Served as Party Chief and was responsible in the field for the location of surface improvements, utilities, measure downs, and other surficial features for topographic mapping of a swath along the Right of Way (ROW). In the office, was responsible for producing the map. Project Cost: N/A		
e.	RIDOT Route 1, Westerly, RI	2022-Present	Present
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Served as Senior Survey Technician. Responsible for securing a Mobile Scanning subcontractor and providing them with control/targeting, adding abutters for 170 residential and commercial properties along 2.5 miles of Route 1. Also assisted with computing the plats and fitting them to existing monumentation under the direct supervision of L.S. Project Cost: N/A		

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>		20. EXAMPLE PROJECT KEY NUMBER 1.		
21. TITLE AND LOCATION (City and State) Town of Westport Replacement of Bayberry Lane Bridge over Aspetuck River, Westport, CT		22. YEAR COMPLETED <table border="1"> <tr> <td>PROFESSIONAL SERVICES 2018-2021</td> <td>CONSTRUCTION (if applicable) 2022-Present</td> </tr> </table>	PROFESSIONAL SERVICES 2018-2021	CONSTRUCTION (if applicable) 2022-Present
PROFESSIONAL SERVICES 2018-2021	CONSTRUCTION (if applicable) 2022-Present			

23. PROJECT OWNER'S INFORMATION		
a. PROJECT OWNER Town of Westport	b. POINT OF CONTACT NAME Keith Wilberg, PE, LS	c. POINT OF CONTACT TELEPHONE NUMBER 203-515-8427

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT <i>(Include scope, size, and cost)</i> <p>AI Engineers, Inc. (AIE) is providing construction engineering and inspection services to the Town of Westport for the replacement of the Bayberry Lane No. 2 Bridge over the Aspetuck River (Bridge No. 04969).</p> <p>Bridge No. 04969 is a single-span structure with a total span length of 24 ft. and a curb-to-curb bridge width measurement of 22 ft., which provides for two lanes (one in each direction) of vehicular traffic. The existing bridge superstructure consists of steel rolled beams with a reinforced concrete deck overlain with bituminous concrete. The substructure elements consisted of stone masonry abutments. Overhead utility wires are located on the east side of the bridge, and the structure carries a gas main and a water main. Based upon a Special Inspection completed by the CTDOT Bridge Inspection Unit, the bridge was rated as structurally deficient, and traffic was reduced to a single lane controlled with stop signs on either side of the bridge. The existing abutments were also experiencing undermining and had a scour critical rating of 3.</p>	
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Due to the condition of the existing structure, Bayberry Lane was closed in each direction with a posted detour, which allowed the bridge to be constructed in one phase. Based on the historical inspection data, there were concerns about future scour issues. Therefore, the newly constructed substructures were built on a drilled rock socket-supported pile foundation. The new deck structure comprises six interior post-tensioned prestressed deck units and two exterior prestressed deck units with utility block-outs to carry the water and gas mains. The deck units were built integrally with the substructure and approach slabs. New simulated stone endwalls and a three-bridge rail system were incorporated into the superstructure. There was also a full-depth reconstruction of Bayberry Lane on either side of the bridge to reprofile the centerline and improve drainage. The newly constructed bridge will have a 50-foot span length and curb-to-curb width of 27 ft.

Inspection services include a preconstruction survey of the project limits and the initial review of the contractor's baseline schedule. Throughout the project, subsequent schedule updates are reviewed to ensure all milestones and completion dates are met. It also includes setting up, maintaining, and closing out all project record keeping as required by the CTDOT Municipal Manual and overseen by the District 3 MSAT team. AIE coordinates conducts, and documents all progress, utility, environmental, and miscellaneous meetings throughout the project.

All work performed is being inspected to ensure that the quality meets the standards outlined in the CTDOT Form 818 and supplemental specifications, special provisions, and Town of Westport requirements. AIE is also responsible for ensuring that all materials installed are tested and approved per the Minimum Schedule for Acceptance Testing, preparing the documentation for the Final Material Certification, and completing all other documentation necessary for federal reimbursement. Due to the presence of the water main, gas main, and overhead utilities, the project team is heavily involved with utility coordination. Duties also include surveys, wetland flagging, environmental documents, permits, geotechnical analysis, hydrology and hydraulic engineering, and public outreach. Throughout the construction phase, AIE communicates with Town officials and residents to apprise them of the project's status and address questions or concerns.

Project Cost: \$2.3M

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT			
a.	(1) FIRM NAME AI Engineers, Inc.	(2) FIRM LOCATION (City and State) Middletown, CT	(3) ROLE Prime

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>		20. EXAMPLE PROJECT KEY NUMBER 2.
21. TITLE AND LOCATION (City and State) Town of Oxford Replacement of Dutton Road Bridge over Little River, Oxford, CT	22. YEAR COMPLETED PROFESSIONAL SERVICES 2017-2022	CONSTRUCTION (if applicable) 2022

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER Town of Oxford	b. POINT OF CONTACT NAME Helen Leung	c. POINT OF CONTACT TELEPHONE NUMBER 203-828-6517
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24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

AI Engineers, Inc. (AIE) provided construction engineering and inspection as well as design services to the Town of Oxford for the replacement of Dutton Road Bridge over Little River (Bridge No. 04913).

Dutton Road's original configuration was a single-span bridge carrying two lanes of traffic, one lane in each direction, with a span length of 26 ft. and a rail-to-rail width of 21 ft. The newly constructed bridge increased the span length to 39 ft. - 4 ½ in. to ease water congestion at high flow instances and increased the rail-to-rail width to 29 ft.

Due to the lack of alternate access routes, Dutton Road remained open during construction. The bridge construction was staged in two significant phases, maintaining one lane of alternating traffic with stop sign control at each end throughout construction. Phase I consisted of maintaining one lane of traffic on the bridge (east side) and demolishing the remainder of the structure. The replacement structure was slightly overbuilt on the west side to create sufficient width for Phase 2 with a single lane of traffic on the new bridge. Traffic was diverted to the new section of the bridge in Phase II (west side), and the remainder of the existing bridge was demolished and reconstructed. The replacement structure was aligned with existing roadway edges and centerline. The newly staged substructures were built on a micropile-supported foundation. The new deck structure is comprised of eight post-tensioned prestressed deck units, which were built integrally with the substructure and approved slabs. New simulated stone endwalls and a three-bridge rail system were incorporated into the superstructure. It was also necessary to perform a full-depth reconstruction of Dutton Road on either side of the bridge to bolster the design rating of the pavement and resolve drainage issues. Due to the proximity of existing structures adjacent to the project, it was necessary to perform constant monitoring for settlement.



Inspection services included a preconstruction survey of the project limits as well as the initial review of the contractor's baseline schedule. Throughout the project, subsequent schedule updates were reviewed to ensure all the milestones and the completion date were met. It also included setting up, maintaining, and closing out all project record keeping as required by the CTDOT Municipal Manual and overseen by the District 4 MSAT team. AIE coordinated, conducted, and documented all progress, utility, environmental, and miscellaneous meetings throughout the project.

All work performed was inspected to ensure that the quality met the standards outlined in the CTDOT Form 818 and supplemental specifications, special provisions, and Town of Oxford requirements. AIE was also responsible for ensuring that all materials installed were tested and approved in accordance with the Minimum Schedule for Acceptance Testing and prepared the documentation for the Final Material Certification and that all other documentation necessary for federal reimbursement was completed. The project also includes utility coordination, survey, wetland flagging, environmental documents, permits, geotechnical analysis, hydrology and hydraulic engineering, and public outreach. Throughout the construction phase, AIE communicated with Town officials, local businesses, and residents to apprise them of the project's status and address questions or concerns.

Project Cost: \$1.5M

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

a.	(1) FIRM NAME AI Engineers, Inc.	(2) FIRM LOCATION (City and State) Middletown, CT	(3) ROLE Prime
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F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>		20. EXAMPLE PROJECT KEY NUMBER 3.
21. TITLE AND LOCATION (City and State) Town of Avon Rehabilitation of Old Wheeler Lane over Roaring Brook, Avon, CT	22. YEAR COMPLETED PROFESSIONAL SERVICES 2013-2017	CONSTRUCTION (if applicable) 2017

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER Town of Avon	b. POINT OF CONTACT NAME Lawrence Baril, PE	c. POINT OF CONTACT TELEPHONE NUMBER 860-409-4378
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24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

AI Engineers, Inc. (AIE) provided survey, design, construction engineering, and inspection services for the rehabilitation of the bridge carrying Old Wheeler Lane over Roaring Brook in the Town of Avon.

Inspection services included the initial review of the contractor's baseline schedule and subsequent updated schedules to ensure all the milestone dates were met. It also included setting up, maintaining, and closing out all project record keeping as required by the CTDOT Municipal Manual and overseen by the District 4 MSAT team. AIE coordinated, conducted, and documented all progress, utility, environmental, and miscellaneous meetings throughout the project.

All work performed was inspected to ensure that the quality met the standards outlined in the CTDOT Form 817, supplemental specifications, special provisions, and Town of Avon requirements. AIE was also responsible for ensuring that all materials installed were tested and approved in accordance with the Minimum Schedule for Acceptance Testing and prepared the documentation for the Final Material Certification.

Throughout the construction phase, AIE communicated with Town officials, local businesses, and residents to apprise them of the project's status and address questions or concerns.

The new deck structure is made up of eight interior post-tensioned prestressed deck units and two exterior prestressed deck units with utility block-outs between the interior and exterior deck units. This allowed the utilization of Accelerated Bridge Construction (ABC). New concrete sidewalks and simulated stone endwalls were incorporated into the superstructure, and a new approach rustic wood guide railing was installed at all four corners of the bridge. A detailed scour analysis was performed, and it was concluded that scour countermeasures were required for the stability of the structure. The streambed material was excavated down to a depth of 4 ft. and was restored with 3 ft. of standard riprap along with 1 ft. of natural streambed material. The scour work was performed in two stages, utilizing temporary water handling measures to divert the stream. Some corrective drainage work was also performed at the bridge leading into Roaring Brook.

A complete replacement alternate was investigated at the Town's request, which included construction duration and cost estimates as part of the structure type study. The bulk of the construction activities took place during the summer months while Roaring Brook Elementary School was out of session. Construction activities proceeded on an accelerated schedule, and traffic was restored on the bridge prior to the beginning of the school year. Old Wheeler Lane approach roadway was reconstructed to make a suitable transition onto the bridge. All work performed was within the street lines, and ROW impacts were limited to temporary construction work areas.

AIE also surveyed the existing abutments, low chord, back wall penetrations, beam locations, etc. Additionally, the stream channel was surveyed up and downstream of the existing bridge to cut stream channel sections for use by the drainage engineer for setting the new low chord elevation and providing a scour analysis.

Project Cost: \$1M



25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

a.	(1) FIRM NAME AI Engineers, Inc.	(2) FIRM LOCATION (City and State) Middletown, CT	(3) ROLE Prime
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F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>		20. EXAMPLE PROJECT KEY NUMBER 4.
21. TITLE AND LOCATION (City and State) City of Norwich Rehabilitation of Pleasant Street Bridge over Yantic River, Norwich, CT	22. YEAR COMPLETED PROFESSIONAL SERVICES 2015-2018	CONSTRUCTION (if applicable) 2018

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER City of Norwich	b. POINT OF CONTACT NAME Patrick McLaughlin	c. POINT OF CONTACT TELEPHONE NUMBER 860-823-3798
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24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

AI Engineers, Inc. (AIE) provided construction engineering and inspection, as well as design and survey services for the rehabilitation of Pleasant Street Bridge over the Yantic River. Originally constructed in 1968, the bridge was a two-span structure made up of a multi-steel girder superstructure with a cast-in-place reinforced concrete deck supported by reinforced concrete abutments on spread footings.

Pleasant Street is a city road approximately 1,400 ft. in length with an average daily traffic volume of 750 vehicles per day and connects Otrobando Avenue to West Town Street. It provides access to commercial and residential properties along Sturtevant Street as well as the back entrance of the Samuel Huntington Elementary School. This bridge was classified as being in "poor" condition based primarily on deficiencies found in the concrete deck of the bridge. Additionally, a scour assessment performed in 1997 indicated that the bridge may be susceptible to scour.

A new cast-in-place concrete deck was installed on the existing steel frame. The concrete deck was made continuous over the pier. This eliminated the joint over the pier and the potential for future deterioration to the beam ends, elastomeric bearing, and concrete pier cap. The sliding and fixed bearings were replaced with elastomeric bearing pads to eliminate future maintenance needs. New bridge and guide rails were also installed.



Construction activities proceeded on an accelerated schedule, and the project was completed on schedule. Inspection services included the initial review of the contractor's baseline schedule and subsequent updated schedules to ensure all the milestone dates were met. It also included setting up, maintaining, and closing out all project record keeping as required by the CTDOT Municipal Manual and overseen by the District 2 MSAT team. All work performed was inspected to ensure that the quality met the standards outlined in the CTDOT Form 817, supplemental specifications, special provisions, and the City of Norwich requirements. AIE was also responsible for ensuring that all materials installed were tested and approved in accordance with the Minimum Schedule for Acceptance Testing, preparing the documentation for the Final Material Certification, and ensuring that all other documentation necessary for federal reimbursement was completed. Throughout the construction phase, AIE communicated with City officials, local businesses, and residents to apprise them of the project's status and address questions or concerns.

Prior to performing field survey and mapping, AIE conducted research at City Hall and used GPS to establish horizontal and vertical survey control on site for design and construction purposes. AIE also performed topography on and around the existing bridge as well as cross sections in the Yantic River below for use by the hydraulic engineer. All existing storm drainage lines were required to be located and mapped to be protected during construction. Existing easements and property lines were established and mapped to create a new temporary easement for construction.

Project Cost: \$1.3M

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

a.	(1) FIRM NAME AI Engineers, Inc.	(2) FIRM LOCATION (City and State) Middletown, CT	(3) ROLE Prime
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F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>		20. EXAMPLE PROJECT KEY NUMBER 5.		
21. TITLE AND LOCATION (City and State) CTDOT Rehabilitation of Four (4) Housatonic Railroad Bridges, New Milford, Kent, & Canaan, CT		22. YEAR COMPLETED <table border="1"> <tr> <td>PROFESSIONAL SERVICES 2019-2020</td> <td>CONSTRUCTION (if applicable) 2020</td> </tr> </table>	PROFESSIONAL SERVICES 2019-2020	CONSTRUCTION (if applicable) 2020
PROFESSIONAL SERVICES 2019-2020	CONSTRUCTION (if applicable) 2020			

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER CTDOT	b. POINT OF CONTACT NAME David Neelands	c. POINT OF CONTACT TELEPHONE NUMBER 203-591-3565
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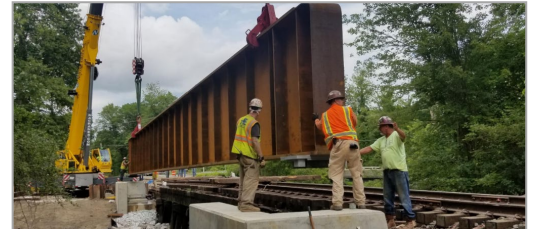
24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

AI Engineers, Inc. (AIE) provided construction engineering and inspection services for this railroad bridge rehabilitation and replacement project. The project scope included both structural rehabilitation and bridge replacement work at four sites and was required due to the existing structures on the Housatonic Railroad's Berkshire Line exhibiting structural deficiencies.

Bridge No. 09200R was replaced by a new 72-in. diameter reinforced concrete pipe. The pipe was jacked through the existing stone masonry structure and included a new concrete head and wing walls, with additional repairs being performed to the existing masonry walls.

At Bridge No. 009204R, the existing culvert was replaced with a precast concrete twin box culvert and precast wingwalls. A precast concrete relief slab was installed above Bridge No. 09206R, and additional masonry repairs were made to the existing stone arch structure.

The existing timber structure was replaced with a new steel girder bridge at Bridge No. 09223R. The new bridge is supported on new pile-supported abutments and concrete pier caps.



Extensive water handling and environmental Best Management Practices were utilized throughout the construction phase. Additionally, temporary construction access roads were required to access the remote structure locations.

In order to meet the contract's aggressive 137-calendar day schedule, the project utilized accelerated bridge construction (ABC) techniques and required extensive coordination between CTDOT, the Housatonic Railroad, the consultant designer, and AIE's project staff. Much of the work was completed during off-peak hours to maintain railroad operations, with major operations completed during a long-term, 9-day continuous track outage.

Project Cost: \$8.6M (fee)

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

a.	(1) FIRM NAME AI Engineers, Inc.	(2) FIRM LOCATION (City and State) Middletown, CT	(3) ROLE Prime
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F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>		20. EXAMPLE PROJECT KEY NUMBER 6.		
21. TITLE AND LOCATION (City and State) CTDOT Task Order Construction Engineering & Inspection Services, Districts 2, 3 & 5, CT		22. YEAR COMPLETED <table border="1"> <tr> <td>PROFESSIONAL SERVICES 2018-Present</td> <td>CONSTRUCTION (if applicable) Present</td> </tr> </table>	PROFESSIONAL SERVICES 2018-Present	CONSTRUCTION (if applicable) Present
PROFESSIONAL SERVICES 2018-Present	CONSTRUCTION (if applicable) Present			

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER CTDOT	b. POINT OF CONTACT NAME Domenic LaRosa	c. POINT OF CONTACT TELEPHONE NUMBER 203-389-3100
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24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

AI Engineers, Inc. (AIE) is providing task-based construction engineering and inspection to support CTDOT Districts 2, 3, and 5. AIE's scope of work includes field inspections, surveys, reviewing plans, specifications, and other documents, providing recommendations on claims and disputes between the Owner and the Contractor, reviewing contractors' submittals, product data, and samples, assisting in change order preparation, and determining the dates of substantial completion and final completion. Assignments under this task order include:

West Rocks Road Bridge Reconstruction over the Merritt Parkway, Norwalk, CT: AIE is providing construction engineering and inspection services for the replacement of the bridge deck, parapet, and girders while retaining the historic character of the existing bridge. Additional work includes sidewalk widening, ornamental railing, guide rail upgrades, and other safety improvements.



Route 1 Bridge over I-95 at Exit 9, Stamford, CT: AIE is providing construction engineering and inspection services for the replacement of the existing Route 1 bridge using an accelerated bridge construction process. The existing bridge deck will be replaced with a new steel and concrete superstructure.

Route 34, Rehabilitation of Bridge 00948, Orange, CT: AIE is providing construction engineering and inspection services for the stated construction deck replacement in Wepawag River, Orange, including concrete rebar, membrane waterproofing, and paving over an environmentally sensitive river.

Replacement of Bridge 1446, Milford, CT: AIE provided construction engineering and inspection services for the replacement of this bridge, Wheelers Farm Road, over SR 796.

Route 34, Rehabilitation of Bridge 00948, Orange, CT: AIE provided construction engineering and inspection services for the stated construction deck replacement in Wepawag River, Orange, including concrete rebar, membrane waterproofing, and paving over an environmentally sensitive river.

I-395 Pavement Preservation, Montville & Norwich, CT: AIE provided construction engineering and inspection services for 16.5 miles of milling and paving on the main line of I-395. This pavement rehabilitation project included profile milling and the placement of 14,000 tons of Ultra-Thin Bonded PMA installation. The project also required inspection of catch basins and determining which catch basin tops required resetting and/or replacement; surface patching, full depth reconstruction including processed aggregate placement, temporary pavement markings, and crack sealing. Bridges were milled, patched with new membrane, water-proofed, and had asphaltic plug expansion joints installed.

Pavement Preservation on Route 7, Norwalk, CT: AIE provided construction engineering and inspection services for pavement preservation, including milling and PMA paving, along Route 7. Bridges within the project termini were milled, patched, membraned, and asphaltic plug joints were installed. The pavement rehabilitation project included 152,000 SY. of milling and 26,000 tons of hot mix asphalt base and polymer mix asphalt wearing surface, meeting the SUPERPAVE specifications. After completion of the milling, the inspection crew determined the limits of crack filling, crack sealing, and surface patching prior to placement of the overlay.

Project Cost: \$16M (fee)

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

a.	(1) FIRM NAME AI Engineers, Inc.	(2) FIRM LOCATION (City and State) Middletown, CT	(3) ROLE Prime
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F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>		20. EXAMPLE PROJECT KEY NUMBER 7.		
21. TITLE AND LOCATION (City and State) CTDOT Replacement of Amtrak Bridge No. 00340 over Route 1, Branford, CT		22. YEAR COMPLETED <table border="1"> <tr> <td>PROFESSIONAL SERVICES 2009-2014</td> <td>CONSTRUCTION (if applicable) 2014</td> </tr> </table>	PROFESSIONAL SERVICES 2009-2014	CONSTRUCTION (if applicable) 2014
PROFESSIONAL SERVICES 2009-2014	CONSTRUCTION (if applicable) 2014			

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER CTDOT	b. POINT OF CONTACT NAME Eileen Ego	c. POINT OF CONTACT TELEPHONE NUMBER 860-823-3204
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24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

AI Engineers, Inc. (AIE) provided construction engineering and inspection services for this project involving the replacement of the Amtrak railroad bridge over Route 1 and approximately 4,400 ft. of Amtrak track and catenary work. This project also included the widening and reconstruction of 2,850 ft. of Route 1 (West Main St.).

The original bridge was a 63 ft. long, two-track bridge with three through girders. The new bridge is two separate 120 ft. long, single-track bridges with two through girders each, constructed on new common abutments and wingwalls. The new girders are approximately 10 ft. deep and supported on pot bearings with a ballasted deck system.



The new bridge length allowed the widening of the roadway through the area, eliminating a long-time traffic bottleneck. Both the roadway and the railroad track profile on the bridge were adjusted to result in a 15 ft. - 1 in. minimum vertical clearance on Route 1.

The reconstruction of the rail line required grading and placing of sub-ballast by the contractor, followed by new rails and ties installed by Amtrak. In addition, the original catenary system was replaced using new portal catenary structures founded on 34 in. diameter drilled shafts constructed by the contractor. Amtrak installed the new catenary cable and fixtures, along with relocating the communications cable. Relocation of the railroad tracks required widening the embankment by constructing approximately 2,400 ft. of soldier pile and lagging retaining walls. This work required special construction procedures. Typically, such walls would be built from the side, away from the tracks. However, due to permit and right-of-way restrictions, the only construction access was between the railroad tracks and the toe of the slope of the embankment.

Other key tasks included jacking a 54-in. diameter R.C. pipe under the railroad and installation of an 8 ft. by 3 ft. pre-cast concrete box culvert under Route 1. Route 1 work required the relocation of water, gas, storm and sanitary sewers, and telephone and electrical ductbanks.

The project was constructed in four major stages. In the first stage, the first new bridge and foundations were constructed north of the existing bridge along with the retaining walls. New York-bound rail traffic was shifted to a temporary location, and Boston-bound traffic was shifted to existing track No. 1 to allow for the demolition of the existing south portion of the bridge. Similarly, the second new bridge and foundations were constructed in place of the demolished south portion of the existing bridge. In the third stage, the Boston-bound traffic was shifted to the newly constructed south bridge, allowing for the remainder of the bridge demolition and construction of the new center section of the abutments. Following this, the new superstructures were jacked into their final locations, and the trackage and catenary shifted to their final alignment.

Once the original bridge and abutments were removed, work started on the fourth stage. With the greater width now available under the bridge, the new roadway construction was completed. Critical to the project was the safety and timely implementation of all (4) construction stages designed to minimize interruption to Amtrak traffic as well as limit interference with the traffic on Route 1. Track outages were limited to off-peak periods, and roadway restrictions were confined to nights and weekends. This project required close monitoring of the proposed sequence of construction and CPM schedule, as well as daily coordination with Amtrak. The project also required compliance with environmental permit restrictions and clean up and handling of controlled materials. This was the largest ARRA project in the State of CT at the time and was completed six months ahead of schedule.

Project Cost: \$8. 6M (fee)

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

a.	(1) FIRM NAME AI Engineers, Inc.	(2) FIRM LOCATION (City and State) Middletown, CT	(3) ROLE Prime
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F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>		20. EXAMPLE PROJECT KEY NUMBER 8.				
21. TITLE AND LOCATION (City and State) City of Waterbury Construction Administration & REI Services for W.A.T.E.R. Project (Tasks 2 & 3), Waterbury, CT		22. YEAR COMPLETED <table border="1"> <tr> <td>PROFESSIONAL SERVICES</td> <td>CONSTRUCTION (if applicable)</td> </tr> <tr> <td>2019-2020</td> <td>2020</td> </tr> </table>	PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)	2019-2020	2020
PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)					
2019-2020	2020					

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER City of Waterbury	b. POINT OF CONTACT NAME Salvatore Porzio	c. POINT OF CONTACT TELEPHONE NUMBER 203-574-6851 ext. 7188
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24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

AI Engineers, Inc. (AIE) provided constructability review, construction administration and resident engineering and inspection services for the Waterbury Active Transportation and Economic Resurgence (W.A.T.E.R.) Project Tasks 2 and 3 - Improvements to Jackson and Meadow Street. This project was funded by the FHWA TIGER VI Grant.

This project consisted of two (2) separate components:

- i. **Task 2 - Jackson Street Improvements:** This component reconstructed the dead-end Jackson Street from Bank Street to its current terminus and extended it through Freight Street to West Main Street to create a new north-south connection and begin a block network for the redevelopment of the district; and,
- ii. **Task 3 - Meadow Street Improvements:** This component involved reconstructing concrete sidewalks and driveway aprons and extending the shared-use path from Freight Street to the Waterbury train station to improve access from the riverfront to the station and the downtown.



AIE provided an independent and structured review of Tasks 2 and 3 bid documents (60% and 90%) to ensure that the work requirements were clear, the documents were coordinated, and that they assisted the contractor in bidding, construction, and project administration resulting in reduced impacts to the project.

Jackson Street Improvements project included the replacement of the existing water main and sanitary sewer main with an 8 in. ductile iron pipeline, full-depth roadway reconstruction, new storm drainage system, new sidewalks, new curbs, crossings, fencing, and street lighting. It also included an extension of Jackson Street through Freight Street to West Main Street. This phase improved pedestrian access and connectivity, improved pavement, signage, and pavement markings, as well as added wheelchair ramps and sidewalks following ADA standards.

Meadow Street improvements project included 1,000 ft. of existing sanitary sewer lining and upgrades to storm drainage infrastructure. Road improvements involved mill and overlay, crack repairs, and modifications to the existing traffic signal systems. Additionally, Meadow Street was reconstructed as a complete street. The shared-use path continued around the corner from Freight Street south onto Meadow Street, extending to the future renovated train station waiting area and entry plaza. The scope also included reconstructing sidewalks, ramps, and driveways on Meadow Street and adding a granite curb on Meadow Street from West Main Street to the I-84 eastbound on-ramp.

This project also involved pedestrian safety improvements. The triangular island at the intersection of Grand and Meadow Streets was enlarged to create a new placemaking opportunity. Landscaping was added to buffer walkways from the street, and benches were added, affording views of the Statue of Father McGivney at the center, Library Park to the south, the historic courthouse to the north, and the impressive train station. These iconic landmarks made for a memorable transition when walking from transit to downtown or the riverfront.

This project required coordination with multiple federal, state, and local agencies, as well as with adjacent I-84 Mixmaster project representatives.

Project Cost: \$6.5M (Tasks 2 & 3)

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

a. (1) FIRM NAME AI Engineers, Inc.	(2) FIRM LOCATION (City and State) Middletown, CT	(3) ROLE Prime
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F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>		20. EXAMPLE PROJECT KEY NUMBER 9.
21. TITLE AND LOCATION <i>(City and State)</i> CTDOT Task Order Land Surveying Services, Statewide, CT	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES 2014-Present	CONSTRUCTION <i>(if applicable)</i> N/A

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER CTDOT	b. POINT OF CONTACT NAME Christine Aubrey, LS	c. POINT OF CONTACT TELEPHONE NUMBER 860-594-2510
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24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

AI Engineers, Inc. (AIE) is providing task-based land surveying services for various projects for CTDOT. In addition to traditional ground surveys, the contract requires the utilization of several specialized methods of data collection, like terrestrial LiDAR scanning, bathymetric surveying, and subsurface imaging using ground penetrating radar. Wetland delineation services are also to be provided for the duration of the contract. Assignments under the contract include various data collection surveys for highway and bridge construction projects, including the survey and location of topography, roadway and bridge features, utilities, site, and hydrographic information.



AIE also provides stream and watercourse survey sectioning for projects involving bridge construction for use in the determination of low chord elevations and scour potential. AIE reduces and processes the collected data and maps the data in MicroStation format, per CTDOT requirements, as well as AutoCAD C3D format. Recent projects include:

Heroes' Tunnel (West Rock Tunnel) Scanning & Mapping, New Haven & Woodbridge, CT: AIE was tasked with providing high-resolution Terrestrial Laser Scans (TLS) and 3D surfaces for the Heroes' Tunnel (formerly known as the West Rock Tunnel) that carries the Wilbur Cross Parkway under West Rock Ridge in New Haven and Woodbury. Each barrel is approximately 1,200 ft. long, has no shoulders, and carries very high traffic volumes, so all surveying had to be accomplished at night under closed road conditions. This necessitated very stringent and restrictive timing for the survey work. To complicate matters further, other engineering operations (such as testing and drilling) operations could not be in the way of scanning operations, so AIE had to schedule our crews within even tighter time constraints. Additionally, both tunnel-opening facia were scanned. Both the northbound and southbound barrels were scanned at an extremely high resolution so design engineers could visualize and locate fissures, cracks, and other deformities in the tunnel structure. AIE surveyors field verified the survey control previously run by CTDOT and utilized our Leica P-40 Terrestrial Scan Station for this field assignment. The P-40 is a high rate, high accuracy, dual axis compensating, survey-grade scanning instrument. It can scan at a rate of 1 mil. points/second up to a 270-meter range. Final deliverables include Georeferenced point clouds and digital photography with both Bentley and Autodesk-compatible surfaces.

Resurfacing, Bridge Rehabilitation, & Safety Improvements along I-95, Orange & West Haven, CT: AIE provided surveying and mapping for a 3.7-mile section of I-95 in Orange and West Haven, CT. Scope of work included research of public utilities to be added to the base mapping, supplemental survey control, topography, drainage survey, locate wetland flag boundaries, and 3D surface and DTM generation.

Existing Conditions Bridge Survey & Mapping, Farmington, CT: AIE provided project control, completed bridge survey, and prepared all required mapping for the design of improvements to Bridge #01487 carrying Route 177 over the Farmington River.

Aerial Photogrammetry & Mapping, East Lyme, Monroe & Oxford, CT: AIE solicited bids for two CTDOT projects requiring LiDAR and mapping. Once firms were selected, AIE coordinated with the firm to ensure all fieldwork and mapping were conducted in accordance with CTDOT standards.

I-95 Survey, Greenwich to Stamford, CT: An 8-mile survey, where AIE provided surveying services to add further value to LiDAR-based photogrammetry inclusive of drainage system location and measurements, bridges surveys, survey beneath bridges and other obscured areas, wetland locations, and survey control densification, etc. The survey began at the New York State line in Greenwich and ended in Stamford, along the busy I-95 corridor.

Project Cost: \$4M (fee)

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

a.	(1) FIRM NAME AI Engineers, Inc.	(2) FIRM LOCATION (City and State) Middletown, CT	(3) ROLE Prime
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F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>		20. EXAMPLE PROJECT KEY NUMBER 10.
21. TITLE AND LOCATION (City and State) Town of Hamden Topographic Survey of Hamden Middle School		22. YEAR COMPLETED PROFESSIONAL SERVICES 2020 CONSTRUCTION (if applicable) N/A

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER Town of Hamden	b. POINT OF CONTACT NAME Stephen White	c. POINT OF CONTACT TELEPHONE NUMBER 203-287-7040
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24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

AI Engineers, Inc. (AIE) performed a partial boundary and topographic survey for the Town of Hamden at the Hamden Middle School for a proposed addition to the building. The area covered was approximately 7 acres and mostly open area, which qualified it as a good candidate to implement an Unmanned Aircraft System (UAS) to capture the majority of the site features and contours. The topography in wooded areas was field shot with traditional methods, and all trees over 6 in. diameter were also located and mapped. All underground and overhead utilities within the project area were marked by a third party and then located and mapped by AIE.

AIE coordinated with the Town to ensure there were no conflicts and that no students or faculty were outdoors during the drone operation. A UAS flew two 20-minute autonomous patterns over the property and collected 20-megapixel geotagged high-resolution nadir photos of the sites and ground control points. The data was processed, and AIE generated surfaces, contours, a point cloud, and a base drawing from that flight.

AIE performed numerous checks to ensure that the contours produced by the UAS data matched the traditional ground survey. These accuracy checks proved positive results, and the final mapping delivered was a hybrid of data collected by the UAS flight and traditional survey.

Project Cost: \$10,000 (fee)



25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

a.	(1) FIRM NAME AI Engineers, Inc.	(2) FIRM LOCATION (City and State) Middletown, CT	(3) ROLE Prime
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G. KEY PERSONNEL PARTICIPATION IN EXAMPLE PROJECTS

[illegible]

29. EXAMPLE PROJECTS KEY

NO.	TITLE OF EXAMPLE PROJECT <i>(From Section F)</i>	NO.	TITLE OF EXAMPLE PROJECT <i>(From Section F)</i>
1.	Town of Westport Replacement of Bayberry Lane Bridge over Aspetuck River, Westport, CT	6.	CTDOT Task Order Construction Engineering & Inspection Services, Districts 2, 3 & 5, CT
2.	Town of Oxford Replacement of Dutton Road Bridge over Little River, Oxford, CT	7.	CTDOT Replacement of Amtrak Bridge No. 00340 over Route 1, Branford, CT
3.	Town of Avon Rehabilitation of Old Wheeler Lane over Roaring Brook, Avon, CT	8.	City of Waterbury Construction Administration & REI Services for W.A.T.E.R. Project (Tasks 2 & 3), Waterbury, CT
4.	City of Norwich Rehabilitation of Pleasant Street Bridge over Yantic River, Norwich, CT	9.	CTDOT On-Call Land Surveying Services, Statewide, CT
5.	CTDOT Rehabilitation of Four (4) Housatonic Railroad Bridges, New Milford, Kent, & Canaan, CT	10	Town of Hamden Topographic Survey of Hamden Middle School, Hamden, CT

H. ADDITIONAL INFORMATION

30. PROVIDE ANY ADDITIONAL INFORMATION BY THE AGENCY. ATTACH ADDITIONAL SHEETS AS NEEDED.



NEW TECHNOLOGY

AIE strongly believes in the potential for new technology growth and its implementation in all aspects of the A/E/C industry. Over the years, our firm has seriously invested in the procurement of unmanned aircraft systems (UAS) technology and the FAA permitting process, terrestrial laser scanning (TLS), building information modeling (BIM)/3-dimensional (3D) modeling combined with UAS-collected data, wireless structural health monitoring, augmented reality (AR)/virtual reality (VR)/mixed reality (MR), 3D printing, computer processing, and artificial intelligence (AI)/ machine learning (ML). This introduces real-world problem-solving and improves communication, information accessibility, inspection quality, and efficiency of our client's projects. The following is an overview of our current technology resources.

UNMANNED AIRCRAFT SYSTEMS (UAS):



AIE owns and operates a DJI Matrice 210 RTK, DJI Phantom 4 RTK, DJI Phantom 4 Pro, and Skydio 2 in conjunction with a variety of advanced data processing software, including AutoDesk Suite, Pix4D Mapper, Drone Deploy, and Skyward IO. The capabilities of these UAS include basic functions like high-resolution photographs and 4K videos, as well as the ability to collect high-quality data to produce orthomosaic images, 3D models, point clouds, and topography, among others. Data collected via the UAS can also be used to develop in-depth virtual reality (VR) walkthroughs, allowing one to explore many aspects of an ongoing or recently completed project in as close to a first-hand experience as possible without physically being on-site. As part of our firm's UAS program, we employ full-time in-house UAS operators who are FAA Part 107 Certified Remote Pilots-in-Command and have numerous hours of flight time. They are fully trained to deploy the UAS per all federal, state, and local regulations, as well as our firm's UAS Operations Policy. Our UAS Program is fully insured and has established strong relationships with FAA personnel that allow us to swiftly navigate the FAA UAS flight-approval process. AIE has deployed our UAS on several different projects, including the 376,000-sf. Waterbury Bus Storage and Maintenance Facility in Watertown, CT; high-mast light structure inspections on I-93 in Boston, MA; I-84 in Sturbridge, Boxborough, and Bolton, MA; and signature bridge inspections in New York, Massachusetts, and Connecticut.

TERRESTRIAL LASER SCANNING (TLS)



Point Cloud Data of Cooper Plaza Intersection & Roadway, Queens, NY



Point Cloud Data of VA Medical Center Interior, West Haven, CT

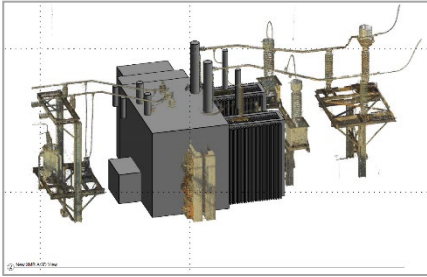


Leica ScanStation P40 & BLK360 Terrestrial Laser Scanners

Our firm has two laser scanners: a Leica ScanStation P40 and a Leica BLK360, which are used to capture in detail the existing conditions of job sites, such as bridges, roadways, and complex mechanical rooms, quickly, accurately, and safely. With a maximum range of 270 meters and a data-collection rate of up to 1 million points per second, our Leica P40 laser scanner is better suited for areas where access is limited, difficult, or dangerous, such as busy intersections, congested mechanical rooms, or areas that require as little disturbance as possible. Our lightweight Leica BLK360, with a maximum range of 60 meters, is best suited for smaller spaces because of its simplistic design and ease of use, allowing for quick setup between scans, resulting in faster data collection and fewer interruptions to a job site or facility. Both laser scanners also capture integrated 360-degree photographs.

H. ADDITIONAL INFORMATION

30. PROVIDE ANY ADDITIONAL INFORMATION BY THE AGENCY. ATTACH ADDITIONAL SHEETS AS NEEDED.



The data that is collected by the scanners can be quickly and accurately converted into useful information, such as contours, breaklines, pipes, and conduits, which can then be consumed by many of our design software applications, including Autodesk Revit and Leica Cyclone, to create thorough models of our client's assets. AIE regularly uses laser scanning technology on several survey and facility projects. We have collected accurate data on assignments such as the busy city intersection at Cooper Plaza in Queens, NY; the interior and exterior building scans of the Department of Veterans Affairs Medical Center in West Haven, CT; the volume calculations of large stockpiles at the West River Bridge in West Haven, CT; and the existing conditions documentation of a portion of a signature bridge structure in New York, NY.

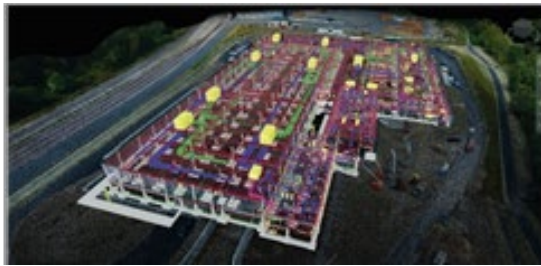
GEOGRAPHIC INFORMATION SYSTEMS (GIS)

In addition to performing a traditional ground survey to locate assets, we have developed our in-house geographic information system (GIS) web-based tools to collect comprehensive inventory data rapidly and reliably in "real-time" and up to 3 to 5 times more efficiently than conventional means. Asset data collected includes, but is not limited to, inventory photographs, location (descriptive and coordinates), material, and type. After parsing and reviewing, the data is exported to the client's desired formats and is seamlessly uploaded to their preferred GIS systems for asset tracking and efficient maintenance and condition records.

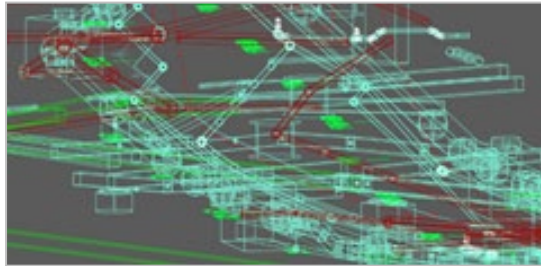


BUILDING INFORMATION MODELING (BIM)

AIE has experience utilizing BIM for the rehabilitation of existing structures and/or facilities. To get the most out of BIM, our engineers have modeled existing mechanical rooms to route interior utilities while evaluating for conflicts. *Clash detection through BIM has been an asset on Department of Veterans Affairs hospital projects as well as the CTDOT Waterbury Bus Storage and Maintenance Facility in Watertown, CT.* BIM is a collaborative tool, typically spearheaded by an architectural firm, that is best suited for new buildings that require many different consultants and designers where a "single source of truth" is necessary. Our firm has state-of-the-art software, Autodesk Revit, and the skills needed to create detailed models. In addition, we have merged UAS-generated point clouds with existing BIM models for an advanced method of clash detection, as shown in the first example below:



BIM Model with UAS Point Cloud of the
Waterbury Bus Storage & Maintenance Facility,
Watertown, CT



BIM Model of the LaGuardia Airport
Redevelopment Project, New York, NY

AUGMENTED REALITY (AR) / VIRTUAL REALITY (VR)

We believe that the immersive world of AR and VR can bring great value to the A/E/C industry. AIE regularly generates these environments from our UAS, scanner, and BIM modeling data. Real-time collaborative design, enhanced inspection capability, and a way to communicate your project to a client are just a few of the benefits these technologies bring. In addition, our firm has ongoing alliances with local and international universities that aid in the research and understanding of implementing AR and VR as mainstream industry tools.

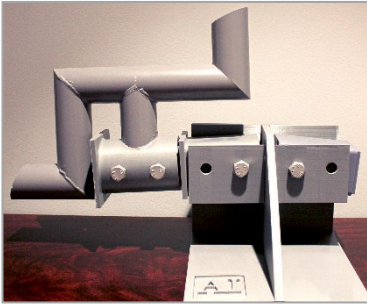


COMPUTER PROCESSING

We understand the data these various technologies produce is most valuable when correctly developed. To that end, AIE has invested in powerful internal computer processing machines that quickly and securely analyze information and produce the desired high-quality deliverables. These machines include Dell Precision 5820 Tower X-Series as well as Dell Precision 7760 Mobile Workstations and Dell Precision 7560 Mobile Workstations. We also utilize cloud computer processing for various tasks when necessary.

H. ADDITIONAL INFORMATION

30. PROVIDE ANY ADDITIONAL INFORMATION BY THE AGENCY. ATTACH ADDITIONAL SHEETS AS NEEDED.



3D Print of Swiveling
Connection for Fence Panels

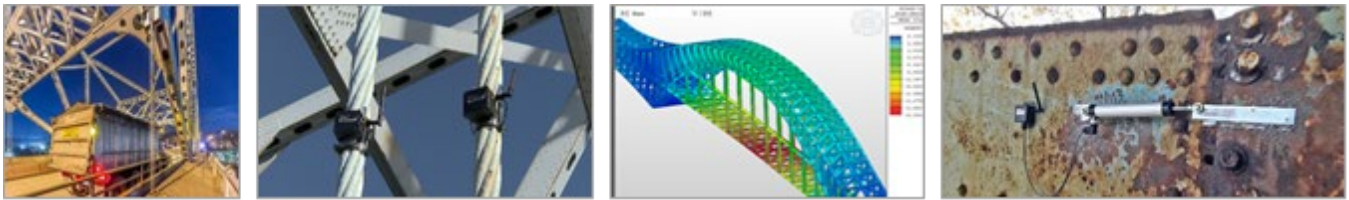
3D PRINTING

AIE also offers in-house 3D printing services utilizing our Stacker S2 additive manufacturing machine. The 3D objects produced serve as tangible deliverables and effective visual aids, which are especially conducive to interactions with the public. 3D prints can depict site conditions, test complex geometry, and allow a glimpse into what completed projects will look like. In this way, 3D printing can be integrated into the design process to accelerate project development or into construction monitoring to provide a readily accessible, tactile representation of ongoing activities. AIE recently furnished an aerial overview 3D print modeled from UAS and TLS data we gathered on-site to capture and demonstrate work area conditions during construction on the *Jackson Street Reconstruction project in Waterbury, CT*.

ARTIFICIAL INTELLIGENCE

Our firm understands the benefits of implementing artificial intelligence in all aspects of the A/E/C industry. Current uses include project schedule optimization, image recognition for inspections and worksite safety, and enhanced data analysis to understand signals and patterns so a quick and cost-effective solution can be executed. The power of this technology cannot be understated and will see a growing role in our industry.

WIRELESS STRUCTURAL MONITORING



We have extensive structural monitoring experience with simple, large, and complex bridges in Connecticut, Virginia, Pennsylvania, Rhode Island, New York, and Massachusetts using Resensys' wireless SenSpot sensors. Resensys structural monitoring solutions utilize award-winning ultra-low power wireless sensor network technology known as SenSpot. These sensors provide a versatile platform for remote monitoring of strain (stress), vibration, tilt, inclination, temperature, humidity, and acoustic emission events. These wireless sensors have been used on several major bridge structures for our clients, including CTDOT, VDOT, PennDOT, and Caltrans.

SOFTWARE & WORKSTATIONS

All of AIE's offices are fully equipped with state-of-the-art engineering analysis and production services, including BIM/CADD workstations with requisite peripheral equipment. The company's BIM/CADD/structural/civil computer resources include MicroStation V8 from XM to the most current Select Series III, Autodesk InfraWorks, Navisworks, AutoCAD Civil 3D, Autodesk Revit Structural, Revit MEP, InRoads, Synchro, Eagle Point including the Roadcalc module, RISA-3D, STAAD.Pro, BrR, BrM, Mathcad, and several others.

PAST RECORD OF PERFORMANCE

AIE's design and construction engineers possess the most current and up-to-date knowledge of construction materials and techniques and work closely with each other to evaluate each project, resulting in a project that has the best chance for successful completion. They work closely with clients to ensure clear lines of communication are maintained throughout the project's life. The result is the ability to meet project goals, schedule, and budget. We pride ourselves on the ability to meet or exceed our clients' requirements, standards, and expectations, and we have continually received excellent performance evaluations and feedback from our clients:

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Client Testimonials

"AI Engineering, Inc. (AI) provided design and pre-construction services on this project for the Town, assisting with design, permitting, bidding...Their work was completed on time and within budget. AI staff assigned to this project completed their responsibilities in an exemplary and professional manner."

- Town of Avon Old Wheeler Lane Bridge Rehabilitation, Avon, CT

"The staff at AI Engineers has demonstrated its in-depth knowledge of construction methods and materials, scheduling experience and understanding, look-ahead problem solving, and a team-oriented approach to project performance...The city would not hesitate to utilize this firm again in the future on similar construction projects. I would strongly recommend AI Engineers for consideration as a member of your construction project team."

- City of Bridgeport Steelpointe Harbor Roadway Improvements Project, Bridgeport, CT

"Throughout their time of engagement, AI has performed their work in a very professional manner. Their technical expertise and commitment to project success were evident in their deliverables and communication with the Town. The project manager and staff were very responsive to addressing project needs and issues that arose both during the initial planning and design phases through the construction completion."

- Town of Enfield On-Call Engineering Services, Enfield, CT

"Due to the failing nature of the combined sewer, the MDC needed quick action/response to any issue that arose, and AI's staff was always very responsive to the accelerated timeline of the project. In fact, the potential bidding contractors commented on the comprehensive plan and bid documents provided by AI."

- The Metropolitan District Commission (MDC) On-Call Engineering Services, Hartford, CT

AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

31. SIGNATURE

33. NAME AND TITLE

Rohit Pradhan, PE - Senior Vice President

32. DATE

2/12/2024

ARCHITECT-ENGINEER QUALIFICATIONS1. SOLICITATION NUMBER (if any)
AN-2024-25 01**PART II – GENERAL QUALIFICATIONS**

(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM (or Branch Office) NAME AI Engineers, Inc.			3. YEAR ESTABLISHED 1991	4. UNIQUE ENTITY IDENTIFIER K63EA1PGLMJ8
2b. STREET 919 Middle Street			5. OWNERSHIP a. TYPE Corporation	
2c. CITY Middletown	2d. State CT	2e. ZIP CODE 06457	b. SMALL BUSINESS STATUS	
6a. POINT OF CONTACT NAME AND TITLE Rohit Pradhan, PE - Senior Vice President			7. NAME OF FIRM (if block 2a is a Branch Office)	
6b. TELEPHONE NUMBER 860-635-7740		6c. E-MAIL ADDRESS rpradhan@aiengineers.com		
8a. FORMER FIRM NAME(S) (if any)			8b. YEAR ESTABLISHED	8c. UNIQUE ENTITY IDENTIFIER

9. EMPLOYEES BY DISCIPLINE				10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS		
a. Function Code	b. Discipline	c. Number of Employees		a. Profile Code	b. Experience	c. Revenue Index Number (see below)
		(1) FIRM	(2) BRANCH			
02	Administrative	39	29	A06	Airports; Terminals	4
06	Architect	2	1	B02	Bridges	8
08	CADD Technician	8	6	C15	Construction Management	8
12	Civil Engineer	20	13	E03	Electrical Studies & Design	4
15	Construction Inspector	60	32	G01	Garages, Vehicle Maintenance	7
16	Construction Manager	15	10	H07	Highways, Streets; Airfield Paving;	7
18	Cost Engineer/Estimator	2	2	H09	Hospital & Medical Facilities	4
21	Electrical Engineers	9	9	L02	Land Surveying	4
23	Environmental Engineer	1		P06	Planning (Site, Installation, & Project)	3
24	Environmental Scientist	1		P07	Plumbing & Piping Design	4
25	Fire Protection Engineer	1		P12	Power Generation, Transmission,	3
32	Hydraulic Engineer	1	1	R03	Railroad; Rapid Transit	7
38	Land Surveyor	11	8	R06	Rehabilitation (Bldg.; Structures;	4
39	Landscape Architect	1		S04	Sewage Collection, Treatment &	5
42	Mechanical Engineer	5	5	S09	Structural Design; Special Structures	6
48	Project Manager	21	11	S13	Storm Water Handling & Facilities	5
52	Sanitary Engineer	2		T03	Traffic & Transportation Engineering	4
53	Scheduler	2	2	T08	Tunnels and Subways	3
57	Structural Engineer	84	26	W02	Water Resources; Hydrology; Ground	4
58	Technician/Analyst	6	6			
60	Transportation Engineer	3	1			
62	Water Resources Engineer	1				
Total		295	162			

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS

(Insert revenue index number shown at right)


a. Federal Work	4
b. Non-Federal	10
c. Total Work	10

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

- | | |
|---|---|
| 1. Less than \$100,000 | 6. \$2 million to less than \$5 million |
| 2. \$100,000 to less than \$250,000 | 7. \$5 million to less than \$10 million |
| 3. \$250,000 to less than \$500,000 | 8. \$10 million to less than \$25 million |
| 4. \$500,000 to less than \$1 million | 9. \$25 million to less than \$50 million |
| 5. \$1 million to less than \$2 million | 10. \$50 million or greater |

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

a. SIGNATURE 	b. DATE 2/12/2024
c. NAME AND TITLE Rohit Pradhan, PE - Senior Vice President	