

Schacht & McElroy

*Michael R. McElroy
Leah J. Donaldson*

Attorneys at Law

*Michael@McElroyLawOffice.com
Leah@McElroyLawOffice.com*

*Members of the Rhode Island
and Massachusetts Bars*

*21 Dryden Lane
Post Office Box 6721
Providence, RI 02940-6721*

*(401) 351-4100
fax (401) 421-5696*

September 9, 2016

Todd Bianco
Coordinator
Rhode Island Energy Facility Siting Board
89 Jefferson Boulevard
Warwick, RI 02888

In Re: Application of Invenergy Thermal Development LLC – Clear River Energy Center
Docket No. SB-2015-06

Dear Mr. Bianco:

As you know, I am an Assistant Town Solicitor for the Town of Burrillville, which is an intervenor in this action.

Pursuant to the procedural schedule in this docket, which requires that a list of each party's experts and their CVs be submitted on or before September 12, 2016, enclosed are the following CVs of the experts I expect will be testifying for the Town of Burrillville in this matter and the primary topics they will address:

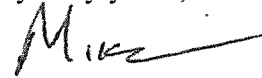
1. David M. Hessler (noise).
2. Eric P. Epner (air emissions).
3. Robert P. Sims (water/sewer).
4. James W. Coogan (traffic and roadway engineering).
5. Thomas B. Hevner (ammonia, water, and various environmental issues).
6. James A. Jackson (various land development and other issues).

The Burrillville Tax Assessor has retained appraiser Glenn Walker of the firm of George E. Sansoucy, P.E., LLC to perform an analysis of the potential impact of the proposed facility on property values in Burrillville. The Tax Assessor has adopted the Walker/Sansoucy analysis as her Advisory Opinion to the EFSB. The Town will therefore make Mr. Walker available at the EFSB hearings to answer questions on the analysis/advisory opinion. Therefore, I am also enclosing a copy of appraiser Walker's CV.

An original and 10 copies are enclosed. Electronic copies have been sent to the service list.

If you have any questions, please feel free to call.

Very truly yours,

A handwritten signature in black ink, appearing to read "Mike", with a long horizontal flourish extending to the right.

Michael R. McElroy

cc: Service List

Schacht & McElroy

CURRICULUM VITAE

DAVID M. HESSLER

Title: Principal Consultant, Vice-President
Hessler Associates, Inc.

Professional Affiliations: Professional Engineer (P.E.), Commonwealth of Virginia
Member Institute of Noise Control Engineering (INCE)
National Council of Acoustical Consultants (NCAC)

Education: Bachelor of Science in Mechanical Engineering (B.S.), 1997
Summa cum Laude
A. James Clark School of Engineering
University of Maryland, College Park, MD

Bachelor of Arts (B.A.), 1982
University of Hartford, Hartford, CT

Employer: Hessler Associates, Inc.
3862 Clifton Manor Place
Haymarket, VA 20169

Years in present position: 25

Current Job Description: Acoustical engineer specializing in the prediction, assessment and mitigation of environmental noise from new and existing power generation and industrial facilities. Typical tasks include:

- Field measurement studies of existing ambient sound levels in the vicinity of proposed project sites
- Computer noise modeling of new facilities prior to construction
- Environmental impact assessments for new projects
- Noise mitigation design studies of new facilities
- Verification measurements of completed facilities
- Diagnostic studies of facilities with existing noise problems
- Design and specification of noise mitigation measures
- Educational lectures on noise issues for private corporations
- Expert witness testimony

General Experience: As an outside consultant to nearly all the major power industry EPC contractors, developers and OEM's, have been the principal acoustical designer of over 400 power plants and industrial facilities worldwide ranging from a 3900 MW power station in Saudi Arabia to numerous combustion turbine combined cycle plants to refineries and wind turbine projects. Typically, the focus of the work on these projects was to anticipate potential noise impacts at sensitive receptors near the project and recommend practical noise abatement measures to avoid them. In addition, extensive verification measurements in and around the completed power plants and wind farms have been performed to confirm that the design recommendations have been successfully executed.

Wind Turbine Experience: Over the past 14 years have performed noise impact evaluations and siting optimization studies for roughly 70 large wind turbine projects in

the United States and Canada, involving nearly all current makes and models of wind turbines. Have developed test protocols and conducted long-term field measurement surveys of numerous newly completed wind projects to evaluate compliance with applicable permit conditions, to investigate complaints and/or to verify the accuracy of pre-construction noise modeling. Have carried out field tests of wind turbine sound power level in strict accordance with the IEC 61400-11 test methodology. Have carried out field measurement studies of operating wind turbines to evaluate their low frequency sound emissions, nacelle noise sources and radial directivity characteristics. Have testified as an expert witness at permitting hearings for proposed wind projects. Attended all six bi-annual Wind Turbine Noise conferences held so far, including the Glasgow conference in April of 2015.

Recent Papers and
Publications:

“Wind Turbine Noise”, Chapter 7 *Measuring and Analyzing Wind Turbine Sound Levels*, Multi-Science Publishing Co., Brentwood, Essex, UK, Jan. 2012. Comprehensive book on all aspects of wind turbine noise. Each chapter written by a recognized expert in that subject.

Teleseminar “Wind Turbine Siting and Best Practices”, National Regulatory Research Institute (NRRI), Invited speaker, Jan. 2012.

“Best Practices Guidelines for Assessing Sound Emissions from Proposed Wind Farms and Measuring the Performance of Completed Projects”, Prepared for the Minnesota Public Utilities Commission under the auspices of the National Association of Regulatory Utility Commissioners (NARUC), Oct. 2011.

“Accounting for Background Noise when Measuring Operational Noise from Wind Turbines”, Fourth International Meeting on Wind Turbine Noise, Rome, Italy, Apr. 2011.

“Recommended noise level design goals and limits at residential receptors for wind turbine developments in the United States”, *Noise Control Engineering Journal*, J.59 (1), January-February 2011.

“Wind tunnel testing of microphone windscreen performance applied to field measurements of wind turbines”, Third International Meeting on Wind Turbine Noise, Aalborg, Denmark, June 2009.

“Experimental study to determine wind-induced noise and windscreen attenuation effects on microphone response for environmental wind turbine and other applications”, *Noise Control Engineering Journal*, J.56, July-August 2008.

Expert Witness Cases:

Before the Washington State Energy Facilities Siting Board (EFSEC) on behalf of Bechtel and the Cherry Point Cogeneration Project, Bellingham, WA, 2003. Permitting support for a proposed combined cycle power plant facility.

Before the Public Service Commission of West Virginia on behalf of the Longview Power Project near Morgantown, WV, 2006. Permitting support for a proposed coal-fired power plant facility.

Before the Pennsylvania Department of Environmental Protection on behalf of Waste Management and the Alliance Sanitary Landfill in Taylor, PA, 2006. Support in defending against a Class Action Lawsuit brought by neighbors of the landfill.

Before the Office of the Attorney General of New York on behalf of the Hudson Valley Community College Cogeneration (Diesel) Plant. Support in defending against a Class Action Lawsuit brought by neighbors.

Before the Hanover County (VA) Board of Supervisors on behalf of Martin Marietta Materials and the Doswell Quarry, 2008. Permitting support for a proposed quarry expansion.

Before the New Hampshire Site Evaluation Committee on behalf of Granite Reliable Power, LLC, 2008. Docket No. 2008, July 2008. Permitting support for a proposed wind turbine project in Northern New Hampshire.

Before the Public Utilities Commission of Ohio, Ohio Power Siting Board on behalf of EverPower Renewables and the Buckeye Wind Project, 2008. Permitting support for a proposed wind turbine project in Ohio.

Before the Wisconsin Public Service Commission on behalf of Clean Wisconsin with regard to the proposed Highland Wind Farm in Forest, WI. Docket No. 2535-CE-100. Engaged as an independent expert to evaluate the Applicant's sound studies and the testimony of opposition groups.

Before the Public Utilities Commission of Ohio, Ohio Power Siting Board on behalf of EverPower Renewables and the Buckeye II Wind Project, 2012. Permitting support for a proposed wind turbine project in Ohio.

Before the Maine State Government Energy, Utilities and Technology Committee on behalf of Patriot Renewables and the Beaver Ridge Wind Project, 2014. Peer review of operational sound testing by others.



Eric P. Epner, PE

Air Emissions & Permitting Task Manager

"Although my degree was in Chemical Engineering, I was drawn to a career in environmental consulting because it gave me an opportunity to combine my love for math, science, and the environment. It is very rewarding to be a part of the solution, rather than the problem, in protecting the environment and our communities."

EEpner@fando.com 800.286.2469

EDUCATION

BS, Chemical Engineering - 1985
Clarkson University

LICENSES & REGISTRATIONS

Professional Engineer, NY

PROFESSIONAL AFFILIATIONS

Carolinas Air Pollution Control
Association

EXPERIENCE

20 years with Fuss & O'Neill
30 years Professional Experience

Eric is a Vice President with Fuss & O'Neill and is a leader in the company's Environmental, Health, and Safety Engineering Business Unit. His experience spans a wide variety of environmental engineering projects including EHS compliance auditing, air, water, and solid/hazardous waste permitting, stormwater compliance, petroleum storage and handling compliance, and remediation. These projects have spanned many client sectors and geographies. His principal focus areas are air permitting and air pollution control, along with a burgeoning practice in renewable energy projects.

REPRESENTATIVE PROJECTS:

100 MW Generating Station, Gaffney, SC
Thermal Power Projects, Various CT, NJ, NC & VA
Biodiesel Production Facility, Suffield, CT
Aerospace Manufacturing Facility, Windsor Locks, CT
Hospital Complex, Bridgeport, CT
Firearms Manufacturing Facility, Columbia, SC
University/Hospital Campus, Rochester, NY
Grey Iron Foundry, Defiance, OH
Specialty Coatings Facility, East Windsor, CT
Secondary Copper Facility, Norwich, CT
Photographic Chemicals Manufacturer, Rochester, NY

Robert P. Sims, P.E.

Project Manager/Principal Engineer

PROFESSIONAL PROFILE

Mr. Sims has over 30 years of experience and has applied his knowledge to many aspects of the study, design and management of civil engineering projects. His water-related assignments have included water supply studies, long-term financial planning, regulatory development, permitting, treatment, distribution, pumping, and storage.

In association with wastewater projects, he has been involved with facility plans, pumping stations, collections systems, residuals management, regulatory development, permitting, and with the development of financial assistance. For institutional clients, Mr. Sims has been involved with a variety of projects ranging from chilled water and steam service at universities to navigational aids at airports.

REPRESENTATIVE PROJECTS

Water Supply Engineering

Water Filtration Plant Upgrade and Construction – Bellingham, MA: To date, Mr. Sims has assisted with the review of the Project Technical Memorandum and review of the design for the 30-percent design submittal for the proposed water treatment facility.

Mishnock Water Treatment Plant Site Design – Kent County Water Authority (KCWA), Coventry, RI: Managing Engineer for the design of the civil site drawings for a three MGD water treatment plant for the Kent County Water Authority. Wetland delineation was performed for the site as well as permitting through RIDEM, RIDOH and the Coventry Planning Board. Unique site design features included the presence of a Rare and Endangered species, high groundwater, an infiltration lagoon, and a tight-tank for building wastewater. The client also added restraints for landscaping.

State Street Utility Replacement Project – Quincy, MA: Managing Engineer for the design and construction administration for a \$14 million dollar replacement project for the South Quincy Office Park. The project included a complete evaluation of all underground utilities and the design of the replacement of the entire water and sewer system due to years of settlement. Improvements were also made to the storm drainage system and coordinated with the Quincy Conservation Commission and the Chapter 91 provisions for formerly filled wetlands. During construction the owner decided to add complete reconstruction of all roadways, curbing and parking at the Park.



YEARS OF EXPERIENCE

CDR Maguire: Since 2010
Total: Since 1985

EDUCATION

BS – Civil Engineering
University of Texas, 1985

PROFESSIONAL REGISTRATIONS

Professional Engineer: MA-35130,
RI-7879, ME-8561

CERTIFICATIONS & TRAINING

- Distribution Water System Operator: Class 2D, Massachusetts
- Massachusetts-Certified Public Purchasing Official (MCPPO)

ASSOCIATIONS/MEMBERSHIPS

- American Water Works Association, AC Pipe Standards Committee
- New England Water Works Association: Past Security Committee/Youth Education Committee Chairman
- New England Water Environment Association
- Massachusetts Water Works Association, Past-President & Program Committee Co-chair
- Middlesex/Worcester County Water Association
- Rhode Island Water Works Association
- Grafton Water District, Board of Commissioners (1995-2012)



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Spring Street Well Evaluation Study - Department of Public Works, Ashland, MA: Evaluation of a gravel-packed well completed in 1980 and never put into service due to TCE contamination. The well is currently being permitted as a new source to supplement existing sources. Concentration of organics including sulfates, iron, manganese and hardness will be key components of the development of a treatment option.

- Grafton Water District, Board of Commissioners (1995-2012)
- Massachusetts Water Infrastructure Finance Commission
- Adjunct Professor – New England Institute of Technology

Water Main Procurement Documents – Cumberland, RI: Managing Engineer for the development and bidding of a procurement contract for water main installation. The intent of the project was to allow the town to bid general services for completing small dead-end connections as monies became available without developing extensive design documents for every small project.

SCADA Upgrade - Department of Public Works, Hopkinton, MA: Replacement of the existing communication network for the town's water system. A change from leased-line communication was switched to a radio-based protocol.

Water Storage Tank Rehabilitation Project – Westerly, RI: Managing Engineer for the investigation, evaluation, and design of rehabilitations for four water storage tanks. Project included remediation of lead-impacted soil at one tank site, interior dive inspections, in-service cleaning, structural evaluation of tank foundations/structures, and design of interior mixing systems.

Woodbridge Booster Station – Department of Public Works, Ashland, MA: Design and bidding for a new booster station at the Woodbridge Tank site. Increasing tank circulation and low pressures in the vicinity of the tank necessitated the project.

Emergency Connection Plan – Ashland, MA: Managing Engineer for the evaluation of alternatives for providing an emergency water supply. The project involved a hydraulic analysis of the Town and the surrounding communities for available supply, existing pressure, and water quality parameters.

MWRA Water Supply Connection – Ashland, MA: The Town of Ashland is currently pursuing the approval process for a new well. However, the MWRA has expressed an interest in providing the necessary supply. The initial phase of the work involved the cost-effective analysis of developing the new well versus expanding the MWRA pumping station that supplies the Town of Southborough.

Town-Wide SCADA – Southborough, MA: Managing Engineer for design of a new Supervisory Control and Data Acquisition system for the Town's water system. The project included a conversion to radio frequency for data transmittal, connection of the data to a central location (DPW garage), and the inclusion of remote transmitting stations at the three water tanks, two pumping stations, and four pressure reducing valves connecting the high and low service areas.

Hanscom Air Force Base Water System Conservation Analysis – Bedford, MA: Project Manager for the evaluation of the conservation opportunities of the base-wide water system. The evaluation included a limited field survey of fixtures, interviews with operators, evaluation of water use, extent of by-laws, and a phase approach for improvements. Recommendations included the completion of leak detection, repair of known leaks, main replacement, fixed based network upgrade, evaluation of cooling towers, new meter and billing system.



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Meter Replacement Project – Everett, MA: Project Manager for the evaluation and replacement of commercial meters in the City to improve revenue. After completing a pilot program, we assisted the City's Purchasing Department in procuring construction services for the replacement of approximately 156 large meters. We also assisted the City in obtaining and managing a grant made available through the Massachusetts Water Resources Authority. The right sizing of the meters allowed for the installation of over 200 meters and while maintaining the budget. Right sizing was accomplished with a survey of the building and study of past water use records.

Gardner Water Audit – Gardner, MA: Project Manager for the management of a partially funded DEP Water Conservation Grant. The project included gathering information on the consumption, metering calibration and unaccounted for water to determine ways that the City could reduce overall water consumption and reduce losses within the system and increase revenues through more accurate representations of water use.

Regulatory Assistance – Department of Public Works, Oxford, MA: Managing Engineer for providing assistance to the Town of Oxford Department of Public Works for the development of a response to a rate filing request by a private water company. Project included providing expert testimony at the Department of Public Utilities.

Water System Master Plan – Southborough, MA: Managing Engineer for the compilation of a water system master plan for the Town's water system. The project utilizes build-out data from historic and local sources. System performance improvements were enhanced with the use of the hydraulic model. The final plan included a prioritized plan for continued improvement of the reliability of the system.

Phase I Dam Inspections – Gardner, MA: As part of an ongoing relationship with the City's Department of Public Works, provide inspections of dams connected to the water supply.

Woodbridge Booster Station - Department of Public Works, Ashland, MA: Design and bidding for a new booster station at the Woodbridge Tank site. Increasing tank circulation and low pressures in the vicinity of the tank necessitated the project.

Emergency Action Plan Update – Gardner, MA: Created Emergency Action Plans for three high hazard dams in the City. Subsequently, updates to the original plans were submitted annually.

Hydraulic Model Development – Gardner, MA: Project Manager for the management of the hydraulic model for the City's water system. The project included updating piping information based on recent projects such as pipe replacement and relining.

Zambarano Water Tank Rehabilitation – Burrillville, RI: Managing Engineer for the design, bidding and construction administration for the rehabilitation of the water storage facility at the Eleanor Slater Hospital - Zambarano Campus. Project included permitting of remediation of lead-impacted soil, design of tank repairs and design of temporary water storage system to be utilized during times when the tank is off-line. Coordination was required with the existing water treatment facility and local fire departments to provide sufficient storage for potable and firefighting services.

Oak Hill Water Storage Tank Painting – Southborough, MA: Managing Engineer for the design, bidding and construction administration for the rehabilitation of the Oak Hill water storage standpipe. Project included development of project specifications and design of tank repairs. Coordination was required with the Department



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of Public Works to ensure that the timing of the project allowed for a reduction in demand to permit for the second tank in the system to carry the entire load of providing pressure and fire storage.

Willow Lane Hydraulic Analysis – Southborough, MA: As Managing Engineer, performed a hydraulic analysis of the effects of water main improvements in the Willow Lane area. The project was undertaken to improve redundancy and potentially eliminate an aging 10-asbestos-cement water main in an easement along the CSX Fitchburg Secondary railroad line. The project involved hydraulic modeling to verify the conditions.

Boland Pump Station – Southborough, MA: Managing Engineer for the evaluation and design of proposed upgrades to the existing Boland Pump Station, part of the Town's water system. The project utilized the information from the previously created Master Plan for design criteria.

Pressure-reducing Valve Upgrade – Southborough, MA: Managing Engineer for the design, bidding and construction administration of updated pressure-reducing valves connecting the high- and low-service areas in the Town. The original valves did not function properly due to slight pressure differential. The new valves were designed to include overrides from the SCADA system to allow for transfer to water during peak demand periods despite the existing differential. An analysis of tank charts and installation of field pressure gauges assisted in the development of operational protocol.

Ongoing Water Main Cleaning – Lincoln, RI: Managing Engineer for the review of a procurement specification for the cleaning and cement-lining of water mains for the Lincoln Water Commission. The Commission developed the contract documents and requested assistance in final review. Since its inception, the contract has been extended to the original contractor on three occasions.

Mishnock Water Storage Tank, Water Mains and Pumping Station Study – Kent County Water Authority (KCWA), Coventry, RI: Managing Engineer for a study to determine the storage and piping options for the treated water from the proposed Mishnock Water Treatment Plant. The project included hydraulic modeling of the discharge scenarios and their effect on the size of the proposed water tank, booster pump station and transmission mains.

Main Street Water Main Replacement – Ashland, MA: The project included the replacement of 2,300 linear feet of 12-inch pipe due to a poor break history. Temporary bypass for existing homes was included. A short time schedule governed finishing the project before winter.

Nate Whipple Highway Water Main Replacement – Rhode Island Department of Transportation (RIDOT), Cumberland, RI: Managing Engineer for the design of the replacement for an aging section of water main prior to the reconstruction of the roadway by the Rhode Island Department of Transportation. The roadway had been realigned and the existing water main was outside of the new right-of-way. The project included replacement of approximately 500 feet of 16-inch main, hydrants, water services, and cross-street interconnections.

Consumer Confidence Report – Hopkinton, MA: Managing Engineer for the development of the Town's Annual Consumer Confidence Report, including revising the previous year's report to incorporate new data.

Vulnerability Assessments - Ashland, Hopkinton, Westborough, Swansea, Westfield, MA and Newport RI: Performed or provided assistance in the completion of Vulnerability Assessments for several medium and small



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communities in New England. Federal law in the Bioterrorism Act of 2002 mandated completion of a Vulnerability Assessment for public water suppliers serving more than 3,300 people.

Emergency Response Plan Updates - Ashland, Hopkinton, Westborough, Swansea, Westfield, MA and Newport RI: These projects have incorporated information from the Vulnerability Assessment and provided a basis for the update of the existing or creation of a new Emergency Response Plan. Federal law in the Bioterrorism Act of 2002 mandated completion of an Emergency Response Plan Update six months after the submittal of the Vulnerability Assessment.

Pastore Complex Hydraulic Model and Elevated Tank Rehabilitation – Cranston, RI: Project Managing for hydraulic model update, evaluation of an elevated water storage tank, remediation of lead-contaminated soils at the tank site, and design of tank rehabilitations.

Black Rock Road Water Main Replacement – Kent County Water Authority (KCWA), Coventry, RI: Provided coordination of design for 25,600 linear feet of 20-inch and 24-inch water main to replace an aging asbestos cement portion of the system.

Ashland System Analysis – Ashland, MA: The project included the calibration of a hydraulic model to be used to develop a Capital Improvement Program. The analysis also included the development of a financial model to predict anticipated rate increases.

East Mountain Road Water Main Replacement – Water Department, Westfield, MA: Design of 2,200 linear feet of 16-inch main to replace an aging and undersized 10-inch main. The project included utilizing directional drilling technology to avoid an open-cut disruption near a railroad overpass.

Hutchinson Tank Painting – Merrimack Village Water District, Merrimack, NH: The project included the development of project specifications for the painting of the Hutchinson tank.

Well No. 12 Pumping Station – Swansea, MA: Redesign of a pumping facility to avoid two-stage pumping and maintenance on hydro-pneumatic tanks for the Swansea Water District. The site was unique due to an existing agreement with an electric company easement.

Stormwater Pumping Station Design – Rhode Island Department of Transportation (RIDOT), Jamestown, RI: Managing Engineer for the design of a stormwater pump station related to water quality improvements to the South Pond drainage area in Jamestown. South Pond is used by the Town as a public water supply. The drainage area for the project is predominantly Route 138 in Jamestown and represents about 12 acres of impervious area.

Water Demand Analysis – Whitinsville Water Company, Northbridge, MA: The project involved determining the long-term water supply needs for the water company. The evaluation included incorporating population trends, system development, development limits, and past water use records.

Base Pumping Station – U.S. Army Corps of Engineers, Pol-E-Charki, Afghanistan: Development of an entire water system for a proposed army base for 6,000 Afghan soldiers. Along with the distribution piping, a well, storage tank and chlorination system were included in the design.



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Northwest Tank Control Valve Facility – Water Department, Westfield, MA: The Northwest tank is located such that the City's hydraulic grade line occasionally exceeds the overflow elevation of the tank resulting in discharges. The design included the installation of a control valve facility that would not only prevent overflows, but would recycle the tank's water from the rest of the distribution system in the event of extended shutoffs.

Tekoa Reservoir Reactivation Study – Water Department, Westfield, MA: The Tekoa Reservoir was a source of water for the City from 1874 to the 1970s. Water quality concerns led to the decommissioning of the reservoir. This study evaluated sample data and potential siting issues regarding the reactivation and/or enlargement the reservoir to provide additional water supply.

Pipe Material Selection Reports – Various Locations: These project have included a non-bias evaluation of potential pipe materials based on the project's location. Parameters used in the evaluation included cost, durability, field flexibility, reliability, soil types, expected system pressures and maintenance.

Niantic Sportsmen's Club Water Monitoring – East Lyme, CT: Managing Engineer for the ongoing monitoring of lead transfer on the club's property. Project includes quarterly sampling and reporting.

Old Connecticut Path Water Main Replacement – Department of Public Works, Framingham, MA: Designed a replacement of an undersized line. The project included crossing the MassPike on an existing bridge and providing water continuously to a large industrial client (the Town's biggest water customer).

Route 2 Water Main Extension – Warwick, RI: Managing Engineer for the extension of the high service area in the Kent County Water Authority system. The project was originally funded by a private developer and included the design of approximately 8,000 linear feet of 16-inch water main. The scope of work included delineation of project wetlands and a Physical Alteration Permit to be obtained from the Rhode Island Department of Transportation (RIDOT).

Willard & Swain Street Water Main Design – Wannacomet Water Company, Nantucket, MA: Project Manager for the design of approximately 1,500 linear feet of 8-inch water main in the downtown area of Nantucket. Narrow streets and time restrictions limited design alternatives.

Merri-Village Water Improvements – Merrimack Village Water District, Merrimack, NH: Project Manager for the evaluation of a portion of a water main with a high leak incident; recommended replacing pipe with DIP and polyethylene wrap. Due to poor soil conditions, strict adherence to backfill requirements was imperative.

Doeskin Estate Water Extension – Department of Public Works, Framingham, MA: Project Manager for the design of a 9,000-foot water system extension to create a new pressure zone for outlying homes. The project included a booster pump station, the water main, and a 150,000 gallon standpipe.

Monomoy Road Water Main Replacement – Wannacomet Water Company, Nantucket, MA: Project Engineer for the replacement of approximately 3,500 linear feet of 6-inch water line to a 12-inch water line.

Shimmo Hills Cleaning and Lining – Wannacomet Water Company, Nantucket, MA: Project Engineer for the cleaning and lining of approximately 4,000 linear feet of 6-inch water main. The cleaning and lining was precipitated because the legal boundaries of the easement had changed. "Maintenance" work was all that could legally be performed.



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Sections 41, 42 and 76 – Massachusetts Water Authority (MWRA), Hyde Park, MA: Senior Project Engineer for the investigation of existing piping and development of improvements to mains that connect the Hyde Park Pumping Station with the Bellevue Tanks. Special restrictions stated that the tanks must remain in service through construction.

Section 91 Connecting Mains – Massachusetts Water Authority (MWRA), Lynn, MA: Senior Project Engineer for a pipe material investigation study that determined appropriate piping material for a new water main project. Comparisons included analyzing costs, ease of construction, hydraulic capacity, and maintenance.

Off-Island Utility Supply – Massachusetts Water Resources Authority (MWRA), Winthrop/Revere, MA: Project Engineer responsible for the design of plans, profile drawings and contract documents for 36,000 linear feet of 20-, 30-, and 36-inch water pipeline and related appurtenances. The project was initiated to provide makeup water for the new Deer Island Wastewater Treatment Facility. Activities also included preparing permit applications through an Area of Critical Environmental Concern and reconstruction of all disturbed roadways.

Water System Improvements – Bloomington, IN: Project Engineer responsible for the design of 36,000 linear feet of 20- and 24-inch water pipeline and related appurtenances. Project included evaluation of roadway improvements in the design. The pipe was placed deeper to facilitate a proposed increase in the design speed of the roadway that would lower higher sections of the road.

Newton Street Pumping Station Design – Massachusetts Water Resources Authority (MWRA), Brookline, MA: Project Engineer responsible for the design of 5,300 linear feet of 36-inch suction piping and 6,300 linear feet of 30-inch discharge piping.

American Legion Highway – Massachusetts Water Resources Authority (MWRA), West Roxbury, MA: Project Engineer responsible for the design of 8,000 linear feet of 30-inch water pipeline and related appurtenances.

Control Valve Facility Design – Bangor Water District, Bangor, ME: Project Engineer responsible for the coordination of the design of a 13 MGD control valve facility that included two 12-inch cone valves for throttling service. The station was also equipped with an uninterruptible power supply.

Heath Place/Hillside Road – Massachusetts Water Resources Authority (MWRA), Brookline, MA: Project Engineer for the design of 6,000 linear feet of rehabilitated 54-inch riveted steel pipeline. The project included evaluation of cathodic protection for prevention of further corrosion.

Section 16 Water Main Rehabilitation – Massachusetts Water Resources Authority (MWRA), Medford, MA: Project Engineer responsible for the coordination of the rehabilitation of a 48-inch steel water main. The project included replacement evaluation and coordination with existing cathodically-protected utilities.

Water Treatment Plan No. 4 – Austin, TX: Engineer responsible for site design and discharge main routing for sludge recovery system for a new 60 MGD water treatment plant. The design included lagoon sizing and initial dam design.



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Robert P. Sims, P.E.

Project Manager/Principal Engineer

Pilot Knob Transmission Main and Ground Storage Tank Design – Austin, TX: Engineer responsible for the design of 43,400 linear feet of 48-inch and 60-inch water main piping as well as the design of a 10 MG water ground storage tank including related site development work.

Anderson Mill Size/Site Selection Report and Storage Tank Design – Austin, TX: Engineer responsible for analyzing potential site and sizes for a 3 MG elevated storage facility as well as the design of the facility and appurtenances.

Alternate Water Supply Report – Bangor Water District, Bangor, ME: Engineer responsible for the development of cost alternatives for new water supplies including surface and groundwater sources.

Spicket Hill Water Storage Facility – Salem, NH: Project Engineer responsible for the design of a 1.4 MG water storage facility and 2,400 linear feet of 24-inch water pipe. Project also included civil site design.

On-call Water System Engineering Services – Southborough, MA: Managing Engineer for several projects for the Town's water system including: development of a hydraulic model; a study of four pressure-reducing valves, design of pump station upgrades, town-wide SCADA system, a tank siting study, a system-wide build-out analysis, and development of a Capital Improvement Plan and a System Master Plan.

Tank Siting Evaluation – Southborough, MA: Managing Engineer for the evaluation of the options for providing additional storage to the Town's water system. The project included evaluation of the reasons for storage, an evaluation of 25 sites, the difference in pumped and gravity storage, aboveground and buried storage. The evaluation also included a cost analysis based on site cost, pump station purchase, operation and maintenance, availability of 3-phase power, and the effect of water system performance.

Hydraulic Model Development – Southborough, MA: Managing Engineer for the calibration and development of a hydraulic model for the Town's water system. The project included meetings with the Town to accurately represent the system, meetings with the Town Planner to accurately depict future conditions and a review of water system pumping and use records. Hydrant flow tests were also performed throughout the system to calibrate the information in the model.

Main Street Water Main Replacement – Upton, MA: Managing Engineer for design, permitting, bidding and construction-related services for 5,300 linear feet of 12-inch water main. The project included work on Route 140, a road maintained by the Massachusetts Department of Transportation.

Wastewater Projects

Grit and Screening Facility Design – Norfolk Correctional Facility, Norfolk, MA: Project Manager for the design of a new grit and screenings facility at the Norfolk Correctional Facility. The project was initiated to combat large amounts of grit entering the primary pumping station. Excessive grit and screenings were causing major problems with the operation of the existing pumping station and overloading the existing headworks downstream of the pumping station.

Wastewater Hydraulic Modeling – Gardner, MA: Project Manager for the calibration and development of a hydraulic model for the City's wastewater system. The project included meetings with the City to accurately



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Project Manager/Principal Engineer

represent the collection system and a review of wastewater system pumping records. Flow monitoring from an infiltration study was used to assist in the calibration.

NPDES Reporting – Gardner, MA: Project Manager for the preparation and submittal of required reporting for the City of Gardner's Wastewater Treatment Plant. A previous Consent Order required tracking and reporting to ensure compliance with the NPDES Permit. Parameters included nitrogen, phosphorus and copper.

Siphon Study and Management Project – Gardner, MA: Project Manager for the study of the existing siphon chamber at the headworks of the Gardner Wastewater Treatment Plant. The City was experiencing heavy slugs of grit and screenings and the siphon was suspected. A review of 50-year-old plans revealed that the siphon originally had weir plates to control flow and these plates had been removed. Prior to reinstalling the plates, performance was modeled and after installation, the flow was calibrated. Installing the weir plates resulted in discharged settled material and improved performance of the siphon.

Pump Station Replacement Project – Gardner, MA: Project Manager for the replacement of three below-grade stations with aboveground enclosures. Changes in confined space entry and the susceptibility of the flooding led the City to raise the "guts" of the stations.

Station Street Pump Station Evaluation and Upgrade – Upton, MA: Project Manager for the evaluation and redesign of an existing wastewater pump station. The station was originally designed for much higher flow, but zoning changes within the Town reduced the build-out potential. The evaluation resulted in an upgraded design including a reduction in the pumps and motors. The payback on the reduced motor size is expected to save the Town almost \$40,000 over the next 20 years.

Infiltration & Inflow Program – Upton, MA: Managing Engineer for development of Infiltration & Inflow (I&I) guidelines for the Department of Public Works. The guidelines are to be used by the Sewer Department and the Planning Board to develop a plan for elimination of I&I in the wastewater collection system. As part of the project, three critical lines were metered for the presence of I&I. Reporting to the Massachusetts Department of Environmental Protection (MADEP) was also performed.

Wastewater Treatment Facilities Plan – Portsmouth, RI: Managing Engineer for feasibility study conducted to consider options for resolving water quality problems in two neighborhoods currently using ISDS and cesspools. The plan assesses the costs and benefits of implementing a wastewater management district or a treatment facility.

Hillcrest Estates Wastewater Pumping Station – Department of Public Works, Ashland, MA: This project is unique because the site developer paid the Town to have the Town's engineer design the station. This allows the Town to have input into the design and assist the developer by not incurring review fees from an outside engineer. The station incorporated a reused skid-mounted pump package in a new building. The station was abandoned by a sewer extension after less than 250 hours of operation.

Brackett Road Pump Station – Ashland, MA: Project Manager responsible for the design and coordination of a 1.5 MGD pumping station to replace an undersized existing station. A key project aspect was a very high groundwater table in a high permeability soil stratum.



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Hillgate, Green, Union and Water Street Sewers – Ashland, MA: Project Manager responsible for the design and construction administration for 4,200 linear feet of gravity sewers. The project was funded by three separate Town Meeting articles, which complicated coordination and billing efforts.

16-Inch Siphon Replacement – Ashland, MA: Project Manager for the design and construction administration of replacing 1,700 linear feet of 16-inch siphon with a 20-inch HDPE gravity pipe. Project was entirely in CSX railroad property requiring strict adherence with CSX regulations.

Eliot, Pond, Tri Street Sewers – Ashland, MA: Project Manager responsible for the design review of approximately 24,000 linear feet of gravity sewers. As part of a Planning Board ruling, the drawings were provided by a residential developer.

Boden Lane Sewer Replacement – Natick, MA: Project Engineer for 1,000 feet of new sewer to eliminate a pumping station. The project included a creek crossing and a 20-foot cut.

Vaillencourt Pump Station Elimination – Department of Public Works, Framingham, MA: Project Manager for extending the wastewater system approximately 300 feet through easements in order to eliminate a problem ejector-type pump station.

West Union Sewer District – Ashland, MA: Project Manager responsible for preliminary and final betterments for 25,000 linear feet of gravity sewer project, which included the shutdown of Route 135 in Ashland. The design involved utilizing an abandoned railroad bed for interceptor alignment.

Sudbury River SSES Report – Department of Public Works, Framingham, MA: Project Manager for the finalization of a report detailing specific problems and recommendations for removing approximately 230,000 GPD from the Town's wastewater system.

Sudbury River Interceptor Rehabilitation – Department of Public Works, Framingham, MA: Project Manager responsible for the coordination and design of the rehabilitation contract related to the work identified in the SSES Report.

Sudbury River Interceptor Replacement – Department of Public Works, Framingham, MA: Project Manager for the coordination and design of the replacement of approximately 3,500 linear feet of interceptor identified in the SSES Report. The project involved evaluating trenchless technologies due to the location of the Sudbury River.

Chestnut Street Discharge Line Evaluation – Ashland, MA: Project Engineer for the coordination and evaluation of a 3.5-mile, 16-inch discharge line from the Town's main pumping station.

Main Street and Lartridge Lane Sewer Extension – Ashland, MA: Project Manager for the extension of 1,800 linear feet of gravity sewer. The sewer extension was initiated by a citizen petition. Preliminary and final betterments were performed as part of this project.

Framingham Sewer Expansion Project – Department of Public Works, Framingham, MA: Project Manager for expanding 9,600 linear feet of gravity sewer that included jacking of MassPike and Conrail, pipe bridge over water supply and obtaining an easement from the Conservation Commission.



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Town-wide Sewer Master Plan – Medway, MA: Project Engineer responsible for updating the Town's 1973 Sewer Master Plan. This included the evaluation of treatment plant expansion and limits of discharge.

Phase II and Technology Park Sewer Extensions – Sturbridge, MA: Project Manager responsible for the production of contract documents for over 40,000 linear feet of gravity sewers and pump stations.

Pumping Station No. 6 Upgrade – Kittery, ME: Senior Project Engineer responsible for coordinating a design-build upgrade to the Town's main pumping station. The project included replacing pumps, drives and flow controls for a 1.7 MGD pumping station with Variable Frequency Drives (VFDs).

Route 1 Sewer Extension – Kittery, ME: Senior Project Engineer for construction administration and resident inspection services for the construction of 10,000 linear feet of new sewer and a 400 GPM pumping station.

Cook and Bridge Street Sewer – Kittery, ME: Senior Project Engineer for producing contract documents for the construction of 1,400 linear feet of gravity sewer. Project schedule was imperative due to the fact that the Maine Department of Transportation was to reconstruct the roadway following the sewer installation.

Musterfield Sewer Project, Contract 10 – Abington, MA: Senior Project Engineer responsible for coordinating a 15-year-old design update for 16,000 linear feet of sewers including preparation of DEP Sewer Extension Permit, ENF and loan application.

Phase 3 Sewers – Abington, MA: Senior Project Engineer responsible for contract documents for 40,000 linear feet of gravity sewers. The project included preparation of permits and coordination with subconsultant firms.

Broadmeadow Sewer Extension – Abington, MA: Senior Project Engineer for producing contract documents for the extension of a proposed sewer project to eliminate an existing pump station and allow for gravity feed of approximately 60 residences.

North Main Pump Station Startup – Massachusetts Water Resources Authority (MWRA), Boston, MA: Operations Engineer for the project team that operated the North Main Pump Station during startup of five pumps, each with a 150 MGD capacity and VFDs.

Assessment of DEQE Sludge Distribution Regulations – Massachusetts Water Resources Authority (MWRA), Boston, MA: Engineer responsible for the primary collection of information that led to the development of sludge distribution regulations. The project included incorporating collected information and comments of a Technical Review Committee into recommendations to DEQE.

Residual Management, Facilities Plan Technology Assessment Report – Massachusetts Water Resources Authority (MWRA), Boston, MA: Engineer responsible for writing a portion on the subject of landfills. The report determined how valid existing technologies were suited for further consideration as a viable disposable alternative.

Pilot Compost Facility – Massachusetts Water Resources Authority (MWRA), Boston, MA: Engineer responsible for sludge sampling, data compilation and report generation for a three dry-ton-per-day pilot composting facility. The project included reporting results and troubleshooting process adjustments.



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Groundwater Monitoring and Material Procurement at Deer Island – Massachusetts Water Resources Authority (MWRA), Boston, MA: Engineer for collecting and interpreting data from an abandoned grit and screenings site on Deer Island. Also responsible for preparing a replacement parts list for this facility.

Institutional and Civil Engineering Projects

Steam Main Rehabilitation from Manhole E12 to E13 – Massachusetts Institute of Technology, Cambridge, MA: Project Manager for the replacement of approximately 500 feet of 12-inch steam and 6-inch condensate piping. Major concerns included the timing of steam shutdowns and coordination with laboratories along the route. Phase construction and temporary boilers were instrumental in completing the project.

North Yard Chilled Water Expansion – Harvard University, Cambridge, MA: Project Engineer responsible for the detail design and preparation of contract documents associated with 700 linear feet of chilled water supply and return piping as well as related appurtenances.

Crawford's Corner Road Facility / Holmdel Cooling Tower – AT&T Bell Laboratories, Holmdel, NJ: Project Engineer responsible for the design and contract documents for 3,500 linear feet of 30-inch chilled water piping and related appurtenances. The general civil-site layout was impinged due to an abutting wetland resource area.

Mary Hitchcock Memorial Hospital Steam Main Connector - Dartmouth College, Hanover, NH: Project Engineer responsible for designing 300 linear feet of steam and condensate piping and 500 linear feet of electrical and telecommunication conduits. The project connected a recently purchased building to the existing Dartmouth steam system.

Phase 4 Tunnel Design – Dartmouth College, Hanover, NH: Project Engineer responsible for the design of 800 linear feet of an underground "walk-through" tunnel. The project completed a new loop in the existing steam system. Coordination was critical due because the new tunnel was to be constructed through an existing "to be demolished" building.

Fiscal 96 Steam Improvements – Harvard University, Cambridge, MA: Project Engineer responsible for the detail design and preparation of contract documents associated with new steam service to three existing facilities within the Harvard University campus, including the Dean's house.

Fuel Farm Repairs – Provincetown Municipal Airport, Provincetown, MA: Project Engineer responsible for the design review and resident inspection services for rehabilitations made to an incorrectly installed underground fuel storage system.

Non-directional Radiobeacon – Provincetown Municipal Airport, Provincetown, MA: Design and resident inspection services for the replacement of non-directional radiobeacon. Due to restrictions placed by the Federal Available Administration (FAA), the project schedule was critical to the project's success.

Pavement Repairs Field Management and Resident Inspection Services – Provincetown Municipal Airport, Provincetown, MA: Project Engineer responsible for reviewing and approving contract documents and provide resident inspection services associated with major pavement repairs at the airport. Field management of the contractor was critical because of the requirement that the airport could not completely shut down during the repairs.



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Rotating Beacon and Wine Cone Replacement – Chatham Municipal Airport, Chatham, MA: Project Engineer responsible for reviewing and approving contract documents and provide resident inspection services associated with the installation of new rotating beacon, wind cone and electrical service at the airport.

Landfill Expansion Evaluation – Gardner, MA: Project Manager for the evaluation of an existing sludge landfill located in the City of Gardner. The City had concerns that the landfill was near capacity and requested an evaluation be performed regarding the possibility of expansion. By performing a detailed survey and a geotechnical evaluation, it was determined that an additional four years of capacity could be achieved. Permitting with the Massachusetts Department of Environmental Protection (MADEP) occurred as well as the development of an odor control methodology.

Landfill Expansion Design – Gardner, MA: Project Manager for the evaluation of additional land previously permitted for landfill expansion. The wooded site will be surveyed and a geotechnical investigation will be performed. Key parameters include the depth of the water table and the proximity of wetlands. Development must also ingrate with the existing landfill.

State Street South Office Park Utility Network Evaluation and Design – Quincy, MA: Project Manager for upgrades to the utility infrastructure at this corporate office park. Investigated evaluation of the entire utility network for the site including water, sanitary sewer, storm drainage, site lighting and telecommunications. Made recommendations and provided design of improvements.

Cen-Tech Park Design – Grafton, MA: Project Manager for the development of construction plans and specifications for the infrastructure to a biotechnology park located in Grafton.

Manchacha Road Expansion – Austin, TX: Engineer responsible for coordinating highway alignment changes to interface with existing structures for a five-mile roadway expansion.



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Project Manager/Principal Engineer

PROFESSIONAL PROFILE

Mr. Coogan serves as Transportation Project Manager and Project Engineer and has participated in a variety of transportation projects. His primary project responsibilities are design, plans, specifications, estimates, and coordination with clients, agencies, and local communities. His project management responsibilities include: overseeing daily progress on projects; developing and managing schedules and budgets; overall project management; and coordination and interface with the project team.

He has extensive roadway and traffic design experience, including conceptual design reports, preparation of final design documents a variety of transportation projects, horizontal and vertical alignment, drainage design, traffic study and design, traffic peer review, pavement design, and right-of-way (ROW) condemnation documents.

REPRESENTATIVE PROJECTS

Project Management and Design

Statewide ADA (Americans with Disabilities Act) Compliance Program, Rhode Island Department of Transportation (RIDOT), 15 Communities, RI – Phase 1: Project Manager and Lead Engineer on a two-phase project for the Rhode Island Department of Transportation. Phase 1 of the program involved a complete inventory of accessibility deficiencies on RIDOT roadways within the assigned communities, and developing a database of noncompliant features with estimated costs for remediation. In this role, Jim participated on a committee that developed tools to extract key measures of compliance from the database to help Rhode Island in prioritizing projects and programming statewide compliance.

Statewide ADA (Americans with Disabilities Act) Compliance Program, Rhode Island Department of Transportation (RIDOT) - 15 Communities, RI – Phase 2: Project Manager and Lead Engineer on a two-phase project for the Rhode Island Department of Transportation. Under Phase 2, CDR Maguire has been assisting RIDOT in identifying high priority pedestrian facilities within the road rights-of-way based on the reported field data, and then developing design plans and bid documents for construction on these roadways, as well as on state-owned commuter ("Park-and-Ride") lots.

"Gateway" Park, Road and Traffic Design Services - Worcester, MA: Design leader for a comprehensive roadway/traffic operations upgrade in support of an ambitious redevelopment of an 11-acre urban area



YEARS OF EXPERIENCE

CDR Maguire: Since 1979
Total: Since 1978

EDUCATION

BS – Civil Engineering/Transportation
Rensselaer Polytechnic Institute, 1977

PROFESSIONAL REGISTRATIONS

Professional Engineer: MA-48476,
RI-4478, FL-70256

ASSOCIATIONS/MEMBERSHIPS

- Providence Engineering Society – Chairman, Board of Trustees
- American Society of Civil Engineers – Rhode Island Section
- Institute of Transportation Engineers – Rhode Island Chapter

TECHNICAL EXPERTISE

- Roadway and Traffic Design
- Transportation Planning
- Conceptual and Final Designs
- ADA Compliance
- Peer Review



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once occupied by some of Worcester's oldest industries, consisting of over one million square feet of R&D/office space. The project involves traffic demand projection, trip assignment stakeholder coordination (City of Worcester, Worcester Business Development Coordination, and MassDOT), road reconfiguration, new signals and signal upgrades, and road widening and realignment. The project valued at \$2-2.5 million.

Downtown Planning and Urban Renewal Project - Webster, MA: Design and construction services for improvements to Main Street and reconstruction of the Lake and South Main Street intersection, including signalization. Phase I implemented sidewalk improvements to the western end of the Main Street Downtown district. Work included decorative brick-band sidewalks, ornamental lighting, and improvements to the park-like area directly in front of Town Hall. Phase II was an extension of Phase I with brick band sidewalks and ornamental street lighting. Mr. Coogan was responsible for the design of all pedestrian, traffic, and parking elements of the project, including coordination with design consultants developing a new Senior Center attached to the rear of Town Hall, reviewing and negotiating traffic and parking modifications to Main Street and Church Street.

Statewide 3R Improvements, Rhode Island Department of Transportation (RIDOT) – Various Locations, RI: Mr. Coogan was Project Manager and Lead Design Engineer for locations throughout the State, with each location ranging from 0.3 to 5.2 miles in length. Prepared Conceptual Design Reports and Final Design / Construction Documents for 14 different road improvement sites, constructed in 18 contracts addressing road rehabilitation, sidewalk work, signalization and bridge rehabilitation. Locations included: Interstate Route 95 Service Roads in Providence and Pawtucket, R.I., Waterman Avenue, Taunton Avenue, Bullocks Point Avenue, and Highland Avenue, East Providence; Point Street, Eddy Street, and Atwells Avenue, Providence; Mayfield Avenue and Cranston Street, Cranston.

Traffic Signal Upgrade – Hanscom Air Force Base, MA: Principal Traffic Engineer for a signal inventory assessment study, the first phase in a Hanscom Air Force Base Transportation infrastructure upgrade for which design work concluded in early 2010. Each signal component, from pedestal poles to controller components, was inventoried and tested for operational integrity. Each piece of infrastructure was catalogued and its current operating and physical conditions were evaluated. A report of the infrastructure capability and condition was prepared, including a collection of upgrade strategies of varying cost and complexity.

Traffic Calming Improvements to Fox Point - Providence, RI: Project Manager and Lead Design Engineer for traffic calming measures and streetscape improvements associated with the rehabilitation of the intersection of Wickenden Street and Governor Street. This project required extensive coordination with the City's Planning and Development Department, the Department of Public Works, and the Parks Department. In addition, final design alterations were made to accommodate the needs of a local elementary school abutting the project to the south, and the ongoing design of improvements to East Street, which were driven by the Pedestrian Overpass Bridge portion of the I-195 Relocation Project increasing pedestrian safety, rehabilitating and connecting sidewalk sections, and signal improvements.

Improvements to Route 3, Rhode Island Department of Transportation (RIDOT) – West Warwick, RI: Project Manager and Lead Design Engineer for the Route 3 reconstruction project. This roadway involved sections of Cowesett Avenue, Main Street and Tiogue Avenue. It included a design study to evaluate and recommend strategies for the improvements to Route 3 including improving the riding surface, increasing pedestrian safety, rehabilitating and connecting sidewalk sections, and signal improvements.



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High Hazard Location Program, Rhode Island Department of Transportation (RIDOT), Various Roadways, RI: Project Manager for safety improvements including highway widening and traffic signal improvements, as well as sidewalk, road realignment and drainage improvements to various locations in Rhode Island including Pitman and Gano Street, and North Main Street at Branch Avenue and at Olney Avenue, Providence, and West Main Road at Stringham Road, Portsmouth.

Roadway and Traffic Design, Providence Place Mall and Parking Garage - Providence, RI: Design responsibility for conceptual traffic and roadway improvements associated with traffic circulation to and around the retail mall, which opened in fall of 1999. Later, assisted the Owners in reviewing traffic impacts of nearby construction-related detours on the mall's accessibility.

Reservoir Road and Overlook - North Adams, MA: Project design leader for a two-part project involving transportation infrastructure and enhancements. One part involved the design of roadway improvements to Reservoir Road, which serves as one of the main corridors to nearby Mount Greylock State Reservation and has evolved over time from a cart path to a paved road. The road followed the natural contours of this rather steep region and presented a geometric challenge. The other part of the project involved the design of a new scenic overlook adjacent to Reservoir Road, providing views of the Hoosic River valley and the downtown area.

Signal Optimization Project, Rhode Island Department of Transportation (RIDOT) - Northern RI Communities, RI: Project Manager for the intersection analysis, conceptual design improvements, and final design of signal design modifications and construction document preparation for 26 intersections in 6 communities in Northern Rhode Island. Construction took place in 2004 and 2005.

State Highway Resurfacing/Safety Improvements, Rhode Island Department of Transportation (RIDOT), from Connecticut State Line to Exit 7 (New London Turnpike): Project Manager for riding surface improvements and safety improvements to a 21-mile segment of Interstate 95 and adjoining ramps in the southern half of Rhode Island. This segment is a predominantly rural, 4-lane divided interstate highway on rolling terrain. As part of this contract, extensive investigations of pavement structure conditions, drainage facilities and wetland impacts were conducted. Design improvements implemented in two separate construction contracts were developed to rehabilitate this deteriorating facility, resulting in a smooth-riding, safe, long lasting facility, with minimal impact to the many wetlands adjacent to the highway. Maintenance of traffic was a paramount concern, and careful attention to traffic control schemes, lane closures, and work hours required detailed analysis and specifications.

Reconstruction of U.S. Route 6, Rhode Island Department of Transportation (RIDOT) - Johnston/Providence, RI: Project Manager and Lead Design Engineer for improvements to this 6-lane freeway facility that had been started by another consultant. After assisting the Department in revising the entire project concept that had been developed by another consultant, construction documents were developed to accomplish a new menu of recommended improvements. Three separate construction contracts were prepared, permitting road improvements to this four-mile freeway in two separate segments, followed by bridge rehabilitation to seven (7) bridges within the project. The construction of these three contracts, totaling approximately \$16 million, was accomplished over a five-year period, concluding in 2005.

Allmerica Financial Parking Garage - Worcester, MA: Responsible for design report and preparation of construction documents addressing traffic impacts and mitigation measures relating to a 1,400 vehicle parking garage in an existing corporate facility. In addition to completing the traffic impact study report begun by a staff member, this effort also required speaking at City Planning Board Meeting, meeting with City officials and



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Owner representatives, and coordinating with architects, contractors, and traffic control equipment distributors.

Cedar Street over MA Route 9, Massachusetts Department of Transportation (MADOT) - Wellesley, MA: Traffic Engineer responsible for review of traffic and highway design submittals and providing comments to MADOT for this Design-Build project under Accelerated Bridge Program (ABP). This bridge project proposes to construct a new bridge adjacent to the existing bridge, then demolish and replace the existing 2-span continuous bridge (2 spans @ 41.5 feet each) in 72 hours using self-propelled modular transporters (SPMTs).

East Boston/Chelsea Bypass Road, Massachusetts Port Authority (MPA) - Boston, MA: Project Manager responsible for design coordination and quality control. This project included design of roadway re-alignment, utility relocation and design of retaining walls and petroleum fuel tank containment walls along this ½ mile stretch of new roadway in an existing cut-section rail corridor. CDR Maguire assisted another firm in this fast track project, providing for the design of four separate retaining wall systems of three different types, roadway lighting systems, closed circuit camera security systems, and Fire Protection systems, and power and communication support to a new pump station. Joining the design project at the 30% completion stage, Maguire quickly closed the gap and allowed the design team to make its next submittal on the ambitious target date prescribed by the project's accelerated design schedule. In all, Maguire designed a 6-million dollar portion of a 15-million dollar project in about 6 months.

Traffic Studies

Traffic Impact Study, Beaver Valley Interchange Reconfiguration - Beaver County PA: Lead Traffic Engineer for a study of the reconfiguration of an interchange on the Pennsylvania Turnpike. As part of the replacement of the Bridge carrying the Pennsylvania Turnpike over the Beaver River, it became necessary to reconfigure the interchange with SR 0018 just west of the bridge. The reconfiguration involved conversion from a typical turnpike configuration with merged movements to facilitate toll plaza operation, to a standard interchange fashion. This required an extensive traffic data collection program, and an intricate analysis of the data to isolate movements among the currently merging ramps. Mr. Coogan authored this study, analyzing the existing traffic movements and projected future volumes on a more traditional ramp system by empirical study of periodic volume shifts through the subject weaves. The study also assessed the future ramp operations through signal warrant analyses, signalized and unsignalized capacity analysis, turning lane justification analyses, and simulations

East Somerville Community School Traffic Study - Somerville, MA: Lead Traffic Engineer for a traffic study to assess the effect that a re-opening and re-tasking of a school will have on the transportation environment. This study addressed a variety of transportation issues including pedestrian safety, intersection operations, and traffic safety. The report detailed the likely shifts in transportation as the site once again became an educational hub, drawing students and staff from alternate sites ranging from across the street to across the City.

Caribbean Cultural Center, St. Thomas, U.S. Virgin Islands: Mr. Coogan was the lead Traffic Engineer for the preliminary study of a proposed historic / cultural center including shops, restaurants, and a 1,000 seat amphitheater. Among the interesting challenges of the site were the left-side road usage, unique design vehicles peculiar to the area, and the underdeveloped transportation infrastructure of the proposed site.



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Route 2 Access Management Plan - East Greenwich, RI: Project Manager and Lead Traffic Engineer for this project which evaluated the potential impacts of development on the character of the Route 2 corridor between Division Street and Frenchtown Road. This study developed and evaluated access management techniques appropriate to ensure safe passage for vehicles, pedestrians, bicyclists and transit along the corridor as land uses continued to intensify. The result was a master document detailing future site-specific access management strategies for the Town to apply as conditions for development. Participated in the preparation/presentation of a number of public workshops and document development, and ultimately presented the project at an Access Management Workshop co-sponsored by the Rhode Island Division of Planning and the FHWA.

Traffic Safety Study, Digital Advertising Billboards – Carroll Advertising: In 2012, Maguire was selected to assist Carroll Advertising in their application to put a digital, changing billboard on U.S. Route 1 in Foxborough, MA. MassDOT's program required a complete safety study of all prospective sites. Mr. Coogan performed and documented the safety study, as well as the two followup post-installation studies required by MassDOT to substantiate the initial projections. In 2014, Maguire prepared studies for Carroll Advertising for five prospective digital advertising installations in Sharon, MA.

Massachusetts Army National Guard, Camp Edwards Training Area studies: Mr. Coogan was project Manager of a two-pronged study effort on the grounds of Camps Edwards in Falmouth, MA. A Roadway Network Condition Study was performed, assessing the structural integrity and performance challenges of each roadway on the base, from the paved roadways proximate to the more developed corner of the base to the gravel roadways extending to the more remote areas of the base. A Roadway Network Traffic Study was also performed, spearheaded by M. Coogan. The study assessed network traffic capacity and safety, under current conditions as well as under future conditions which included an expanded training center and a relocated eastern access gate. The Study also included reserve capacity assessments to address the roads' serviceability under emergency demand conditions. Both studies mapped out recommended improvements to the roadway network.

Shattuck Hospital Traffic Studies - Boston, MA: Two Traffic Studies were performed in 2008-2009 to enhance accessibility and safety for staff, patients, and visitors. The first abbreviated study identified short-term and long-term solutions, including cost estimates, to specific operational problems associated with the main driveway, which enters the road system within the intersection Circuit Drive, leaving a puzzling convergence of turning movements for hospital staff, visitors, emergency vehicles, and delivery trucks. The second study focused on pedestrian and transit accessibility, addressing pedestrian and transit access on the west side of the hospital, where both MBTA subway stops and outbound bus stops leave hospital-bound passengers with a perilous route across relatively high-speed, high volume multilane arterial highways. Alternatives studied (and estimated) ranged from bus re-routing to signalized crosswalks to pedestrian bridge construction.

Atlantic Beach District Master Plan - Middletown, RI: Lead Traffic Engineer for the study that looked to develop a master plan of concepts and strategies that would make the Atlantic Beach District a more walkable and cohesive neighborhood that serves not only the local residents and businesses but also the many tourists that visit Aquidneck Island (primarily Newport) in the summer. Topics addressed were improving the pedestrian environment, addressing vehicle/bicycle conflicts, addressing the need for parking, solving traffic circulation problems, and creating a more attractive area. Public workshops were held to collect feedback and to discuss possible concepts and solutions.



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Buzzards Bay Village Traffic Study - Bourne, MA: Mr. Coogan was Project Manager and lead Traffic Engineer for traffic studies of Buzzards Bay Village. At the request of the Buzzards Bay Vitalization Association, and in association with the planning efforts of Wesley Ewell, CDR Maguire undertook a traffic analysis of the major roads through the village, including the two traffic circles. Maguire performed a complete analysis of the existing conditions including inventory of all signs, curbing type and condition, sidewalk type and condition as well as existing parking. Traffic Data was collected and analyzed for both present and future conditions. The existing alignment was studied and several options were explored to improve traffic flow throughout the corridor including traffic calming techniques.

Hartford Avenue East Corridor Traffic Study - Mendon, MA: Project Manager and lead Traffic Engineer for an abbreviated traffic study, funded by the Commonwealth through the Town of Mendon, to identify and document deficiencies in this highly traveled section of two-lane road. Deficiencies included flooding, poor pavement, poor sightlines, and roadside obstacles. As part of this service, Maguire assisted the Town in developing a Project Need Form (PNF) and a Project Information Form (PIF), supported in part by this traffic study.

Narragansett Bay Commission, Combined Sewer Overflow Tunnel Project: Mr. Coogan served as Contractor's traffic control compliance consultant for construction of a 30 foot, two mile long tunnel beneath Downtown Providence. Included traffic capacity analysis, plan and specification development, and working with City agencies, Council representatives, and other design consultants regarding temporary traffic controls and legal street closures.

South Street Traffic Study - Wrentham, MA: As part of a comprehensive development plan for this dynamically growing retail area, a traffic study was undertaken to identify future traffic volumes and resultant problems, and to identify mitigation strategies to serve the commercial sector and preserve the community's quality of life.

Peer Review – Traffic Studies

Traffic Study Review - Foxborough, MA: For over 15 years, CDR Maguire provided the Foxborough Planning Board with expert peer review services as their exclusive on-call traffic and drainage engineers. Averaging 2-3 assignments per year, Maguire advised the board on the merits of proponents' traffic studies ranging from subdivisions to recreational venues to shopping centers.

Traffic Study Review - East Providence Planning Board, East Providence, RI: Provided the East Providence Planning Board with Peer Review Services on a variety of projects including a Dunkin' Donuts Drive-thru Operation, the Wamponaug Ponds Residential Development on Wamponaug Trail, the Citizen's Bank Mortgage Facility Expansion on Tripps Lane, and the Walgreens Pharmacy on Warren Avenue.

Traffic Study Review, East Providence Waterfront Special Development District Planning Commission - East Providence, RI: Provided this quasi-public agency with a number of traffic study peer reviews including the Ross Common Condominiums and the controversial TLA Pond View recycling facility Change in Operations.

Traffic Study Review - Westerly, RI: For over five years, Maguire provided the Westerly Planning Board with expert Traffic Peer Review Services, including Westerly Crossings, Weekapaug Inn & Cottages, and the Atlantic Avenue Development at Misquamicut Beach.



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Traffic Study Review - Bourne, MA: Performed a simultaneous review of two concurrent applications on adjoining parcels (Tanger Outlets and former Quintal's Restaurant site) on Scenic Route 6 at the Bourne Rotary to the Town of Bourne.

Traffic Study Review - Burrillville, RI: Provided the Town of Burrillville with Peer Review Services for an energy project proposed in 2016 on Wallum Lake Road

Traffic Study Review - Norton, MA: Assisted the Town in reviewing a traffic study performed for the developer of The Park at Great Woods, a proposed golf center (now an established TPC course) and office park facility. This effort involved reviewing and critiquing complex traffic analyses and testifying before the Town Planning Board.

Traffic Study Review - New Haven, CT: Assisted public agencies in reviewing a traffic study performed for the developer of a large proposed mall at a confluence of four freeway facilities in the City of New Haven, Connecticut. Impacts extended far beyond the actual project limits, and the assessment required re-assessment of alternative traffic flow concepts.

Traffic Study Review - South Kingstown, RI: Assisted the Town in reviewing a special permit application for a proposed 103-unit senior affordable housing development.

Traffic Study Review - North Kingstown, RI: Reviewed traffic impact study associated with 49-unit residential cluster-zoned subdivision.

Traffic Study Review - Foxborough, MA: Reviewed traffic impact study associated with supermarket development on an abandoned retail site on Route 140.



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Thomas B. Hevner, PE, LSP

Vice President – Environmental

ALARES, LLC.
VICE PRESIDENT – ENVIRONMENTAL
CHIEF ENVIRONMENTAL ENGINEER

TECHNICAL EXPERTISE

Multi-Discipline Capital Improvement
and Land Development
Haz. Mat. Invest. & Remedial Design
Risk assessments
Hydrogeologic Evaluations
Water Supply Eng. – Groundwater
Environmental Compliance & Permits
Landfill / Solid Waste Engineering
Geotechnical Engineering
Civil Engineering

YEARS OF EXPERIENCE

Alares: Since 2016
Total: Since 1992

EDUCATION

BS/1993/Geology and Chemistry
MS/2000/Civil and
Environmental Engineering
Northeastern University

PROFESSIONAL ASSOCIATIONS

MA LSP Association
Society of Military Engineers
- Boston and Narragansett Chapters
Rhode Island Public Works Association

PROFESSIONAL REGISTRATION

Professional Engineer
CT #23575, MA #41789,
RI #11597, USVI# 614-C
NCEES #64149

Licensed Site Professional
MA 3635

CERTIFICATIONS

40-Hr HazWoper - Current
HazWoper Supervisor
10-Hr OSHA Construction –RI
Soil Evaluator - MA - Former

PROFESSIONAL PROFILE

As Vice President of Environmental, Mr. Hevner is responsible for environmental engineering/science, land development and facility compliance projects. He has over two decades of experience in the design, performance, and management of environmental and civil engineering projects. His experience includes landfills and solid waste, environmental compliance and permits, hazardous materials studies, risk assessments, water supply engineering for groundwater sources, hydrogeologic evaluations, and geotechnical engineering.

REPRESENTATIVE PROJECTS

Capital Improvement – Civil and Environmental Engineering

Gardner Police Station – LSP Services, Civil/Site/Foundation Design, Construction Management Scheduling and Support, and Geotechnical Engineering Assistance related to the construction of a \$13M Police Station. Facilitated the savings of \$1.5M related to the management of 10,000 cubic yards of metals/PAH contaminated soil that was managed during construction using the MADEP Anti-Degradation/Similar Soils Policy under a MassDEP approved Release Abatement Measure Plan. Soil management activities included the neutralization of 850 CY of hazardous waste soil utilizing a stabilization agent. Responsible for initial property acquisition approach which involved a contaminant devaluation negotiation – Gardner, MA

Millis Police Station - Pre-Construction Due Diligence Services, Environmental Permits [US Army Corps of Engineers Programmatic General Permit (PGP), MassDEP Water Quality Certification, Massachusetts Environmental Protection Act (MEPA) Environmental Notification Form (ENF), Wetlands Protection Act (WPA) Notice of Intent, Stormwater Pollution Prevention Plan (SWPPP) and Construction General Permit (CGP)], Licensed Site Professional (LSP) Services, Construction Document Support, Construction Phase Services, Construction Contract Assistance related to the construction of a \$7M Police Station. Petroleum release to soil and groundwater as part of a downgradient property status (DPS) submittal. Asbestos was also determined to be present in soil due to historical site use and a botched former library demolition project - Millis, MA

Cruzan Rum Facility Expansion – Civil/Site/Foundation Design, Environmental and Building Permits – St. Croix USVI

Diageo Captain Morgan Facility Construction – Comprehensive Multi-Media Environmental Permits and Limited Civil Site Design – St. Croix USVI. Responsible for Annual Environmental Compliance and Terminal License Updates.

Worcester Fire Fighters Memorial – Civil Site Design Services, Environmental Permits - Worcester, MA

Engineering Design, Port Planning, Program and Construction Management, Quonset Business Park – Principal in Charge - North Kingstown, RI

Smith Bay Park, St. Thomas, USVI: Principal in Charge for the Concept Facility Design, Master Plan, and CZM Permit Preparation.

Geonet Ethanol Production Facility, St. Croix, USVI: Principal in Charge for



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Comprehensive Multi-Media Environmental Permits, Limited Civil Site Design, and Building Department Permit Submittal/Support for the construction and operation of an Ethanol Dehydration Facility. Responsible for U.S. Coast Guard Permits and Terminal License Updates.

Demolition Design Services – Former Dever Hospital – 37 Bldgs - Taunton, MA

Demolition, Remediation, and Redevelopment – Former Cranston DPW, RI

St. Croix Renaissance Group, St. Croix, USVI: Engineer of Record for the EPA Audits, USCG Terminal License Application and Annual Renewals, Facility Response Plan, stabilization of a 70-acre bauxite pile, and related facility improvements.

Sirenusa Condomiums, St. John, USVI: Engineer of Record for design of retaining walls, stormwater collection, water service connections as well as submittal of SWPPP.

Putnam Place, Fitchburg, MA – Demolition, LSP Services, Soil Management Plan, Construction Oversight, Specs and Plans.

Brownfields Redevelopment, Former Kalama Chemical Factory - Garfield, New Jersey: Demolition and Redevelopment of a 6-acre property formerly utilized as a chemical plant.

Former Belle Mead Army Base, Somerset County, NJ – Redevelopment of a 400-acre contaminated former military. Responsible for Contamination Devaluation Negotiation Technical Assistance for a \$40M property transfer.

Senior and Elementary School Improvements, Civil, Geotech, and Environ Engineering, Demolition - Coventry, RI

North Kingstown High School Construction, Civil and Environ Engineering, Demolition – North Kingstown, RI

Hazardous Materials Investigation and Remedial Design

Hazardous materials investigation and remedial design includes the performance of field operations to evaluate the nature and extent of contaminants in various environmental media as well as the design and implementation of point source removals, dewatering and on-site treatment of contaminated groundwater, mechanical and passive remediation systems, hydraulic containment, and natural attenuation. Mr. Hevner is expert in Emergency Spill Response. Other essential skills include the preparation of environmental design analysis and drawings, technical specifications, health and safety plans, Quality Assurance Project Plans (QAPPs), cost estimates, permit applications, and remedial management work plans to meet state and federal regulations.

Barrier Wall Engineering Design, Fort Devens, USACE New England District—Mr. Hevner served as Project Manager and lead technical engineer for a non-time critical removal action (NTCRA) for arsenic in groundwater at the Shepley's Hill landfill within Former Fort Devens, MA under a \$25M remedial action contract with USACE New England District. Coordinated and facilitated geotechnical characterization from the soil bentonite barrier wall and the EE/CA, as well as the cost estimate, specifications, bid form, and design plans. Mr. Hevner is responsible for contractor meetings and senior level technical assistance. Contracted for \$2M, the 850 foot long barrier wall was keyed into bedrock at depths of 35 to 55 feet below grade and was completed during a 4 month period during 2012. Post construction activities included hydraulic monitoring and evaluation for inclusion into the LTMMP for the Shepley's Hill landfill.

Treatment Plant LTM and O&M, Fort Devens, USACE New England District—Mr. Hevner serves as Project Manager for the transition and initiation of a 60 gpm treatment system designed to remove arsenic from groundwater, the groundwater monitoring associated with the performance of the arsenic treatment plant as



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well as the long-term monitoring of landfill gas at the Shepley's Hill landfill within the former Fort Devens, MA under a \$25M remedial action contract with the USACE New England District.. Additionally, he manages the engineering assessment and professional engineer certification of conditions related to the closure of the Shepley's Hill landfill, and the optimization cost benefit analysis of the arsenic treatment plant. Furthermore, Mr. Hevner is responsible for vendor arrangements and internal staffing on the project.

USVI Brownfields Contract, USVI: Property Evaluations and Ranking, Development of GIS Database, Performance of Phase I ESAs, Phase II Scopes of Work, QAPP.

TSCA PCB Release, Quonset Development Corporation, RI: Conducted Self Implemented Cleanup for a transformer release in two 3-story navy barracks buildings following the investigation of nature and extent. Post Excavation Report was accepted by EPA without comment.

Bolton Fire Station – Fuel Oil Release – IRA, Tier Classification in GW-1 Area

Abington Police Station – Fuel Oil Release – IRA, Tier Classification, Class A-2 RAO

MADOT – Rte 9 Bridge over Sudbury River, Framingham: Provided assessment and hazardous materials management protocol in support of the redesign of a 59,000 VPD bridge.

EPA/MCP Brownfields Investigation, Former Garbose Metals, Gardner, MA: Investigation at a former mill facility where COCs are dioxins, PCBs, metals, and chlorinated solvents in soil, groundwater, sediment, and surface water.

RAM & Tier Classification, Monahan's Marine, Weymouth, MA: Completed RAM that included off-Site disposal of 2,300 tons of petroleum contaminated soil. Completed Phase I – Initial Site Investigation and NRS to support Tier Classification submittal to MADEP. Currently contracted to file RAM Completion Statement and Response Action Outcome.

New England Baptist Hospital, Brookline, MA: LSP-of-Record for a fuel oil release discovered during a UST closure in 2002. Following a subsurface investigation to support a Method 3 Risk Characterization, a Class B-1 RAO was filed with DEP.

Environmental Subsurface Exploration Program, RIDOT Improvements to I-195 Contract 13, Providence, RI: In support of the demolition of a closed section of I-195 involving the excavation and disposal of approximately 250,000 cubic yards of soil. Activities included subcontractor bidding and engagement, performance of 64 test borings, collecting 250 soil samples for laboratory analysis. Evaluated technical data collected during field activities. SIR and SMP generated to contractor bid.

Landfill/Solid Waste Engineering

Shepley's Hill Landfill - Fort Devens, MA - Long Term Monitoring - Gas and Groundwater, Annual Inspections, Annual Landscaping

Belchertown Landfill - Belchertown, MA - Long Term Monitoring - Gas and Groundwater, Annual Inspections, Annual Landscaping

Grafton Landfill - Grafton, MA - Long Term Monitoring - Gas and Groundwater, Annual Inspections, Annual Landscaping

US Virgin Islands WTE Contract, USVI: Principal in Charge responsible for the technical review component of negotiations for a 20 year contract to handle MSW in the Virgin Islands and generate MW's. Due diligence and technical review of RDF process technology to handle approximately 300 TPD on each island and the



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incinerators to generate between 16 and 33 MWs on each island. Assisted in the negotiations, the public education, and the waste characterization assessment.

St. Croix Transfer Station, St. Croix, USVI: Principal in Charge for the design and permit preparation of a \$7M transfer station as part of an innovative design/build RFP. **30% Design to Facilitate Environmental Permits.** Assisted in the contract negotiations and also the on-island destination of the wrapped bales produced at the facility.

Bovoni Landfill Compliance, GCCS Design and Phased Operate to Closure Design, St. Thomas, USVI: Principal in Charge responsible for Design, Plans, Specs, and Estimate for a 1,300 CFM GCCS as well as the design of a phased operate to closure design. All work conducted in accordance with 40 CFR 258 and included Leachate Recovery Trench/Pumpstation Design, Groundwater and Landfill Gas Monitoring Plan, Landfill Design Capacity and NMOC Gas Emission Calculations, Conceptual Closure Plan Design, GCCS Design Plans and Specifications

Anguilla Landfill Remediation, St. Croix, USVI: Fire suppression plan, EPA 40 CFR 258 compliance evaluation, landfill design capacity and NMOC gas emission calculations, conceptual closure plan design.

Susanaberg Landfill, Volume, NMOC Gas Emissions and Compliance Plan, St. John, USVI

Woburn Landfill Closure Design and Construction Management, Woburn, MA – Engineer of Record for Final Closure

Riverside Recycling Facility, Portland, ME: Economic Evaluation

Bristol Sanitary Landfill Phase III Closure and Remediation, Bristol, RI

Bristol Materials Recycling Facility Transfer Station, Bristol, RI

Uxbridge Landfill, CSA, Massachusetts

Weymouth Landfill, Phase III Closure, Massachusetts

Geotechnical Engineering

Barrier Wall Engineering Design, Fort Devens, USACE New England District—Mr. Hevner provides professional engineering support under TO #0002 for a non-time critical removal action (NTCRA) for arsenic in groundwater at the Shepley's Hill landfill within Former Fort Devens, MA under a \$25M remedial action contract with USACE New England District. He coordinated and facilitated geotechnical characterization for an 850-foot long soil bentonite barrier wall and the EE/CA, as well as the cost estimate, specifications, bid form, and design plans. Mr. Hevner is responsible for contractor meetings and senior level technical assistance.

Cruzan Rum Facility Expansion – St. Croix, USVI – Principle in Charge for design and permit services related to a \$130M expansion at rum production facility that included the geotechnical investigation and foundation design for a 70-foot tall falling film evaporator that weighed 750 kips fully loaded.

Amtrak Pedestrian Bridge – Kingston, Rhode Island – Deep Foundation Investigation and Mini-Pile Design, Mini-Pile Specification for Public Bid Documents.

Coventry Elementary School – Coventry, Rhode Island - Foundation Investigation and Design, Evaluation of On-Site Materials for Use in Construction

Salem Senior Center – Salem, Massachusetts – Deep Foundation Investigation and Pile Design in Cohesive Overburden Geology.



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Village at Elmhurst, Phase III Building – Providence, RI - Foundation Investigation and Design

Simmons Mill – Attleboro, Massachusetts – Foundation Investigation and Design/Construction Monitoring

Hemlock Estates – Gloucester, RI – Foundation Design and Construction of Pumphouse and Associated 10,500-gallon Potable Water Supply Storage Tank

Rhode Island Air National Guard – Quonset Point, RI – Foundation Investigation and Design

Coventry Senior High School – Coventry, Rhode Island – Facility Expansion Feasibility Survey

Bristol Landfill-Bristol, Rhode Island – Retaining Wall Design and Foundation Investigation and Design, Public Bid Documents. Geotechnical investigation and foundation design recommendations for Transfer Station.

Cellular Communication Companies – VT, NH, MA, and RI – Field Investigation and Foundation Design for Communication Towers

Chariho Regional Middle School – Wood River Junction, RI – Concrete Slab Design for AST
Jacobs Engineering - Otis Air Force Base, MA – Foundation Design for Groundwater Treatment Buildings

Assisted Care Facility - Franklin, MA – Foundation Investigation, Design/Construction Management

Lowell Transit Authority – Billerica, MA – Geotechnical Investigation and Evaluation for Use of On-Site Materials for Parking Lot Design

Capital Improvement Project - Saugus, MA – Foundation Design Recommendations for Five Municipal Properties.

Urban Revitalization Program - Worcester, MA - Foundation Design Recommendations for Eight Municipal Properties.

Water Supply Engineering

Water Supply System Design - Build, USACE New England District: Lead technical engineer for a \$1M water supply system design-build project at Fort Devens in Massachusetts. Establishment of a Zone I protective boundary, performance of test and gravel pack well construction, clearing and trenching, construction of an annex to the FBI building on Trainfire Road for use as a water supply equipment mechanical room, and facilitation of MassDEP approval through the submittal of a BRP SW 37 application. The second portion of this project involved the establishment of a Zone I protective boundary, performance of test and gravel pack well construction, trenching, connection to the existing Area 9A pump house, and facilitation of MassDEP approval through the submittal of a BRP SW 37 application. Projected completion date is August 2015.

Public Water System Evaluation, Massachusetts Air National Guard Base, Rehoboth, MA: Project Engineer for an evaluation of a public water supply system at the military base. The evaluation included a demand analysis, an assessment of the existing supply and distribution system, analysis of the regulatory requirements for permitting a public water system, oversight of a short term pump test, and coordination of water quality analysis in accordance with 310 CMR 22.00. Interpretation of water quality analysis resulted in the determination that a release condition was present in the well. Analysis of the regulatory requirements revealed that the current water system was not permitted to current Commonwealth public water system



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requirements. Completed a conceptual design and cost estimate to upgrade the water system to current Commonwealth public water system requirements.

Inactive Well Rehabilitation, Wass Meadow Well Field, Leominster, Massachusetts: Maguire Group was retained by the City of Leominster to conduct a feasibility assessment of an existing inactive groundwater well source located on City owned land. The Wass Meadow Well was used extensively during the 1960's and then shut down in 1973 due to rising iron and manganese concentrations. Maguire evaluated the capacity of the well by performing a 60-day well and aquifer pumping test to validate water quality and determine well capacity. Based on pumping test results, Maguire concluded that the Wass Meadow Well could produce between 300 and 350 gpm if used on a seasonal basis. Water quality indicated the well would require only pH adjustment and disinfection. The Microscopic Particulate Analysis (MPA) testing indicated that the well is not Surface Water Influenced. In order for the well to be restored to active status, a New Source Permit must be obtained from the Massachusetts DEP, Drinking Water Division. Outstanding issues to be addressed during the New Source testing will include long term pumping impacts upon pond water levels, wetlands and native wildlife and the presence of potential sources of contamination within the Well's Zone II.

Water Supply System Evaluation and Improvement Design, Hemlock Estates Mobile Home Community, Gloucester, RI: Hemlock Estates is a 74-unit trailer home park located along Route 102 in Gloucester, Rhode Island. With a long history of environmental violations, Thomas Hevner, P.E. was contracted in a previous firm by the receiver attorney to achieve regulatory compliance with the Rhode Island Department of Environmental Management and Department of Health. The following water supply projects were completed as part of the project:

- ✓ Design and Installation of Water Supply Pipeline
- ✓ Feasibility Study for Developing an Overburden Water Supply Source
- ✓ Potable Well Yield Evaluation
- ✓ Aqua Freed Development of an existing Potable Water Supply Well
- ✓ Emergency Response for several Water Supply System Failures
- ✓ Design of a 10,000-gallon Water Supply Storage Tank
- ✓ Design of a Pump House for the Water Supply Distribution System
- ✓ Design of a Control System to operate the Water Supply Distribution System

Alternative Water Supply Evaluation, Rhode Island Water Resource Board (RIWRB) – Providence Water Supply System: As part of a water system failure risk evaluation, conducted the hydrogeologic assessment for the alternative water supply evaluation that included an assessment of evaluation of inactive water sources, new groundwater sources, and riverbank infiltration wells. Inactive water sources were evaluated through research of existing information, securing access agreements with several RI water distribution agencies, pump tests, hydrogeologic evaluations, and water quality testing. New groundwater sources and riverbank infiltration wells were evaluated utilizing research of existing geologic information, securing access agreements with numerous land owners in promising geologic areas, subsurface investigation, performance of pump tests, hydrogeologic evaluations, and water quality testing.

Risk Assessment

Mr. Hevner has been involved in numerous human health and ecological-based risk assessments including MADEP MCP Method 1 through 3 risk characterizations, indoor air contaminant investigations, and weight-of-evidence evaluations.

Stage I Environmental Risk Characterization – Woburn Landfill, Woburn, MA: Conducted Stage 1 Environmental Risk Characterization to evaluate impact to surface water and sediment as part of a Comprehensive Site Assessment.



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Method 3 Risk Assessment, Congregation Agudas Achim – UST Closure, Fuel Oil Release, LRA, Subsurface Investigation, Class A-2 RAO - Brockton, MA

Method 3 Risk Assessment, Liberty Mutual Insurance Company Client – UST Closure, Fuel Oil Release, IRA, Class A-2 RAO - Canton, MA

Method 3 Risk Assessment, New England Baptist Hospital – Fuel Oil Release, Class B-1 RAO - Canton, MA

Odor and Mold Remediation, Chariho Regional High School, Wood River Junction, RI: Conducted an indoor air evaluation to identify the source of objectionable odors in the science wing (E-wing) of the high school complex. Recommended plumbing corrections and mold remediation to remove the source of the objectionable odors and conducted post construction monitoring to support a weight-of-evidence risk characterization.

Facility Compliance

Needletec Products Inc. - Provided Facility Permit Services for Relocation of Operation during 2009. Assisted in the development of an Environmental Management System focused on multi-media environmental compliance. Provided consultant services for construction on new facility in Costa Rica during 2014. Focus was demonstrating net zero impact on people and the environment through a "Balance of Plant" presentation oriented toward obtaining building permits. Currently under contract for wastewater discharge monitoring and on-call environmental engineering services - North Attleboro, MA.

Foster Corporation - Developed an Environmental Management System focused on multi-media environmental compliance. Provided permit services for a wastewater discharge permits through CTDEEP and North Vegas Wastewater Commission. Currently under contract for wastewater discharge, stormwater monitoring, air emissions analysis as well as on-call environmental engineering services - Putnam, CT and North Vegas, NV.

Putnam Plastics - In the process of developing an Environmental Management System focused on multi-media environmental compliance. Under contract for the completion of two wastewater discharge and stormwater permits through CTDEEP. Under contract for the completion of an air emission source registration survey through CTDEEP. Currently commencing services for providing periodic RCRA Compliance and Safety Audit services - Putnam, CT.

Naval Underwater Warfare Center (NUWC) Seneca Lake Underwater Sonar Test Facility - Dresden, NY - Contracted to develop an Environmental Management System focused on multi-media environmental compliance for a classified military facility. Currently completing a Spill Prevention, Control, and Countermeasure Plan for the facility as well as a Petroleum Bulk Storage (PBS) Registration through New York Department of Conservation (NYDEC).

*See SCRG, Diageo, Geonet, Cruzan Rum in other sections.

James A. Jackson, P.E.

Project Manager/Principal Engineer

PROFESSIONAL PROFILE

Mr. Jackson has over 30 years engineering experience, which includes several years with CDR Maguire in the Land Development and Marine Department and several years of construction experience.

His land development experience includes design of site improvements including utilities, parking and drainage facilities and zoning and planning board permitting for various developments throughout New England.

His marine experience includes designing and analyzing various marine structures including bulkheads, piers and jetties. Involvement included initial site surveys, conceptual design, computation of budget cost estimates, state/federal permit applications, preparation of plans and contract documents, and construction administration and inspection. Construction experience includes major bridge construction and Superfund remediation.

REPRESENTATIVE PROJECTS

Construction Inspection / Program Management

Massachusetts Department of Conservation & Recreation: Under a term contract, CDR Maguire was select to provide professional services for the Massachusetts Department of Conservation & Recreation.

- Georges Island Electrical Review – Performed study of existing electrical loads for photovoltaic system. DCR Pools – Performed design and permitting services for separating pool drainage from the storm drains.
- DCR-Nickerson Combined Water & Electric – Performed design and permitting services for camp site water and electric system.
- CR-RV-Tanks-Construction – Performed design and permitting services to construct tanks for RV sewer pump out facilities.

Marine Engineering

RIDEM Pier HH Replacement Project - Port of Galilee, RI: Responsible for project management and design of a replacement pier and site improvements to this commercial fishing pier. This project included preparation of plans, specifications and an estimate. RI Coastal Resources Management Council permit applications were also prepared and submitted for this project.

Bridgeport Maritime Complex, Connecticut Department of Economic & Community Development, Bridgeport CT: Provided project oversight



YEARS OF EXPERIENCE

CDR Maguire: Since 1993
CDR Maguire: 1985 - 1989
Total: Since 1985

EDUCATION

BS – Civil Engineering
University of Rhode Island, 1985

PROFESSIONAL REGISTRATIONS

Professional Engineer: MA-42563,
CT-18936, RI-5708, VI-1172E

ASSOCIATIONS/MEMBERSHIPS

- American Society of Civil Engineers

TECHNICAL EXPERTISE

- Project Management
- Marine Structure Design and Rehabilitation
- Piers, Wharves and Seawall Design and Rehabilitation
- Waterfront Redevelopment
- Cost Estimation
- Site Inspection
- Construction Administration



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James A. Jackson, P.E.

Project Manager/Principal Engineer

for the design and construction of the Bridgeport Maritime Complex. Project oversight included review of construction documents for consistency with codes, industry standards and project goals. Oversight of the construction administration included review of the bid process; review and approval of payment applications and change orders; and periodic construction observation with reports to the client. The project consists of the redevelopment of a former steel mill site for maritime related industries. Improvements to the site include site preparation; environmental remediation; construction of an assembly building; construction of piers and a bulkhead; and dredging.

Water Island Ferry Dock, St Thomas USVI: Responsible for project management and design of a ferry dock that replaced a structure destroyed by Hurricane Georges. The proposed pier consists of a filled steel sheet pile structure with a concrete cap and deck provided with fenders and breasting dolphins to accommodate ferries up to 100 feet long. This project includes preparation of construction plans, specifications and permits.

Terminal Expansion, Oak Bluffs Ferry Terminal - Oak Bluffs, Martha's Vineyard, MA: Responsible for preliminary design of the pier expansion and site improvements to improve vehicle and pedestrian access at the Steamship Authorities existing ferry terminal. Design included expansion of the timber deck to provide increased capacity for vehicle access to the ferries and design of a new timber walkway to provide pedestrian access to the ferries. Design included a timber deck supported by steel pipe piles and a concrete cap.

Wollaston Beach Seawall Rehabilitation, Metropolitan District Commission (MDC) - Quincy, MA: Responsible for design of a seawall and shore protection along a 3,300 linear foot portion of Wollaston Beach. The seawall and shore protection were designed to protect Quincy Shore Drive and the 24 inch MWRA force main from wave impacts associated with a 100 year storm event. The replacement seawall included of a steel sheet pile wall with concrete encasement. The shore protection consisted of a three layer riprap revetment designed to USACE standards. Responsibilities included the preparation of contract documents including plans, specifications and estimates and for coordination of the permit application process.

Diageo, St Croix Renaissance Group West Pier Inspection; St Croix USVI: Performed an inspection and prepared an evaluation report for the fender system, deck and foundations for this pier. The pier extends approximately 450 linear feet and was previously used to berth vessels delivering coal and bauxite to the St Croix Alumina Facility. The pier was inspected to obtain a terminal license to receive tankers delivering molasses to the new Diageo rum distillery. The evaluation report provided load ratings and preliminary design solutions and cost estimates to correct deficiencies that were identified in the inspection.

Virgin Islands Port Authority (VIPA) Term Contract for Marine Engineering Services – US Virgin Islands: Provided project management services for design, permitting and construction administration on a wide range of marine-related projects for the VIPA. Project involvement included planning studies, conceptual design, CZM and ACE permitting, preparation of contract documents and construction administration for the following projects:

- Austin “Babe” Monsanto Marine Terminal Dredging and Pier Expansion Project - Crown Bay
- Svend Aage Ovesen Jr. Seaplane Terminal Bulkhead and Contaminated Soil Containment - St. Croix
- Wilfred “Bomba” Allick Port and Trans-Shipments Center Lighting and Cathodic Protection Projects
- Ann E. Abramson Marine Facility Service Pier Replacement Project - Frederiksted Cruise Ship Pier
- Gallows Bay Marine Terminal Planning & Drainage Studies - Christiansted
- Schooner Channel Dredging Project - Christiansted
- Edward Wilmoth Blyden IV Marine Terminal ADA Access Improvements – St. Thomas



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- Urman Victor Fredericks Marine Terminal Custom Building, Pier and Parking Project – Red Hook

Repairs to Waterfront Facilities, U.S. Coast Guard Group Woods Hole - Falmouth, MA: Responsible for design of waterfront renovations that included replacing the bulkhead with a sheet-pile and soil-anchor bulkhead; design of fenders, bollards and cleats; and design of utility stations to accommodate the USCG Woods Hole Fleet. This project included preparation of construction and permitting plans, specifications, and an estimate for these renovations.

Fort Trumbull State Park and Piers 4 & 7 Improvements, Connecticut Department of Environmental Protection (CTDEP) - New London, CT: Responsible for design of waterfront improvements that included reconstructing a timber pier, repairing a timber pile fender system on a concrete pier, installing a floating dock system and installing water and sewer utilities on the piers. This project was performed to convert a retired naval facility into a state park providing public access for fishing from one pier, dock space for visiting ships including Tall Ships and access for water taxis. This project included preparation of contract documents and preparation of permit drawings.

Bulkhead and Site Improvements, Rhode Island State Pier 9, Rhode Island Department of Environmental Management (RIDEM) - Newport, RI: Responsible for design and construction management of waterfront renovations that included replacing the bulkhead with a sheet-pile bulkhead with tie rods and concrete deadmen. Limited overburden and high bedrock elevations created a need for toe pins in the rock; design of fenders and cleats; and retrofitting the timber piers to accommodate the new bulkhead. Site design consisted of preparing grading and drainage plans including a drainage system to treat runoff prior to discharge into Newport Harbor. This project included preparation of construction and permitting plans, specifications and an estimate for these renovations. Construction management responsibilities included managing a full-time inspector; review and approval of shop drawings and value-engineering changes; negotiating change orders; review and approving contractor payment requests, and monitoring construction progress.

Fox Point Hurricane Barrier - Providence, Rhode Island: Performed FEMA certification of the Hurricane Barrier. Certification was performed to certify that the Hurricane Barrier meets the requirements of CFR, Title 44, Section 65.10. Responsible for review of the design and operation of the pumping station, concrete dam structure, radial tainter gates, highway bridge abutments, earthen dikes, roadway gates and utility gates.

Bulkhead Replacement, Port of Galilee - Narragansett, RI: Responsibilities as Design Engineer included design development, preparation of construction documents and cost estimates through contract completion. Work included construction of a new anchored steel sheet pile bulkhead, replacement of the existing dirt parking with a paved parking area including upgrading of the existing stormwater drainage system with a state-of-the-art Vortex Stormwater Treatment System to comply with regulatory criteria to remove 80% of the total suspended solids and completion of all state and federal regulatory permit applications. Responsibilities also included construction management including full time construction inspection, review and approval of shop drawings and value engineering changes; negotiate change orders; review and approve contractor payment requests and monitor construction progress.

Hampton Harbor State Marina; Pease Development Authority, Division of Ports and Harbors - Hampton, NH: Responsible for project management and design of pier improvements to the commercial fishing pier and replacement of the timber public dock that was destroyed in a winter storm. Improvements of the commercial pier included replacement of the bulkhead cap, the timber fender piles, and replacement of the floating docks.



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James A. Jackson, P.E.

Project Manager/Principal Engineer

The public dock replacement included design of a new timber pier, the existing gangway and floating dock guide piles, site improvements and removal of a fuel-dispensing system. This project included preparation of plans, specifications and an estimate.

New Hampshire Commercial Fishing Piers Infrastructure Evaluation; Pease Development Authority, Division of Ports and Harbors – Seabrook, Hampton, Rye and Portsmouth, NH: Performed an inspection and prepared an evaluation report for the commercial fishing piers located in Seabrook, Hampton, Rye and Portsmouth New Hampshire. An above and below water inspection was performed on the marine facilities consisting of steel sheet pile bulkheads, fixed timber piers and floating docks. Inspection of the upland facilities consisted of parking, site utilities, fuel systems and support buildings. Based on the findings of the inspection the structural capacity of the fixed piers was estimated. The evaluation report provided preliminary design solutions and cost estimates to correct deficiencies that were identified in the inspection.

Portland International Marine Terminal - Portland, ME: Structural study of the existing international passenger ferry terminal on Casco Bay. Serious deterioration of timber piles and decking, including displacement of the piles during adjacent construction, threatened the structural integrity of this steel framed building supported on a system of timber and concrete decks and piles. Work included evaluation, long-term repair recommendations and the design of emergency stabilization to permit its safe continuing operation as passenger ferry terminal.

Marine Structure Designs Permits, New London Waterfront Redevelopment - City of New London, CT: Responsible for design of five piers and over 1,000 linear feet of pile-supported concrete piers and walkways. The design included coordination with landscape architects' to prepare structural plans that incorporated the architect's conceptual design. The piers and walkways were constructed with concrete decks supported by steel pipe piles with rock anchors to resist wave uplift forces. This project included preparation of phased construction plans and specifications, to allow for construction of the project in three phases.

Belle Isle Inlet Dredging Report - Boston, Revere and Winthrop, MA: Prepared a report for the Massachusetts Department of Environmental Management to review site documentation and evaluate methods for dredging the Belle Isle Inlet. The project proposed dredging a channel approximately 1 mile long through the Belle Isle Marsh.

Dredging - Waterford, CT: Analysis of littoral processes, tidal hydraulics, and life cycle cost estimates for several coastal dredging and shore stabilization projects. Involvement also included state/federal permit applications and preparation of plans and specifications.

Poe Valley State Park - Centre County, PA: Responsible for design of improvements to the state park features including a boat ramp and amphitheater. A reinforced concrete boat ramp and retaining wall were designed to replace a deteriorated ramp and retaining wall. An amphitheater consisting of a movie screen and podium system, and timber benches was relocated to allow for reconstruction of a dam. This project included preparation of contract documents including plans, specifications and an estimate.

Cooper River Route 30 Tide Gate - Camden, NJ: Performed preliminary design of the Cooper River tide gate. Flooding due to high tide events in the Delaware River lead to the design of a tide gate to control the flooding along Route 30. The tide gate will consist of a hydraulically operated bottom hinged flap gate. The gate will be supported on a reinforced concrete foundation with concrete abutments at each end of the gate. The concrete foundation will be supported by steel pipe piles. The gate will consist of a steel box structure controlled by



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hydraulic pistons mounted on each abutment. Structures to house the hydraulic pistons and controls will be constructed on each abutment. Design included the gate, foundation and abutment structure and steel sheet pile cofferdam to allow for construction of the structure in a dry condition.

Ridley Township Municipal Marina - Ridley Pennsylvania: Responsible for design of improvements to this recreational marina. The project included a complete redesign and replacement of the existing fixed piers and floating docks at this site. Fixed timber piers and gangways were designed to provide access in accordance with ADA regulations. The floating docks were designed and specified to allow for competitive bids from various floating dock manufacturers including timber, aluminum framed and plastic docks. Due to high bedrock elevations at the site the floating dock guide piles were designed with drilled sockets into rock. This project included preparation of contract documents including plans, specifications and an estimate.

Civil/Site Engineering

East Somerville Community School – Somerville, MA: As the primary consultant, CDR Maguire provided Architectural and Engineering services to renovate a community school destroyed by a fire. The design work consisted of new additions and renovations of the two-story school building, with associated one-story assembly functions. Included in the project were new landscape developments, exterior recreation areas, play equipment, integral concrete colored pavement, new underground utilities, stormwater mitigation and sanitary sewer service and other site improvements. Responsible for developing and designing the projects site improvements including but not limited to new asphalt and concrete paving, retaining walls, underground utilities, stormwater drainage and other site improvements. In addition, he was responsible for preparing all civil drawings, cost estimates and technical specifications.

Pawtucket Pavement Management Program, Department of Public Works – Pawtucket, RI: Prepared a Pavement Management Program for all the City streets which included approximately 178 miles of roadway. The program included preparation of base mapping; a field inspection program; evaluation of roadway conditions; recommendations for maintenance and repairs; and capital improvement planning. Responsible for project management and capital improvement planning.

Norton Planning Board - Norton, MA: Provided construction inspection of new subdivisions and commercial sites being constructed by developers. Responsible for insuring that roads, drainage and utilities were constructed in accordance with approved plans and town regulations. Provided recommendation to the Planning Board which subdivisions are complete and acceptable as town roads.

Quonset Business Park, Quonset Development Corporation (QDC) - North Kingstown, RI: Providing program management services for the design and construction of infrastructure improvements to the Quonset Business Park. Improvements included a railroad condition survey and track rehabilitation project; design and construction of roads and utilities to open more land for commercial development; construction of a maintenance and operations facility through the design/build process; and marine improvements including bulkhead design. Involvement included preparing requests for proposals to hire qualified design firms, selection of design consultants, managing the design contracts, managing competitive bidding to select a contractor, and construction administration services.

Massasoit Community College, ADA Accessibility Study - Brockton, MA: Massasoit Community College commissioned CDR Maguire to perform a study of the pedestrian access at its Brockton, Massachusetts campus.



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The intent of the study was to verify that site accessibility is in conformance with the Americans with Disabilities Act (ADA) Standards for Accessible Design and the Massachusetts Architectural Access Board (AAB) Rules and Regulations. This study included accessible routes from the parking lots, through the campus to the building and then into at least one entrance at each building. Was responsible for the accessible routes from the parking lot and through the campus portion of the study.

CVS Pharmacy, Business Integration Center Parking Lot Upgrade - Smithfield, RI: Responsible for design of a parking lot expansion to accommodate 150 additional vehicles for this existing facility. The design included drainage, grading and site layout. The project required RIDEM approval due to proximity to wetlands.

Bank of America Call Center - East Providence, RI: Responsible for civil/site engineering services associated with the renovation of an existing jewelry manufacturing facility into a Bank of America Call Center. Design included grading, drainage and site design to provide approximately 900 parking spaces on this densely developed site.

Franklin Street Fire Station - Worcester, MA: Performed site design including layout, grading, drainage and utility design for this new fire station. The facility will be constructed on the site of the Cold Storage Building where six Worcester Firefighters lost their lives in 1999 fire. The facility has three double loaded apparatus bays with associated support space and living quarters on the second floor.

University of Rhode Island Utility Upgrade - Kingston, RI: Performed civil and site design for projects to upgrade the steam distribution system and electrical systems for the University. Design included developing routes for the utilities to provide service to the buildings while avoiding impacts to the existing buried utilities. Design included reconstruction and improvements to the site features impacted.

Somerville Parking Lot Rehabilitation at Public Safety Building - Somerville, MA: Structural Engineering services for rehabilitating the parking lot on the sally port area and repairing concrete spalls in the garage at the Public Safety Building in Somerville, MA. Services included both design and construction phase services. Estimated construction cost is \$340,000.

Central Fall Pavement Management Program - Department of Public Works, Central Falls, RI: Prepared a Pavement Management Program for all the City streets which includes approximately 24 miles of roadway. The program included preparation of base mapping; a field inspection program; evaluation of roadway conditions; recommendations for maintenance and repairs; and capital improvement planning. Responsible for project management and capital improvement planning.

Pawtucket Pavement Management Program - Department of Public Works, Pawtucket, RI: Prepared a Pavement Management Program for all the City streets which includes approximately 178 miles of roadway. The program included preparation of base mapping; a field inspection program; evaluation of roadway conditions; recommendations for maintenance and repairs; and capital improvement planning. Responsible for project management and capital improvement planning.

Crown Mountain Road Repairs, St Thomas USVI: Responsible for project management and design of repairs to a portion of the roadway that was washed out by Hurricane Georges. A mechanically stabilized earth wall was designed to retain the 16 foot high fill that was washed out in the hurricane. The drainage system was



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redesigned to prevent future washouts. This project includes preparation of construction plans, specifications and permits.

Gardner Lower Main Street Gateway Improvement Project; City of Gardner Department of Community Development and Planning - Gardner, MA: The Gardner Department of Community Development and Planning received a grant to assist with the development of an office building at the former industrial site at 354 Main Street. Provided design of a segmental retaining wall and related site improvements to prepare the 354 Main Street site for development. Work included preparation of contract documents including plans and technical specifications. Construction cost estimates were also provided.

Waste Management / Environmental Engineering

St Croix Transfer Station Project - Virgin Islands Waste Management Authority (VIWMA): Maguire Group and their subconsultant, Gershman, Brickner & Bratton, Inc. (GBB) were selected by the United States Virgin Islands Waste Management Authority (VIWMA) to assist with planning and fast track procurement of a transfer station on St Croix to process all of the municipal solid waste generated on the island. Responsible for project management for the environmental permitting and preliminary design of the 300 ton per day transfer station and baling facility. Also responsible for assistance with the design-build-operate procurement and construction administration.

Southwest Landfill - Johnston, RI: Responsibilities included the preparation of technical specifications and a closure cost estimate for the licensing documents for this solid waste landfill.

Tybouts Corner Landfill Superfund Site - New Castle, DE: Quality Control Manager for the contractor on this superfund remediation project. This project consisted of consolidation and containment of a former municipal landfill, including construction of a slurry wall, installation of a RCRA cap and construction of a groundwater extraction and treatment system. Responsible for insuring all material and work was performed in accordance with the contract documents. Duties included preparing submittals of materials and procedures; educating inspection personnel on the quality control requirements of the contract documents; scheduling and coordinating all quality control inspection and testing; and providing daily reports of construction activity, inspection, and testing to the client.

Alternative Energy

Tibbar Energy Biogas Project St Croix, USVI; Tibbar Energy USVI: Responsible for project management of the civil design and permitting for this 7 MW biogas energy project. The project consists of a facility to process Giant King Grass and rum distillery waste into biogas that is utilized to generate electricity that will be provided to the Virgin Islands Water & Power Authority grid. The project includes development of a 15-acre process and generating site and over 1,000 acres of agricultural land. The agricultural areas, dispersed throughout the island, are to be irrigated with effluent supplied from a sewer treatment plant. Responsible for civil design and all permitting including; Virgin Islands Department of Planning & Natural Resources (VIDPNR), Coastal Zone Management Permit; VIDPNR Title V Operating Permits (Air); Virgin Islands Department of Public Works, Utility Right of Way Permits; and Federal Aviation Administration (FAA), Notice of Proposed Construction. All permits are approved and the project is ready to go to construction.



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VIWMA Waste-to-Energy Projects - Virgin Islands Waste Management Authority (VIWMA): The Virgin Islands Water and Power Authority (WAPA) issued an RFP to solicit proposals from developers to propose alternative energy projects to reduce the Territories dependence on fuel oil to generate electricity. WAPA selected a proposal from Alpine Energy to construct and operate waste-to-energy facilities on St Thomas and St Croix. Responsible for performing a due diligence review of the waste-to-energy proposal, including review of the proposed facility, site, associated equipment, and the Power Purchase Agreement. Assisted the VIWMA with negotiations for Solid Waste Service Contracts with the waste-to-energy developer and prepared appendices to the Service Contract.

RIWinds Feasibility Study; Rhode Island Economic Development Corporation (RIEDC): Performed preliminary design and cost estimating tasks for this feasibility study. The study was commissioned by the RIEDC to evaluate the feasibility of generating 15% of the electrical power used in the State of Rhode Island by wind turbines. Responsible for preliminary design of foundations for offshore turbines to determine appropriate foundations type and size and to determine allowable water depths for the potential offshore turbines. Performed preliminary site and foundation design for on land wind turbine projects. Prepared cost estimates for the civil and structural elements of the offshore projects.

Lockhart Realty Inc. Estate Donoe Solar Project – St. Thomas, US Virgin Islands: Provided project management services for the stormwater design for this 25-acre site that was developed into a 5 megawatt solar energy facility. The project included a hydrologic analysis of the site and design of drainage channels and detention basins to mitigate the impacts of stormwater erosion and runoff.

Lumus Construction Inc., Design-Build Wind Turbine Projects - Newburyport and Cohasset, MA and MWRA Deer Island Treatment Plant: Project Manager for design services to support Lumus Constructions design-build wind turbine projects. Provided civil, environmental and electrical services to support construction of 600 kW and 1.5 mW wind turbines.



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Glenn C. Walker, ASA
Appraiser/Consultant

PROFESSIONAL EXPERIENCE:

Glenn C. Walker is a consultant with over 20 years of experience in the valuation of commercial/ industrial property, utility infrastructure, and electric generating facilities for ratemaking, *ad valorem* tax purposes, purchase and sale considerations, and financial purposes. In addition, Mr. Walker has provided consulting services in the area of strategic planning, energy market analyses, and rate and regulatory matters to various clients throughout North America.

Mr. Walker has provided expert testimony and presentations on numerous occasions before state regulatory agencies, courts, and legislative bodies in Connecticut, Maine, Maryland, Massachusetts, Michigan, New Hampshire, New York, and Ohio. Testimony has focused on providing opinions of market value and the feasibility of municipal acquisitions of utility and energy infrastructure.

PROFESSIONAL HISTORY:

George E. Sansoucy, P.E., LLC, Portsmouth, NH, 1994 to Present
Commercial/Industrial Appraiser / Consultant

Stanhope Group, Portsmouth, NH, 1991 to 1994
Commercial/Industrial Appraiser

EDUCATION:

University of New Hampshire, Durham, New Hampshire, Bachelor of Science Degree in Business Administration, 1991

STATE CERTIFICATIONS:

State of Connecticut
Certified General Real Estate Appraiser, # RCG.1059

State of Maine
Certified General Appraiser, # 1270

State of Maryland
Certified General Appraiser, # 40029148

Commonwealth of Massachusetts
Certified General Real Estate Appraiser, # 102276

State of Michigan
Certified General Appraiser # 1201007987

State of New Hampshire
Certified General Appraiser, # 378

State of New York

Certified General Real Estate Appraiser, # 46000033728

State of Rhode Island

Certified General Real Estate Appraiser, # CGA.0020031

State of Texas

Certified General Real Estate Appraiser, # TX 1380537 G

State of Wisconsin

Certified General Real Estate Appraiser, # 2135-10

PROFESSIONAL AFFILIATIONS

American Society of Appraisers, Accredited Senior Appraiser (ASA) Designated in: Machinery & Technical Specialties / Machinery & Equipment

PUBLICATIONS AND PRESENTATIONS:

Massachusetts Department of Revenue – Prepared material and co-conducted three workshops on Valuing Solar Photovoltaic (PV) Projects for *Ad Valorem* Tax purposes and for Negotiation of PILOT Agreements.

Massachusetts Department of Revenue – Co-authored guidelines for the “Valuation and Taxation of Electric Generating Property” in connection with the “Commonwealth of Massachusetts 1997 Electric Utility Restructuring Act.” Spoke on the valuation of electric generating facilities.

State of Michigan, County Equalization Directors - Prepared material and taught two day seminar on the valuation of utility property for the Michigan Assessor’s Association.

Connecticut Association of Assessing Officers - Spoke at the Fall Symposium on Public Utility and Special Purpose Property Valuation Methods and Approaches.

REPRESENTATIVE LIST OF PROJECTS:

1. Adams County, OH – Valuation of two coal-fired generating facilities with a total capability of 3,106 MW.
2. Agawam, MA – Valuation of gas transmission/distribution facilities, compressor facilities, electric distribution facilities, and gas-fired combined cycle generating facility.
3. Alexandria, NH – Valuation of all public utility property including a biomass generating facility.
4. Ashland, ME – Valuation of a biomass generating facility.
5. Anne Arundel County, MD – Valuation consulting regarding two coal-fired generating facilities.
6. Bank of New Hampshire – Valuation of a public utility company in the Town of Pittsfield, NH, for financing purposes.
7. Bethlehem, NY – Valuation of a 400 MW oil/gas-fired utility generating facility.
8. Boralex, Inc. – Valuation and consulting services related to a biomass generating facility in Stacyville, ME.

9. Boston, MA – Valuation of a 760 MW oil/gas-fired generating facility and transmission and electric distribution property.
10. Bow, NH – Valuation of transmission facilities, a 460 MW coal-fired generation facility, a 12 MW hydroelectric facility, and 44 MW combustion turbines.
11. Bridgeport, CT – Consulting and valuation for refuse incineration and transfer facilities.
12. Bridgewater, NH – Consulting and preparation of valuation of all utility property including a biomass generating facility.
13. Bristol, NH – Valuation of all public utility property including two hydroelectric facilities.
14. Bucksport, ME – Valuation of a high pressure natural gas transmission pipeline.
15. Burrillville, RI – Assist with PILOT negotiations. Valuation of a 560 MW gas-fired combined cycle generating facility.
16. Cambridge, MA – Valuation of a 256 MW oil/gas-fired generating facility.
17. Charles County, MD – Valuation of a 1,490 MW coal-fired generating facility.
18. Connecticut Resource Recovery Authority (CRRA) - Valuation of several waste-to-energy facilities and a jet turbine generating facility.
19. Covert Township, MI – Valuation of a 798 MW nuclear generating facility.
20. Detroit, MI – Valuation of the central underground steam heating system and power plants.
21. Dighton, MA – Valuation of a 170 MW gas-fired combined cycle generating facility and a desalination facility.
22. Dover (MA) Water Company – Valuation and strategic planning for the possible sale of the company.
23. Dracut, MA – Consulting regarding development of a tax mitigation agreement for a proposed combined cycle generating facility.
24. Filer Township, MI – Valuation of a 70 MW coal-fired cogeneration facility.
25. Haddam, CT – Valuation of an Independent Spent Fuel Storage Installation.
26. Haverstraw, NY – Valuation of a 1,200 MW oil-fired generating facility.
27. Holyoke, MA – Valuation of a 42 MW hydroelectric facility and a 160 MW coal-fired generating facility, transmission and distribution systems, canal systems, buildings, and miscellaneous utility properties.
28. Lake County, OH – Valuation of real property of a 1,250 MW nuclear generating facility and a 1,257 MW coal-fired generating facility.
29. Londonderry, NH – Valuation of a 720 MW gas-fired combined cycle generating facility. Assisted in negotiation of tax settlement agreement.
30. Maryland Department of Assessments and Taxation – Consulting and reports on the review of electric generating plants for property tax purposes.
31. Middletown, CT – Valuation of an oil-fired generating facility.
32. Midland, MI – Valuation of 1,500 MW gas-fired combined cycle generating facility.
33. Milford, CT – Valuation of a 340 MW dual fuel generating facility.
34. Monroe, CT – Valuation of a hydroelectric facility.
35. Nashua, NH – Valuation of a water system. Assisted in development of review and strategy for City acquisition of water system.
36. New Milford, CT – Valuation of two hydroelectric facilities.
37. New Richmond and Three Rivers School Districts, OH – Valuation of three coal-fired generating facilities with a total capability of 3,661 MW.

38. Newington, NH – Valuation of a 420 MW oil-fired generating facility, a 540 MW gas-fired combined cycle generating facility, and transmission and distribution facilities. Assisted in negotiation of tax settlement agreements.
39. Oak Bluffs and West Tisbury, MA – Valuation of two electric generating peaking facilities.
40. Old Town, ME – Valuation of a hydroelectric facility.
41. Orono, ME – General consulting regarding a hydroelectric facility.
42. Oswego, NY – Valuation of a 1,650 MW oil-fired generating facility.
43. Oswego County, NY – Valuation of three nuclear generating facilities with a total capability of 2,606 MW.
44. Oxford, CT – Assisted in tax agreement negotiations for a proposed gas-fired combined cycle plant.
45. Parmenter O'Toole Law Firm – Valuation of a 432 MW coal/gas-fired generating facility (Muskegon, MI)
46. People's United Bank – Valuation of proposed anaerobic digestion facility (Southington, CT).
47. Pittsfield, MA – Valuation of a 180 MW gas-fired combined cycle cogeneration facility.
48. Plymouth, MA – Valuation of a 685 MW nuclear generating facility.
49. Portsmouth, NH – Valuation of a coal/wood-fired generating facility and an oil tank farm facility.
50. Pottawattamie County, Iowa – Valuation of a foundry.
51. Providence, RI – Valuation of a 500 MW gas-fired combined cycle generating facility.
52. Providence (RI) Water Supply Board - Valuation of dams, reservoirs, piping systems, and treatment plant.
53. Rowe, MA – Valuation of an Independent Spent Fuel Storage Installation.
54. Rowe, Florida, and Monroe MA – Valuation of three hydroelectric facilities and one pumped storage facility.
55. Sacramento (CA) Local Agency Formation Commission – Prepared an analysis of the economic and level of service impacts resulting from the annexation by Sacramento Municipal Utility District (SMUD) of the Cities of West Sacramento, Davis and Woodland and adjacent unincorporated areas of Yolo County.
56. Salem, MA – Valuation of a 760 MW coal/oil-fired generating facility.
57. San Francisco (CA) Public Utilities Commission – Prepared reports which evaluated various Community Choice Aggregation (CCA) renewable resource portfolio options. This included the technical feasibility, economically viable options, potential leveled cost of resources, and a comparison of several types of resource portfolios.
58. Seabrook, NH – Valuation of a 1,200 MW nuclear generating facility. Assisted in negotiation of a tax agreement.
59. Silver Springs, NY – Valuation of a gas-fired cogeneration facility.
60. South San Joaquin (CA) Irrigation District – Valuation of electric distribution system in anticipation of the District's acquisition of this property by use of eminent domain and critique of the valuation developed by PA Consulting.
61. Stony Point, NY – Valuation of a 453 MW coal-fired generating facility.
62. Tamworth, NH – Valuation of a 25 MW biomass generating facility.
63. Tonawanda, NY – Valuation of a 56 MW gas-fired cogeneration facility.
64. Wallingford, CT – Valuation of a 250 MW gas-fired generating facility.
65. Wawayanda, NY – Valuation of a peaking facility.

66. Westfield, MA – Consulting for permitting and assessment of a proposed 276 MW gas-fired combined cycle generating facility. Assisted in negotiations of *ad valorem* tax agreement.
67. Weymouth, MA – Valuation of a gas-fired combined cycle facility.
68. Wiscasset, ME – Valuation of an Independent Spent Fuel Storage Installation.
69. Yarmouth, ME – Valuation of an 846 MW oil-fired generating facility. Valuation of all property owned by Central Maine Power Company including distribution systems, transmission systems, substations, land and rights of way.