PROFESSIONAL PROFILE

CONTACT INFORMATION

Main: (631) 232-2600
Direct: (631) 630-2471
Email: pmartorano@rouxinc.com
Website: www.rouxinc.com

209 Shafter Street
Islandia, NY 11749

EDUCATION

MEng, Biological and Environmental Engineering, Cornell University
BS, Biological and Environmental Engineering, Cornell University

PROFESSIONAL LICENSES

Professional Engineer, New York #088403

Paul Martorano, PE

Technical Director

EXPERIENCE SUMMARY

Mr. Martorano is a registered Professional Engineer with over 22 years of experience. He specializes in providing comprehensive services in environmental remedial investigation, remedial design, construction management, cost estimating, site management, stormwater permitting and program and project management. Experience includes Technical Director at Roux, April 2024 to present; Principal Environmental Engineer at Arcadis, 2012 to 2024; Staff Environmental Engineer at D&B Engineers and Architects, 2004 to 2011.

TECHNICAL SPECIALTIES

Mr. Martorano has a strong background in managing, scoping, budgeting, and implementing projects and program for both public and private sector clients. His expertise includes groundwater and soil vapor engineered treatment systems, excavation, and off-site disposal, in situ biodegradation, and abatement/demolition. His extensive experience includes treatment technologies for emerging contaminants such as 1,4-dioxane, PFAS, and VOCs. He is well-versed in digital tools for investigation, design and construction, financial estimating and reserve forecasting, multi-disciplined design management, waste characterization, and NYSDEC reporting.

REPRESENTATIVE PROJECTS

Large Plume Groundwater Superfund Site: Design, Construction Management and Design During Construction, Groundwater Pump and Treat System Construction, Confidential Client, Long Island, New York. Project manager and engineering design manager for a large-scale remediation program for a chlorinated solvent plume with 1,4-dioxane and other contaminants of concern. Program elements included: feasibility study-level conceptual design, costing, and analysis; pre-design installation and data analysis from deep vertical profile borings with monitoring wells; pre-design infiltration studies to evaluate discharge alternatives; land survey and utility locate through residential, County and Town roads; assessment of EVS/3D modeled plume to support design of three (3) large diameter, deep extraction wells and below-grade wellhead vaults; remedial design of a 3.6 MGD groundwater pump and treat system in a 3,500 square foot PEMB with associated building systems (electrical, HVAC, fire, sanitary, plumbing) for treatment of 1,4-dioxane (hydrogen peroxide/ozone AOP; pH adjustment), chlorinated solvents (AOP; LPGAC), and inorganic solids (horizontal pressure filtration, inclined plate clarifier, volute press); remedial design of 2-miles of dual-walled HDPE piping with leak detection; remedial action/construction management (submittal review, RFI management, delegated design review, Change Order management, resolution of design-based conflicts) for all elements; permitting with the Town, Fire Marshal, Department of Health and NYSDEC; support for public meetings; and site management/OM&M of the treatment system which included development of a new Health and Safety Plan. All elements within the community were closely managed with the client and helped support public meetings with community stakeholders. Design managed with a digital 3D BIM model and 4D BIM schedule to coordinate workflow, manage clashes with design trades, ensure adequate scheduling of work and create presentation-ready material for citizen participation activities. Oversaw a team of 10-20 design engineers and geologists across multiple offices and had responsibility for the overall contract/purchase order finances (invoices, cash flow, purchase order budgets, 30-year reserve projections/updates). A Construction Certification Report, OM&M Manual, and Site Management Plan were certified and submitted at the project conclusion. Estimated program value of $50-60M.

- **CVOC Soil Source Zone Feasibility Study, Confidential Client, Long Island, New York.** Feasibility study evaluation and cost estimate for a superfund site with VOC, PCB and Metal soil impacts from historic site operations. An EVS/3D model of the contaminants of concern was utilized to devise multiple alternative analyses, which considered both traditional solutions (capping; excavation/disposal) and more innovative solutions (in-situ thermal desorption; electrical resistive heating; ex-situ thermal desorption; in situ solidification and stabilization; soil washing) remedial alternatives. At the conclusion of the evaluation, an option was proposed to remediate the VOC impacts with ISSS and the PCB & Metal impacts with soil washing, which was estimated to reduce the original remedy cost from an estimated $54 million to $12 million. Final deliverable included a detailed cost breakdown and a high-level cost estimate summary.
- **Program and Project Management, NYS Superfund Environmental Remediation Site, Confidential Client, Long Island, New York.** Program management, project management and remedial design services related to a large and complex site management program for a NYS Superfund Environmental Remediation Site which included OM&M of three (3) groundwater pump and treat systems, OM&M of two (2) soil vapor extraction systems, and on-site/off-site groundwater monitoring. The program averaged $3-5M on a routine yearly basis. As a lead for this program, responsible for budgeting and scoping work orders, coordinated and communicated with the client on day-to-day items, prepared updated quarterly 30-year financial forecasts for the entire program, oversaw the work activities of 10-20 junior/mid-level engineers, scientist and geologists, supported annual updated to the Health and Safety Plan, and provided QA/QC review and certification of engineering deliverables.
- **ExxonMobil Greenpoint Petroleum Remediation Project, Brooklyn, New York.** Remedial design lead for various elements of new consolidated groundwater treatment facility with a design flow rate of 750 gallons per minute. Work included design of a new vapor phase granular activated carbon treatment system, to supplement an existing flame oxidation system, due to the increase in total air and contaminant mass flow rate from the new system. Design was done in conjunction with a retrofit of an existing space and included updates to the NYSDEC Air Facility Registration permit equivalency. Also provided site management support for the OM&M program, to upgrade the data management of site collected field data through a cloud-based platform and automated reporting of field and SCADA-data through a separate digital platform. Most recently lead the design for the demolition of an existing treatment system building and its associated structures, which included coordination for the NYCDOB demolition, preparation of contract drawings and specifications, and management of the subcontractor bidding and procurement.
- **ExxonMobil Former Pratt Oil Works Project, Long Island City, Queens, New York.** Lead professional engineer for permitting, design and construction management of an LNAPL recovery system consisting of a 2,000 gallon above-ground PBS tank, eight (8) recovery well vaults with pneumatic pumps, and electrical/mechanical controls for the automated operation of the system. Work at the site also includes the assessment of the site soil cover system to ensure compliance with the Remedial Action Work Plan requirements, start-up testing and OM&M for the LNAPL recovery system, and preparation of the FER following completion of remedial actions.
- **Design and Procurement Services, PFAS Water Treatment System, Balt MAES AEC BRAC, Vint Hills, Virginia.** Design manager and lead engineer for a PFAS water treatment system for a potable supply well. Lead and coordinated the design process from the initial 30 percent design, though the 100 percent complete Issued for Construction package. Managed various lead engineers in their respective disciplines, to ensure the preparation of an accurate, cost effective, and safe design. The design utilized a digital 3D BIM model platform, which provided for seamless integration of the various engineering work products, checked for conflicts in a 3D space to minimize the potential for construction field issues, and ultimately provided a tool to better visualize the entire project from start-to-finish. Design work was completed on an expedited schedule, given pending commercial construction that would increase the overall water demand in the area and to meet client budget requirements. Procurement work for the building, equipment and subcontractors was also completed as part of pre-construction services.
- **NYS SPDES Multi-Sector General Permit (MSGP) Compliance and Design Services, Confidential Client, Brooklyn, New York.** Lead professional engineer for a client site which required MSGP compliance and design services related to a NYSDEC consent order. Work included support for review and update of the site's best management practices, update of the site's Stormwater Pollution Prevention Plan, collection and analysis of discharge samples, and consent order negotiations. Preparation of a new site-wide drainage and discharge filtration system design is on-going, with final design and construction expected by the end of 2026.
- **Industrial Wastewater Treatment, Active Nonwoven Sheet Products Manufacturing Facility, Green Island, New York.** Remedial design engineer in support of manufacturing facility with 1.5 MGD discharge to a POTW, to improve an existing effluent discharge treatment process to further remove total

suspended solids. As the lead engineer, worked in conjunction with other engineers and the facility to review existing documentation (as-built drawings, permits, operational records, sampling data) to determine an optimal treatment process. Worked in conjunction with equipment vendors to perform bench testing/treatability studies to select an appropriate coagulant and flocculant to work with either a gravity settling clarifier, dissolved air flotation (DAF) clarifier, or a batch process filtration system. The DAF clarifier was ultimately selected based on site space constraints and its overall ability to achieve the updated POTW discharge criteria. Work also included meetings and negotiations with the POTW Authority, to incorporate a phased update to the discharge criteria, which enabled the client to maintain production capacity while optimizing the DAF clarifier process following construction.

- **Sub-Slab Depressurization System (SSDS) Design and Start-Up, Various Site, NYC-Metro & Long Island.** Lead professional engineer for SSDS designs for various sites throughout the NYC-metro areas and Long Islands. Sites were a mix of residential apartments, commercial retail buildings, and industrial warehouses. Designs included coordination with the architect, structural and MEP engineers to layout the SSDS piping network, riser pipes, and blower assemblies to minimize clashes and ensure compliance with applicable regulations. Designs included calculations to assess the overall flow and vacuum needs, to specify and select the blower. Also conducted oversight and monitoring of SSDS start-ups associated with the design systems. Preparation and certification of the FER and SMP were completed for sites which were also enrolled in the Brownfields Cleanup Program.
- **Former Landfill Remedial Investigation and Design, 1612 5th Avenue, Bay Shore, New York.** Lead professional engineer for a Brownfield Cleanup Program (BCP) site remedial investigation/feasibility study and remedial design. The site is a former C&D landfill, which is contaminated with SVOCs, metals and PFAS in both soil, groundwater and soil vapor. The former landfill is also exhibiting signs of elevated methane levels. Provided review and support of the final remedial investigation activities and the preparation of the remedial action work plan. The selected remedy for the site includes a site cover system for soil contamination, sub-slab depressurization system with vapor barrier to mitigate potential soil vapor intrusion, and an active perimeter gas control system to mitigate potential methane concerns around the site and at the property boundary. Remedial Action (RA)/Construction Management is expected to start at the end of 2026 and will be followed by preparation of the Final Engineering Report and Site Management for the final remedial measures.
- **Former Dry Cleaner Remedial Investigation and Remedial Design, Mr. Cleaners-Shrub Oak Shopping Center, Shrub Oak, New York.** Lead professional engineer for a Brownfield Cleanup Program (BCP) site remedial investigation/feasibility study and remedial design. The site is a former drycleaner, which is contaminated with tetrachloroethane (PCE) in soil, groundwater and soil vapor. Provided review and support of the final remedial investigation activities and the preparation of the remedial action work plan. The site currently has an IRM to mitigate soil vapor intrusion and a final remedy to treat the below-slab soil contamination and groundwater is in the feasibility study phase though will likely include a site cover system for soil contamination, soil vapor extraction with potential air sparge, downgradient in-situ treatment of PCE and associated breakdown products, and continued operation of the sub-slab depressurization system to mitigate soil vapor intrusion issues. Remedial Action (RA)/Construction Management is expected to start in the second half of 2026 and will be followed by preparation of the Final Engineering Report and Site Management for the final remedial measures.
- **Construction Oversight and Management, Landfill Redevelopment, New York City Dept. of Parks & Recreation, Staten Island, New York.** Project construction management and quality assurance services for the $30M Phase I development of the North Park section of Fresh Kills Landfill. Work included management and oversight of two full-time resident engineers and Construction Quality Assurance inspection and testing for environmental capping and landfill infrastructure modifications. Oversight included: source approval, sampling, and inspection of all imported fill materials in accordance with NYSDEC Part 360; Storm Water Pollution Prevention Plan (SWPPP) inspections and reporting; SPDES monitoring, sampling, and reporting; review and processing of submittals, payment applications, RFIs, Change Orders, Schedule updates, and other project deliverables; and management of construction progress meetings. A Site Management Plan and Construction Certification Report as the “Engineer of Record” were completed and submitted to the NYSDEC at the project conclusion in 2023.
- **Construction Management and Design During Construction, Removal and Installation of PBS Fuel Tanks, NYS Parks, Recreation and Historic Preservation, Sunken Meadow State Park, New York.** Construction management, design administration, and environmental quality control services for removal and disposal of petroleum bulk storage USTs and replacement with concrete reinforced ASTs. Advised and supported all environmental aspects for the project, including notification to NYSDEC, oversight of tank removal and decommissioning activities, endpoint sampling management, reviewing laboratory results against NYSDEC Part 375, and

negotiating with regulatory agencies. Work also included review and response to contractor submittals, resolution of RFIs, coordination with contractor and vendors on Shop Drawings and delegated design submittals, and resolution of design-based conflicts that required revisions to the original Contract. Preparation of a final Tank Closure Report was completed and submitted at the project conclusion in 2023.

- **Construction Oversight and Management, Excavation and Off-Site Disposal, Glen Cove Community Development Agency, Glen Cove, New York.** Construction oversight and management of soil excavation and off-site disposal. Responsible for project management and engineering certification of the site work. Worked with the City's contractor to execute the work as specified and designed and coordinated with NYSDEC and USEPA. Site work included: surface water/sediment controls; dust, chemical, and asbestos air monitoring; contaminated soil excavation and disposal; bulkhead stabilization; fill material chemical and geotechnical sampling; unknown gasoline UST removal, disposal, and closeout; asbestos and lead-based paint abatement; and building demolition. The work also included the review and approval of all contractor submittals, weekly progress meetings, approval daily field activity reports, and review and certification of Contractor payment applications. A Final Engineering Report, in accordance with DER-10 and Part 375, was completed and submitted at the project conclusion.
- **Construction Oversight and Management, Storage Tank Removal and Disposal, Orange County, Chester, New York.** Construction oversight and management of AST and UST removal and disposal at the Glenmere Lake Brownfields Site. Work was upload of Glenmere Lake, a drinking water source for the Village of Florida, a wetland, and a habitat for a NYSDEC endangered species (Northern Cricket Frog). Project involved working with the City's contractor to execute the work as specified and designed, as well as coordination with the NYSDEC. Site work included: surface water/ sediment controls; endangered species controls and monitoring; dust and chemical air monitoring; contaminated soil excavation and disposal; backfill material chemical sampling, installation, compaction, and geotechnical testing; and tank removal, disposal, and closeout in accordance with NYS PBS permitting and NY Spills closure requirements.
- **Construction Oversight and Management, Soil Excavation and Off-Site Disposal, Long Island Railroad (LIRR), New York.** Construction oversight and management in support of metals-contaminated soil excavation and off- site disposal. Project was completed as part of a NYS Voluntary Cleanup Agreement. Site work included: surface water/sediment controls; dust and chemical air monitoring; contaminated soil excavation and disposal; fill material chemical and geotechnical sampling; and Underground Injection Control closeout of cesspools, septic systems, and drywells, in accordance with USEPA requirements.
- **Construction Oversight and Management, Soil Excavation and Off-Site Disposal, NYSDEC Bouchard Junkyard Site, New Lebanon, New York.** Construction oversight and management of PCB-contaminated soil excavation and off- site disposal. The Site was located adjacent to a Federal and State wetland. The project involved the characterization and disposal of over 44,000 cubic yards of soil and wetland sediment contaminated with hazardous and non-hazardous level of PCB's, including site and wetland restoration. Site work included: surface water/sediment controls; dust and chemical air monitoring; contaminated soil excavation and disposal; and fill material chemical and geotechnical sampling.
- **Construction Monitoring and Inspection, Sub-Slab Gas Vapor Barrier & Depressurization Systems, New York City School Construction Authority, PS48Q & PS3Q, Queens, New York.** Third-party inspection and oversight of environmental systems and components at several existing and new NYC public schools. Work involved multiple detailed inspections of contractor-installed sub-slab gas vapor barrier and depressurization systems to ensure compliance with regulatory, contract and client requirements, and preparation of detailed field activity reports to document findings.
- **B204 Remedial Action, Port Authority of NY & NJ, Jamaica, New York.** Oversight of fuel-oil contaminated soil remediation, including excavation and in situ biological degradation. Work was conducted as part of a property redevelopment at JFK Airport. Responsibilities included meetings with the client and property developer, oversight of excavation, endpoint sampling, and application of sulfate salts to facilitate aerobic biological oxidation of residual fuel oils at the groundwater interface. Upon completion of the work, field GPS assessment of the excavation extents was completed, and a final remediation report was issued to the client and regulatory agency.
- **Solid Waste Management Unit Decontamination, International Business Machines, East Fishkill, New York.** Field project engineer responsible for overseeing the decommissioning and cleaning of 50+ solid waste management units, within five months. The work included scoping and management of the entire field project, coordination with and scheduling of cleaning subcontractor, leading team project meetings with various client representatives and subcontractor, and rinse sampling the cleaned units. Upon completion, a final report with certifications was submitted to the NYSDEC to document the closure of the units.

- **Demolition and Hazardous Materials Abatement Design, New York State Department of Parks, Recreation and Historic Preservation, Kings Park Psychiatric Center, New York.** Project engineer for the design of demolition and hazardous materials abatement of 13 buildings at the former Kings Park Psychiatric Center. Project involved the on-site assessment of 13 structures/buildings, extensive review of as-built and historical files for the property to determine special requirements for the demolition, assistance with hazardous material survey and sampling, oversight of field work to assess former steam tunnels construction, oversight of core drilling of building foundations/walls to determine if asbestos containing materials were present, and preparation of detailed contract specifications and drawings to support bidding of the abatement and demolition work.
- **Remedial Technology Assessment and Selection, Brookhaven National Laboratory, Upton, New York.** Remedial technology assessment for a closed trap and skeet range. Historic usage resulted in ~2,100 pounds of lead deposited on the surface of the range, annually. The assessment reviewed excavation, soil washing, stabilization and chemical extraction. Technologies were evaluated based on their ability to meet NYSDEC requirements. The most protective and cost effective option utilized a combined approach of in situ stabilization of hazardous areas, followed by excavation and off-site disposal.
- **Groundwater & Soil Vapor Extraction Treatment Systems Operation, Maintenance and Monitoring (OM&M), Various Clients.** Management and engineering quality control support related to OM&M of groundwater (40 gpm to 2,500 gpm) and soil vapor extraction systems. Groundwater systems utilized air stripping (VOCs) or advanced oxidation (1,4-dioxane) for groundwater and vapor phase granular activated carbon (some with steam regenerative solvent recovery) or potassium permanganate zeolite for air treatment. Work included response for alarms and troubleshooting, summary reports for identified O&M issues, field digital data collection, and SCADA programming with automatic data congregation, management, and output reporting. Quarterly and annual reports were also prepared and submitted.
- **Operation, Maintenance and Monitoring, Groundwater Extraction and Treatment, NYSDEC Franklin Cleaners Site, Hempstead, NY & Active Industrial Uniform Site, Lindenhurst, New York.** Project engineer responsible for operation, monitoring and maintenance of the groundwater pump and treatment system at two NYSDEC Class 2 Inactive Hazardous Waste Site. Initially, Mr. Martorano was responsible for performance monitoring activities at the site which included weekly system monitoring, bi-weekly sampling of influent and effluent water and air streams, and scheduling and oversight of subcontractor maintenance activities. Reports summarizing all chemical analysis, groundwater monitoring trends, system performance and maintenance activities, as well as recommendations to improve the overall treatment system performance, were completed and submitted to the NYSDEC on a quarterly schedule. Additional work completed in support of the Franklin Cleaners Site included the preparation of the Final Remediation Report for the on-site soil vapor extraction/air sparge system and remedial construction oversight for the installation of an on-site sub-slab depressurization system. Reporting deliverable included a Site Management Plan and Periodic Review Report, in accordance with NYSDEC DER-10.
- **Construction Oversight, Sub-Slab Depressurization, NYSDEC 34th Avenue/62nd Street Plume Site, Jackson Heights, New York.** Project field engineer responsible for the installation of an active sub-slab depressurization system at the NYSDEC 34th Avenue/62nd Street Plume Site. Work involved oversight of the system installation, review of contractor's submittals and final review and approval of the work.
- **Site Closure Reporting, National Grid, Glenwood Landing, New York.** Project engineer for the preparation of site closure reports for the remediation of a former manufactured gas plant site in Glenwood Landing, NY. Reports included a Final Engineering Report and Site Management Plan in accordance with NYSDEC DER-10. Also assisted with the preparation of the Environmental Easement for the property, to maintain the existing use, restrict future soil excavation activities at the site and minimize exposure to contaminated soil remaining on-site below soil and clay caps.

PROFESSIONAL TRAININGS

40-Hour Health and Safety Training for Hazardous Waste Sites (29 CFR 1910.120(e))

8-Hour Refresher for Hazardous Waste Operations Training (29 CFR 1910.120)

10-Hour OSHA Construction

Confined Space Entry Training (29 CFR 1910.146)

Asbestos Awareness Training