

Mr. D'Agostino is a registered professional civil and geotechnical engineer with over 42 years experience in engineering, project management, logistics, and operations in the consulting industry. His global experience encompasses geotechnical, environmental, construction and civil engineering for the general building, environmental, industrial, commercial, transportation, manufacturing and energy industries. He provides exploration, testing, analysis, design, consultation, construction management, and forensic studies for transportation, infrastructure, structural, and environmental systems. His extensive experience is in providing technically and economically feasible foundation, pavement, underground structure, and embankment design parameters based on clear understanding of structure performance and serviceability requirements, while factoring client risk tolerance and budget.

He has managed subsurface investigations and performed foundation settlement and stability analyses for a variety of structures, including wastewater and water treatment plants, pipeline installations, pumping stations, resource recovery facilities, high-rise office buildings, sinkhole investigations, dams, riverbank erosion controls, river and lagoon dredging, landfills, pavement design for roadways and airport runways, and hazardous waste sites. He has also designed support systems for excavations that include structural slurry walls, soldier piles and lagging, secant pile walls, steel sheet piling and has evaluated soil improvement programs. During construction, he prepared detailed drawing and specifications, provided bidding assistance, shop drawing reviews, and resident inspection.

EDUCATION

Bachelor of Science in Civil Engineering, Clarkson University, Potsdam, New York, 1972

MS in Geotechnical Engineering, Northeastern University, Boston, Massachusetts, 1982

REGISTRATIONS

Professional Engineer #25389, State of South Carolina

Geotechnical Engineer #255, State of California

Professional Engineer #39049, State of California

Professional Engineer #PE031890, State of Georgia

Professional Engineer #032387, State of North Carolina

Professional Engineer #018.0008868, State of Vermont

Professional Engineer #060670, State of New York

Professional Engineer #PEN.001546, State of Connecticut

Professional Engineer #11598, State of New Hampshire

Professional Engineer #28621, Commonwealth of Massachusetts

Professional Engineer #8476, State of Rhode Island

MEMBERSHIPS

Member, American Society of Civil Engineers

PROJECT EXPERIENCE

Asbestos Management

South Bank Superfund Site, Asbestos Containment Design, Nashua, New Hampshire

Project Engineer for the in-place contaminant of an asbestos site along the south bank of the Nashua River. Prepared detailed plans and specifications for the in-place encapsulation of the asbestos disposed of along the slopes of the river and included the regarding of the slope to satisfy stability requirements and installation of gabion walls and revetment mattresses. Provided advice part time during construction.

Nicholas C. D'Agostino PE

Commercial and Industrial Clients

Dams & Levees

North Anna Nuclear Power Station, Embankment Slope Stability Evaluation, Mineral, Virginia

Performed slope stability analyses for the earth embankment dikes for the Service Water Reservoir for various water level and seismic conditions. Evaluated settlement of intake structure and prepared recommendations for repairs.

Cape Pond Reservoir Expansion, Dam Siting Study/Design, Rockport, Massachusetts

Developed a subsurface investigation program, laboratory testing program, and subsurface profiles for the expansion of the storage capacity. Project involved construction of three earth embankments ranging in length from 275 feet to 1,000 feet to raise the reservoir level 20 feet. Supervised a geophysical seismic survey, the drilling of test borings with rock coring, in-situ testing, and mapping of bedrock outcrops. Prepared final design drawings and detailed cost estimate for construction bid comparison.

Mead Reservoir Dam, Phase II Dam Safety Evaluation/Design, and Reconstruction, Plattsburgh, New York

Managed the installation of monitoring wells and piezometers, and obtained soil information to evaluate the seepage and slope stability of a 100-foot-high earth embankment dam. Performed design analysis for modifications to the embankment slope to meet safety criteria. Prepared plans and specifications for the slope flattening, which also included the installation of a toe drain to control seepage flow through the embankment of 0.5 mgd

Holden Reservoir No. 2, Phase II Dam Safety Investigation/ Design and Reconstruction, Worcester and Holden, Massachusetts

Managed subsurface investigation and laboratory testing program, prepared soil profiles, and evaluated high seepage flow and stability of the embankment dam. Analyzed embankment slope stability and concrete spillway weir gravity section stability. Determined site seismicity, conducted liquefaction analyses, performed deformation analyses of the embankment, and assessed post earthquake stability. Performed design analysis for revisions of the embankment to meet safety requirements. Developed final design documents and detailed cost estimates for raising the dam, flattening the downstream slope and rebuilding the spillway. Provided resident inspection and support services during construction.

Lynde Brook Reservoir Dam, Phase II Dam Safety Investigation/Evaluation, Worcester and Leicester, Massachusetts

Performed subsurface and laboratory testing programs and seepage and stability analysis for the raising of the dam and dike to prevent overtopping during the design flood. Prepared a report outlining the results of the investigations and recommendations for the dam raising. Evaluated subsurface conditions for the construction of a new intake structure within the reservoir and the reconstruction of the main spillway. Design included installation of a toe drain to control seepage through the embankment. Prepared geotechnical recommendations for the structural design of the intake and spillway modifications.

Montclair Country Club, Phase II Dam Evaluation, Dumfries, Virginia

Conducted a Phase II dam investigation for an earth embankment dam, 650 feet long and 75 feet high for a housing development/country club. Prepared subsurface investigation and laboratory testing for the dam that was constructed utilizing residual soil. Performed seepage and stability analyses and evaluated the condition of the existing siphon spillway and earth emergency spillway. Prepared operations and maintenance plan, emergency preparedness plan, and report recommending repairs to the dam.

Dam Seepage Repair, Enfield, Connecticut

Analyzed seepage through the abutment walls of this masonry dam for the town of Enfield. Designed and provided construction oversight of a grouting program to seal the leakage.

US Army Corps of Engineers, Phase I Dam Safety Inspections, New England and New York Districts

Completed Phase I inspections and reports as part of the National Dam Safety Program of over 20 non-federal dams in Massachusetts, New York, and Connecticut.

Perry Pond Dam, Phase I Dam Inspection, Gill, Massachusetts

Performed a Phase I Dam Inspection following the requirements of the Commonwealth of Massachusetts Department of Conservation and Recreation Office of Dam Safety Inspection/Evaluation Report template and Dam Safety Regulations per 302CMR10.00 for this small, low hazard earth embankment dam.

* denotes projects completed with other firms

Nicholas C. D'Agostino PE

Commercial and Industrial Clients

Dam Emergency Action Plans, Burrillville, Rhode Island

Project manager for fourteen (14) Emergency Action Plans (EAP) performed on significant and high hazard dams in the Town of Burrillville, RI that varied in size and configuration. Completed a State of RI EAP report template utilizing inundation maps for each of the dams. Each EAP provided a discussion on Emergency Detection, Evaluation, and Classification; Preparedness; Dam Failure; Possible Emergency Conditions; and Preventative Actions to be taken.

Mill Pond Dam, Feasibility Study for Low Head Hydroelectric Power, Burrillville, Rhode Island

Performed a feasibility study for converting an existing non-powered dam to provide power to meet the energy needs for four town owned buildings. The dam has a hydraulic height of 19 feet and is a run of the river facility. The existing outlet works would be used to transmit flow to a new power house that can generate up to 100 kilowatts with 13 feet of net head with a Kaplan turbine located adjacent to the spillway discharge channel. Evaluated the hydrology of the watershed and hydraulics of the outlet works to develop flow duration curves for estimating the hydro power capacity of the proposed facility. Power connection options were evaluated and a net-metering connection was established. Identified items for capital investment to construct the facility and determined the economic pay-back period for the facility.

Harrisville Mill Pond Dam, Phase I Dam Inspection/Design/Construction Management, Burrillville, Rhode Island

Performed Phase I Dam Safety Inspection including historic research and cost estimates. Meet with town officials to discuss findings, prioritize repairs and determine budget for future repairs. Deficiencies included 50 feet high trees on earth embankment, soil erosion, inoperable outlet works, and deteriorated spillway. Performed detailed design for reconstruction of the dam, outlet works, and spillway approach channel. Prepared contract documents (plans, specifications, and cost estimate). Assisted town in evaluating bids submitted and award of the project. During construction provided engineering services which included weekly site visits, shop drawing review, responded to requests for information to clarify issues with the contractor, processed contractor change order and monthly payment requests, developed a punch list of outstanding items and performed project closeout.

Levee Safety Periodic Inspection, Arkansas & Missouri

Team Lead for performing levee safety periodic inspection (PI) to verify proper operation and maintenance, evaluate operational adequacy and structural stability, review design criteria to validate current design standards are met, identify features to monitor over time, and improve communication of the overall system condition. Participated in a workshop sponsored by the Corps detailing procedures for recording observations as part of the PI process which included preparation of a project plan, data collection, design criteria review, pre inspection packet preparation, field inspection, and preparation of the PI report. Performed inspection of nine levee systems totaling over 90 miles of flood walls and earthen levee in western Arkansas which included both urban and agricultural levees.

Environmental Assessments

Raytheon Site Assessment/Groundwater Treatment System, Goleta, California

Project manager for the preparation of a comprehensive site assessment that included the preparation of detailed work, health and safety, quality assurance, and sampling and analysis plans. A detailed soil-gas survey was performed to define the optimum location for the drilling of borings at the site. Raytheon installed 17 groundwater monitoring wells and soil ground water samples for analytical analysis to define the extent of contamination at the site. Prepared report detailing the results of the investigation with recommendations for remediation to include air sparging/vapor extraction. Based upon the results of the report, supervised the design of a groundwater and soil vapor extraction well and treatment system.

* denotes projects completed with other firms

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Commercial and Industrial Clients

System for the Vigilance of the Amazon, Brazil

Project manager for the preparation of an environmental assessment report that evaluated the short-term and long-term environmental and socioeconomic impacts of the SIVAM program on the rain forest in Brazil. The environmental assessment was prepared in support of an application by Brazil to the United States Export-Import Bank for financing of SIVAM. The program involves the implementation of the infrastructure required to monitor the uncontrolled burning and deforestation, mineral exploration, biological destruction, and pollution of the Amazon and includes the installation of fixed-based/mobile radar, remote environmental sensors, and telecommunication systems. The environmental assessment included discussions on the impact of construction, operations, and maintenance and the indirect effects on air quality, water resources, and ecology. The socioeconomic assessment addressed social and economic land use and land use impacts. Mitigative measures were presented to minimize the impacts.

General Motors Landfill Remediation Feasibility Study, Framingham, Massachusetts

Project manager of an environmental site assessment for an industrial client for a closed automobile assembly plant. Managed the preparation of health and safety, sampling and analysis, and quality assurance project plans; sampling and analytical analysis for a landfill and former industrial treatment settling lagoon; drilling and sampling of soil borings; installation and sampling of groundwater monitoring wells; conducting of soil-gas and geophysical surveys, an asbestos survey, a PCB survey to verify the status of transformers and capacitors, and a roof survey to determine the extent of contamination with heavy metals; evaluation of the condition of all above-ground tanks; review of regulatory status; hydrogeologic evaluation of the site; and preparation of site investigation and remedial assessment reports.

Environmental Site Remediation

Raytheon Closure for RCRA Permitted Units, Goleta, California

Project manager for the preparation of a closure plan for three RCRA Part B permitted units at the facility to allow for the termination of the permit. The three units include a previously removed underground storage tank, an industrial wastewater treatment facility, and a chemical storage facility. The treatment facility will continue operations under a Tier 3 Permit by Rule permit, which allows for the elimination of a Part B permit for this unit and a change from a TSDF to generator status to allow for the closure of the existing chemical storage area. The plan included detailed descriptions of the units, facility description, closure procedures, closure schedules, closure cost estimate, contingent closure and post-closure plans, and cost estimates. Performed investigation to determine extent of contamination and remedial measures required for closure. Provided construction oversight of facility demolition. Prepared final report for close-out of the site.

Holton Circle Superfund Site, Londonderry, New Hampshire

Project manager for an RI/FS at residential area where domestic water supply wells were affected by an undefined source of contamination. Supervised the preparation of work plans, health and safety plans, quality assurance and field sampling plans, field investigation program (downhole and surficial geophysics, drilling of borings, installation of overburden and bedrock monitoring wells, analytical sampling of soil and groundwater), preparation of remedial investigation report (data validation, data evaluation, nature and extent of contamination, public health and environmental risk assessments), and preparation of feasibility study report (remedial alternatives development screening and detailed analysis of alternatives with cost estimates).

MTA Storage Lagoon, Croton on Hudson, New York

Prepared final design drawings and specifications for a storage lagoon that contained diesel oil, cleaning solvents, and PCB-contaminated water. Designed liner and underdrainage systems and embankments for a three-million-gallon capacity storage lagoon. Performed cost comparison for various liner materials, including high density polyethylene, clay, and soil bentonite.

* denotes projects completed with other firms

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Commercial and Industrial Clients

Benjamin Moore & Company, Underground Storage Tank Remediation, Milford, Massachusetts
Prepared contract specifications and drawings and provided construction oversight for the partial excavation of a source area of volatile and semi-volatile chlorinated compounds and off site disposal of the excavated soils at an asphalt batching plant. Utilized an oxygen reducing compound (ORC) to bioremediate the remnant contaminants that remained.

Hudson River PCB Remnant Sites/NYSDEC Construction Management Remedial Design, Fort Edward, New York
Project Manager for the removal of PCBs at four remnant sites along the banks of the Hudson River. Supervised preparation of health and safety plan, work plan, quality assurance procedures plan, and remedial investigation at each site. Managed design of permanent cap over the sites and riprap slope protection to prevent riverbank erosion and transport of PCBs from the sites, preparation of contract plans and specifications, detailed cost estimate, resident inspection during construction, and development of public participation program.

Geotechnical Analyses

New Academic Classroom Building, Construction of Utility Corridor, University of Massachusetts Amherst, Amherst, Massachusetts
As Geotechnical Engineer responsibilities included the evaluation of subsurface conditions and design input for the construction of a new utility corridor including a 10 x10 ft. cast-in-place concrete box culvert to house steam and condensate return piping along with storm drains, sanitary, and gas pipelines. The new utility corridor runs over the top of the Campus Pond Dike and required reconstruction of the dike and outlet works. A temporary diversion pipeline was designed to allow for the construction of a new outlet structure for the pond. The pond level was maintained at its normal levels due to the use of a Portadam.

Rehoboth Natural Gas Transmission Pipeline Compressor Station, Spectra Energy Transmission, LLC, Rehoboth, Massachusetts
Geotechnical Engineer for a subsurface exploration program of a natural gas transmission pipeline compressor station to assess surficial and subsurface conditions at the site to provide geotechnical engineering recommendations for the design and construction of the station located in Rehoboth, Massachusetts. A total of 46 test borings were drilled for the design of the compressor station buildings, access road, storm water infiltration basin drainage areas, and connecting pipelines to and from the main gas pipeline corridors. The compressor station recommendations included: building area preparation, foundations, seismic considerations, dynamic soil properties for the design of rotating machinery, foundation walls, lateral earth pressure, under-drainage, structural fill, placement and compaction, access road pavement section, and parameters for the design of storm water infiltration basins.

Proposed Roosevelt Elementary School, Bridgeport, Connecticut
Geotechnical Engineer for the construction of a new elementary school. The subsurface exploration program consisted of drilling 13 soil borings within the proposed building footprint to estimate the engineering characteristics of the proposed foundation bearing and subgrade materials; provide geotechnical criteria for use by the design engineers in preparing the foundation and floor slab, and pavement; and provide recommendations for required earthwork and subgrade preparation.

CREC Medical Professions and Teacher Preparation Magnet School, New Britain, Connecticut
Geotechnical Engineer of the subsurface exploration for the design and construction of a three story school building and encompassing roughly 2 acres in area (640 feet by 120 feet). The site is located within the former Pinnacle Heights Garden Apartments complex and the building was within the footprint of a number of the former structures. A total of 23 borings were drilled to provide information for the preparation of a Geotechnical Engineering Report that contained recommendations for foundations, groundwater control, foundation under drains and waterproofing, fill placement of up to 20 feet for construction of athletic fields, and pavement design. Provided engineering services during construction and attended several construction progress meetings to respond to issues that arose during excavation and backfilling.

* denotes projects completed with other firms

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Commercial and Industrial Clients

Warren Harding High School, Bridgeport, Connecticut

Geotechnical Engineer for a subsurface investigation of a former General Electric manufacturing facility at which the former buildings were removed and the site remediated to remove contamination. A total of nine borings were drilled for the structural design of the 3-story school with a 64,000 sq. ft. footprint was drilled and 17 borings were drilled for the ancillary facilities (roads, retaining walls, athletic fields and grandstands). Prepared a Geotechnical Engineering Report for the development of the property.

Campus Pond Dike Structural Stability Evaluation, University of Massachusetts Amherst, Amherst, Massachusetts

A subsurface investigation program consisting of six borings and the installation of four groundwater observation wells was performed to define the makeup of the Campus Pond Dike. A laboratory testing program was performed to define engineering properties for input into a slope stability evaluation to determine the stability of the dike under current conditions and stability of the dike during the construction of a proposed stream culvert along the upstream toe of the dike. A Geotechnical report was prepared summarizing the findings and provided recommendations for the installation of the utilities.

Central Campus Infrastructure Study, University of Massachusetts Amherst, Amherst, Massachusetts

As part of Stantec's House Doctor Contract, as Geotechnical Engineer, performed a subsurface investigation along the Student Union Service Walk in a paved roadway between Thompsom and Machmer Halls and DuBois Library. A total of six borings were drilled to depths of up to 40 feet along the proposed sanitary sewer pipeline route to define subsurface conditions. A technical memorandum was prepared summarizing the findings and providing excavation support alternatives for the pipeline installation for excavation depths of up to 30 feet.

Geotechnical Engineering

PECO, Center Point Substation, Worcester, Pennsylvania

Performed geotechnical subsurface investigation, testing, analysis and recommendations for a new substation project. Analysis and reporting included subsurface conditions, foundation recommendations including shallow foundations, mat foundations and drilled shafts, and design parameters. An intermittent stream and wetlands divided the site. Performed detailed design (plans and specifications) for four retaining walls that totaled 2,100 feet long and up to 20 feet high Stone Strong modular block retaining wall to provide a building pad for the substation equipment. Developed grading plans for the substation area and storm water detention basins. Designed a precast concrete double arch bridge (two 25 foot arches) over the intermittent stream with wing walls connected to the retaining walls at the north end of the substation for vehicle access from one side of the substation to the other.

Roadway Rehabilitation, Salem, New Hampshire

Provided senior geotechnical review for a geotechnical study of four asphalt pavement roadways with a total length of approximately 4 miles. The roadways were more than 20 years old and had been patched and repaired numerous times in the past. The pavement surface was severely cracked, uneven and rutted along the majority of the roadways. A subsurface investigation program consisting of 13 test borings and 31 ledge probes was conducted to evaluate the pavement and base course soils. A geotechnical engineering report was prepared which contained recommendations including full depth reconstruction and reclaiming the asphalt surface.

Cooleyville Road over Swift River, Wendell, Massachusetts

Project Manager and senior reviewer for a geotechnical study for the replacement of a single span bridge over the Swift River. Prepared a geotechnical engineering report using the AASHTO LRFD code and the MassDOT LRFD Bridge Design Manual for the bridge replacement. The existing bridge will be replaced with a three-sided concrete box culvert. Recommendations included bearing capacity, settlement and sliding resistance for bridge abutments and wing walls.

Nicholas C. D'Agostino PE

Commercial and Industrial Clients

NH Route 125*, Plaistow/Kingston, New Hampshire

Review of a geotechnical study for the widening of approximately 2 miles of highway and associated retaining structures, culverts and traffic signal foundations. Analyzed subsurface information obtained from test borings and developed geotechnical engineering recommendations for proposed construction. Recommendations included extra sand for roadway base courses, underdrain locations, rock cut slope design, soil cut slope design, fill slope design, bearing capacity of soils, grade separation structures, rock removal limits and muck removal limits.

Railroad Bridge 501 over the White River, Hartford, Vermont

Provided senior geotechnical review of geotechnical recommendations for a railroad bridge severely damaged by Hurricane Irene. One of the piers located in the river was undermined by scour and settled approximately 5 feet. Geotechnical aspects of the project included providing recommendations for the design and construction of two temporary pile bents to support the bridge structure. Due to time constraints recommendations were based on limited subsurface information and design modifications were made as the construction progressed. Once the temporary bents were in place and rail traffic resumed, final geotechnical recommendations for permanent drill shafts foundation were provided. Recommendations were based on the AREMA code.

Gallison Hill Road Culvert Replacement, Montpelier, Vermont

Senior geotechnical review of a geotechnical study of the replacement of a 9 foot diameter steel culvert that was destroyed by a flood in spring 2011. Conducted a subsurface exploration program consisting of two test borings to evaluate the subsurface conditions in the area of the new culvert. Prepared an engineering report with geotechnical design recommendations for a three-sided concrete box culvert.

Grimes Mill Road, Caribou, Maine

Performed senior review of a geotechnical study and providing remedial repair options of a failed slope along a rural roadway. The slope failure area was approximately 150 feet long and 40 feet high. The slope failed as a result of heavy precipitation during a 2010 storm event. The failure created an approximately 4 foot high vertical scarp along the roadway. Recommendations included regrading of slope and riprap slope protection or soil nail slope stabilization.

Hamant Brook Restoration Culvert Design, Sturbridge, Massachusetts

Project Geotechnical Engineer for design of a replacement culvert as part of a dam removal for American Rivers. The existing box culvert is 6 feet by 7 feet and is approximately 100 feet in length to transmit flow from Hamant Brook beneath Old Sturbridge Village Road. After the removal of three upstream dams, the existing culvert will not be adequate to transmit flood flows. Performed a subsurface investigation program and prepared a geotechnical report for the design of the foundations of the replacement culvert. Prepared a technical memorandum comparing various culvert options which included precast concrete, aluminum plate and a replacement bridge. Designed a three sided precast concrete culvert utilizing Contech's Express Precast Foundation system developed from the Accelerated Bridge Construction program. The proposed culvert will be .32 feet in width, 70 feet in length with a rise above the stream bed of 12 feet. The upstream and downstream sides of the proposed culvert will be protected with 26 feet long wing walls. Developed detailed drawings and specifications forbidding.

MassDOT Route 20 Bridge Replacement, Becket, Massachusetts

Bridge B-3-30 failed as a result of Hurricane Irene. Performed subsurface investigation for the replacement of bridge B-3-30 which involved the drilling of two borings, and preparation of a geotechnical engineering report with recommendations for bridge replacement utilized a precast concrete bridge culvert section 24 feet wide and 45 feet long.

Vermont Route 140, Middletown Springs, Vermont

Project Manager responsible for a geotechnical study and remedial repair design for a failed slope along a two lane rural highway. The slope failure area was approximately 200 feet long and 25 feet high. The slope failed as a result of heavy precipitation during Hurricane Irene. The failure created an approximately 8 foot high vertical scarp along the edge of the roadway. Options for repairs included regrading, drainage trench along the top of slope and riprap lining of slope and launched soil nails. Design documents included drawings and technical specifications for the repairs.

* denotes projects completed with other firms

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Commercial and Industrial Clients

New Academic Classroom Building, Foundation Investigation and Design, University of Massachusetts Amherst, Amherst, Massachusetts
Geotechnical Engineer responsible for subsurface investigation of a five-story structure with a 40,000 SF footprint located at the center of the campus. A total of 32 soil borings were drilled to depths varying between 15' to 56' and excavation depths varied between 10' to 27'. A pre-drilled soldier pile and lagging temporary excavation support system was required during construction due to the vibration sensitive experiments that took place in the adjacent building. Specifications were prepared for foundation wall and under-slab drainage systems and waterproofing along with specifications which limited disturbance of the underlying clay. A geotechnical instrumentation specification was prepared to limit vibration at the adjacent Hasbrouck Physics Lab. Detailed drawings were prepared for the excavation support system, vibration monitoring during construction, and pre and post construction structural surveys of adjacent buildings. Due to limited space, the soil to be excavated was pre-characterized for load and haul disposal of the excavated soil (64,000 tons). The design incorporated LEED components which included rain gardens and rainwater harvesting underground storage tank. Stantec geotechnical engineers provided part time inspection and engineering services during construction responding to geotechnical related issues as construction progressed.

Newton Substation, Long Island, New York
Performed a detailed geotechnical evaluation of a one-acre site that had a 40,000SF electrical substation structure built on the site of a former trucking company that had underground gasoline storage tanks that had contaminated soil and groundwater. A total of 38 borings were advanced to depths of 120 feet that included the coring of up to 20 feet of bedrock at each location. A foundation feasibility matrix was prepared that evaluated ease of installation, risk, cost, availability, and installation time that was used by the client (Con Edison) to select the optimum support system to meet an aggressive construction schedule. Stantec also evaluated perimeter excavation support systems due to excavations that were 20 feet below street level on three sides and a warehouse structure on the other. Recommendations were made for foundation support (H-piles) and perimeter support (soldier piles and lagging). Due to gasoline contaminated groundwater, Stantec designed a passive groundwater treatment system (gate and funnel) and utilized an impermeable barrier (Waterloo sheeting) and a treatment cassette. The sheeting was installed to a clay layer at a depth of 45 feet. Stantec prepared detailed design drawings and specifications, performed bid evaluation and recommendation. For award. During construction Stantec had a geotechnical engineer on site full time to monitor the installation of the sheeting and temporary cassion (10 feet diameter) to support the installation of the treatment cassette that had two carbon chambers to treat the contaminated groundwater. As eng

Rite Aid Drug Store, Southington, Connecticut
Project manager for a subsurface investigation and prepared a detailed geotechnical engineering report for a proposed 14,500SF store that was constructed within the footprint of an existing auto dealership structure. The Site is located within the Connecticut Valley Varved Clay (CVVC) combined with loose sand that caused severe settlement of the existing building and parking lot pavement and light poles. A supplemental geotechnical investigation was performed utilizing a Cone penetrometer drill rig to confirm/deny the liquefaction potential of the site. Based upon the results a geopier foundation support system was recommended to support the building. Stantec performed a preconstruction structural survey of adjacent buildings and vibration monitoring during the geopier construction. Stantec also provided periodic inspection/evaluation of backfilling operations and retaining wall construction. Project Value 27,500.

* denotes projects completed with other firms

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Commercial and Industrial Clients

Mount Wachusett Community College Wind Power, Gardner, Massachusetts

Project manager for a subsurface investigation which included coring of bedrock for the siting of two 185 feet high wind turbine monopole towers. Nine borings were drilled at three locations and detailed geotechnical recommendations were provided for the foundation support system for the towers that included dynamic loadings from the turbine operation. Project cost \$12,850.

Retail Development, Sturbridge, Massachusetts

Evaluated a 34 acre site for a potential retail development, supervised the drilling of seven soil borings as part of the initial site investigation to determine the feasibility/costs for site development. Evaluated the subsurface data, developed a site plan, and made recommendations for site development and building design.

Northampton Co-operative Bank Geotechnical Evaluation, Florence, Massachusetts

Investigated a former service station site for construction of a retail building and bank. Supervised the installation of 8 soil borings, evaluated the data, and provided recommendations for the structural design of the buildings. Prepared a letter report detailing the findings and recommendations.

Dalstrom Property Geotechnical Evaluation, Holliston, Massachusetts

Performed downhole hydraulic conductivity testing in a groundwater observation well to determine in-situ soil permeability for use in the design of a stormwater infiltration basin. Prepared a report detailing the findings and provided recommendations for submittal to the Holliston Board of Health.

Walgreens Geotechnical Evaluation, East Longmeadow, Massachusetts

Performed a subsurface investigation at the location a former bank building. Performed 8 soil rings both within the former building footprint and in adjacent area. Evaluated the data and prepared recommendations in a letter report.

Walgreens Geotechnical Evaluation, Lawrence, Massachusetts

Evaluated a 3 acre site for subsurface conditions which include the drilling of 13 borings and 10 Geoprobe holes for the redevelopment of an existing residential/commercial site. Prepared a letter report detailing subsurface conditions and provided recommendations for foundation design (seismic, allowable bearing pressure, lateral earth pressure, design groundwater, etc).

New England Transrail, LLC, Wilmington, Massachusetts

Project Engineer for design of a cap over a dense aqueous phase liquid containment area that had a slurry cutoff trench installed in 2000 to contain off-site movement of contaminants from the site. Designed a permanent cap with provisions to accommodate tenants' use of the 5 acre containment area for receiving via rail and distributing sand and gravel by truck. Prepared a Construction RAM document for submittal to the Massachusetts DEP to obtain approval of the proposed site modifications. Supervised the drilling of 12 soil borings for use in defining subsurface conditions at the location of a pre-engineered metal building which will house rail loading/unloading operation. Prepared geotechnical recommendations for the design of the building and subsurface chambers. Set elevations for maximum depths of excavations to eliminate the need for construction dewatering and handling/treatment of contaminated groundwater for the building and storm water detention basins.

Hannaford Supermarket, Kingston, New Hampshire

Project Manager for a geotechnical evaluation of the proposed store location. A subsurface investigation program was conducted in two phases and included the drilling of a total of 21 borings and the installation of eight groundwater monitoring wells. Several foundation support systems were considered for the proposed building based upon the structure location on the property, the presence of a loose uniformly graded fine sand deposit that is susceptible to liquefaction during an earthquake, and a high groundwater table. A hydrogeologic study for the design and construction of an on-site wastewater disposal system was also made. The study complied with local and state requirements requiring the installation of multi-level monitoring wells; determination of the cumulative impact nitrogen loading analysis; in-situ permeability testing; groundwater quality sampling and analysis; and preparation of water table contours and groundwater flow direction.

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Commercial and Industrial Clients

Lowe's Home Improvement Center, Tilton, New Hampshire

The Lowe's Home Improvement Warehouse site is located on a hillside with up to 28-feet of fill and an 850 feet long retaining wall constructed to bring the building pad and parking lot to finished grades. Subsurface conditions were determined through the drilling of 57 soil borings and the installation of five groundwater observation wells. The soil profile included forest mat underlain by a subsoil layer, and glacial till. A final Geotechnical Report presented the findings of the investigation along with conclusions and recommendations for foundation design and site development. During construction weekly site visits were made to observe earthmoving operations, building foundation and retaining wall installations. At the end of earthmoving operations, two certifications documenting that the building pad/limits and paved areas had been properly prepared to support the proposed construction in accordance with the requirements of the Geotechnical Report and project specifications were submitted.

Stage Neck Colony Association, York, Maine

Design and Construction monitoring/management of a rip rap slope retention system, approximately 340-feet long and 15-feet high, and associated drainage, to repair a failing slope supporting condominiums adjacent to York Harbor in Maine. Site included difficult soil conditions and access restrictions.

Private Residence Geotechnical Investigation, South Dartmouth, Massachusetts

Subsurface investigation program and geotechnical design recommendations for an 8,500 square feet residential building and associated retaining walls and driveway on a peninsula at Buzzards Bay, MA. The project consisted of the demolition of a water tower, 60-foot diameter radome, 4,500 square feet and 800 square feet residential structures. Jacques Whitford was able to save the client a considerable amount of project funds by recommending innovative reuse of on-site existing soils and fill.

Naval Submarine Base, New London, Connecticut

Slope evaluation and excavation support, including analysis and design of soldier pile and lagging and sheet pile systems, for the construction of a Crane Maintenance Facility adjacent to existing railroad tracks and the Thames River.

Rite Aid Pharmacies - Geotechnical Investigations

Geotechnical subsurface exploration and analysis, soils testing, foundation and pavement design recommendations, and ground improvement for 14 stores located in Connecticut, Vermont, New Hampshire, and Rhode Island. Many sites included evaluation of difficult soil conditions such as soft compressible clays and unconsolidated fill. Provided engineering services during construction at locations in Connecticut and Rhode Island.

McDonalds Restaurants - Geotechnical Investigations

Project manager for geotechnical subsurface exploration and analysis, soils testing, foundation and pavement design recommendations, and report for three restaurant rebuilds in Massachusetts and Maine.

PECO Heaton Substation, Willow Grove, Pennsylvania

Performed geotechnical subsurface investigation, testing, analysis and recommendations for a substation expansion project. Analysis and reporting included subsurface conditions, foundation recommendations including shallow foundations, mat foundations and drilled shafts, and design parameters.

PECO Newlinville Substation, Coatesville, Pennsylvania

Performed geotechnical subsurface investigation, testing, analysis and recommendations for a substation expansion project. Analysis and reporting included subsurface conditions, foundation recommendations including shallow foundations, mat foundations and drilled shafts, and design parameters. Performed detailed design (plans and specifications) for a 400 feet long by 20 feet high versa-lok retaining wall to provide a building pad for the substation equipment. Developed grading plans for the expansion area and stormwater detention basins which due to limited space included gabion retaining walls.

Nicholas C. D'Agostino PE

Commercial and Industrial Clients

Harrisville Mill Pond Dam, Burrillville, Rhode Island
Performed Phase I Dam Safety Inspection including historic research and cost estimates. Meet with town officials to discuss findings, prioritize repairs and determine budget for future repairs. Deficiencies included trees on earth embankment, soil erosion, inoperable outlet works, deteriorated spillway. Performed detailed design for reconstruction of the dam, outlet works, and spill-way approach channel. Prepared contract documents (plans, specifications, and cost estimate). Assisted town in evaluating bids submitted and award of the project. During construction engineering services will be provided.

Groundwater Monitoring and Reporting

Compressor Station, Rehoboth, Massachusetts
Project manager for a subsurface investigation program for the compressor station buildings, pipeline, access road, and storm water infiltration basins. A total of 18 soil borings were drilled to define subsurface conditions within the compressor station yard that encompasses 8.5 acres and includes the compressor building, six buildings, connector gas pipelines, an electrical transformer, a fuel gas heater, gas coolers, suction scrubbers, discharge silencers and a gravel paved access road. Foundation recommendations were provided, seismic consideration discussed, dynamic soil properties provided for the rotating machinery foundation design. In-situ borehole permeability tests were performed (slug test) as part of a hydrogeologic evaluation for the design of the stormwater infiltration basins. Project cost \$110,000..

Municipal Water Supply Monitoring, Wellesley, Massachusetts

Project Manager for project, for which ECS provided Groundwater Monitoring at the Town of Wellesley, Rosemary Valley Aquifer on a monthly basis sampling seven groundwater monitoring wells located within the impoundment and two municipal water supply wells. Monthly reports were prepared reporting the results.

Private Well and Town Garage Monitoring Well Sampling, Charlton, Massachusetts

Project Manager for regular monitoring of VOC concentrations in private drinking water supply wells within 500 feet of the area where subsurface investigation had delineated gasoline contamination attributable to the former underground storage tank (UST) at the Highway Garage (the disposal site). Eighteen private water supply wells were sampled quarterly for the Town of Charlton from contamination originating from the town garage and prepare post-RAO O&M status reports that are submitted to the DEP.

Groundwater Treatment

Fairfield Inn, New Bedford, Massachusetts
Project manager for a subsurface investigation for a proposed Fairfield Inn located at a site that had two warehouses and a historic train station. The investigation included the drilling of 15 soil borings and four groundwater monitoring well installations. A geotechnical report was prepared with foundation recommendations for support if the four story structure, recommendations for foundation preparation after removal of the demolished structures and recommendations for pavement design. Prepared earthwork specifications CSI. Contract value \$9,000..

Goose Farm Superfund Site, Ocean County, New Jersey

Project manager for EPA Region II review of PRP (Morton International) supplied remedial design of an unlined waste pit that contained rocket fuel propellant, which resulted in groundwater contamination. Oversaw predesign field investigations to provide information for groundwater remediation design. Provided technical review of design work plans for a slurry cutoff trench/wall, groundwater extraction well, and infiltration system to provide soil flushing and treatment of groundwater using air stripping and vapor phase carbon adsorption to remove VOCs. Reviewed detail design drawings and specifications submitted for constructability and completeness. Provided detailed technical review reports to EPA and interacted with the PRP and its consultant in resolving comments.

* denotes projects completed with other firms

Nicholas C. D'Agostino PE

Commercial and Industrial Clients

Raytheon Electronics System, Waltham, Massachusetts

Project manager for design and installation of a 200-gpm groundwater extraction well and treatment facility. The treatment process for groundwater contaminated with dissolved chlorinated organics (TCE, C-1, 2-Dichloroethylene) included air stripping and regenerable vapor phase carbon adsorption with effluent discharged to an infiltration gallery. Supervised completion of detailed engineering design, reviewed construction progress performed by the Owners staff and assisted with startup.

SmithKline Beecham Pharmaceuticals, Piscataway, New Jersey

Project manager for the design of a 60-gpm groundwater extraction well and treatment facility. Evaluated various groundwater treatment processes for groundwater contaminated with acetone, MIBK, and IPE. Design included groundwater hydraulic control collection using well and piping networks and substitution of treated groundwater for municipal water in noncontact manufacturing processes. Treatment of groundwater used such existing process equipment as tanks, steam stripper, and carbon beds and new equipment for metals precipitation and heated air stripping. Prepared detailed plans and specifications, including prepurchased specifications for equipment with long lead time, provided bidding evaluations and recommendations for award, and provided engineering services during construction and resident inspection of well installations.

Tube Holding Company, Stamford, Connecticut

Project manager for the design and construction of 40-gpm groundwater treatment facility using air stripping, liquid and vapor phase carbon adsorption, and pH adjustment. Performed value engineering for treatment process evaluations. Supervised completion of detailed engineering design, subcontractor procurement, and construction permitting. Provided inspection part-time during construction. Prepared O&M manual, performed system start-up, and first two years of operations.

Merck & Co. Inc., Merced, California

Project Manager for design and construction services for a 300-gpm groundwater control system consisting of groundwater pumping, treatment, and reinjection to remove heavy metals and hydrocarbon contamination. The treatment process included groundwater extraction wells; electrochemical treatment to remove hexavalent chromium, arsenic, and copper; liquid phase carbon adsorption for hydrocarbon removal; and injection wells. The facility was designed to meet RCRA requirements for secondary containment. Coordinated design with client's consultant in the preparation of permit submittals to regulatory agencies. Supervised the preparation of detailed drawings, contract specifications, construction cost estimates, and CEM schedules. Provided bidding assistance, resident inspection, and engineering services during construction and system start-up.

Raytheon Electronics Systems, Quincy, Massachusetts

Project manager for design and construction of groundwater and soil vapor extraction well and treatment system consisting of groundwater pumping, treatment, and discharge to the Town Brook storm culvert to remove chlorinated volatile organic compounds (TCE, PCE). Performed review of treatment technologies for the treatment process train. The treatment process selected included 21 groundwater extraction wells connected to two EconoPumps, shallow tray air stripper, and a 1000 scfm thermal oxidizer with a quench spray and scrubber unit. Assisted the Owner in obtaining regulatory approval and permits for the project. Supervised the preparation of detailed drawings, contract specifications, construction cost estimates, and CPM schedules. Prepared RAM and status reports for submittal to the MADEP. Issued bid packages and made awards for the procurement of major process equipment, pre-engineered building, well installations, and installation of the connecting underground piping between individual wells in each source area and the treatment building. Provided construction management services including resident, shop drawing reviews of submittals, invoice processing, engineering services during construction and system start-up. Submittals made to MADEP were in accordance with the requirements of the MCP. Coordinated submittals to the MADEP with the LSP of record for the site.

* denotes projects completed with other firms

Nicholas C. D'Agostino PE

Commercial and Industrial Clients

Military Infrastructure

DAPL Containment Area Capping, Wilmington, Massachusetts

Project manager for the closure design for a cap over a dense aqueous phase liquid containment area that had a slurry cutoff trench installed in 2000 to contain off-site movement of contaminants from the site. At the time the slurry wall was installed, a temporary cap had been installed. Designed a permanent cap in accordance with Massachusetts DEP's "Guidance on the Use, Design, Construction, and Monitoring of Engineered Barriers," with provisions to accommodate tenants use of the 5-acre containment area for receiving via rail and distributing sand and gravel by truck. Designed an asphalt cap with a high density polyethylene geomembrane and geogrid for subgrade reinforcement. Designed a structural mat to span the slurry trench which made minimal strength. Prepared 12 drawings and technical specifications for inclusion in bid documents. Estimated construction costs. Prepared a Construction RAM document which detailed the results of a comprehensive site assessment conducted at the site and also contained a Focused Feasibility Study which compared applicable alternatives and costs for submittal to the Massachusetts DEP to obtain approval of the proposed site modifications. Supervised the drilling of 12 soil borings for use in defining subsurface conditions at the location of a pre-engineered metal building which will house rail loading/unloading operation. Prepared geotechnical recommendations for the design of the building and subsurface chambers. Elevations were set for maximum depths of excavations to eliminate the need for construction dewatering and handling/treatment of contaminated groundwater for the building and storm water detention basins. Site has been transferred from state to federal jurisdiction and has been added to the Superfund Program in USEPA Region I as the Olin Superfund Site. Currently assisting New England Transrail in review of Administrative Consent Order and Scope of Work between EPA and Olin Corporation and assessing the impact on the redevelopment of the property.

Stop & Shop Company Lagoon Closure/Capping, Seymour, Connecticut

Project Manager for this Brownfields redevelopment of the former Seymour Specialty Wire facility in Seymour, Connecticut. This 32-acre industrial site was host to extensive industrial activity since the mid-1800s. The site contained 600,000 square feet of multistory buildings, many miles of process and utility piping, process equipment, an abandoned railroad trestle, numerous chemical process pits, residual waste materials, and two waste lagoons used for the dewatering of metal sludges. Environmental issues at the site include residual contamination and asbestos within site buildings, twelve above and underground storage tanks containing oils, chemicals, ammonia, and gasoline and oil, and heavy metal and chemical soil contamination. ECS completed an extensive, phased site assessment program under Connecticut regulations (Phase I, II, and III) which included characterization of residual contamination and asbestos in site buildings, and complete assessment of soil and ground water quality. Using data from these efforts a Remedial Management Plan (RMP) for the site was prepared which integrated building decontamination, site remediation, and demolition. At the two, 1.5 acre lagoons partially filled with chromium (hexavalent and trivalent) sludge extending 15 feet deep, an engineering feasibility and cost-benefit analysis was undertaken to define proactive closure options. Due to tight site constraints (passenger rail line and U.S. Corps of Engineers dike levee on opposite sides of site), an inverted RCRA-type was developed and accepted by DEP and U.S. EPA officials. The cap includes a 40 mil LLDPE membrane, geonet and drainage, and topsoil layers. Calculations performed included HELP modeling, TR55 and discharge pipe, slope stability analyses, geotechnical settlement analysis, and other standard engineering calculations for a hazardous material closure cap. A conceptual design was completed and preliminary and final designs (CSI format engineering plans and specifications) are currently underway. Provided the Owner bid assistance and construction management services. During the course of the work, extensive, often weekly interaction with the DEP was required. Utility permits were obtained, and stream encroachment and US Army Corps 404 dredging permits were evaluated.

* denotes projects completed with other firms

Nicholas C. D'Agostino PE

Commercial and Industrial Clients

Grafton State Hospital - Disposal Area Closure, Shrewsbury, Massachusetts

Project Manager for the closure of a 2-acre disposal area at the former Grafton State Hospital for the Massachusetts Division of Capital Asset Management (DCAM) to provide Design, Bidding Assistance, and Construction Management Services. The design incorporated the regrading and capping of a very steep slope 1.3 horizontal to 1 vertical (1.3H to 1 V) to a 2H to 1V slope. Due to the presence of wetlands along the toe of the landfill, swamp mats were required to minimize impact of the wetlands in accordance with the requirements of the Order of Conditions. The specifications and drawings required the excavation of unsuitable debris along the slope for off-site disposal or consolidation under the cap, grading the disposal area to achieve preparation grades, placement of a 6 inch thick sand bedding layer, installation of a Geosynthetic Clay Liner (GCL) over a portion of the disposal area, placement of a cellular confinement system on steep portions, placement of a geocomposite drainage layer over the entire area, placement of 18-inch thick common fill layer and 6-inch thick top soil cover, the planting of grass and installation of a temporary erosion control mat, and the planting of wetland shrubs and wetland seed mixtures. An Alternate design was also included in the contract documents which included a gabion wall along the toe of slope which reduced the quantity of buried refuse that would require removal and relocation to the top of the landfill beneath the final cap. Detailed cost estimates were prepared for the base case and alternate. Participated in the pre-bid site walk, responded to questions and provided clarification and issued Addenda, evaluated the bids and recommended an award. DCAM elected to have the alternate design installed which resulted in a reduction in the quantities of material excavated and a corresponding reduction in project cost. During construction conducted weekly construction progress meetings with the DCAM resident engineer to discuss issues, progress, and schedule impact; review and approve Contractor submittals per the contract, respond the requests for information, review change order requests, and perform final project close-out.

PECO Energy, Former MGP Site, West Conshohocken, Pennsylvania

The PECO West Conshohocken Gas Plant Facility is currently owned and operated by PECO for natural gas storage and distribution. Historic operations at the site included coke oven gas production and MGP generation. Various waste residuals from the purifier boxes used in the MGP process were historically used as fill on the property and as a result have been leaching cyanide complexes into the adjacent creek, Gulph Creek. The project remedial action includes removal of the historic fill along the creek banks and restoration and stabilization. Project Geotechnical Engineer for the design of excavation support systems, slope evaluation, and retaining wall design for the removal of contaminated soil placed along a slope adjacent to Gulph Creek. Prepared detailed drawings and specifications for the installation of a 700 feet long retaining wall, a soldier pile and lagging support system, and slope stabilization using gabion revetment mattresses and geocells. Made periodic site visits during construction to monitor progress, reviewed shop drawing submittals and responded to contractor requests for clarification.

Remedial Design and Construction

Former Catskill Manufactured Gas Plant Remediation, Catskill, New York

Designed two secant pile retaining walls to support the excavation of contaminated soil from a former manufactured gas plant in Catskill New York. One wall was located along Catskill creek and was approximately 210 feet in length and was designed for excavation of contaminated soil to depths of 23 feet on both the land and water sides of the wall. A second secant pile wall was installed around a 5 story brick building for which the excavation extended to the top of bedrock and was 14 feet below the building footings. Prepared detailed drawings and specifications for the wall installation. As engineer of record for the project provided engineering services during construction of the secant pile walls.

* denotes projects completed with other firms

Nicholas C. D'Agostino PE

Commercial and Industrial Clients

Solid Waste

Tennessee Eastman Corp, Kingsport, Tennessee

Project manager for an RI/FS for a RCRA closure of an industrial wastewater treatment facility that included eight surface impoundments covering approximately 50 acres. Supervised the preparation of a health and safety plan, work plan, and quality assurance plan, including drilling of 57 borings within the surface impoundment and along the embankments and recovery of soil sludge samples for chemical analysis. Prepared a site characterization report detailing the findings. Prepared a report on disposal alternatives and removal methods and construction cost estimates for incineration using the client's coal-fired boilers and rotary kiln and using a mobile incinerator or removal to an off-site secure landfill and solidification-stabilization of the materials with a RCRA cap over the wastes and risk assessment for determining the extent of contaminated soil removal necessary beneath the sludge.

Northfield Mount Hermon School Landfill
Investigation and Design of Cap, Gill,
Massachusetts

Project Manager for Comprehensive Site Assessment (CSA) and Corrective Action Alternatives Analysis (CAAA) per the Massachusetts Solid Waste Regulation 310CMR19.150 for the 3 acre North landfill (former town of Gill landfill) and 1 acre South landfill (historic burn dump) at the Northfield Mount Hermon School. Prepared the CSA report and CAAA which included alternatives analyses. Developed detailed plans and specifications for each landfill closure. Provided engineering services during construction which included shop drawing review and advice during construction of landfill gas barrier trench, collection and venting system construction, and landfill regarding and cap installation.

National Standard Corp. Design of Cap Over
Containment Area, Worcester, Massachusetts

Project Engineer for the design of a landfill cap over a former disposal area of wastes from a steel and wire manufacturing company. Evaluated subsurface data, estimated settlement and design an asphalt cap over the contaminated soil to accommodate the current site utilization (fence and lumber company). Developed eight drawings and technical specifications.

Stop & Shop Lagoon Closure Construction
Management, Seymour, Connecticut

Served as Project Engineer during the closure of a 2-acre arsenic-chromium sludge lagoon generated from a former wire manufacturing operation. The mill structures had previously been demolished and a Super Stop & Shop constructed at the site. The cap included the installation of settlement markers to monitor the consolidation of the sludge as it was preloaded prior to geomembrane (40-mil LDPE), geonet, and cover soil placement. Previously stockpiles contaminated soil from the store location was used as fill material to form the subgrade of the cap. During construction (relocation of high voltage utility transmission towers and guy line anchors which were located within the limits or construction and relocated), a landfill containing debris and process waste was encountered. This material was excavated and placed within the limits of the lagoon. Defined the limits of excavation and placement of an engineered backfill necessary to ensure the performance of the tower anchors. Reviewed and approved shop drawing submittals made by the Contractor, and provided advice to the resident engineer regarding fill placement, liner installation etc.

Elliot Rose Company of Dover, Inc. Landfill Closure
Design, Dover, New Hampshire

Prepared contract specifications and drawings for the regrading of a 1 acre landfill on a 1H to 1V slope which incorporated into the closure design allowances for a future precast concrete bridge over Varney Brook and associated wetlands. Provided engineering services during construction.

Sludge Compost Facility Foundation/Siting Study,
Rockland, New York

Developed subsurface investigations and laboratory testing for a wastewater sludge composting facility that was sited in an active municipal landfill. Evaluated subsurface conditions and determined structural settlement, recommended foundation types, determined stabilization methods, evaluated methane gas protection requirements, and prepared detailed cost comparison for site development.

* denotes projects completed with other firms

Nicholas C. D'Agostino PE

Commercial and Industrial Clients

NJDEP Big Hill/Bems Landfill Superfund Site, Burlington County, New Jersey

Project Manager for a remedial investigation/feasibility study (RI/FS) for a 50-acre municipal landfill. Individual tasks included preparation of health & safety plan, quality assurance project plan, background investigation report. Prepared RI and FS reports and provided community relations support. A focus feasibility study report was prepared in advance of the RI report field investigation program, which evaluated alternatives for interim response measures (IRMs), including sampling of existing active and passive methane vents and leachate seeps from the landfill; soil gas survey to define the extent of methane plume advance into a residential community; and evaluated remedial alternatives such as a perimeter methane gas extraction well system, capping of the landfill, and leachate removal from the landfills with pretreatment or treatment on-site or at a POTW. Designed a perimeter methane gas collection system and flare as an IRM to protect the adjacent residential community. Additional interior extraction wells were installed within the landfill to provide adequate methane concentrations in the collected gas for a continuous flame within the flare. Prepared detailed drawings and specifications and provided bidding assistance, resident inspection services, and engineering services during construction.

Schatz Federal Ball Bearing Site, NYSDEC, Poughkeepsie, New York

Project Manager for a five-acre hazardous waste landfill, which contained oil cutting solvents and PCBs, municipal solid waste, and slag waste, for the NYSDEC. Supervised preparation of work, health and safety plans, quality assurance/quality control plans, and RI/FS reports. Provided community relations assistance. Assisted NYSDEC with the preparation of the Record of Decision for the site. Recommended remediation included design of a new landfill and capping, treatability studies, groundwater treatment, stabilization solidification, and incineration (as an alternate). Project Manager for subsequent field investigation and treatability studies to establish the criteria for the design.

L&RR Superfund Site, Landfill Closure Remedial Design, North Smithfield, Rhode Island

Project Manager for probability based decision tree analysis to assist EPA Region I in determining the best alternative for the cleanup of a hazardous waste landfill site. Evaluated the remediation alternatives and cost for landfill slope stabilization, cap, and gas destruction using flaring, incineration, and combustion with electric power generation. Managed the detailed technical review of PRP prepared pre-design work plan submittals for the remedial design. Provided oversight of pilot testing for the above three thermal destruction technologies, including split sampling and data validation/evaluation. Reviewed evaluation summary reports for the landfill upgrade and pilot testing programs. Prepared a report with recommendations for selected alternatives based upon risk assessment evaluation for EPA.

Tuxedo Waste Disposal Site/NYSDEC Landfill Gas Closure System Design, Tuxedo, New York

Performed a landfill gas collection evaluation for to control hydrogen sulfide odors from an illegal demolition debris landfill, which also contained industrial and municipal solid wastes. Designed gas extraction and collection system configuration. Reviewed gas treatment alternatives, which included no treatment (venting), flaring, and incineration. Long-term risks to public health, current, or potential impacts to the environment and effectiveness of the technology were also considered.

* denotes projects completed with other firms

Nicholas C. D'Agostino PE

Commercial and Industrial Clients

Landfill Gas Control System, SmithKline Beecham Pharmaceuticals, Montgomery County, Pennsylvania

Project Manager for an industrial client for a series of assignments over a five-year period related to methane gas migration, landfill cap maintenance, and leachate removal for two closed landfills in Swedeland, Pennsylvania. Assignments included landfill impact study to determine the extent of methane gas migration from the landfills toward the client's buildings; design for venting adjacent underground utilities that were found to have explosive methane concentrations; estimating rates of landfill settlement; installation of methane monitoring wells around perimeter of landfills and geophysical survey to define subsurface conditions and methane concentrations with depth and preferred migration pathways; feasibility study for remedial alternatives to control methane migration; vent gas sampling from the monitoring wells and air emissions modeling; design of a perimeter landfill gas extraction well system to ventilate the soils beneath existing buildings within the methane plume. Prepared detailed drawings, specifications, and construction cost estimate; provided bidding assistance, resident inspection services, engineering services during construction; assistance during system start-up; prepared an operations and maintenance manual for the facility; provided data review and evaluation for the first year of system operations. Provided expert witness testimony in litigation case between the client and Montgomery County regarding cost recovery.

South Essex Sewer District Landfill Expansion, Lynn, Massachusetts

Project Engineer for evaluation of existing subsurface data and prepared a preliminary design report for a sludge-ash landfill to be constructed above a closed municipal landfill. Estimated settlement of the refuse and underlying soft soils due to the additional loading from the 20-foot-high fill. Evaluated various stabilization methods to control differential settlement and determined methane gas and leachate control methods. Determined bottom liner and final cover systems and prepared cost estimates.

Ivory Street Landfill Closure, Braintree, Massachusetts

Project Engineer for development of closure plans that included conducting a site investigation, submitting a preliminary design report, and preparing final plans and specifications. Supervised drilling of test boring, installation of observation wells, and sampling of groundwater from the wells to determine extent and nature of landfill material, the location of the groundwater table, the direction of groundwater flow, and the impact of the landfill on groundwater quality. Analyzed existing slope conditions, evaluated alternative materials for the final cover, selected a gas ventilation system, and evaluated the need for leachate collection. Provided bid evaluation, recommended award of construction contract, reviewed shop drawing submittals by the contractor, supervised resident inspector, and provided advice during construction. Prepared post-closure monitoring plan for monitoring wells and landfill gas vents.

Landfill Closure Design for Former Grafton State Hospital, Shrewsbury, Massachusetts

Project Manager for the closure of a 2-acre disposal area at the former Grafton State Hospital for Division of Capital Asset Management. Responsibilities included design, bidding assistance, and construction management services. The design incorporated the regrading and capping of a very steep slope. Due to the presence of wetlands along the toe of the landfill, swamp mats were required to minimize impact of the wetlands in accordance with the requirements of the Order of Conditions. The specifications and drawings required excavation of unsuitable debris along the slope for off-site disposal or consolidation under the cap, grading the disposal area to achieve preparation grades, placement of a 6 inch thick sand bedding layer, installation of a Geosynthetic Clay Liner (GCL) over a portion of the disposal area, placement of a cellular confinement system on steep portions, placement of a geocomposite drainage layer over the entire area, placement of 18-inch thick common fill layer and 6-inch thick top soil cover, the planting of grass and installation of a temporary erosion control mat, and the planting of wetland shrubs and wetland seed mixtures. An alternate design was also included in the contract documents which included a gabion wall along the toe of slope which reduced the quantity of buried refuse that would require removal and relocation to the top of the landfill beneath the final cap.

* denotes projects completed with other firms

Nicholas C. D'Agostino PE

Commercial and Industrial Clients

Landfill Post Closure Monitoring, Towns of Natick, North Brookfield, Sturbridge, New Salem, Wayland and Rehoboth, Massachusetts

Client/Project Manager for the above towns with landfill monitoring services (2002-2005) for their closed landfills which include groundwater and landfill gas monitoring well sampling, surface water and sediment sampling, and a visual inspection of the landfill cap integrity. Prepared semi-annual and quarterly reports detailing the findings that are submitted to the town and MADEP.

Spill Prevention Control and Countermeasure Plans

SPCC Plan, Paxton, Massachusetts

Project Engineer for certification for a Spill Prevention, Control and Countermeasure (SPCC) Plan and an associated training program for the Town of Paxton Department of Public Works (DPW) in accordance with EPA requirements under 40 CFR 112 for any facility that stores oil or petroleum liquid.

Stormwater Management

Phase II Storm Water Management Program, Grafton, Massachusetts

Project Manager for GIS/GPS services to delineate the stormwater system throughout the Town of Grafton. The mapping provides a comprehensive inventory of current drainage structures and pipes associated with the storm system. The final product includes maps that will be utilized by the town for compliance in part with the US EPA Phase II Storm Water Management Program and also for maintenance and planning.

Nicholas C. D'Agostino PE

Commercial and Industrial Clients

PUBLICATIONS

Movement of VOCs and Chloride in a Fractured Bedrock Aquifer, Holton Circle Site. *Proceedings of HMCRI's 13th Annual Convention*, 1992.

Stabilization Technologies for RCRA Corrective Actions. *USEPA Handbook*, 1991.

Landfill Gas Migration Controls and Case Studies. *Proceedings of the 7th National Conference on Hazardous Wastes and Hazardous Materials*, 1990.