Statement of Qualifications

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PIONEER
Engineering & Environmental Services, LLC
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1.0 Company History & Organization

Pioneer Engineering & Environmental Services, LLC (Pioneer) is a fully integrated consulting and engineering firm that specializes in providing environmental investigation, engineering and remediation services, geotechnical engineering and construction materials testing services, and property condition assessments. Pioneer services numerous public and private sector clients throughout the United States. The firm was founded in 1989, and since its inception, Pioneer's commitment to provide high-quality services in a responsive and cost-effective manner has fostered a pattern of increasing growth.

Pioneer's dynamic staff of experienced engineers, geologists, environmental scientists and field technicians, has investigated tens of thousands residential, commercial and industrial properties throughout the United States. The firm is strategically organized to allow our clients access to a complete range of engineering and environmental services. Pioneer's geotechnical investigation and construction materials testing group has the ability and experience to handle a multitude of tasks required for a site's development. From initial environmental site assessment to formal closure with applicable state regulatory agencies, all aspects of a site investigation and remediation project can be accommodated by our consultants.

Pioneer is continually adding to its extensive client base and thrives on its long-term relationships, which are a reflection of the firm’s principles and of the project managers’ ability to relate well with people. We work diligently to ensure unparalleled customer service by understanding client objectives, being responsive and communicative, and by recognizing the importance of deadlines. We also recognize that complete client satisfaction is not possible without being sensitive to cost and applicable budgetary limitations. Our firm's reputation was also enhanced by our ability to understand the “business end” of the real estate, investment, development and construction markets.

Our approach is simple: to ensure the expedient implementation of a chosen project method that is practical, effective, technically accurate and affordable. We are truly dedicated to maintaining complete client satisfaction. It is our business philosophy and the cornerstone of our success.
2.0 Services & Qualifications

The following subsections provide details about Pioneer’s primary service offerings:

(2.1) Phase I Site Assessment
(2.2) Site Investigation/Risk Assessment
(2.3) UST Decommissioning
(2.4) Engineering/Site Remediation
(2.5) Operations and Maintenance (O&M)
(2.6) Geotechnical Investigations
(2.7) Construction Materials Testing
(2.8) Property Condition Assessments

Additionally, general information regarding staff qualifications and requisite training is outlined on the following pages.
2.1 Phase I Site Assessment

Pioneer performs in excess of 600 Phase I and related environmental assessments annually. These projects range from limited historical and site reviews of vacant land and residential properties, to comprehensive compliance audits of large-scale manufacturing facilities. During its history, Pioneer has performed Phase Is on a number of complex industrial sites, including a former bulk oil distribution facility and shipping terminal; a former petroleum products research facility; a large-scale tannery with over 100 years of operation; active metal foundries; a portfolio of over 50 gasoline station properties, as part of a 200-million-dollar re-finance package; a former chemical and paint mixing facility; a pharmaceuticals plant; and countless other manufacturing facilities. Pioneer has historically been involved with some of the largest commercial real estate transactions in the United States.

Pioneer's Phase I staff consists of environmental scientists, geologists and engineers who have learned their trade through extensive, hands-on training in the field, as well as in the classroom and research library. Our staff includes licensed asbestos building inspectors, accredited lead paint risk assessors, and those trained in the preparation of formal environmental compliance audits at the state and federal level. Additionally, all Phase I Project Managers are versed in the intricacies of the prevailing ASTM Standards, by way of taking the formal two-day course.

Pioneer can customize its Phase I reports to suit a particular client's needs – or his/her lender's. Additionally, various potential “business environmental risks”, which are excluded from the definition of a “recognized environmental condition” by ASTM, can be incorporated into our assessments. These potential risks include asbestos, lead-based paint, wetlands issues, flood potential, geo-technical considerations, radon, and more.

Where many companies fall short in the arena of environmental assessments, Pioneer excels. Few things can be more exasperating to a Phase I user than to have a “dirty” report (one with numerous recommendations requiring additional investigation) literally thrown at them imminent to what was hoped to be a real estate closing. We pride ourselves in our ability to keep our client’s abreast of the findings and of communicating such throughout the Phase I assessment process. Our level of service is unmatched.
2.2 Site Investigation & Risk Assessment

Pioneer’s site investigation and engineering group, which is comprised of engineers, geologists, chemists and environmental scientists, conducts hundreds of soil and groundwater site investigations annually. Over the years, we have assessed more than 20,000 sites ranging from the straightforward UST release assessment to the complex remedial investigation and hydrogeological study of a bulk oil terminal that has impacted a potable bedrock aquifer formation.

Pioneer owns and operates a variety of environmental drilling and sampling equipment required to complete almost any type of sampling project – from collecting sediment samples in a stream to installing groundwater monitoring wells in a potable aquifer. Whatever the project, our environmental drilling rigs, GeoProbes®, and percussion-driven sampling equipment can accommodate virtually any client’s needs. Our vehicles are also fully equipped with the necessary equipment to collect a variety of sampling, field screening, and site monitoring data during site investigation and remediation activities. We strongly believe that, by owning and operating our own equipment, we maintain tighter control of the project and are able to deliver a quality product in a more cost-effective and timely manner by eliminating unnecessary subcontractor costs and delays.

Pioneer’s investigation and engineering group uses its expertise to fully evaluate and understand site-specific contamination issues and provide appropriate recommendations based on the client’s planned use of the property, budget and timing requirements. The use of risk-based assessments to establish realistic, practical remediation objectives is an integral part of the environmental industry. Risk-based assessments have allowed most types of properties with environmental contamination to be brought back into productive use. Pioneer uses proven risk assessment procedures to establish practical, yet protective, cleanup objectives for contaminated sites.

Pioneer is recognized as a leader in obtaining formal closure from the applicable regulatory agencies. Our firm’s proficiency in securing “No Further Remediation” (NFR) letters is clearly demonstrated by our ranking as the #1 firm in the entire State of Illinois for obtaining NFR letters through the Site Remediation Program at the Illinois EPA. This is accomplished by our extensive knowledge and understanding of the current and ever-changing regulatory climate. Further, our relationship and reputation with the regulators facilitates an equitable solution between government and industry.
2.3 UST Decommissioning

Pioneer has performed a wide range of Underground Storage Tank (UST) related services over the years at many different sites. This work has included full gasoline station decommissioning projects, as well as the removal and/or abandonment in-place of tanks with capacities ranging from 20,000 gallons to 500 gallons. The sites span the range of operating and abandoned retail gasoline stations to industrial/commercial facilities with tanks that contain various hazardous substances, to older buildings with heating oil USTs. Pioneer is able to handle tank removals and abandonments for all types of system requirements with petroleum and hazardous substances at facilities throughout the country.

Pioneer can provide both the project management and environmental consulting expertise needed to properly design and execute a UST decommissioning project at any site as well as evaluate compliance issues at sites with operating UST systems. We regularly work with UST removal contractors to assist their clients on regulatory matters and can also serve as the turnkey specialist and perform both the contracting and consulting functions for tank removal/abandonment projects. All our work is conducted in strict accordance with state and federal UST laws and regulations, and a perfect safety record is a testament to the quality of the people and practices employed at each UST project we work on.

Local, regional and national petroleum retailers, marketers, and owner/operators contract with Pioneer to solve their UST-related problems. We have performed compliance assessments at UST sites across the country and have worked on portfolio projects involving multiple sites with UST issues requiring full site decommissioning.

Pioneer is especially proficient in handling UST projects where releases are discovered and in navigating the regulatory frameworks of the various local, state, and federal agencies with jurisdiction over UST-related matters. Our technical personnel are well versed in the UST regulations and routinely assist our clients in achieving formal closures and reimbursement of eligible costs from state funds where applicable. Pioneer has successfully entered sites, on behalf of its clients, into the state reimbursement program that enables owner/operators of eligible leaking UST (LUST) sites to get reimbursed for corrective action costs on an expedited basis. Our cumulative abilities and combined expertise in the many aspects of UST removal projects provide a consistent and results-oriented approach that has proven successful for over 25 years in business.
2.4 Engineering & Site Remediation

Pioneer’s remediation group consists of civil, mechanical, environmental, and geotechnical engineers with extensive experience in the cleanup of sites impacted with petroleum and hazardous substances. Pioneer has successfully remediated thousands of sites of varying complexity, from the straightforward excavation and off-site disposal of petroleum impacted soil to the in-situ remediation of groundwater impacted with solvents in a bedrock formation 100 feet below ground surface.

Over the years, Pioneer has designed, installed, operated, and maintained numerous remediation systems on a variety of complex sites, including: a remotely operated surfactant-enhanced remediation system designed to extract approximately 3,000 gallons of free-phase #5 heating oil from beneath a high rise condominium building; a free product recovery system in conjunction with a dual-phase extraction system to remove approximately two feet of free phase diesel fuel and explosive vapors from beneath single-family residences; a free product recovery and bioremediation system to remediate a potable bedrock aquifer impacted with petroleum hydrocarbons to depths of 100 feet below grade; a remotely operated air sparging system designed and installed to remediate a 40,000 square-foot area of petroleum impacted groundwater; construction of a hydraulic barrier over 1,500 feet in length in order to prevent lateral migration of coal tar and associated contaminants; and in-situ chemical oxidation with enhanced bioremediation of chlorinated solvents beneath an existing dry cleaner.

Pioneer has the in-house technical staff required to evaluate the most feasible remedial approach from both an economic and technical perspective. All project level engineers and managers work under the direct supervision of licensed professional engineers and geologists. After a project approach is selected, Pioneer mobilizes the necessary drilling and excavation equipment and works with the appropriate personnel, including licensed plumbers and electricians, to properly construct, operate, and maintain a remediation system. Pioneer has designed and implemented operations and maintenance (O&M) programs for numerous groundwater, wastewater, and air treatment systems. These projects range from maintaining groundwater treatment systems at petroleum-impacted sites to the more complex operations and maintenance of a landfill leachate and methane collection system as part of the site closure process. Because of Pioneer’s wide range of remedial capabilities and attendant expertise, we offer a variety of feasible remedial solutions to successfully complete the project and meet the client’s expectations.
Pioneer has an excellent reputation with the regulatory agencies and has an outstanding record of meeting project deadlines, budgets, and remediation objectives.
2.5 Geotechnical Investigations

Pioneer’s geotechnical investigation group is comprised of civil and geotechnical engineers, geologists and experienced field technicians. Annually, Pioneer conducts hundreds of geotechnical investigations to aid in building foundation design and pre-development planning. These projects range from the straightforward soil investigation for the construction of a single-family residence, to the complex engineering analysis for the design and construction a high-rise building, using a caisson and grade beam foundation system.

Our engineering staff is actively involved in the pre-development planning stages of a project with the development team including architects, land planners, civil and structural engineers. We quickly evaluate subsurface conditions so that technically sound and cost-efficient options are presented during the initial design phase of a project. The depth of our technical staff allows us to concurrently evaluate other potential engineering and environmental issues that may arise and impact the redevelopment project.

Pioneer owns and operates a variety of equipment required to complete geotechnical subsurface investigations. Our drilling rigs are mounted on a variety of vehicles/track carriers, which allows us to drill virtually any site, regardless of the terrain. Our equipment is continuously maintained to ensure top performance and reliability. By owning, operating and maintaining our own equipment, we are able to deliver the highest quality product in a more cost-effective and timely manner by eliminating unnecessary subcontractor costs and delays.

![Oversight of Rammed Aggregate Piers](image1)

![GeoProbe® 7822 DT Performing Geotechnical Borings](image2)

Our experienced field technicians conduct on-site soils analysis and classification in order to initially determine the physical properties of a site’s soil. Pioneer’s soil testing laboratory performs a wide array of physical tests for soil, including unconfined compressive strength, density, moisture content, and grain size analysis. Our field technicians and engineers are also experienced in performing a variety of in-situ field tests including Standard Penetration Testing (SPT), Dynamic Core Penetration Testing (DLP), vane shear testing, pressuremeter testing, and Rem: Shear Wave Velocity testing. All field and laboratory analysis is conducted in strict accordance with American Society for Testing & Materials (ASTM) standards.

Pioneer is recognized as a leader in the geotechnical investigation and engineering fields. Our extensive knowledge and experience allows us to present the most cost-effective and technically viable recommendations pertaining to the design and construction of any type of structure.
2.6 Construction Materials Testing

Pioneer’s construction materials testing group uses its expertise to fully evaluate site-specific conditions and ensure full compliance with project specifications. Some of our more common field inspection and laboratory testing services include the evaluation of soil, concrete, asphalt, and masonry products, and we are capable of covering the full array of construction materials testing requirements, from the project’s inception through completion.

Pioneer’s field inspection technicians are fully trained and equipped with the latest in testing instrumentation to ensure accurate data is produced on time and within budget. A partial list of the field inspection services offered by Pioneer includes the following:

- Concrete Slump, Air Entrainment and Molding of Test Cylinders
- Soil Bearing Capacity Inspections (Shallow & Deep Foundations)
- Nuclear Density Testing of Soil, Fill Materials, and Asphalt
- Non-Destructive & Destructive Concrete Testing
- Rebar and Steel Inspections
- Mortar Sampling & Testing
- Fireproofing Inspections
- Caisson and Aggregate Pier Inspections

Pioneer’s construction materials testing laboratory is fully equipped and qualified to perform the following tests in strict accordance with American Society for Testing & Materials (ASTM) standards.

- Concrete & Mortar Strength Testing
- Soil Moisture Content
- Unconfined Compressive Strength
- Soil Proctor Testing (Standard/Modified)
- Soil Consolidation Tests
- Particle Size Analysis
- Density Testing
- USCS Classification
- Atterberg Limits Testing
- Relative Density Testing
Pioneer's field inspection and construction materials testing technicians report daily to project engineers to ensure that data is evaluated quickly and accurately for your projects. Our team of field technicians and professional engineers can develop innovative solutions and work with the on-site construction contractors to achieve project goals.
2.7 Property Condition Assessments

The commercial real estate and investment industry has recently refined criteria for the securitization of commercial mortgages, resulting in a demand to better understand the capital needs of a property over the life of a loan or investment. Specifically, the need for reliable assessments of a property’s existing general condition including; immediate repair needs and cost estimate, structural condition, building quality, and future capital expenditures has led to the establishment of various protocols for Property Condition Assessments (PCAs).

Pioneer has performed Property Condition Assessments on industrial, commercial, and residential properties throughout the United States. Examples of completed projects include an assessment of a 75,000-square-foot industrial complex in suburban Chicago, a pooled transaction of various commercial retail centers located throughout the Midwest, and a mall located in Western Michigan.

Pioneer's Property Condition Assessment Reports provide the appropriate due diligence for a real estate transaction. Whether conducted under the adopted protocols of the American Society of Testing Materials (ASTM), Standard and Poor’s, or lender specific requirements, Pioneer addresses the individual needs of our clients. Our standard Property Condition Assessment evaluates a property’s:

- Structure
- Plumbing
- Exterior Finishes
- Roofing Systems
- Parking
- Amenities / Appurtenances
- Sidewalks / curbing
- Landscaping
- Drainage
- HVAC Systems
- Electrical
- Interior Elements
- Life Safety and Fire Safety
- Utilities
- Americans with Disabilities Act Considerations
- Fencing
- Signage
- Free-standing walls
Our standard reports provide an executive summary listing observed physical and material deficiencies, a general description of all existing systems and components, their expected remaining useful life and anticipated associated replacement cost over the reserve term. Additionally, non-scope services available include FEMA Flood Insurance Rate Map analysis, Seismic Zone Analysis, Probable Max Loss (PML) seismic study, and Virginia Graeme Baker Pool and Spa Safety Act considerations.

Pioneer employs licensed professional engineers who perform all of the Property Condition Assessment inspections. Our staff has extensive experience inspecting all types of investment properties of various ages and construction types.

- Refuse areas
- Provided document review
- Fire Department inspection history
- Historical property information via FOIA requests
- Peak Ground Acceleration analysis

- Lighting
- Building code violations
- Assessor Information
- Owner / Management interview

Our standard reports provide an executive summary listing observed physical and material deficiencies, a general description of all existing systems and components, their expected remaining useful life and anticipated associated replacement cost over the reserve term. Additionally, non-scope services available include FEMA Flood Insurance Rate Map analysis, Seismic Zone Analysis, Probable Max Loss (PML) seismic study, and Virginia Graeme Baker Pool and Spa Safety Act considerations.

Pioneer employs licensed professional engineers who perform all of the Property Condition Assessment inspections. Our staff has extensive experience inspecting all types of investment properties of various ages and construction types.
3.0 Project Experience & Case Histories

The following subsections outline specific, in-depth case histories that Pioneer has been involved with during recent years, reflecting its vast experience in the following areas:

(3.1) Assessment, Investigation & Remediation

(3.2) Consulting & Regulatory Closure Services

(3.3) UST-Related Services

(3.4) Site Investigation & Remediation Services

(3.5) Remedial Design, Installation, and O&M

(3.6) Property Condition Assessments

(3.7) Geotechnical Engineering Services
3.1 Assessment, Investigation & Remediation

Louisville Forge & Gear Work – Louisville, KY

Pioneer performed a comprehensive Phase I Environmental Assessment at this facility. The Louisville Forge & Gear Works plant encompassed in excess of one-half million square feet and was used for the forging/casting, stamping, and finishing of metal parts, specifically crankshafts, gears, steering knuckles, beams, and other miscellaneous parts. This assessment also included a review of potential wastewater compliance issues, as well as a review of air emissions permitting data that covered over 60 discharge points. Numerous recognized environmental conditions were identified during the course of this investigation; the majority of these RECs were related to historical operations, as this facility had over 30 years of heavy industrial use.

Internet Campus Redevelopment Project

Pioneer was retained to performed a Phase I Environmental Site Assessment of a 20-acre site located along the south branch of the Chicago River. This property had a long history of commercial/industrial uses, including the partial former use as a storage yard by Commonwealth Edison, the current use as a motor freight station/trucking terminal, and use by a large automotive parts distributor. Additionally, through the scaling of available maps and comprehensive historical research, it was determined that an approximate 30-foot-wide section, located along the far eastern portion of the subject site, was formerly included within a neighboring Peoples Gas Manufactured Gas Plant (MGP, see following discussion). It should further be noted that Pioneer obtained documentation related to the adjacent MGP from the US and Illinois EPAs. Through this research, Pioneer determined that the MGP was incorrectly identified as encompassing a much larger portion of the subject site on EPA documentation and, as a result, eliminated the majority of the subject site from further EPA investigation. Assessment activities conducted at the oldest and largest building on this 20-acre site, which encompassed in excess of one million square feet, included the sampling of suspect asbestos-containing materials. Pioneer was further retained to develop a bid specification package, to be provided to prospective abatement firms, for the proper removal of asbestos-containing materials and lead paint from this structure.

Municipal Brownfields Grant - Former Tri-Central Marine

Pioneer was awarded a contract by the MWRDGC to perform a Phase I Environmental Site Assessment of an approximate 27-acre facility adjoining the Chicago Sanitary & Ship Canal. This site had a long history of use as a bulk oil and material handling station. Numerous recognized environmental conditions related to this past use were identified, and Pioneer subsequently developed a plan to appropriately address these concerns for enrollment of the site in the Brownfields Redevelopment Program, on behalf of the Village of Lemont and MWRDGC.
South Loop Redevelopment Project

Pioneer was retained to perform site assessment services on what was dubbed the “Development of the Year” by the Chicago Sun-Times. This project focused on re-developing approximately six acres of property located to the south of Chicago’s Loop. The site was historically used as an automobile junkyard and formerly contained numerous structures associated with Illinois Auto Parts. After Pioneer adequately addressed the concerns identified in the Phase I, which related primarily to its past use as an automobile salvage/wrecking yard and the former presence of two on-site gasoline stations, this property was successfully re-developed for residential use.

Former Steel Manufacturing Plant - Chicago

Pioneer performed the preparation of multiple Phase I ESAs, geotechnical assessments, multiple phases of UST identification, a ground penetrating radar survey, soil and groundwater assessments, "hot spot" delineation work, development of a remediation budget, and implementation of a remedial action plan for the redevelopment of a 50-acre industrial site after acquisition by the client. Work by other firms before 2003 identified relatively marginal impacts, and the potential of up to three USTs on site. Pioneer’s assessment identified the presence of approximately 14,000 tons of TCLP-lead hazardous remediation wastes and up to 32 USTs before the property was purchased. The new information was used to develop a remediation budget for purposes of negotiating the sale price of the property under the purchaser’s due diligence.

Pioneer later prepared a Comprehensive Site Investigation Report, RCRA Remedial Action Plan Permit, and Remedial Action Plan to pursue formal closure through the IEPA’s Site Remediation Program. Remediation included the removal of all USTs and soil impacted with petroleum free product, and the on-site stabilization and off-site disposal of characteristically hazardous lead-impacted soils. The on-site treatment of hazardous wastes reduced projected disposal costs by approximately 300%, and the approach to closure allowed the majority of remaining impacted soils to remain on-site using engineered barriers and institutional controls. Soil management zones were employed throughout the site in an effort to eliminate the need for any off-site disposal during construction. Pioneer also negotiated with SRP to use alternative groundwater modeling procedures that eliminated unnecessary and unrealistic notification requirements, and obtained a variance to allow the use of a 1-foot thick engineered barrier across the majority of the site, instead of the default 3-foot "clean soil" barrier.

Upon completion of active site remediation, Pioneer submitted Interim Remedial Action Completion Reports for the site to obtain multiple draft NFR letters to provide to prospective tenants. Pioneer also evaluated proposed redevelopment plans relative to contaminant issues to determine development costs, prepared cut/fill analyses for site balancing, negotiated with insurance providers to secure environmental coverage for the project, coordinated with subcontractors, and provided demolition/remediation oversight.
**Former ARCO Products Research Facility**

The Cook County Department of Planning & Development retained Pioneer to perform comprehensive Phase I assessment services on a property commonly known as the Harvey Technical Center. This seven-acre site located in Chicago’s South Suburbs was originally used as a petroleum products research facility by Sinclair, and later by ARCO Petroleum Products. At the time of Pioneer’s assessment, many of the ten-plus buildings at this facility had fallen in varying states of disrepair. Pioneer’s investigation also included the review of previously-prepared assessment work sponsored by the US EPA. Sixteen recognized environmental conditions were identified as part of this Phase I, including the presence of numerous above and underground storage tank fields, the presence of former and current drum storage areas, and general past use concerns.

**Historical Unregulated Municipal Landfill - Cicero**

This unique project required assessment of both subsurface contamination related to the site’s historical use as an unregulated landfill and above grade waste materials illegally disposed of on a 30-acre site and related to the "Silver Shovel" incidents in Chicago and surrounding suburbs. The work performed by Pioneer began as a due diligence project on behalf of a prospective buyer and included a Phase I ESA that required a rigorous review of historical and legal documents that subsequently provided certain evidence and links to an ongoing investigation by the Illinois Attorney General’s office. A substantial Phase II investigation was then performed that required subsurface testing of the historical landfilled materials, and included environmental testing of solid wastes, leachate in monitoring wells installed by Pioneer, an evaluation of methane concentrations, and a preliminary geotechnical investigation. This was complicated by the depth of the landfill which was found at approximately 180 feet and on top of bedrock as well as dealing with extremely high concentrations of methane gas which both required specialized drilling equipment/procedures and constant monitoring for safe working conditions.

The second focus of investigation required environmental sampling of soil and waste materials present in berm piles that totaled more than 200,000 cubic yards of material, a large percentage of which was comprised of auto fluff and characteristically hazardous waste. The combined assessment activities completed by Pioneer sufficiently documented site conditions to the satisfaction of the Illinois EPA and subsequent negotiations resulted in one of the few successfully negotiated Prospective Purchaser Agreements with the Illinois Attorney General’s office. Pioneer, working closely with our client and their attorney, was instrumental in this process. A remedial design and implementation plan were completed by Pioneer to provide overall coordination and oversight of the massive waste removal activities and documentation required to facilitate the eventual redevelopment of this complex and challenging historical landfill site.
3.2 Consulting & Regulatory Closure Services

**UIC South Campus Redevelopment Project**

Pioneer was hired by a joint committee representing partners of both current ownership and prospective buyers/developers after a competitive interview process for the South Campus Development project associated with the University of Illinois at Chicago (UIC). Pioneer acted in a lead consultant’s role on behalf of the development team, which was comprised of several different partners of various construction, development, and financial firms.

The scope of the project encompassed approximately 2 million square feet of land that was historically utilized by a variety of industrial and commercial businesses that operated at the site for extended periods of time since the 1900s. The past uses of the site included gasoline stations, auto repair shops, dry cleaners, various manufacturing companies, coal warehouses, and bulk petroleum facilities. Pioneer coordinated and assisted in the development of the initial sampling plan, which required an understanding of numerous types of operations and the associated potential contaminants given the extremely varied nature of the past uses of the site. Since the development team wished to pursue a NFR letter from the state, Pioneer was integral in developing an overall remedial strategy and in framing the regulatory issues for eventual discussion and negotiation with the state. Once the initial sampling plan was implemented, the results were interpreted and subsequent phases of investigation were evaluated and remedial alternatives were formulated which took into account regulatory, business, and practical considerations for all parties.

This project also required a relatively extensive degree of risk assessment and analysis using the current state regulations of 35 IAC Part 742 (known as TACO) in order to determine the best approach to closure and subsequent redevelopment. The final remedial action plan implemented at the site was a combination of “hot spot” cleanup and practical risk reduction that allowed some impacts to remain in place but capped by engineered barriers. More than 21 No Further Remediation letters were issued by the Illinois EPA due to the phased approach to redevelopment.

This project was one of the single largest development efforts in the city of Chicago and received various awards from 2004-2007 as a model for Brownfields redevelopment.
3.3 UST-Related Services

Regional Petroleum Retailer

Pioneer was retained to perform tank compliance assessments and underground storage tank (UST) release investigations for more than 30 Gas City retail gasoline stations throughout Illinois and Indiana. As part of the contract scope of work, we also provided general consulting to their corporate management team on all environmental issues related to the UST systems located at their facilities, including spill response and negotiation with regulatory authorities. During our contract work for Gas City, we provided tank system recommendations for compliance at operating facilities and successfully attained formal regulatory closure at numerous sites with petroleum contamination that required corrective action ranging from risk-based closures to active remediation systems to long-term natural attenuation monitoring.

Former BP Gasoline Stations

Pioneer was selected to manage the regulatory closure of a portfolio of retail gasoline stations that were being sold to BP who then continued operating the stations. Pioneer coordinated with the various state agencies to develop corrective action plans and implement corrective actions. Since the sites were still operating, the subsurface investigations required specialized drilling techniques and safety precautions to minimize any disruption to the ongoing business activities. Contaminant conditions at the sites varied and required differing levels of corrective action for both on-site and off-site concerns. Free product recovery systems and dual-phase extraction systems were designed and installed at several locations to remediate the sites as required by the applicable regulations.

Northwestern Memorial Hospital Emergency Fuel Systems

Pioneer was awarded this project after a rigorous RFQ (Request for Qualifications) process. The project consisted of the removal and installation of emergency fuel back up systems at numerous buildings located on the hospital’s downtown Chicago campus. The construction management and logistics required significant project planning and specialized equipment to complete the work within a very busy urban location. The installations included all required leak detection, spill and overfill prevention, continuous tank monitoring, and tank interstitial monitoring, in order to comply with local, state, and federal regulations.
3.4 Site Investigation & Remediation Services

**Historical Scrap Metal Facility - Chicago**

Work included the evaluation of a past Phase I ESA, soil and groundwater assessment, "hot spot" delineation work, development of a remediation budget, and implementation of a remedial action plan for the commercial redevelopment of a 2 acre former scrap metal yard in connection with the acquisition by the client. Pioneer's assessment work identified the presence of approximately 500 tons of TCLP-lead hazardous remediation wastes requiring off-site treatment and disposal, 1,500 tons of PCB-impacted soils requiring disposal at a RCRA/TSCA-permitted landfill, and up to 6,500 tons of PCB-impacted soil that would require proper off-site disposal as "special waste", in order to meet the US EPA's established remediation objectives. The information was used to develop a remediation budget for purposes of negotiating the sale price of the property under the purchaser's due diligence, and securing additional TIF money for financing the redevelopment.

Pioneer later prepared a "Notification of PCB Cleanup Activities & Interim Remedial Action Plan" for submittal and approval by US EPA's Region 5 Office of Pollution Prevention & Toxics, PCB Office to conduct self-implementing cleanup of PCB-impacted soils, in accordance with 40 CFR Part 761.61. Pioneer also prepared a Comprehensive Site Investigation Report, Remediation Objectives Report, and Remedial Action Plan to pursue formal site closure for the other contaminants through the IEPA's Site Remediation Program. Remediation was subsequently completed and the approach to closure allowed the majority of impacted soils to remain on-site using engineered barriers and institutional controls following remediation of the PCB and TCLP-lead hot spots. Soil management zones were employed throughout the site in an effort to eliminate the need for future off-site disposal during construction. Pioneer also evaluated proposed redevelopment plans relative to contaminant issues to determine development costs, prepared cut/fill analyses for site balancing, coordinated with subcontractors, and provided demolition/remediation oversight.
3.5 Remedial Design, Installation, Operation, & Maintenance

CTA Bus Garage Redevelopment Project

Through an extensive interview process, LR and Enterprise Development Companies selected Pioneer as the environmental consultant for the redevelopment of the former CTA Limits bus garage at 2684 North Clark Street in Chicago. The development plans included the demolition of a former CTA bus maintenance facility and subsequent redevelopment and construction of condominiums, single family homes, an assisted-care living facility, and retail space. Pioneer identified several environmental concerns after reviewing various environmental reports prepared by another consultant. These concerns included the presence of underground storage tanks (USTs), above ground storage tanks, and drum/chemical storage areas associated with the historical use(s). Subsequently, Pioneer completed subsurface investigations in order to evaluate if the site had been impacted by the identified concerns. Pioneer concluded that three main areas had been impacted and required further investigation and/or remediation, including: leaking USTs (LUSTs), areas where suspect USTs may have been located, and a former dry cleaning operation. Additionally, in order to ensure that a comprehensive No Further Remediation (NFR) letter could be obtained, Pioneer also evaluated areas of the site that were not previously tested.

Pioneer prepared a scope of work to remove and properly close USTs, develop site-specific remediation objectives consistent with the proposed end use of the site using a risk-based approach (TACO), remediate residual soil and groundwater contamination, and perform off-site free product recovery. Within the first several months of receiving the contract, the USTs were removed, the site was predominately assessed, and removal of impacted soil from on-site areas was completed. Approximately six months into the project, Pioneer finalized the installation of a dual-phase extraction remediation system that was designed to recover over two feet of diesel fuel that was identified in the backyards of a residential area. Approximately 1.5 years after system startup, Pioneer successfully recovered 3,300 gallons of diesel fuel from the subsurface, submitted for reimbursement of almost $900,000 in eligible remediation costs, and has submitted the appropriate documentation to the Site Remediation Program in order to obtain a comprehensive NFR letter from the State for the non-LUST issues. Throughout this on-going project, Pioneer has provided a wide variety of environmental services associated with diverse environmental problems and has worked closely with the property owner, developer, community, and regulators.
In-Situ #5 Heating Oil Free Product Recovery

Due to the former wide-spread use of heating oil throughout the country and the corresponding use of USTs to store the oil, many sites today are faced with varying degrees of impacts associated with leaks from these obsolete tanks. One such site, located near the lakefront in the City of Chicago, experienced a release of #5 heating oil which migrated beneath the on-site 14-story residential building and leaked into the adjacent basement through cracks in the walls and floor, yielding the property nearly unmarketable. When the release was first discovered in 1990, two separate consultants were hired to perform corrective action at the site but were unsuccessful due to design short-comings and the viscous nature of the heating oil released from the tank. Pioneer was subsequently contracted to develop and implement a strategy to remove the oil from beneath the building. Pioneer’s involvement in this project facilitated the subsequent sale of the building, which was in-part based on the completion of Pioneer’s IEPA-approved Corrective Action Plan for the site.

Pioneer began solving this problem by designing and performing a subsurface investigation beneath the high-rise building to delineate the extent of free-phase #5 heating oil associated with the out-of-service 15,600 gallon UST. Once the extent had been defined, Pioneer designed, implemented and interpreted an aquifer pumping test to determine the hydrogeologic characteristics of the subsurface and determine appropriate remedial strategies for the site. Since the main problem associated with recovering the oil was its viscous nature (no product was recovered during the pumping test), Pioneer designed, constructed, and operated a bench-scale model to economically determine the technical feasibility of using heat and/or surfactants to recover the viscous #5 heating oil from beneath the structure. Upon successful results of the bench-scale modeling, Pioneer performed an on-site pilot test to determine the site-specific parameters for a surfactant-enhanced free product recovery system at the site. Pioneer subsequently designed, constructed, and performed operations and maintenance on a full-scale surfactant-enhanced product recovery system at the site to recover an estimated 3,000 gallons of #5 heating oil.

As a point of interest, during the operation of the system, Pioneer entertained 12 IEPA representatives at the site who were interested in personally inspecting the site due to its innovative and effective product recovery strategy. Pioneer also procured client reimbursement from the state UST fund for eligible investigation and corrective action costs at the site.
3.6 Property Condition Assessments

PCA of a Commercial/Retail Building

Pioneer performed a PCA of a four-story commercial/retail building downtown Chicago that recently closed for $55 million. The property condition assessment of the multi-tenant building was performed in conjunction with a Phase I ESA, and included a near-term and total 10-year capital expenditure analysis for the 40,000-square-foot building. The replacement reserve cost analysis accounted for the exterior building envelope, roof, and mechanical systems with associated components (e.g. HVAC, domestic hot water, elevator, fire/life safety systems). Post-inspection, an electrical fire, originating off-site, took place at the building; Pioneer returned to the site to assess the fire damage to the building and determine associated repair costs and suggested implemented preventive measures to reduce the likelihood of a similar fire event reoccurring. Additionally, architectural consulting services were included as part of this assessment, in order to provide options for future retail space division for the client.

PCA of a Industrial/Office Building

Pioneer recently performed a PCA of an approximate 60 year-old, 87,000-square-foot industrial/office building in the Chicago metropolitan area. Pioneer created a near-term and 5-year replacement reserve analysis. The near-term analysis revealed several life-safety issues throughout the exterior of the subject property and within the building, including the Fire Safety Equipment systems. Pioneer provided suggested remedies with associated repair costs for these issues, as well as several other identified issues immediately impacting the building. Additionally, Pioneer determined the property will require an estimated $271,000 of replacement reserve/repair costs over the following five years to be properly maintained due to deferred maintenance and upgrades.

PCA of a Hotel

Pioneer performed a PCA of a 5-story hotel constructed in three phases starting in the 1970s. The assessment included an evaluation of all the HVAC components for the common areas, banquet rooms, kitchens, and guest rooms. Additionally, the property contained a pool, work out area, sauna, and numerous passenger and freight elevators that were all evaluated. Issues associated with the Americans with Disability Act were identified and costs associated with their repairs were included in the 12-year cost estimate.
**PCA of a Commercial Office Building**

Pioneer performed a PCA of a large commercial facility located in Northbrook, Illinois. The condition assessment was conducted in conjunction with a Phase I Environmental Site Assessment (ESA) to establish the total facility capital needs over the next 30 years. By analyzing the remaining useful life of various building components, the capital costs of maintaining the building were optimized in conjunction with an environmental remediation project at the subject building, which provided an overall figure for expected property maintenance costs.

**PCA of a 100-year old 12 Story Building**

Pioneer performed a PCA of a 100-year old 12-story building in downtown Chicago. The building included a full basement with original boilers and vaults under the public sidewalks. The assessment included an evaluation of the terra cotta façade and its inspection and maintenance history in accordance with the applicable City of Chicago building codes and Façade Ordinance. Renovation costs and future capital costs were analyzed for reconfiguring the use of the building and to address the on-going maintenance costs.

**PCA of an Industrial Facility**

Pioneer performed a Property Condition Assessment (PCA) of a large industrial facility located in Illinois. The facility included various phases of improvements constructed over the past 50 years. The property and associated structures had been vacant for a significant period of time resulting in unknowns regarding the remaining useful life of various electrical and mechanical systems located throughout the structures. Pioneer performed a detailed cost analysis to remedy physical deficiencies within the structures, which facilitated the new owner’s assessment of the structures’ capital needs.
3.7 Geotechnical Engineering Services

**Proposed High-Rise Building on Washington Blvd, Chicago, IL**

Pioneer performed a comprehensive geotechnical investigation for a proposed 25-story building which included a 3-story parking structure. The investigation consisted of rotary mud drilling through a surficial layer of typical Chicago urban fill; followed by a layer of Chicago “blue clay”; followed by stiff to very tough silty clay; followed by “hardpan”, which was present at a depth of approximately 75 feet below grade; and finally into the underlying dolomite bedrock.

During the field investigation, Pioneer performed field vane shear tests in the cohesive soft materials in order to assist in the caisson design and determination if downhole casing would be required during construction. Pioneer also performed pre-bored pressure meter tests in the “hardpan” materials overlying the bedrock in order to determine the allowable bearing pressure for these sediments. A Rock Quality Determination (RQD) was also completed for the underlying bedrock to determine the potential suitability for end-bearing caissons on the bedrock surface.

Based on an advanced analysis of the field and laboratory data, in conjunction with the anticipated high maximum column loads, Pioneer determined that belled caissons bearing on the “hardpan” materials would provide for adequate support and prove to be more economical than deeper caissons bearing on or tied into the bedrock.

**Warehouse Facility on Pershing Road, Chicago, IL**

Pioneer performed a geotechnical investigation for a proposed 105,000 square-foot warehouse facility. The investigation identified very poor subsoils consisting of urban fill to a depth of 16 feet below existing grade, followed by soft clay to approximately 25 feet. Below this layer, the silty clay exhibited a stiff consistency to a depth of 30 feet, and bedrock was encountered at 36 feet below existing grade.

Pioneer’s settlement analysis predicted excessive differential settlements of the proposed foundations and floor slabs if placed on these existing soils. To further complicate site conditions, the surficial soils were environmentally contaminated, which made it too costly to use an excavation and replacement strategy to support the proposed floor slabs. Therefore, various deep foundation and soil amendment alternatives were evaluated. The foundation alternatives included deep foundations such as H-piles, pipe piles, auger cast piles, and caissons, as well as soil amendment alternatives, such as Deep Dynamic Compaction (DCC), Geopier® or Rammed Aggregate Piers, and vibro-replacement stone columns. Based on cost analyses, the client selected the installation of vibro-replacement stone columns spaced at 8-foot intervals, extending to approximately 20 feet below design grade, providing an improved allowable bearing pressure of 4,000 psf across the entire building area. A geogrid membrane system was placed across the slab area. This recommended soil amendment technique reduced the calculated differential settlements and minimized the haul-off of contaminated soils during construction.
Former Chicago Housing Authority (CHA) Redevelopment

Pioneer performed a comprehensive geotechnical investigation for the proposed redevelopment consisting of a series of 2- to 4-story masonry/frame structures with concrete slab-on-grade floors and mid-rise 4- to 5-story multi-family residential buildings. The site generally consisted of approximately 8 to 15 feet of miscellaneous urban fill, overlying very tough to soft silty clay deposits. These urban fill materials were considered to be contaminated for purposes of disposal.

Through a series of soil borings and test pit excavations, Pioneer determined that the fill materials were relatively compact and free of void spaces and organic materials. Subsequent calculations verified that a low bearing capacity of 500-1,000 psf with acceptable differential settlements could be achieved for these urban fill materials. Therefore, in order to minimize removal of the existing, contaminated materials and avoid deep, costly replacements, Pioneer recommended shallow foundation systems consisting of reinforced concrete mat slabs for the low-rise buildings and pipe-pile deep foundation systems for the mid-rise buildings.

Pioneer subsequently provided the on-site field monitoring for the construction of the mat slab foundations and pile installations at the site.

Proposed 5-story Building on West Howard Street, Chicago, IL

Pioneer performed a geotechnical investigation for a proposed 5-story building in order to determine subsoil conditions at the site. The site generally consisted of medium-dense, saturated sand to a depth of approximately 22 feet below existing grade, followed by soft to stiff silty clay to a depth of approximately 35 feet below grade. The investigation included the performance of Standard Penetration Tests (SPT) in the sand stratum and in-situ vane shear tests in the soft clay. Laboratory consolidation tests were also performed on Shelby tube samples extracted from the soft clay layer.

Pioneer performed advanced settlement analyses using UniSettle software, where the proposed foundation layout, along with relevant line and column loads and floor loads, were simultaneously simulated to determine the resulting differential settlements. After various iterations it was determined that a conventional spread footing system could be utilized with acceptable differential settlements, thus saving the cost associated with the originally proposed deep foundation system at this challenging site.
**Phase I Dam Inspection & Evaluation for Dam Safety Permit, Cortland, IL**

Pioneer performed a Phase I visual inspection of the existing Class III “Low Hazard” embankment dam in accordance with the U.S. Army Corps of Engineer guidelines. The visual inspection of the embankments identified areas of potential seepage and sloughing, and as a result, additional investigation was recommended to further evaluate the safety and structural integrity of the dam.

Pioneer subsequently performed a geotechnical investigation of the dam to determine if it met the requirements of the Illinois Administrative Code Section 3702 (Construction and Maintenance of Dams) including General Permits 98-01 and 02-01, and the permit requirements of the Illinois Department of Natural Resources (IDNR), Office of Water Resources (OWR). The geotechnical investigation included the advancement of soil borings along the dam alignment, performing in-situ and laboratory tests on soil materials, surveying the dam cross-sections, and characterizing the strength of the site’s materials.

In completing this inspection and evaluation, Pioneer performed state-of-the art engineering analyses, such as slope stability and seepage analyses, in accordance with the US Army Corps of Engineer criteria. Based on the successful completion of the evaluation and the favorable results, Pioneer coordinated with the owner and the IDNR in obtaining the permit for the dam.
4.0 Partial List of References

Timber Hill Group, LLC  
8770 W. Bryn Mawr Avenue  
Suite 1350  
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Attn: Sean Bezark  
Phone: (312) 476-5027

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Chicago, IL 60654  
Attn: Donald Biernacki  
Phone: (312) 595-7400

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812 Busse Highway  
Park Ridge, IL 60068  
Attn: Jim Persino  
Phone: (773) 775-5005

Lee & Associates of Illinois  
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Rosemont, IL 60018  
Attn: Tim McCahill / Brian Vanosky  
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The Harlem Irving Companies  
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Norridge, IL 60706  
Attn: Rick Filler  
Phone: (773) 625-3036

CIBC  
1110 Jorie Boulevard  
Oak Brook, IL 60523  
Attn: Michael McGrogan  
Phone: (630) 516-0910
### 5.0 Representative Clients

<table>
<thead>
<tr>
<th>Real Estate Development Companies</th>
<th>Lending Institutions</th>
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**Public Institutions/Municipalities**
- Chicago Fleet & Facility Maintenance
- Chicago Housing Authority
- Chicago Public Building Commission
- City of Dekalb
- City of Des Plaines
- City of Elmhurst
- City of Palos Heights
- Illinois Department Natural Resources
- Lake Zurich CUSD 95
- Metropolitan Water Reclamation District
- NeighborSpace
- Northern Illinois University
- Reavis High School District 220
- Trust for Public Land
- Village of Arlington Heights
- Village of Blue Island
- Village of Des Plaines
- Village of Romeoville
- Village of Lemont
6.0 Insurance Coverage

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Clients can be listed as additional insured on the above policies (with the exception of Worker’s Compensation, Employer’s Liability, Professional Liability and Automobile Liability) at no charge. The policies have a standard 30-day notice of cancellation clause.
### Resumes of Key Personnel

Immediately following are the resumes of Pioneer’s key personnel. Each resume contains specific information regarding education, certifications, qualifications and relevant project experience.

<table>
<thead>
<tr>
<th>Pioneer Personnel</th>
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<tbody>
<tr>
<td>Mike Ciserella, P.E.</td>
<td>Principal</td>
</tr>
<tr>
<td>Doug Ciserella</td>
<td>Principal</td>
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<tr>
<td>Wayne Smith, P.G.</td>
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<tr>
<td>Jeffrey McClelland, P.E.</td>
<td>Vice President</td>
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<tr>
<td>Boyd Raveling</td>
<td>Vice President</td>
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<tr>
<td>Robert L. Gay, P.E.</td>
<td>Senior Geotechnical Engineer</td>
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<tr>
<td>Megan Wells-Paske</td>
<td>Senior Project Manager</td>
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<tr>
<td>Nicole Andrade, P.E.</td>
<td>Senior Engineer</td>
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<tr>
<td>Kimberly Hempel</td>
<td>Senior Project Manager</td>
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<td>Scott Posadzy</td>
<td>Senior Project Manager</td>
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<tr>
<td>Elizabeth Cole</td>
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<tr>
<td>David Jurina, LEED A.P.</td>
<td>Senior Project Manager</td>
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</table>
Mike Ciserella, P.E., Principal

Mike Ciserella is a founding partner and principal of Pioneer Engineering and Environmental Services, LLC. Since 1989, Mike has been involved in virtually every aspect of the firm’s business. For more than 30 years, Mike has consulted with the nation’s top law firms, lending institutions, real estate professionals (investors, developers, owners, brokers and managers), pension and private equity funds, insurers, REITs, municipal, government agencies and industry regarding environmental risk, acquisition and redevelopment considerations, and regulatory closure strategies for environmentally impaired properties.

Mike is currently responsible for the day-to-day management of Pioneer’s business, generation of new business opportunities, and leading the firm’s strategic planning and company’s expansion efforts. Mike manages key client relationships and is also the senior professional engineer on staff, providing technical guidance and oversight on complex projects. Further, he has extensive Brownfields redevelopment experience, as well as traditional development and construction experience, which is a direct result of over 25 years in real estate acquisition, construction and development as an owner and developer. His extensive environmental consulting and business management experience combined with real estate development and construction experience provide unique project insight.

EDUCATION/CERTIFICATES/LICENSES

Mike graduated from the University of Illinois at Champaign-Urbana with a Bachelors of Science degree in Mechanical Engineering in 1987. He has pursued extensive graduate level coursework and attended continuing education classes in real estate finance, development, LEED building design, construction, real estate law, zoning, Brownfields development, civil and environmental engineering. He is a registered licensed Professional Engineer in the States of Colorado, Illinois, and Indiana. He is a past member of the Lincoln Park Builders Club of Chicago and National Society of Professional Engineers.
Doug Ciserella, Principal

Doug Ciserella founded Pioneer Engineering and Environmental Services, LLC. of Chicago, Illinois in 1989. For 30+ years, Doug has been responsible for the financial and business management of the company, sales and marketing efforts, and overall management of company operations. Doug has extensive real estate transactional and Brownfields Redevelopment and construction experience with the successful completion of numerous projects throughout the United States. His environmental consulting and business management experience combined with hands-on real estate development and construction experience provide a unique set of capabilities and understanding to a wide range of projects.

Doug’s specific experience includes:

- Thirty-plus years of experience in consulting with law firms, lending institutions, real estate consultants, municipalities, government agencies, real estate investors, developers and brokers, prospective purchasers, property owners and industry regarding environmental risk, regulatory and compliance issues.

- Prepared the design objectives, criteria, methods and procedures for the decontamination of Superfund sites. A typical remediation project includes removal/disposal of contaminated soil, surface and subsurface storage tank decontamination/removal, building decontamination/demolition and lagoon de-watering and sediment removal.

- Prepared and implemented closure plans for RCRA permitted facilities. This would include the development of soil and groundwater sampling plans, the performance of a formal risk assessment and any associated remediation work.

- Performed assessment of sites in the Chicago loop suspected of radioactive contamination (primarily thorium). Negotiated with the USEPA on allowable background levels of contamination.

- Designed, implemented, and supervised hundreds of soil and groundwater investigations for petroleum and chemical storage and distribution facilities, closed landfills, industrial and manufacturing facilities located throughout the United States. Extensive field experience in the performance and supervision of subsurface investigations including drilling rig operation, soil sampling and analysis, bedrock coring, groundwater monitoring well installations, monitoring well development, sampling and analysis, and hydrogeological investigations.

- Completed the design and construction of numerous petroleum and chemical underground storage tank (UST) and above-ground storage tank (ASTs) systems in accordance with the prevailing federal and state regulations for leak detection, cathodic protection and spill/overfill prevention.

- Completed numerous pilot studies for the in-situ remediation of contaminated soil and groundwater using air sparging, soil vapor extraction, dual-phase extraction, groundwater pump and treat, solidification/stabilization, surfactant-enhanced recovery and bioremediation.
• Involved in the design, construction and supervision of in-situ remediation systems used to remediate contaminated soils and groundwater. These systems include above ground bioremediation, landfarming, incineration, groundwater pump and treat, soil vapor extraction, air sparging, bioremediation, surfactant-enhanced remediation, solidification/stabilization as well as conventional excavation and landfilling.

• Designed and managed hundreds of petroleum and hazardous UST closure projects (removal and abandonment) for various public and private facilities throughout the Midwest region.

• Experience with risk and endangerment assessment programs and procedures used to establish soil and groundwater cleanup objectives using risk-based methodologies.

• Assisted in the development and implementation of company protocol for the performance of Phase I Environmental Site Assessments (ESAs) in accordance with the American Society for Testing and Materials (ASTM) published standard and specific state laws and other institutional requirements. Extensive experience in the performance, direction and supervision of Phase I ESAs for thousands of industrial, commercial and undeveloped properties throughout the United States.

• Extensive knowledge and experience in the preparation and submittal of regulatory compliance and closure reports for Leaking UST, RCRA and Voluntary Cleanup projects. Supervised the preparation and submittal of reimbursement requests for costs expended at petroleum leaking UST sites throughout the Midwest region in excess of $20,000,000.

EDUCATION:
University of Colorado at Boulder, CO
  › B.S. Civil Engineering
Southern Illinois University, Carbondale, IL
  › B.S. Accounting

CERTIFICATES / LICENSES:

• Field Monitoring for Soils and Groundwater
• 40 Hours Safety Trained for Hazardous Waste Sites
• Confined Space Work Training
Wayne Smith, P.G., Principal Consultant

Wayne Smith is the Principal Consultant with Pioneer Engineering & Environmental Services, LLC and part of the management group that leads the company. He started his career as a Project Manager with Pioneer in 1992. His experience at Pioneer includes his work as a project manager, a senior project manager, and the environmental services director in charge of the company’s operations. During his tenure in the environmental field, he has conducted more than a thousand Phase I and Phase II Environmental Site Assessments for industrial, manufacturing, and commercial properties throughout the United States. Wayne has also developed and implemented active remediation systems and successfully achieved regulatory closures on a wide range of contaminated sites. Wayne was the lead consultant responsible for successfully completing more than 200 Brownfields redevelopment projects in Illinois. His expertise and knowledge in the field has also afforded Wayne the opportunity to be a featured speaker at Brownfields Redevelopment seminars.

Primary responsibilities include client development, technical review, and project execution. Through his professional experience, he has developed a strong working relationship with many varied clients and serves as the key client contact. Wayne has a thorough understanding of real estate property transactions and provides owners, lenders, purchasers and investors the pertinent information needed to help make logical well-reasoned financial and investment decisions.

Wayne’s specific experience includes:

- Performing Phase I Environmental Site Assessments and Environmental Regulatory Compliance audits for industry at over 350 facilities.

- Designing and managing soil and groundwater investigations for more than 750 sites. This work included: identification of areas of concern, sampling plan development, plan implementation and field supervision, project management, client contact, and report preparation.

- Conducting over 200 environmental risk assessments pursuant to the Illinois EPA’s TACO (Tiered Approach to Corrective Action Objectives) regulations to obtain No Further Remediation letters through the Leaking Underground Storage Tank and Voluntary Site Remediation Programs to facilitate residential, commercial and/or industrial redevelopment.

- Designing and implementing numerous soil and groundwater remediation programs both for conventional remediation and alternative technology projects that included air sparging, soil vapor extraction, dual-phase extraction, chemical oxidation, in-situ bioremediation, and natural attenuation.

- Conducting risk assessments using industry standards (Risk Based Corrective Action-ASTM), federal guidelines (Soil Screening Guidance-US EPA), and state procedures (TACO-Illinois EPA) to evaluate regulatory and practical considerations of Brownfields redevelopments.

- Responsible for creating, implementing, and directing standard operating procedures for the company and improving overall operating efficiencies and practices.
• Assisting clients with State and Federal Environmental Rules and Regulations, regulatory negotiations, and risk analysis. Was an integral part of a team that successfully negotiated one of the few Prospective Purchaser Agreements with the Illinois EPA and Illinois Attorney General in 2006.

• Authoring various environmental articles for industry trade publications.

EDUCATION:  
• Augustana College, Rock Island, IL  
  › B.A. Geology  
  › B.A. English

CERTIFICATIONS / LICENSES:  
• Licensed Professional Geologist (P.G.) - IL

AFFILIATIONS:  
• Illinois Association of Professional Geologists • Urban Land Institute
Jeffrey T. McClelland, P.E., Vice President

Jeff McClelland, Vice President of Environmental Services, started working as a Project Manager for Pioneer Engineering & Environmental Services, LLC in 1995. His experience at Pioneer includes his work as a project manager, a senior project manager, and supervisor of the environmental engineering and assessment and geotechnical engineering groups. Jeff has conducted and provided oversight for hundreds of environmental site assessments, risk assessments and remedial approaches for residential, commercial, and industrial properties.

Jeff’s specific experience includes:

• Supervising environmental assessment and remediation staff, including final technical and QA/QC certifications of calculations, reports, and Agency correspondences.

• Developing and evaluating various aspects of environmental land planning (environmental assessments, geotechnical investigations, and foundation recommendations) to facilitate cost-effective and environmentally responsible redevelopment.

• Conducting numerous environmental risk assessments pursuant to the Illinois EPA’s TACO (Tiered Approach to Corrective Action Objectives) regulations to obtain No Further Remediation letters through the Leaking Underground Storage Tank and Voluntary Site Remediation Programs to facilitate residential, commercial and/or industrial redevelopment.

• Securing client reimbursement from the State Underground Storage Tank (UST) Fund for eligible costs at numerous Leaking UST sites.

• Design and evaluation of pilot studies and full-scale implementation of chemical oxidation strategies, surfactant-enhanced recovery, and dual-phase extraction systems for the recovery of free product and remediation of petroleum and chlorinated solvent releases.

• Designing, planning and implementing numerous conventional remediation (i.e. excavation and disposal) strategies to obtain No Further Remediation letters as formal site closure.

• Design and implementation of removal action strategy for federally-mandated Superfund cleanup.

EDUCATION: Michigan Technological University, Houghton, Michigan
  • B.S. Environmental Engineering, Magna Cum Laude
Continuing Education: University of Wisconsin, Madison, WI
  › Air-Based In-situ Soil and Groundwater Remediation Systems
  › Foundation Engineering

Resumes of Key Personnel:
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Jeffrey T. McClelland, P.E., Vice President
CERTIFICATIONS / LICENSES:

- Licensed Professional Engineer (P.E.) - IL, IN, MI, MO, WI
- Certified Class K-WR Wastewater Treatment Works Operator
- 40 Hour OSHA Safety Trained for Hazardous Waste Sites
- UST Decommissioning Certification - Illinois
- ASTM - Risk-Based Corrective Action Applied at Petroleum Release Sites
- ASTM - Property Condition Assessments
- ASTM - Evaluation of Indoor Vapor Intrusion Pathway
- LEED Accredited Professional

AFFILIATIONS:

- Trust for Public Land – Chicago Advisory Board Member (2005-2020)
- American Society of Civil Engineers
- Illinois Society of Professional Engineers
Boyd Raveling, Vice President

Boyd Raveling, Vice President of Site Assessment Services, started working as a Project Manager for Pioneer Engineering & Environmental Services, LLC in 1996. His experience at Pioneer includes his work as a project manager, a senior project manager, and supervisor of the environmental site assessment group.

Boyd’s specific experience includes:

- Supervision of Phase I Environmental Site Assessment staff for over 20 years. Pioneer’s Phase I Group produces several hundred property investigation reports annually. Duties include technical writing/editing, performance review, employee training, client contact, and final report authorization.

- Conducted in excess of 200 Phase I Environmental Site Assessments, over 20 years of experience, for industrial and commercial properties throughout the United States. Facilities inspected have included large-scale printing operations, distribution facilities, and manufacturing plants. The assessments included on-site surveys, asbestos, lead-based paint (LBP) and polychlorinated biphenyl (PCB) surveys, underground storage tank (UST) investigations, prior use evaluation, and neighborhood hazardous waste activity review.

- Performed oversight and review of in excess of 300 Property Condition Assessments throughout the United States. Facilities assessed have included residential apartment and condominium complexes, nursing and assisted living facilities, large retail centers, office complexes and industrial facilities.

- Conducted numerous Transaction Screen Process (TSP) studies for residential and light commercial properties throughout the Midwest. These studies also included on-site surveys, asbestos, LBP and PCB surveys, UST investigations, prior use identification, and neighborhood hazardous waste activity review.

- Conducted numerous Asbestos Surveys and pre-demolition asbestos inspections for commercial and multi-unit residential properties. These studies included asbestos identification, sampling, quantification assessments, and abatement cost estimates outlined in detailed reports.

- Assisted in the preparation of numerous Phase II Environmental Site Assessments, including core sampling, field testing, and groundwater monitoring.

- Experienced in wastewater sampling and sanitary district compliance issues. Facilities monitored include plating facilities, metal foundry operations, meat-packing plants, and printing operations.

- Extensive technical writing experience.
EDUCATION: Columbia College, Chicago, IL
- B.A. Journalism

Elgin Community College, Elgin, IL
- A.A. Liberal Studies

University of Wisconsin, Madison
- Engineering

CERTIFICATIONS: Completed ASTM Site Assessment Training
Robert L. Gay, P.E., Senior Geotechnical Engineer

Robert Gay, Senior Geotechnical Engineer, started working at Pioneer in 2011 and has over 30 years of experience in geotechnical engineering, hydrogeology, environmental field investigations, and construction materials testing. His geotechnical engineering experience includes slope stability analysis, foundation design, and settlement analysis. Robert has extensive experience in developing and managing site investigations for environmental and geotechnical projects. Robert also has a broad and diverse project experience managing construction quality control/assurance activities for a wide variety of projects, including residences, warehouses, roadways, bridges and landfills.

Robert’s specific experience includes:

- Supervision of geotechnical investigations and preparation of foundation recommendations for single-story to high-rise residential/mixed-use buildings, schools, retail stores, subdivision developments, bridges and roadways, cell towers, commercial and industrial buildings. Experience with various foundation types including spread and trench footings, mat foundations, drilled foundations, driven piles, micropiles, helical anchors, and stone columns/Geopiers.

- Preparation of project scope, cost estimates, technical performance and technical review of geotechnical engineering projects and environmental site investigation projects. Worked closely with general contractors, developers, surveyors, excavators, drilling contractors, and vendors.

- Directed hydrogeological investigation for a 100-acre solid waste landfill in north-central Illinois. Work included over 30 borings to depths of 100 to 150 feet. Performed pressure testing in the bedrock portion of many boreholes and installed monitoring wells at all locations.

- Management of an offshore geotechnical investigation for improvements to a section of Lake Michigan shoreline in Chicago. Coordinated drilling and barge services to complete soil and bedrock borings. Prepared results of investigation for U.S. Army Corps of Engineers.

- Management of a subsurface investigation company specializing in geotechnical and environmental drilling projects. Experienced in various subsurface investigation techniques including hollow-stem augers, mud rotary, GeoProbe®, jackhammer probe, hand augering, and test pit excavations. Field testing experience consists of SPT, DCP, CPT, Shelby tube sampling, vane shear testing, pressure-meter testing, rock coring, slug and pump testing, and packer testing. Experienced in installing piezometers, monitoring wells, and pumping wells for both geotechnical and environmental applications.

- Management and coordination of numerous offshore drilling projects in Lake Michigan, Illinois River, Chicago River and various inland lakes. Developed work scope and selected appropriate drilling techniques for sediment sampling, soil sampling and bedrock coring. Projects ranged from using rotary drill rigs mounted on barges to using hand-operated piston samplers on pontoon boats.
• Supervision of a geotechnical laboratory performing a wide variety of tests including moisture content, Atterberg limit, grain size distribution, organic content, hydraulic conductivity, and consolidation.

• Quality Assurance Officer on over 30 acres of municipal solid waste landfill expansion at a Central Illinois site and over 3 acres of landfill closure at Argonne National Laboratory. Monitored overall construction activities and directed construction quality control technicians. Prepared Construction Quality Control reports for IEPA use upon completion of each landfill unit.

• Resident Project Representative during construction of an 80,000 sf solid waste transfer station. Performed contract document administration and coordinated construction related activities of the architect, structural engineer, mechanical engineer and other design professionals. Administered over $11 million in contracts with four prime contractors.

• Senior Estimator for a General Contractor specializing in bridge repair and construction. Prepared construction cost estimates for numerous projects ranging in size from $0.5 million to over $20 million.

EDUCATION:  
• University of Illinois, Champaign-Urbana
  ‣ B.S. Civil Engineering

CERTIFICATIONS / LICENSES:
• Licensed Professional Engineer - Illinois, Wisconsin, Iowa, Tennessee, Minnesota, Mississippi, and Alabama
• Licensed Water Well Contractor - Illinois
• Certified OSHA 40-Hour Health and Safety Training
Megan Wells-Paske, Senior Project Manager

Megan Wells-Paske, Senior Project Manager, started working as a Project Manager for Pioneer Engineering & Environmental Services, LLC in 1998. Her experience at Pioneer includes her work as a project manager, and a senior project manager within the environmental assessment group. Megan has conducted and provided oversight for hundreds of environmental site assessments, risk assessments and remedial approaches for residential, commercial, and industrial properties.

Megan’s specific experience includes:

• Conducting numerous due diligence Phase I Environmental Site Assessments (Phase I ESAs) and Transaction Screen Processes (TSPs) of various properties ranging from vacant/raw land to industrial facilities. Assessments have been performed in Florida, Illinois, Indiana, Ohio, Oklahoma, and Wisconsin, and consisted of project oversight, site investigations, historical research, regulatory agency file reviews, report preparation, and correspondence with federal, state and local government agencies.

• Conducting numerous Phase II subsurface investigations, including project management, identification and interpretation of consolidated and unconsolidated geological systems, collection of representative subsurface soil samples for analysis, and report preparation.

• Conducting numerous environmental risk assessments pursuant to the Illinois EPA’s TACO (Tiered Approach to Corrective Action Objectives) regulations to obtain No Further Remediation letters through the Leaking Underground Storage Tank and Voluntary Site Remediation Programs to facilitate residential, commercial and/or industrial redevelopment.

• Supervising Phase I and Phase II environmental assessment staff (employee training, report review, client contacts, and final report authorization).

• Performing environmental compliance audits of commercial facilities, in particular dry cleaning operations, auto repair facilities, and gasoline stations.

• Conducting focused site investigations in accordance with the requirements of the Illinois Drycleaner Environmental Response Trust Fund Act.

• Preparing a grant application for the Municipal Brownfields Redevelopment Grant Program.

• Securing client reimbursement from the State Underground Storage Tank (UST) Fund and Drycleaner Environmental Response Trust Fund for eligible costs at numerous Leaking UST sites and dry cleaning facilities.

• Assisting with project design, planning and implementation of various remediation projects (e.g., excavation and disposal of both hazardous waste and non-hazardous/special waste soil, in-situ chemical oxidation, and engineered barrier installations).
EDUCATION:  
• Illinois State University, Normal, IL  
  › B.S. Geology

Continuing Education:  
• University of Illinois, Springfield, IL  
  › Graduate Public Service Intern-Environmental Studies

CERTIFICATIONS / LICENSES:  
• 40 Hour OSHA Safety Trained for Hazardous Waste Sites
Nicole Andrade, P.E., Senior Engineer

Nicole Andrade started working as a Project Manager for Pioneer Engineering & Environmental Services, LLC in May 2011. Her experience at Pioneer includes her work as a project manager for the Phase I Environmental Site Assessment group and an engineer for the environmental engineering and assessment group. She has managed numerous environmental site assessments, risk assessments and remediation projects for residential, commercial and industrial properties.

Nicole’s specific experience includes the following:

• Conducted numerous Phase II Environmental Site Assessments of various properties, including vacant/undeveloped land, residential sites, commercial properties and industrial facilities for due diligence and site closure purposes. Assessments consisted of project oversight, field testing, data evaluation and report preparation. Assessments have been performed in Illinois, Wisconsin and Missouri.

• Conducted environmental risk assessments pursuant to the Illinois EPA’s TACO (Tiered Approach to Corrective Action Objectives) regulations to obtain No Further Remediation letters through the Voluntary Site Remediation Program to facilitate site closure and redevelopment.

• Successfully obtained No Further Remediation letters and secured client reimbursement from the State Underground Storage Tank (UST) Fund for Leaking UST sites.

• Prepared certifications for Clean Construction and Demolition Debris disposal and facilitated landfill permit approvals for soil disposal.

• Designed, planned and implemented conventional remediation projects (excavation and disposal) and alternative technology projects (in-situ chemical oxidation and in-situ stabilization).

• Provided field oversight and sampling for UST removals, remediation projects and Phase II investigations, including soil and groundwater sample collection and geological and hydrogeological systems identification and interpretation.

• Secured client reimbursement from the Brownfields Revolving Loan Fund.

• Conducted numerous Phase I Environmental Site Assessments and Transaction Screen Processes on all property types. Assessments consisted of site reconnaissance, historical research, regulatory agency file reviews and report preparation.

EDUCATION: University of Illinois, Urbana-Champaign, IL
Bachelor of Science in Civil and Environmental Engineering, May 2010

CERTIFICATIONS / LICENSES: Licensed Professional Engineer (P.E.) - Illinois
40-Hour OSHA Safety Trained for Hazardous Waste Sites

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Nicole Andrade, Senior Engineer
Kimberly Hempel, Senior Project Manager

Kim Hempel has over 15 years of experience in the environmental industry and started working as a Project Manager for Pioneer Engineering & Environmental Services, LLC in June 2014. Her experience at Pioneer includes her work as a project manager for the environmental engineering and assessment group. She has conducted and provided oversight for numerous environmental site assessments, risk assessments and remedial approaches for residential, commercial and industrial properties.

Kim’s specific experience includes:

• Managing several projects related to Phase II Environmental Site Assessment and Illinois EPA (IEPA) Site Remediation Program (SRP)/Leaking Underground Storage Tank (LUST) closure, and successfully obtaining No Further Remediation (NFR) letters through both programs.

• Serving as Owner’s Representative for remediation of chlorinated volatile organic compounds (VOCs), metals, and petroleum impacts at a 10+ acre site under a Consent Decree with State of Washington, and assisting with redevelopment planning tasks

• Directing and providing oversight of asbestos and petroleum cleanup activities at a USEPA-regulated site under an Administrative Order.

• Completing risk assessment calculations and compiling reports for Phase II due diligence, IEPA SRP/LUST closure, and UST removal/abandonment.

• Collaborating with multi-disciplinary project teams to identify environmental concerns, implement remedial actions, ensure regulatory compliance, and avoid project delays.

• Advising clients on ways to minimize costs related to development of environmentally-impacted properties.

• Interfacing directly with clients, preparing budgets/proposals, and reliably meeting reporting deadlines on time and in budget.

• Coordinating and overseeing subcontractor activities and performance.

• Mentoring junior staff/interns on data interpretation/evaluation, sampling, and laboratory-related issues.

• Performing environmental sampling (soil and groundwater), oversight, well surveys, and slug tests.

• Generating health and safety plans (HASPs) and Soil Management Plans (SMPs), and conveying information to on-site workers.

• Developing bid specifications, sampling procedures, and field forms.

• Reviewing and interpreting CERCLA, IEPA SRP and LUST regulations.

• Preparing for and participating in meetings with clients, regulators, and project personnel.
• Tracking project budgets, invoicing, laboratory coordination, and data evaluation.

EDUCATION: University of Illinois, Urbana-Champaign, IL
- B.S. Natural Resources & Environmental Sciences

CERTIFICATIONS / LICENSES:
- 40-Hour OSHA HAZWOPER
- Annual 8-Hour OSHA Site Supervisor
- Loss Prevention System Training
- Construction Quality Management
- First Aid/CPR Training
- 24 Hour EPA Laboratory Training
- ICS 100
- ICS 200
Scott Posadzy, Senior Project Manager

Scott Posadzy started working as a Senior Project Manager for Pioneer Engineering & Environmental Services, LLC in 2021. Scott has nearly 35 years of Phase I and Phase II Site Investigation, UST and AST removal and decommissioning, remediation, and regulatory closure experience.

Scott’s specific experience includes the following:

- Performed over 3,500 Phase I ESAs and Transaction Screens in 22 of the United States. Properties assessed have included residential buildings, commercial buildings, strip centers, restaurants, dry cleaner sites, gas stations, auto repair shops, machine shops, industrial facilities, railroad yards, theaters, hotels, nursing homes, airports, marinas, golf courses, farmland, and vacant land.

- Closed or participated in the closure of hundreds of LUST incidents in the State of Illinois under 35 IAC Parts 731, 732 and 734. Experienced in all phases of related work including 20/45-Day Reporting, Early Action, Site Investigation, Corrective Action, UST Fund reimbursement, and AutoCAD drawings.

- Designed and performed hundreds of Phase II investigations of gas stations, dry cleaner sites, machine shops, industrial facilities, and other sites where the potential release of hazardous substances and/or petroleum products was a concern.

- Participated in the decommissioning of several industrial facilities including the AT&T Teletype Plant in Niles, Illinois; Unocal Polymer Plant in Bridgeview, Illinois; and the Zenith Television Plant in Melrose Park, Illinois.

- Supervised and managed hundreds of UST and AST removals.

- Designed, supervised, and managed remediation projects including those involving soil excavation, pump & treat, soil-vapor extraction, and bio-remediation.

- Created a database of historical city directory listings from name-based telephone books from 1931 to 1981 for over 300 municipalities and townships in the Chicagoland area.

- Performed NPDES and SARA Title III reporting.

- Performed air monitoring for air emissions permitting and indoor air quality studies.

- Performed asbestos-containing material and lead-based paint surveys.

EDUCATION: Missouri Science & Technology, Rolla, MO
- B.S. Chemical Engineering
Harper College, Palatine, IL
- Associate in Applied Science

CERTIFICATIONS: AutoCAD Certificate – Harper College, Palatine, IL
David Jurina, LEED A.P., Senior Project Manager

David Jurina, Senior Project Manager, has worked with Pioneer Engineering & Environmental Services, LLC for over five years and been a practicing architect for over 25. His professional career has included successful stints at both high-end design and speciality boutique architectural firms. David's experience with Pioneer includes conducting Property Condition Assessments and architectural consulting services as part of due diligence for a wide array of clients. David is adept at conveying the complexities of a given site to clients in concise, understandable terms.

David’s specific experience includes:

- Conducted numerous Property Condition Assessments for multi-family residential, industrial, and commercial properties. Facilities assessed have included commercial multi-tenant retail developments, office/warehouse buildings, assisted living and nursing home establishments, and corporate office and distribution warehouse complexes.

- Trained and received continuing education for building systems (mechanical, electrical, and plumbing). Course work has included geothermal systems design, optimizing VAV systems design, and ASHREA on-line professional development.

- Trained with the Building Research Council (BRC) for sustainable and integrated design, daylighting techniques, and life-cycle cost estimating.

- Trained and received continuing education for historic and building preservation techniques. Served on the Elgin Heritage Commission. Member of the National Trust for Historic Preservation.

EDUCATION:
- Illinois Institute of Technology, Illinois
  - B.A. Architecture

CERTIFICATIONS / LICENSES:
- Leadership in Energy and Environmental Design Accredited
- Licensed Architect - Illinois