







PROFESSIONAL ENVIRONMENTAL ENGINEERS, INC.





STATEMENT OF QUALIFICATIONS

Providing cost-effective environmental solutions

INTRODUCTION

Professional Environmental Engineers, Inc. (PE) is a full service environmental engineering and consulting firm that specializes in providing cost-effective environmental solutions for both government and commercial clientele. Credibility + Capability + Stability + Sustainability is our formula for solving our clients' most complex environmental problems.

Credibility. PE offers environmental services through four divisions: Site Characterization, Environmental Compliance, Engineering and Design, and Field Services. We provides environmental solutions for clients across major market sections across the country and has completed projects for clients in 49 of the 50 states. Our in-house resources, expertise of our key personnel, and corporate experience has resulted in multi-year prime contracts with federal agencies, state and city entities, and commercial clients, as well as subcontracts with large environmental consultants.

Capability. PE is a woman owned and minority owned small business certified at the municipality, state, and federal levels. We have over 35 environmental professionals including numerous personnel with both national and state professional registrations/ certifications throughout the country. All field personnel are trained with HAZMAT, OSHA, NIOSH, AHERA, DOD, and/or EPA certifications for applicable regulated projects and materials.

Stability. PE has been in business since 1997 and has recently opened their sixth office. Headquartered in St. Louis, Missouri, We have branch offices throughout the Midwest and personnel throughout the US. Our foundation is built on long-term client relationships and repeat business, resulting in greater than 90% of our revenue.

Sustainability. PE assists companies in meeting green build requirements and achieving sustainable design initiatives, from construction waste management, including identification of materials suitable for reuse/recycling, to consideration of wetlands, site hydrology and threatened/endangered species, to engineering and landscaping solutions that serve as remedial strategies but also decrease the heat island effect, reduce stormwater runoff, and diminish overall environmental impact. Our corporate goal is to assure we meet the regulatory, financial and legal obligations of our clients while also incorporating sustainable design elements, considering life cycle costs, and encouraging environmental stewardship.

Certifications: Woman-owned and Minority-owned Small Business Primary NAICS codes: 541330, 541620, and 562910

St. Louis 500 South Ewing, Ste E., St. Louis, MO 63103 314.531.0060 **Omaha** 2505 North 24th Street, Ste 409F, Omaha, NE 68110 402.504.4688 **Houston** 315 W. Alabama, Ste 104, Houston, TX 77006 713.203.4513 **Paducah** 3551 Park Avenue, Ste D, Paducah, KY 42001 314.531.0060 **Chicago** 70 West Madison Street, Ste1400, Chicago, IL 60602-4270 312.214.3146 **Kansas** 9393 West 110th Street, 51 Corporate Woods, Ste 500, Overland Park, KS 66210*816.556.3290*

OUR SERVICES

Site Characterization

- Phase I and II Environmental
 Site Assessments
- Real Estate Transactions
- Asbestos/Lead/Mold Surveys
- Radon Sampling/Testing
- Preliminary Assessments/Site Inspections
- Site Investigations
- Brownfields Assessments
- Aquifer Testing/Groundwater Modeling
- Human Health Risk Assessments
- Ecological Evaluations/Risk Assessments
- State RBCA Tier II/III Evaluations
- Wetlands Studies
- NEPA Assessments
- Noise Assessments
- Hazardous Waste Inventories

Engineering and Design

- Design/Work Plans and Reports
- Construction Management
 Bid Documents, Q & A's, Job Walks
 Bid Evaluations/Contractor Selection
- Specifications and Drawings
- Feasibility Studies

Environmental Compliance

- Air Quality Permitting and Compliance
- Air Emissions Testing and Modeling
- SPCC Plan Development and Training
- Stormwater SWPPPs/Sampling
- NDPES Program Support
- Technical Document Review
- UST Management (Surveys/Sampling, Removals, Reporting)

Field Services

- Spill Response and Cleanup/Oversight
- Air Monitoring and Documentation
- Waste Characterization/Disposal
- Indoor Air Quality Investigations
- Remediation/Abatement Oversight
- Structures Decontamination

Miscellaneous Consulting Services

- GIS
- Industrial Hygiene
- Data Management
- Records Management



SERVICE: SITE ASSESSMENTS

Site assessment activities are the bedrock of any environmental consulting firm, and Professional Environmental Engineers, Inc. (PE) has extensive experience conducting a wide range of assessments, from Phase I and II Environmental Site Assessments (ESAs) as part of pre-acquisition due diligence, to environmental assessments as part of the NEPA process, to risk assessments environmental audits, waste characterization/profiling, and numerous specialty assessments at brownfield and other re-development sites. We perform numerous Phase I ESAs (and related services) every year for clients at locations nationwide, including developers, city and county municipalities, school districts, architects, demolition/construction companies, oil companies, banks, federal agencies, and other miscellaneous entities. All Phase I work PE performs complies with ASTM Standard E1527-13 and includes reports with conclusions regarding the presence (or absence) of recognized environmental conditions (RECs) and business environmental risks (if requested), recommendations regarding needed characterization of RECs, a detailed site plan, and supporting documentation. Many of our environmental professionals have received Phase I training (from accredited organizations) specific to the current ASTM standard and/or have specific licenses for performance of site assessments (Licensed Environmental Professionals). All Phase II work PE performs complies with the ASTM Standard (E1903-11) and includes field sampling activities, preparation of reports explaining the nature, scope and extent of contamination and the estimated cost of remediating, removing, abating and/or reducing site contaminants.

Murphy Park Development – St. Louis, MO. PE conducted an environmental assessment for the proposed Residences of Murphy Park – Phase III. The assessment was conducted to assess any environmental impact of ten large parcels of land to be developed as a \$100 million private/ public residential partnership investment. PE developed a Phase II sampling plan to address the concerns identified in the Phase I ESA. The Phase II sampling indicated approximately 10,000 cubic yards of soil contaminated with semi-volatile compounds, lead, arsenic, and



petroleum hydrocarbons. PE wrote remedial work plans to remove the materials and provided remedial oversight activities throughout completion of the project.

Phase I ESA – Cole County, MO. PE performed an expanded scope Phase I ESA at a rural 9.5 acre wooded site in Cole County, MO, with a creek running through the northern portion of the property. In addition to an ASTM-compliant Phase I ESA, PE was tasked with performing a Wetlands Determination, which identified several Palustrine ponds within 1,000 feet of the site, as well as an Endangered Species Evaluation, which included a review of federal and state resources to determine what, if any, species of concern might be on the property, including endangered and threatened species specific to riparian areas, migratory birds, and birds protected by the Bald and Golden Eagle Protection Act.

Blumeyer Redevelopment Project - St. Louis, MO.

The Blumeyer Project consisted of a major (multiphased) HUD redevelopment within a severly depressed brownfield neighborhood of St. Louis City. PE was contracted to perform Phase I and

SERVICE: SITE ASSESSMENTS (continued)

Phase I and Phase II ESAs on individual properties. The ESAs is included drilling and soil sampling, monitoring well installation/development/ sampling, geophysical surveying, trenching, asbestos and LBP surveys, HHW inventories, wetland investigations, regulatory file reviews, analytical/geotechnical testing, data evaluation, and reporting. PE also prepared a remedial design outlining procedures for site security, clearing and grubbing, abandonment and relocation of utilities, structure decontamination and demolition (including asbestos/lead abatement and removal of HHW), and site restoration.

Phase I ESAs, USDA – Natural Resources Conservation Service, West Haven, CT. PE performed a set of 5 Phase I ESAs encompassing a total of 27 parcels for preparation for entry of the sites into the Emergency Watershed Protection Floodplain Easement Program. PE reviewed multiple historic and regulatory sources, including previous reports provided to PE by the User (NRCS) and owner (City of West Haven) of the parcels. Multiple RECs were identified, and Phase II fieldwork was approved. Field activities consisted of the drilling of 55 soil borings, installation of 25 monitoring wells and the sampling and analysis of over 150 soil, groundwater, sediment, and surface water samples.

Environmental Assessment Activities – East Parking Garage, St. Louis, MO. PE performed a Phase I and Phase II ESA at this 4-acre paved lot located in the City of St. Louis. During the Phase I ESA, it was revealed that the subject property had been occupied by up to 20 above-ground storage tanks containing fuel oil between at least 1941 through at least 1979. The Phase II ESA was performed to sample and analyze soil and groundwater and evaluate the nature and extent of contamination in connection with subsurface free product discovered during site preparation geotechnical drilling operations. Activities included soil boring drilling, soil sampling, well installation, groundwater sampling, and well abandonment. Elevated PAHs were observed in samples of cinders, elevated VOCs in groundwater, and free product also in the subsurface. PE managed the disposal of contaminated soil (29,000 tons) and groundwater/wastewater (530,000 gallons) during construction activities.

Coca - Cola Nationwide. PE provided Phase I ESA services to Coca-Cola throughout the US, including Florida, Missouri, Texas, and California.





SERVICE: PRE-RENOVATION AND DEMOLITION SUPPORT

Professional Environmental Engineers, Inc. (PE) provides environmental renovation and demolition services designed for the specific needs of our clients. Our certified environmental consultants have surveyed hundreds of structures, including residential buildings, schools, and commercial/ industrial buildings, for asbestos-containing materials (ACMs), lead-based paints (LBP), and hazardous materials in preparation for building renovation and demolition/redevelopment. Our licensed personnel are experienced in the design of abatement contract specifications and the on-site monitoring of abatement projects. All of PE's asbestos/lead consulting services are conducted in compliance with the National Emission Standard for Hazardous Air Pollutants (NESHAP) and/or the Asbestos Hazardous Emergency Response Act (AHERA). We have extensive experience interacting with regulatory agencies including the Missouri Department of Public Health, the United States Environmental Protection Agency, Missouri Department of Natural Resources and local Air Pollution Control agencies.

Our services include:

- Pre-Renovation/Pre-Demolition Asbestos and Lead inspections and surveys
- Abatement oversight and air monitoring
- Design and preparation of abatement contract bid specifications
- Design of operations and maintenance (O&M) programs
- Clearance sampling
- Sample collection and laboratory data evaluation

Board of Public Service: St. Louis, MO. PE provides asbestos and lead inspection and oversight services to the Board of Public Service (BPS) for the City of St. Louis, MO. Services are provided on an as needed basis for inspections necessary prior to building renovations and demolition. PE has provided these services to the City for over 12 years and at over 100 City-owned facilities including the municipal court building, fire departments, police stations, and City Hall.

Syndicate Trust Building: St. Louis, MO. The Syndicate Trust Building is a 17-story commercial office and residential building on the Historic Registry located in downtown St. Louis, Missouri. PE provided comprehensive environmental services to redevelop the building into commercial office and residential "loft- style" apartments. PE provided a Phase I Environmental Site Assessment in accordance with ASTM Standards, including asbestos-containing material/lead-based paint survey and hazardous material inventory. PE enrolled the building into the Missouri Voluntary Cleanup Program (VCP) and assisted the developer in accessing Historical and brownfield tax credits for the development. PE developed comprehensive project specifications for the environmental remediation of all hazardous materials and provided thirdparty contractor oversight of the environmental remediation, including area and clearance air/ wipe sampling, project documentation and regulatory compliance.



SERVICE: BROWNFIELDS INVESTIGATION AND CLEANUP

Professional Environmental Engineers, Inc. (PE) specializes in brownfield services, assisting numerous clients with re-developing abandoned, unused, or underutilized industrial/commercial properties in inner-city areas. As a major brownfields consultant since the late 1990s, PE understands the re-development process, including site selection, grants and funding, accelerated project schedules, restrictive budgets, multiple project stakeholders, and regulatory oversight/closure. PE's brownfield expertise encompasses the following services:

- Project Planning
- Grant and Tax Credit Applications
- Neighborhood Screening Assessments
- Phase I and Phase II ESAs
- Underground Storage Tank (UST) Removals
- UST Cleanup Reimbursement Applications
- Soil and Groundwater Assessments

PE currently is the environmental contractor for the City of St. Louis Board of Public Service and assesses/remediates numerous innercity brownfield properties each year. As the environmental consultant for East St. Louis School (IL) District 189 (ESLSD189), PE assessed and remediated over 100 brownfield properties prior to the construction of 10 new schools within the district. Additionally, PE has provided brownfield services for McCormack Baron Salazar (MBS) at numerous large housing developments and area redevelopments such as Forest Park Southeast (145 acres), Blumeyer (173 acres), Parson Place (42 acres), Murphy Park (11 acres), O'Fallon Place (5 acres), the Kansas City Jazz District (16 acres), and Vashon/JVL (435 acres). Other important clients for which PE routinely provides brownfield services include the St. Louis Development Corporation, the St. Louis, East St. Louis, and Omaha Housing Authorities, the St. Louis County Economic Council, EPA Region 7, and numerous small private clients. Below are brief profiles of representative brownfield projects by PE.

Site Assessment, Characterization, and Remedial Oversight – Choteau Park, St. Louis, MO. PE

performed a Phase I ESA, Phase II ESA, and site characterization activities at this former auto repair shop brownfield area, which revealed the presence of widespread lead health risks in

- Asbestos and Lead-Based Paint Surveys
- Remedial Designs
- Preparation of Plans and Specifications
- Remediation and Abatement
- 3rd-Party Remedial Oversight
- Regulatory Compliance
- Community Involvement

in surficial soil (believed to be the result of leadbased paint debris from former structures) at concentrations in excess of Missouri regulatory levels. PE prepared the Remedial Action Plan defining the remedial strategy, performed oversight of the remediation activities, and submitted the Remedial Action Completion Report to facilitate site closure and re-use.

EPA Region 7 - Historic Mary Meachum Freedom Crossing Site, St. Louis, MO. PE provided Targeted Brownfield Assessments to EPA Region 7 as part of their response contract. PE conducted Phase I and II ESAs at this historic site along the banks of the Mississippi River. In addition, PE evaluated health risks in accordance with Missouri Risk Based Corrective Action Guidelines, disposed of waste materials, and cleared the site for development of a visitor center and walking trail.



SERVICE: BROWNFIELDS INVESTIGATION AND CLEANUP (continued)

ESLSD189 - New School Construction Program, East St. Louis, IL. The ESLSD189 received a \$500 million grant to upgrade existing schools and construct new facilities throughout the district. PE was contracted to help the district assess (Phase I/II ESAs) brownfield properties throughout the area for new school construction sites, evaluate health risks associated with newly-purchased and existing properties, and design cleanup programs to eliminate risks identified at individual sites. Remedial design services provided by PE included submittal of work plans to regulatory agencies and preparation of plans/specifications for remediation contractors. PE also performed remediation oversight and pursued regulatory closure for ten new school construction projects.

MBS - Kansas City Jazz District, Kansas City, MO.

PE worked with MBS to assess and remediatea 7-block area within the historic Kansas City Jazz District. The scope of work included a Phase I ESA of the entire 7 blocks, Phase II ESAs at individual properties throughout the proposed redevelopment area, and remediation/abatement of contaminated buildings and on-site surface soils.



Bank of America and MBS – Vashon/JVL Neighborhood Screening, St. Louis, MO. PE provided a Neighborhood Screening Assessment for multiple clients developing the 435-acre Vashon/Jeff Vander Lou area in St. Louis. The investigation consisted of an extensive historical records search (hundreds of large Sanborn Map sheets, numerous aerial photographs from various decades, thousands of pages of street directories, topographic maps, and available city documents), an environmental government database records search (with hundreds of different site profiles), and site reconnaissance of hundreds of individual properties. Recognized environmental conditions were identified along with facilities containing low- and mediumrisk environmental concerns. The information was documented in a final report (along with potential cleanup costs) designed to assist clients in the site selection process for future development projects.

Omaha Housing Authority – Historic Streulow Apartments, Omaha, NE. PE performed the initial sampling investigations, including asbestos, lead based paint, household hazardous waste (HHW), and bulk mold sampling throughout the complex to assess the environmental impact of the planned apartment complex renovation. PE personnel then provided "turnkey" environmental remediation services, performing all interior remediation of known hazardous materials to prepare the buildings for renovation.

Former City Hospital Redevelopment, St. Louis,

MO. PE personnel conducted the Phase I & II ESA of the former City Hospital Complex located in St. Louis, Missouri. PE's licensed personnel conducted the initial investigations, remedial design and work plan/specifications, assisted the developer with the bid process/contractor selection, and conducted third party oversight clearance air/wipe samples during all environmental remediation buildings within the former hospital complex. Four of the buildings were remediated in accordance with federal NESHAP requirements to prepare for demolition, and the two remaining buildings were remediated as part of a \$135 million renovation of the complex into luxury "Loti Style" residential units.

SERVICE: SPILL PREVENTION, CONTROL & COUNTERMEASURE PLANS

Spill Prevention Control and Countermeasure (SPCC) Plans, as required by 40 CFR 112, present procedures to be followed to prevent and/or mitigate the migration of an oil spill to navigable waters, and notification procedures to be followed if an oil spill contaminates navigable waters. With engineers registered in multiple states, Professional Environmental Engineers, Inc. (PE) has prepared SPCC Plans at various locations across the country, as listed below:

Lambert-St. Louis International Airport, St. Louis, MO. PE executed the completion of the comprehensive SPCC Plan for the Airport and all their major tenants (including Boeing, Air National Guard, American Airlines, United, Delta, FBOs, Cargo Facilities, a 1.6 million gallon jet fuel tank farm facility and fuel hydrant system, and 2 fuel pipeline companies). SPCC inspections were performed by two separate field teams over a 6-week period. Upon completion of all field activities, PE evaluated data and met with Airport environmental personnel to recommend and implement procedures for waste reduction, additional containment of stored materials, hazardous materials handling, and improved monitoring systems for preventing spills. PE completed an SPCC Plan and also prepared SPCC training manuals for internal use and conducted SPCC training with Airport department managers and operations personnel.

Holten Meats, Inc., Sauget, IL. PE prepared an SPCC Plan for Holten Meat, Inc., pursuant to 40 CFR 112. The plan covered the Holten Meat, Inc. owned and operated facility which stores animal fats, cooking oil, hydraulic oil, diesel, waste oil, and other oils or oil products, and has been prepared in order to ensure that the proper spill control procedures and precautions are provided to prevent or, if necessary, mitigate the discharge of oil from the facility. The Holten Meat, Inc. facility was required to implement an SPCC Plan because the aboveground aggregate storage capacity of the facility was more than 1,320 gallons of oil, and due to its proximity to the Mississippi River, several small creeks, and wetlands, it could be reasonably expected to discharge oil in quantities that could be environmentally harmful to said waterways.

Spelman College, Atlanta, GA. PE evaluated the existing SPCC Plan for Spellman College. PE personnel visited the site to examine the new construction to determine if the activity would warrant an amendment to the existing SPCC Plan. PE's report of findings verified that no change was necessary.

National Oceanic and Atmospheric Administration (NOAA), Mobile, AL. PE prepared an SPCC Plan for NOAA for their Gulf of Mexico Disaster Response Center (DRC) located in Mobile, Alabama. PE developed the plan for NOAA because above-ground "petroleum product" storage capacity at the DRC exceeded the regulatory threshold of 1,320 gallons (containers with a capacity of 55 gallons or greater are counted in the calculation of aboveground storage capacity), and the DRC has the potential to discharge oil into or upon navigable waters.



SERVICE: UNDERGROUND STORAGE TANK MANAGEMENT

Professional Environmental Engineers, Inc. (PE) provides UST services to clients throughout the United States, including city and state entities, developers, school districts, airports, industry, and private commercial firms. Our key personnel have managed large UST programs for major oil companies, petroleum marketers, utilities, and trucking/transportation clientele. Our services include:

- UST Management, Permitting, & Regulatory Compliance
- Identifying/Locating UST Systems Using Historical Information & Geophysical Methods
- Removals/Closures
- Site Investigations/Characterizations

Missouri Department of Natural Resouces, Jefferson City, MO. PE has been providing technical support for 10 years to the Missouri Department of Natural Resources (MDNR) Tanks Section to oversee cleanup of leaking UST sites. PE provides one of their state-registered geologists to the MDNR staff to review documents (including UST Closure Reports, MRBCA Tier 1 & Tier 2 Evaluations, Groundwater Monitoring Reports, Plume Stability Evaluations, Remedial Action Plans, Remedial Action Completion Reports, and other miscellaneous technical submittals), assist regulatory project managers, and review projects with complex geological/hydrogeological issues.

Coca-Cola Nationwide. PE providesd UST/AST services to Coca-Cola throughout the United States, most recently in Maryland. UST services provided by PE to date include regulatory interaction and permitting, tank removals, geophysical surveying, historical record searches, soil sampling and testing, and closure reporting.

East St. Louis School District 189, East St.

Louis, IL. PE managed the UST program for 42 active facilities within the East St. Louis School District. Services included site inspections and historical searches to identify potential UST sites, geophysical surveying to locate abandoned UST systems, regulatory interface and permitting to bring active USTs into compliance and take inactive tanks out of service, removal of over 36 USTs (and related impacted soil) from 11

- Long-Term Groundwater Monitoring & Sampling
- Plume Stability Evaluations
- Ecological & Human Health Risk Assessments
- Remedial Designs
- Soil and Groundwater Remediation

different facilities, site characterization of sites with contaminated soil and groundwater, remedial designs and preparation of corrective action plans, recovery of free product, soil and groundwater remediation using innovative technologies (including dual-phase high vacuum extraction, air-sparging, soil vapor extraction, and groundwater pump & treat), and site closures.

MDNR (USTs), Numerous Sites throughout MO.

PE provided UST removal, assessment, and remediation services to the MDNR Tanks Section (under 3 separate contracts) from 2004 to 2012. Work was conducted at sites throughout the state and included submittal of work plans, performance of specified work, and completion of final technical reports.



SERVICE: HUMAN HEALTH & ECOLOGICAL RISK ASSESSMENTS

Human health risk assessment seeks to estimate the nature and probability of adverse health effects in humans who may be exposed to chemicals in contaminated environmental media, now or in the future. PE brings together experienced individuals with expertise in toxicology, environmental chemistry, bioavailability, and health physics to evaluate human exposure to hazardous chemicals and materials. We are prepared to support the development of HHRAs either from existing site data, or, if necessary, have the capabilities and staffing to collect environmental samples for analysis, as in efforts to characterize nature and extent of contamination. Our team staff provides support to evaluate and validate analytical data (either that collected by the PE Team staff or existing, historical data) to ensure its adequacy and sufficiency to properly characterize risk. By integrating risk analysis with site characterization, as well as remedial planning, PE offers remedies have resulted in low residual risk in potential exposure areas, reduced remediation costs, and increased land use value. PE performs risk assessment activities for numerous sites, including privately-owned properties, state-regulated facilities, and former federal sites.

Hardesty Federal Complex, Kansas City, MO.

PE is currently performing a human health risk assessment of the Hardesty Site. It is a formerly used military support site, where the following activities were conducted: an indoor firing range, a chemical impregnation process to make clothing impermeable to various chemicals, storage of a variety of chemicals and supplies (for dry cleaning, painting, etc.), and various underground storage tanks holding chlorinated solvents and petroleumbased fuels. PE has evaluated, estimated, and characterized risks from the potential adverse effects on humans that may result, either now or in the future, from the presence of hazardous chemicals released from the site. Applicable and hypothetical current and future receptors and scenarios were evaluated based on the methodology and exposure parameters approved by the State of Missouri.

Multiple Sites, Kansas, Illinois, Indiana, and Ohio. PE performs risk assessments at formerly used defense sites across the country. PE has developed various work plans to establish accepted protocols for the work, including a Risk Assessment Work Plan. PE reviews and evaluates data, determines exposure, performs risk calculations, and quantifies/characterizies risk for a wide range of chemicals, including explosives, VOCs, SVOCs, PAHs, metals, pesticides, PCBs, dioxins/furans, etc. At a site in Illinois for example, PE executed baseline human health and ecological risk assessments for soil and groundwater for 16 grids throughout the former battery burial site for multiple exposure scenarios and dozens of COPCs. The risk results of those risk assessments were used to evaluate remedial alternatives and facilitate the subsequent cleanup of the site.

Walter Coke Facility, Alabama. PE conducted human health risk assessments at each area of concern by evaluating human receptors as they were exposed to contaminated soil, groundwater, surface water, and sediments. Human receptors evaluated included primarily industrial and construction workers. PE also performed ecological risk assessments pf both terrestrial and aquatic populations. PE calculated risk values and developed remediation goals, which were used in the evaluation of cleanup alternatives.



SERVICE: VAPOR INTRUSION ASSESSMENTS

Vapor intrusion (VI) is a process by which chemicals in soil or groundwater migrate to indoor air above a contaminated site. VI is evaluated as a pathway of potential human health exposure at sites where buildings, homes, and workplaces currently exist or may exist above contaminated soil and/or groundwater. Two projects for which PE has provided these services are summarized below:

Confidential Client, EPA-START Region V Contract, Illinois. PE is currently performing oversight of a group of large consortium of oil companies that experienced a multitude of spills and releases from both pipeline and former refinery operations from the 1940's – 1980's. PE helped to establish initial goals to define the location and extent of a large free product plume located in a residential setting; define preferential pathways of vapor migration and potential human health exposure points; understand the fate and transport of the plume migration for predicting vapor intrusion issues; support capture and control of subsurface vapors along with liquid product recovery; and prepare a comprehensive conceptual site model (CSM) to support cleanup goals. Specific VI tasks performed by PE personnel are listed below:

• PE developed dynamic work strategies for a large geotechnical investigation via the Triad Approach to expedite and streamlined large amounts of data utilizing a cone penetrometer testing (CPT) with laser induced fluorescence (LIF) for the Rapid Optical Screening Tool (ROST^M) for subsurface profiling and plume location purposes.

• PE installed a residential home sub-slab port monitoring network for data collection/ comparison as related to summa can indoor air quality testing purposes. PE worked with state and federal health officials to develop action levels for on-going indoor air quality and sub-slab testing protocols.

• PE installed sub-slab depressurization systems to vent vapors from residential homes within the plume footprint.

• PE provided technical input for area-wide soil vapor extraction (SVE) and liquid petroleum product pumping.

Regional Oversight Contract, Former Hanley Site, St. Louis Ordnance Plant, St. Louis, MO. PE worked with EPA in December 2011 to provide oversight of vapor intrusion (VI) activities performed at a residential property at the Former Hanley Area in St. Louis, MO. Specifically, PE performed oversight of the collection of groundwater, subslab soil gas, indoor air, and outdoor air from select residential properties north of the former Hanley Area to help assess the VI pathway and the potential migration of contaminated vapors under select residences from groundwater to indoor air. A subslab soil gas was obtained with a 6-liter, individually certified SUMMA canister, and indoor air and outdoor air samples, as well as the soil gas sample, were analyzed for VOCs by Method TO-15 SIM. Following completion of the VI field activities, PE provided a technical review of the VI Report of Findings.

Vapor Intrusion Study, Former Kirksville Air Force Station, Sublette, MO. PE was contracted by the USACE – Kansas City District to complete a Vapor Intrusion Study and evaluate contaminant exposure to occupants at the Federal Aviation Administration building and an off-site residential property. PE installed vapor pins and conducted three seasonal rounds of sampling of soil gas, ambient air, and indoor air. PE also compiled and validated the analytical data, compared them to regulatory standards, and reported the results to USACE and MDNR.



SERVICE: EMERGENCY SPILL RESPONSE AND CLEANUP

Providing Emergency Response Services for time critical incidents is a priority at PE. Our skilled and trained Response Managers and field technicians are known in the industry for response expertise and have been trained specifically for response to accidental spills as well as natural disasters. PE maintains a 24-hour - 7 day a week Emergency Response Hotline that puts you in immediate contact with a Response Manager who will assess the incident and mobilize personnel and equipment to the site for chemical emergency response.

PE's objective at each incident is to provide efficient response actions including containment and remediation services to minimize exposure of life, health and environmental while providing cost effective services. Project sites for which PE has provided Emergency Spill Response and Cleanup support are summarized below:

Lambert-St. Louis International Airport, On-Call Environmental Response Contract. PE

has been providing emergency and rapid response activities for the to the Lambert - St. Louis International Airport since 1999, including providing a 24-hour on-call Hotline to the Airport personnel for access to a Response Manager with a 1- hour response time. PE has performed critical time responses to Airport spills in waterways and jet fuel spills, emergency indoor air quality services, asbestos/mold decontamination services, and quick turnaround air/water/soil sampling services and consulting services for sensitive environmental issues. PE responders are security badged and crossed trained in variety of hazardous materials disciplines to provide comprehensive response services.

Enbridge Oil Pipeline Rupture, Marshall, Michigan.

PE personnel were some of the first responders to the Enbridge Oil Pipeline Spill located near Marshall, Michigan consisting of an approximate 900,000 gallon spill of oil that contaminated a 40 mile section of the Talmage Creek and the Kalamazoo River. PE responders provided initial EPA support with air monitoring delineation for establishing residential evacuation zones and oversight of the cleanup efforts.

Confidential Client, Transportation Emergency Spill Response, St. Louis, MO. PE provided critical time emergency response for a transportation tank spill at a major interstate in the St. Louis area. PE responders provided a 45 minute response me and contained the spill. Aer initial containment, PE personnel mobilized equipment and excavated 60 cubic yards of contaminated soil, provided clearance soil sampling, and coordinated all response efforts with the Missouri Department of Natural Resources. PE provided all waste characterization and disposal of contaminated soils generated from the spill.

Aircraft Mishap Cleanup, Moline, Kansas. PE was contracted by the Oklahoma Air National Guard (OKANG) to perform soil sampling and cleanup of an F-16 crash site. PE conducted an initial on-site kickoff meeting, reviewed files, prepared work plans, and performed field operations, including mobilizing equipment and personnel on site, excavation/transportation/disposal of hydrocarbon-impacted soils, confirmation soil sampling activities, backfilling of excavated areas, and grading and seeding of the work area. PE prepared a final report for submittal to the regulators and conducted a final site walkthrough with the client.



SERVICE: WETLANDS DELINEATION

Professional Environmental Engineers, Inc. (PE) uses a multidisciplinary approach to manage wetlands projects. PE has developed an integrated team of biologists, environmental scientists, geologists, and engineers with the necessary expertise and experience to help achieve projects objectives. The following is a brief summary of some of PE's recent and relevant wetlands experience:

Fort Bragg, NC. PE performed a Wetlands Delineation of five areas at this military installation to evaluate the suitability of these areas for development.

Dakato Access Pipeline. PE performed a Wetlands Delineation in Iowa as part of the installatinon of pipelines for a confidential energy client.

10th & Broadway. PE performed a Wetland Investigation for the U.S. Army Corps of Engineers (USACE) on a portion of a 20-acre parcel slotted for re-development of a new school in East St. Louis, Illinois.

Blumeyer Elderly. PE performed a Wetland Investigation on a city block property in St. Louis, Missouri. The property was part of a large Hope VI Housing Development with McCormack Baron Salazar and the St. Louis Housing Authority.

79th & State Street. PE performed a Wetland Investigation and Delineation on a 6.4-acre piece of property in East St. Louis, Illinois. The property is being developed as a new school for the East St. Louis School District 189.

Shawnee Wetlands. PE performed a Wetland Investigation/Delineation and Permit 39 Pre-Construction Notification filed with USACE. Property was a 23-acre parcel located in Shawnee, Kansas for Bayer Corporation.

MSD Wetlands. PE performed a Wetland restoration of 2 sinkhole structures on residential property (in Webster Grove) used for storm water retention and drainage. Scope of work included clearing (trees, fences, and debris), excavation and grading, surveying, construction of retention wall and concrete swale, hardscaping (boulder walls, stone paths/bridges, dry creek bed, steps, and waterfall), and softscaping with wetland species plants, trees, and sod.

Boyle Wetlands. PE performed a Wetland Investigation/Delineation along a 3-mile Union Pacific Railroad right-of-way near Royalton, Illinois. Scope of work included GPS surveying and AutoCAD drawing of delineated wetlands along with a final report.

Washington Park, IL. PE performed a Wetland Investigation/Delineation and Section 404 Permit Application for the City of East St. Louis.

Audobon Wetlands. PE performed Wetland investigation for 3- to 4-city-block development in East St. Louis, Illinois.

44th & Forest. PE performed Wetland investigation for East St. Louis Housing Authority development in Washington Park/East St. Louis, Illinois.

Ellington, Missouri. PE performed a NEPA Wetlands Assessment at Missouri Highway 21 and Missouri Highway Y in Reynolds County, Missouri.



SERVICE: COAL ASH INVESTIGATION AND CLEANUP

According to the U.S. Energy Information Administration, approximately 37 percent of all electricity generated in the United States comes from coal, and when burned, the inorganic matter in the coal becomes coal ash. Coal ash (either fly ash or bottom ash), if not being reused or recycled, can be stored and managed dry in landfills or in water in ash basins. The following projects describe Professional Environmental Engineers, Inc. (PE)'s experience with fly ash, ash ponds, and related materials.

Fort Custer, Michigan. PE performed a site investigation at a dump associated with the former Fort Custer Training Camp near Battle Creek, MI. The dump primarily contained coal combustion wastes and ash/cinders/ slag material from on-site incinerators that processed other wastes at the former Army base. The investigation included delineating the vertical and lateral boundaries of the dump (using electromagnetic induction, electrical resistivity imaging, trenching/test pitting, and advancement of soil borings); determining representative concentrations of contaminants in soil/ sediment on the surface of the dump (using incremental sampling methodology); evaluating subsurface stratigraphy and identifying ground water impacts through vertical aquifer profiling; longterm groundwater monitoring and sampling; and statistical evaluation of groundwater results using both inter- and intra-well data trends.

Iowa Army Ammunition Plant (IAAAP), Iowa.

PE has provided technical support services at IAAAP, near Middletown, IA, which is an active Superfund site with over 65 Areas of Concern and nine Operable Units (OUs). OU7, consisting of miscellaneous areas, includes a former power generation facility that disposed of fly ash into a nearby ravine. The fly ash filled the ravine and spilled into a nearby creek with ecological concerns. PE oversaw the remedial investigation at this site and supported EPA on evaluating potential data gaps, designing a sampling plan to establish the vertical and lateral extent of wastes (and associated contaminants), identifying ecological receptors, calculating risks, establishing leaching criteria and remediation goals, and complying with state and regulations. Contaminants of concern included metals and PAH compounds.

Parsons Field, Illinois. PE assessed and remediated a former athletic field in East St. Louis, IL that was being demolished for a new housing development. The site contained a cinder track and was built up with fill material from local industrial sources. The fill consisted of ash, cinders, and slag that contained (along with the cinder track) elevated concentrations of lead, and various PAH compounds. Remediation consisted of excavations to remove the fill, confirmation soil sampling, and backfilling.

Park Elementary School, Illinois. PE assessed and remediated a site in East St. Louis that was being demolished for a new school to be built on the property. The site was built up with fill material from local industrial sources, which consisted of fine-grained cinders with elevated concentrations of arsenic, lead, and various PAH compounds. Remediation consisted of surgical excavations to remove the fill, confirmation soil sampling, and backfilling to pre-existing grade.

Edgemont Middle School, Illinois. PE assessed and remediated a former park in East St. Louis that was being demolished for a new school to be built on the property. The site contained a cinder drive/parking lot and was built up with fill material from local industrial sources. The fill consisted of ash, cinders, and slag that contained elevated concentrations of arsenic, lead, and various PAHs. PE performed confirmation sampling, and backfilling to preexisting grade.



SERVICE: NATIONAL ENVIRONMENTAL POLICY ACT

The National Environmental Policy Act (NEPA) is a United States environmental law that establishes a national environmental policy and goals for the protection, maintenance, and enhancement of the environment and provides a process for implementing these goals within the federal agencies. There are three levels of analysis: categorical exclusion determination; preparation of an environmental assessment/finding of no significant impact (EA/FONSI); and preparation of an environmental impact statement (EIS). PE has performed support on a variety of NEPA projects, including the following:

Bates NEPA Compliance, Ellington, MO. PE provided NEPA compliance services to Bates & Associates Architects for a proposed health care facility in Reynolds County, Missouri. The subject property was a one-acre parcel located within a 100-year flood plain, adjacent to Logan Creek, on the north end of Ellington. The project was partially funded by the Health Resources and Services Administration (HRSA) through the Capital Improvement Program under the America Recovery and Reinvestment Act. As such, a NEPA Environmental Assessment (EA) was conducted by PE to analyze potential impacts related to the proposed project. As part of the EA, PE reviewed the proposed development plans and available desktop information, interviewed project personnel and government agencies, and performed a site reconnaissance of the subject property. In addition, PE conducted a Phase I Environmental Site Assessment, a wetlands investigation/ determination, a threatened and endangered (T&E) species assessment, and an evaluation of environmental consequences associated with the proposed development. Other work items conducted by PE as part of the EA included completion of an HRSA Environmental Information and Documentation checklist and a State Historic Preservation Office Section 106 Project Information Form. Results of the EA indicated no recognized environmental conditions or business environmental risks associated with the subject property, no jurisdictional wetlands present on site, and no identified T&E species within or adjacent to the proposed development. Other results indicated a Finding of No Significant Impact (FONSI) for the proposed project..

NEPA – Environmental Review, Bootheel Regional Village of Penermon, Missouri. As part of NEPA EA process, PE provided Environmental Reviews for various municipalities in Southern Missouri complying with HUD and CDBG requirements for funding of construction projects. These services have included researching, evaluating, and reporting on the following: Historic Properties, Floodplain Management, Flood Insurance, Wetlands Protection, Airport Hazards, Endangered Species, Wild and Scenic Rivers, Coastal Zones, Farmlands Protection, Noise Control, Explosive/Flammable Operations, Water Quality, Air Quality, Contamination/Toxic Materials, and Environmental Justice. NEPA Support (Wetlands) for ENSR Corporation, Mississippi Pipeline Project.

PE provided a team of wildlife biologists, wetland specialists, forester, and GPS operators to support ENSR Corporation on large pipeline wetland project throughout the states of Mississippi and Alabama. Work included wetland investigations/ delineations, threatened and endangered (T&E) species identification, locating right-ofway property, obtaining access agreements, GPS and field documentation, and reporting as part of environmental impact statement for the proposed pipeline.



SERVICE: STORMWATER MANAGEMENT

Professional Environmental Engineers, Inc. (PE) has a significant understanding of and experience with the requirements, as well as the challenges and pitfalls, that are associated with stormwater sampling. PE has been providing clients with stormwater management services since 1999. Example projects are below:

Lambert-St. Louis International Airport (NPDES), Bridgeton, MO. PE is currently working on the third contract with the Lambert-St. Louis International Airport (Airport) (the first one began in 1999) to provide all of the National Pollutant Discharge Elimination System (NPDES) storm water compliance sampling, testing, and reporting for the Airport. As required by the Clean Water Act, the Missouri Department of Natural Resources (MDNR) issued the Airport a NPDES permit which requires monthly monitoring and inspections of Airport operations that may have a potential to impact storm water. Throughout all three contracts, PE personnel have collected storm water samples from each outfall that exists on the Airport property, including several between active runways. Samples were/are collected for a wide variety of analytes, including BOD, COD, dissolved oxygen, total suspended solids, pH, nitrates/nitrogen, ethylbenzene, oil and grease, ethylene glycol, and total chlorides testing. In accordance with the NPDES permitting requirements, PE conducts storm water sampling typically within the first 60 minutes of discharge, following significant storms.

Coldwater Creek: Hazelwood, MO. PE has performed over \$7.3M worth of work at the St. Louis radioactive-contaminated properties. During remedial action activities, water management and handling became a major problem without an existing water treatment system in place. Shallow groundwater and large amounts of storm water had become contaminated with selenium and nitrates. As a result, PE was tasked with re-negotiating the existing NPDES permit with the MDNR for nearby Coldwater Creek. PE's revised permit application was submitted with this data along with options for introducing mixing zones, discharging during peak flow levels, regulation/control of discharge water during non-peak flow periods, and the technical rationale for the proposed approaches. Lambert-St.Louis International Airport (EMS),

Bridgeton, MO. As part of the implementation of the FAA-compliant Environmental Management System, PE wrote the Airport Environmental Control Procedure for the Lambert Airport outlining the procedures for managing storm water runoff at the Airport. Specifically, PE wrote storm water BMPs for preventing contamination of adjacent surface waters with pollutants from the Airport, conducting required storm water sampling and reporting, and maintaining the Airport's storm sewer system.

Weldon Springs Training, St. Charles, MO. PE designed alternatives to address significant erosion control issues and manage storm water at the facility. PE modeled storm water runoff using HEC¬HMS Software – a program developed by the USACE used to simulate the runoff processes of watershed systems. Using these results, PE included the upgrade of the outlets of the culverts with appropriately sized riprap and/or other methods of energy dissipation to protect the outlet from erosion for storms up to the magnitude of the overtopping storm event. Further, three of the alternatives PE proposed included scour protection and culvert replacement and those options varied based on the type of material used for the culvert replacement. The selected alternative was Option A - Scour Protection and Culvert Replacement (Galvanized CMP), and PE has developed the design analysis, drawings, and specifications to go out for construction bid.



SECTOR: K-12 SCHOOL DISTRICTS

Professional Environmental Engineers, Inc. (PE) has provided environmental services to local elementary and high schools and universities since 1997. These services include the complete implementation of Asbestos Hazards Emergency Response Act (AHERA) regulations, Operations and Maintenance Programs, Indoor Air Quality Investigations, Indoor Mold Assessment Services and EPA Resource Conservation and Recovery (RCRA) Disposal Management.

Clayton School District. PE provides comprehensive environmental consulting services to the Clayton (MO) School District, including AHERA compliance consulting services. PE's staff manages the school district's AHERA inspections/re-inspection program at 10 elementary schools, the middle school and high school within the district.

The school district is undertaking a capital construction program, including the renovation of the high school and the demolition and new construction of a middle school. PE's staff conducted the AHERA surveys for each facility, prepared the environmental work plans, prepared the engineering estimates and conducted the third party air monitoring services and clearance testing to prepare the buildings for renovation/demolition. PE documented all asbestos abatement and site activities in compliance with AHERA regulations. In addition, PE staff responded to a full range of environmental issues from indoor air quality complaints and mold air sampling to conducting public forums addressing environmental issues with concerned employees and parents.

East St. Louis School District 189, East St. Louis, MO.

PE provided environmental consulting services to School District 189 as part of a brownfield assessment and cleanup grant received by the State. PE provided asbestos and leadbased paint (LBP) consulting services, Phase I environmental assessments (ESA) for new property acquisitions in accordance with ASTM standards, boring investigations, underground storage tank consulting services, remedial design & contractor oversight, indoor air quality surveys and mold investigations. PE's staff managed the school districts asbestos AHERA inspections/ re-inspection program in accordance with the Illinois Department of Public Health for over 26 schools within the district. The school district had an aggressive new school construction program, including the demolition and replacement of six schools. PE conducted the pre-demolition surveys, prepared the environmental work plans, engineering estimates, and performed third-party air monitoring to prepare buildings for demolition. New school construction involved Phase I, II and III ESAs, providing engineering design and cost estimates for any required remedial action, coordinating all activities with district representatives, and providing third-party contractor oversight as the properties were prepared for new school construction.

Cardinal Ritter High School, St. Louis, MO. PE

provided pre-demolition surveys of asbestoscontaining material (ACM) and household hazardous waste (HHW) on over 28 residential/ commercial buildings and development of abatement programs to sufficiently prepare the buildings for demolition. The 28 buildings covered a two square-block area designated for redevelopment as the site of the new Cardinal Ritter High School. PE provided third party contractor oversight of the remediation activities of all friable ACMs to be removed prior to demolition in compliance with the Environmental Protection Agency's (EPA) NESHAP and RCRA regulations including project notifications, packaging, transport, labeling, disposal and manifesting requirements of all ACM's and HHW's within the buildings.



SECTOR: COLLEGES AND UNIVERSITIES

Professional Environmental Engineers, Inc. (PE) has been providing consulting and environmental engineering services for various renovation and construction projects on college and university campuses across the country. Some of the services we have provided specifically to these higher learning institutions include:

- Phase I/II Environmental Site Assessments
- Hazardous Materials Surveys (particularly Asbestos (ACM) and Lead Based Paint (LBP))
- Indoor air quality surveys of public office
 environments
- Underground storage tank services
- Regulatory compliance services (Ex. SPCC Plan development/update)

Specific project examples are provided below: **Missouri University of Science & Technology** (MS&T) (Rolla, MO). PE has worked with MS&T on dozens of renovation projects. PE completed hazardous materials surveys and condition assessments, collected ACM samples, completed a report of findings, and developed an engineering estimate for ACM and/or lead abatement for Altman Hall, Farrar Hall, McAerney Hall, Holtman Hall, Rayl Cafeteria, and Bullman Multi-purpose Center. PE completed sampling and characterization of fume hoods at McNutt Hall. PE completed engineering specifications and design plans for the remediation of McNutt Hall Rooms 244 and 248, Bullman, Altman Hall, and McNutt Hall Laboratory. PE performed the review of contractor bids and third party oversight, including clearance sampling and closeout reporting, at Rayl Cafeteria, Altman Hall, McNutt Hall and Bullman. PE performed asbestos and lead inspections at the on-campus apartment complex, wrote the design specs and developed drawings for the abatement, and performed oversight of the abatement of these buildings prior to demolition.

Washington University in St. Louis (Wash U) (St.

Louis, MO). PE has assisted Wash U on various renovation and demolition projects across the campus since 2011, including the Computer Lab Relocation at Urbauer Hall (Second Floor), Crow Hall – Henrickson Lab Renovation, Steinberg

- Preparation of Engineering Estimates of Remedial Action costs
- Preparation of Engineering Specifications and Design Plans
- Preparation of Bid Packages/Review of Contractor Bids
- Third Party Oversight
- Clearance air/wipe/soil sampling
- Close-out Reporting

Gallery Abatement, Steinberg Hall Inspection, and ACM and Lead Surveys at Urbauer Hall Rooms 14, 16, and 17. Activities have included ACM and lead surveys, inventory of hazardous materials (mercury switches, fluorescent lights, ballasts), ACM and LBP samples, X-Ray Fluorescence analyzing, reporting, and preparation of abatement estimates. At Steinberg Gallery, PE prepared the Bid Package for the abatement contractors, including all bid documents, the environmental specifications, and the design drawings. PE reviewed contractor bids and performed oversight of the abatement activities, including providing air monitoring and clearance sampling.

Spelman College, **Atlanta**, **GA**. PE evaluated the existing SPCC Plan for Spellman College. PE personnel visited the site to examine the new construction to determine if the activity would warrant an amendment to the existing SPCC Plan. PE's report of findings verified that no change was necessary.



SECTOR: ENERGY/UTILITIES

With our staff of engineers, scientists and risk assessment experts, Professional Environmental Engineers, Inc. (PE) has the breadth and depth of experience to address the technical, regulatory and operational challenges faced by the utility industry. PE provides a wide range of environmental services to support utility companies, including Phase I/II site assessments; media sampling (soil, groundwater, sediment, surface water, dust, fly ash, etc.); asbestos/ lead/mold surveys and abatement; UST compliance; and remedial design, remedy selection, and remediation. Example projects are below:

Ameren – Environmental Emergency Services.

PE has current contract with Ameren to provide the following: "Environmental Services On An As-Needed Basis to Mitigate Hazardous Conditions." The scope of the contract includes investigation and remedial construction services, including site assessment, media sampling and onsite testing, containment, treatment, decontamination, recovery, remediation, and restoration activities. Through this contract vehicle, PE has provided spill response services at multiple sites in Missouri and Illinois. Spills have ranged from transformer spills to hydraulic fluid spills. Execution has ranged from 2 hours to 12 hours per the size of the spill. Work performed at the spills to date includes site reconnaissance, air monitoring, oil removal, soil removal, brush and tree removal, soil and oil testing for PCBs, site restoration, and waste profiling and disposal.

Ameren – Lead Paint Abatement at the Watson

Truck Shelter. PE completed the lead abatement of the Watson Truck Shelter, which maintains an overhead canopy consisting of approximately 185' long x 50' wide. PE conducted a site visit to review site conditions and help Ameren determine the scope of services related to the abatement of the lead based paint. In order to prevent future dispersal of lead based paint into the environment, PE decontaminated the floors within the canopy, removed loose exterior lead based paint flush to the substrate, and repainted all surface areas to achieve abatement of the existing LBP's. Ameren – Soil Investigation in Charleston. IL. PE completed a soil investigation that consisted of the drilling and sampling from five borings at an Ameren substation in Charleston, Illinois to determine the nature and extent of contamination. PE drilled borings to 12 feet, collected and analyzed soil samples for VOCs, PCBs, and herbicides, compiled the data, compared the results to the Illinois Tiered Approach to Corrective Action Objectives (TACO), and prepared a report of findings to facilitate transfer of the property to the local university.

Ameren – Phase I Environmental Site Assessment, North County St. Louis, MO. PE completed a Phase I Environmental Site Assessment in accordance with ASTM Standard E1527-13. As part of the Phase I, PE reviewed historical and regulatory records, performed site and area reconnaissance, conducted interviews, reviewed data gaps, and compiled the results and prepared/submitted the report.



SECTOR: ENERGY/UTILITIES (continued)

Ameren – Soil and Groundwater Assessment, Property in East St. Louis, IL. PE completed the investigation of a formerly used property in East St. Louis, Illinois. PE's field activities consisted of the excavation of trenches, the drilling of soil borings, the installation of temporary piezometers, the collection and analyses of soil samples from the trenches and borings, and the collection and analyses of groundwater samples from the piezometers. PE's reporting activities consisted of the compilation and screening of analytical results, the completion of trench and boring logs, and the presentation of findings in a letter report.

Ameren - Phase II Environmental Site Assessments, Multiple Properties, Missouri and Illinois. PE has completed investigations of multiple properties across the Bi-State area. The investigations have included geophysical, investigators, soil boring drilling and sampling, monitoring well installations, groundwater sampling and reporting.

Ameren – Safety Audits, Field Crews, St. Louis, MO.

PE performs field safety audits on crews during vault ceiling replacements. The crew is consulted to discuss activities being conducted, hazards associated, and precautions implements. PE's safety technician reports observed deficiencies and corresponding corrective actions to the client.

Ameren – Lead Based Paint Abatement, Rivermines Operating Center, Park Hills, MO. PE completed the removal and disposal of lead based paint from the operating center under an abbreviated budget and expedited work schedule. Multiple crews worked in two bays to sand blast the LBP from the painted surfaces, containerized the residuals, test/profile/dispose of the residual material, and repaint the impacted surfaces for re-use.

Nicor Gas/AGL – Manufactured Gas Plant (MGP) Site Remediation, Bloomington, IL. PE is performing various environmental support activities as part of overall site remediation activities at an MGP site in central Illinois. PE's tasks have included drilling and piping support, as well as extensive air monitoring (inclusive of equipment calibration, maintenance, and replacement and data logging) throughout excavation activities.

Energy Transfer Corporation, Pipeline

Construction, Iowa. PE was contracted to provide environmental assessment and permitting activities associated with the construction of a new 30-inch pipeline across multiple states to transport crude oil. PE performed wetland/waterbody delineations along the Iowa section of the pipeline, a 342mile corridor that runs from northwest Iowa to southeast Iowa.



SECTOR: AIRPORTS

Professional Environmental Engineers, Inc. (PE) has provided environmental services to area airports since 1999. PE has provided quality environmental services including permitting and planning, regulatory compliance/reporting, emissions inventory questionnaires, phase I and II site assessments (ESA), asbestos and lead consulting/abatement, waste removal, spill cleanup, underground storage tank removal, and indoor air quality/mold investigations.

Lambert - St. Louis International Airport, St. Louis, Missouri. PE surveyed over 2,000 residential and commercial buildings for household hazardous wastes (HHW) as part of the \$2 billion runway expansion at Lambert Field. After completing the surveys, PE developed an HHW inventory and provided "turnkey" environmental services, arranging for disposal/recycling of all regulated HHW items prior to building demolition. PE personnel continue to provide permitting and planning (NPDES) assistance, regulatory compliance/reporting, groundwater sampling, drilling and geotechnical investigation, emergency and rapid response, asbestos and lead consulting/abatement services at the airport. The company also designed and oversees the airport's waste removal, spill cleanup, indoor air quality investigation, and waste management/reduction programs and developed the airport's spill prevention and countermeasure (SPCC) plan.

In addition, PE recently participated in developing the airport's Environmental Management System (EMS) as part of the International Standards Organization (ISO) 14001 self-certification process. PE's role included document control for all regulated activities, and automated compliance support. Using automated software, PE created compliance modules for the Airport, addressing Clean Air Act testing and reporting, NPDES monitoring and reporting, UST/AST monitoring/testing and reporting, EPCRA Tier 2 reporting, RCRA manifesting/tracking and groundwater monitoring requirements.

Mid-America Joint Use Airport, St. Clair County, Illinois. PE personnel performed the predemolition Phase I ESA on sixty-nine properties in preparation for construction of the \$350 million Scott Air Force Base – Mid America Joint Use Airport Expansion Project. The Phase I ESAs assessed the history of the parcels and the environmental impacts associated with past property usages. In addition, PE conducted surveys of asbestos containing material (ACM) and HHW for all residential/commercial buildings in the project area to prepare the buildings for demolition.

PE's licensed personnel prepared work plans for the abatement and disposal of all ACM and HHW and provided "turnkey" abatement services to properly remove and dispose of all hazardous materials identified on each parcel to prepare the properties for redevelopment into an Airport. All site activities were conducted in compliance with the Environmental Protection Agency's (EPA) NESHAP regulations as well as the federal Resource Conservation and Recovery Act.

