



RT ENVIRONMENTAL SERVICES, INC.

Your Solution-Oriented Environmental Services Firm



BROWNFIELDS REDEVELOPMENT SERVICES

Voluntary Cleanup Program Assistance
PA Act 2, NJ ISRA, EPA Superfund
Remedial Investigations, Design and Construction
Storage Tank Removals



ENVIRONMENTAL ASSESSMENTS AND INVESTIGATION

Phase I/II Site Assessments
Soil and Groundwater Investigations
Remediation Services
Wetland Delineation and Mitigation



ENVIRONMENTAL ENGINEERING

Landfill Design and Closure
Water and Wastewater Engineering
Soil and Erosion Control Plans
Litigation Support/Expert Testimony



INDOOR AIR QUALITY

Asbestos Surveys, Management, and Abatement
Lead Based Paint Management
Mold Surveys and Remediation



Our mission is to help our clients solve their environmental problems and to help them build environmental management facilities which will work effectively and efficiently. The following principals will guide all of our work for each client:

When an environmental problem is suspected or only partially identified, we will do our best to confirm the extent of the problem as efficiently as possible, using the most appropriate investigative techniques.

When the extent of the problem is evident, we will seek to identify the best workable solutions as early as possible.

When we design remedial measures and new environmental management facilities, these projects will be environmentally protective and will work efficiently with the client's operation over the long term. Our projects will incorporate the most appropriate, proven and workable technology.

When we implement or oversee construction or remediation, we will judiciously uphold all environmental and quality standards, including all special provisions for the project. We will manage the projects as if it were our own by fully protecting the client's financial interest and keeping all key project principals fully informed of progress.

We will always seek the most appropriate project-specific professional and technological resource mix, on an ongoing basis. We will engage the proper technical disciplines for each assignment, and will never attempt to learn other technical areas of expertise at our client's expense.

We will always seek a high level of quality in our work. If a quality problem is found after the fact, we will determine its significance and resolution as if it were a current problem. We will be honest and fair in our dealings with everyone.

The principals in the Mission Statement guide us in our day-to-day work, they help assure that we meet every client's needs because every client is important to us.

RT Environmental Services, Inc., a professional environmental services firm, is pleased to present to you our Statement of Qualifications. We have been offering environmental services since 1988, and have completed more than 2,500 projects. A high percentage of our projects are for clients who have previously retained us for other assignments, based on our demonstrated performance in completing projects successfully.

RT offers a staff of highly skilled professionals whose technical and managerial expertise are applied to help assure high quality and careful control of important environmental projects.

RT possesses staff expertise in the areas of:

- Site Development & Redevelopment Design
- Brownfields & Land Recycling
- Real Estate Environmental Survey & Site Investigation Work
- Indoor Air Quality
- Asbestos Containing Material & Lead-Based Paint Management
- Bio-Remediation
- Soil Vapor Extraction
- Indoor Air Quality
- Pump & Treat
- Waste Water System Design & Operation
- Cost Recovery Allocation Assistance
- Expert Witness Testimony
- Site Investigations and Remediations
- Project and Construction Management
- Wastewater Collection and Treatment
- Underground and Above Ground Tank Installations/Upgrading and Closure
- Regulatory and Permitting Assistance
- Hazardous, Residual and Municipal Waste Management
- NJ Licensed Site Remediation Professionals (LSRP) Sites
- Risk Assessment
- Management of PCB Impacted Sites
- Air Emissions Permitting
- Mining & Extraction Operations-Permitting & Design

WHY RT?

All of our principals and staff are trained to move each project efficiently toward completion. With many projects being real estate transaction driven, keeping the project moving within planned transaction time frames is frequently essential. Our approach on every project is solution-oriented, with each project implemented as if it were our own. Where regulatory agencies are involved, and where permits are needed, we'll help move the project through approval procedures by keeping focus on key project objectives.

MANAGING YOUR PROJECT

Project performance is enhanced by RT through careful control of project scheduling and budget. Strong client communication skills are also applied to assure that your needs are met and you are kept informed on an ongoing basis as to project status. For all but very small projects, routine project status reports are submitted to each client and each invoice for services rendered contains a project-specific list of work completed.

REAL ESTATE SERVICES

Audits and Environmental Surveys; Planning, Procurement and Construction Inspection of Clean-up Work. Brownfields and Land Recycling. Site Reuse Planning and Design.

SOLID AND HAZARDOUS WASTE MANAGEMENT

Landfill, Transfer Station and Recycling Center Design, Host Community Programs, Solid Waste Planning, Site Plans, Construction Inspection QA/QC, Permitting, Acquisition Studies. Generator Studies, Treatment/Storage/Disposal Facility Planning, Design and Permitting.

HYDROGEOLOGY

Groundwater Studies, Monitoring Systems Layout and Installation, Groundwater Modeling, Groundwater Recovery System Design, Construction and Operation.

WASTEWATER

Treatment System and Design Planning, Permitting, Construction and Operation Maintenance.

REMEDIATION

Bioremediation of Soil, Sludge and Groundwater, Soil Vapor Extraction, Dual Phase Extraction, Excavation and Removal, Capping, In Situ Groundwater Treatment, Pump and Treat. Remediation Site Design, Erosion and Sedimentation Control. PCB and Facility Decontamination.

ASBESTOS AND LEAD PAINT MANAGEMENT

XRF Lead Paint Inspections and Surveys, Asbestos Containing Material (ACM) Inspections and Surveys, Operation and Maintenance Plans, Training Programs, Abatement and Abatement Oversight; Emergency Removals and Abatements.

RISK ASSESSMENT

Risk-Based Corrective Action, Pathway Analysis, Risk Assessments, PCBs, Metals, Organics, Pesticides and Herbicides.

AIR

Air Emissions Permitting and Indoor Air Surveys and Investigations. Ambient and Personnel Air Testing.

TANK MANAGEMENT

UST and AST Closures and Removals, New Tank Installations and Tank Upgrades. Tank Thickness Testing and Engineering Inspections, Site Investigations and Remediation.

EXPERT WITNESS TESTIMONY

Superfund Cost Recovery/Cost Allocation, Environmental Claims, Engineering Claims, Siting and Permitting Litigation, Federal/State/Local Courts and Boards, Mediation and Arbitration.

WE ARE MEMBERS OF:

- Association of Apartment Owners of Greater Philadelphia
- CSHEMA, Campus Safety Health and Environmental Management Association
- Building Owners and Managers Association
- Montgomery County Economic Development Corporation (MCEDC)
- Eastern Technology Council
- TriState REALTORS® Commercial Alliance
- Pittsburgh High Technology Council
- Delaware County Environmental Network
- South Jersey Chamber of Commerce
- Pennsylvania Asphalt Pavement Association
- Pennsylvania Chamber of Business and Industry
- Pennsylvania Environmental Council
- Pennsylvania Aggregates and Concrete Association

STAFF PROFESSIONAL ASSOCIATION MEMBERSHIPS

- American Society of Civil Engineers
- Water Resources Association of the Delaware River Basin
- Air and Waste Management Association
- American Society for Testing and Materials
- National Groundwater Association
- National Brownfields Association

PROFESSIONAL LICENSING

- Professional Engineers (22 states)
- Professional Geologists (4 states)
- Licensed Lead Paint Inspectors
- Licensed Asbestos Inspectors
- Licensed Tank Removal and Installation Contractors/Inspectors
- Licensed Subsurface Evaluators

*RT would appreciate being considered for opportunities with your organization. Should an opportunity arise where our expertise may be of assistance to you, please call us **800-725-0593** or visit our web site at **WWW.RTENV.COM**.*



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PROFESSIONAL PROFILE

**GARY R. BROWN, P.E., Q.E.P., C.M.C., L.S.R.P., C.P., U.M.R
PRESIDENT**

REGISTRATIONS/CERTIFICATIONS

Professional Engineer in the States of New Jersey, New York, Pennsylvania, Florida, Connecticut, Michigan, North Carolina, Virginia, Ohio, West Virginia, New Hampshire, South Carolina, Maryland, Indiana, Tennessee, District of Columbia, Delaware, Rhode Island, Oklahoma, Maine & Massachusetts.

Qualified Environmental Professional

Certified Microbial Consultant

NJ Licensed Site Remediation Professional

Ohio Certified Professional

FIELDS OF COMPETENCE

Expert witness for environmental, engineering and construction claims. Managing large interdisciplinary projects, including CERCLA remediation and Brownfields projects; shale gas permits, remedial construction management; facilities engineering and engineering management; stormwater management; solid, hazardous waste and wastewater collection and treatment system engineering; siting and feasibility studies; wetlands approvals and permitting; regulatory and legal liaison; permit acquisition; air and water discharge permitting; indoor air quality; microbial assessment and abatement; asbestos; lead abatement; environmental liability management, multi-disciplinary troubleshooting; mold investigation/evaluation and Marcellus Shale permitting and water quality work. Surface mining permit applications, beneficial use approvals, and preparation of mine reclamation plans.

EXPERIENCE SUMMARY

Over 44 years of diversified engineering experience including 40 years of engineering management experience. Work has included concept development, permitting, design projects, including complex facility upgrading, expansion, and industrial closure Brownfields redevelopment projects. Technical achievements include implementation of major remediation projects and state-of-the-art improvements at environmental management facilities in the public and private sectors. Served as project engineer or manager on projects with multi-million dollar construction costs involving complex permitting and multiple technical disciplines, including work on projects where upgrading had to occur while ongoing facility operations had to be maintained without interruption. Also project manager on complex, large scale Superfund projects and expert witness in Superfund cost recovery, engineering standard of care tank release and building moisture, water damage and related mold impact cases. Expert testimony in Federal Court on Superfund Cost Allocations and on Federal agency coal ash facility major spill and negligent operation/ maintenance of facility.

EDUCATION

B.S., Environmental Engineering, Syracuse University, 1973

**Additional Coursework: Management, Supervision, Hydrogeology,
Data Processing and Business**

KEY PROJECT EXPERIENCE

Prepared expert reports for petroleum releases at super highway service areas, flooding and building material water damage claim for Chadds Ford residence, storm water influenced/ pool construction failure in Pennsylvania and large residential building project in Princeton, NJ. Princeton project involved mold and water damage, evaluation of building envelope water leakage, and estimates for reconstruction over a several year period. Evaluate validity of claims and offer opinions on cost to resolve and responsibility.

CERCLA Project Coordinator for the Henderson Rd. Superfund Site Project, with a cost of \$15,000,000. Design and construction elements of a 160 gpm groundwater recovery and treatment system, volatile extraction system and landfill closure/capping project. Work included remedial design, preparation of work plans, stormwater system and channel upgrading, gas venting, biological treatment and operation and maintenance services after construction completion.

Preparation of permit applications for installation of Marcellus Shale Gas gathering lines. Preparation of drawings concurrent wetlands permit applications as well.

Expert Witness for coal ash disposal area failure case in Knoxville, Tennessee. Federal court case resulted in finding of negligence by federal agency facility operator.

Expert Witness for US Attorney involving leachate discharge criminal case in EPA Region 3.

Design and Permit approval for a coal mining residual waste mine water reclamation system in southwest Pennsylvania.

Professional Engineer for shoreline protection and wetlands project in Salem, New Jersey.

Mr. Brown has substantial experience in municipal engineering, land development and civil projects. He is a member of the American Society of Civil Engineers and has served as Borough Engineer in Bridgeport, Pennsylvania. He has completed site plan/civil work for projects in North Arlington, New Jersey, Egg Harbor Township, NJ, Fairview Township, Pennsylvania and Camden, New Jersey, among other locations.

Project Manager for deep well injection site project in Fremont, Ohio and Environmental Engineer for Lead cleanup project in Salem, Ohio. Mr. Brown is a Certified Professional in Ohio.

Represented the PA Aggregates and Concrete Association with respect to Reclamation Fill Guidance, relating to fill materials placed in surface mines. Also, re-permitting on surface mine project in Aliquippa, PA.

Preparation of expert reports for suspect gas well discharges in several areas of Pennsylvania.

Prepared expert reports on two Maryland projects, one involving suspect slope stability/failure, and one involving waste disposal on residential property.

Principal in charge for numerous Brownfields and Land Recycling projects in Pennsylvania, New Jersey and Maryland. Major projects were completed in Philadelphia and Downingtown, Pennsylvania, Bridgeton, New Jersey, Columbus, Ohio, Manheim, Pennsylvania and Hamilton Township, New Jersey. Work included remediation of PCB releases prior to residential redevelopment and petroleum release remediation involving a buried historical wastewater treatment plant. Additional projects include former major paper and plumbing products manufacturing facilities, transformer manufacturing, service station and dry cleaning sites, asbestos and chemical manufacturing facilities, and metal and parts manufacturing facilities. Site work included addressing soil and groundwater releases and waste management units. Two Baltimore projects included soil vapor extraction and sitewide investigation work for solvent & tank releases at large scale sites involved in aircraft parts and systems manufacturing.

Mr. Brown has worked with the Pennsylvania Asphalt Pavement Association and other construction industry trade organizations to obtain more than 60 Residual Waste Beneficial Use Permits from the Pennsylvania Department of Environmental Protection for materials such as crushed concrete, reclaimed asphalt pavement, slag and other materials which are used at more than 75 facilities throughout Pennsylvania.

Mr. Brown has lectured on porous pavement at annual environmental seminars held by the Pennsylvania Asphalt Pavement Association.

Cleanup and closure of the Scancem concrete facility in Voorhees Township, New Jersey. Work included lagoon closure, concrete residuals management and addressing impacted groundwater.

For engineers in Pennsylvania's Park System, Mr. Brown provided in depth engineering information for expansion of parking areas using porous pavement at Pennsylvania's parks. There was special focus for the engineers, on expansion of lineal pavement areas which are common at many parks, using the latest techniques for placement of porous pavement. Recently, he has provided information on the use of Superpave materials in porous asphalt, and he has made presentations on project examples, including use by the Philadelphia

Housing Authority and at a refuse vehicle parking area, where approvals were obtained from the Pennsylvania Department of Environmental Protection, and the porous pavement application was integrated with site-wide stormwater management aspects.

Evaluation of waste stream approvals, including impacted soil and concrete production materials for soil and concrete reuse at a large New Jersey site.

Mr. Brown has lectured at stormwater seminars for the Pennsylvania Chamber of Business Industry and for Half Moon Seminars in New York, New Jersey, Pennsylvania, and Maryland. He has also served as lead engineer for expert work involving stormwater issues at an agricultural property in northern New Jersey. He has provided engineering evaluations and recommended proper implementation of stormwater management measures on an expert case in Montgomery County, Pennsylvania, and for a Superfund site in New Jersey.

In June 2003, Mr. Brown completed a Technical Review of a new Fluosulfonic Acid Plant to be located in Marcus Hook, PA.

Tasks included:

- Review DEP Plan Approval application (air emissions permit application).
- Review of Process Hazard Analysis, including chemical engineering design and process integrity, including redundancy and reliability of scrubber and water cannon systems.
- Review of Standard Operating Procedures and Training Plans.
- Determining the degree to which the control and instrumentation system is "fail safe", including review of Honeywell's vulnerability analysis.
- Determining whether above ground storage tank permits are/or will be applied for.
- Determining the degree to which the Emergency Response Plan will include evacuation plans, and the degree to which enhanced notification systems should be implemented.

Mr. Brown has completed several lead abatement projects, one at a major Philadelphia facility being converted from historic government research use to future residential use. The project was completed for an overall cost of \$2.3 million, and cleanup was required to strict indoor air criteria. Successful residential redevelopment followed. A second project, with a cost of more than \$400,000, included lead abatement of two areas in a newspaper facility in the greater Allentown/Bethlehem/Easton area. Issues regarding lead exposure were raised due to the long-term historic use of lead inks, and linotype/ letterpress print operations. High lead dust concentrations were found in an area later used by office employees who completed work activities regarding circulation and advertising. Duct systems had to be cleaned out, and one floor of the newspaper building fully abated and renovated to meet appropriate standards.

Mr. Brown also prepares specifications for lead abatement projects. He has recently undertaken projects in Camden County, New Jersey and West Chester, Pennsylvania regarding lead-safe work practices and activities.

He has lectured in Dallas in 2011 at a Gas Drilling Operations Conference on the incidence of well problems, loss events and groundwater impacts and he also completed Marcellus Shale Industry training by the Pennsylvania Department of Environmental Protection in 2011, and annually thereafter.

Mr. Brown has prepared Operations and Maintenance Manuals for wastewater treatment facilities up to 20 MGD in size. The largest system included a regional wastewater collection and ocean outfall system.

Preparation of air emissions permits for more than five asphalt plants in Pennsylvania. Includes preparation of emissions estimates from asphalt production and fuel storage tanks.

Principal in charge for indoor air quality investigation/evaluation projects, including a college building in Cleveland, Ohio, a commercial multi-tenant building in Ft. Washington, PA and additional commercial and residential buildings as well. Mold abatement on major project in Delaware high rise apartment building. Expert report preparation on two Pennsylvania projects involving microbial impacted residences. Principal in charge for large mold abatement projects in apartment complex and food production facilities.

Project Manager or Principal in Charge of numerous asbestos survey and abatement projects, including malls, industrial facilities, and asbestos products manufacturing plants in New Jersey, Pennsylvania, North Carolina, Tennessee and Delaware.

Principal in charge for a \$2.3 million lead abatement project in Philadelphia, at former Defense Research facility being converted for future residential use.

Peer review of IAQ testing program, prior to planned transaction involving major Wilmington, Delaware building damaged by fire.

Completion of Benzene Storage Tank Testing work at Pharmaceutical Plant in Upper Merion Twp., PA.

Senior company person responsible for Health and Safety Plan preparation, training and incident review/resolution.

Project Manager for an electric circuits manufacturing facility closure project in New York. Work included floor and equipment decontamination, pipe and equipment draining and operation of the wastewater treatment system prior to facility auction.

Preparation of expert report on benzene exposure from a service station gasoline release in southeastern PA.

Preparation of air permits and storage tank thickness testing for hazardous waste facilities in Elizabeth, NJ and Lewisberry, Pennsylvania. Work included design of a storage tank venting system to minimize volatile organics and preparing estimates of reduced volatile organic emissions.

Project Manager for wetlands mitigation project in West Deptford, New Jersey and Manheim, Pennsylvania.

Project Manager for an automotive manufacturing facility closure project in Michigan. Work included floor and equipment decontamination in an electroplating processing area where cyanides were used, as well as closure cleanup and grouting of wastewater treatment building pits. Also included were testing of piping systems and equipment and removal and disposal of contaminated air pollution control equipment.

Principal in charge for landfill design and permitting projects in Georgia, Pennsylvania and New Jersey.

Preparation of Specifications, Remedial Plans and Health and Safety Plans for cleanup and waste industry projects in several states.

Design and implementation of soil vapor extraction systems to control volatile organic constituents for several PA projects. Design and Quality Assurance for vapor barriers at volatile organics remediation sites.

Project Manager for numerous landfill gas recovery projects in Pennsylvania and New Jersey. Included recovery testing, permitting and construction QA/QC.

Preparation of Health and Safety Plans for construction activities, investigation, and remediation work at cleanup sites, waste facilities and an abatement projects.

For a Pennsylvania municipality, Mr. Brown completed a combined sewer overflow evaluation. Emergency construction at a CSO overflow point was completed to address a dry weather flow problem after TV sewer inspection revealed no apparent conventional solution to brick arch sewer infiltration. A Borough-wide upgrading program was presented to and approved by the PADEP.

Review of proposed cleanup plans and cost estimates for a confidential Superfund site and providing an opinion on feasibility and effectiveness of the selected cleanup option and on the accuracy of the cost estimates.

Manager for comprehensive upgrading and expansion for a major hazardous waste management facility project in Puerto Rico. Work included design of landfill, surface water management, container storage, tanks storage/treatment and stabilization/ fixation processing facilities. Responsible for the successful completion of all aspects of the engineering portions of the project, which also included regulatory liaison and strategizing, negotiation of Consent Agreements, in-depth Part B permitting, as well as hydrogeological study efforts.

Principal in charge and Project Manager for petroleum release and remediation projects at more than five dozen Pennsylvania and New Jersey sites.

Expert work for Pharmaceutical Company in Upper Merion Township, PA related to onsite landfill methane gas production dispute.

In the Lancaster area, Mr. Brown was retained to assist with a residential sewage spill that resulted in significant damages and illness. The Expert Report focused on the standard of care for sewer cleanout work, which caused the spill, following pipe breakage. Mr. Brown has also prepared an Expert Report on a sewage release affecting a strawberry field in Shaverstown, PA.

Expert witness on cases involving Superfund cost recovery, leachate discharges from a sanitary landfill, landfill siting, transfer station siting and petroleum release responsibility and remedial costs.

For a major regional wastewater treatment facility, Gary Brown completed preparation of a Prevention of Significant Deterioration air permit for a sludge incinerator to the United States Departmental Protection Agency. Work included air modeling, negotiation of issues related to stack height, and careful consideration of downwash conditions, as could potentially affect ambient air quality at the property line. Although PSD permitting had initially been overlooked, the permit was received in time so that sludge incineration operations could start up as soon as the major wastewater treatment plant, 40 million gallons in size, became operational.

Principal in charge for mold investigation and remediation projects in Pennsylvania, Delaware and New Jersey. Included is a Philadelphia project involving a large commercial space. Expert witness assignments as well.

Group leader or participant on projects involving waste water treatment and collection systems troubleshooting, odor control investigation, and preparation of comprehensive operations and maintenance manuals for large plants.

Project Manager for a hazardous waste landfill and stabilization/ fixation processing facility design and permitting project near Buffalo, New York.

Project Manager for a chemical production facility environmental upgrading project in Vineland, New Jersey. Work included analysis of discharge standards appropriateness, design of stormwater collection/tank storage systems, stormwater separation, strategic and logistical permitting assistance, as well as hydrogeological studies.

Engineering Manager for a multi-million dollar project involving upgrading of a major landfill in eastern Pennsylvania. Work included Part B Application preparation, upgrading and closure of hazardous waste landfill section, leachate

treatment plant upgrading, and design and permitting of landfill expansions. Responsible for engineering budget of over \$1 million. Work included upgrading of all active site utility systems and upgrading of hazardous waste treatment process interruption. Work was completed on schedule and within budget, even given stringent Consent Agreement deadlines.

Project Manager for landfill excavation/utility extensions near boiler house for Pharmaceutical Company in Upper Merion Twp., PA.

Project Engineer for a major tanks management program project involving analysis of tank upgrading needs at over 20 plants throughout the United States for a Fortune 500 company. Work culminated in preparation of a comprehensive ten-year upgrading program, including cost estimates for corporate decision-making.

For the Atlantic County Utilities Authority, Mr. Brown managed an odor investigation in a problematic portion of a major regional waste water collection system. Dye tests were run during off hours to determine residence times and force mains, and hydrogen sulfide odor generation was projected based on the residence time found. Also, when detailed inspections were completed of the collection system, one waste water pumping station and collection system was found to be severely overloaded, and anaerobic conditions prevailed throughout the collection system area due to extremely low flow velocities. This area was found to be the prime source of odor problems that the downstream regional pumping station was experiencing. Subsequent phases of the project included design and installation of a scrubber system to further control what remaining odor problems remain. Problems were initially hard to define because of three to ten air change per hour flow rates in the regional wastewater utility pumping station. Issues were resolved through a consent decree with the New Jersey Department of Environmental Protection.

Engineering Manager for a formulation of remedial and upgrading plans at a major Midwest liquid hazardous waste management / deep well injection facility. Work included preparation of lagoon closure and PCB cleanup plans and design, permitting and construction of a major new tank-based treatment and storage facility.

Project Manager for a construction inspection project involving replacement of 12 underground storage tanks at 12 northern New Jersey utility facilities.

Project Manager for a northern New Jersey project involving construction of the world's largest solid waste baling facility. Work included design aspects, operations and maintenance manual preparation, as well as construction management during the project closeout phase. Punch list items resolution, including damage to site electrical system and components caused by subcontractor.

Engineering Manager for a New York landfill upgrading and expansion project involving resolution of complex permitting delays.

Development of computerized reporting systems for reporting of major projects' budget, status, scheduling and cost control for construction contracts and consultants.

Project Manager for design of a wood gas-to-energy project in Newburgh, New York. Work included the design of truck unloading and solid fuel storage systems, design of mezzanine structures and foundation in close proximity to operating equipment, investigation and design of utility systems, and tie-ins, which included electrical, water, storm drain, fire sprinkler/alarm, steam, oil, boiler refitting/rewiring and complex control/instrumentation interfacing of vendor-supplied control panels.

Transition Engineering Manager responsible for successful waste transfer of permitting, design and environmental management information for over 50 waste facilities as a result of a Fortune 500 service company major acquisition. Work included debriefing of management employees, transfer of sensitive information and preparation of comprehensive environmental management summary documents for all facilities. Logistical information transfer was also supervised.

Completion of acquisition feasibility studies for numerous multi-million dollar facility purchases, including itemization and quantification of short and long-term liabilities, and analysis of profitability potentials. Also, completion of numerous industrial facility inspections prior to purchase or foreclosure proceeding.

Project Manager for a \$0.75 million textile mill closure project in northeastern Pennsylvania. Project work included asbestos removal and encapsulation, advanced wastewater treatment plant cleanup, decontamination of buildings and drainage systems, and tank testing and repairs.

PROFESSIONAL AFFILIATIONS

**Air and Waste Management Association
American Society for Testing and Materials
American Society of Civil Engineers
Water Resources Association of the Delaware River Basin
NJ Water Environmental Federation
American IAQ Council
American Academy of Forensic Sciences**

TRADE AFFILIATIONS

**Associated PA Constructors
PA Aggregates and Concrete Association
PA Asphalt Pavement Association**

**National Utility Contractors Association
PA Chamber of Business and Industry**

PUBLICATIONS AND ADDRESSES

"Review of State-of-the-Art for Landfills", American Society of Civil Engineers Seminar, March 14, 1978.

"Bioconversion - Gasification of Combined Municipal Solid Waste and Sewage Sludge", NJ Water Pollution Control Association Seminar, March 21, 1979.

"Landfilling Technology in New Jersey: Short and Long Term Impact on Leachate Discharge", NJ Water Pollution Control Association Seminar, September 22, 1981.

"Landfilling Technology", presented at Seminar on the Solid Waste Crisis in the Delaware Valley, January 22, 1985.

"Hazardous Waste Cleanup Costs: Why So Much", Government Institutes Seminar, December 2, 1987, co-authored with Joyce A. Rizzo.

"Superfund Project Management", presented at American Society of Civil Engineers, Geotechnical and Water/Environmental Group, April 24, 1990.

"Managing Engineering Consulting Work", Presented at Seminar, February 5, 1992.

"Pennsylvania Residual Waste Regulations - Facility Design Issues," presented at three Pennsylvania Chamber of Business and Industry Seminars, April, 1992.

"Use of Geobentonite Composite Blankets in Landfill Capping", presented at Seminar, June 1992.

"New Jersey DPCC Regulations", presented at N.J. Environmental Exposition Seminar, October 1992.

"Voluntary Cleanups", presented at Seminar, March 1993.

"Groundwater Recovery and Treatment", presented at New Jersey Environmental Exposition Seminar, October 1993 and Pen Jer Del Seminar, November 1993.

"Groundwater Remediation", Presented at New Jersey Environmental Expo, October, 1993.

"Managing Environmental Construction Work", Presented at Seminar, February 21, 1994.

"Real Estate - Managing Environmental Liabilities", Seminar, August 1994.

"PA Residual Waste Regulations", Seminars, October and November 1994.

"Compliance Audits - Waste Facilities", Institute of Business Law Seminar, May 1995.

"Superfund - The US vs. Atlas Minerals and Chemicals Case", American Bar Association Seminar, September 1995.

"The Pennsylvania Land Recycling Program", Montgomery County Industrial Development Corporation, February 1997.

"Expert Witness Testimony", Pennsylvania Bar Institute, Environmental Law Forum, March 1997.

"New EPA Air Regulations", Eastern Technology Council, June 1997.

"Underground Storage Tank Closures", Pennsylvania Chamber of Business and Industry Seminars, October 1997.

"Advanced Expert Testimony", Pennsylvania Bar Institute, Environmental Law Forum, March 1998.

"The Effect of Environmental Issues on Market Value", Assessors Association of Pennsylvania, November 1998.

"The Benefits of Using Engineering Design Logic on Expert Witness Cases", American Academy of Forensic Sciences, February 1999.

"Environmental Expert Testimony, "It's A Little More Complicated", PA Bar Institute, Environmental Law Forum, April 1999.

"Expert Testimony, Why it Must be Based on Facts and Sound Technical Judgement", American Academy of Forensic Sciences Annual Meeting, Reno, NV, February 2000.

"Preparing Expert Reports in Complex Cases", American Academy of Forensic Sciences Annual Meeting, February 2001.

"Environmental Engineering Standard of Care", American Academy of Forensic Sciences Annual Meeting, Seattle, WA, February 2001

"Contingency Plans", MCIDC Seminar, March 2001.

"Act 67/68 - Local Permits Coordination", MCIDC Seminar, March 2001.

“Proposed DEP Safe Fill Regulations”, APC/PACA/PUCA/PAPA Environmental Seminars, March 2002.

“Advanced Act 2 Issues” - PA Chamber of Business and Industry Environmental Conference, April 2002.

“Environmental Updates - Hot Mix Industry”, PA Asphalt Pavement Association Seminars, May 2002.

“PA Hazardous & Residual Waste Regulations - Practical Compliance Tips” - PA Chamber of Business and Industry Seminars, October 2002.

“Proving a Gasoline Release Source when your Analytical Results are not Favorable”, American Academy of Forensic Sciences Annual Meeting, February 2003.

“MTBE Releases” - American Academy of Forensic Sciences, February 2003.

“Mold Remediation” - MCIDC / TriState Seminar, February, 2003.

“Managing Mold Abatement Projects” - MCIDC Seminar, March 2003.

“DEP Clean Fill Program and RAP General Beneficial Use Permits” - PA Aggregates and Concrete Association and Associated PA Constructors Annual Conferences, November 2003.

“DEP Clean Fill Program and Land Use Policy Update”, PA Chamber of Business and Industry Environmental Conference, April 2004

“Final DEP Fill Policy” - PUCA, PAPA/APC/PACA, Seminars - March and April 2004

“Expert Witness/Mold Consulting,” American Academy of Forensic Sciences, February 2005

“Act 2 Land Recycling Program Updates,” PA Chamber of Business and Industry, April 2005

“Asphalt Hot Mix Industry – Environmental Updates,” PA Asphalt Pavement Association, October 2005

“SPCC Regulation/Contingency Plan Updates”, PA Aggregates & Concrete Association, January 2006

“PA Land Recycling Program Updates”, PA Chamber of Business & Industry, April 2006

“Mold Seminar” – American Academy of Forensic Sciences – February 2008

“Real Estate Environmental Due Diligence Issues”, TriState Realtors Alliance, March 2008

“Pennsylvania Specific Environmental Compliance”, PA Chamber of Business and Industry, Environmental Conference, April 2008

“Clean Fill Issues”, Minnesota Brownfields Conference, April 2008

Delaware Estuary – Science and Environmental Summit, Presentation on “Upgrading of Dredge Spoils Management Facility”, Delaware Estuary Organization, Cape May, New Jersey, January 14, 2009.

Montgomery County Industrial Development Corporation, Environmental Update Seminar, Presentation on “Building Preservation and Mothballing”, Norristown, Pennsylvania, February 4, 2009.

Saul Ewing Environmental Conference – “Soil Vapor/Indoor Air/Webinar”, Berwyn, Pennsylvania, August 13, 2009.

HalfMoon Seminars, “Stormwater Management and Special Sites”, held in New Jersey, New York, Pennsylvania, Delaware, and Maryland 2009-2011.

Pennsylvania Brownfields Conference “Brownfields Site Risk Management”, Harrisburg, Pennsylvania, September 15th 2009.

Pennsylvania of Business Industry Environmental Conference, “Stormwater Management”, Harrisburg, Pennsylvania – April 13, 2010.

Temple University, Class on Environmental Law – “Brownfields, Underground Storage Tanks, Resource Conservation and Recovery Act”, Philadelphia, Pennsylvania, October 20, 2010.

Progressive Business Conferences, “Hazardous Waste Land Ban”, National Teleconference, March 5, 2011.

Pennsylvania Bar Institute Environmental Law Forum, “Stormwater”, Harrisburg, Pennsylvania, April 6, 2011.

Half Moon Seminars, “Stormwater management – An Innovative Look at LIDs and BMP’s.” Harrisburg, PA, April 7, 2011.

Progressive Business Conferences “Land Disposal Restrictions for Hazardous Waste,” National teleconference, May 5, 2011.

Temple University, “Asbestos and Lead Based Paint,” November 7, 2011.

Gas Drilling Operations Conference – Hydraulic Fracturing (Fracking) Health and Environmental Risks – Pre-Drilling, Completion of Remediation, HB Litigation Conference, Dallas, TX – December 12, 2011

DMI/Webinar, “Mold in Buildings,” February 8, 2012.

Progressive Business Conferences, “Stormwater Permitting Requirements,” National Teleconference, May 8, 2012.

Half Moon, LLC, “Stormwater Requirements, BMP Approvals and Other Programs,” Cherry Hill, NJ, June 5, 2012.

Pennsylvania Aggregates and Concrete Association, “DEP Update-Reclamation Fill,” Valley Forge, PA, June 20, 2012.

National Society of Municipal Engineers, “Public Right of Way Excavation Guidelines; New Requirements,” Edison, NJ, September 12, 2012.

Friends School, “Our Environment”, Mullica Hill, NJ, December 10, 2012.

Progressive Business Conferences, “RCRA Record Keeping”, National Teleconference, January 18, 2013.

Progressive Business Conferences, “Universal Waste Management,” National Teleconference, March 5, 2013.

National Asphalt Pavement Association, World of Asphalt Conference, “Wetlands”, “Dust Control”, “Stormwater Management”, “RAP Breakers,” San Antonio, TX, March 19, 2013.

PA Asphalt Pavement Association, “Environmental Updates,” Harrisburg, PA, March 26, 2013.

PA Bar Institute, “Stormwater and Wet Weather, Harrisburg, PA, April 11, 2013.

Progressive Business Conference, “EPA – Spill Release Reporting/Guidelines”, Webinar, June 16, 2013

PA Environmental Council, “Case Studies of Stormwater Management Challenges”, Harrisburg, PA, September 11, 2013

Progressive Business Conferences, “RCRA Recordkeeping Requirements”, Webinar, March 6, 2014

PA Bar Institute Environmental Law Forum, “Stormwater and Wet Weather”, Harrisburg, PA, March 27, 2014

PA Aggregates and Concrete Association, "Reclamation Fill", Camp Hill, PA, June 10, 2014

Progressive Business Conferences, "Using the Uniform Hazardous Waste Manifest", Webinar, July 20, 2014

HalfMoon Seminars, "NJ Stormwater Management", Cherry Hill, NJ, October 2, 2014

Progressive Business Conferences, "Hazardous Waste Recycling", Webinar, October 20, 2014

Progressive Business Conferences, "Universal Waste Management", Webinar, December 18, 2014

American Academy of Forensic Sciences, "Federal Court Testimony – TVA Case", February 20, 2015

Progressive Business Conferences, "Stormwater Management and Permitting Requirements", February 24, 2015

Pennsylvania Chamber of Business and Industry Environmental Conference and Trade Show, "Stormwater Compliance Issues", March 30, 2015

Progressive Business Conferences, "Uniform Waste Manifest: Compliance Requirements for your Facility", April 23, 2015

HalfMoon Education, "Stormwater Management for Municipal Separate Storm Sewer Systems", April 29, 2015

Progressive Business Conferences, "EPA Recordkeeping Requirements and Practices to Keep You Compliant", August 25, 2015

PA Asphalt Pavement Association, "Environmental Issues", Harrisburg, PA, January 22, 2016

PA Asphalt Pavement Association, "Environmental Training, Reclamation Fill", March 10, 2016

PA Slate Belt Chamber of Commerce, "Slate Quarry Reclamation", May 6, 2016

Progressive Business Executive Education "Toxic Substance Control Act Historical Overview and Latest Reform", September 2, 2016

Progressive Business Conference, "Stormwater Management and Permitting Requirements", October 17, 2016

**Appalachian Pipeliners Association, “Key Natural Gas Environmental Issues”,
December 13, 2016**

**Progressive Business Executive Education, “Hazardous Generator Improvements
Rule”, March 22, 2017**

**PA Asphalt Pavement Association, “Environmental Seminar, Best Management
Practices for Highway and Earthwork Construction”, March 30, 2017**

**Pennsylvania Bar Institute, “Federal Court Testimony TVA Kingston Slurry Ash
Spill”, April 4, 2017**

Pennsylvania Bar Institute, “Expert Testimony”, April 5, 2017

**HalfMoon Education, “Slope Stabilization and Landslide Prevention”, April 28,
2017**

**Progressive Business Executive Education, “Stormwater Management and
Permitting Requirements” August 7, 2017**

**HalfMoon Education, “VPDES Industrial Activity Stormwater Permitting”, August
31, 2017**

**Pennsylvania Chamber of Business and Industry Environmental Conference and
Trade Show, “Industrial Stormwater General Permit Compliance”, October 12,
2017**

**HalfMoon Education, “Urban Storm Sewer System Design and Construction”,
November 10, 2017**

**Talen Energy, “Stormwater Best Management Practices for the Power Industry”,
December 15, 2017**

**PA Asphalt Pavement Association, 58th Annual Conference 2018 - Asphalt,
January 16, 2018**

**Progressive Business Conference, Stormwater Permitting Requirements and
Processes, February 27, 2018**

**PA Asphalt Pavement Association, Environmental Seminar, SPCC/PPC/SPR Plans,
April 10, 2018**

HalfMoon Education, “Stormwater Best Management Practices”, May 10, 2018

**HalfMoon Education, “Stormwater Management for Municipal Separate Storm
Sewer Systems”, July 10, 2018**

GARY R. BROWN, P.E., Q.E.P., C.M.C., L.S.R.P
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**PA Asphalt Pavement Association, Environmental BMPs for Highway & Earthwork
Construction Under PA DEP Fill Policy, October 19, 2018**

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RT Environmental Services, Inc.

Your Solution-Oriented Environmental Services Firm

PROFESSIONAL PROFILE

**WALTER H. HUNGARTER, III, P. E.
VICE PRESIDENT**

REGISTRATIONS / CERTIFICATIONS

**Professional Engineer in Delaware
Certified Microbial Consultant, 2003 (2006)**

FIELDS OF COMPETENCE

Chemical and Environmental Engineering; Brownfields and PA DEP Land Recycling; indoor air quality and microbial investigations, hazardous waste permitting; Phase I and Phase II ESAs; SPCC, PPC, and contingency planning; PA Clean Fill and construction industry environmental issues, wastewater treatment. Also familiar with NJDEP Technical Requirements for Site Remediation, landfill closure design, underground and aboveground storage tank regulations, environmental and engineering economics.

EXPERIENCE SUMMARY

Mr. Hungarter has over eighteen (18) years of consulting experience in the environmental services industry to include managing, coordinating, and providing technical assistance in a variety of engineering and construction projects. Mr. Hungarter is currently the Vice President of RT Environmental Services, Inc., King of Prussia office and is responsible for management of the Engineering, Remediation, and Hydrogeology groups. He is currently involved with various design and environmental assessment projects, contingency planning, pollution prevention, soil and groundwater remediation, indoor air quality investigations, brownfields redevelopment and waste permitting. He has conducted environmental assessments and baseline IAQs of residential, commercial, and industrial facilities in Pennsylvania, New Jersey, Delaware, and Virginia. Responsible for field investigations, regulatory research and review, report preparation, review of contractor submittals and payment requisitions. Also responsible for Phase I, Phase II and indoor air quality report reviews.

Coordinated waste disposal activities for several sites including the waste facility due-diligence review. Prepared mold, lead-based paint and asbestos containing materials abatement specifications and decommissioning plans for several projects in Pennsylvania, Delaware and Virginia. Performed PA DEP and US EPA file reviews for various projects, and research at the US EPA Library for several projects.

EDUCATION / SPECIALIZED TRAINING

M.S., Chemical Engineering (w/ focus in Environmental Engineering) - Widener University (1999)
B.S., Chemical Engineering, minor in Chemistry - Widener University (1997)
40-Hour Hazardous Waste Site Training Course, OSHA 29 CFR 1910.120(e)(3), Envirogenics (1999)
8-Hour Hazardous Waste Refresher Course, OSHA 29 CFR 1910.120(e)(8), ASTM ECS (2014)
CIAQM, CMC/CMI Training, 2003 (2006)
Confined Space Training, 2003 (2006)
Lead and Asbestos Awareness Training, 2002
Environmental Site Assessments for Commercial Real Estate, 2000.
ASTM Phase II Environmental Site Assessment Process, 2000.
ASTM Property Condition Assessment, 2000.

KEY PROJECT EXPERIENCE

- Reporting and data analysis for a Pennsylvania Superfund site in King of Prussia. Responsibilities include operation and maintenance services, groundwater and vapor extraction system monitoring, landfill gas monitoring tracking and scheduling of sampling events, and coordination of laboratory drop-offs and pickups. Completion of an NPDES renewal application for facility discharge. Preparation of work scope modifications, monthly, quarterly, and annual reports to EPA and PRP Group members. Responsible for completion of several shutdown/rebound tests and data evaluation and reporting. Working with EPA to close out pump and treat operations following remedy modification work.
- Conducted and managed indoor air quality investigations, mold inspections and air sampling for a number of clients at various locations in both Pennsylvania and Delaware. Project Manager for multi-building apartment complex investigation in Delaware. Investigation involved air sampling in over 230 apartment/basement units. Involved with indoor air investigations for both commercial and residential facilities.
- Project Manager for several PA DEP Act 2 Land Recycling Sites in Hilltown and Chester Townships, Ambler Borough. Sites included remediation of impacted soil to a residential statewide health standard (at two Hilltown Township Sites) and removal of hazardous waste to meet the residential and site specific statewide health standards (Chester). Preparation of remedial investigation report and cleanup plan for Ambler site. Also completed work on an Act 2 sites in Phoenixville and Philadelphia, PA. Involved with Act 2 projects in the Northeast and South Central Regions involving movement of historic fill and the use of site specific standards for each site.

- **Involvement with the comment process for the Construction Industrial related to the PA DEP Fill Policy (April, 2004). Prepared comments on the Policy and General Permit issues as well as numeric limits for fill materials. Instrumental in the development of a Best Management Practices Guide for Highway and Earthwork Construction Under the PA DEP Fill Policy and General Permit Program in June 2004.**
- **Hazardous Waste Permit Applications. Prepared hazardous waste permit applications for three mercury recycling facilities located in Pennsylvania. Developed a process code system to be used throughout the company to track the status of materials in the recovery process. Prepared drawings, text, and figures for permit application sections required by DEP. Responded to DEP comments and issues and coordinated revisions with the client. Currently one permit has been approved by the PA DEP and the second site was submitted to PA DEP and is currently under review.**
- **Involved with work at a Brownfields redevelopment site in New Jersey. Site consists of three closed landfills totally approximately 120 acres to be converted to a transit village style community. Hazardous wastes were reported to have been received at one of the landfills. Completed NJ DEP file reviews for the facilities and historic aerial review and interpretation. Involved with the preparation of concept redevelopment plans and presentations for NJ DEP as well as other government agencies involved with the project. Also involved with the investigation work scheduled to be completed in late 2007 to further assess redevelopment of the facilities. The redevelopment project is being coordinated with the NJ DOT roadway projects in the area. Also responsible for management of soil approval process for the capping activities of the landfills which involves reviewing and approving incoming material streams.**
- **Remediation work, former Ohio China Production facility. Project Manager for investigation and remediation activities. Performed alternative and cost analysis of three remediation options. Coordinated on-site investigations including groundwater, stream, additional areas of concern identified during site inspection, and geotechnical investigation for cap stability. Involved with the landfill closure design.**
- **SPCC, PPC, and contingency plans. Prepared Spill Prevention Control and Countermeasures (SPCC), and Preparedness, Prevention, and Contingency (PPC) Plans for numerous asphalt plants and other industrial sites throughout the region. Performed site inspections for facilities, risk assessments, and secondary containment evaluations. Prepared contingency plans and drawings for the sites.**
- **Phase I Environmental Site Assessment (ESA) Portfolio. Project Manager for a Phase I ESA portfolio project for a New Jersey industrial/commercial business complex consisting of twelve facilities and 105 tenants. Reviewed prior Phase**

I, II, and other environmental reports. Performed site inspections, historical / regulatory reviews, assessment of environmental conditions, and prepared portfolio report. Other similar Phase I ESA portfolios have been completed for several clients at locations in Toronto, Ontario; Santa Rosa, California; York, Pennsylvania; Buffalo, New York; Danbury, Connecticut; Charlotte, North Carolina; and Washington D.C. Completed various Phase I ESAs in Pennsylvania, New Jersey, Maryland and Virginia.

- Post closure monitoring; Philadelphia landfill. Conducted site inspection with client after reported dumping incidents. Coordinated cleanup and waste removal activities. Performed groundwater sampling as part of the operations and maintenance of the facility. Involved with completion of the Closure Application to PA DEP, and construction oversight of landfill capping activities. Preparation of certification report.**
- Preparation of individual General Beneficial Use Applications for a number of clients involved with mulch, concrete, asphalt, and composting processing operations in Southeast Region PA DEP. Coordinated sampling of individual materials per PA DEP requirements. Preparation of state-wide General Beneficial Use Applications for recycled asphalt pavement (RAP) materials and baghouse fines for a wide range of construction industry clients throughout all PA DEP Regions.**
- Coordination of post closure monitoring and reporting to PA DEP for a King of Prussia Landfill project. Involved with monitoring well maintenance activities and preliminary re-development plans for the site, including potential PA DEP Act 2 Land Recycling.**
- Preparation of NPDES permits and renewal applications for several facilities in Chester and Montgomery Counties in Pennsylvania. Additionally, prepared Erosion and Sediment Control plans and drawings related to the proposed activities at the sites. Coordination with PA DEP and Conservation Districts involving the locations of stormwater best management practices to be implemented given complex geological site conditions.**
- Preparation of a NJ DEP Class B permit modification for a facility in Southern New Jersey. The permit modification included updating the prior permit conditions based on modern day regulations and development of the protocol for the facility to accept new waste streams (involving concrete, and shipment of material directly to end users).**
- Involved with a re-development project for the City of Chester Redevelopment Authority. This project involved capping and redevelopment of a former NPL site for a residential (park) use. Onsite work included sampling of materials, oversight of the removal of hazardous waste from the facility and verifying final cap construction. The site was taken through the PA DEP Act 2 Land Recycling Program and obtained a release of liability from the State.**

- **Philadelphia Act 2 Land Recycling project at a former lead smelting facility. The facility is currently a waste transfer station. The project involved design and capping of historic fill material on a five acre portion of the site, preparation of the RIR/Cleanup Plan. The cap was comprised of asphalt parking lot area and one foot of clean fill/soil over other portions of the facility. Obtained stormwater approval for the redevelopment aspect of the project from PA DEP with coordination from the City of Philadelphia Water Department. Completed oversight of the cap construction.**
- **Project manager for Major and Minor permit modifications and permit renewal for a waste transfer facility in Berks County, Pennsylvania. Responsible for preparation and completion of application forms, coordination of PA DEP responses, and facility drawing modifications. Permit modification have been made to the facility to increase daily volume, update radiation monitoring plans, expand waste types accepted at the facility to include C&D, municipal and residual waste.**
- **Evaluation of the scope and cost of an EPA removal action for a former New Jersey chemical production facility. The evaluation included review of investigation and remediation activities and associated costs which were completed over a several year period to determine if the cost of the removal action were justified. Involved with the review of site information to determine the remedial cost for the project under the state voluntary clean up program.**

PROFESSIONAL AFFILIATIONS

Air & Waste Management Association



RT Environmental Services, Inc.

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PROFESSIONAL PROFILE

CRAIG HERR, PG, LSRP

REGISTRATIONS/CERTIFICATIONS

**Licensed Professional Geologist in Pennsylvania
Licensed Site Remediation Professional in New Jersey**

EXPERIENCE SUMMARY

Mr. Herr has eighteen years experience in characterization, remedial, and construction activities, soil, ground water, and soil gas sampling/assessments, and Phase I & II environmental site assessments. Also, Mr. Herr has in-depth experience in PA Land Recycling projects, NJ Site Remediation Programs projects, UST closures, expert services and storm water and beneficial reuse permitting.

EDUCATION

Bachelor of Science: Geology with Engineering Option, Millersville University, Millersville, Pennsylvania, 1997

KEY PROJECT EXPERIENCE

- **Managed and supported more than thirty Brownfield and Land Recycling projects in five PADEP regions and LSRP projects in New Jersey. Projects were completed using all three Land Recycling Standards: Background, Statewide Health, and Site-Specific Standards. Projects include redeveloping a historic petroleum and lead impacted sites into commercial properties, the remediation of pesticide-impacted properties for residential development, large vacant manufacturing facilities with multiple areas of concern for mixed commercial and residential redevelopment, and characterization of chlorinated solvents releases at dry cleaning facilities located within strip malls requiring the investigation of multiple tenant units and fate and transport analysis of off-site plume migration.**
- **Conducted investigations of hazardous waste sites; conducted removal responses to releases or threats of releases of hazardous substances and contaminants.**
- **Conduct groundwater investigations in karst environments and investigation and mitigation of sink holes.**
- **Collected and documented physical and analytical data; monitored removal and remedial activities performed by responsible parties**
- **Perform Phase 1 Environmental Site Assessment site inspections, historical / regulatory reviews, assessment of environmental conditions and prepare reports on residential, commercial, industrial and farmland properties in PA, MD, and NJ.**

CRAIG HERR, PG, LSRP
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- **Coordinate and perform Phase II Environmental Site Assessments with tasks including in-place tank closures, groundwater and soil sampling, and report preparation for sites located in PA, MD, and NJ.**
- **Managed UST cleanup programs; reviewed and edited reports detailing environmental actions, maintained invoices, and prepared budget estimates, as well as supervised subcontractors during UST removals.**
- **Conducted geotechnical engineering investigations, log drill data, and completed a variety of soil tests in the laboratory following ASTM standards**
- **Provided technical support on remedial design projects proposed for client subject properties and later managed the installation of remedial systems.**
- **Managed multiple redevelopment sites for regional pharmacy store chain. This included characterization and removal of USTs and ASTs, historical fill material management, and managing impacted soils and groundwater on site.**
- **Managed a portfolio of gasoline service stations in Pennsylvania following the Storage Tank regulations. Worked with the PADEP case managers to expedite the characterization and remediation of these sites. Tasks included conducting pilot test for active remediation using dual-phase extraction, soil vapor extraction, and ozone injection. Prepared remedial action plans providing technical justification for the remedial technology selected.**
- **Managed a geophysical well logging project of multiple open bore-hole monitoring wells to correlate fractures within a bedrock formation to identify specific contaminant transport pathways. Logs reviewed included; caliper, neutral gamma, spontaneous potential, induction, temperature, heat pulse, ATV and color borehole video.**
- **Served as the Project Geologist on a Superfund site in King of Prussia, directed the installation of 600'-deep nested, groundwater monitoring wells, and development of a complex Site Conceptual Model working with USEPA and USGS.**
- **Prepared a solid waste permit reissuance package for a transfer facility in Montgomery County. Prepared several individual NPDES permit applications for clients in Montgomery, Lebanon and York Counties.**
- **Expert services on an impacted residential well by natural gas extraction and on asphalt aggregate cases.**
- **Managed NJDEP Site Remediation Programs sites from the Preliminary Assessments, through the remedial investigation phase, and remedial action phase to working with an LSRP and issuance of the RAO. Also completed biennial certifications, CEAs and both soil and groundwater remedial action permits.**

PROFESSIONAL AFFILIATIONS

National Ground Water Association Member
Pennsylvania Counsel of Professional Geologist Member
License Site Remediation Professional Association Member

TRADE ASSOCIATES

PA Chamber of Business and Industry
Montgomery County Economic Development Corporation



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PROFESSIONAL PROFILE

JUSTIN R. LAUTERBACH, QEP
VICE PRESIDENT

REGISTRATIONS/CERTIFICATIONS

Qualified Environmental Professional Certification (QEP) - IPEP
40-Hour Hazardous Waste Operations (OSHA CFR 1910.120)
OSHA 8-Hour Refresher
OSHA 8-Hour Supervisor Training
PADEP Act 2 Land Recycling Client Workshop
PADEP Vapor Intrusion
Project Management Training (March 2005)
New Jersey Site Remediation Course - Rutgers University
New Jersey Vapor Intrusion Course - Rutgers University
New Jersey Regulatory Training in USTs – Rutgers University
Asbestos, Lead Based Paint, and Mold Awareness Course
ACM Program Manager Training
Asbestos Building Inspector
NJDEP Tech Rule Training
Pathway to Principal – Zweig White Training (July 07)

PUBLICATIONS/ADDRESSES

PA Stormwater Management/Regulations – Lectured at PA Chamber of Business and Industry Spring Environmental Forums several years

NJ Regulatory Requirements – leader for numerous training seminars organized to provide regulatory updates offered to clients

PROFESSIONAL QUALIFICATIONS

Mr. Lauterbach has fifteen years of experience in the environmental services industry. He has extensive knowledge with Environmental Site Assessments, Brownfield Redevelopment, and experience managing large site remediation projects. He has managed a diverse array of complicated Brownfield projects for large national retail corporations and high profile developers throughout the United States, with the majority of projects being located in the Northeast. He has managed and overseen completion of numerous Phase I and Phase II Environmental Site Assessments. RT has brought several complex environmental projects in Pennsylvania, New Jersey, and Delaware to completion under the direction of Mr. Lauterbach. Types of projects include, but are not limited to; soil and groundwater remediation, vapor intrusion, wetland delineation and mitigation, and stormwater management. He has experience with numerous projects involving regulatory oversight, remediation, and ongoing monitoring. He has demonstrated a high level of client service throughout his professional career, holds the position of Vice President, and manages RT's Southwestern PA office. Mr. Lauterbach previously managed RT's Branch Office in Swedesboro, New

JUSTIN R. LAUTERBACH

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Jersey prior to moving to Pittsburgh. He remains heavily involved in projects in Eastern PA and NJ while also expanding RT's service area to Western PA and Ohio.

EDUCATION

**Bachelor of Science in Environmental Science, Minor in Communications
Allegheny College, Meadville, PA, 2002**

KEY PROFESSIONAL EXPERIENCE

- **Project Manager for numerous brownfields sites in NJ and Pennsylvania with contaminated soil and groundwater. Projects include NJ Spill Act sites, NJ ISRA sites, and PA Act 2 Land Recycling projects. Mr. Lauterbach has also worked directly with NJ Licensed Site Remediation Professionals (LSRP) on several projects since the LSRP program was established. These projects require extensive knowledge of state environmental legislation and specific remedial processes. They typically include preparation of DEP correspondence, preparation of Site Characterization Reports, Remedial Investigation Reports, Cleanup Plans, and Remedial Action Completion Reports for sites with complex soil and groundwater releases.**
- **Manages all due diligence environmental investigations and remediation (if necessary) for site acquisitions of a large national retail pharmacy chain across three states. Manages and oversees all environmental aspects/issues at new store locations during due diligence periods. Advises corporate officers, attorneys, and developers with respect to purchase negotiations and environmental liabilities.**
- **Manages and oversees all due diligence environmental investigations and necessary remediation for an expanding and large national donut/coffee store chain throughout PA and NJ. Manages and oversees all environmental aspects/issues at new store locations during due diligence periods. Advises corporate officers, attorneys, and developers with respect to purchase negotiations and environmental liabilities.**
- **Principal in charge for numerous Phase I and Phase II Environmental Site Assessments. These projects have been completed in both large portfolios and at single sites. They include former service stations, large scale industrial sites and former mining sites.**

SPECIFIC PROJECT EXPERIENCE/HIGHLIGHTS

- **Project Manager for large-scale brownfield redevelopment site which was formerly a large steel mill located in the Beaver Valley. Project involves current permitted mining operations, Act 2 Land Recycling, NPDES Stormwater permit issues, and both a residual waste and hazardous waste landfill. This site has been**

JUSTIN R. LAUTERBACH

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investigated and is being remediated under the direction of Mr. Lauterbach, while he also handles all necessary permit revisions, modifications, and renewals.

- **Developed, managed, and supervised the remediation of a former shooting range in Florence, NJ involving hazardous levels of lead impacted soil. Mr. Lauterbach developed the remedial strategy for the project which involved rendering material non-hazardous prior to excavation, in order to allow remediation to occur cost effectively and not trigger landfill and RCRA treatment permitting concerns. Bench scale testing was completed, and subsurface material was stabilized using a phosphate amended fly ash. Once rendered non-hazardous, the material was excavated and placed within a berm located proximal to a closed landfill on an adjacent parcel. An Unrestricted Use No Further Action Letter and Covenant Not to Sue was issued by the state for the former shooting range parcel, which is now a housing development, and a deed notice was placed on the adjacent parcel where the berm is located.**
- **Developed remedial strategy and ongoing monitoring program for a large scale bioremediation project involving a former service station located in Vineland, New Jersey. This project involved evaluation of multiple nearby co-mingling contaminant plumes, vapor pathways, and ecological impacts.**
- **Implemented remedial strategies at numerous former agricultural sites with pesticide impacted soils. Remedial strategies included both in-situ and ex-situ blending, removal, and capping. Blending projects involve evaluation of mixing ratios and contaminant concentrations. Sites included proposed residential developments as well as commercial properties and recreational areas.**
- **Project Manager for large-scale dry-cleaning site remediation project in Pennsylvania involving the installation and operation of a soil vapor extraction system in conjunction with Act 2 Land Recycling activities.**
- **Project manager for former steel mill project in Warren, Ohio. Project involves former RCRA Corrective Action Activity, Federal EPA Consent Orders, and large NPDES permit modification process.**
- **Project Manager for ongoing coal-fired power plant case in Shippingport, PA – involved sampling and analysis of coal combustion residuals, determination of community impact, and interfacing with state and federal regulatory agencies.**
- **Project manager for Brownfield Site and proposed large commercial development in Wilmington, Delaware. Involved remediation of petroleum impacted soils and historic fill under Delaware's Brownfields Program. Obtained over \$200,000 in grants for client reimbursement of site investigation and remediation costs.**



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PROFESSIONAL PROFILE

CHRISTOPHER M. WARD, LSRP

CERTIFICATIONS / TRAINING

**New Jersey Licensed Site Remediation Professional (LSRP)
NJDEP Certified Subsurface Evaluator / UST Closure
NJDEP Unregulated Heating Oil Tank (UHOT) Certification
40-Hour Hazardous Waste Operations (OSHA 29 CFR 1910.120)
8-Hour Hazardous Waste Refresher Course (OSHA 29 CFR 1910.120)
NJDEP Regulatory Training in Underground Storage Tanks
Environmental Site Assessments for Commercial Real Estate
NJDEP Technical Requirements for Site Remediation Training
Site Remediation Basics
Redevelopment of Contaminated Sites
NJDEP Training on the Final Rules Package
Innovative Technologies for Site Remediation**

FIELDS OF COMPETENCE

Preliminary Assessments and Phase I / Phase II Environmental Site Assessments; Site Investigation, Remedial Investigation / Remedial Action experience; Completion of work plans, fieldwork and all technical reporting associated with SI/RI/RA; Brownfields and Land Recycling; Aboveground and underground storage tank closures; Proficient in soil, vapor intrusion, and groundwater sampling techniques.

EXPERIENCE SUMMARY

Mr. Ward has over twelve years of experience in the environmental services industry to include managing, coordinating and providing technical assistance in a variety of remediation projects. Mr. Ward is currently an Associate and Office Manager in RT's Bridgeport, New Jersey branch. He is currently involved with various soil, vapor intrusion, and groundwater projects including: underground storage tank releases/removals, historic fill material, redevelopment of pesticide sites, gasoline service station and dry-cleaning site remediation and redevelopment.

EDUCATION

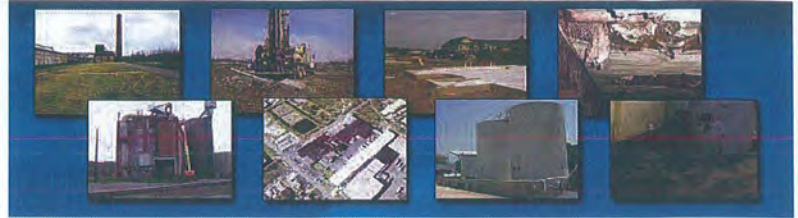
Bachelor of Science, Environmental Science, Drexel University, 2003

KEY PROJECT EXPERIENCE

- **Manage all aspects of New Jersey site remediation projects. Work directly with Project Managers and NJDEP in preparing PA, SI, RI, and RA Reports. Prepare RAOs and complete all forms associated with Site Remediation Reform Act reporting. Responsible for completing Biennial Certifications, Public Notifications, Receptor Evaluations, and Soil/Groundwater Remedial Action Permits.**
- **Project manager on multiple gasoline service station projects. Tasks completed include: Ground penetrating radar, tank tightness testing, UST removals, soil excavation, well installation/groundwater sampling, vapor intrusion investigation, receptor evaluation, off-site potable well sampling, Remedial Investigation/Action Workplan preparation, calculate and implement CEA, submit Biennial Certifications.**
- **Petroleum Underground Storage Tank Project Management - Pennsylvania / New Jersey. NJDEP Certified Subsurface Evaluator. Managed, completed, and received NFA status for environmental investigations and remedial activities associated with UHOT cases. Responsibilities include managing, coordinating, and conducting soil, vapor, and groundwater investigations at the facilities and preparing regulatory reports, summarizing and proposing remedial actions.**
- **Brownfield Redevelopment and Pennsylvania Land Recycling (ACT 2) Environmental Cleanup Projects / Southeastern, Pennsylvania. Project Manager for numerous Brownfield and Pennsylvania Act 2 Land Recycling projects to include, DEP correspondence, preparation of Remedial Investigation Reports, Cleanup Plans, and Act 2 Final Reports for sites with soil and groundwater contamination.**
- **Phase I Environmental Site Assessments - Performed numerous Phase I Environmental Site Assessments (ESAs) at residential, commercial, industrial, and agricultural properties. ESA activities included site reconnaissance, historical research, governmental reviews and contacts, environmental database reviews and research, and report preparation.**



REFERENCES



Office Locations

- King of Prussia, PA
- Canonsburg, PA
- Bridgeport, NJ

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- Canonsburg, PA
- Bridgeport, NJ

24 Hour # 800-725-0593

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ABB Power T&D Company
 Allied Waste
 Allen Organ Company
 Amerco Real Estate
 American Premier Underwriters
 American Trading & Production Company
 Arader Tree Service
 Assisted Living Group
 Avis-Rent-A-Car
 Bally's Fitness
 Bell Atlantic
 Bell & Howell
 Bellefonte Lime
 Berks Transfer
 Bolis Properties, LP
 Bordentown Junction
 Bryn Mawr Stereo
 Burger King
 Carlos Leffler, Inc.
 Carson Concrete
 Castor Associates
 C&D Charter Power Systems
 Chrysler Realty Corporation
 CIGNA
 Columbia Savings Bank
 Conrail
 Cornell Homes
 Cummins Power
 Cycle Chem
 Doors Unlimited
 Domus, Inc.
 Dunkin Donuts
 East Coast Growers
 Fineman & Bach
 First National Bank of Maryland
 5 Star Parking
 Flaster Greenberg
 Fleetwood Ind.
 Foster Grading
 Friedmans Express
 Garden State Growers
 Geis-Chesterbrook Realty
 General Electric
 General Motors Acceptance Corporation

General Real Estate
 Giddings & Lewis
 Gillan & Hartmann
 Glasgow, Inc.
 Goods Furniture
 Government of Bermuda
 Haines & Kibblehouse
 Harnischfeger Ind.
 Henderson Rd. Technical Steering Committee
 Heritage Building Group
 Highway Materials, Inc.
 Homewood Retirement Center
 Hunton & Williams
 International Polymers
 J.J. Andersen Construction, Inc.
 James Spring and Wire Company
 Jefferson Bank
 Jenn Manufacturing
 Joy Oil Company
 Kevin Donohoe Company
 Keystone Bank
 Kirschner Brothers
 Kravco Company
 Laramie Tires
 Life Support Ambulance
 Louis Cohen & Sons
 Mack Trucks
 Manko, Gold, Katcher, & Fox
 Martin Limestone
 Mastriani Realty Company
 Mecha-Draulic Services
 Medico Industries
 Mellon Bank
 Michelman & Bricker
 Montgomery McCracken Walker & Rhoads
 Nolen Group
 North Penn Transfer
 Obermayer Rebmann Maxwell & Hippel
 Ogden Allied
 Olney Square Associates
 Pennsy Supply
 Pennsylvania Asphalt Pavement Assoc.
 Penn Liberty Bank
 Philadelphia Inquirer

PNC Bank, N.A.
 Poly Hi Solidur
 Powell Electronics
 Preferred Unlimited
 Puerto Rico Solid Waste Authority
 R & S Strauss
 Raymark Industries
 Riverside Materials
 Saul, Ewing, Remick & Saul
 Scancem Industries
 Scholler, Inc.
 Sealed Air Corporation
 Serena, Inc.
 SICO Company
 Shell Oil Company
 Smith Kline Beecham
 Stanley Flagg Corp.
 STS Motor Freight
 Superior Tube Company
 TD Bank, NA
 Tech Glass
 Thomas David
 Training School at Vineland
 Trans-Freight
 Wayne Theater
 Wells Fargo
 West Company
 Westrum Organization
 Westover Company
 WHI, Inc.
 Woodings-Verona

RT Environmental Services, Inc.

General Terms and Conditions

1. Time Limit on Proposal. The attached proposal is valid for thirty (30) days after which it may be adjusted to reflect changes in cost, scope, schedule and workload.

2. Payment Terms. Invoices will be submitted every four (4) weeks and are due and payable upon receipt. Unpaid balances are subject to monthly interest charges of one and one-half percent (1.5%) per month on the outstanding balance over thirty (30) days. In the event that the Company pursues the Client for collection of amounts outstanding for more than thirty (30) days, Client shall be responsible for the Company's costs and expenses, including, but not limited to, reasonable attorney's fees of 35%, court costs, late fees, and interest. Such fees shall apply whether or not an action has been instituted and apply in the event of any other material breach of any proposal or these terms and conditions. Services may be suspended without liability with seven (7) days written notice for nonpayment and not be resumed until the Client's account is paid in full, including interest and collection charges.

3. Additional Fees. Proposed fees in the attached proposal constitute RT's estimate of the labor and expenses anticipated to be incurred for the work as defined by the Client. Certain projects, including hydrogeological work, remedial design and concept work are not fully definable at the onset of the project. Should facts develop which indicate a change in scope, RT will notify the Client and negotiate an equitable decrease or increase in project level of effort and cost. Should the Client approve (by writing, email, or verbally) RT to continue with the services being rendered, when the scope is being expanded or redefined, RT will invoice for such services at standard hourly rates. A copy of RT's standard hourly rates is available upon request. Client delays, changed schedule commitments, failure to provide access or information, delays caused by unpredictable occurrence or natural causes, labor, service or material shortages or stoppages, riots, or acts or regulations of government agencies shall be valid reasons for a change in scope beyond that outlined. Permit application and regulatory fees and charges are not included in the proposal unless expressly indicated and may be charged separately.

4. Disposal Fees. Where drilling/exploration activities are conducted, the cost of disposing of contaminated drill cuttings or fluids is not included. Once such materials are generated, if such materials are deemed to be potentially contaminated, RT will make appropriate recommendations for sampling, analysis and managing such materials and obtain Client approval for any costs associated with managing the materials before proceeding. Unless agreed in writing by an officer of the firm, Client is fully responsible for on-time payment regardless of regulatory actions, inactions, or permit activity or inactivity.

5. Termination. Termination by the Client shall be effective five (5) days after receipt of written notice by an Officer of RT. A final invoice will be submitted within thirty (30) days, unless all charges from subcontractors or suppliers have not been received and posted. Either party may terminate this agreement if the other party fails to fulfill the agreement through no fault of the terminating party. The final invoice will be based on the percentage of work completed or on labor and materials expended at RT's discretion. Where expense commitments have been made which become firm before termination, an adjustment shall be made at RT's sole discretion, including reasonable allowance for RT's profit. If payment in full for the proposal amount (and any adjustments) has not been made then Client shall have no right to use, assign, sell, or otherwise benefit any reports created by RT and shall destroy all such copies retained by Client.

6. Subsurface Disclaimer. With respect to subsurface investigation work undertaken to determine the location of pipelines, tanks, or other objects, there is no guarantee that targets will be located due to the inherent limitations of such work. Limitations including placement of

various media, around and proximal to targets, nearby fences, embeddings or partial crushing which may preclude or interfere with finding such targets. Ground penetrating radar is typically only accurate to a three foot depth, fencing can cause interference and obstacles or concrete can limit the depth of GPR accuracy. Accordingly, RT does not guarantee that underground targets will be successfully located and/or identified, and Client holds RT harmless, should such targets not be identified.

7. Representations and Warranties. RT will perform work as the professional consultant to the Client and will provide advice, consultation and services similar to other professional consultants acting under similar circumstances with the same information. The Services are provided to Client on an "as is," "with all faults" basis. EXCEPT AS MAY BE (AND ONLY TO THE EXTENT OF) EXPRESSLY STATED IN A WRITTEN SIGNED PROPOSAL, RT DISCLAIMS ANY AND ALL PROMISES, REPRESENTATIONS, AND WARRANTIES, EXPRESS OR IMPLIED, WITH RESPECT TO THE SERVICES. RT HEREBY EXPRESSLY DISCLAIMS ALL STATUTORY, EXPRESS AND IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF MERCHANTABILITY, ANY IMPLIED WARRANTY OF FITNESS FOR ANY PARTICULAR USE OR PURPOSE. EXCEPT AS SET FORTH HEREIN, RT FURTHER DISCLAIMS ANY AND ALL PROMISES, REPRESENTATIONS, AND WARRANTIES, EXPRESS OR IMPLIED, WITH RESPECT TO THE NATURE AND QUALITY OF ANY OTHER PERFORMANCE BY RT HEREUNDER. In no event shall RT be liable for any preexisting environmental conditions at any site at which RT is performing work under this proposal and Client shall defend, indemnify, and hold harmless RT and its Officers for any such liability. Client shall provide adequate insurance for its employees and shall indemnify RT from any and all claims and losses resulting from bodily injury or loss of life to workers employed or separately contracted for by the Client who are engaged in any work in common areas with RT's project work. Work is for the benefit of the Client only and there are no third party beneficiaries unless agreed to in writing by RT.

8. RT Role/Utilities. Where RT is engaged to inspect or oversee work to determine its conformance with plans and/or specifications, Client warrants and agrees that RT is not acting in the capacity of construction manager. Client warrants and holds harmless RT from any claims or liability wherein it is alleged that RT is acting as construction manager on the project. Where excavation area utility notices are placed, RT will follow the prevailing state program regarding utility markout. Client must inform RT of any known utilities prior to the start of the work. Client will be responsible for any additional protection for or repairs needed to unmarked utilities encountered or damaged during the work.

9. Limitation of Liability. In the event liability is found on the part of RT, regardless of legal theory or how such damages arise, pursuant to any proposal, its liability for any damage caused to and proven by the Client shall be limited to that covered by insurance. Client shall defend, indemnify, and hold harmless RT and its Officers for liability above that amount. The foregoing limitation of liability reflects deliberate and bargained for allocation of risks. In no event shall Company be liable for any incidental, special, punitive, or consequential damages or losses of any kind arising under or in connection with this Agreement, regardless of legal theory, including, but not limited to, any such damages or losses resulting from business interruption or lost profits. In any event, RT cannot be held liable for any damage caused by or due to the intervention

of Client or third parties. Neither party can be held liable for damage caused directly or indirectly by force majeure.

10. Indemnification. Client agrees, to the fullest extent permitted by law, to defend, indemnify, and hold harmless RT, its officers, directors, employees, attorneys, agents, and subcontractors against any claims by third parties including all damages, liabilities or costs including reasonable attorneys' fees and defense costs, arising out of or in any way connected with the services performed hereunder or pursuant to any proposal or the performance by any of the parties above named of the services under this, or any, proposal, excepting only those damages, liabilities or costs attributable to the intentional acts of or gross negligence by RT.

11. Access to Property. If Client is not the owner of the property on which the work under this contract, including any amendments, is to be performed, Client warrants to RT that Client has obtained permission from the property owner(s) for RT and its subcontractors to have access to the property to perform the scope of work in this proposal, or as subsequently amended in writing. Client defends and saves harmless RT and agrees to defend RT from any claims that access permission was not granted for the work. With respect to any work on an adjacent parcel or parcels, RT will cooperate with Client, at additional cost, to obtain required access approval for the conduct of such work, or, shall document refusal should such occur. However, it shall be Client's obligation to provide necessary access to such properties and adjacent parcels. In no event shall RT or its subcontractors be held responsible for damages of any kind resulting from a failure to obtain access to the subject property, or adjacent parcels, where access approval is beyond RT's control. Client shall indemnify, defend and hold harmless RT and its subcontractors from any and all claims, actions or liabilities arising out of claims that access by RT or its subcontractors was unauthorized.

12. The Client is responsible for any and all government payments or fees. Unless specifically agreed to in writing by RT Environmental Services, Inc., RT is held harmless and has no liability for penalties or fees associated with missed regulatory or mandatory deadlines; some deadlines are subject to extension and/or change. At certain sites where it is known that, regulatory and statutory deadlines cannot be met, due to the extent of impacts at the site. RT will make reasonable efforts to notify its Clients of deadlines, when conditions related to not meeting a deadline are evident.

13. Publication. Unless requested otherwise, Client grants RT the authority to use Client's name and a description of the project as a reference to other Clients or in marketing materials.

14. Waste Disposal. Where Client requests RT to assist with managing waste, Client agrees that RT is not the owner of the waste(s) and shall defend, indemnify and hold RT harmless for any costs incurred in defending and paying for any action where it is alleged that RT is the owner of waste(s) or has arranged for the disposal of waste. RT will recommend and provide due diligence on the proposed disposal sites, if requested by Client.

15. Conflict in Terms. Express terms of the proposal take precedence over these Terms and Conditions in the event of an explicit conflict. Client Purchase Order Terms and Conditions are inapplicable where they conflict with the Proposal or these Terms and Conditions, unless such Terms and Conditions are stated on the face of the Purchase Order and an RT Officer authorizes and accepts modification to these Terms and Conditions, in writing. Neither performance of the work nor written acknowledgment of Purchase Order receipt are considered acceptance of Terms and Conditions contrary to those herein. These terms and conditions shall apply to any future proposals and/or work with Client unless replaced by an updated terms and conditions.

16. Time and Material. Where the method of payment is on a time and materials basis, charges applicable in our rate sheet will apply; this is available on request. Invoices will show labor and expense categories and charges, not actual documentation. Actual

documentation, if requested by Client, shall be furnished at an additional administrative labor charge as required to compile the documentation.

17. Governing Law and Jurisdiction. This Agreement shall be governed by and construed in accordance with the laws of the Commonwealth of Pennsylvania without giving effect to the principles of conflicts of law thereof. Any dispute hereunder shall be adjudicated exclusively in the state or federal courts in Pennsylvania in Montgomery County, and each party consents to personal jurisdiction and venue therein.

18. Entire Agreement. This Agreement (and any executed proposal) constitutes the complete and exclusive statement of all mutual understandings between the parties with respect to the subject matter hereof, superseding all prior or contemporaneous proposals, communications, representations, and understandings, whether oral or written. This Agreement shall govern all proposals executed contemporaneously with or after this Agreement.

19. Severability. If any term or provision of this Agreement is found by a court of competent jurisdiction to be invalid, illegal or otherwise unenforceable, the same shall not affect the other terms or provisions hereof or the whole of this Agreement, but such term or provision shall be deemed modified to the extent necessary in the court's opinion to render such term or provision enforceable, and the rights and obligations of the parties shall be construed and enforced accordingly, preserving to the fullest permissible extent the intent and agreements of the parties herein set forth.

20. Legal Counsel; Mutual Drafting. Each party recognizes that the proposal and these terms and conditions are a legally binding contract and acknowledges and agrees that they have had the opportunity to consult with legal counsel of their choice. Each party has cooperated in the drafting, negotiation and preparation of the proposal and general terms and conditions. In any construction or interpretation to be made of these documents, the same shall not be construed against either party on the basis of that party being the drafter of such language. Each party agrees and acknowledges that it has read and understands the proposal and these general terms and conditions and its obligations thereunder, is entering into it freely and voluntarily, and has been advised to seek counsel prior to entering into them and has had ample opportunity to do so.



Office Locations

- King of Prussia, PA
- Canonsburg, PA
- Bridgeport, NJ

24 Hour # 800-725-0593

Web Site: www.rtenv.com

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Why do I need a Phase I Environmental Assessment?

Phase I Environmental Site Assessments have been required since the early 1990's as part of a condition for obtaining mortgages, mostly for commercial and industrial properties but sometimes also for residential properties. Banks use Phase I Environmental Site Assessment reports to review and decide if significant environmental issues at the subject property would result in reduced collateral (or property) value.

What is involved in a Phase I Environmental Site Assessment?

A Phase I Environmental Site Assessment consists of three parts—a property inspection by an experienced environmental professional, an interview with a person who has 10 years knowledge of the subject property, and a regulatory database review. The regulatory database review gives the environmental professional completing the Phase I Environmental Site Assessment information from state and federal environmental files which can relate to underground storage tanks, spills, landfills, Superfund cleanups, or other environmental issues on or near the subject property.

Is testing included in the Phase I?

Testing is not included in the scope for a Phase I Environmental Site Assessment. Although testing can be completed if there are known issues at the same time the Phase I Environmental Site Assessment is completed, testing is more commonly part of the Phase II Environmental Site Assessment scope.

What is included, then, in a Phase II?

The Phase II scope is not standard. The [Phase II Environmental Site Assessment scope](#) is formulated based on what environmental issues are found during the [Phase I Environmental Site Assessment](#) that need to be dealt with. Phase II work typically includes such items as:

- Investigating an underground storage tank to see if it leaked.
- Conducting asbestos, a lead paint, survey work or potentially contaminated soil testing
- Conducting further research of city, state, federal, or company files to determine whether there are additional recognized environmental conditions at the subject property.
- Interviewing neighbors to try to close [Data Gaps](#).

Conclusions and recommendations are presented when the [Phase II](#) work is complete.

Is that the end of the process—after Phase II?

Unfortunately, each site is different, and environmental site assessment steps continue, until all environmental issues at the site are quantified, and, any remediation needs are defined, including an estimate of cleanup costs. On some occasions, environmental problems are found at sites and the cleanup cost is so high that mortgage lenders will not offer a mortgage for the property. When we find these types of properties, we maintain close communication with our clients as they may not wish to continue work on environmental due diligence work if they are not going to buy the property.

Does RT evaluate asbestos, lead based paint, and mold as part of the Phase I Environmental Site Assessment?

Asbestos, lead based paint and mold investigations are not included in the Phase I Environmental Site Assessment scope, but RT takes note of any obvious conditions, and makes appropriate recommendations. Most mortgage lenders, regardless of whether or not mold, asbestos, or lead paint are included in the Phase I scope, request the environmental professional completing the Phase I Environmental Site Assessment to offer an opinion as to whether asbestos, lead paint, and mold are or are not a concern at the subject property.

Toxic mold has been a subject of a number of television news stories. Should I be concerned about it?

Although most mold found in building structures is not "toxic mold", RT's Certified Microbial Consultants have occasionally found problems where the cost of remediation of mold is substantial, and, underlying water intrusion problems which had not been addressed over time, cause substantial hidden mold growth, sometimes affecting heating, ventilating, and air conditioning systems. The vast majority of mold problems we find are easily managed, and not that costly. The key to avoiding mold problems is to follow recommended Best Managed Practices (link) to prevent mold growth in the first place.

How long does it take to prepare and complete a Phase I Environmental Site Assessment?

Most Environmental Site Assessments can be finished in three weeks, start to finish. Longer time frames are needed at sites with a significant environmental issue history, such as service stations which date back to the 1920's, sites with historic fill, or sites with state or federal funded soil or groundwater cleanups.

What is historic fill?

In the late 19th and early 20th century, before city gas and natural gas was supplied to homes and businesses, it was common to burn coal. Residue from coal stoves from residences, stores, and industries in each town was typically used to fill in low areas including flood plains and wetlands. Frequently, rubble including bricks was used to fill in low areas as well. Historic fill material is principally coal ash, and is found along rivers and in former flood plains or creeks, in what are not urbanized areas. This material is not soil and has arsenic and polynuclear aromatic hydrocarbon compounds (PAHs). There are a number of ways to address historic fill, which typically no longer has to be removed and disposed of when found at the site.

What are Brownfields sites?

The term "Brownfield sites" has come to mean vacant or underutilized sites in urban areas, typically with impacted soil or groundwater resulting from an industrial operation, underground storage tank which leaked, or, with historic fill. By the late 1990's, New Jersey, Pennsylvania, and Delaware all had Brownfields programs which help owners, buyers, and sellers of Brownfields site deal with the environmental issues found as cost effectively as possible. RT has managed work at more than 200 Brownfields sites in our regional service area, and more information on Brownfields sites can be found on our Brownfields webpage <http://rtenv.com/ServicePgs/brownfieldshome.html>.

Should I be concerned about wetlands or stream issues if my property is near a creek?

Federal and state programs prohibit construction in certain wetlands and stream encroachment areas, and, there are "buffers" (or building setbacks) which can apply near a creek. There are also situations where future construction can be prohibited because the site is in a "floodway". New Jersey has the most stringent programs related to wetlands, flood hazard, and stream encroachment regulations, and river, creek and stream corridors are regularly reexamined to determine what buffers and restrictions should apply. The Phase I Environmental Site Assessment includes a printout of a readily available map showing stream corridors and flood hazard areas, which may require further examination if there are wetlands and stream encroachment or flood hazard concerns at individual properties.

Environmental regulations seem very complicated, how do I know what to do?

There is no question that environmental regulations are complicated, and they frequently are reinterpreted or change. Simple explanations and clear conclusions along with recommendations are made as part of every report we prepare. If we come across a significant issue while completing Environmental Site Assessment work, your RT Project Manager will call you to discuss the issue, along with the needed next steps, so you are not "surprised" when we issue our report. We find that helping you understand our findings and discussing potential solutions in plain English will help each of our clients make an informed decision on their planned property transaction, and, we invite our clients to call our senior staff or principals at any time, should there be outstanding questions or comments.



Office Locations

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Environmental Services, Inc. has insurance coverage appropriate for general contracting or as a consulting firm, including pollution coverage.

Coverage's for all projects include:

General Liability

General Aggregate \$ 5,000,000
(Prod., Pers., Adv, Per Occurrence)

Fire Damage \$ 50,000

Pollution Liability and Architects and Engineers

Professional Liability \$ 3,000,000 per project
\$ 3,000,000 aggregate

Workers Compensation Statutory

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We are pleased to present our Scope of Services. Our environmental services firm was founded in 1988, and we have successfully completed more than 2,000 projects, many of which are repeat assignments from clients who were satisfied with our performance on initial projects awarded to us.

Our services are focused on the following key technical areas:

Environmental Assessments & Investigation

- Phase I/II Site Assessments
- Soil and Groundwater Investigation
- Remediation Services
- Wetland Delineation & Mitigation

Brownfields Redevelopment Services

- Voluntary Cleanup Program Assistance
- PA Act 2, NJ ISRA, EPA Superfund
- Remedial Investigations
- Design and Construction
- Storage Tank Removals

Marcellus Shale Services

- Beneficial Reuse - Frac Water
- Permitting

Environmental Engineering

- Stormwater Management
- Landfill Design and Closure
- Water and Wastewater Engineering
- Soil and Erosion Control Plans
- Litigation Support/Expert Testimony
- SPCC/Contingency Plan Updates
- Reclamation & Stormwater Management Services
- Infrastructure Permitting & Grant Assistance

Indoor Air Quality

- Asbestos Surveys, Management, and Abatement
- Lead Based Paint Management
- Mold Surveys and Remediation

Additional information on our firm and its expertise can be found on our Web Page at [Http://WWW.RTENV.COM](http://WWW.RTENV.COM) or, you can call us at **800-725-0593** for a complete Qualifications Statement.

Our experience covers a wide variety of industry types and assignments, from **urban industrial sites** to **rural agricultural settings**, **all types of manufacturing facilities**, as well as assignments at facilities used for wastewater treatment and waste disposal.

The reasons our clients frequently award us with additional assignments include:

- The ability to get to the "bottom line" expeditiously, when environmental issues have a potential to delay real estate transactions, and
- Our ability to manage remedial projects efficiently, to pursue approval of plans diligently, and to obtain permits in a timely manner so as to meet business objectives.

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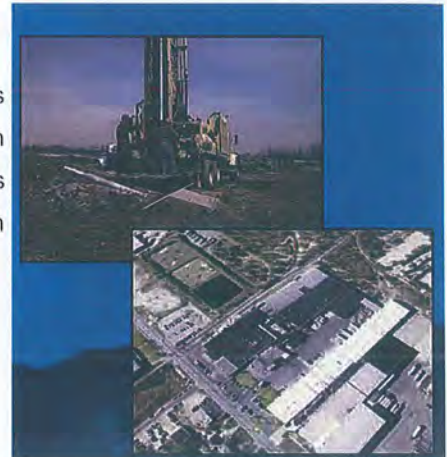
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Environmental Assessments & Investigation

From our smallest to our largest projects, we focus on the details of each and every area of concern to assure that environmental liabilities are taken into account prior to closing or lease termination.

Phase I/II Site Assessments
Soil and Groundwater Investigation
Remediation Services
Wetland Delineation and Mitigation



Many clients who request Phase I Environmental Site Assessments (ESA's) are encountering the survey process for the first time. Phase I Environmental surveys started in the late 1980's as a method to see if there are environmental liabilities associated with a particular property. Environmental liabilities can occur at a property either because of the historical uses of the property, and/or because surrounding properties have contributed to contamination of the property, and/or because of the variety of other factors which are considered during the environmental survey process. In the United States, due to the federal Superfund law, environmental problems can result in a loss of collateral value of a particular property. Therefore, banks typically require a Phase I environmental survey prior to lending money or increasing a credit line if the property is used as collateral.

The Phase I environmental survey includes:

- A review of environmental regulatory database files (state and federal) on the property and surrounding area.
- Interviews with local officials regarding the property and surrounding area.
- Interviews of the "most knowledgeable person" familiar with site history.
- Review of historical maps and information on the property.
- A site inspection.

The content is dictated by the ASTM standard covering ESA's.

PROJECT PROFILES – REMEDIATION - PETROLEUM RELEASE SITES

Groundwater Recovery

For a major national car rental company, RT designed, permitted, and constructed a groundwater recovery and treatment system in Atlantic City. After initial pump test work, RT designed, permitted, and constructed a groundwater recovery system and pretreatment system using activated carbon. RT also operates the system and provides groundwater monitoring at the site. Cleanup has been relatively rapid, with regulatory remediation objectives achieved over an 18 month period.

Environmental Remediation

For a major U.S. automotive manufacturer, RT completed an environmental cleanup at a large automobile dealership that led to quick sale of the property. The project was commended as one of the first voluntary cleanup efforts in Pennsylvania. RT planned and sequenced the work so that the dealership remained open at all times.

The site survey revealed that hydraulic lifts in the service area had leaked substantially over a long period of time, and as a result, seriously contaminated soil material beneath the service area floor. It was also found that leaking oil had saturated a 12 foot high concrete bearing wall. Special underpinning techniques were used to hold up the upper portions of the bearing wall, which separated the service and sale areas and allowed removal of the oil saturated wall. The service area itself was worked on in sections, with approximately 1/2 of the service area being initially excavated. A monitoring well was installed to make sure that groundwater was not impacted, and floor drains/sewer discharges were checked to ascertain that oil had not reached the sanitary sewer system. All new construction, including the floor drains and concrete slab expansion and control joints, was designed with 100% water stop construction.

Excavation was carefully performed over a period of four months with hundreds of tons of contaminated soil removed and transported for thermal treatment and recycling. RT summarized all work in an overall project certification report, and received regulatory agency approval that no further work was required.

RT - Innovator in Tank and Remediation Projects

The solution-oriented engineering approach used by RT Environmental Services, Inc. (RT) and its commitment to high quality service require that it be an innovator in the use of new remediation technologies. RT leads the way in knowing if, when, and how to use these new technologies.

RT has completed hundreds of tank and petroleum pipeline groundwater investigation projects. These include tank management programs for companies with 100+ tanks and major petroleum company multi-site investigation/remediation projects.

In one project for a major car rental company in the Atlantic City area, gas vapors were detected while putting in sewers in a city street. When another consultant was unable to rectify the problem and the company was facing penalties from the Department of Environmental Protection, RT was called.

RT avoided penalties by locating the problem, identifying a solution, and designing a system that accounted for the company's location on a barrier island near the ocean. RT installed a groundwater recovery system of modular design using Calgon carbon pretreatment units. A special sensor was needed to detect salt water entering the system because salt water will foul the carbon and negatively affect the pretreatment system. On detection of salt water, the autodialer system calls RT and shuts the system down until the problem is corrected.

Other technologies employed on the site included pulse-pumping and continuous monitoring of the effluent. The remedial cleanup project was completed in 18 months and now requires monitoring only.

Future Planned Use

In addition to the nature of the transaction, the future planned use of a subject property can affect the determination of what potential risk an issue poses. The future planned use of a property can help to determine the real risk of such issues as the presence of potable water wells, lead-based paint, fluorescent lighting, waste or debris piles, and many others. Effectively considering this factor can help to define whether these issues are of great or little concern. These decisions become of particular importance when potential environmental concerns are identified inside a building or structures, such as indoor air concerns, the presence of lead-based paint, or asbestos-containing material. In these circumstances, the valuable Phase I will address the following questions:

- Will there be future use of the public water supply?
- Will the future use of the property be residential, commercial or industrial?
- What is the client's role in the pending transaction?
- What degree of public or private occupancy or use of the property is planned?
- Is the structure to be partially renovated, fully renovated or demolished?
- Is there to be continuous or part-time residential occupancy of a building, and will children be on the property?
- What is the cost of the abatement of these risks found, and how will it affect the upcoming transaction?

All of these factors, when properly considered, help to provide a meaningful assessment that is of real value to the client. Essentially, the value is derived from the assignment of real, quantifiable risk to the issues found on a property. Since these quantifiable items are often factored into the price of a property as part of transaction, it becomes a very important part of the negotiation and closing process.

As RT's assessment and investigation capabilities continue to be a strong cornerstone of our business, we will continue to be at the forefront of real estate-based transaction assessments such as Phase I/Phase II assessments and investigations. We continue to focus on the best ways to address contaminated sites, including Brownfields Sites, to facilitate redevelopment and reuse.

In the RT Review, our newsletter, we focus on issues which commonly arise in Phase I assessments, such as lead paint, asbestos, and USTs. Should you find yourself in need of a valuable Phase I, one that defines your potential liability rather than merely identifies the features of a particular piece of property, please be sure to call us at our Pennsylvania or New Jersey offices. We'll be happy to discuss how a property assessment can assist you in effectively managing the risks associated with your upcoming real estate transaction.

The RT Review newsletter cover features the title "The RT Review" in a stylized font, with the subtitle "The Latest on Environmental Issues From Your Solutions-Oriented Environmental Services Firm". The cover includes a logo for RT Environmental Services, Inc. (RT) and a small image of a person. The main headline is "LANSDALE'S STATION SQUARE SITE RECEIVES ACT 2 CLEANUP LIABILITY PROTECTION". Below the headline, there is a short article snippet starting with "Every Commonwealth's private citizens..." and another snippet starting with "In addition to the nature of the transaction...". At the bottom, there is a small photo of a person and a table with the title "MILE 21 PROJECT" and some data.

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Environmental Survey for Remortgage

In Bucks County, Pennsylvania, RT Environmental Services completed an environmental survey for a service station construction contractor seeking a remortgage. The work was completed within a week and included review of aerial photos to help confirm past land uses. The property owner was seeking a remortgage and RT was able to complete the work expeditiously so that the transaction was not delayed. For most projects, RT can complete Phase I Environmental Site Assessment work within 10 days.

Environmental Surveys Completed by RT:

- Truck Freight Terminals - Pennsylvania and New Jersey
- Banking Facilities - Pennsylvania
- Railroad Lines & Rail Yard - Southern New Jersey
- Manufacturing Facility - Tennessee
- Chemical Manufacturing Facility - Philadelphia
- Pesticide & Herbicide Manufacturing Facility - Pennsylvania
- Automobile Dealerships - West Virginia, Pennsylvania, New Jersey, New York
- Dyeing Facility - Philadelphia
- Current and Former Service Stations - New Jersey, Pennsylvania, New York
- Port Area Industrial Property - Florida
- Electrical Goods Manufacturing and Repair Facilities - Michigan and Pennsylvania
- Trailer Leasing Facilities - New Jersey and Pennsylvania
- Retail Stores, Malls, Shopping Centers and Office Buildings - Pennsylvania and New Jersey
- Residences - Pennsylvania and New Jersey
- Warehouses - Pennsylvania and New Jersey

As part of environmental property transaction work, RT has also completed tank removals, wetlands delineations, lead paint surveys, asbestos surveys, site investigations and waste removals.

Our flexible approach to environmental survey work allows us to respond in a manner which frequently allows the property transaction to go forward in a timely manner while environmental issues are addressed. Our wide and in-depth experience allows us to quickly get to the "bottom line" and avoid many of the delays which can cause buyers to lose interest when the transaction takes too long.

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Scope

RT assists many lenders in completing the Environmental Due Diligence process, for properties involved in lending/purchase, or refinance transactions. Due to the nature of certain projects, high level peer reviews are needed, particularly when there is going to be complex remediation, such as frequently occurs at Brownfield sites. RT has been assisting lenders for more than a decade, to augment their in-house expertise, and to also help keep lenders apprised of the latest trends in Environmental Due Diligence work.

The scope of services we perform for lenders includes:

- Phase I & II Environmental Site Assessments, including for potential foreclosures.
- Industrial Plant Decommissioning and Mothballing, where industrial operations are to cease and the mortgage asset needs to be protected.
- Peer Review of Environmental Site Assessment and Remedial Action Plans prepared by others, including offering opinions on the reasonableness of cost estimates.
- RT also assists lenders by providing focused Environmental Due Diligence seminars, both in-house at regional money center banks, and for small banks on regional basis, and, at Risk Management Association seminars (a bankers trade group).

Why RT?

RT's principals have broad experience in completing environmental assessments at all types of commercial and industrial facilities, from warehouses to service stations, and dry cleaners, as are encountered in lending transactions from time to time, on up to large industrial facilities, petroleum distribution facilities, and even municipal landfills and hazardous waste treatment facilities. Our wide ranging industry experience frequently allows us to "get the bottom line" quickly and efficiently, and to identify particular environmental uncertainties, which may be associated with an individual transaction. Our long term knowledge of building construction technology, industrial process operations, risk assessment issues, and management of Superfund and Brownfield site remediation, allows us to focus on the key issues, ask the appropriate questions, and establish assurance that the lender's interest is protected, prior to closing or refinancing approval.

How Are Lenders Services Proposed?

RT has flexible arrangements for lender services, which depend on the type of service we provide. For many "peer review" assignments, RT can offer a flat lump sum fee for completing a peer review of environmental documents, and the proposed remediation and associated cost at a particular facility. Where lenders prefer to work on a "work order" basis, we can offer a standing contract, at competitive rates, with budgets established at the time of each work order. We offer several flexible approaches, to meet the needs of individual lenders.

Office Locations

- King of Prussia, PA
- Canonsburg, PA
- Bridgeport, NJ

24 Hour # 800-725-0593

Web Site: www.rtenv.com

Email: rtenv@aol.com

For What Types of Facilities Can RT Help Lenders?

RT has offered lenders of all types a wide variety of services, at banking facilities themselves, and, at sites where lending or refinancing is proposed.

These include:

- Banking facilities, and bank branches
- Office Buildings
- Industrial manufacturing facilities
- Regional malls and shopping centers
- Salvage yards
- Brownfields sites
- Superfund sites
- Service stations and petroleum distribution facilities
- Chemical production facilities
- Recreational facilities
- Residential housing developments
- Large scale industrial parks.

For information on our Lender Services, please call Gary Brown at 800-725-0593.

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REMEDIATION

PROJECT PROFILES

Groundwater Recovery - Tank Release Remediation

For a major national car rental company, RT designed, permitted, and constructed a groundwater recovery and treatment system in Atlantic City. After initial pump test work, the groundwater recovery system and pretreatment system using activated carbon began operation. RT also operated the system and provided groundwater monitoring at the site. Cleanup was relatively rapid continuous specific conductivity monitoring was conducted to make sure that salt water was not drawn into the system, with cleanup objectives achieved in a short 18 month period.

Auto Dealership Remediation

For a major U.S. automotive manufacturer, RT completed an environmental cleanup at a large automobile dealership that led to quick sale of the property. The project was commended as one of the first voluntary cleanup efforts in Pennsylvania. RT planned and sequenced the work so that the dealership remained open at all times.

The site survey revealed that hydraulic lifts in the service area had leaked substantially over a long period of time, and as a result, seriously contaminated soil material beneath the service area floor. It was also found that leaking oil had saturated a 12 foot high concrete bearing wall.

Special underpinning techniques were used to hold up the upper portions of the bearing wall, which separated the service and sale areas and allowed removal of the oil saturated wall. The service area itself was worked on in sections, with approximately 1/2 of the service area being initially excavated. A monitoring well was installed to make sure that groundwater was not impacted, and floor drains/sewer discharges were checked to ascertain that oil had not reached the sanitary sewer system. All new construction, including the floor drains and concrete slab expansion and control joints, was designed with 100% water stop construction.

Excavation was carefully performed over a period of four months with hundreds of tons of contaminated soil removed and transported for thermal treatment and recycling. RT summarized all work in an overall project certification report, and received regulatory agency approval that no further work was required.

Petroleum Sludge Bioremediation Site

RT was retained to manage a major 18,000 ton petroleum sludge Bioremediation project in Montgomery County, PA. Petroleum sledges had been disposed of in a series of excavations, and, when the volume was found to be three times previous estimates, RT recommended determining the feasibility of Bioremediation as an alternative to excavation and offsite thermal treatment. Bioremediation is being successfully completed under the Pennsylvania Land Recycling program, with the property being available for residential development and a liability release under the award winning program will be achieved. Work was completed over two construction seasons. Field Bioremediation treatment performance exceeded that predicted in the treatability tests by a factor of two, making the program highly cost-effective.

Office Locations

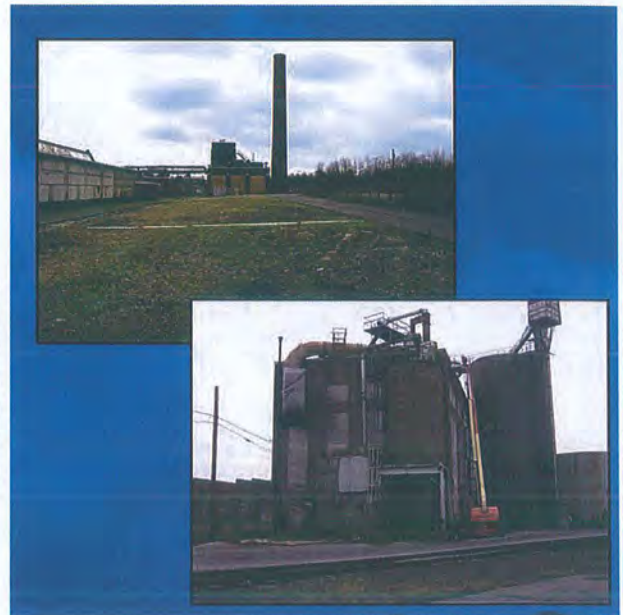
- King of Prussia, PA
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- Bridgeport, NJ

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Web Site: www.rtenv.com

Email: rtenv@aol.com

Voluntary Cleanup Program Assistance
PA Act 2, NJ ISRA, EPA Superfund
Remedial Investigations
Design and Construction
Storage Tank Removals
Environmental Site Assessments
Mining/Water Quality Services



Brownfields Redevelopment Services

RT Environmental Services has already undertaken a series of Brownfields projects which included interaction with Federal and/or State environmental agencies. Several are also in progress. Brownfields sites are those where historical fill may be present or contamination remains, typically in an urban area, but, where the site can be redeveloped to address appropriate risk-based environmental concerns. Typically, the goal is to not remediate the site to background (pristine) environmental condition. Information on several key RT Brownfields projects follows.

Key Projects Include:

- **Raymark Industries facility, Manheim**
- **TD Budd Facility, Philadelphia**
- **Station Square, Lansdale, PA**
- **City of Chester Waterfront, Delaware**
- **Bellmawr Waterfront, NJ**

Chester County PCB Site

EPA removal action activities were conducted on three occasions at this site, which had been used as a foundry and later for large electrical equipment repair (including transformer maintenance). PCB contamination was present in many areas of the facility. After the last stage of EPA removal activity, RT began planning for residential reuse of the site. Tasks completed by RT include:

- Oversight of electrical equipment decontamination/removal activities.
- Peer review of EPA removal activities.
- Soil sampling.
- Groundwater monitoring for PCBs and metals.
- Regulatory coordination and grant/loan justification assistance.
- Interim capping justification.
- Flood plain determination.
- Residential site plan preparation for redevelopment.

Pathways were addressed through focused risk assessment work, and special specifications were developed to make sure that no releases occur during building demolition. Also, a sump area was proposed to be remediated and tanks are to be removed prior to residential construction. The EPA has issued a Prospective Purchaser Agreement for the site, which is also in the Pennsylvania Land Recycling Program.

New York Waterfront Site

RT was recently retained to assist with a Long Island waterfront site, slated for commercial redevelopment. The site currently is a failed residential development project, built over a municipal landfill. The landfill also contains two areas of low level radioactive ore waste. The site is under a Consent Decree with NYSDEC, and a Prospective Purchaser Agreement will be prepared by USEPA Region 2. The redevelopment plan is to address all pathways of significant environmental concern, so that the redevelopment aspects can be incorporated into the Feasibility Study being completed under the NYSDEC Consent Decree.

Philadelphia Pier Site

At Piers 66-69 on the Philadelphia Waterfront, RT completed a series of remedial tasks so as to facilitate sale of a property with more than a century of heavy industrial use. Activities included:

- Phase 2 Investigation Work
- Delineation of oil release migration from offsite.
- Removal of nine underground storage tanks (USTs).
- Bioremediation of groundwater from a mineral spirits tank release.
- Remediation by excavation and removal of lead impacted soils from painting operations.
- Groundwater monitoring to confirm cleanup adequacy.
- Historical fill (coal ash) extent determination and leaching analysis to confirm underlying soils were not significantly impacted.

The overall project spanned six months and was successfully completed. The property was sold at an auction to help settle bankruptcy of the selling owner.

Newark Trucking Terminal

RT was retained to complete Phase 1 and Phase 2 environmental survey work at a Newark, NJ site which had been used as a trucking facility since the 1950's. Underground storage tanks, which had been removed, were identified as an area of concern, but several additional issues arose as the site began to be further investigated. Historical fill was found to be present along with a contiguous wetlands area. Subsurface migration of resins from a former chemical plant upgradient of the site was also found to have occurred. Migration of volatile organics contamination was also found to have occurred in another area of the site, from an upgradient chemical manufacturing facility.

Monitoring revealed that releases from the former tanks were not of further concern, and the regulatory agency found that the volatile organics contamination was the responsibility of others. The resins-contaminated area was fully delineated, and a Declaration of Environmental Restriction was issued for the property. Paving of the surface addressed the direct contact pathway. The property was sold to a new owner, who planned to use the property for mobile equipment and parts sales service.

Additional Sites

In addition to the key projects above, RT has wide and in-depth experience at other "Brownfields" sites, including:

- Plating and aircraft parts facilities
- Current/former rail yards
- Auto dealerships
- Service stations
- Heavy equipment manufacturing/repair facilities
- Chemical production facilities
- Dry-cleaning facilities
- Other production facilities
- Telecommunications facilities

Call us for more information or to discuss your Brownfields project. Our experience allows us to help you complete your Brownfields project efficiently and professionally. We can help you redevelop and reuse the site at the earliest possible date.

Office Locations

- King of Prussia, PA
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PROJECT PROFILE

Philadelphia Pier Site

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- Historical fill (coal ash) extent determination and leaching analysis to confirm underlying soils were not significantly impacted.

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Former Navy Bases

RT was retained by the Government of Bermuda, Ministry of the Environment, to complete work involving the investigation of 140 current and former tanks and miles of petroleum pipelines at two Navy Bases slated for closure in Bermuda. RT mobilized GEOPROBE rigs to the island and completed the work using field test kits and a portable gas chromatograph, backed by lab analysis of selected samples. Two landfills were also studied, and remedial recommendations were made. The Government of Bermuda required that all work be completed within a nine week time frame, prior to the termination of the lease, which covered an estimated one tenth of Bermuda's land area. Where releases were found, further investigation work to quantify the horizontal and vertical extent was concurrently completed, with required information submitted to the Ministry of the Environment within the schedule time frame.

Vineland Training School

At this South Jersey facility, RT completed work involving the removal of more than 20 tanks, due to conversion of the buildings at the facility to natural gas. The buildings had been supplied by individual oil tanks. Work was overseen by RT's licensed tank inspection personnel, with all contaminated soils and sludges appropriately managed. "Due Diligence" information on disposal facilities was also submitted. One tank, to remain for emergency generator service, was upgraded and certified for continued use by RT's Professional Engineer assigned to the project.

CHESTER'S NEW RIVERWALK - IT'S WORTH A STROLL

A key new public access area is now open in Chester, Pennsylvania. RT's principals recently attended a late afternoon stroll along the Delaware River with David Sciochetti, Executive Director of the Chester Economic Development Authority. A new 4,000 foot long riverwalk was a delight to enjoy, and, as sunset approached and, we then drove up river to enjoy some more river views as the sun set from Harrah's Casino, just a 5 minute ride away.

During Chester's darkest days, as recently as 5 to 10 years ago, most people would have thought that simple pleasures like a riverwalk, a thousand jobs in the former PECO generating station, and a first class casino resort entertainment would be pipe dreams in Chester. Now, all three have come to pass. Better yet, work is scheduled to begin this year on improved riverfront access from I-95 and US-322, when new ramps are scheduled to be built by PENNDOT over a several year period.

The riverwalk is a key part of Chester's future. It connects the Barry Bridge Park, at ground level right near the bridge with the redeveloped Chester generating station where about a thousand workers are employed by computer, software, and financial firms. Figure 1 shows the location of the new riverwalk.

At one time, the area between the bridge, and the generating system was the home of one of the nation's worst hazardous waste sites, former chemical tar disposal areas, knitting mills, and other factories. Following the successful completion of short-term and long-term cleanup activities by PECO, and oversight by the USEPA and the PA Department of Environmental Protection, you can conveniently park your vehicle at the Barry Park, where attractive river view sitting areas and a boat ramp mark the start of the riverwalk. Moving south, a pedestrian bridge crosses an historical small stream, and the riverwalk meanders around former boat slip areas, and even in an area once used by a yacht club, attractively finished with PA quarried rock, following landscape architect recommendations by Hank Bishop of WRT, a leading Philadelphia planning and architecture firm.

As you approach the generating station, the riverwalk goes around a very large slip, where for generations, barges of coal were received and unloaded to provide electricity throughout Delaware County. The walk continues along the river in front of the generating station, which has been fully redeveloped, and is beautifully restored.

The generating station, when it was built, is anything but a typical historical industrial facility. At the time of construction of the generating station, electricity was "something new", and a beautiful edifice and interior viewing area was created to get customers to "sign up", as, at the time, electricity was something intangible, and was not well understood by potential customers. Both the interior and exterior of the generating station have architectural features that are more in line with banks and government edifices built in the early part of the 20th century. The generator units in the facility were so large, that they were not practical to disassemble, and at the time of redevelopment, they were loaded onto a barge, and were used for reef/marine life enhancement, with concurrence by environmental agencies.

The 4,000 foot public access riverwalk is believed to be one of the largest single distance public access areas, from the Pennsylvania line, to north of Morrisville, near Trenton. RT was proud to assist during several phases of the project-environmental engineering for addressing issues at the Barry Bridge Park site, for environmental due diligence reviews related to financing after generating station redevelopment, and, for Act 2 work for potential residential development for the area

between the Barry Bridge Park and the generating station. Recent announcements include that residential redevelopment is planned, along with a soccer stadium. At this point, with the new access ramps, the future for this area of Chester looks very bright.

Harrah's new casino, is also worth a visit. Even if you are not a gambler, Harrah's offers late afternoon river views from a number of venues, which include fine dining, a buffet restaurant, and even a New Jersey style diner, all within the casino. These are located on upper levels, affording a beautiful view of a relatively pristine Delaware River waterfront. Be sure to look at the racetrack, where you can see that one of the turns goes out over a former ship building boat slip, where a bridge actually supports the racetrack. In racetrack circles this is referred to "the most expensive racetrack turn ever built".

RT has greatly appreciated the opportunity to be a part of City of Chester projects over the last decade. If you want to see and experience Brownfields and river access progress, we would encourage you to take a trip to Chester, and experience the riverwalk and maybe stop by Harrah's, on a nice weekend afternoon. As we have said many times over the last decade in the RT Review-Chester's on the rise!

(Excerpts from Gloucester County Times/Associated Press Article - 2/1/08)

RT REVIEW UPDATE - CHESTER AS A SOCCER MECCA
At RT Review Press time, after PA Governor Rendell announced that a \$47 million state funding package was made available to help Chester redevelopment, Chester was selected for the next U.S. soccer team. An overall \$414 million package will include mixed use/residential redevelopment including a potential 18,500 seat soccer stadium on the banks of the Delaware River and between the Barry Bridge Park and former PECO Generation Station site. A Major League Soccer official said "the historic Chester Waterfront remains extremely appealing to us." Becoming a regional sports soccer center will put Chester back on the map as a key Delaware Valley destination. A convention center, townhouses and retail space are expected to round out the exciting Chester redevelopment project.





Mixed-use sites like Station Square (shown) benefit communities through myriad green aspects, and also help to enhance the local economy. © Fred Forbes Photogroupe.

SUBURBAN TRANSFORMATION

STATION SQUARE IS REDEVELOPED FROM AN ABANDONED BROWNFIELD SITE TO A SUSTAINABLE, MIXED-USE COMMUNITY.

BY BARTONPARTNERS ARCHITECTS/PLANNERS

Hindsight is 20/20 and allows people to learn from past mistakes. Years ago, individuals were less aware of their surroundings and the impact their actions would have on the environment in the future. A lack of understanding, care, and regulations led companies to continually “dump” hazardous by-products of their manufactured goods, resulting in thousands of abandoned industrial sites that still exist today. In 1980, as citizens became more educated on environmental issues, Congress established the Superfund Program, administered by the U.S. Environmental Protection Agency (US EPA), to locate, investigate and initiate a nationwide clean-up of these areas.

Because many Superfund sites were former homes to big organizations, these conveniently positioned properties are becoming prime redevelopment locations.

Today, many of them have been put into productive reuse, thereby benefiting the local community through a cleaner environment, enhanced economy, and improved quality of life. Thanks to the efforts of an environmentally sensitive development team, a portion of the North Penn-Area 7 Superfund site, located just north of Philadelphia, is on its way to a total transformation — from aban-

doned brownfields to a sustainable, mixed-use community.

This successful outcome is the result of a coordinated approach to redeveloping sites with environmental constraints. Dewey Commercial Investors, LP, (Lansdale, Pa.) led the clean-up effort of North Penn-Area 7 to develop the new community known as Station Square. Other team players include Pennsylvania-based BartonPartners Architects/Planners, RT Environmental Services, Inc., and DBP Construction Management, LP. Their combined efforts have efficiently turned the initiative to change this area into a “smart growth” reality.

“The project involved the redevelopment of an EPA Superfund site that was previously used as an industrial facility that had been vacant since 1991,” said Gary Brown, president of RT Environmental Services, Inc., who were heavily involved in the remediation process,

Charles Elliott, senior vice president of Dewey Commercial Investors, LP, said: “Extensive environmental testing and remediation has been conducted at the site, which will culminate in an Act 2 liability release for clean-up to statewide residential health standards. The

STATION SQUARE

PENN-AREA 7 SUPERFUND SITE, LOCATED JUST NORTH OF PHILADELPHIA

APARTMENT HOMES, PLUS A 48,800-SQUARE-FOOT COMMERCIAL CENTER — SHOPS AT STATION SQUARE FEATURES A BRANCH BANK, RESTAURANT, OFFICE SUITES, GROUND FLOOR RETAIL AND A MUNICIPAL COMMUTER PARKING LOT.

TEAM: DEWEY COMMERCIAL INVESTORS, BARTONPARTNERS ARCHITECTS/PLANNERS, RT ENVIRONMENTAL SERVICES, AND DBP CONSTRUCTION MANAGEMENT.



The "main street" layout of the community lends to convenience in accessing neighborhood amenities. © BartonPartners.

US EPA and the Pennsylvania Department of Environmental Protection have worked closely with us to ensure the project stays on schedule and to protect both the environment and the future residents and users of the development," he said. "Our ability to successfully redevelop the site was greatly helped by the Act 2 Land Recycling Program and the officials at the PADEP and US EPA. In fact, The Pennsylvania State Employees Retirement System (PASERS) has committed an investment of \$9.5 million of the total expected development cost of \$55 million."

BartonPartners developed a site plan for the entire project, and integrated planning with architecture to create a residential section that provides housing for approximately 650 residents. The 346 market-rate rental apartment homes are organized around a half-mile-long boulevard (www.livestationsquare.com). The focal points are three "village greens," each with their own identity, unique functions and landscaping. Station Square will also include an adjoining 48,800-square-foot commercial center known as the "Shops at Station Square," with a branch bank, restaurant, office suites, ground floor retail, and a municipal commuter parking lot.

Laid out in "main street" fashion, the core will adopt a design idiom that reinterprets vintage station architecture. Apartment residents and transit riders alike will be able to stroll through the convenience-oriented retail, follow the covered walkway leading to nearby Pennbrook Station, or walk to work in the

office complex across the street. Locals can travel regionally to major area employers (including pharmaceutical plants), or enjoy Philadelphia's amenities without ever having to drive their cars.

Good planning has created a pedestrian-oriented venture that has turned around a blighted site in the midst of established residential and office communities. By utilizing existing infrastructure, the project doesn't require the local municipalities to make any further investments in this regard. Reuse of the existing site provides the opportunity to meet requirements for new housing due to population growth; reinvigorates the tax base that would have been lost if the site remained vacant; increases transit "ridership;" and, lessens the need for greenfield development to protect valuable open space.

The team worked closely with local officials who provided constructive comments that allowed site-plan approval to occur in a straightforward and efficient manner. Large retention basins were used to minimize redevelopment impact. Vapor barriers were included in the apartment-house construction to assure that any low levels of solvents that may have remained following the remedial process did not impact residents. The end result of these efforts is a sustainable community.

Because of the mixed-use nature of the plan, an "overlay zoning ordinance" was developed that sets forth new standards for building spacing, street types, on-

street parking, and other criteria that diverts from conventional zoning to give the neighborhood its unique look and feel. Transit-oriented development (TOD), such as the Station Square project, marks a shift in national and regional policy on land-use and transportation. Many public agencies now encourage development that combines uses within walking distance of transit stops. Not only will a once-depleted site be revived, but Station Square will also become one of the first projects on the East Coast of this new generation of "streetcar suburbs."

With its mixture of products and uses, Station Square serves several purposes: It turns a deserted area into a revitalized community and enhances the economic conditions of the surrounding area by providing housing, retail, and work — all in one convenient location. Continuing forward, by combining heightened public awareness with conscientious vision and development, many more such projects can be realized. ■

Founded in 1990, BartonPartners Architects/Planners, Norristown, Pa., is an award-winning, full-service architecture and planning firm nationally recognized for its innovative work in a broad range of housing products. The firm specializes in rental and for-sale residential design, including market-rate single and multi-family development, affordable housing, adaptive reuse, mixed-use urban in-fill, active adult and continuing-care retirement communities, and historic rehabilitation.

BUILDING COMPLEX SPOTLIGHT RT ENVIRONMENTAL SERVICES FACILITATES BUDD SITE REVITALIZATION

The former Edward G. Budd Site, on Hunting Park Avenue in Philadelphia, PA was once PECO's largest customer, and thousands of employees worked to produce automobile parts in stamping operations, from the early part of the twentieth century, until several years ago. The large scale "stamping" operations which were conducted at the facility, involved production of such automobile components as doors, trunks, and hoods, as well as some light assembly of components occurred at the facility as well.



Temple Health Systems Building



Budd Complex

Following closure of the facility, Preferred Real Estate Investments, a client of RT Environmental Services purchased the former Budd facility for redevelopment. Major redevelopment activities are now underway, including:

- Temple Health Systems is moving into the former office/garage building, following cleanup of the materials receiving facilities, under EPA supervision.
- The former facility "Die Yard", may be redeveloped as the Trump Street Casino, pending completion of casino licensing.
- Award of an Industrial Site Recycling Loan is expected shortly, to begin revitalization of the "Central Core" facilities, by providing new entrance and parking facilities, off of Fox Street.

Temple Health Systems will move into the third redeveloped building; the first two buildings, which were newer warehouse buildings, were quickly purchased by companies involved in archive services, light manufacturing and storage. Looking ahead, more intensive remediation projects will take place, as PCBs became mixed with hydraulic fluids, impacting floors in a number of manufacturing buildings. Under the direction of EPA Regional Administrator Mr. Don Welch, EPA has assigned its Regional PCB Coordinator, Ms. Kelly Bunker, to work with RT Environmental Services and Preferred Real Estate Investments to intensively investigate impacted areas, and develop the most appropriate remediation approach for each building.

Work in some buildings will involve floor removal; elsewhere, a parking lot will be created to cap PCBs in another building; and, in two key buildings in the center part of the facility, which would be difficult to demolish due to common railroad structure and bridge conditions, are being considered for residential redevelopment, using special flooring and capping techniques. The techniques exceed EPA regulatory requirements, and provide common sense protection for future residential building use. The new techniques will maximize use of the existing infrastructure, save large sums of money as compared to expensive demolition costs and hauling impacted concrete to Midwest landfills. The approach will provide earlier revitalization to the neighborhood, as compared to far more expensive and time consuming demolition and reconstruction approaches.

Pennsylvania Act 2 Land Recycling activities are underway at the site as well, involving an area of volatile organic releases to soil, a PCB impacted soil area which will be capped with asphalt, and, two storage tank areas are being remediated as well.

The former Budd Site is an example of how RT Environmental Services can help clients turn underutilized sites around. Large former industrial sites pose special challenges, particularly when seven figure remediation costs must be expended, over a several year period. Pre-purchase environmental studies must be able to identify buildings and parts of facilities that can be quickly revitalized and reused, to establish early cash flow. All of the regulatory hurdles which need to be addressed to facilitate redevelopment, also need to be identified, and regulatory "buy in" of the remediation approach, should occur either before the transaction, or, as soon after the transaction as possible.

Large redevelopment projects are continuing to be increasing share of RT's business, and we are proud to have the opportunity to apply our talents on the Budd Commerce Center Site. For more information on large remediation projects, please call Gary Brown or Walter Hungarter at 800-725-0593, or Justin Lauterbach in our New Jersey Office, at 856-467-2276.

For information on Budd Site sale and lease opportunities, please call T. J. Doyle at Preferred Real Estate Investments at 610-834-1969.

More information is also available on RT's Website, at www.rtenv.com, or you can contact us at gbrown@rtenv.com.



ACT 2 LAND RECYCLING COMES TO MANHEIM FORMER RAYMARK INDUSTRIES REDEVELOPMENT PROJECT



The Phoenix Group, LLC recently announced the implementation of a large Brownfields redevelopment project in Manheim, Pennsylvania. The location is the former Raymark Industries Manufacturing facilities, where manufacturing operations ceased several years ago. RT has been active at this site since 1995, having assisted the Company with closure of a RCRA landfill at the site.

The Manheim project presented a number of difficult technical and logistical challenges. Due to litigation surrounding asbestos products manufacturing, an initial bankruptcy in the early 1990's had allowed for reorganization of assets, and continued asbestos manufacturing for products which have no substitute, by Universal Friction Composites (UFC). UFC continued limited operations at the facility and Raymark Industries, in the mid-1990's, remained as landlord at the facility. Raymark began discussions in 1996 with the Pennsylvania Department of Environmental Protection, following promulgation of the Act 2 Land Recycling Program to find out how to address environmental issues at the site.

However, hopes for Brownfields redevelopment were dashed when the Company was drawn to a second bankruptcy, related to litigation surrounding its former Connecticut operation, which had become a Superfund Site. Due to the attractiveness of the Act 2 Program in Pennsylvania, however, both Raymark's upper management and a subsequent bankruptcy trustee wanted to take advantage of the Pennsylvania Land Recycling Program, to obtain cleanup liability protection for releases at the site. As the direction became clear as to how to resolve issues involved in the second bankruptcy, RT was engaged to:

- finish the RCRA landfill closure and adjacent wetlands restoration work;
- consolidate waste materials for future removal;
- conduct a site investigation to determine what releases to soil and/or groundwater were of concern;
- remove underground storage tanks at the facility.

In addition to the normal Land Recycling investigation work, due to the presence of Chiques Creek and Doe Run, which run through and adjacent to the facility, RT implemented upstream and downstream water sampling, which showed non-detect concentrations for key constituents of concern, including lead. A key issue RT was able to resolve

regarding the historical waste products, was that tetraethyl lead used in the compounding of the friction products (including brake shoes), was compounded in such a way that leachability was minimal. This finding helped to resolve a key technical question - why hadn't monitoring wells near the RCRA landfill, shown impacts to groundwater, even though the compound product itself tested as characteristic hazardous for lead? RT comprehensively reviewed historical groundwater monitoring data, and conducted waste characterization leaching tests, which showed that the leachability from the material is minimal.

Given the complexity of the site, and need for real time decision making, RT requested that the Pennsylvania Department of Environmental Protection to assist with weekly field meetings, so that the Land Recycling investigation process could be as focused and as efficient as possible. Pennsylvania DEP's South Central office Environmental Cleanup Program was instrumental in providing assistance, assigning a hydrogeologist to work closely with RT as initial investigation work showed what releases would need Act 2 cleanup liability protection at the site. Solvent impacted groundwater as well as an historical asbestos products landfill, and storage tank releases will be the subject of the Act 2 Land Recycling process. Deteriorating buildings where asbestos products were manufactured are also of concern, and a redevelopment plan is under discussion with Borough officials, which is expected to call for demolition of a large portion of the Lower Mill buildings, which have little future useful life, and which are asbestos contaminated. The Borough, understanding the situation, had the site designated a *Keystone Opportunity Zone*, which helps facilitate redevelopment by offering tax abatements.

A portion of the Lower Mill lies in the floodplain, and Manheim Borough has been instrumental in providing a new city park, on land on the opposite side of Chiques Creek, so Manheim is a leader in proper use of the floodplain through its overall planning process. The redevelopment plan takes into account proper floodplain use on the mill side of the creek as well.

Herman Ramig, long-time Engineering Manager at the property, has worked very hard to keep the property viable, by attracting various tenants who have workshops, auto reconditioning facilities, as well as storage operations at the site. Gary

Silversmith of the Phoenix Group, LLC announced that the Upper Mill facilities, which are newer and were constructed after World War II, are expected to attract a variety of industrial and commercial tenants, as more space becomes available in the coming months and years, following the decommissioning of the remaining manufacturing operations in a number of the buildings. An additional focus is on twenty-seven (27) acres of undeveloped expansion area, which has direct rail access by Norfolk Southern, and could attract new industries to the mill complex. Also being considered is conversion of the Company mid-rise office building to a Technical Center, with high-speed Internet access. Manheim Borough has been planning for resurgence of the Mill property in recent years, and has already made application for funds to provide improved access to the Mill complex from Fruitville Pike, which will minimize future commercial and industrial traffic through narrow Borough streets.

Pennsylvania is one of the only states in the nation where successful Brownfields initiatives such as that used at this Mill complex, can be handled in both an efficient and "transaction" timeframe manner. Doug Lashley and Nick Rudi, of the Phoenix Group, LLC are also hard at work on additional grant and redevelopment opportunities, as well as sensitive future use of the floodplain, which constitutes a number of acres at the property. Mr. Lashley has in-depth expertise on wetlands restoration projects, and the redevelopment plans of the property will take the unique situation of a creek and tributary confluence and floodplain at the site into account.

Although there are a number of important issues to still deal with at the Mill complex, the attractiveness of Act 2 cleanup liability protection, cooperative assistance from the Pennsylvania Department of Environmental Protection's South Central office, and flexible Land Recycling options available, proves that Pennsylvania's award-winning Act 2 Land Recycling Program works, even in the face of obstacles including limited funds, a RCRA landfill, and a double bankruptcy.

Lancaster County's growing economy, along with the availability of grants and loans to help facilitate redevelopment of the Mill complex, means that better days are ahead for Manheim, as the Mill complex which was becoming an eyesore, now has a bright redevelopment future, with Act 2 Land Recycling cleanup liability protection being available to help facilitate the redevelopment process. Tom Showers, Manheim Borough Council President, has indicated that the Borough wants to work with the new owners, to help make the redevelopment project a success.

Project Participants:

- **Redevelopers**
 - Gary Silversmith, Doug Lashley, Nick Rudi
- **Raymark Industries**
 - Herman Ramig
- **Trustee**
 - Wendy Shapps, Laureen Ryan
- **Manheim Borough Officials**
 - Tom Showers, Charles Lyon, Rob Stoner
- **DEP Officials**
 - Patty Romano, Eric Rooney
- **RT Staff -**
 - Matt Martelli and Chris Orzechowski - *Tank Removal & Field Investigations*
 - Larry Bily - *Waste Inventory & Consolidation*
 - Mark Irani, P.G. - *Remediation*
 - Gary Brown, P.E. - *Principal-in-Charge*

PEOPLE WHO MAKE BROWNFIELDS HAPPEN!

Profile: Herm Ramig

All of those who participate in engineering projects know that there are key individuals who are instrumental in making things happen. Some individuals, due to their commitment and attention to detail, make projects much more smooth and efficient than they otherwise could or would be. One such individual is Herm Ramig, the person with "all the knowledge and commitment" at the former Raymark Industries, Manheim plant.

Mr. Ramig, a key engineer at the plant, worked there since the 1970's, through thick and thin. When manufacturing scalebacks occurred, he kept the mill buildings occupied by bringing in tenants and handled extensive utility conversions when utility and boiler operations were shutdown. Landfill cap

problems (groundhog holes) were addressed by grabbing a shovel and doing the work, something few people with 30 years at a plant are willing to do.

To facilitate the Land Recycling process, he assisted RT with:

- Frequent and in-depth research on units, tanks and historical uses.

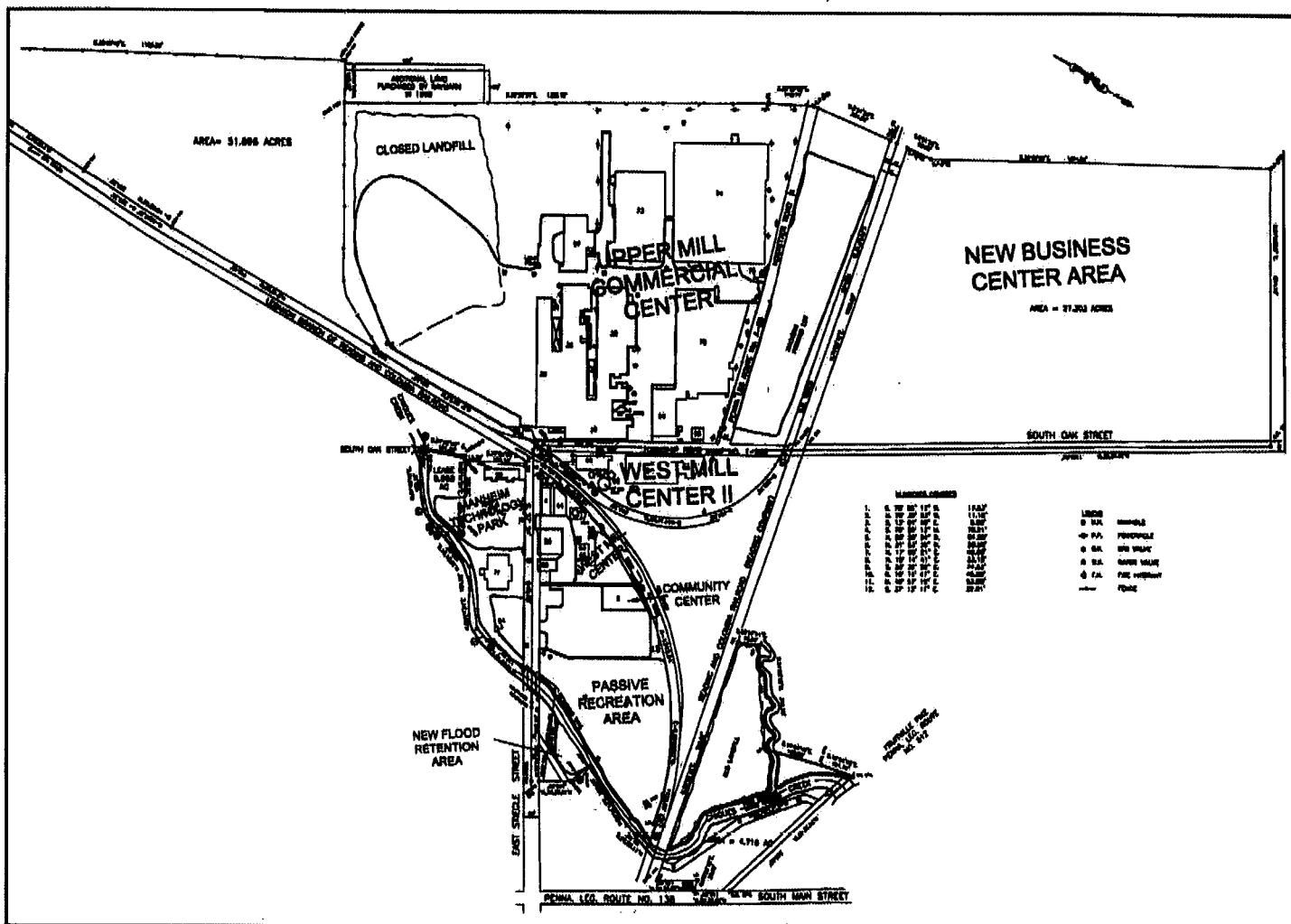
- Calling former employees and managers to answer key questions on historical waste management practices.

- Being up early and working late to facilitate long schedules for investigation and tank removal work.

Even though money was scarce when manufacturing operations ceased, Mr. Ramig saw to it that tanks were pumped out and waste was consolidated into safe areas. He also

kept the Mill buildings in safe condition, and quickly responded to a fire caused by vandalism, securing the site to the satisfaction of Borough officials. What makes the difference? When you have an outstanding individual who cares about a site, Land Recycling is so much easier because the work is focused with full, knowledge of historical operations and far fewer "unknowns" to deal with.

We at RT salute Herm Ramig as proof that people who care make all of the difference. Having an individual like Mr. Ramig and using the Pennsylvania Award Winning Land Recycling Program means a highly efficient Brownfields effort, with quick focus on the important problems, and facilitating earlier redevelopment of the Mill complex.



Call RT for more information on Brownfields Site Services at (800) 725-0593

- Site Inspections
- Field Investigations
- Historical Research
- Risk Based Corrective Action
- Redevelopment Plans

Or visit our Web Site at: [HTTP://RTENV.COM](http://RTENV.COM)



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ENVIRONMENTAL ENGINEERING

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Stormwater Management
Landfill Design and Closure
Water and Wastewater Engineering
Soil and Erosion Control Plans
Litigation Support/Expert Testimony
SPCC/Contingency Plan Updates



Environmental Engineering Services

Our engineers are registered in twenty states and have completed the following projects:

- Treatment system designs – groundwater recovery.
- Major landfill closures, upgrades, new landfills and landfill redevelopment (hazardous, residential, and municipal wastes).
- Industrial, facility, decommissioning
- Processing facilities and wastewater system upgrades and closures.

Additional Key Projects Include:

- Marine Transportation Site (Piers), Phila, PA
- Henderson Road Superfund Site, KOP, PA
- Precast Concrete Manufacturing Facility, Voorhees, NJ
- Maryland Landfill Project
- Pennsylvania Landfill Closure Site
- Mercury Recycling
Facility - Part B
Application - PA
- Central PA Hazardous & Residual Waste Facility

PROJECT PROFILES

North Jersey Remediation Site

RT was asked to assume responsibility for a remedial project in progress at a Northern New Jersey manufacturing site. To improve remedial efficiency and economics, RT obtained approval to change operations to pulse pumping. Detailed analysis of hydrogeological data also revealed that volatile organics migration concerns were overly conservative and that contamination basically was local to the site with migration. The monitoring and remedial program was then adjusted so as to be more realistic and reasonable, given the lower potential for migration from the site and lower potential impact on a nearby water supply well.

South Jersey Superfund Site

RT was retained by the owner of a clothing manufacturer to complete a detailed analysis of an EPA Superfund remedy for the subject site and another nearby site. RT completed groundwater modeling work to help establish that parts of the remedy were infeasible and would not achieve remedial objectives as per the Record of Decision for the site. The project involved a case at arbitration, and RT prepared an Expert Report to assist with the project.



ENVIRONMENTAL ENGINEERING

WASTEWATER MANAGEMENT SERVICES

PROJECT PROFILES

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MARYLAND LANDFILL PROJECT

For a Maryland regional landfill owned and operated by one of the nation's top waste management companies, RT completed the design of a leachate collection and pretreatment system. The regional landfill and leachate management system was designed to serve a county-wide area in western Maryland.

RT's work included the comprehensive design of a leachate conveyance and pretreatment system including details associated with pumping from landfill cells, a gravity system to convey leachate from the cells to the treatment plant, as well as the pretreatment plant itself. Facilities at the plant included flow equalization tanks, metals treatment, biological treatment, and sand filtration. Work also included design of a pretreated effluent pipeline which tied into the regional sanitary sewer system.

The entire leachate management system is designed for flexibility so that it can be extended as new cells in the landfill come on line. The treatment system is similarly designed, and the plant is outfitted with an emergency generator to make sure that the biological treatment system will not be lost during an extended power outage. A comprehensive alarm and instrumentation system oversees and monitors key plant and collection system functions. The state-of-the-art, double-lined landfill began to receive waste in early 1993.

TREATMENT SYSTEM UPGRADING

For a Pennsylvania manufacturer of tubing products, RT designed a groundwater recovery and treatment system upgrading program. Discharges of TCE over effluent limits caused a citizen suit to be threatened. RT identified cost-effective changes in an existing TCE air stripper treatment system which could help meet treatment discharge standards quickly and resolve effluent discharge problems. Work was completed on a fast track basis to avoid the threat of regulatory penalties.

COMBINED SEWER OVERFLOW PROJECT

For an eastern Pennsylvania municipality with an aging combined sewer system, RT completed a series of tasks to maintain compliance with NPDES permit conditions. Tasks included:

- Sewer system mapping and video construction coordination
- Flow measurement and sewer inspection
- Recommendations on sinkholes at a treatment plant location
- Recommendations on stormwater and sanitary separation and treatment
- Regulatory liaison
- Short and long-term upgrading needs - review of alternatives and identification of sewer upgrading needs

Work also included emergency construction of a pumping station, after dry weather overflows to the Schuylkill River were found to be chronic. The long-term recommendations were found to be acceptable to PADEP, and the overall project was completed in a highly efficient manner.

SOLID AND HAZARDOUS WASTE MANAGEMENT PROJECT PROFILES

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Hazardous Waste Storage Facility

For a Pennsylvania client, RT took the lead on preparing a Part B application and designing expanded drum container storage, tank storage/treatment and stabilization facilities. Site-wide improvements including a residual waste facility were designed, including a new waste receipt facility.

Transfer Stations

RT was responsible for designing and obtaining permits for a large facility that included a transfer station and a recycling center in eastern Pennsylvania. The facility was designed to process large-scale municipal mixed residential recyclables, recycle demolition and construction waste, and provide municipal waste transfer capabilities.

Processing Facility Design

For Berks Transfer, RT designed a recycling facility to handle the load from a recently closed demolition and construction waste landfill. The design provides for maximum metals separation and flexible handling of items such as wood waste and concrete. Waste is received on a large tipping floor where metals are separated for recycling. The remaining waste is then fed into several crushers, which grind up concrete materials for reuse as aggregate. Wood materials are recycled into chips suitable for use as mulch.

The facility was designed to be built and expanded in stages so that specialized major equipment can be installed as new recycled products are defined and markets develop for recycled materials.

School Site Landfill

RT Environmental Services developed a comprehensive Closure Plan for the School Site Landfill in King of Prussia, Pennsylvania. Closed under Pennsylvania Municipal Waste Management Regulations, the landfill consisted of an approximate 5 acre area, with steep slopes and an essentially flat top which made cap design difficult. Additional challenges on the project included difficult stormwater conveyance conditions, and little perimeter area available for conventional erosion and sedimentation control systems.

The closure design for the facility included installation of a synthetic liner, overlain by a drainage net and geotextile. Above these layers was common fill, and then a topsoil layer. A lined stormwater pond was designed to sit atop one corner of the landfill to control peak stormwater flows, working with a second basin installed in a small section near the entrance road.

RT also provided quality assurance/quality control services during construction of the cap. The plan included groundwater monitoring wells, a passive landfill gas venting system, and specialized techniques for stabilizing the steep slopes. During the post closure care period, as the landfill drains down now that a cap has been installed, RT continues to serve its client by providing review and comment on groundwater quality issues.



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Key RT Expert Cases:

- US v. Atlas Minerals and Chemicals Case - Superfund Cost Recovery
- TVA Coal Ash Spill Case in Tennessee - Environmental Negligence
- Neville v. Consol Case - Superfund Cost Recovery

THE NEED FOR AN EXPERT

Situations arise related to environmental and engineering issues and the services of an expert need to be retained. In the last several years, courts have tightened up on deciding who qualifies as an expert to offer testimony in a particular area of expertise.

Experts are needed whenever litigation is a possibility, because:

- Costs on an environmental project are excessive
- A cleanup project was not run properly, or, implemented appropriately
- Those generating waste may be allocated an unfair share at a Superfund site
- A constructed environmental system, such as a treatment plant, is not functioning properly

The services of an expert become essential, to make sure that claims can be successfully litigated or arbitrated.

WHY RT?

RT's experts are recognized professionals in environmental matters. We have on staff professional engineers registered in 22 states, professional geologists registered in four states, asbestos containing material inspectors, lead based paint inspectors and risk assessors, and tank subsurface evaluation professional personnel. Our senior principals participate in American Academy of Forensic Sciences activities, including such topics as preparing expert reports in complex cases, establishing environmental engineering standard of care, and assuring that expert opinions are based on facts and/or sound technical judgment. RT's experts have been successful even on Superfund Cost Allocation cases including the U.S. vs. Atlas Minerals and Chemicals case, the first case where a federal court accepted a private cost allocation model, applied to a large number of incoming waste streams at a co-disposal Superfund site. RT's professional expert witness expertise can make the difference in developing and implementing a winning case strategy. When we are asked to assist with an actual or potential litigation case, after the initial assessment, we promptly advise on the key technical issues which will need to be proven, to win the case at trial. We also have established methodologies for keeping track of all key technical facts, opinions, using an ongoing text database approach. Again and again, our experts have been selected as the final rebuttal witness, frequently made possible by the interdisciplinary experience and expertise of our senior staff.

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PROJECT PROFILES

WHAT ARE THE KEY AREAS OF EXPERTISE RT PROVIDES?

RT offers expert services, in the following areas of expertise:

- Environmental Engineering
- Hazardous substances waste stream content and Superfund cost allocation
- Oil releases, and impacts on residential, commercial, or industrial properties
- The design of environmental management systems

We are glad to discuss with potential clients, the specific types of cases we have been involved in, as well as, provide insight as to where are expertise may be of assistance. We will also be glad to forward Curriculum Vitae, describing the experience and capabilities of our expert staff.

U.S. VS. ATLAS MINERALS AND CHEMICALS COMPANY

RT was asked by a group of manufacturers in the Allentown, PA area to develop an approach for cost recovery for waste disposed at the Dorney Road Landfill. The landfill is a federal Superfund site, with remedy costs in excess of \$20 million. A "Waste Strength" approach was developed to fairly weight generator's contributions to the need for remediation at the landfill. The US District Court accepted the approach, the first instance in which such an allocation approach was accepted by a federal court in the United States.

MURATA WIEDEMANN VS. WARNER AND SWASEY

RT was retained to assist in this \$4.5 million mediation / arbitration cost recovery case held in Los Angeles. The case involved a King of Prussia, PA facility which Murata Wiedemann claimed could not be sold due to past environmental concerns not addressed when the plant was owned and operated by Warner and Swasey. During arbitration, it was established that most of Warner and Swasey's obligations were satisfied and that delays in sale were principally due to decisions by Murata Wiedemann. RT supported Counsel and helped establish that liabilities at the site were less than portrayed. The case then settled amicably.

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Asbestos Surveys, Management, & Abatement

Lead Based Paint Management

Mold Surveys and Remediation



Key projects include:

- Regional Mall Facility, Allentown, PA
- Army Facility Project
- Former Defense Research Facility, Philadelphia, PA
- Railroad Grain Facility, Philadelphia, PA
- Battery R&D Facility, Montgomery County, PA

Why is Indoor Air Quality a Concern?

Indoor air has received increasing attention due to the recognition that certain conditions can cause "sick building syndrome." Each building environment is unique, and RT is experienced in working through the issues to determine whether there is or is not a problem.

Common causes of indoor air problems are:

- Insufficient outside air changes causing stuffy/stale air;
- High volatiles fumes in air due to open solvent or paint containers;
- Vehicle exhaust inadvertently drawn into the indoor air;
- Offgassing of chemical compounds from new furnishings;
- Improper setup of HVAC systems causing elevated carbon dioxide and/or humidity conditions outside of comfortable zones;
- The presence of mold, which can include toxic mold types.

RT has completed indoor air work at the following types of facilities:

- Commercial offices
- Residences
- Newspaper production/printing facilities
- Industrial facilities, including rubber products manufacturing, aircraft maintenance and automotive maintenance

Services are conducted under the supervision of a Certified Industrial Hygienist, where appropriate.

How is the problem studied?

Indoor air studies begin with a review of the HVAC system, and basic testing to look for potential sources for the complaints - measuring volatile organics, carbon monoxide and dioxide concentrations, temperature and relative humidity, and inspection of air intakes and an inspection to check for mold. Sometimes, more in-depth studies are needed to determine the source of the problem.



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INDOOR AIR QUALITY & BUILDING

ASBESTOS & LEAD PAINT MANAGEMENT

PROJECT PROFILES

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Regional Mall Facilities

For regional mall facilities in the Northeast US, RT completes asbestos containing material (ACM) inspection and survey work as commercial facilities are renovated. Work is planned so as to minimize turnaround time, which is important to maintaining acceptable commercial occupancy levels. Work includes survey and abatement oversight for vinyl asbestos tile, sprayed-on surfacing material and thermal system (typically piping) insulation. Operations and maintenance plans are also prepared when needed, and, renovations of common spaces are carefully planned so as to minimize impacts on retail operations.

Army Facility Project

For a series of Army facilities, RT completed sampling and formulated an approach for remediation of rifle ranges containing residual lead contamination. Work completed includes development of plans and specifications for cleaning, waste removal, encapsulation and restoration of the former rifle range facilities. In the future, the area will be used for Army materials storage.

This project was one of the first undertaken to deal with lead contamination at firing ranges. Work was successfully completed at more than one dozen army facilities over a year.

Former Defense Research Facility

RT was retained to complete a multi-million dollar lead paint abatement project at a former defense research facility in Philadelphia. Extensive peeling lead based paint was found above suspended ceilings throughout the six-story, half-block long facility. Work was completed successfully using two shifts over a four month period so that the facility could revert back to the landlord without the need for a lease extension.

Railroad Grain Facility

For a regional railroad, RT is completing a series of ACM projects. The largest involves a closed grain facility, used historically as the major port terminus for a former railroad. Stringent City of Philadelphia ACM regulations are being followed, with daily checklists completed to assure proper completion of the project.

Montgomery County Battery R&D Facility

RT was asked to complete Phase 1 and 2 environmental survey work at a lead acid battery R&D facility being converted to commercial office use. After impacted soil and roof surfaces were found, RT was asked to complete remediation work during winter weather to help keep the multi-million dollar transaction on schedule. Interior decontamination was also completed, to meet stringent interior residential standards, as future occupants of the renovated facility were to include pregnant women. A liability release was also issued under PA's Land Recycling program when all remediation and monitoring activities were completed.



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INDOOR AIR QUALITY & BUILDING AIR EMISSIONS PERMITTING

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What types of facilities require air permits?

Due to lowered regulatory thresholds, a wide variety of facilities can now require air emissions permits. These include:

- Printing operations
- Auto body shops
- Asphalt plants
- Industrial facilities with boilers
- Incinerators.
- Landfills
- Industrial facilities with air pollution control equipment
- Certain types of construction projects
- Facilities with diesel engines and/or emergency generators
- Construction Processing Equipment used at multiple sites

Any time a new facility is to be built, or if additional equipment is to be placed at this service, it should be determined whether or not an air emissions permit is needed. A number of years ago, permitting thresholds were high, but, currently, due to incursions of National Ambient Air Quality Standards, in many localities, some types of facilities emitting as few as several pounds per day of particulates (dust) or volatile organics, require air emissions permits. If permit applications are not filed in a timely manner, construction can be stopped and fines can be levied.

How complicated are air permit applications?

The complexity of air permit applications depends directly on the type of air emissions source being permitted. Some types of permit applications are relatively simple, for example, those for small paint booths, or, those for low horsepower diesel generator engines. Other permit applications can be more complicated, particularly for new facilities with multiple sources, or for existing facilities undergoing major changes in equipment, or equipment replacements. Regulations which need to be complied with are both on the federal and state level, and need to take into account one or more of the following programs:

- Pennsylvania Air Regulations
- EPA Air Regulations
- Prevention of Significant Deterioration Program Requirements
- New Source Performance Standards, BAT and/or SOTA requirements
- Title V Permit Requirements
- Requirements for Emissions Offsets, when in a National Ambient Air Quality Standard non-attainment area, for certain emissions parameters

How long does it take for permit applications to be processed and approved?

In addition to taking a matter of weeks or months to prepare most air permit applications, regulatory agency processing and approval times are variable, depending principally on the number of programs and/or regulations under which the permit will need to be issued, and depending on whether the facility is or is not a major source, and the complexity of an industrial plant and/or a number of sources or permit modifications involved.

Another factor is whether or not the emissions contain Hazardous Air Pollutants (HAPs). These are certain pollutants which are specially regulated. Where HAPs are present, maximum achievable Control Technology may be required. Generally, it takes 90 to 120 days for processing and approval of the most straightforward permit applications. Where there are complex air sources, or where there may be public involvement, permitting can take from six months to a year. Air permit applications should be prepared well in advance of any specific needs to install new equipment, or upgrade existing equipment.

RT Experience

RT's Staff has experience in a wide variety of air permitting situations, from small sources with particulate filters, to larger sources, involving Title V permits, and even including those requiring Prevention of Significant Deterioration permit approvals. Facilities at which our staff has experience include sludge incineration, asphalt plant emissions permitting, food production, dyeing products manufacturing, remediation systems air emissions, paint booth and air emissions and large scale mobile equipment painting/manufacturing.



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