

# Jacob A. Bourdeau, P.E.

## Supervising Manager/Engineer

Professional Registrations and Certification			
Registration/Certification	State	Number	Date Exp.
Professional Engineer	PA	PE054363E	09/30/25
Professional Engineer	ME	10348	12/31/25
Professional Engineer	MD	34912	09/17/25
Professional Engineer	IL	062.063469	11/30/25
Professional Engineer	NH	18460	08/05/26
Maine Certification in Inspection and Maintenance of Stormwater BMPs	ME	SWI02000007	Current
40-Hour HAZWOPER Health & Safety Training/Refresher ( CFR 1910.120)			Current
Qualified Environmental Professional	NY/Others		Current
RCRA Hazardous Waste Generator Training			Current
Soil and Erosion Control Training (Green Card)	MD	40460	Current
NY Soil and Erosion Control Stormwater Training	NY		Current
Confined Space Entry Training (29CFR1910.146)			Current
Supervisor Training (29 CFR 1910.120 OSHA)			Current



### Key Expertise

Project Management  
 Remedial Design  
 CQA  
 Due Diligence  
 Contracting  
 Brownfields  
 Stormwater  
 SPCC  
 MGPs  
 Wood Treating  
 Utility  
 Recycling

### Education:

B.S., Civil Engineering, University of Pittsburgh, 1992  
 M.S., Civil Engineering, University of Pittsburgh, 1996

**Years of Experience/Years with KEY:** 30/28

### Professional Experience:

- Over 30 years of experience completing environmental projects, remedial design, permitting, due diligence, and construction management and oversight
- Environmental projects administered under CERCLA, RCRA, EPA, and State-Lead Brownfield, voluntary Action, solid waste programs, and SPCC
- Manufactured Gas Plant, Wood Treating Facility, and MOSF Remediation
- Brownfield Redevelopment Due Diligence and ESAs
- Engineering design and management for LNAPL/DNAPL/Groundwater recovery systems using in-situ/ex-situ methods. Projects include treatability testing, pilot testing, and full-scale construction and operations.
- Surface cover and capping systems
- Remedial technologies feasibility studies and cost analyses
- Waste characterization, disposal and recycling options management for RCRA, PCB, NYS Part 360, building/construction materials, and boutique streams

### Primary Responsibilities:

Supervising Manager/Engineer responsible for scope, schedule, budget, technical support, engineering, and reporting on a variety of projects, including:

- Complex industrial facility Brownfield remediation and redevelopment with material recycling, and stormwater management
- Remediation of former manufactured gas plant (MGP) sites/wood treating
- Design and construction of DNAPL/LNAPL/groundwater remediation projects
- Closure design and CQA for industrial, CERCLA, and RCRA waste disposal sites
- Project management and due diligence for complex sites with multiple PRPs
- Sediment/wetland/soils/groundwater/vapor characterization projects

Representative Projects		
Role	Project	Location
Supervising Manager/ Engineer	<b>Former LNG/Oil Refinery Brownfield Redevelopment (675 ac):</b> Managed due diligence for a diked property abutting a shipping channel with over 200 ac of tidal and freshwater wetlands. Managed surface cover design, wetland applications and monitoring plans. The engineering work plan incorporated material reuse using low cost amended dredge sediments (ADM). The surface cover required over 4,000,000 cy of materials to meet remedial and development goals. Over 3 million SF of warehouse was built and is being leased and managed under a Site Management Plan. Over 30 Case specific BUDs approved for historic fill material and ADM reuse, over 100,00 cy of Part 360.13 characterized and reused in NYC. Manage on-going SWPPP, SPDES, and GW monitoring programs.	NY
Project Manager / Senior Engineer	<b>MGP/Coke and Coal Tar Refining Waterfront Brownfield (&gt;150 ac):</b> Completed investigations, remedial design, permitting, CQA and O&M. Design and implementation included slurry wall containment, DNAPL recovery wells with groundwater infiltration, funnel and gate design with sustainable in-situ treatment, hexavalent chromium delineation with capillary breaks, hydraulic evaluations, and monitored natural attenuation. Amended dredge sediments were reused as cover materials saving millions of dollars in surface cover material costs.	NJ
Senior Project Manager / Senior Engineer	<b>Former MGP/LNG/Operating Utility:</b> Designed, built and operated a 25-gpm LNAPL/DNAPL and groundwater recovery system for 3 years for less than 1 year's previous budget. Completed a site-specific NAPL migration model evaluation which resulted in conversion from active to passive LNAPL recovery and eliminated the NPDES permit. Currently managing passive LNAPL O&M.	MD
Project Manager	<b>Former Chemical Manufacturer and Chromite Ore Processor Brownfield:</b> Managed treatability evaluation, design, and recovery well installation for a DNAPL recovery and groundwater treatment system supporting a DNAPL/groundwater containment remedy. Work plans for demolition of 23 buildings containing dioxins/asbestos. Waste management for over 30 waste streams.	NJ
Project Manager / Engineer	<b>Utility/Propane Storage:</b> Design/build manager and engineer for stormwater management improvements, SWPPP, and in-situ treatment system upgrades. Major tasks included geotechnical and permit evaluations, soil and erosion control plan preparation, waste characterization/profiling, underground process piping and vault improvements, stormwater management diversion improvements, conducted treatment evaluations and managed routine system maintenance.	MD
Senior Engineer	<b>Utility and Wood Treating Site Brownfield Redevelopment (290 acres, 3M sf of warehouse):</b> Provided due diligence and remedial cost estimating. Prepared and implemented RI/RAWs and permits to address PCB/lead-impacted sediments, DNAPL in soils via in-situ soil stabilization, drainage ditch cleanup, historic fill, groundwater monitoring, and media sampling. The Baseline Ecological Evaluation and risk screening evaluation largely reduced expected wetland remediation quantities. NFAs were received for soil/groundwater and the remedy was \$5M less than the incumbent plan.	NJ
Senior Engineer / Project Engineer	<b>Coal Tar Refining and Creosote Wood Treating Facilities:</b> DNAPL recovery treatability testing, pilot testing, and full-scale remedial system construction/operations at various US plants. Systems included passive, funnel and gate, aboveground treatment, in-ground recirculation, collection trenches, and groundwater re-infiltration.	AK, TX, NJ, MA, NH, OH
Senior Engineer / Project Engineer	<b>Former Dye Manufacturing and Chemical Plant (RCRA and CERCLA):</b> Completed groundwater and hydrogeologic investigations, treatability evaluation, pilot testing, design/build and full-scale treatment O&M. Conducted a parallel path pilot with scale-up design approach for two adjacent sites which eliminated treatment for dissolved metals (>400 mg/L), saved over \$9Million compared to incumbent estimates, and required no PA permits.	PA
Senior Project Manager	<b>Coating Manufacturer:</b> Conducted soil investigations, PCB remediation plans, groundwater evaluation, receptor evaluation, PRP negotiations, and cost estimating.	NJ
Senior Engineer / Construction Manager	<b>Decommissioning/Dismantling of Organic Chemical Plants:</b> Scope and contract preparation/bidding/negotiations, construction management, coordinated chemical tank and process piping demolition, waste management, safety oversight, risk assessments, and employee training. Projects were safely completed for less than the target budgets.	VA, IL, PA, Canada
Project Engineer	<b>MGPs Multi-Site Program for a Utility:</b> Team member conducting soil and groundwater investigations, NAPL collection system design, NPDES and POTW permitting, construction management, gas holder demolition, LNAPL recovery, and risk evaluations. Numerous sites received NFAs and were redeveloped.	PA
Senior Project Manager	<b>Utility – Coal Fired Power Plants:</b> Project Manager for wastewater sampling and reporting at two active plants.	MD
Assistant Engineer	<b>Landfill Closure:</b> Assisted technical team in engineering cover and stormwater design for two large landfills including specification preparation and cost estimating	NJ, PR