SME
Sevee & Maher Engineers, Inc.

ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE

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DAVID W. BROOKS

EDUCATION & TRAINING

University of Maine - M.S. in Civil Engineering (Environmental), 1989 to present
Norwich University - B.S. in Environmental Engineering Technology, 1985
40-Hour OSHA Health & Safety Training, Supervisor and Refresher Course, 1985
NGWA, MODFLOW, MODPATH, and MT3D Groundwater Modeling Course, 1998
Princeton Groundwater, Remediation Course, 2000
NGWA, Fracture Trace and Lineament Analysis Course, 2004
Groundwater Flow & Transport Modeling using Groundwater Vistas, 2009

AFFILIATIONS

Association of Groundwater Scientists and Engineers, National Water Well Association
American Society of Civil Engineers

EMPLOYMENT HISTORY

Since 1996 - Sevee & Maher Engineers, Inc.,
Project Manager - Groundwater Hydrologist

1992 - 1996 - Caswell, Eichler & Hill, Inc., Augusta, Maine
Branch Manager - Groundwater Hydrologist

1991 - CH2M-Hill, Boston, Massachusetts
Project Engineer

1989-1992 - University of Maine, Orono, Maine
Research Assistant

1985 - 1989 - Camp Dresser & McKee, Inc., Boston, Massachusetts
Project Engineer

PROFESSIONAL SUMMARY

Mr. Brooks has more than 20 years of experience as a groundwater hydrologist and environmental engineer specializing in hydrology. He has held positions as Project Manager, Senior Hydrologist and Researcher in hydrologic investigations of water supplies, landfills, and hazardous waste sites throughout the Eastern United States. His project experience is a blend of science engineering and construction; including water supply evaluations and design, wastewater evaluation, storage and treatment, hazardous waste impact evaluation and remediation, “Brown Sites” redevelopment and wetlands reconstruction, and groundwater modeling. His groundwater modeling experience includes evaluation of wastewater disposal systems, contaminant transport, and effects of groundwater withdrawal for water supply or remediation.

WATER SUPPLY & WASTEWATER ENGINEERING & HYDROLOGY

Mr. Brooks has managed or implemented water supply exploration, evaluations, design and construction at more than 20 sites in Maine, New Jersey, Ohio and New Brunswick, Canada. He has directed all phases of water supply investigations including fracture trace analysis, geophysical measurement, test drilling, hydraulic testing, computer modeling and surface water flow gaging. His wastewater experience includes nitrate evaluations for subsurface wastewater disposal systems, sewer system evaluations of industrial discharges and combined sewer overflows. The following are some of Mr. Brooks' water supply project experience.

Irrigation Water Supply

Mr. Brooks is the Project Manager for a regional water supply and demand investigation for wild blueberry and cranberry irrigation in Deblois, Maine. He directed a surface water and groundwater investigation across a 20 square mile area encompassing more than 7000 acres of blueberries within 3 separate watersheds. Mr. Brooks' innovative approach includes the combined use of surface water, groundwater and even fish hatchery wastewater to meet the 1.5 billion-gallon annual demands.

Mr. Brooks is the Project Manager for locating and developing a 1,000-gpm bedrock irrigation well in Presque Isle, Maine. He directed the fracture trace analysis and geophysical measurements to locate a well on 300-acre parcel and performed test drilling and pumping test oversight. The purpose of the well is to fill a proposed farm pond for supplemental irrigation of a broccoli and potato crop. Location of this well saved the grower approximately $250,000 by reducing the pond size from a proposed 6 acres to less than 2 acres.

Mr. Brooks is the Project Manager for locating and developing a 500-gpm bedrock irrigation well in Easton Center, Maine. He directed the fracture trace analysis and geophysical measurements to locate a well on a 300-acre parcel and performed test drilling and pumping test oversight. The purpose of the well is to fill a proposed farm pond for supplemental irrigation of a broccoli and potato crops

Municipal Water Supply Investigations and Hydraulic Testing:

Mr. Brooks was the Project Engineer for the investigation and evaluation of numerous municipal water supplies including:

Greenville, ME. Sand & Gravel Aquifer - Set up and operated extended pump testing and reduced and analyzed hydraulic data.

Kingfield, ME. Sand & Gravel Aquifer - Oversaw construction of an 8-inch production well, and set up and operated extended pumping test.

Stonington, ME. Bedrock Aquifer - Installed 6-inch test wells, and set up and operated extended pumping tests.

Howell Township, NJ Sand & Gravel Aquifer – Installed 6 and 8-inch production wells, performed geophysical logging of the formation and oversaw pumping test of the production well.

Wellhead Protection Studies, Brunswick-Topsham, Maine.

Mr. Brooks was the Project Engineer for delineation of wellhead protection zones for the Districts three wellfields. He directed test drilling and hydraulic analysis around the 3 separate wellfields to

support analytical and numerical groundwater models. One of the wellhead protection investigations was accelerated after a well field was shutdown due to a petroleum release topographically upgradient of the wells. Timely assessment of the wellhead capture area allowed the wells to be placed back on line. The results of the wellhead protection studies were amendments to Town zoning to protect the three aquifers and associated well fields.

HAZARDOUS WASTE SITE INVESTIGATION AND REMEDIATION

Mr. Brooks has been a Project Engineer and Task Leader in remedial investigations of Superfund and other industrial sites, and in pilot and full-scale treatment of contaminated groundwater and soil. He is highly qualified to design and implement multimedia sampling programs including design of monitoring well networks, surface water and sediment drainage areas, and soil sampling grids. Mr. Brooks' multi-disciplinary background enables him to take a scientific approach to design of sampling programs to meet defined data quality objectives.

Superfund Remedial Investigations. Mr. Brooks served as field manager, field engineer and health and safety officer at the following Superfund sites throughout the northeast. At these sites, he coordinated such activities as well installation, soil borings, groundwater and soil sampling, soil gas surveys, and air monitoring.

Keefe Site, Epping, NH	Tinkham Garage, Londonderry, NH
Kearsarge Metallurgical, Conway, NH	NH Ball Bearing, Peterborough, NH
McKin Site, Gray, ME	F. O'Connor Site, Augusta, ME
Union Chemical Site, S. Hope, ME	Iron Horse Park, Billerica, MA
Resolve, Dartmouth, MA	Charles George Landfill, Tyngsborough, MA
Davis Landfill, No. Smithfield, RI	Central Landfill, RI
Laurel Park Landfill, Naugatuck, CT	Fort Dix Landfill, Fort Dix, NJ

Brown Site Redevelopment. Mr. Brooks has performed over 50 Phase I and numerous Phase II Environmental Site Assessments as due diligence of property transactions throughout the Northeast and New Jersey. Of particular note is his experience in developing Remedial Action Plans (RAP) to allow redevelopment of contaminated properties in Maine, Vermont and New Jersey. Mr. Brooks has successfully completed three Voluntary Remedial Action Plan (VRAP) closures of contaminated sites in Maine.

Former Manufacturing Facility, Skowhegan, ME. Mr. Brooks led a Phase II Investigation for an interested buyer and then completed a Maine VRAP that received approval from MDEP within one month of the start of the project. Of primary concern was the potential for petroleum soil and septic tank sludge to impact residential wells in the area. The VRAP included removal of contaminated materials and monitoring of on-site and off-site wells.

Former Firing Range, Brunswick, ME. Mr. Brooks was Project Manager to determine the concentration of lead in soil from firing range backstops (soil) that had been spread across the site of a proposed recreational field. He performed sampling of the site soils and developed a Maine VRAP to cap the site. The VRAP plan was accepted by MDEP and capping and seeding completed in 2000.

Former National Guard Armory, Red Bank, NJ. Mr. Brooks was Project Manger for the Phase I and II investigation of the circa 1900's armory that housed a horse and later motorized cavalry unit. The site-contained lead paint, lead dust (from an indoor rifle range), asbestos and several underground storage tanks. Mr. Brooks developed a comprehensive, cost efficient remedial action plan. The RAP allowed the to negotiate the purchase the property at a reduced price due

to the environmental problems, and develop a state of the art indoor hockey facility using the existing historic structure.

Former Ammunition Plant, Swanton, VT. Mr. Brooks was Project Manager for the Remedial Investigation and Remediation Plan of a 19-acre historical industrial "Brown Site" adjacent to an elementary school. The site contained lead-contaminated soil, petroleum-contaminated septic tank sludge and buildings containing asbestos. Investigation activities at the site included the design; installation and sampling of a groundwater monitoring well network to evaluate contamination from several potential sources. The major focus of the project was determining the extent of lead in soil in order to assess the risk to human health and the environment. An intensive historical background investigation was performed in order to design a soil-sampling grid to encompass the entire 1910 industrial era site. Surficial soil sampling was performed by hand auger at 50- and 100-foot interval stations to a depth of 2 feet below ground surface. Geostatistical data analysis was performed in order to plot a map of the lead concentration in the soil. Based on an evaluation of the risk of soil removal versus remediation in-place, a barrier cap was proposed to the Vermont DEC and State Toxicologist to prevent exposure to or erosion of lead contaminated soil. The plan received regulatory approval.

Landfill Hydrogeologic Assessments. Mr. Brooks has performed over numerous hydrogeologic assessments for landfill closure and ongoing operations including the following projects:

Belgrade Landfill, Belgrade, Maine. Mr. Brooks was the Project Manager for the hydrogeologic investigation of the Belgrade municipal landfill. The investigation included fracture trace analysis and an EM survey to site monitoring wells. He oversaw the installation of wells in the overburden and bedrock including hydraulic conductivity slug testing. Mr. Brooks compiled geologic cross-sections and horizontal and vertical flow maps. Based on the results of the investigation, contamination was detected beyond the limits of waste in groundwater and surface water, thereby requiring landfill closure. He then worked with the civil engineer to determine the limits of waste by test pitting.

Lincoln Landfill, Lincoln, Maine. Mr. Brooks was the Project Manager for the hydrogeologic investigation of the Lincoln Municipal Landfill. The investigation included fracture trace analysis and an EM survey to site monitoring wells. He oversaw the installation of wells in the overburden and bedrock, including hydraulic conductivity slug testing. Mr. Brooks compiled horizontal and vertical flow maps. Based on the results of the investigation, contamination was detected beyond the limits of waste in groundwater and surface water, thereby requiring landfill closure. Additional investigations were performed to evaluate whether an adjacent mobile home park well was inducing contamination toward their water supply wells. Additional wells were installed and groundwater levels continuously monitored with data loggers. Based on groundwater flow nets, a groundwater recharge for the mobile home park water supply was not derived from the landfill.