Gregory P. McCarron, P.E.

### Education

BS – Environmental Engineering, Rensselaer Polytechnic Institute

### Professional Licenses & Specialty Certifications

Professional Engineer – VA (#0402052130), NY (#068887-1), RI (9258), MA (#48501), NH (#11307), ME (#9829)

Certified Compost Professional – USCC (#00017)

### Professional Affiliations

U.S. Composting Council

Solid Waste Association of North America

New York State Organics Council

### Professional Experience

As a Vice President, Mr. McCarron is responsible for overseeing SCS’s nationwide organics management initiative. Mr. McCarron works closely with SCS’s national and regional clients. Since joining SCS in 1990, he has completed projects covering all aspects of solid waste management, including composting and anaerobic digestion. Typical projects include designing, permitting, constructing, and operating compost and anaerobic digestion systems and facilities for public and private clients. His experience includes operations, project management, design, permitting, regulatory support, construction oversight, system start-up, economic analysis, and technology assessment.

Greg has 33 years of progressively-responsible experience in solid waste management, including landfill gas, landfill design, composting, waste composition studies, solid waste planning, recycling, transfer stations, and waste-to-energy systems. His experience includes planning, design, permitting, regulatory support, construction oversight, operations, project management, system start-up, economic analysis, and technology assessment.

Mr. McCarron prepares air permit applications and regulatory reporting documents; designs and prepares plans, specifications, cost estimates, and operation and maintenance (O&M) manuals for landfill gas collection systems and landfill capping projects; and provides construction oversight, system start-up, and troubleshooting. Air permit applications and reports have included Title V permits, New Source Performance Standard (NSPS), annual emission statements, landfill gas migration monitoring, and emission reduction credits. Greg’s notable project experience is summarized below.

**Chittenden Solid Waste District, VT.** Project manager for preparation of business analysis and provision of design services for CSWD's organics diversion facility, home of Green Mountain Compost.  Tasks included design services for the expansion of the existing compost operation to demonstrate site suitability and estimate construction costs.  For the business feasibility analysis, we estimated the market need for organic transfer services and identified the level of District support (subsidy) needed.

**Sullivan County, NY.** Project manager for preparation of an organics management plan feasibility study that considered the diversion of organics from residential, commercial, and institutional generators, and included a technology review for capture/collection and processing of organics. Tasks included siting, marketing, education, public outreach, and staff training, plus the design of a hybrid compost facility.

**Planning Study, Smithtown, NY.** Project director for research and evaluation of the impacts of organic waste processing facilities (OWPFs), and identification of the Best Management Practices (BMPs) for operating and regulating indoor OWPFs. Among other resources, SCS used the database of the U.S. Composting Council (USCC) to identify composting facilities throughout the country, which utilize different technologies.

**Compost Design Services, CA.** Project manager for preparation of construction documents for the Western Placer Waste Management Authority facility.  The facility will include an aerated static pile system for yard waste and a covered ASP system for food scraps.

**Compost Design Services, DE.** Project manager for preparation of construction documents for Phase 1 infrastructure.  Through this program, the private client will be able to beneficially recycle locally-generated yard/wood waste and waste streams from nearby poultry operations.

**Compost Design Services, FL.** Project manager for planning, permitting, and construction documents for a 36-acre compost facility.  Through this program, the private client will be able to beneficially recycle by-products from its agricultural operations.

**Compost and Mulch Operations Evaluation, Cumberland County, NC.** Project manager for evaluation of an existing yard waste compost and mulch facility. Tasks included review of current operations, conceptual design of site improvements, review of labor and equipment, regulatory review, and preparation of a financial pro forma.

**Compost Operations Evaluation - KS.** Technical advisor for a feasibility study to develop a windrow composting facility at a City-only greenfield site and at an existing City site. Prepared processing capacity estimates, and a site design and operating plan.

**Wellesley, MA.** Project director for sales and marketing of leaf compost from the Wellesley leaf compost facility in Wellesley, MA. Tasks included coordination and sales of existing leaf compost produced by the Town. The Town was able to earn revenue from compost that it was unable to sell.

**Town of Barnstable, MA.** Project manager for provision of review services for the proposed site plan and best management practices (BMPs) for Cape Resource's mulch and leaf composting facility expansion in Barnstable, MA. Tasks included review of the site plan and BMPs; suggestions for the future monitoring of dust, noise and odors from the facility; and, attendance at meetings.

**Town of Chapel Hill, NC.** Technical advisor for preparation of a pro forma for a composting facility. The project included a comprehensive review of solid waste collections, transportation, and disposal options.

**Agitated Bay Compost Retrofit – RI.** Technical advisor for construction of retrofits to agitated bay compost facility, handling biosolids.

**Geomembrane ASP Compost Design – NYC.** Project manager for preparation of bid documents for a compost facility using the Gore cover system at a site located in Queens, New York. Tasks included: surveying and site grading; design of working surfaces; stormwater management design; contact water management; construction oversight.

**Compost Feasibility Study - OH.** Technical advisor for a feasibility study to develop a compost facility in Lorain County to manage yard waste and food scraps. Based on the available site, prepared processing capacity estimates, site design and operating plan. Prepared compost technology assessment and financial pro forma.

**Compost and Mulch Operations Evaluation, Raleigh NC.** Project manager for evaluation of an existing yard waste compost and mulch facility. Tasks included review of current operations, conceptual design of site improvements, review of labor and equipment, regulatory review, and preparation of a financial pro forma.

**Calgary, Alberta.** Technical advisor for a value engineering study for the expansion of the City’s source-separated organics and biosolids compost facility. Tasks included a review of compost and anaerobic digestion options, including aerated static pile, in-vessel, and vertical plug-flow technologies.

**Compost Pilot Tests in VA, CT, AL.** Technical advisor for three separate compost pilot tests, with test facilities located in Virginia, Connecticut, and Alabama. Feedstocks included food scrap and biosolids. A total of seven test batches were studied over a 14-month period.

**Windrow Compost Operations – MA, RI, NJ Sites.** Project director for operations of six windrow compost facilities, managing yard, food, manure, and industrial food wastes. Tasks included site layout, permitting, and operations services, including the provision and use of a truck-mounted mixer to mix food and leaves, and a compost turner to turn the windrows.

**Compost Standards and Regulatory Support – US Sites.** Project manager for the development of minimum, standard site criteria (design, construction, and operation) for compost production for a Fortune 1000 company. Provided regulatory support for various facilities operations.

**Boulder County, CO.** Technical advisor for design services for a 50,000-ton per year covered aerated static pile compost facility. Tasks included mass/volume balance, conceptual designs, and construction documents. This project supports the Commissioners’ Climate Action strategic priority, the Zero Waste Action Plan, the Environmental Sustainability Plan, the Sustainable Materials Management Element of the Comprehensive Plan, as well as Resolution 2005-138 to be Zero Waste by 2025.

**Kern County, CA.** Technical advisor for provision of design, engineering, and technical services for an Aerated Static Pile Composting Facility at Shafter-Wasco Recycling & Sanitary Landfill, Shafter, California.

**San Diego, CA.** Technical advisor for provision of design and construction services for an Aerated Static Pile Composting Facility, located on top of the Miramar Landfill.

**Geomembrane ASP Compost Design – Various Sites.** Project manager for the design of twelve covered aerated static pile compost facilities, managing biosolids, yard, and food wastes. Tasks included the preparation of layout drawings. Sites include 8 US locations and 3 Canadian locations.

**Organics Evaluation - MD.** Technical advisor for assistance to support a strategic plan to divert food scraps from landfill or WTE disposal. Provide research on recycling programs across US and technical background of composting processes.

Solid Waste Planning and Collection System Assessments

**City of Long Branch, NJ.** Project manager for review of the present solid waste collection system and evaluation of alternative approaches for the collection and disposal of all types of solid waste in the most cost-effective manner. Tasks included the following: review and documentation of the current solid waste collection system; benchmarking of other municipalities; and, development of alternative approaches, including privatization.

**Development Authority of the North Country, NY.** Project manager for preparation of a solid waste management plan (SWMP) for Jefferson, St. Lawrence, and Lewis Counties in New York. Tasks included a review of the current solid waste management system; review of solid waste management options; evaluation of regulatory requirements; preparation of cost estimates and life-cycle analyses; attendance at meetings and public hearings; and, preparation of a draft and final SWMP.

**Midcoast Council of Governments, Bath, ME.** Project manager for solid waste technical assistance to the Midcoast Council of Governments. Tasks included development of a tool that accurately compares solid waste activities in the project area and preparation of a solid waste management plan to include organics diversion and composting.

**City of Springfield, MA.** Project manager for preparation of a solid waste management plan for Springfield, Massachusetts. The City required efficient and cost-effective short- and long-term solid waste management solutions, strategy and analysis. Tasks included evaluation of program elements; evaluation of the City's WTE contract and landfill closure; meetings with the solid waste advisory committee; development of a financial plan/rate plan; review of equipment; and preparation of a report. Evaluations included review of a pay-as-you-throw (PAYT) system and food waste composting.

Landfill Gas Engineering

**Casella Waste Systems, Inc., Hakes Landfill, New York.** Design and preparation of construction documents for LFG collection system expansions, preparation of LFG master plans, and H2S treatment system.

**Pine Avenue Landfill, Niagara Falls, NY**. LFG system design, odor control, construction quality assurance services and LFG operations and maintenance consulting for LFG gas collection, control and sulfur removal system. Work includes design of annual LFG collection system expansions and preparation of 5-year LFG system planning documents.

**Brookhaven Landfill, NY**. LFG system design, including collection system expansion and enclosed flare procurement and construction. Operations support to maintain and enhance odor control.

**Broome County Landfill, NY**. Design and CQA services for expansions of LFG collection system.

**City of New York, Closure Design for Section 1/9, Fresh Kills Landfill.** Design of final cover, landfill gas, and stormwater management systems, and preparation of construction documents.

**Development Authority of the North Country, Watertown, NY.** Project manager for landfill closure planning, including sequential fill planning, roads and drainage planning, LFG master plan, air permitting, stability evaluations, and miscellaneous consulting work.

**Waste Connections, Inc., Colonie Landfill, NY.** Project director for landfill gas management services, including LFG system expansion design to control odors.

**Cape May County Municipal Utilities Authority, Cape May, NJ.** Delivery of engineering services to prepare an air permit modification to incorporate the existing enclosed LFG flare into CMCMUA’s Title V permit. Air permit modification included a SOTA analysis report for SO2, NOx and CO. Air permit modification included a netting analysis. Design and permitting of a 120 kW microturbine facility. Prepare air permit application for end-use steam boiler (for Zapco). Prepare original air permit for enclosed flare.

**Sussex County Municipal Utilities Authority, Lafayette, NJ.** Delivery of solid waste consulting services, including annual solid waste inspection report, annual topographic survey and report, groundwater detection reports, stormwater basin detection reports, annual LFG sample report, quarterly surface emission monitoring, quarterly enclosed flare inspections, monthly LFG system monitoring and adjustment, and landfill closure and post-closure care plan update. Preparation of the design and air permit application for a permanent enclosed flare. Permit application included a state-of-the-art (SOTA) analysis report. Delivery of consulting assistance relative to the LFG system at the SCMUA Landfill, including issues related to air and solid waste facility permits, issues with Title V air permit applicability, LFG system design and evaluation, construction assistance, and general operations assistance.

**New Jersey Sports and Exposition Authority, Kearny, NJ.** Delivery of engineering services to assist with odor monitoring, NJDEP permitting, and GCCS design for the Authority's Keegan Landfill. Also, provision of GHG reporting assistance for the 1-E Landfill. Tasks included mandatory GHG reporting assistance, including performing a monitoring program evaluation and preparing a GHG monitoring plan.

**Atlantic County Utilities Authority, Egg Harbor Township, NJ.** Delivery of Title V air permit compliance support services, including preparation of the annual compliance certification, annual emission statement, semi-annual deviation reports, semi-annual SSM/NSPS reports and annual GHG report, performance of annual LFG sampling and preparation of analytical report, review of an enclosed flare stack test protocol and test results, and provision of miscellaneous support. Evaluation of hydrogen sulfide treatment technologies and preparation of a SOTA analysis report presenting findings and recommendations, as part of air permitting effort at a Title V facility. Designed modifications to LFG blower/flare station, prepared LFG collection and control system (GCCS) and startup, shutdown and malfunction (SSM) plans for compliance with NSPS and MACT requirements. Preparation of LFG header and horizontal collector design.

**Burlington County Resource Conservation Department, Mansfield, NJ.** Delivery of landfill gas management services for the Burlington County Resource Recovery Complex in Mansfield, New Jersey. Tasks included engineering, regulatory, construction and operation support relative to LFG management. The facility is operated under a Title V air permit. SCS assisted the County maintain regulatory compliance with NSPS and Title V requirements, maintain odor control, and provide LFG to an end-user. The landfill includes a 7.2 MW IC engine power plant, two enclosed flares, two boilers, and a microturbine fueled by LFG.

**Gloucester County Improvement Authority.** Preparation of NSPS GCCS design plan, pump test of existing horizontal collector system, and preparation of construction bid documents for GCCS. Provision of full time CQA during the installation of a landfill gas (LFG) collection system expansion including vertical wells, connection to existing horizontal collectors, and new header piping.

**Pollution Control Financing Authority of Camden County, Pennsauken, NJ.** Obtain LFG samples from main header pipe at existing flare station for laboratory analysis for air permitting purposes. Prepare sampling and analysis report.

**US Energy Biogas, Lafayette, NJ.** Preparation of NJDEP compliance reports.

**Cumberland County Improvement Authority, Millville, NJ.** Technical advisor for NSPS and Title V monitoring, reporting, and recordkeeping, including emissions estimates for fuel storage tanks, leachate lagoons, engine generators, landfill fugitive emissions, and particulates. Services include 6 month deviation and NSPS reports, emissions statements, compliance certifications, monthly LFG system monitoring, quarterly surface emissions monitoring, LFG system maintenance and repairs, gas system expansion design and construction CQA, GHG reporting, and other consulting services.

**Pollution Control Financing Authority of Warren County, Oxford, NJ.** Delivery of LFG management services to the Pollution Control Financing Authority of Warren County relative to the Warren County District Landfill. Services included regulatory support for a pre-construction air permit for the flares and sulfur scrubbing facility and general operations and construction support. Air permit application included the preparation of a SOTA analysis report relative to hydrogen sulfide, and the facility is in a SO2 non-attainment area. Preparation of a Design Capacity Report and Tier 1 Report for review by Warren County and to submit to USEPA and NJDEP. The report included an approved Work Plan, lab results and NMOC emission estimates. SCS also prepared the required Emission Statement and submitted to NJDEP.

**Middlesex County Landfill, NJ.** Review and evaluation of (1) landfill gas (LFG) recovery estimates and further definition of necessary LFG collection system expansions; (2) energy facility capabilities and energy user load profile; (3) all revenue and expense items; (4) performance test design and oversight; and (5) proforma review and report. Provision of due diligence services relative to the Gasco portion of a project that includes landfill gas collection from the MCUA, ILR, and Edison Landfills. Prepared landfill gas modeling and reviewed operation and maintenance costs and procedures, permits, performance test requirements and insurance. Designed the six-mile pipeline from the landfills to the 20-megawatt combined cycle power plant at the MCUA wastewater treatment plant.

**Edgeboro Landfill, East Brunswick, NJ**. Defined alignment and configuration of existing LFG collection system. Identified problems with existing LFG collection system. Design modifications to LFG collection system. Assisted with permitting of landfill gas collection system expansion. Conducted a subsurface combustion investigation. Evaluated existing LFG system by field monitoring and data review. Provided comments on design for modifications to existing LFG collection system.

**Monmouth County, Tinton Falls, NJ.** Conduct system engineering and performance testing of flare, blowers, piping and other components designed to control odors at county's active landfill. Flare was designed to meet New Jersey air permit conditions.

**Biogas Energy Systems.** Conduct on-going compliance review and support at its 13 northeast energy recovery facilities. On-going project involves maintaining regulatory compliance for projects located in New York (4), New Jersey (2), Massachusetts (3), Pennsylvania, Virginia, Vermont, and New Hampshire. Air issues involve Clean Air Act requirements, including Title V permitting and emission statements. Prepared emission reduction credit applications for 3 facilities on Long Island. Obtained NOx and CO credits.

**NRG Energy, Inc., Egg Harbor Township, NJ.** Provision of environmental permitting services for a waste gasification demonstration facility, located at ACUA's Landfill in Egg Harbor Township, NJ. Tasks included solid waste and air permitting in a non-attainment area (for NOx), and other land use permits to ensure compliance with all NJ state and federal regulations.

**BPG, Budd Lake, NJ.** Review of permit requirements for emergency generators under a NJDEP General Permit. Review of preconstruction permit requirements for base-load stationary reciprocating engines, including State of the Art (SOTA) emission performance levels. Consider add-on control technologies such as non-selective catalytic reduction (NSCR), selective catalytic reduction (SCR), or oxidation catalysts. Operational limitations on the boilers were considered as well.