

CARLO F LEBRON, P.E.

Education

BS – Environmental Engineering, University of Florida, 1999

Professional Licenses

Professional Engineer – Alabama, Florida, Georgia, Puerto Rico, North Carolina

Professional Affiliations

- Solid Waste Association of North America
- Current Director of Landfill Gas Biogas Technical Committee
- Former Director of Landfill Gas Biogas Technical Committee
- Former Vice Director of Landfill Gas Biogas Technical Committee
- Former Chairmen of Field Practices Committee for Landfill Gas

Professional Experience

Mr. Lebron is the Business Unit Director for SCS's Southeast Business Unit. He has a broad and diverse solid waste engineering background that includes projects in landfill gas, groundwater, landfill services and solid waste facilities. Mr. Lebron has been practicing solid waste engineering since 1999 and has worked on projects in more than half the country. He has experience in landfill gas collection systems and landfill gas to energy projects all across the Country. He has experience on over one hundred landfill gas projects; these include evaluation, design, permitting, construction, operation. Mr. Lebron has lead a solid waste group that has experience in construction management and oversight of not only landfill and landfill gas collection systems but soil vapor extraction systems and other solid waste construction projects. He has extensive experience with Title V permitting and other regulatory requirements associated with landfill gas collection systems such as NSPS and NESHAP.

Landfill Gas Engineering

Central County Solid Waste Disposal Facility, Sarasota County, Florida Landfill Gas Support Services 2005- Present. Produced Masterplan layout for the landfill gas collection system.

Masterplan included chronological sequencing for phasing construction of landfill gas collection system. Completed analysis, design and details for the first phase and second phase of the landfill gas collection system. Developed permit documents for the installation of the first phase of the landfill gas collection system. Developed bid documents for the landfill gas collection system and providing bid support services. Assisted the County in preparing annual operating forms as they relate to air emissions from the landfill and prepared the Title V permit renewal for the landfill. Completed Tier 2 NMOC reporting, updating NMOC reports, review of upcoming applicable regulations related to Greenhouse gas emissions. Other services included meetings with County staff to discuss the development of an end use project utilizing the landfill gas from the landfill. Provided carbon credit consultation services upon request.



Bee Ridge Landfill, Sarasota, Florida Landfill Gas Support Services 2005-Present. Reviewed proposals from developers for a landfill gas to energy project on behalf of the County, evaluate each of the proposals with respect to approach, qualifications, compensation, and schedule, and provide assistance during the selection process. Assisted the County in selecting a qualified developer for the potential landfill gas to energy project. Assisted the County in preparing annual operating forms as they relate to air emissions from the landfill and prepared the Title V permit renewal for the landfill. Supported the County in removing the landfill gas collection system from NSPS by showing the landfill produces less than 50 MG of NMOC per year. Permitted, designed, provided bid support and construction oversight for flare station replacement.

Southport Landfill, Kissimmee, Florida Landfill Gas System Expansion Design and Operation. Responsible for the analysis, design and details of the landfill gas collection system for the landfill. Reviewed system design and operational data, identified potential problem areas following an initial system evaluation monitoring. Expanded existing gas collection system to improve the collection efficiency. Produced design, details, and bid documents for construction of expansion of landfill gas collection system. Reviewed submittals and provided technical assistance with construction of the collection system. Reviewed system data and provided technical guidance during initial startup of the landfill gas collection system. Provided technical assistance during operations of landfill gas collection system.

White Street Landfill, Greensboro, North Carolina Landfill Gas Support Services. Produced Masterplan layout for landfill gas collection system. Masterplan included chronological sequencing for phasing construction of landfill gas collection system. Completed analysis, design and details for the Phase III of the landfill. Design include the use of a combination flare station/pumping station to deliver landfill gas to end user over 6 miles from landfill. Special attention had to be paid to existing landfill gas to energy project using common header to end user. Provided field engineering services during construction and start up services at the completion of construction.

Three Rivers Regional Landfill, Aiken, South Carolina Landfill Gas Support Services. Assisted TRSWA in developing a Title V permit renewal application for submittal to the SCDHEC. Provide assistance to TRSWA by reviewing the testing, analytical, and calculation methodology of the recent Tier II testing and reporting in order to advise TRSWA on options regarding installation of the gas collection and control system. During this review a discrepancy was noted in the reporting method. Correcting this discrepancy allowed TRSWA to postpone installation of GCCS. Produced an updated Tier 2 report using the actual 2004 waste acceptance rate as provided by TRSWA. Developed a Gas Collection and Control System Design plan for the Landfill to allow the site to develop an innovative landfill gas collection system. This gas collection system was designed to provide fuel for an alternative waste reduction process. Assisted the client in landfill gas to energy project by providing owners representative services with respect to technical support. This service allowed the client to receive bond funding to own and construct the project. Also assisted TRSWA in monetizing greenhouse gas credits from the early installation of the landfill gas collection system. Currently developing the next expansion of the LFGCS.

Wasatch Integrated Waste, Davis County Landfill, Davis County, Utah Landfill Gas Collection System Design/Build and Operation. Responsible for the analysis, design and details of the landfill gas collection system for the landfill and a soil vapor extraction system. Design included the use of 500 feet of 14" diameter landfill gas transmission gas line from the landfill to the flare station. Reviewed submittals and provided technical assistance with construction of the collection system. Assisted with the selection of the flare station vendor. Prepared an Operation and Maintenance manual for the landfill gas collection system. Trained personnel in the operation of landfill gas collection system, soil vapor extraction system and monitoring procedures for the methane

performance probes. The landfill became the first landfill gas to energy project in the state of Utah. This gas collection system design won the only 2006 SWANA Excellence Award for Landfill Gas Control. Provided support in the review of the compression system for the landfill gas to energy project. Produced phasing plans for the balance of the landfill gas expansions.

Richland Creek Road Landfill, Buford Georgia Landfill Gas Support Services. Reviewed original system design and operational data, identified potential problem areas following an initial system evaluation monitoring. A comprehensive well field optimization and evaluation program was conducted along with design modifications to eliminate remaining problem areas. Produced the masterplan design of the landfill gas collection system showing different future phases of landfill gas system for use in capital improvement models. Designed multiple expansions of the landfill gas collection system to meet NSPS requirements. One of the expansions included an upgrade of approximately 1,500 feet of transmission line from 12" to 20" for delivery of landfill gas to flare station. Responsibilities for the expansions include analysis, design and details of the expansion of the landfill gas collection system for the landfill. Provided owner's representative assistance such as engineers probable cost for construction for expansions, preparation of bid documents and specifications for the projects, reviewing and providing recommendation of bid proposals. Additional assistance included construction management such as field engineering services during construction, review of submittals construction oversight, and review of pay requests, surveying and production of record drawings at the conclusion of the projects. Designed soil vapor (vadose) extraction systems to assist in eliminating methane migration and groundwater contamination. Provided assistance with air regulations such as permitting of landfill gas system expansions, permitting two additional flare stations, semiannual reporting, annual compliance reporting, Title V permit renewals, and flare station performance testing.

Timberlands Sanitary Landfill, Brewton, Alabama Landfill Gas Collection System Master Plan and Design/Expansion/Operation 2003-Present. Produced Masterplan layout for landfill gas collection system. Masterplan included chronological sequencing for phasing construction of landfill gas collection system. Responsible for the analysis, design and details for several phases of the landfill gas collection system for the landfill. First phase of the design included the use of approximately 750 feet, 20" diameter landfill gas transmission line from the landfill to the flare station. Provided technical specifications for the flare station and assisted with the selection of the flare station vendor. Additional assistance included construction management such as field engineering services during construction, review of submittals construction oversight, and review of pay requests, surveying and production of record drawings at the conclusion of the projects. Provide technical assistance and compliance support during operations of landfill gas collection system.

Pineview Sanitary Landfill, Dora, Alabama Landfill Gas Collection System Masterplan and Design 2003-Present. Produced the overall Gas Collection and Control system design plan for the landfill. The design plan included chronological sequencing for phasing construction of landfill gas collection system. Responsible for the analysis, design and details of the first two phases of the landfill gas collection system for the landfill. Provided technical specifications and assistance with the selection of the flare station vendor. Provided owner's representative assistance such as engineers probable cost for construction for expansions. Reviewed submittals and provided technical assistance with construction of the collection system. Prepared an Operation and Maintenance manual for the landfill gas collection system. Assisted with Title V permit modification. Designed an expansion of the landfill gas collection system to meet NSPS requirements. Responsibilities for the expansion include analysis, design and details of the expansion of a landfill gas collection system for the landfill. Additional responsibilities included preparation of bid documents and specifications for the project and providing designer assistance during construction.

Landfill Technologies, Inc., San Juan, Carolina, Guaynabo Landfills, San Juan, Carolina, Guaynabo, Puerto Rico Landfill Gas Collection System Design/Build and Operation.

Responsible for the analysis, design and details of the landfill gas collection system at three landfills in Puerto Rico. Provided technical assistance in the development of the Air Construction Permit. Acted as point of contact for client and utilized proficiency in Spanish to assist with client concerns and translate documents. Provided technical specifications and assisted in the selection of vendors for the flare system. Provided operations assistance and training during initial startup of landfill gas collection system.

Brisbane Landfill, Brisbane, Australia Landfill Gas Collection System Review. Reviewed the current in-place landfill gas collection system and compared it to the original design brief and current United States Environmental Protection Agency (USEPA) standards. From this review developed a brief letter report on our findings. Other tasks included preparation of a conceptual design of landfill gas system using USEPA standards. Developed a cost estimate for a conceptual landfill gas system and compared that cost model to the existing landfill gas system. Prepared a conceptual monitoring layout and associated activities/procedures.

Hickory Ridge Landfill, Conley, Georgia Landfill Gas Collection System Evaluation / Optimization / Operation and Design Expansion / Permitting. Reviewed the original system design and operational data to identify potential problem areas followed by an initial system evaluation monitoring. These steps quickly identified significant design, operational and maintenance problems. Trained site personnel in operation of the landfill gas extraction system and implemented system enhancements. A comprehensive well field optimization and evaluation program was conducted along with design modifications to eliminate remaining problem areas. Designed the subsequent expansions of the landfill gas collection system to comply with NSPS requirements. Responsibilities for the expansions included analysis, design and details of the expansion of the landfill gas collection system for the landfill. Provided owner's representative assistance such as engineers probable cost for construction for expansions. Additional assistance included construction management such as field engineering services during construction, review of submittals construction oversight, and review of pay requests, surveying and production of record drawings at the conclusion of the projects. Provided assistance with air regulations such as permitting of landfill gas system expansions, permitting two additional flare stations, semiannual reporting, annual compliance reporting, Title V permit renewals, and flare station performance testing. This landfill won the 2007 SWANA Excellence Award for Landfill Gas Control.

Roberts Road Landfill, Fayetteville, Georgia Landfill Gas Collection System Expansion / Evaluation / Optimization / Operation and Design. Reviewed the original landfill gas system design and operational data to identify potential problem areas. This review was followed by an initial system evaluation monitoring. These steps quickly identified significant design, operational and maintenance problems. A comprehensive well field optimization and evaluation program was conducted along with design modifications to eliminate remaining problem areas. Recommended expansion of existing gas collection system to improve the collection efficiency. Produced design, details, and bid documents for construction of expansion of landfill gas collection system. Designed a soil vapor gas collection system to assist in eliminating methane migration and groundwater contamination. Currently providing owners representative services as it relates to reviewing landfill gas to energy developer's data.

Jefferson Davis Landfill, Welsh, Louisiana Landfill Gas Collection System Design / Build / Expansion / Evaluation / Master Planning. Reviewed the original landfill gas system design and operational data, identified potential problem areas following an initial system evaluation monitoring. Recommended expansion of the existing gas collection system to improve the collection efficiency.

Responsible for the analysis, design and details for the expansion of the landfill gas collection system for the landfill. Produced design, details, and bid documents for construction of expansion of landfill gas collection system. Reviewed submittals and provided technical assistance with construction of the collection system.

Key Road Landfill, Atlanta, Georgia Landfill Gas System Operation. Provided field support during the start up of the landfill gas collection system for the landfill. Reviewed system data and provided technical guidance during startup of the landfill gas collection system.

Morgan Falls Landfill, Atlanta, Georgia Landfill Gas Collection System Operations Assistance. Responsible for the assistance during the start up of the landfill gas collection system for the landfill. Reviewed system data and provided technical guidance during startup of the landfill gas collection system.

Central Disposal Facility, Viera, Florida Landfill Gas Collection System Review. Reviewed system design and operational data, identified potential problem areas following an initial system evaluation monitoring. A comprehensive well field optimization and evaluation program was conducted along with design modifications to eliminate remaining problem areas.

Enoree Landfill, Greenville, South Carolina Landfill Gas Collection System Master Plan. Produce Masterplan layout for landfill gas collection system. Masterplan included chronological sequencing for phasing construction of landfill gas collection system.

Allied Waste, Colonial Landfill, Sorrento, Louisiana Landfill Gas Collection System Evaluation. Field reviewed existing landfill gas collection system and reviewed existing design drawings. Produced comprehensive design drawings showing entire landfill gas collection to assist landfill operations in understanding current system.

Cedar Hills Landfill, Seattle, Washington Landfill Gas Collection System Design. Responsible for the analysis, design and details of the landfill gas collection system for the landfill. Produced specifications and provided technical assistance during construction.

Ponce Landfill, Ponce Puerto Rico Landfill Gas Support Services 2004-Present. Providing continuous service since 2004, these included: Analyzed site data to determine if a landfill gas collection system was required. Produced Gas Collection and Control System Design plan for landfill gas collection system. Masterplan included chronological sequencing for phasing construction of landfill gas collection system. Additionally, completed analysis, design and details for the three phases of the landfill gas collection system. Provided designer assistance for all three expansions. Applied for the sites Title V permit renewal and Air Construction permits. Completed annual compliance and emissions reporting and semiannual reports. Developed permit applications for a new flare station and a compilation of all construction permits into one. Supported GHG reporting at the landfill. Providing compliance, operations and maintenance support for the landfill gas collection system. Supported the development of budgetary models for the site

Salinas Landfill, Salinas, Puerto Rico Landfill Gas Support Services 2013-Present. Reviewed draft Title V permit. Completed annual compliance and emissions reporting and semiannual reports. Supported GHG reporting at the landfill. Completed several Tier 2 sampling events at landfill. Prepared a LFG remediation workplan for the mitigation of methane at the site. Supported the development of budgetary models for the site.

Rock Prairie Road Landfill, College Station, Texas Landfill Gas Collection System Masterplan, Design and assistance with LFGTE development. Produced Masterplan layout for landfill gas collection system. Masterplan included chronological sequencing for phasing construction of landfill gas collection system. Completed analysis, design and details for the first phase of the landfill gas collection system. Reviewed submittals and provided technical assistance with construction of the gas collection system. Reviewed system data and provided technical guidance during initial startup of the landfill gas collection system. Reviewed proposals from developers for a LFGTE project and provided recommendation.

Shoal Hole Road Landfill, Dawson County, Florida Landfill Gas Evaluation. Reviewed historical data to determine the feasibility of utilizing the landfill gas collected from the gas collection system for a gas to energy project. Produced an evaluation report summarizing our findings and recommendations for the client to implement.

Bees Ferry Landfill, Charleston, South Carolina Landfill Gas Evaluation. Reviewed historical data and projected future data to determine the feasibility of utilizing the landfill gas for a gas to energy project. Produced a report summarizing our findings and evaluation. Supported Tier 2 sampling for the facility.

Shelton Landfill, Shelton, Connecticut Landfill Gas Mitigation Assessment. Reviewed an existing gas mitigation assessment report to determine the feasibility of installing a landfill gas to energy project. Project included reviewing landfill gas data to determine the adequacy of the collection system and noted items for improvement.

Eastern and New Georgia Landfills, Birmingham, Alabama Permitting and Regulatory Assistance 1999 - Present. Since 1999 provided permitting assistance with respect to air regulations for both landfills on a semi-annual basis as required by NESHAP regulations. Additional assignments included conducting Tier 2 landfill gas sampling at Eastern Area landfill. Based on the testing results and subsequent calculations, exempted facilities from annual surface emissions sampling and reporting. Requested and received letter of determination from EPA allowing variance of Tier 2 monitoring at New Georgia Landfill. Prepared Title V permit applications for both landfills. Supported the City with Greenhouse Gas reporting and Title V permit applications. Completed HELP and seismic models for both landfills.

Morris Farms Landfill, Hillsboro, Alabama Landfill Gas Collection System Masterplan and Design. Produced the gas collection and control system design plan for the landfill. Design plan included chronological sequencing for phasing construction of landfill gas collection system and an operations & maintenance manual. Responsible for the analysis, design and details of the first phase of the landfill gas collection system for the landfill. Produce specifications for the flare station and assisted with the selection of the flare station vendor. Reviewed submittals and provided technical assistance with construction of the collection system. Assisted with the facilities Title V permit modification to include the new landfill gas collection system.

Hanes Road Landfill, Winston Salem, North Carolina Landfill Gas Collection System Design. Evaluated projected waste disposal rates and designed of 6200 foot 24" diameter HDPE landfill gas transmission line for proposed expansion area of the landfill. Design included the use of condensate sumps, air lines and dual contained condensate return lines. Developed bid documents and assisted with prebid meeting to address contractor's questions. Additional design services included producing bid documents for the expansion of the landfill gas collection system and providing construction support.

Perdido Landfill, Cantonment, Florida. Landfill Gas Support Services 2016-Present. Performed visible emissions testing as required by the facilities Title V permit. This testing incorporated the use of EPA's Method 22 "Visual Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Flares". Notified the local regulatory agency within the require time frame to witness the testing and produced a letter report along with appropriate documentation at conclusion of project. Providing monthly review of landfill gas data, annual and seminannual reporting, review of SSM plans and phasing plans. Developed a landfill gas recovery model.

Arizona Street and South Chollas Street, San Diego, California. Landfill Gas to Energy Feasibility Study. Assisted the City in the feasibility analysis of landfill gas to energy project at both landfills. Reviewed historical data and past studies related to the landfill. Contacted several gas to energy vendors and prepared a comparison matrix between the different vendors and their products.

Chateau Fresno and Chestnut Avenue Landfill, Fresno, California Landfill Gas Collection System Monitoring. Provided assistance with air regulations such as reviewing and providing oversight in monitoring of landfill gas collection system with respect to NSPS regulations.

Crazy Horse and Johnson Canyon Landfill, Salinas, California. Response to RFP for Green Power. Calculated the potential amount of power that could be produced from landfill gas at both the Crazy Horse and the Johnson Canyon Landfills. This information was used in the application to provide "Green Power" from both landfills to SMUD or NCPA.

Skunk Creek Landfill, Phoenix, Arizona. Peer Review of Landfill Gas Collection System Bid Documents. Reviewed 90% design plans and bid documents at the Skunk Creek Landfill for the City of Phoenix, Arizona. Provided comments and recommendations to assist in the construction of the gas collection system.

Los Laureles and Matatlan Landfill, Guadalajara, Mexico. Site Evaluation for Potential Landfill Gas to Energy Project. Visited and evaluated two landfills for the potential of gas to energy project. Evaluation included sampling select gas vents, taking liquid levels, reviewing site design, operations and filling practice. Produced simple letter report with our findings for the client to utilize in their decision.

Contract Review for Landfill Gas to Energy Project. Reviewed draft copy of EPC contract between contractor and the Authority. Provide comments and language to support the client.

North and South Dade Landfill, Miami Dade County, Florida. Owner's Representative Services for Potential Energy Project and LFG Compliance Support. Assisted the County in developing an Invitation to Bid to develop a landfill gas to energy project at both the North Dade and South Dade Landfill. Additional services included assisting the County in the selection process and providing on-call consulting services related to the landfill gas to energy project. Supported County with O&M and compliance support.

South Dade Landfill, Miami Dade County, Florida. Flare Station Feasibility Study. Assisting the County in reviewing alternative flare station designs to replace the existing control device. Services include: review of location, permit-ability, capital costs, vendors, capacity to interact with existing conditions, etc.

Miami Dade County Title V Permit Renewal South Dade Landfill, Miami, Florida Title V support services. Developed expedited permit renewal application for the South Dade landfill to

avoid missing permit renewal deadline. Application was prepared on line utilizing regulatory software. Communicated with client and submitted drafts for review.

Twin Chimneys Landfill, Greenville, South Carolina Landfill Gas Support Services. Developed the Title V air permit application and prepared the first NMOC report for the landfill. Developed protocol for Tier 2 portion of NMOC project for the City and produced the Tier 2 report to meet regulatory deadlines. Designed a landfill gas collection system and provided construction support services.

South Cushman Landfill, Fairbanks, Alaska Landfill Gas Support Services, Volume Calculations and Financial Assurance. Developed technical memorandum that addressed landfill gas issues for the Borough at the active landfill. This memorandum discussed, gas generation, regulatory and compliance issues, gas to energy, leachate disposal and provided a conceptual landfill gas design. Designed the gas collection system for the MSW area of the landfill. The gas collection system design had to account for leachate recirculation system to be implemented. Developed construction and bid documents for Borough and provided bid assistance services.

Southeastern Public Service Authority (SPSA), Multiple Landfills, Suffolk, Virginia Landfill Gas Collection System Evaluation/Optimization/Operation and Design Expansion/Permitting. SPSA has one active landfill and three closed sites under its jurisdiction. For the active site, Mr. Lebron and his team reviewed original system design and operational data to identify potential problem areas followed by an initial system evaluation monitoring. These steps quickly identified significant design, operational and maintenance problems. Trained site personnel in operation of the landfill gas extraction system and implemented system enhancements. A comprehensive well field optimization and evaluation program was conducted along with design modifications to eliminate remaining problem areas. Designed subsequent expansions of the landfill gas collection system to meet NSPS requirements. Responsibilities for the expansions include analysis, design and details of the expansion of the landfill gas collection system for the landfill. Provided owners representative assistance such as engineers probable cost for construction for expansions. Provided assistance with air regulations such as permitting of landfill gas system expansions, semiannual reporting, annual compliance reporting, and Title V permit renewals. For the closed sites, Mr. Lebron and his team reviewed quarterly data, communicated with VDEQ staff, developed remedial action plans and implemented them as necessary. Trained staff in monitoring and compliance with Title V permitting.

Richmond Landfill, Richmond, Virginia Landfill Gas Support Services. Developed landfill gas section for Termination of Post Closure Care report for the Landfill. Reviewed historical data related to methane monitoring probes and landfill gas collection system. Final report included detailed graphics depicting current methane readings. Lastly, the termination report included a discussion of the gas monitoring requirements contained in the facility permit, applicable regulations, gas remediation plan, post-closure care plan, along with communications with the Department.

J.C. Elliott Landfill, Corpus Christi, Texas. Landfill Gas Support Services. Developed a landfill gas collection system expansion design as part of the closure project for the J.C. Elliott Landfill. This service included a site visit to evaluate existing conditions of the landfill gas collection system, meetings with the client to go over various design stages and provided construction support services during installation. A comparison of the different alternatives (passive vs. active) was developed to allow the City to evaluate the opportunities associated with each alternative. As part of the bid package a flare station upgrade was required for the enclosed flare. Additional services include development of an RFP for a landfill gas to energy project for either of the City's landfills.

Arlington Landfill, Arlington, Texas. Landfill Gas Design. Developed landfill gas collection system expansion for the Arlington Landfill. This project was completed for a landfill gas contractor for the landfill gas to energy owner at the landfill, operated by Republic Waste Services. The purpose of the expansion was to allow the energy developer to collect more landfill gas to develop additional energy.

Leon County Solid Waste Management Facility, Leon County, Florida. LFGTE proposal evaluation, Carbon credit support, Title V reporting, Reviewed proposals for potential landfill gas to energy project at the landfill and provided recommendation to the County. Assisted the County in registering the landfill with a carbon credit registry to allow the County to monetize emission reductions from the flare station. Visited the landfill and provided the County with recommendations to upgrade flare station to allow for carbon counting. Supported the County by developing annual operating reports as required by Title V permit to maintain compliance and Greenhouse gas reports.

Williamsburg County Methane Migration Remedial Action Plan and Carbon Credit Analysis. Developed methane migration remedial action plan to mitigate elevated levels of methane noted at methane monitoring probes. This plan implemented a phased approach to allow various low cost techniques to be initiated. A carbon credit analysis was prepared to ascertain the possibility of Williamsburg County implementing a greenhouse gas reduction project at the landfill. The analysis discussed different markets, local and national programs, gas modeling and generation, potential revenue outcomes.

Pheasant Point Landfill, Omaha Nebraska. Landfill Gas Collection System Design. Designed landfill gas collection system for first phase of landfill. This included developing design calculations and connecting into existing landfill gas to energy plant. Phase 1 design was implemented to meet NSPS requirements.

New River Regional Landfill Raiford, Florida. Title V Support Services. Assisted New River Solid Waste Authority in maintaining compliance with Title V permit conditions, this included emission reporting and assisting with implementing a Tier 2 program for the landfill. This included developing sampling protocol for approval by EPA and FDEP.

Veolia Environmental Services, Groundwater and Methane gas monitoring Pecan Row Landfill, Valdosta, Georgia. Quarterly Monitoring. Performed quarterly monitoring of methane monitoring probes at landfill. Sampled landfill gas from the blower system for analysis for a potential landfill gas to energy project.

Northwest Landfill, Hernando County, Florida Title V and Tier 2 Support Services. Tasked with assisting Hernando County perform a Tier 2 evaluation of the landfill and prepare a Title V permit application. Both of these items needed to be completed on a fast track basis however, per the FDEP it was suggested the Tier 2 report could be included in the Title V permit application. The project quickly mobilized a sub contractor and lab to assist in the process and included the results in the permit application as requested. This project was made particularly challenging with a landfill gas to energy developer on site that also had emission sources that needed to be addressed.

SWALCO Independent third party investigation of landfill gas odors. Supported the odor investigation of the Countryside Landfill for the Solid Waste Agency of Lake County, Illinois. Based on complaints from neighbors, we were tasked to perform a field investigation and report our findings to the client on the adequacy and effectiveness of the existing landfill gas collection system.

JED Landfill LFGTE proposal evaluation and LFG cost estimate. Reviewed proposals for potential landfill gas to energy project at the landfill and provided recommendation to the client.

Rowan County Carbon Credit Analysis. A carbon credit analysis was prepared to ascertain the possibility of Rowan County implementing a greenhouse gas reduction project at the landfill. The analysis discussed different markets, local and national programs, gas modeling and generation, potential revenue outcomes.

Santa Rosa Landfill, Milton, Florida LFGTE proposal review and Landfill Gas System design. Reviewed proposals for potential landfill gas to energy project at the landfill and provided recommendation to the County. Recommendations included a simple table addressing the pro's and con's of each. Develop a design for the landfill gas collection system and provided construction management support.

Confidential Site, Caribbean Site Visit, Site Evaluation and Estimation of Potential Landfill Gas Recovery. Completed a site visit to evaluate existing conditions and ascertain the current collection capability and efficiency based on available data. Develop a model for the amount of landfill gas generated at the landfill based on data collected. Compiled a simple letter report detailing our findings and providing the amount of potential energy available from the landfill based on the models developed.

Osceola Road Landfill, GCCS Design, Permitting, Seminole County, Florida. Provided quality control review in the design of the replacement of several LFG extraction wells and installation of new dedicated dewatering sumps drilled into the landfill. Provide PD support for Title V permit renewal,

Lena Road Landfill, LFG Support Services, Manatee County, Florida 2015-Present. Perform a LFGE Feasibility study for the Lena Road Landfill. Collected site specific data and produced a landfill gas recovery model. Developed a Potential End Use study for the excess landfill gas not being captured and utilized. Focused on the selected end use and developed a feasibility study for the project. Supported the County in completing the US Energy Information Administration forms for the landfill gas to energy project at the Lena Road Landfill. Provide annual compliance support for the landfill.

Zemel Road Landfill, LFG Support Services, Charlotte County, Florida. Engineer of Record for various landfill gas projects at the Zemel Road Landfill. These included Greenhouse Gas Reporting and Tier 2 sampling.

Multiple Sites, Waste Management, Florida. Developed Compliance documents for Client to submit to State of Florida. Developed Electronic Annual Operating Report and Emissions fee spreadsheet for the client to utilize. Project Director who oversaw monthly reporting and semiannual reports for WM.

Orange County Landfill, LFG Support Services, Orange County, Florida. Project Manager for the sampling and analysis of four flares at the landfill for sulfur and ammonia. Supported County with SEM reporting and odor study support.

Multiple Sites, Advance Disposal (GFL or WM), Alabama, Georgia and Louisiana 2016-Present. Provided GCCS design services, bid support, construction management and project management support for several sites throughout the south region for Advance. Served as Program manager for LFG services. Provided budgetary support for annual expansions and permitting.

Steelfield Road Landfill, LFG Support Services, Bay County, Florida. Supported various landfill gas compliance projects at the Steelfield Road Landfill. These included Title V air compliance reporting and Greenhouse Gas Reporting.

Huntsville Landfill, LFG Support Services, City of Huntsville, Alabama. Supported various landfill gas compliance projects at the Huntsville Landfill. These included Title V air compliance reporting, Tier 2 sampling and Greenhouse Gas Reporting.

Three Corners Landfill, LFG Compliance Support Services, EC Waste, Alabama. Assisted with Title V air compliance reporting.

Salinas and Ponce Landfill, LFG Compliance Support Services, EC Waste, Puerto Rico. Assisted with Title V air compliance reporting and Tier 2 sampling and reporting.

Indian River County Landfill, LFG Modeling Support Services, Indian River County Eco District, Florida. Assisted with landfill gas recovery projections study and sampling.

SLD Landfill, Odor Mitigation Support Services, Progressive Waste (Waste Connections), Florida. Assisted with developing H₂S gas generation model, developing a preliminary gas system design, meeting support with client, regulators, and community as well as providing air

Heart of Florida Title V support services, ACMS (Waste Connections), Florida 2019. Provided engineering support for Title V reporting and GHG reporting. Completed Tier 2 testing and reporting at the landfill

Landfill Management

Volusia County, Florida, Landfill Engineering Services. Client Manager for multi-year, general engineering continuing services for solid waste management consulting contracts with Volusia County, Florida. Projects have included providing financial responsibility reporting for each year of the contract. During the first year, noted a discrepancy from the previous report. The correction allowed the County to remove over \$1,000,000 from post closure care. Other services provided include securing permit renewals for closure, cell construction oversight and Title V. Mr. Lebron also participated in the Closure, Cell construction and landfill gas design projects at the Tomoka Farms Road Landfill. He supported groundwater assessment and characterization projects at the closed Plymouth Avenue landfill and the active Tomoka Farms Road landfill. Additional services included providing construction quality assurance for landfill gas construction projects at the active landfill, fill sequencing designs and a masterplan for the landfill gas collection system.

Serving as project manager for the Southeast Area Expansion landfill at the Tomoka Farms Road Landfill. The future 271-acre landfill development area is projected to provide over one hundred years of sanitary landfill disposal for Volusia County. The scope of services details engineering services to assist the county with developing a solid waste permit application package for the construction and operation of the southeast landfill area to the Florida Department of Environmental Protection, design of supporting infrastructure (landfill entrance road modifications, leachate collection system), and providing bid support services for the selection of a contractor for construction of the first 20-acre disposal cell of the southeast area landfill.

Central Disposal Facility, Viera, Florida Solid Waste Permit Renewal. Prepared the solid waste permit renewal for the Central Disposal Facility. This permit needs to be renewed every five years per

Florida DEP regulations. Worked closely with County staff to ensure the permit renewal met all of its objectives. Also responded to the limited comments the DEP had on the renewal application.

Caruthers Mill Greenfield C&D Landfill site development, Walton County, Georgia. Landfill Development. Developed and permitted a construction and demolition landfill from a Greenfield site. Services include performing a site suitability study, hydro-geologic investigations, zoning assistance, meeting with state regulators, wetlands delineation, applying for and receiving a letter of map revision for flood plains. Additional services included development of permit documents and development of volume calculations for multiple landfill footprint scenarios.

Zemel Road Landfill, Punta Gorda, Florida Solid Waste Permit Renewal. Prepared the solid waste permit renewal for the Zemel Road Landfill. This was one of the first permits reviewed and approved by FDEP Tallahassee. Worked closely with County staff to ensure the permit renewal met all of its objectives. There were no comments from the FDEP on the permit renewal.

Bee Ridge Landfill, Sarasota, Florida Landfill Support Services 2016-2017. Evaluated the performance of the Bee Ridge Landfill slurry wall and the gradient control system near MW-17S/PZ-17S. Documented findings and delivered solutions for the County to implement. The assignment also called for the upgrade of the air compressor that operates the gradient control system.

Lena Road Landfill, Landfill Support Services, Manatee County, Florida 2018-Present. Provide annual compliance support for the landfill. This includes monthly oversight of slurry wells, NPDES, life of site calculations, annual solid waste reporting, financial assurance, groundwater monitoring and other duties to support the County with compliance with their solid waste permit.

Hillsborough County, Landfill Support Services, Hillsborough County, Florida 2015-Present. Provided solid waste engineering support for the active and closed sites for Hillsborough County. Support varies but generally includes providing engineering assistance and consultation to the Hillsborough County Transportation & Utilities Services, Solid Waste Management Division (SWMD) for scheduled activities or when issues or special engineering analysis/design are needed for the Southeast County Landfill (SCLF). Provide engineering assistance and consultation to the SWMD for leachate level corrective actions and regulatory compliance assistance at the SCLF. Assist the SWMD to operate and maintain the active gas collection extraction wells, header and piping systems, and flare systems to comply with FDEP and permit regulations for air emissions, landfill surface emissions, Title V permit compliance, and system performance.

DeKalb County, Landfill Support Services, DeKalb County, Georgia 2018-Present. Providing professional landfills engineering services required for constructing, operating, permitting, and compliance at any of DeKalb County Sanitation Division's solid waste management facilities. Services include routine compliance support, Capital Improvement Projects and other services as requested.

Heart of Florida Landfill, Cell Expansion Support Services, ACMS (currently owned by Waste Connections), Florida 2019. Became successor engineer for cell expansion project, prepared permit application package for Major Modification to cell expansion project.

Cayey Landfill, Closure and Post Closure Plan, GES Environmental, Cayey, Puerto Rico 2017. In 2016, the U.S. Environmental Protection Agency (EPA) issued the Municipality of Cayey the Administrative Order on Consent No. RCRA-02-2016-7304 (Consent Order). The Consent Order requires that a Closure and Post-Closure Plan meeting the requirements set forth in 40 CFR 258.60

and 258.61 for the Landfill be submitted to EPA by July 1, 2017. SCS developed the Closure Plan to meet the requirements established in the Consent Order.

Osceola County, Landfill Support Services, Southport and Bass Road Landfills, Florida. Providing professional landfills engineering services required for Osceola County's two closed landfills and any other solid waste services requested. Annual services include groundwater and combustible gas monitoring and reporting. Miscellaneous support services are provide at each of the landfills for on call support. Repaired settlement around landfill gas vents.

Solid Waste Studies

Brevard County Solid Waste Management Department, Viera, Florida Transfer Station Siting study. At the request of Brevard County, Mr. Lebron performed a siting study for the County to determine a feasible location for a transfer station in the southern portion of the County. This site would initially accommodate a citizen convenience center for the drop off of yard waste, white goods, etc. and then develop into a transfer station.

Brevard County Solid Waste Management Department, Viera, Florida Household Hazardous Waste Facility. Mr. Lebron was the project manager for the development of a HHW for the County at the old Melbourne Transfer Station site. Mr. Lebron worked with a team of a structural, electrical, mechanical and civil engineers and architects to permit, bid and construct this solid waste facility to serve the citizens of Brevard County. Mr. Lebron worked with local and state regulators, County staff and other stakeholders to expedite this project.

City of Atlantic Beach, Atlantic Beach, Florida. Feasibility Study. Performed a conceptual feasibility study to ascertain the benefits of the City constructing and operating a solid waste transfer station. Issues reviewed include distance to landfill, site development costs, and operations and maintenance. Meeting with City staff to discuss study and assist in answering logistic questions associated with typical transfer station operations.

City of North Port, North Port, Florida Transfer Station Siting study. At the request of the City of North Port, Mr. Lebron commenced a siting study for the City to determine a feasible location for a transfer station. This project included working closely with solid waste staff and other department members. Mr. Lebron developed siting criteria and worked with internal GIS staff to review potential locations appropriate for such a facility. Mr. Lebron facilitated several meetings for members of the community to present their questions and concerns.

Due Diligence

Confidential Client, multiple sites in the Southeast. Provided due diligence support for a private client during their acquisition of several solid waste disposal companies. Support included site visits, review of past environmental compliance documents and budgeting forecasts. Developed a technical report for our clients addressing the potential liabilities of the acquisition.

Publications and Presentations

Lebron, C.F., Dolan, M., Ward, P., , "Panel of Landfill/Recycle Operators", Panel Discussion at Spring Conference, SWANA-Alabama Chapter, Orange Beach, AL, April 2014.

Lebron, C.F. , "LFG in Action," *MSW Management*, January/February 2014.

Lebron, C.F., “Creating a Winning Solution to Landfill Gas Management”, Presentation at Fall Conference, SWANA-North Carolina Chapter, Wilmington, NC, October 2010.

Lebron, C.L., Hardy, A., “It Came from the Swamp Explosive Gas Fingerprinting at the Regional Landfill”, Presentation at Summer Conference, SWANA Virginia Old Dominion Chapter, Williamsburg, Va, June 2008.

Lebron, C.L., “Turning Bad Gas into Good Money”, Presentation at Winter Conference, SWANA Florida Meeting, January 2008.

Lebron, C.F., Roberts, M., Miller, J., Gallagher, N., “ Going Over or Under? Addressing the age old debate between Landfill Gas Collection Systems and Landfill Caps”, Proceedings from SWANA 30th Annual Landfill Gas Symposium, Monterrey, CA, March 2007.

Lebron, C.L., “So You’re Developing a Landfill”, Presentation at Quad State SWANA, Myrtle Beach, August 2005.