MICHELLE P. LEONARD

Education

BS – Environmental Studies (with honors), University of California, Berkeley, 1980

Professional Affiliations

Solid Waste Association of North America (SWANA), International Board Past President; Recycling and Special Waste Technical Division Past Director; Southern California Founding Chapter, Board of Directors (2009 to Present)
Past Director, Southern California Waste Management Forum
Past President, Women's Environmental Council

Professional Experience

Ms. Leonard has 35 years of experience in environmental consulting and project management, with expertise in solid waste management planning and facilities. She has assisted public and private sector clients in the preparation of solid waste management plans; designed and implemented waste reduction, recycling, and reuse programs; and evaluated existing programs to identify opportunities to reduce, reuse, and recycle solid waste. She has a strong working knowledge of solid waste management regulations and practices, and has presented numerous successful projects to city, county, and state regulators.

Notable projects that Ms. Leonard has been involved in are described below.

Keurig Green Mountain Class Action Lawsuit, US District Court, Northern District of California, Expert Report. Ms. Leonard providing expert analysis of the case involving the labeling and sale in California of Keurig Green Mountain, Inc.'s single-service coffee pods labeled as recyclable. She was retained by the Plaintiff's counsel to evaluate the extent to which the products are recyclable. As part of the evaluation, Ms. Leonard analyzed data and documents regarding the recyclability of the products. She also conducted an extensive survey of Material Recovery Facilities (MRFs) in California to determine the ability of these facilities to accept and correctly sort the materials and divert them from landfills.

Truth in Advertising Keurig Green Mountain Coffee Pods Deceptive Marketing Research
Truth in Advertising requires assistance in their investigation into the recyclability of K-Cups. Specifically, the seek an understanding of the ability of K-Cups to be recycled across the United States. TINA will use the information provided by SCS to present their findings of deceptive marketing by Keurig that their products are recyclable. Towards that end, SCS is conducting surveys of major US cities to identify whether K-Cups are recycled through their residential curbside or drop-off recycling programs. SCS approach includes a thorough review of published reports, outreach to industry experts, data collection and analysis, and preparation of a comprehensive report.

Analysis of California's Bulky Item Collection of Mattresses and Box Springs. Project Manager for the preparation of a survey and study to understand methods that are being used to collect mattresses and box springs, specifically municipal solid waste programs that pick up the units as part of their municipal bulky item collection program. This information will assist the Mattress Recycling Council (MRC) to provide resources to residents on how they can recycle their mattresses and box springs. MRC is also interested to learn if there is a connection between the lack of

collection programs and illegal dumping of mattresses and box springs. The data from this study will be used to enhance education and outreach and identify gaps in the program.

Extended Producer Responsibility (EPR) Study and White Paper. As Project Manager, Ms. Leonard managed the preparation of the EPR while comparing European, Canadian, and U.S. policies and programs for value and effectiveness. The study evaluated definitions from municipal solid waste (MSW), recycling rates, and methodologies. She compared the EPR-reported impacts in recycling within the entities.

County of Los Angeles Department of Public Works (LACDPW), Smart Business Recycling Program and Commercial, Institutional Recycling Program, Los Angeles, CA. As Project Director, Ms. Leonard directs SCS's involvement with the LACDPW to meet requirements of the California Integrated Waste Management Act (IWMA) of 1989, Assembly Bill (AB) 341 Mandatory Commercial Recycling (MCR), AB 1826 Mandatory Commercial Organics (MCO), and SB 1383, the Short-Lived Climate Pollutants Act. The goal of the Program is to help businesses reduce waste and preserve landfill capacities. Objectives include assisting the LACDPW to achieve recycling and diversion while complying with state requirements. The contract includes a wide variety of types of work, ranging from complex site visits to reporting, graphic design, and procurement of promotional items.

SCS is also assisting the County to implement its Zero Waste Plan, which establishes diversion strategies for the region, County operations, and the County unincorporated communities. As part of this project, SCS is providing Business Technical Assistance, including commercial recycling audits, recommendations for program enhancements, and assisting with recycling program implementation at County facilities, and at large waste generators. To date, SCS has prepared a Zero Waste Event Guide, evaluated operations at six County facilities, developed an awards program for facilities that are achieving high levels of diversion, and identified and procured outreach materials and recycling containers for distribution to County facilities and other businesses.

San Gabriel Valley Council of Governments, Edible Food Recovery Program/SGVFRESH
SCS was hired by SGVCOG to initially provide support to 10 San Gabriel Valley cities. SCS developed the edible food generator capacity study; created education and outreach materials; designed and implemented an inspection methodology for FROs and EFGs, and is now assisting with ongoing efforts to comply with SB 1383, including conducting inspections at nearly 500 EFGs and FROs, and establishing a Food Recovery Hub program to expand capacity for recovering and distributing food. The program now includes a total of 18 cities.

Fresno County, SB 1383 and Sustainable Materials Management, Fresno, CA. As Project Director, Michelle led the SCS Team in preparing a solid waste masterplan that meets the County's 5- to 20-year goals, while taking into consideration the economic, social, and environmental issues of various solid waste management policies, programs, and infrastructure options for SB 1383. We have developed a food donation capacity study for the County that identifies local organizations that collect and donate food. The County has franchise agreements and a permit system for residential and commercial collection, but service is not mandatory. Therefore, we are evaluating the County's existing agreements with its haulers to develop collection and service options that will enable the County to incorporate SB 1383 requirements. We are conducting a capacity analysis to identify options for the processing of organic materials. We will also review the existing County ordinances and create language for necessary changes to ensure regulatory compliance.

Michelle also oversaw the completion of the 2024 Organic Waste and Edible Food Recovery Capacity Study for the County. The SCS Team developed a questionnaire to survey regional organics processing facilities and edible food recovery capacity inf the County and surrounding region. The Team identified quantities and types of organic material by surveying the cities in the County, and

reviewing CalRecycle records; prepared for and conducted interviews with facilities, agencies, and organizations; surveyed regional facilities and summarized findings; identified quantities and types of organic material banned from landfills; identified organic materials accepted and processed by existing organics facilities; and developed a final report.

Iowa Department of Natural Resources, Sustainable Materials Management Visioning Project. Project Director. The Iowa Department of Natural Resources (DNR) contracted with SCS to prepare the SMM Vision for Iowa as a continuation of the work that began in 2019. The project focused the discussion on specific materials identified by stakeholders as materials that are presently disposed but could be used more sustainably throughout their lifecycle to minimize waste and associated environmental impacts. The project included research, meetings, input and discussions of stakeholders representing a diverse cross-section of the State, including local and state government, industry, academics, solid waste and recycling, and non-profit organizations and agencies. The project report provides a summary of discussions held, priorities identified, and strategies developed to assist the State investigate a path to envision a more sustainable, productive system to manage the States' resources for their highest and best use, to achieve the strongest economic viability of our manufacturing industries, and to protect public health and the environment.

Iowa Hub and Spoke Recycling Study. Project Director. The Iowa Department of Natural Resources contracted with SCS to inventory existing recycling operations within rural Iowa and assess the feasibility of creating rural partnerships with a hub-and-spoke type of system. The study included identifying existing rural recycling services, service providers, and recycling gaps, and providing strategies to fill recycling gaps, within the structure of a regional hub-and-spoke recycling system. SCS prepared a report which summarized our research and provided recommendations for implementing this type of recycling system as a means of increasing rural recycling participation, while maintaining and improving rural recycling efficiencies and economics.

Technology Assessment, Permitting, and Market Analysis, ECONWARD. Project Director. SCS has assisted ECONWARD for over five years with the evaluation, analysis, and permitting of new technology to convert organics and other MSW streams into a biomass for landfill diversion, energy production, and composting enhancements. The technology, developed in Spain, will process 7 tons per hour of material, and is suitable for development in conjunction with MRFs, landfills, and other industrial uses.

AMP Robotics Processing Technology Services
SCS was retained to conduct several studies of processing technologies under development by AMP Robotics. The studies provided AMP with an understanding of the applicability and feasibility of their technologies to meet the demands of the alternative technology markets. AMP was developing new pre-processing technologies and needed to understand the municipal solid waste end markets that might benefit from pre-processing of various MSW feedstocks as well as the most suitable end markets/partnerships for such efforts. Processing technologies of primary interest include anaerobic digestion, gasification, pyrolysis, and other waste to energy and mechanical processes.

AMP also desired an overview of existing mixed waste processing MRFs and other MSW processing systems so they could understand the best of breed designs and processing systems deployed to date (in the United States and Europe) and how they pre-process and separate MSW materials. SCS provided an overview of process flow and design while highlighting unique or proprietary equipment for pre-preprocessing and sortation. We also outlined project rationale, process focus (e.g., organic slurry) and material end markets as well as successes and failures. The study also outlined key project economics of successful mixed waste MRFs that support a strong business plan, such as access to feedstock, tip fees, material composition, recovery rates, diversion fees, end market prices as well as capital and operating expenses.

Salinas Valley Solid Waste Authority Alternative Technologies Analysis
The Salinas Valley Solid Waste Authority (SVSWA) contracted with SCS to evaluate various anaerobic digester (AD) technologies, in support of SVSWA's analysis of the feasibility of the Authority owning and operating an AD system. The study took into consideration Senate Bill (SB) 1383 requirements, the California organics reduction mandate, as well as the pre-processing that would be required for each technology. SCS identified the opportunities and risks associated with siting, designing, and operating solid waste facilities, including organics processing. In order to proceed, the Authority needed to understand the potential constraints and benefits of a project, and the criteria that would be critical for considering while evaluating and deciding on an AD technology. The information from the study assisted SVSWA staff in determining the appropriate AD technology, and whether an AD facility is potentially economically and technically viable.

Confidential Client, Anaerobic Digestion Facility Feasibility Study
A confidential client (CC) was considering the design and construction of an anaerobic digestion facility (Facility) to process and beneficially reuse organic material from area businesses and residents. This firm contracted with SCS to conduct a feasibility study to evaluate the potential development of a facility. The project was conducted in two phases: 1) Market Research; and 2) Implementation Evaluation. The Phase 1 report presents a local market analysis of possible feedstock providers, and identification of local and regional competing facilities/operations.

WM (Waste Management) Organics Material Recovery Facility, Residual Characterization Study for Facility Performance Testing, San Leandro, CA. As Project Director for this Waste Management study, Michelle led the effort to characterize the residue stream from the Organics Material Recovery Facility (OMRF) to assist with analyzing the performance testing of the facility. The study helped WM see how the facility was performing and identified necessary changes that would need to be made to the facility.

Los Alamos County Food Waste Composting Feasibility Study, Los Alamos, NM. Los Alamos County contracted with SCS Engineers to conduct a food waste composting feasibility study. The study evaluated various processing technologies and collection scenarios and provides a financial analysis of those scenarios that will be used by the County as a guide to select and develop a proper and adequate food waste processing facility and collection plan. The study encompassed a number of distinct aspects of food waste collection and processing, including organics tonnages and feedstock availability, composting recipes and facility size, site location, technologies, permitting, and environmental impacts. We also gathered information on similar food waste composting programs in other communities, regional partnership opportunities, and compost best management practices.

South Bay Waste Management Authority (ReThink Waste) Site Optimization Study.
Project Director. Michelle leads the SCS team in evaluating various options to optimize the existing solid waste transfer, processing, and collection yard. The Authority is challenged with serving its growing communities and their waste collection, processing, recycling, and disposal needs on a restricted site that has been in operation for 25 years. The project has conducted a thorough analysis to gauge the capacity of the facility to meet its existing and future needs. The project was conducted in three phases: 1. Assessment (Audit/Inventory) Phase; 2. Site Optimization and Selection Phase, and 3. Design and Cost Estimation Phase. The results and recommendations will be presented to the Board of Directors for decision-making.

City of Oakland Hauler Franchise Fee Audit and Performance Review
SCS conducted a Franchise Fee Audit and Performance Review of residential recycling collection services provided by the City's franchise hauler, California Waste Solutions, Inc. As part of the project, SCS conducted a fee and billing audit to verification customer billing rates and franchise and

other fees have been properly calculated and paid to the City. For the performance review, we analyzed CWS' adherence to the terms of the agreement, including service standards, collection equipment and customer services processes, and verified recording keeping and reporting. The results of the analysis and recommendations were compiled in a technical memorandum to the city.

City of Pleasanton Compliance Plan and Audit, Pleasanton Garbage Service Transfer Station
SCS was engaged to develop a compliance plan for the Pleasanton Garbage Service (PGS) Transfer Station facility. The PGS facility is used for staging collection equipment and personnel, performing equipment maintenance, housing administrative and customer service offices and staff, and receiving and transferring solid waste, recyclables, and organic materials. The purpose of the Plan is to provide a method for the City to monitor and track enforcement of the requirements established for the facility by the City and other regulatory agencies. SCS received and reviewed the permits provided by PGS and prepared a compliance plan documenting each permit. We also performed an unannounced site visit with the City to evaluate the existing conditions at the site.

City of Glendale, Commercial Collection Franchise, Glendale, CA. As Project Director, Michelle and the SCS Team work with the City in the evaluation and selection of options for franchising commercial collection. The Team identified potential options and conducted financial, regulatory, and community analysis of the options available for franchising. The Team created a report that summarized our findings and recommendations. The City is moving forward with franchising, and SCS drafted a franchise RFP and agreement. SCS will analyze and evaluate the proposals, recommend a preferred vendor(s), and participate in the negotiations of the selected vendor(s) (2016-2020).

City of Glendale Scholl Canyon Landfill Wasteshed Analysis
SCS conducted a study of the feasibility of opening the Scholl Canyon Landfill (SCLF) wasteshed to increase the daily tonnage, so the projected closure date of the Landfill won't be delayed. SCS will also prepare a CEQA Analysis in relation to opening the wasteshed, and to perform a cost analysis comparing the existing flexible membrane liner/geosynthetic clay liner composite cover to evapo-transpirative cover systems.

City of Davis, SB 1383 Planning, Davis, CA. As Project Director, Michelle led the SCS Team in assisting the City of Davis (City) with SB 1383 planning to provide an in-depth review of current organics programs and the next steps. Our Team reviewed the City Organics Feasibility Report, analyzed current organics capacity, and reviewed current organics programs to outline what still needs to be added to comply with SB 1383 regulations. The Team also developed an SB 1383 roadmap, which highlights specifics related to the regulation and who will need to perform the activities; and, evaluated source separated organics waste collection services for the SB 1383's two organic waste collection service options. SCS also provided feedback on the edible food generators list, along with other recommendations (2021-2022).

Downtown Davis Waste Management Plan. The City also contracted with SCS to create a waste management plan for Downtown Davis. Our tasks included helping businesses to have the tools and resources necessary to comply with local and state solid waste laws, evaluating existing waste enclosures and mechanisms for solid waste management downtown, and where gaps may be for these businesses to have adequate waste collection service. Our review also focused on the type of businesses to capture how the unique waste disposal needs and collection requirements vary by type. We developed recommendations for the City to consider in terms of the approval of new businesses. Collection frequency of publicly maintained waste bins was evaluated, and if warranted, recommendations on collection frequency and resourcing were provided.

City of Carlsbad, Sustainable Material Management Municipal Facilities Assessment
SCS was hired to conduct 28 Municipal Facility Assessments to recommend new or improved existing recycling programs and enhance overall waste management practices. Facility assessments involved interviewing liaisons and custodial team members, a facility walk-through to view recycling container locations, signage, and materials collection procedures, observing disposables use, and viewing materials generated in the trash. The facility assessments also assisted the City in complying with the State laws for Mandatory Commercial Recycling (AB 341), Mandatory Organics Recycling (AB 1826), and Mandatory Organics Diversion and Edible Food Recovery (SB 1383)

Sonoma County Zero Waste Audit and Characterization Study
The County of Sonoma, through their Climate Action and Resiliency Division, wanted to continue its dedication to climate action and resiliency by conducting a Zero Waste Audit and Characterization Study (ZWACS) of their county facilities. SCS was retained by the County to conduct a two-season waste characterization and audit. The study was designed to find collaborative data with the GHG inventory, also completed by SCS for the County in April of 2023. This study focused on waste exclusively produced by County-owned and leased facilities. The ZWACS is also meant to accompany the Zero Waste Sonoma Waste Characterization Study that was performed by SCS, with the desired intent to identify the similarities and differences between these two studies. SCS supplied the County with a quantitative report on the amount of waste generated at County facilities, a qualitative assessment of the composition of the County's waste streams, and the SCS Team developed guidelines on specific actions to prioritize to achieve zero waste. These recommendations were developed with training of County staff as a priority.

County of Santa Clara, Organics Processing Capacity Study, San Jose, CA. As Project Director, Michelle oversaw the efforts of the SCS Team to develop a questionnaire to survey regional organics processing facilities inside and within 100 miles of the County. The Team identified quantities and types of organic material by establishing a research framework; identified local organics processors and reviewed CalRecycle records; prepared for and conducted interviews; surveyed regional facilities and summarized findings; identified quantities and types of organic material banned from landfills; identified organic materials accepted and processed by existing organics facilities; developed a final report; and conducted the kick-off and monthly status meetings.

Los Angeles Community College District, Comprehensive Waste Hauling, Recycling, and Diversion Support, Los Angeles, CA. As Project Director. Michelle and the Team provided planning, designing, and implementation of a comprehensive waste hauling, recycling, and sustainable materials diversion system for ten college campuses. As part of the project, the Team evaluated the existing solid waste services, and developed recommendations for incorporation into a Request for Bids for new service providers. SCS prepared the RFB document, including service characteristics, qualification requirements, and bid forms. (2019 to 2022).

City of Toledo and the University of Toledo, Feasibility Study for Organic Waste Recycling Facilities, Toledo, OH. As Project Director and Project Manager, Michelle was responsible for conducting a feasibility study to optimize operations of two permitted composting sites, and a development evaluation of a new regional food scraps and organic waste management facility. In addition, she evaluated the development of the CDI materials recovery facility to recycle concrete, asphalt, and other inert materials. The project incorporated design, permitting, and environmental issues, and included a siting study to identify potential locations for facilities. In addition, Michelle evaluated the financial aspects of the facility's development and operations.

Synagro Organics Market Research, Southern California Synagro contracted with SCS to conduct a market assessment of organic materials generated in Southern California. The primary objective of the study was to assist Synagro in determining if and where they should develop additional composting capacity. The study also included research and analysis of available organic materials

that Synagro may be able to capture for their composting facility. SCS performed research and analysis on facilities, hauling companies, and potential feedstock generators to provide an overview of where the organic material is generated, what facility is accepting this material, the quantities of organic material potentially available, and the available capacity for organic materials.

Placer County Organics Waste Recycling Program, Truckee, CA. As Project Director, led the feasibility analysis of collecting and processing organics generated in Eastern Placer County. The project included developing waste generation projections, evaluating potential technologies, including composting, digestion, and mechanical, and calculating the costs for collection and processing. The project also includes preparation of an organics management plan to assist the County to meet the requirements under the State's mandatory commercial organics recycling law.

City of Pasadena, Zero Waste Strategic Plan, Pasadena, CA. As Project Manager, Ms. Leonard evaluated existing programs, determined the objectives, performed a waste characterization study, identified options to address the objectives, developed guiding principles, screened options for implementation, and was solely responsible for selecting the most suitable option. The project also involved the stakeholder engagement process, which included workshops and outreach efforts.

City of Santa Monica, Zero Waste Strategic Operations Plan (ZWSP), Santa Monica, CA. As Project Manager, Ms. Leonard was responsible for preparing a strategic operations plan that evaluated current conditions, and recommended policies, programs, and infrastructure to reach the City's goal of zero waste by 2030. The project included planning of a zero waste ordinance, guiding principles, waste characterization and generation projections, and review and recommendation of suitable options. The ZWSP also evaluated the impacts on the City's rate structure, and mechanisms to finance the program.