

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
 Appointed by the Secretary of Commerce as a Member of the Environmental Technologies Trade Advisory Committee



Professional Experience

Ms. Leonard has 35 years of experience in environmental consulting and project management, with an emphasis 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 prepared plans and permits for transfer stations, material recovery facilities (MRFs), and drop-off and buy-back centers. 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.

SB 1383

Fresno County, SB 1383 and Sustainable Materials Management, Fresno, CA. As Project Director, Michelle and the SCS Team is 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.

City of Davis, SB 1383 Planning, Davis, CA. As Project Director, Michelle and the SCS Team assists the City with SB 1383 planning to provide an in-depth review of current organics programs and next steps. SCS 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 SCS 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.

Composting

LACDPW, Countywide Yard Waste Program, Los Angeles, CA. As Project Manager, Ms. Leonard was responsible a 2-year effort to design, manage, and implement the Countywide Yard Waste Program. Work involved providing a broad range of public education, outreach, and training programs related to yard waste composting, worm composting, water-wise gardening, and grass recycling. The project also incorporates a statistical survey of program awareness and efficacy, in addition to evaluating and monitoring program results.

Composting Facility Conceptual Design and Costs, Athens Services, CA. As Project Director, Ms. Leonard supported the proposed development by preparing a conceptual design for a 100-acre site to handle yard debris and food scraps. The plan included the layout for receiving, processing, and storing of finished product, as well as storm water and other environmental controls. As part of the project, Ms. Leonard assisted SCS in the preparation of estimated costs for the development of the site, including site planning, buildings, and equipment.

Solid Waste Planning and Studies

Los Angeles County Public Works (LACDPW), Commercial, Institutional Recycling Program (CIRP), Alhambra, CA. As Project Director, Ms. Leonard and the SCS Team are currently assisting the County to implement its Road Map to a Sustainable Waste Management Future, which establishes diversion strategies for the region, County operations, and the County unincorporated communities. SCS is providing Technical Assistance to County facilities, including commercial recycling audits, recommendations for program enhancements, and assisting with recycling program implementation at County facilities and at large waste generators. SCS has prepared a Zero Waste Event Guide, evaluated operations at 25 County facilities and prepared Resource Management Plans for those facilities, developed an online training program for County staff, created an awards program for facilities that are achieving high levels of diversion, identified and procured outreach materials and recycling containers for distribution to County facilities and other businesses. SCS was re-awarded the contract when it went up for bid.

County of Yakima, Solid Waste and Moderate Risk Waste Management Plan, Yakima, WA. Michelle was Project Director for the 2022 update of the County Solid Waste and MRW Plan. The Plan Update was prepared to meet the requirements of all applicable federal, state and local regulations and guidelines, particularly chapter 70.A.205.045 RCW, the State Solid Waste Management Plan, and associated State Guidelines, and other local, state or federal policies, regulations or goals that affect solid waste management. The Plan Update is an integrated, long-term strategy for waste and materials management. The strategy incorporates policies and programs that address the different segments of the waste stream and the different management approaches that must be taken to accomplish the County's goals and objectives. In addition to waste handling systems, the Plan Update will also include tools to accomplish its implementation. The plan has been updated to incorporate new requirements, including the Contamination Reduction and Outreach Plan.

Kittitas County, Solid Waste Management Plan Update, Ellensburg, WA. As Project Manager, Michelle worked with the SCS Team to develop the Kittitas County Solid Waste Management Plan while providing decision makers within the County with a set of goals and policies for implementation and evaluation of future solid waste management efforts. Michelle assisted the County and Solid Waste Advisory Committee in evaluating Solid Waste Programs and Systems for adequacy in meeting current and future, local and regional needs, and developed a set of goals based on these needs. Policy issues addressed within the plan included: Waste Reduction: Prevention and Recycling, Special Wastes, Refuse Collection, Transfer Stations, Landfill Versus Long Haul, Administration, Enforcement.

Stanford University, Annual Solid Waste Rate Study Services and Zero Waste Program Analysis, Palo Alto, CA. As Project Director, Michelle worked directed the SCS Team in providing ongoing services that include the completion of a cost-of-service based rate study for the services performed by the University's contracted private hauler, who has the University as its sole customer. SCS created a long-term financial model to determine the level of rate adjustments required to meet contractual obligations to the University's hauler. A member of the SCS Team updated all rates and fees to account for budgetary implications of reduced staffing, disposal cost, and future uncertainties due to COVID-19. A workflow analysis was performed for staff and equipment and this was used, coupled with staff conversations, to analyze the cost for providing scheduled/unscheduled services. Rates reflected the lowered level of services, anticipated student returns to campus, and adjusted hauler budget. The University's Zero Waste initiative and associated programs were peer reviewed and a cost-benefit analysis was performed to associate projected savings with expected diversion for each program. (2021 to Present; Project Cost \$101,800).

Commercial Collection Franchise, City of Glendale, CA. As Project Director, Michelle and the SCS Team works with the City in the evaluation and selection of options for franchising commercial collection. The project is divided into two phases: The SCS Team initially identified potential options and conducted financial, regulatory, and community analysis of the options available for franchising. A report summarized our findings and recommendations. The City is moving forward with franchising, and SCS has 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).

City of Culver City, Solid Waste Rate Study, Culver City, CA. In the role of Project Director, Michelle led the comprehensive Solid Waste, Recycling and Organics Waste Characterization Study to characterize waste streams. This enabled the City to examine data that would impact its ability to meet state mandates for recycling and diversion, and pending regulations (AB 341, 1826 and SB 1383). Michelle also performed an audit of the City's collection and transfer operations; identified methods to increase efficiency and achieve cost savings; and estimated costs of service to residential, commercial, and industrial customers. She recommended rate revisions based on financial/cost analysis, and revised the City's source reduction recycling element to identify cost-effective methods that achieve the 50 percent diversion requirement of AB 939.

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.

Lincoln County Solid Waste Management Plan Update and Moderate Risk Waste Management Plan. The project included preparing a survey that was distributed to eight cities and towns, and to the rural haulers, for input on existing programs, policies and procedures, as well as challenges and opportunities. Options analyzed included continued use of the County owned transfer station, a revised fee structure, privatization, and/or addition of processing capabilities. The project also included preparation of a new Moderate Risk Waste Management Plan for the county. The project included regular meetings with the SWAC, and monthly updates between the consultant and County.

Mason County Solid Waste Management Plan Update. Completed the Preliminary Draft of Mason County's SWMP update. After drafting several chapters of the plan update, we were retained to develop new chapters, complete the document, and work with stakeholders prior to submitting the draft plan for review and approval. The purpose of the plan is to comply with the State-mandated

update schedule but also to set new goals and review old goals. Other drivers pushing the planning process are coordination with the County Comprehensive Plan, growth in the communities of Shelton and Belfair, the planned development of event venues in adjacent counties, and maintaining continuity with north peninsula counties moving waste through Mason County. As part of this project, an in-depth needs analysis of transfer station and drop-boxes was conducted. This analysis included modeling projected population growth in the County and the related impacts on the use of existing drop-boxes and the transfer station. The analysis looked at siting new facilities and expanding existing facilities over the projected planning period. A feasibility analysis was also conducted to evaluate a potential intermodal rail yard in the County for out-of-county rail haul.

City of Richland, Solid Waste Management Plan, Richland, WA. Completed the Preliminary Draft 2009 City of Richland Solid Waste Management Plan. The Plan documents existing waste management policies and programs established and operated by the City. It is the first time the City prepared its own comprehensive solid waste plan that establishes a waste management framework to guide Richland's solid waste management approach in the years ahead.

City of El Segundo, Solid Waste Consulting Services, El Segundo, CA. Project Director. SCS assisted the City of El Segundo with a variety of solid waste services, which included writing a Request for Proposals (RFP) for solid waste services, providing AB 1826 compliance reports, and preparing the City's Electronic Annual Report.

Los Angeles Community College District, Comprehensive Waste Hauling, Recycling, and Diversion Support, Los Angeles, CA. Project Director. SCS provided planning, designing, and implementation of a comprehensive waste hauling, recycling, and sustainable materials diversion system for ten college campuses.

City of El Segundo Residential Contract Review and Negotiations. Project Director. The City's contract with Republic Services expires in October 2018. The City is considering whether to renew the contract, or to go out to bid for new services. SCS has reviewed the City's existing contract with Republic, and identified areas for potential modification in a future contact. We met with the City and Republic's representatives to discuss our recommendations and to request a proposal from Republic to meet the City's needs. This project will set the stage for the City's next steps in regards to its residential collection contract. See reference/project description included in proposal.

Walla Walla County, Solid Waste Management Plan, Walla Walla, WA. Project Manager responsible for updating the Walla Walla County Solid Waste Management Plan, in compliance with all applicable federal, state and local regulations and guidelines, to meet the solid waste and moderate risk waste management goals and existing and future needs of Walla Walla County residents and businesses.

County of Benton, Solid Waste Management Plan Update and Moderate Risk Waste Plan, Prosser, WA. As Project Director, Ms. Leonard managed the Benton County update in 2006 and 2012. The process included a review of the previous plan recommendations, and updating all of the information to reflect current conditions in the County. An important aspect of this project was participation and involvement of the local solid waste advisory committee (SWAC).

Rancho Santiago Community College District, Solid Waste Consulting Services, Santa Ana, CA. As Project Director, Ms. Leonard and the SCS Team provided solid waste consulting services to help with the development, evaluation, recommendation and implementation of a Request for Proposal (RFP) for Integrated Waste Management Services for Rancho Santiago Community College District.

City of Glendale, Solid Waste Rate Study, Glendale, CA. As Project Director, Ms. Leonard and the SCS Team completed a comprehensive rate study, including recommendations, in spring 2019. We developed a rate model and worked with City staff to analyze various franchising and adjustment scenarios.

City of Richland, Solid Waste Disposal Business Case Evaluation and Rate Study, Richland, WA. As Project Director, Ms. Leonard was responsible for managing the analysis of disposal options for the City of Richland, and conducting a rate study of the existing collection and disposal operations. The business case evaluation was conducted to determine whether to expand the City's landfill, or to close the landfill, construct a transfer station, and long-haul waste to a regional landfill. A proforma model was created to compare the financial aspects of the alternatives, and a matrix of environmental, social, and economic criteria was developed for use in the decision-making process.

County of Los Angeles Department of Public Works (LACDPW), County of Los Angeles Smart Business Recycling Program (Program), Los Angeles, CA. As Project Director, Ms. Leonard directed 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), and AB 1826 Mandatory Commercial Organics (MCO). 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 included a wide variety of types of work, ranging from complex site visits to reporting, graphic design, and procurement of promotional items. SCS was re-awarded the contract when it went up for bid.

County of Placer, Organics Waste Recycling Program, Truckee, CA. As Project Director, Ms. Leonard 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.

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.

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.

City and County of Spokane, Spokane County Solid Waste Management Plan Update, Spokane, WA. As Project Director, Ms. Leonard updated all elements of the County's solid waste plan, with particular focus on infrastructure, waste stream projections, financial impacts of alternatives, transfer system improvements, moderate risk waste, composting options, and addressing construction, demolition, and land clearing (CDL) waste options. Spokane County is home to almost 500,000 residents and is served by a solid waste system that consists of public and private operations. The Spokane Solid Waste Management System (System), a department of the City of Spokane, operates two transfer stations, a waste-to-energy plant, and collection service for city residents. The remaining city and county unincorporated areas are served by private franchised haulers who utilize the System's facilities.

City of Toledo and University of Toledo, Organic Waste Recycling CDI Recovery Facilities Feasibility Study, Toledo, OH. Ms. Leonard's responsibilities included a feasibility study to optimize operations of two permitted composting sites, and development evaluation of a new regional food scraps and organic waste management facility. In addition, she evaluated the development of the construction, demolition, and inert (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. Lastly, Ms. Leonard evaluated the financial aspects of the facilities' development and operations.

City of Malibu, Solid Waste System Audit, Malibu, CA. As Project Director, Ms. Leonard conducted an evaluation of the City's solid waste program to identify the strengths, weaknesses, opportunities and challenges of the existing program. She conducted an inventory of the Existing Policies and Programs, and prepared a comparison of the City's Existing Policies and Programs with industry standards and trends. SCS contacted 10 municipalities with similar demographics to Malibu to obtain information on Existing Policies and Programs in place. Relevant information, such as year adopted or implemented, affected sector, diversion impacts and/or rate, cost per capita, household or business, was compiled in a matrix format to facilitate review and evaluation by the City.

Athens Services, Third Party Diversion Study, Pasadena, CA. As Project Director, Ms. Leonard verified a third-party diversion for commercial businesses in the City of Pasadena, on behalf of the client. The project included contacting businesses to verify types and quantities of materials source reduced, recycled, composted, or diverted through programs outside of the hauler's control.

County of Santa Cruz, Solid Waste System Business Plan (Business Plan), Santa Cruz County, AZ. As Project Director, Ms. Leonard was responsible for evaluating system costs, revenues, and liabilities over a 30-year planning period to assist the County in identifying options for the Business Plan. This included considering continued operations, privatization of operations, and sale of the assets. Ms. Leonard also incorporated into the Business Plan the County's operation of two landfills, transfer stations, and drop-off centers for recycling.

City of San Gabriel, Electronic Annual Report and Disposal Tracking, San Gabriel, CA. For over 15 years, SCS has assisted the City in the preparation of its Solid Waste Annual Report to the State of California (CalRecycle), which identifies the City's compliance with diversion mandates, program, and policy implementation. As Project Director, Ms. Leonard conducted disposal tracking for the City, which identifies disposal tonnage misallocated to the City, and reallocates it to the City of origin for disposal reporting purposes.

County of Mecklenburg, Solid Waste Management Plan (Plan), Mecklenburg County, NC. As Senior Technical Advisor, Ms. Leonard contributed to updating the County's Plan, which included the design of high diversion, reduction, reuse, and CDI policies and programs. She also assisted with the financial impact analysis, diversion estimates, and waste characterization study.

Miami-Dade County Department of Solid Waste, Solid Waste Management Master Plan, Miami-Dade County, FL. As Senior Technical Advisor, Ms. Leonard assisted in the preparation of a solid waste master plan identifying options and improvements to the solid waste system, including the collection, transfer, and processing operations. A series of public workshops and meetings were conducted to identify the preferred options for implementation over the planning period.

City of Rancho Palos Verdes, Solid Waste Programs, Rancho Palos Verdes, CA. As Project Director, Ms. Leonard provided annual solid waste management services. Her work included a series of projects intended to increase the City's diversion, including expansion of the City's multi-family recycling program. As part of the project, she conducted workshops at a number of homeowner association groups to introduce the new program, and help managers implement the recycling methods as well. She also conducted a workshop on the City's CDI recycling program for haulers and contractors, and participated in a variety of other public education and outreach programs.

City of Irvine, Zero Waste Technical Assistance, Irvine, CA. Initiated in 2004, the project's objectives were to conduct waste audits and provide information to businesses regarding recycling and waste reduction. The project was later expanded, and, as Project Director, Ms. Leonard assisted in developing the outreach efforts in educating schools, municipal facilities, the Zero Waste program for restaurants, while assisting in the preparation of a CDI ordinance, and providing her expertise in negotiations for a semi-exclusive solid waste franchise agreement and recycling programs for special events and public venues.

City of Lakewood, Solid Waste Generation Study and Solid Waste Support Services, Lakewood, CA. As Project Director, Ms. Leonard was responsible for City's environmental programs. In 2000, SCS was selected to conduct a solid waste generation study in support of a new base year modification and compliance order, in addition to providing solid waste support services. Based on the success of that project, Ms. Leonard and SCS have provided ongoing solid waste support services to the City, including disposal reporting system reviews and analysis, commercial waste audits, public education and outreach programs, applications for the Used Oil Grant Administration, preparations for annual reporting, and design and implementation of special recycling events.

California Institute of Technology (CalTech), Waste Audit and Waste Characterization Study, Pasadena, CA. As Project Manager, Ms. Leonard conducted a waste audit and waste characterization study at CalTech to determine the types, quantities, and sources of compostables in the waste stream. She was responsible for determining if the was material suitable for incineration, including the sources and possibility of reuse of packaging in the campus waste stream. A total of 66 samples were collected from 11 generator groups, and sorted according to 27 different material types. The results of the study were also used to evaluate potential costs and savings from the implementation of new and/or expanded recycling programs.

County of Island, Solid Waste Operational Assessment and Benchmarking Study, Coupeville, WA. The objective of the study was to develop data to ensure the County was providing efficient management of solid waste programs, services, and infrastructure. During the course of the study, Ms. Leonard explored possible opportunities for improvements, costs savings, and revenue enhancements.

SCS completed the following analysis and provided recommendations in these areas:

- Operational assessment of current drop-off stations.
- Assessment of transfer stations.
- Evaluate additional recycling opportunities.

- Evaluate new capital investment.
- Expansion of curbside collection programs.
- Conduct benchmarking survey.
- Financial analysis of County program.

County of Orange, Disposal Agreement Rate Model Analysis, Anaheim, CA. As Project Director, Ms. Leonard performed an analysis of the landfill rate model prepared by Orange County, CA. The 34 cities in Orange County each had a disposal agreement with the County to dispose of all city waste at the three County-owned landfills for a set tipping fee. The existing 10-year agreement expired in 2009, and the County proposed a new tipping fee based on a financial model. Ms. Leonard identified and advised the Waste Management Committee of the Orange County City Managers Organization on contributing factors or issues that could have enabled the cities to constructively negotiate contract terms. This included a contract rate that could be more favorable to the cities, resulting in assisting the cities in analyzing the relative merits of alternative fee structures (i.e., flat fee versus adjusted annually based on inflation), and designing a policy and methodology for the County to declare a dividend (or rate reduction) in the event of actual expenses being less than projected or actual tonnage quantities were greater than expected.

City of Santa Maria, Collection and Disposal Rate Study, Santa Maria, CA. As Project Director, Ms. Leonard reviewed the existing collection and disposal rates charged to residents, businesses and industrial customers. She conducted a thorough analysis of the existing rate structure based on the City's budget, operations, and financial reports. She developed a financial model utilized to estimate the appropriate rate structure for all aspects of the City's solid waste system, and the costs and revenues associated with specific system programs.

City of Redondo Beach, Solid Waste Franchise Agreement Audit, Redondo Beach, CA. As Project Director, Ms. Leonard performed an independent audit of the Solid Waste Handling Services Agreement between the City of Redondo Beach and Consolidated Disposal Service (Consolidated). The project included reviewing background information relative to the operation of the City's solid waste system, issuing a request to Consolidated for pertinent financial and operational data and documents, while verifying supporting documentation and recalculating the AB 939, administration, and Household Hazardous Waste (HHW) fees. Ms. Leonard sampled commercial bin service accounts for testing, performed selected site inspections to document the service levels, and contacted large multi-family accounts by telephone and/or site inspections to identify any differences with the hauler's customer database. Lastly, she prepared a report documenting her findings and giving her recommendations.

City of Pasadena, Residential Collection Rate Study, Pasadena, CA. The City provided solid waste and recycling collection service to approximately 27,000 residential units (single-family residences and multi-family units) within the City's incorporated limits. A rate model was developed to enable financial performance projections of residential refuse collections for the upcoming 10-year planning period (2006 to 2015), and model various user rate structures to help eliminate the Refuse Collection Fund's existing negative cash balance. Based on data and information provided by City staff, individual spreadsheets were linked to develop an overall rate model to evaluate the impact of critical City cost and program revenues areas on different potential rate options.

City of Santa Clarita, Waste Generation Study and Disposal Reporting System Review, Santa Clarita, CA. As Project Manager, Ms. Leonard was responsible for conducting a waste generation study to establish the current and potential recycling rate for the City. As part of the study, SCS completed on-site waste assessments at some of Santa Clarita's largest businesses, to identify diversion from City programs, and other activities that divert solid waste, including recycling,

composting, and source reduction. In addition, SCS completed a comprehensive review and evaluation of the City's 1999 and 2000 Disposal Reporting System (DRS) reports, after a 65,000-ton spike in disposal reported in 2000. The project included review of hauler reports to compare data with landfill records. Ms. Leonard prepared a report to the City Council presenting corrected previous errors and recommendations to avoid future discrepancies.

LACDPW, Recycling Program Study, Los Angeles, CA. As Project Director, Ms. Leonard was responsible for development of the ACCESS database of over 1,400 County departments and facilities in support of the County's recycling program. The information was used to identify and maintain a list of existing recycling efforts. The project also involved providing recommendations for the expansion of existing or new recycling programs for all County facilities and departments.

LACDPW, Waste Generation Study, Los Angeles, CA. As Project Director, Ms. Leonard was responsible for conducting the Los Angeles County Waste Generation Study. She oversaw preparations of the two waste generation studies for the unincorporated areas. As part of the project, a waste characterization of residential and commercial generators was also conducted. Over 1,000 surveys were distributed to residents, businesses, haulers, and facility operators to determine diversion activities throughout the County. Results from the surveys of grass recycling and organics, inert materials, materials recovery facilities and transfer stations, scrap metal and electronics were calculated to determine the optimum new base year for the County.

County of Sonoma, Solid Waste Management Alternatives Analysis, Santa Rosa, CA. As Project Manager, Ms. Leonard was responsible for evaluating solid waste management alternatives. Ms. Leonard and SCS worked with the County and a 35-member Local Task Force to identify and select alternatives for disposal of the County's waste, following closure of its landfill in 2015. The project included an analysis of the existing solid waste management system, projection of future demographics and solid waste generation, review and evaluation of alternatives, and completion of a strategy that may include options for disposal, alternative technologies, diversion programs, and policies.

Tribal Solid Waste Advisory Network (TSWAN) Solid Waste Management Plan Template. Ms. Leonard and the SCS Team developed an SWMP template to be utilized by TSWAN member tribes in the Northwest states of Washington, Oregon, and Idaho. Member tribes currently maintain solid waste systems that vary dramatically in sophistication, funding, geographic area of service, and population. The template, held in conjunction with training, will be used by individual Tribes to address issues of concern, streamline their systems, identify system solutions and options from a template pick list, and proceed with implementation measures.

Iowa Department of Natural Resources, Iowa Hub and Spoke Recycling Study, Des Moines, IA. 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. Ms. Leonard and the SCS Team 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.

Debris Management Projects

Interior Removal Specialist, Inc. (IRS), Permitting for CDI Debris Processing and Transfer Facility, South Gate, CA. As Project Manager, Ms. Leonard was responsible for preparing all documents and

assisting IRS in permitting a construction, demolition, and inert debris processing and transfer facility. The facility can handle up to 3,000 tpd of CDI materials, and processes the materials to divert an average of 75 to 85 percent of the incoming waste. Facility improvements included a sorting line, new scale, baler, and other support operations. As part of the project, SCS assisted in the preparation of the application for a revised Conditional Use Permit (CUP), CEQA analysis, and hazardous materials permits.

Deconstruction Analysis and Materials Management Plan, Lakewood, California. Ms. Leonard developed a comprehensive deconstruction analysis and a materials management plan for the deconstruction of the Pacific Regency Theater, originally built in 1990 to seat 2,200 people. Tasks included developing a deconstruction analysis materials management plan; providing project monitoring, evaluation, and handling the resource database.

Debris Management Plan, San Diego, California. Assisted Bechard & Associates in meeting the Materials & Resources credit in association with the U.S. Green Building Council's LEED Construction Waste Management section for the Smart Corner Project located in San Diego, CA. Preparation of Waste Management Plan. SCS developed the Waste Management Plan for the project, highlighting recycling and salvage requirements, goals, and methods. SCS prepared a materials estimate of the types and quantities of materials generated during project demolition and construction, and estimated the types and quantities of materials that potentially can be recycled or salvaged. Also developed a Resource/Reuse Vendors and Facilities that was used to facilitate the maximum amount of materials to be recycled and/or salvaged.

Debris Management Plan, Santa Rosa, California. Ms. Leonard assisted Christopherson Homes in preparing Debris Diversion Plans for a number of new residential developments in Sonoma County. Christopher Homes is dedicated to building Green, and voluntarily recycles over 50% of the waste generated from their projects. The projects include single and multi-family developments. Also assisted in identifying vendors to recycle mixed waste, wood, drywall and concrete, and trained on-site workers to separate materials for recycling.

Construction and Demolition Debris Facility Permitting, Interior Removal Specialist, Inc. Prepared all documents and assisting IRS in permitting a Construction, Demolition, and Inert Debris processing and transfer facility. The facility will handle up to 3,000 tons per day of construction and demolition materials, and will process the materials to divert an average of 75 to 85 percent of the incoming waste. Facility improvements include a sorting line, new scale, baler, and other support operations. As part of the project, SCS will assist in preparing the application for a revised Conditional Use Permit, CEQA analysis, and hazardous materials permits.

Debris Management Ordinances, Cities of Lakewood, Baldwin Park, Long Beach, Irvine and Rancho Palos Verdes, California. Ms. Leonard assisted these cities in preparing, adopting and implementing ordinances that require construction, demolition, and disaster debris to be recycled, reused or otherwise diverted from landfilling. The ordinances identify the types of projects that are covered, the mandated diversion rate, and the methods that are acceptable for diversion of the materials, including deconstruction, reuse on site, and recycling.

Waste Characterization Studies

Solid Waste, Recycling, and Organics Waste Characterization Study for the Commercial Sector, Culver City, CA. Project Director for study to characterize waste streams as part of a comprehensive commercial sector waste characterization. For the study, sampled representative portions of the commercial waste stream, including solid waste, recycling, and organics; identified opportunities for increasing diversion and reducing disposal; and adhered to all regulatory requirements for

completing such studies in Culver City, including application of the Uniform Waste Characterization Study Methodology.

Commercial Recycling Technical Assistance (RecycleSmart), Contra Costa County, CA. Project Director for performing two recycling and organics technical assistance projects to increase diversion in the entire Joint Powers Authority (JPA) area, and the City of Walnut Creek. For this effort, SCS visited 1,259 businesses to complete visual characterization of the trash containers on-site, a walk-through of the facility, and a discussion with owners/managers to evaluate diversion opportunities. Provided training for all business outreach staff, held regularly scheduled meetings internally and with RecycleSmart and Republic personnel, and most importantly provided strategic leadership to execute the project to a high standard of quality within a challenging time frame.

City of Chula Vista, Waste Characterization Study, Chula Vista, CA. Ms. Leonard and the SCS Team completed a Waste Characterization Study (WCS) that documented the amounts and types of materials in the landfill-bound waste stream that may reasonably be diverted through recycling and other diversion strategies. The study involved representative sampling, sorting, data collection, and reporting of solid waste generated by residential, commercial, and self-haul customers. The materials were characterized and quantified in accordance with the criteria specified in the California Integrated Waste Management Board (CIWMB) (now CalRecycle) Solid Waste Studies document.

Waste Characterization Study (StopWaste), Alameda County, CA. Project Director for a waste characterization study for StopWaste, a public agency governed by the Alameda County Waste Management Authority, the Alameda County Source Reduction and Recycling Board, and the Energy Council. Quantified the flow of waste to landfill(s); provided data and analysis to measure possible impacts of current programs, making sure to compare them with previous studies conducted by the agency. The study also provided data and analysis that would allow the County Waste Management Authority to use and/or adapt and apply data to local conditions; identify waste streams to be targeted for future waste reduction programs; and maintain consistency with California statutory and regulatory requirements.

Organics Material Recovery Facility Residual Characterization Study for Facility Performance Testing, San Leandro, CA. As Project Director for this Waste Management study, 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.

Sonoma County Waste Management Agency, Waste Characterization Study, Sonoma, CA. Ms. Leonard assisted in a two-season waste characterization study evaluating the types and quantities of waste disposed in the County by residential, commercial, and self-haul sectors. The study was used by the Agency to identify opportunities to increase diversion of waste from landfilling. Approximately 250 samples were hand-sorted, and 300 samples were visually characterized.

City of Sausalito, Waste Characterization Study, Sausalito, CA. As Project Manager, Ms. Leonard conducted a waste characterization study to help the City collect a baseline of data for measuring the effectiveness of existing waste minimization strategies and diversion programs. With the data collected, Ms. Leonard and SCS calculated the waste composition for each of the waste generating sectors. The study revealed approximately 68 percent of the City's waste stream was recoverable using existing composting and recycling programs.

Athens Services, Waste Composition Study, Industry, CA. As Project Director, Ms. Leonard was responsible for conducting a number of waste composition studies at the Athens Services Materials Recovery Facility (MRF) and Transfer Station in Los Angeles County. The studies conducted were in

accordance with the California Integrated Waste Management Board (CIWMB) protocol, included a sampling plan, sorted waste into 57 different categories, and prepared a report of findings. The results of the analysis were used to determine the recycling rate or recyclable portion of the incoming waste stream from a number of municipalities.

Los Angeles County Sanitation District (LACSD), Waste Characterization Study, Los Angeles, CA.

As Project Director, Ms. Leonard was responsible for conducting a waste characterization study for the Downey Area Recycling and Transfer Facility (DART) in Los Angeles, California. Numerous waste stream analyses were conducted on a number of cities serviced by the facility. The waste streams from the commercial, industrial, and residential sectors were typically sampled for quantities including the types of waste and recyclables, and characterizations were established for each individual sector. The information was used in the design of facilities and programs for collection and processing.

County of Orange, Waste Characterization Study, Anaheim, CA. As Project Director, Ms. Leonard was responsible for conducting a self-haul waste characterization study. She conducted waste sampling and analysis at three active landfills, and collected data was analyzed to determine the quantity and composition of waste from self-haul and roll-off loads from all jurisdictions within the county. The project included a two-season sort, first initiated in summer 2003 and the second in winter 2004.

County of Santa Barbara, Waste Characterization Study, Santa Barbara, CA. SCS conducted the first study in 2003 and a second study in 2009. This first study characterized 110 loads of municipal solid waste at the Tajiguas Landfill and the Santa Barbara County Transfer Station in order to provide detailed composition estimates of waste disposed in Santa Barbara County. The second study was conducted in support of the County's efforts to site an organics process/waste to energy facility at the landfill. Ms. Leonard conducted the analysis of all incoming waste at the landfill for use by potential facility vendors to propose technology that could be utilized for the incoming waste stream.

State of California, Statewide Generator Study. As Project Director, Ms. Leonard was responsible conducting the waste generator task of a statewide waste characterization study. The study characterized waste generated, both disposed and diverted, from 10 commercial generators that were major sources of waste in the state. The study consisted of field sampling, sorting, and quantification used to establish a comprehensive waste generation for each business type.

County of Stanislaus, Waste Composition Study and MRF Analysis, Modesto, CA. Ms. Leonard conducted a waste analysis and MRF assessment at the Fink Road Landfill for the purpose of determining the feasibility of a MRF processing facility at the landfill site.

City of Glendale, Conversion Technology Study, Glendale, CA. As Project Manager, Ms. Leonard assisted the City in taking an active role to find a more sustainable solutions to process the disposed MSW. The project included the initial evaluation of the technologies, establishing a short-list of vendors/technologies from whom to receive more in-depth information, and identification of a site for the potential development of a facility.

Confidential Client Technology Assessment. As Project Manager, Ms. Leonard led an SCS team to evaluate a new technology that transformed municipal solid waste into solid biofuel. Project activities included reviewing pertinent data to assess technology feasibility, identifying laboratory protocol to test the technology and its products and byproducts, and identifying opportunities for application of the technology in the waste, agriculture, and other sectors.

County of San Bernardino, Conversion Technology Study, San Bernardino, CA. As Project Manager, Ms. Leonard was responsible for conducting an in-depth feasibility analysis of the development of a solid waste conversion facility in the County. The project included a waste characterization study to determine the feedstock; an evaluation of vendor technologies, including an independent engineering analysis; recommendations of vendors from which to solicit proposals; a siting study to identify potential locations of a facility; and coordination with other County agencies and stakeholders. The project was completed within 1 year.

Nowon, LLC, Technology Assessment, Permitting, and Market Analysis, Los Angeles, CA. As Project Director, Ms. Leonard has assisted Nowon for over five years with the evaluation, analysis, and permitting of a 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.

Rialto Renewable Energy Center, Permitting and Reporting, Rialto, CA. As Project Manager, Ms. Leonard was responsible for the solid waste facility permit for a proposed facility at the Rialto Wastewater Treatment Plant (Rialto WTP). The project involved a 3,300-ton-per-day (tdp) green waste gasification facility, the preparation of a Process Facility Report and permit application, as well as support services for the Environmental Impact Report (EIR).

Monterey Regional Waste Management District (MRWMD), Alternative Technologies Study, Marina, CA. Ms. Leonard prepared an overview and analysis of emerging technologies and other programs and policies to reduce solid waste disposal. The study included an analysis of conversion technologies that were capable of converting post-consumer recycled residual solid waste into useful products and chemicals, including ethanol, biodiesel and clean renewable energies. The technologies reviewed included thermal, chemical, and biological. The study provided a general overview of the technologies, compared the process advantages and disadvantages, and presented information on capital and operating costs, tipping fees, diversion potential, technology viability, and market products. The study also included an updated status of projects and studies in California and throughout the United States.

Facility Permitting and Compliance

Norwalk Industries/Ecology Auto Parts Facilities, Permits for Transfer Station and Green Waste Chipping and Grinding Facility, Santa Fe Springs, CA. As Project Manager, Ms. Leonard was responsible for the preparation of revised permits for the transfer station and green waste chipping and grinding facility. The objectives incorporated the development of expanding the existing transfer station to handle up to 100 tpd of MSW, and the green waste operation to process up to 500 tpd. SCS had prepared the facility plans for both operations, and an Odor Management Plan for the green waste facility.

Pebble Beach Municipal Landfill, Five-Year Review and Report on Disposal Site Information, Santa Catalina Island, CA. As Project Manager, Ms. Leonard was responsible for preparing a Five-Year Permit Review and a revised Report of Disposal Site Information (RDSI), including a new site plan and facility operations plan. Revisions to the Closure and Post-Closure Maintenance Plans were completed as well.

Reliance Landfill, Disposal Site Information and Waste Discharge Reports and Application for Finding of Conformance, Irwindale, CA. As Project Manager, Ms. Leonard was responsible for the preparation of RDSI, Report of Waste Discharge, and application for the Finding of Conformance for Reliance Landfill, an inert, unclassified facility. The project involved significant negotiations with the

regulatory agencies, and in-depth analyses and recommendations regarding the facility operations and plans. The permit was subsequently issued by the Local Enforcement Agency (LEA), with concurrence from the CIWMB.

Two Harbors Landfill, Preliminary Closure and Post-Closure Maintenance Plans, Santa Catalina Island, CA. As Project Manager, Ms. Leonard was responsible for preparing the Preliminary Closure and Post-Closure Maintenance Plans. The project included coordinating the development of grading, drainage, and revegetation plans, and establishing the availability and compatibility of suitable on-site cover material. Ms. Leonard was also responsible for establishing requests for exemptions from requirements for groundwater, leachate, and methane gas systems.