## A close-up of a person Description automatically generatedBrent Dieleman, S.C.

### **Education**

### B.A. - Environmental Studies: Biotic/Physical World, Dordt University, 2003

### **Work Experience/History**

### Solid Waste Association of North America (SWANA): 2003 – 2008 (5 years) SCS Engineers: 2008 – Present (14 years)

### **Professional Affiliations**

### Solid Waste Association of North America (SWANA), member

### SWANA Sustainable Materials Management Division

Iowa Recycling Association; member  
Green Building Certification, TRUE Advisor

### **Professional Experience**

Mr. Dieleman is a Project Manager with SCS Engineer’s Sustainable Materials Management Division. Brent has nearly 20 years of solid waste planning experience, including 15 years of managing, directing, and supporting nearly 50 waste characterization studies. He has worked with municipal clients throughout the country and all over the world to design and implement waste characterization studies that provide reliable data for solid waste planning activities. Brent has completed audits for multiple waste generators including single-family residential, multi-family residential, and commercial/institutional as well as multiple material streams including solid waste, source-separated recyclable materials, source-separated organics, and construction/demolition debris. Mr. Dieleman has experience completing waste audits with varying levels of scope and complexity that range from large statewide studies at multiple locations to projects for local jurisdictions to smaller business-specific studies.

Mr. Dieleman’s additional solid waste planning experience includes collection program evaluation, stakeholder engagement and consensus building, recycling technical assistance, commodity/market assessment, recycling contamination measurement, solid waste master planning, and database management. Select examples of Brent’s most recent project experience include:

#### Featured Waste Characterization Studies

Miami-Dade County, Division of Solid Waste Services FL, Source Separated Recyclable Material Contamination Study (2023); Mr. Dieleman designed and led field activities for Miami-Dade County, Division of Solid Waste Services residential recyclable material characterization study. Brent designed a representative sampling plan to quantify the composition of source-separated recyclable materials from each of the County’s three collection zones. A total of 100 samples were obtained and sorted over a two-week period. The results of the study provided the County with important information used to design education and outreach programs. The study was unique in that it measured the impact of recycling contamination on acceptable program recyclable materials.

Huntsville Solid Waste Disposal Authority, AL, Municipal Solid Waste (MSW), Source Separated Recyclable Material Contamination Study, and Construction/Demolition Debris (2023); Brent worked with the Huntsville Solid Waste Disposal Authority staff to implement a comprehensive characterization study to measure the composition of several material streams managed by the Authority. The study was also designed to understand what changes there have been in waste stream composition from the Authority’s previous 2013 study. A total of 130 material samples were characterized as part of this study. Among other things, the data was used to understand the mix of recyclable materials that would be received at a potential new material recovery facility developed by the Authority.

Alameda County (StopWaste), CA, Municipal Solid Waste (MSW), Source Separated Recyclable Material, and Source Separated Organics (2023); StopWaste selected SCS Engineers to design and implement a comprehensive/multi-season characterization study aimed at obtaining detailed data on material discards in the County. This nearly $1 million study measured the composition of various waste streams from both residential and commercial generating sectors. Leaning on Brent’s significant and extensive experience leading these studies, he led field activities for the first season of this study to confirm the meticulous and rigorous field procedures were followed. He trained eight (8) team members on the tasks and activities required to complete field work. Brent’s leadership in initiating field activities for this study facilitated the successful completion of this study that resulted in reliable and representative data to inform StopWaste’s solid waste programs and policies.

Broward County Solid Waste Division, FL, Municipal Solid Waste (MSW), Source Separated Recyclable Material Contamination Study, and Construction/Demolition Debris (2022); Mr. Dieleman designed and led field activities for Broward County Solid Waste Division comprehensive four-season waste characterization study. This study characterized 150 samples of MSW, 50 samples of source-separated recyclable materials, and 280 samples of construction/demolition debris and bulky waste. The study targeted waste generated from both the residential and commercial generating sectors. Brent’s experience with waste characterization was critical to completing this study while navigating the challenges of working with many different entities who often didn’t see eye-to-eye on how field activities should operate.

Iowa Department of Natural Resources (DNR), Statewide Waste Characterization Study (2017, 2022); Mr. Dieleman served as the project manager to complete the State of Iowa’s 2017 Statewide Waste Characterization Study. In 2022, Brent supported field activities to initiate the project’s 10-week field event. This study characterized about 500 random samples of disposed municipal solid waste. Working closely with DNR staff as well as staff from 14 publically-owned host facilities, Brent designed the study to obtain random and representative waste samples from haulers delivering waste loads to solid waste host facilities. Brent led the planning activities for executing the field work. He was the onsite project manager directing staff to complete the fieldwork for the majority the study. This included training staff on the sorting process and procedure, quality control of the sorted material categories, and accurate data recording and compilation. Upon conclusion of the fieldwork, Brent led the data analysis and development of the final report that provided overall, commercial, and residential waste profiles for the State of Iowa. Additionally, Brent further analyzed the data from this study to quantify the value of the disposed recyclable materials and estimated the greenhouse gas impacts of landfilling these materials compared to diverting them.

Wisconsin Department of Natural Resources (DNR), Statewide Waste Characterization Study (2020-2021); Mr. Dieleman served as the technical project manager to complete the State of Wisconsin’s 2020-2021 Statewide Waste Characterization Study. This study characterized over 600 random samples of disposed municipal solid waste and construction/demolition debris at 15 solid waste facilities throughout the state of Wisconsin. Working closely with DNR staff, Brent designed the study to obtain random and representative waste samples from haulers delivering waste loads to solid waste facilities. For over five weeks Brent was the onsite project manager directing staff to complete the fieldwork. This included training staff on the sorting process and procedure, quality control of the sorted material categories, and accurate data recording and compilation. Upon conclusion of the fieldwork, Brent led the data analysis and development of the final report that provided overall, commercial, residential, and construction/demolition debris waste profiles for the State of Wisconsin. The results SCS obtained from this study are not yet publically available; however, DNR issued a press release on October 19, 2020 documenting SCS’s role in completing this project. It is available at <https://dnr.wisconsin.gov/newsroom/release/38581>

George Washington (GW) University, Material Audit of Multiple Campus Facilities (2019);  
GW contracted with SCS Engineers to complete a two season audit of the trash and recycling materials streams on their campus. Mr. Dieleman served as project manager for this study and oversaw study design and field operations. The study focused on characterizing materials in the trash and source-separated recyclable materials streams from three different types of campus facilities: academic buildings, residence halls, and administrative/support facilities. In the field, Brent managed a team of SCS professionals that collected waste and recycling samples from the various buildings on campus, sorted the materials into 20 different material categories, and recorded data on sample-specific data forms. Brent used the data obtained from the fieldwork to calculate the composition of each material stream with particular attention to the types and quantities recyclable materials being disposed as trash and the types and quantities of trash placed in the recycling stream. Results of the SCS waste audit are not publically available; however, documentation of SCS’s role in completing this study is reported in Sustainability Tracking, Assessment and Rating System (STARS) for GW’s Waste Minimization and Diversion reporting at: <https://reports.aashe.org/institutions/george-washington-university-dc/report/2020-03-05/OP/waste/OP-18/>

Orange County Solid Waste Division, FL, Source Separated Recyclable Material Contamination Study (2018); Mr. Dieleman worked with Orange County Solid Waste Division staff to characterize random samples of source-separated residential recyclable materials delivered to their material recovery facility. At the time of this study, the County anticipated procuring a service provider for the processing and marketing the recyclable materials collected curbside from residents in the unincorporated areas of Orange County. The project’s goal was to quantify the types and quantities of recyclable materials and contamination collected. Mr. Dieleman served as the onsite project manager and trained and oversaw the work over six staff members sorting the materials. Brent was also responsible for quality control of the sorted materials and the accurate recording of the data on field forms. This study sorted 50 samples of residential recyclable materials into 27 different material types.

Montgomery County, MD, Four Season Waste Characterization Study (2017-2018); Mr. Dieleman led the design, planning, and execution of Montgomery County’s four-season waste characterization study at the Shady Grove Transfer Station in Derwood. This study included the collection and sorting of 300 waste samples over four seasons (spring, summer, fall, and winter). Waste was sorted into 64 material categories to quantify the types and quantities of materials in the disposed waste stream. Waste samples from the single-family residential, multi-family residential, and commercial/institutional were obtained and sorted. Brent was onsite during all field activities and managed a crew of eight people sorting waste samples. A key part of Brent’s onsite management of the sort was quality control of the sample acquisition and sorting process and accurate data recording. SCS provided the County with a final report that included the data obtained. It is available on the County’s website at [www.montgomerycountymd.gov/SWS/Resources/Files/studies/waste-composition-study-2017.pdf](http://www.montgomerycountymd.gov/SWS/Resources/Files/studies/waste-composition-study-2017.pdf)

#### Additional Material Characterization/Diversion Studies

##### Brent has served as project manager for over 25 waste characterization studies to assess recycling and waste diversion opportunities, evaluate the feasibility of waste-to-energy facilities, and assist in solid waste management planning activities. Mr. Dieleman assists in developing the sampling plan, planning and coordinating the logistics with the client or host facility contacts, overseeing health and safety training, onsite oversight and management of field activities, quality assurance review of data, data analysis, and report writing and presentation. Mr. Dieleman has conducted solid waste composition studies for local and state governments, institutions, and private corporations all over the world, including the 2017 Iowa Statewide Waste Characterization. He has conducted solid waste composition studies for the following clients:

|  |  |  |
| --- | --- | --- |
| Municipalities | | |
| * City of Gurugram, India – supported through U.S. EPA (2019) * Iowa Department of Natural Resources (2017) * City of Naucalpan, Mexico - supported through U.S. EPA (2017) * City of Chula Vista, CA (2015) * Prince George’s County, MD (2015) | * Santo Domingo, Dominican Republic (2014) * Prince William County, VA (2014) * Anne Arundel County, MD (2014, 2010) * City of Sausalito, CA (2013) * City of Huntsville, AL (2013) * Montgomery County, MD (2013, 2009) * Wake County, NC (2011) | |
|  | | | |
| Institutions | | | |
| * College of Charleston, South Carolina (2022) * University of Maryland (2015, 2013, 2014, 2009) * Mother of God Elementary School (2015) | | * The Tower Companies, Washington, DC and Rockville, MD (2009) | |
|  | | | |
| Businesses | | | |
| * Pizza Hut (2015) * Gold’s Gym (2015) | | * Arcola Health & Rehabilitation (2015) * Fitzgerald Auto Mall (2015) | |

#### Select Solid Waste Planning Studies

##### **Recycling Assessment Studies, Frederick County, VA; Northern Shenandoah Valley Planning Commission** Current recycling markets have strained municipal and private entity recycling programs. Brent has worked with clients to explore options for modifying current recycling programs in order to improve program resiliency and facilitate long-term sustainability. This work includes assessing contaminants in recycling program streams in an effort to inform public education activities and negotiate fair contracts with recycling processors. This work often includes engaging with processors and others to understand contamination issues prior to working with a client and evaluating a specific program.

**Solid Waste Collection Study, City of College Park, MD.** Brent recently completed solid waste collection program evaluations that analyzed aspects of the City’s bulky refuse, brush, and regular refuse and recycling collection programs. Many of these programs were inefficient and program costs had increased significantly over the last several years. Mr. Dieleman led a team of staff to complete field observations and ride-alongs with collection personnel to understand the day-to-day challenges with the programs. With an understand of the issues, Brent facilitated meetings with City staff to discuss potential program updates and changes, which included requiring containerized refuse and recyclable materials, limiting bulky item collections, and charging fees for excess amounts of materials. The project concluded with Mr. Dieleman presenting the results and recommendations to the City Council where all recommendations were adopted.

**Recycling Technical Assistance, Pennsylvania Department of Environmental Protection, PA**. Mr. Dieleman has provided recycling technical assistance to nearly 35 local governments to help overcome challenges to waste diversion and program inefficiencies. Projects include evaluating pay-as-you-throw systems, commercial recycling improvements, curbside collection of food waste, curbside collection of yard waste, and modernizing local recycling ordinances. A major focus of Brent’s work for PADEP has been to help local governments evaluate existing curbside and drop-off recycling programs and make recommendations for how the programs can improved. Recommendations about scope of services, materials accepted, collection frequency and schedule, and material preparation guidelines are developed.

**Solid Waste Collection Studies – City of Waynesboro, VA and City of Lynchburg, VA.** Brent led the collection system evaluation part of these projects for both the cities of Waynesboro and Lynchburg. Mr. Dieleman’s project work focused on how existing programs for recycling, trash, bulky refuse, and yard waste could be improved. Project activities included multiple days of field observations to identify challenges and talk with city staff on the front lines of collection. Brent led additional stakeholder meetings to receive input on the problems with existing programs and how potential solutions could be implemented. Solutions identified included upgrading drop-off recycling containers, not collecting bulky refuse and brush that has not been properly prepared, and stronger enforcement activities.

**U.S. EPA Landfill Methane Outreach Program/Global Methane Initiative/Climate and Clean Air Coalition**. Mr. Dieleman supports the work of U.S. EPA to assist national and local governments in the U.S. and around the world to improve waste management practices that reduce emissions. Brent recently led the development of training program and guidance document on how waste characterization studies can be used as an important tool for solid waste planning. Mr. Dieleman leads training events for waste professionals, conducts energy feasibility studies, and facilitates partnerships with private and public entities to advance waste projects.

**Zero Waste Strategic Plan, Prince George’s County, MD**. Brent developed and documented the County’s strategy to reduce the quantity and toxicity of waste generated and increase the proportions of waste diverted to recycling and composting programs. A key objective of this project was to engage with stakeholders in the County to receive their feedback and ideas for what the County could prioritize in their plan.

**Waste Diversion Initiatives, Montgomery County, MD.** Mr. Dieleman supports the County’s efforts to evaluate programs and increase the amount of material diverted from disposal. Projects include multi-family and commercial recycling distance surveys, identifying undocumented recycling activities, and waste characterization.

**Mid-America Regional Council Solid Waste Management District (MARC SWMD).** Mr. Dieleman supported the development of a benchmarking tool to assess each member community’s progress in meeting the adopted waste diversion goals. Mr. Dieleman participated in meetings with MARC’s Executive Board and Management Council to identify parameters to include in the tool, options for assessing current recycling and diversion activities, a point structure for measuring diversion activities, and a rating system.

**Mandatory Commercial Organics Recycling Compliance Study, Los Angeles County Department of Public Works, CA.** Brent researched the requirements of California’s AB 1826 that requires businesses and multi-family properties to recycle organic materials from their waste stream. He developed a summary report that included recommendations for Los Angeles County to consider implementing the requirements of this law within the County’s existing franchised hauler agreements.

**Recycling Markets Research Study (Santo Domingo, Dominican Republic), Deltaway Energy, CA.** Brent researched the markets available for recyclable commodities disposed of at the Duquesa Landfill in the Dominican Republic. Conducted internet research on market pricing for recyclable materials. Identified commodity brokers that have done business in the Dominican Republic and interviewed them on the logistics and costs for brokering commodities.

**Residential Composting Program Research, University of Maryland.**  Mr. Dieleman identified similar institutions and researched their residential campus composting programs. Additional information needs were developed and representatives from selected institutions were interviewed to obtain desired information.