

Integrated Waste Solutions



With experts in planning, economics, environmental science, design, construction management and operations, Jacobs has a worldwide reputation for developing innovative solid waste management solutions.

Comprehensive solid waste management solutions for governments, private companies and industries.

The waste solutions industry is at a crossroads with aging and undersized transfer stations and material recovery facilities; rapid technology advances; the collapse of the global recycling market; the call to manage solid waste more efficiently to help combat climate change, promote resiliency, and satisfy new regulations (e.g., greenhouse gas reduction and food waste/organics diversion), corporate sustainability goals, and local waste and climate goals; and more recently, the challenge of safely maintaining solid waste management systems and services during the COVID-19 pandemic.

As an industry leader, Jacobs' Integrated Waste Solutions team has collaborated with clients for more than 30 years, providing customized, comprehensive solid waste planning and permitting solutions, and facility design, construction and operations oversight.

With experts in planning, economics, environmental science, design, construction management and operations, Jacobs has a worldwide reputation as a trusted partner, developing innovative solid waste management solutions for governments, private companies and industries. Integrating our traditional solid waste management services with expertise from our complementary businesses like power, water, transportation, and operations enables Jacobs to provide complete project development and technology services worldwide.

▶ **#1**

Top 500 Design
Firms (ENR)

▶ **#2**

Top 200 Environmental
Firms (ENR)

Project Experience

Renewable Placer: Waste Action Plan Western Placer, Western Placer Waste Management Authority, Sacramento, California

Jacobs has been delivering strategic planning, permitting, engineering, and many other services at this unique waste management "campus" in the Sacramento urban area since 2016. At the core of this project is a 50-100 year plan for how the facility will meet regional needs and address the evolving sustainable waste management environment by not only incorporating redesign and expansion of the extensive and diverse waste management infrastructure, but to build in the capacity for local economic development through the circular economy.



Guam Environmental Protection Agency Sustainable Materials Management Programs

We are providing the Guam EPA with technical assistance in the design, planning, development and implementation of the Guam Zero Waste Plan, Guam's Recycling Revolving Fund Act, and Guam's Beverage Container Recycling Act. Jacobs is working with the Guam EPA on the prioritization, implementation and evaluation of zero waste initiatives, including food waste and reuse, greening roadway infrastructure, regulatory compliance and biosolids initiatives, and materials market assessments to evaluate strategies for the circular economy. Several of the initiatives have included demonstration projects to advance reuse or more beneficial use of materials, such as using glass, concrete, and green waste in roadway construction and evaluating how to create safe, high-quality compost with locally available materials.



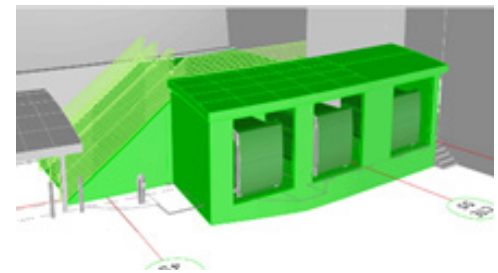
Shepard Organics Facility Planning and Development, City of Calgary, Alberta

The City of Calgary selected Jacobs to assist in building their new organic waste management campus to handle source-separated residential and commercial organic solid wastes as well as wastewater treatment biosolids. Our team provided technical guidance and engineering services, from the early planning stages (2010-2012) through facility design and procurement (2012-2017), and operations assistance (2018-present) of a large-scale, state-of-the-art enclosed composting facility capable of handling more than 100,000 tpy of residential source-separated organic wastes and 45,500 tpy of dewatered biosolids. Early in the project, we evaluated over 30 possible locations for the organics processing facility. Siting exercises focused on constructability, land use zoning, transportation and traffic impacts, odor issues and mitigation strategies, and neighborhood impacts. Throughout the design and procurement phase, Jacobs provided guidance to the City on various procurement models, including: Design-Bid-Build, Construction Management at Risk, Design-Build, Design-Build-Operate, and Alliance Contracting.



Seattle-Tacoma International Airport South Central Terminal Solid Waste Improvements – Phase 1 Feasibility

Jacobs conducted services supporting the research, evaluation and initial design for future solid waste infrastructure modifications for the Seattle-Tacoma International Airport. The project evaluated restructuring the central terminal solid waste areas to address capacity issues, space constraints, and better accommodate centralized processing of the higher volumes of organic waste that are being anticipated as a result of a major Central Terminal Modernization & Upgrade project and environmental goals that promote composting of organic waste.



Cedar Hills Regional Landfill (CHRL) Support Facilities Project, King County, Washington, Solid Waste Division

We evaluated relocating existing landfill infrastructure to other locations in the County to create additional space at the landfill and to support expansion, enabling the landfill to remain open, potentially until or beyond 2040. During Phase I, we conducted a site assessment of 48 buildings and locations and developed conceptual cost estimates to either relocate, repair, or demolish buildings. Phase II involves evaluating options to relocate over 200 employees to other King County locations (new or existing facilities). We conducted a needs assessment and detailed interviews along with organizing and conducting six workshops over a one year period to gain consensus from 40 stakeholders.



Solid Waste Management, Fayette County, Georgia

Jacobs has been providing environmental compliance and general engineering services to Fayette County at their two closed landfills since 2010. Our scope includes groundwater and surface water monitoring, methane monitoring, landfill inspections, and general engineering tasks ranging from remediation system design and installation, permit modification, and regulatory coordination to landfill design and permitting. Jacobs successfully negotiated with the GAEPD a substantial reduction in the environmental monitoring networks for both the Northside and Southside Landfills. We also designed and successfully permitted the first inert landfill subject to new inert landfill regulations in Georgia.



Northwest Transfer Station Project, Hillsborough County, Florida, Solid Waste Management Department

This 8-year project comprised all phases from planning, through design and construction phases and subsequent postconstruction services. The facility has the capacity to manage 2,200 tons per day of waste. Jacobs prepared detailed building designs including architectural, structural, electrical, HVAC, plumbing, fire protection, instrumentation and geotechnical components. Phase 1 focused on renovating the existing transfer station and scale facility to improve their condition and operations. We evaluated various options and selected the option that involved constructing a new building over the old building, re-using the existing concrete floors and walls, and demolishing the old building from the inside out, providing Hillsborough County and its customers the greatest cost benefit.



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Solid Waste Planning & Permitting Services

- Facility Capacity/Infrastructure Assessment/Operational Evaluation
- Facility Operations Plans & Modeling (odor modeling, noise and traffic studies, mitigation plans)
- Facility Planning (Strategic, Master, Tactical, Needs Assessment)
- Facility Site Identification, Evaluation/Prioritization, and Selection
- Environmental Studies & Documents Preparation for New Facilities
- Facility Permitting (conditional or special use permits, rezoning applications, solid waste facility permits, air and stormwater permits)
- Greenhouse Gas Evaluation or Management
- Net Present Value & Life Cycle Cost Evaluation
- Policy Development & Regulatory Strategy, Interpretation & Assistance
- Strategy Development for Solid and Organic Waste Management Programs or Infrastructure
- Processing Technology Evaluation
- Program Management
- Procurement Assistance & Contract Negotiations (collection, facility or landfill operation, long-haul, etc.)

- Solid Waste Alternative Development/Studies/ Evaluation
- Solid Waste Management Optimization (programs, equipment, footprint)
- Stakeholder Engagement
- Waste Characterizations & Projections
- Waste Plans (Solid Waste & Recycling/Zero Waste/Waste Minimization) & Assessments

Solid Waste Facility Design, Construction and Operation Oversight Services

- Construction Quality Assurance (CQA)
- Landfill Development and Closure
- Landfill Gas Management, Energy Recovery & Beneficial Use
- Landfill Leachate Management
- Landfill Redevelopment
- Operational Evaluation
- Owner's Engineer During Facility Development
- Surface Impoundments Assessment, Stabilization & Closure
- Transfer Station, Material Recovery & Organics Facility Design (basis of design, conceptual and detailed)



Contact us

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About Jacobs

At Jacobs, we're challenging today to reinvent tomorrow by solving the world's most critical problems for thriving cities, resilient environments, mission-critical outcomes, operational advancement, scientific discovery and cutting-edge manufacturing, turning abstract ideas into realities that transform the world for good. With \$14 billion in revenue and a talent force of approximately 55,000, Jacobs provides a full spectrum of professional services including consulting, technical, scientific and project delivery for the government and private sector.

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