

The Power of a Team

Assembling the right design team for solid waste projects.

■ By Evan Williams

Identifying the need for a new project is an important first step for any type of development project. But how is a rough idea translated into a completed facility? Many professionals, from several disciplines, working together will be needed to assemble documents and approvals to get to the construction phase. Team members will vary based on the type of project and requirements of the local community. No matter the size or make-up of the team, communication is critical to the success of the design phase and one person on the project needs to be the liaison between all parties to pull everything together. In our experience, this is typically the lead architect or the design/build firm since they manage the other team members and work closely with the owner.

Typically, projects will involve Environmental Permitting, Owner Representatives, Lead Architect/Structural Engineer/MEP Engineer, Civil Engineer, Legal (for zoning and land use issues), Public (community) Engagement, Local Building and Planning Departments and an Experienced Design/Build Construction Firm. How this team is assembled and how well it functions will be key to project execution and completing the process in an efficient manner. The areas of critical performance for these teams include Land Use and Zoning, Community Engagement, Site Planning and Environmental Permitting, Construction Documents and Project Execution. We will go through a few of these team members and their important roles. This list will not be all encompassing and may grow or shrink based on your specific project.

Correct and accurate drawings. Images courtesy of Cambridge Companies.



Environmental Permitting

A critical part of any solid waste project design team is the Environmental Permitting Consultant (EPC). The EPC must have extensive experience with solid waste permitting to not only guide the project through the process, but also for valuable guidance on which design approach will be most acceptable to permitting authorities. Their experience can be valuable for projecting reasonable timelines as well as warn against typical pitfalls. A depth of experience with solid waste projects is also valuable to properly troubleshoot and address project-specific complications that can arise to keep the project on track.

Owner Representatives

A commonly overlooked, critical part of the design team is the Owner Representative (OR). The OR is a vital link for confirming the owner's direction on project specifics as well as coordinating project communication. Project communication is important to ensure approvals are timely and input is received from the proper parties. There are several levels of owner involvement, which can include corporate oversight, local management, corporate marketing, safety reviews, environmental compliance and local community relations staff. The owner's corporate safety staff should be included in a review of the site and facility plans to incorporate input on traffic circulation or building orientation specifics that should be included in the design development, not left to a post-construction walk-through. An important goal for owner involvement is to ensure that they are kept in the loop with the project status as well as what is needed from them. This is best achieved through weekly or semi-weekly owner's calls.

Lead Architect/Structural Engineer/MEP Engineer

Architects typically lead the technical design for the facility. It is important that, at the very least, the Architect has direct experience with solid waste projects prior to assembling their team of sub-consultants. This helps to ensure that the project is designed with an eye toward safe and efficient site traffic circulation. Also, solid waste experience will help with the technical design to ensure water stops are used where required, appropriate misting and odor control measures are used, the building and doors are oriented properly for building access and wind minimization, the building is designed to minimize vectors, the structure is designed to hold up to the loads present in solid waste facilities, and many other considerations not listed here. Put simply, if the team is not using technical designers with solid

waste experience, they will be making mistakes more experienced firms have made in the past. The difference is that the experienced firm's history helps to not repeat those errors. At a minimum, the services of a solid waste design consultant or EPC will need to be engaged to assist with the facility design. Solid waste facilities require many specific considerations not immediately apparent or present in more conventional industrial construction. It is the responsibility of the Lead

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The Design/Build team.

Architect to ensure that the design of the sub-consultants aligns with the project requirements, local regulatory requirements, prevailing building codes and industry best practices. Where possible, a peer review from a third-party design firm or a design/build firm familiar with solid waste facilities is advisable for additional input.

Civil Engineer

One common theme of solid waste projects is that civil engineering considerations often prove surprising with regard to their complexity and timeframes. Engaging an experienced, competent, and reliable Civil Engineer will help the project goals. Where work is being performed on a landfill or other previously developed site, it is often best to work with the firm already completing other site work. Familiarity with the site over time will help to ensure that there are minimal surprises and the site layout takes advantage of all opportunities on the parcel. Another common consideration is related to storm water permitting—start the coordination and design of this task early in the process so it does not affect the project approvals.

Legal

Solid waste projects can be a sensitive topic in certain communities and present very real challenges from both a land use, zoning perspective, community relations and messaging standpoint. To assist with these, the design team may include the services of a local land use and zoning attorney. The attorney can aid in general project development approaches and considerations to ensure that the layout being considered will be acceptable to the community and the reviewing agencies. In addition, they can be tasked with conducting or assisting community outreach to discuss the project with local community groups and city departments. It is never a guarantee that there will not be issues, but design teams typically exist in the world of technical drawings and often lack the nuance and expertise to have these equally important conversations and meetings to gauge and obtain community input.

Public (Community) Engagement

The community should be engaged on some level on many solid waste projects. This will likely not apply to projects on existing landfills, or administrative facilities such as offices or hauling facilities. However, transfer stations, recycling centers, solidification pits and other similar facilities may well want to engage the community to obtain their input. The community input can help gauge community acceptance of the facility early on and whether they will require any building features or amenities to help minimize potentially costly impacts and allow the project to move forward. The process may be uncomfortable, but having these discussions helps avoid the perception that the project development team is trying to hide anything (though this is rarely the case). By being open to discussion and feedback, a project can embrace the community input to help aid its acceptance. The local governmental affairs team member, owner representatives, legal counsel, and any other local government staff should be included to gauge local needs and sensitivities with regards to the best routes for engagement.

Local Building and Planning Department

A commonly forgotten part of the design team for a solid waste project is the local building department. Very often, a project is developed and simply dropped off at the local municipality for review. While this is technically acceptable, on solid waste projects it is better to include the reviewing agencies in meetings prior to submitting the drawings. Involving the local building department early allows them to develop a familiarity and comfort level with the project, ask questions, and get to know the individuals completing the design and development. This relationship, as well as the added project information, can help shorten the review times, minimize trivial questions on reviews and head-off potential issues that can come up from misunderstandings common to solid waste projects.