

# Using GIS for Solid Waste Projects is a Game-Changer

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Today, mobile applications for accessing data have significantly advanced how we work in many industries, including architecture, engineering, and construction. Many use Geographic Information Systems (GIS) to capture, store, and display data on a map. Employing GIS in solid waste engineering allows greater access to more accurate data, which helps to efficiently meet compliance goals.

In many county or city solid waste departments, GIS has not been adopted despite other departments using GIS to help monitor their assets (utilities and water departments for example). Experience proves that applying GIS technology to solid waste activities helps to better identify, track, and solve issues.

The top reasons to use GIS include:

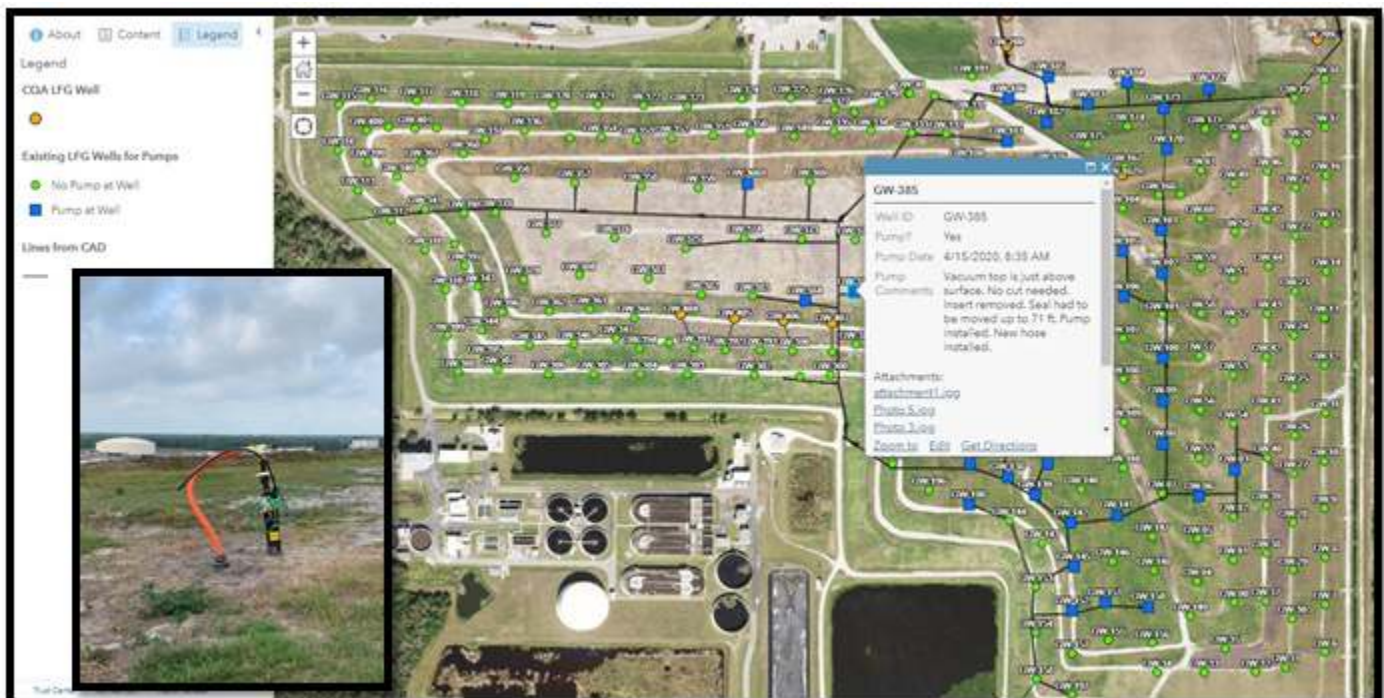
1. *Real-time data visualization and updates:* Project managers see data instantly to make fast and better-informed decisions.
2. *Enhanced data quality:* Data is entered directly online with optional validations for real-time quality control. No manual data transfers decrease the potential for human error.
3. *All-in-one storage:* Record keeping is simplified with photos, field logs, past event results, and plans all in one place. Centralized, online storage eliminates issues with employee turnover or individuals incorrectly storing data.
4. *Efficiency and time-savings:* Field data can be easily exported for inclusion in spreadsheets or reports. Maps allow for spatial analysis

which provide insight into patterns and causation.

For solid waste, sampling is regulated and critical to meeting landfill compliance goals. Landfills could have hundreds of wells onsite. Collecting data from each well can be complicated considering sampling locations, dates, multiple sample parameters, photos, etc. With GIS, not only can data be stored in one place with spatial context, but it can also quickly be analyzed to visualize trends over time and reveal how the landfill is functioning.

For those interested in using GIS, the following steps can help make that transition successful:

1. Find out if your organization is already using a GIS platform that your team could access with minimal to no additional software costs.



2. Introduce your teams to the proper people within the GIS department. Offer to take them to a project site so they can understand the work you do and how you do it.
3. Identify and clearly define the goal of a task and work backwards to create deliverables and workflows.
4. Consider the objectives of different users and design the deliverables to suit their needs. For instance, someone in the field needs access to different information and

likely needs to visualize it differently than a program or site manager.

5. Talk to a neighboring city, county, or private entity about their GIS workflows. Ask what worked and what did not.

Invite your GIS person, team, or subconsultant on a site visit. Make sure they understand data collection and any other tools the team uses. If the GIS platform is not designed to support the way your landfill team works, field staff and others may not use it. But, if a true connection between the departments occurs, the

long-term benefits and advantages will be considerable.

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