

Design and Build a Custom Geodatabase

A geodatabase is a key component of a GIS that provides a place to record and store utility data. JDE has developed a number of geodatabase templates for utility systems that are robust and functional. To improve efficiency, JDE will utilize its geodatabase templates as a starting point, and make necessary modifications to meet Mona City's unique needs and preferences.

Field Data Collection and Processing

We recommend collecting water, sewer, and natural gas systems feature locations in the field using high-accuracy, mapping-grade GPS units. Mapping data in the field will provide a more accurate representation of the City's utilities than other methods, such as desktop digitization. An accurate and complete GIS will improve the City's ability to efficiently and accurately locate system components on the ground in the future regardless of the weather conditions.

Collecting field data includes three basic steps. First, the GPS unit will be loaded with the custom database schema developed in the initial stages of the project. Second, the data will be collected in the field. Finally, the collected data will be post-processed for accuracy and incorporated into the custom geodatabase.

Our approach to collecting data in the field is to utilize the City's public works staff to collect locations of the water and sewer system features. This approach will reduce overall project costs and provide public works staff with an opportunity to become more involved in the creation and ownership of the GIS data. JDE will provide on-site data collection training and supply a high-accuracy GPS unit for the City's use for the duration of the data collection efforts.

If the City prefers not to collect field data, JDE will be happy to provide field data collection services, but would request the City's assistance in locating hidden or obscure features.

Finalize GIS Data

Once field data is collected and incorporated into the geodatabase, additional features will be added to the geodatabase that are difficult to collect in the field (e.g., water lines, sewer lines, gas lines). In addition, information from past plans and models will be added to feature attributes to document key system information, such as pipe sizes, valve types, etc. A draft of the water, sewer, and natural gas systems data will be published to a web map for the City to review and comment on, which JDE will use to make any necessary corrections or modifications to the data. JDE will finalize the data using its rigorous QA/QC process.

Create a Web GIS

JDE recommends using ArcGIS Online to host the City's water and sewer utilities data. ArcGIS Online is a secure, cloud-based GIS platform that gives an organization the ability to make, view, and share maps on any device, anywhere, anytime. JDE will set up and administer an ArcGIS Online account in behalf of the City. The final web GIS will include water, sewer, and

