

# Utility Engineering

## Water Infrastructure Engineering

Combining practical scientific knowledge with standard engineering principles, DBS&A provides full-scale infrastructure design and construction services, including:

- ◆ Managed aquifer recharge, and aquifer storage and recovery (ASR)
- ◆ Desalination engineering
- ◆ Injection well design
- ◆ Supply wells and well field design
- ◆ Drinking water treatment
- ◆ Water storage, transmission, and distribution



This Albuquerque Bernalillo County Water Utility Authority (ABCWUA) Bear Canyon Aquifer Recharge project is **the first to obtain a permit for full-scale operation in New Mexico**. The project involves releasing surface water into an arroyo channel and monitoring it as it moves through the 500-foot-thick vadose zone profile.

## Water Supply Development

DBS&A can help water supply managers and operators to optimize well designs and other supply infrastructure, obtain permitting and funding, and acquire and manage water rights. From shallow, small-capacity wells to deep, high-capacity well fields serving entire cities with growing populations, our key services in water supply development include:

- ◆ Geophysical logging oversight and analysis
- ◆ Exploratory drilling and hydrogeologic characterization
- ◆ Aquifer testing
- ◆ Identification of production zones
- ◆ Municipal well and well field design and development
- ◆ Permitting
- ◆ Construction oversight
- ◆ Water rights analysis and acquisition
- ◆ Conjunctive use studies
- ◆ Assessment and prediction of water quality

## Asset Management

The concept of asset management has come to the forefront of many public and private utility systems. With an organized method of monitoring, maintaining, rehabilitating, and planning for the eventual replacement of assets, system managers can optimize

the life and operation of assets, and minimize lifecycle costs. This approach leads to the utilization of a good business model to optimize the lifecycle costs of the well. Many times wells are ignored and simply “run to failure.” DBS&A has developed an approach to asset management that can be applied as a good business model to any utility system.

## GIS Utility Mapping

DBS&A can provide global positioning system (GPS)/geographic information system (GIS) mapping services to create GIS layers of existing infrastructure for water, wastewater, and natural gas utility systems.

DBS&A uses GPS technologies to accurately collect ground locations for point features associated with utility systems. These “data inventories” include GPS data collection of water, wastewater, and natural gas utility features, such as valves, meters, wells, pumps, hydrants, storage tanks, and manholes.

The integration of geographic features with relevant attribute data, such as valve sizes, installation dates, condition, or maintenance records, enables our clients to readily access and interact with these data through custom GIS maps, queries, and analysis tools.



## Stormwater Management

Our hydrologists assist clients in navigating regulations regarding stormwater runoff, including flood control hydraulic analyses and point source discharge compliance with the U.S. Environmental Protection Agency's (U.S. EPA) National Pollutant Discharge Elimination System (NPDES) requirements. Because stormwater quality best management practices (BMPs) are not one-size-fits-all, we help our clients to evaluate and pinpoint those BMPs that work best with each client's unique stormwater incidence and conveyance system. Our services include water sampling, infrastructure monitoring, preparation and implementation of Storm Water Pollution Prevention Plans and low-impact development studies and design.

## Construction Oversight

Construction services experience is a key element of successful project delivery and cost control. DBS&A is highly experienced in providing construction contract administration and inspection, including large-diameter water-supply well installations, wastewater treatment system installations, municipal landfill liners and covers, soil and groundwater remediation systems, acid-mine drainage cutoff walls and interceptor systems, and wetlands implementation.

DBS&A designs and oversees the construction of projects with values ranging from \$10,000 to more than \$10,000,000.

## Solid Waste Facility Support

We support landfill operators and hazardous waste managers by providing regulatory, scientific, and engineering solutions at hazardous and municipal solid waste landfills, land disposal units, waste isolation facilities, and mine sites. Our experience includes siting, permitting, design, construction oversight, and monitoring for facility expansions, permit modifications, and closures. We have guided high-profile sites through all phases of EPA approval. Our public and private sector clients include municipalities, counties, private operators, the U.S. Department of Energy, and the U.S. Department of Defense. We also have experience in design of waste-to-energy, cogeneration facilities using landfill-produced methane gas to power water treatment facilities.



DBS&A can assist with National Pollutant Discharge Elimination compliance and municipal stormwater permits.

“ [DBS&A's] strength is synthesizing the data and understanding how we should proceed strategically. ”

~ Greg Bushner, Vice President  
Vidler Water Company



**Daniel B. Stephens & Associates, Inc.**

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