



Water

Drinking Water

Client
Detroit Water & Sewerage
Department

Location
Detroit, MI, USA

Comprehensive Water Master Plan

Project Description

The Detroit Water and Sewerage Department (DWSD) supplies water to about four million people in the city of Detroit and 126 neighboring suburban communities in southeast Michigan. The system includes five water treatment plants, 20 booster pumping stations and more than 700 miles of transmission pipe, ranging in size from 24 inches to 120 inches in diameter. The service area includes all or parts of nine counties.

CH2M HILL led a team of seven consulting firms to develop a long range Comprehensive Water Master Plan (CWMP) for DWSD. The vision for the plan was to create a CWMP that would guide and direct the continuing, orderly expansion of the water system to meet the growing needs of the communities within the service area over the next 50 years.

The master plan identified the infrastructure needs to service the growing communities currently serviced by the DWSD system, as well as potential new customer communities that may join the system. CH2M HILL developed a Capital Improvement Plan (CIP) that included new infrastructure to service the growing communities, as well as a renewal and rehabilitation plan for the water treatment plants, the pumping stations and reservoirs and the transmission mains. A water quality component assessed the impacts of both existing and potential future regulations on protection of the source of supply, the need for additional treatment processes, and protection of water quality throughout the transmission and distribution system.

A financial plan provided a detailed prioritization and schedule for the work as well as a projection of the rate structure needed to support the CIP. CH2M HILL identified rate increases of approximately eight to nine percent over the next 20 years to support the plan. Additionally, the team developed a human resources plan that identified the staffing needs including future staff skills and training needs.

An extensive customer outreach program included the formation of a technical advisory committee consisting of a broad cross-section of customer community classes and sizes. As part of the program, workshops were held throughout the service area dealing with such issues as rates, level of service, emergency planning, public education, and communication. These workshops provided the forum for DWSD and the master planning team to disseminate information, understand customer issues and incorporate these issues into the planning process.