



HAWORTH, NEW JERSEY PROGRESSIVE DESIGN-BUILD CDM

United Water New Jersey faced growing customer demand, new stringent drinking water regulations from the New Jersey DEP, taste and odor issues in the treated drinking water, and aging water treatment plant equipment. United Water New Jersey needed to upgrade their drinking water facility to address these challenges and chose CDM to design and build the 200 MGD, \$100 million water treatment facility out of a group of three pre-qualified design-build engineering-contracting companies.

The plant upgrade included implementation of new pre-ozonation facilities containing the largest high-rate dissolved air flotation (DAF) process in the U.S. and new disinfection facilities prior to filtration. The high-rate DAF removes 90 percent of particles and algae from source water before it is filtered, saving energy and producing higher quality water. The DAF also requires 1/8 the process tank volume

needed for traditional sedimentation clarification, conserving 12 acres of woodland. The ozone generators were installed within the existing equipment's footprint and building space – eliminating the need to construct a new ozone generation building, preserving green space, and saving over \$3.5 million.

CDM designed, permitted, and constructed all of the major process treatment units in 21 months – half the time that a conventional design and construction approach would have required. The project was completed ahead of schedule and met pending regulatory deadlines. The project was also completed under budget, thereby minimizing customer rate increases. During the project, 400 carpenters, laborers, ironworkers, pipe fitters, electricians, and other trades people were employed, while customers never lost a day of service. The existing plant remained fully operational throughout the project.

