Shanghai New Jinshan Investment Holding Group Co., Ltd.

Xinjiang Water Purification No. 2 Plant and Supporting Pipe Network Project

Jinshan District, Shanghai, China

Project Summary

Project

As the owners of the Xinjiang No. 2 Sewage Treatment Plant and Pipeline, Shanghai New Jinshan Investment Holding Group and Shanghai Jinshan Sewage Outfall Engineering are implementing 5D building information modeling methods to improve construction management and quality. The pilot project, characterized by large volumes, a tight schedule, and enormous tasks, aims to set 5D BIM methodology as the standard for construction sequencing and cost management of municipal infrastructure projects. Management also wanted the new design to increase average, annual plant efficiency by 80 percent.

Solution

Shanghai Urban Construction Design and Research Institute delivered the 3D plant design, and Shanghai Jianke Cost Consulting consulted on BIM technology and project management. ProjectWise provided the platform for data storage and resource integration. A secondary customized platform based on ProjectWise added the ability to directly extract cost data from BIM model quantities, giving the owners an accurate 5D model of the new municipal infrastructure projects.

Outcome

ProjectWise enabled 20 teams to efficiently collaborate over the course of the six-month project to deliver a complete water treatment design. The 5D BIM approach eliminated 90 percent of design errors and unnecessary rework, and saved 300 resource days and CNY 3.2 million. Additionally, the 5D BIM approach will greatly improve construction quality and work efficiency on the projects, which will save at least CNY 10 million and thousands of resource hours.

Software

ProjectWise provided a collaborative design platform with powerful data storage that centralized project information and provided resource integration capabilities. The team carried out secondary development work based on ProjectWise, resulting in a comprehensive BIM information platform that included cost data. The team was also able to directly extract cost data from the BIM model to accurately estimate project costs. Shanghai New Jinshan Investment Holding Group and Shanghai Jinshan Sewage Outfall Engineering will continue using ProjectWise to manage the entire asset lifecycle of Xinjiang No. 2 Sewage Treatment Plant and Pipeline, including more than 50,000 documents.