

Manufacturing Client

Expansion of World's Largest Sorting and Distribution Facility

SSOE's extensive structural engineering capabilities were a crucial factor for the success of the upgrade and expansion of the largest sorting and distribution facility and parcel conveyor process in the world. Several of SSOE's engineers and designers, who were part of the original facility's design, were also part of the expansion, bringing extensive knowledge and experience to this project. Included in the scope was the design of primary and secondary steel support and tertiary steel (grating, handrails, ladders, stairs, catwalks, platforms, etc.) associated with the installation of parcel conveyors. Creating a 3D model for the project, SSOE coordinated information from other engineering sources involved in the various design aspects of the distribution center. The model allowed for automated detection and graphic depictions of potential interferences prior to construction, and proved to be key in resolving critical design decisions for the conveyor installation.

SSOE was faced with many design challenges, including extremely stringent deflection criteria to ensure the proper functioning of highly sensitive sorting equipment. The conveyor layout was very complex with multiple conveying systems, including provisions for future systems, multiple levels of access, and adjacent conveyors that sloped in opposite directions. With this in mind, SSOE recommended a design solution to increase the cumulative live load deflection criteria, which provided more than \$300,000 savings in overall steel costs, all while maintaining the project schedule.

value promise

SSOE's extensive 3D model coordinated the efforts of multiple engineering sources and prevented potential interferences prior to construction, creating savings of \$100,000. In addition, a design recommendation increasing the cumulative live load deflection criteria saved \$300,000 for a total of \$400,000 in savings in design and steel.

size 9 million SF

location South USA

highlights

Three floors

Multiple conveying systems

Inclusion of provisions for future systems

Multiple levels of access

3D model incorporating multiple engineering sources' input