



# CLARK BEVERAGE COMPANY, PROJECT JOY

## Project Overview

Project Joy is a new 470,000-square-foot beverage distribution facility for Clark Beverage Group. The company, headquartered in Kentucky, has relocated their Jackson, Mississippi operations to this Madison County 'mega site' near a new Amazon Fulfillment Center development.

The state-of-the-art facility consists of 32,000 feet of office space and meeting rooms, it houses all departments from sales to delivery to warehouse operations; including a fully automated case picking system called Vertique. The development also has 195-200 truck and trailer parking spots, 300 small vehicle parking spots, and 41 loading docks.

Woodward Engineering Group (WEG) worked under design-builder, DG Architectural and Engineering Facility Solutions (Design Group), to provide foundation and structural engineering services to support this 60-acre development.

Woodward Steel Group (WSG), also worked under Design Group, as the structural steel contractor for Project Joy. The facility consists of approximately 800 tons of structural steel, 870 tons of joists and girders, and 4,000 squares of metal roof decking.

## Location

Canton, MS

## Services Provided

Engineering, Structural Steel

## Contract Value

\$15 million

## Project Size

470,000 sf

## Scope Completion

April 2024

Woodward's scope of work was expected to be completed by May 2024, with the new facility to be completed in the first quarter of 2025. Woodward completed its scope of work 11 weeks ahead of schedule.

### Overcoming Challenges and Teamwork

The team reflects that in general the biggest challenges faced were working on site in coordination and in proximity to other trades. Because of the team's ability to coordinate around other trades, Woodward completed their scope of work ahead of schedule and under budget.

The team was originally told their designated staging area would be on the east and west sides of the 30-acre development, but once on site and starting to mobilize were only able to access the west side of the site. "This change meant that we had to move materials three times to get the access we needed and work around the other trades", says Division Manager, Chris Lafitte. The team utilized daily huddles and visual sequencing software, cmBuilder, to show how they would erect steel in tandem with the piling, pile cap, concrete, and paving contractors.

With structure on critical path, Woodward set to get ahead and stay ahead of schedule. Even with the challenges of working near other trades, and having to change erection sequences regularly, WSG completed its scope ahead of schedule and under budget. Approximately every 3 days, Woodward was able to erect steel to accommodate 12,000 sf of decking. The result of this approach was completing the contract 11 weeks early, allowing the rest of the trades to proceed sooner, and the owner started placing case logistic equipment to start operations faster.

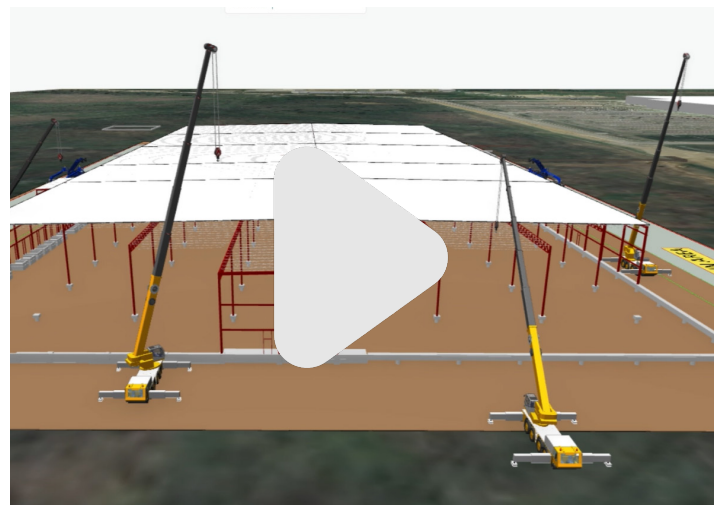


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### Innovation and Contribution to the Industry

Woodward elevated this project's structural delivery using Building Information Modeling (BIM) and 4D construction site logistics software, both services reduced time on the schedule, increased coordination, and ultimately benefitted the client's business operation. Woodward's Engineering team coordinated the Revit model with Design Group using Autodesk's construction cloud. Woodward's Sr. Engineer, Morgan Rongey, said "Design Group specified that they wanted to see every piece of steel modeled, normally we just model the structural steel. But we modeled every piece of miscellaneous metal, even the roof edge." This rigorous level of design detail resulted in an incredibly robust model which was shared and accessed among all critical path trades. This detailed model helped the various subs avoid clashes and increase visual coordination.

As Design Group's critical path schedule changed due to owner demands, Woodward used cmBuilder, a 4D construction logistics software, to visualize a plan to help them minimize delays and maximize efficiency. VP of Preconstruction, Chris Michel, created a detailed schedule for steel erection which then was able to be input into cmBuilder by Woodward's Virtual Design and Construction Coordinator, Josh Gautreau. "We wanted to show Design Group that we could help them buy back time with running three cranes at once." The 4D sequence showed every detail of the site from which cranes would pick which materials, the cranes' swing radius in relation to other sub's equipment, and even where our laydown areas were in relation to other sub's storage areas.



Using Building Information Modeling (BIM) and 4D construction site logistics software technologies greatly impacted Woodward's delivery and helped Design Group uphold their commitments to Clark Beverage.



### Construction Quality & Craftsmanship

The team notes the excellent quality on this project was due to the smooth design and shop drawing process, high quality fabrication, and attention to detail on site. Woodward Engineering Group's Senior Engineer, Morgan Ronney notes, "We completed structural design, Gipson and Vulcraft detailed the shop drawings and returned to us for inspection. The shop drawings were nearly perfect, and the entire approval process was smooth." The high-quality shop drawings resulted in a "near perfect" material order. Chris Lafitte, Woodward Steel Group's Division Manager notes that "Gipson fabricated the steel, Vulcraft fabricated the joists and decking, both did a fantastic job. Of the 1300 bar joists, I had to adjust 2 columns, that's basically a perfect order in my book!"

Once on site, Woodward Steel Group ensured high quality installation through various techniques, like using ground screws to ensure the columns stayed straight on with joist girders. The efficient operation had the team picking and setting a bar joist every 4 minutes. The team had two third party inspectors reviewing their work, Eustis Engineering Consultants and Titan Consultants. These two added layers of quality control resulted in a minimal punch list of 6 miscellaneous items on 470,000 square feet.

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**woodward**

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