

VALUE ENGINEERING FOR FACILITY SPACE ASSESSMENT & CUSTOM PASTEURIZATION PROCESS DESIGN

ABOUT THE CLIENT

Our client serves some of the largest food distributors, retail groceries, restaurant chains, and healthcare facilities with wholesome food choices and value-added egg products. EAD supports the growth of the household name Fortune 500 food manufacturer and egg processor with novel engineering, project management, and construction management solutions.



SERVICES

Multi-Discipline Engineering
Project & Construction Management
Consulting - Value Engineering

HIGHLIGHTS

- Developed +/- 30% cost estimate plan to engineer a novel egg pasteurization process and increase production
- Employed value engineering to ensure the best value at the lowest possible cost
- Ensured client clearly understood project costs and options prior to project execution

PROBLEM TO SOLVE

Our client sought to reduce costs and increase production with a new egg pasteurization process. The process involved the use of a flammable, corrosive liquid, creating several engineering design challenges. These included the need for temperature-controlled piping, adequate ventilation, and a means for safe chemical storage. A solution was also needed to maintain the process water at a precise temperature and pH and ensure proper disposal. Our client entrusted the hygienic and sanitary design experts at EAD to solve these challenges within the design of a process for three boiled egg processing lines.

APPROACH & SOLUTION

EAD approached the design of the new custom pasteurization process using value engineering. As an initial step, we thoroughly assessed our client's facility space requirements to understand how best to integrate the new equipment within the existing pasteurization process systems. Utilizing our state-of-the-art 3D point-cloud scanning technologies, we scanned the space to analyze the existing conditions and construct a digital model. The model allowed us to identify critical equipment installation points, detect potential design interferences, and fully visualize the space. With a clear understanding of the facility constraints and possibilities, we engineered a custom pasteurization process that aligned with our client's production goals and sanitation requirements.

RESULT & BENEFIT

Our final design included plans for a chemical storage room, temperature-controlled piping, ventilation, and chemical disposal. In line with the value engineering approach, we provided design recommendations to help our client understand which areas of their process to make investments and where to reduce costs. We presented a variety of recommendations for cost-effectively heating the process water and crafted comprehensive scopes and drawing sets to facilitate contractor bidding and early cost clarity. Through value engineering and close collaboration with the project stakeholders, we developed a plan at a +/- 30% cost estimate for optimizing our client's facility systems and manufacturing processes that lowered costs and improved product output and quality.

