

# Chemical Drum-Out Facility

Elwood, Illinois

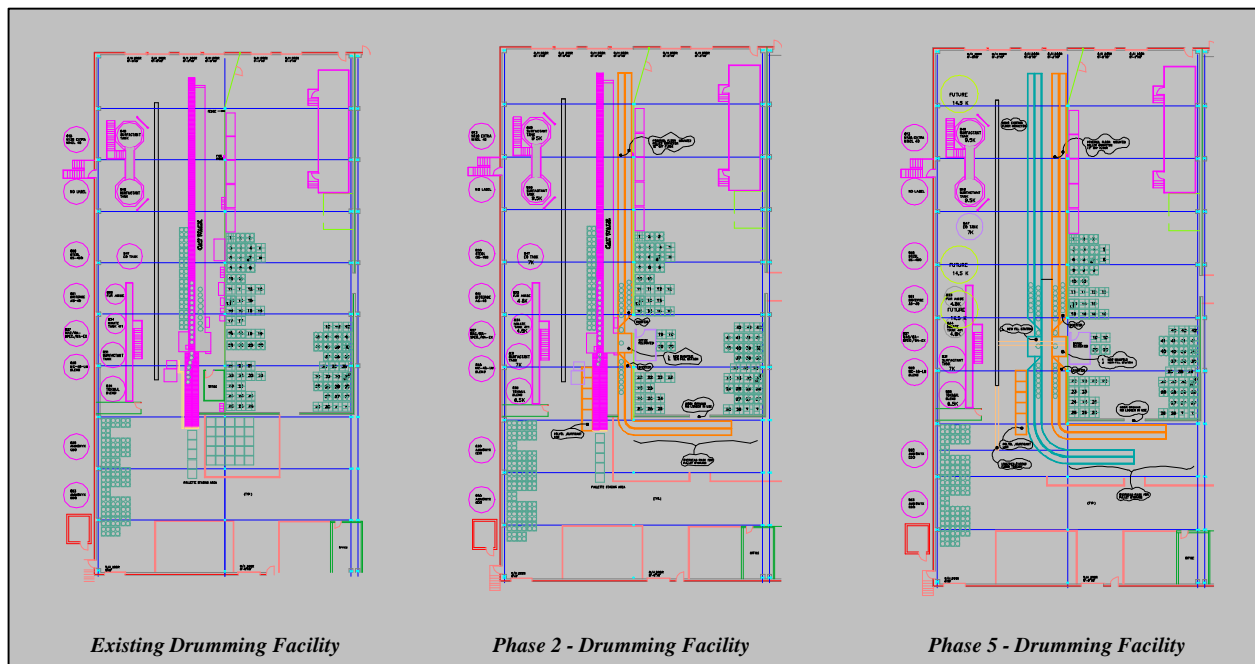
## Facility Planning & Analysis Services

- Facility Layout Design and Optimization
- Simulation Modeling

A chemical manufacturer's projected volume increases and a desire to lower costs through consolidation were limited by its current plant's capacity. The manufacturer requested the development of a project plan that would allow them to consolidate all of their drumming capabilities to one location. Included in this plan was a conceptual design of the new facility, a cost estimate and a project construction schedule. To insure that the new design would meet their production goals, a simulation model was developed. The model was used to validate the production increases.

The design team developed a five-phased approach that would accomplish the project goals.

- Phase 1 – Methods Improvements
- Phase 2 – Replace Existing Drumming Equipment
- Phase 3 – Increase Storage Capacity
- Phase 4 – Add a Second Drum Filler
- Phase 5 – Increase the number of operators as demand requires



For each phase, the design team estimated the projected throughput increase, as well as, the incremental cost associated with the phase. Each phase was designed to maximize the client's incremental throughput gain, while minimizing the overall project costs. Each phase was analyzed with the simulation model, using the system throughput as the measure.

The model also allowed the design team to experiment with hundreds of different operational changes during the project. These experiments led to ideas that were not previously considered. As a result, the team was able to develop operational changes that could be enacted immediately which shown marked improvements. During the three month study, the drumming facilities output increased by 15% without a single capital improvement.