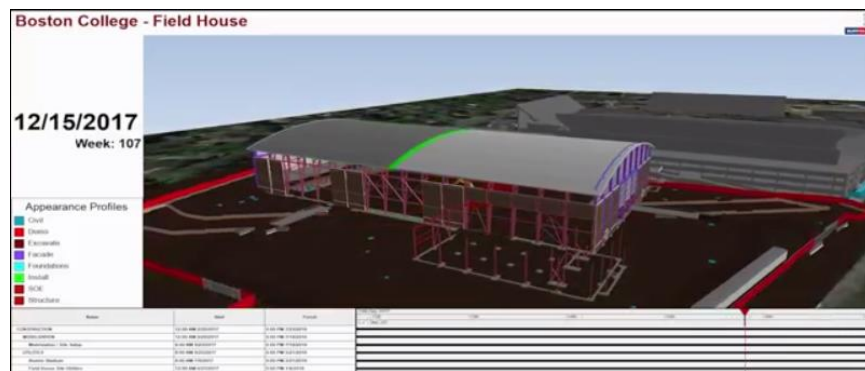




Synchro Software “2017 Digital Construction Award”

Project: Boston College Field House, Boston MA USA Case Study

Suffolk is currently constructing the **Boston College Field House**, a new 115,700 square foot athletic facility. Valued at \$40 million, the project is adjacent to the campus’ Alumni stadium in order to address the space demands for the NCAA Division 1 football program, all other Division 1 athletes (including baseball/softball/lacrosse/men’s and women’s soccer), and recreation and club sports at the college. Included in the program are support spaces for both varsity and recreational sports as well as a public lobby with Hall of Fame displays and a natural grass practice field with lights for Boston College teams. The location of the project is particularly unique, given that it is build on land with steep elevation changes, and on directly on top of a 48” diameter high pressure water main fed from the Quabin Reservoir leading into Boston.



The project is on a **14-month schedule** with construction having commenced on May 2017 and scheduled for completion in July 2018. The use of Synchro technology has been critical throughout the project, empowering the team to visualize the model, address challenges about the Field House’s unique location, mitigate against any gaps in scheduling, and helping the team maintain safety as a top priority.

Preconstruction services began in September 2016 using almost exclusively Synchro’s 4D technology. The utilization of Synchro helped drive schedule completion as well as the sequencing of the individual schedule tasks. This resulted in the overall animation coming together which assisted the project team in understanding the building elements and how they tie together.

The models imported into by Synchro were referenced continually in the planning phases and utilized during the project to inform, influence and guide the building strategy and schedule.

By sharing the models with the owner, design team, sub-contractors and field staff, they allowed the team to detect gaps in sequence and promoted dialogue well ahead of time in

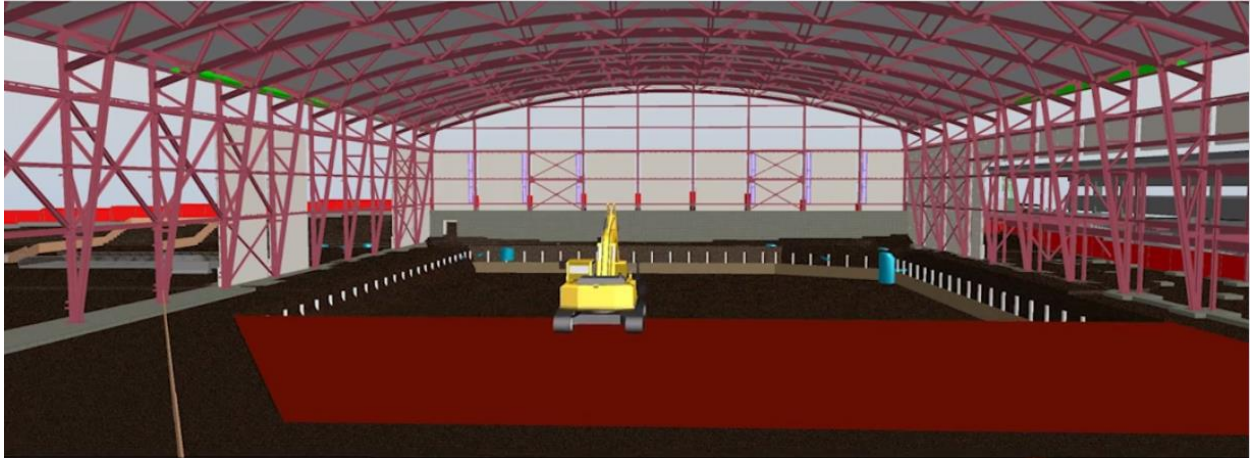
order to minimize risks and maximize efficiency. If Suffolk hadn't detected these gaps with Synchro software, the team would have had to come with solutions after the project had broken ground, which would have impacted the budget and timeline significantly.

One example of an efficiency in workflow facilitated by Synchro occurred during the first set of meetings between the 4D planner, project superintendent and scheduler when they were walking through the visual schedule. After running through the animation a few times, they began pausing on particular tasks, **noticing sequencing issues with the steel and precast, which prompted the discussion on optimal crane positioning and about which cranes would be able to serve what portions of the building without being relocated.** This then drove the sequencing for the precast and steel, which was broken down into more areas for a more efficient and safer workflow.

Another sequencing issue that was detected and then corrected as a result of the integration of Synchro software in the project was a detail between the steel, precast and CMU wall. The team had to discuss which task had to be completed first to ensure the team was employing the safest approach. Once the steel was set to be erected, the precast installation was scheduled shortly after, finishing with the CMU wall. The team noticed that the precast and the CMU wall work were scheduled relatively close in time, which had the potential to put someone working on the CMU at risk while another person was installing the precast above them. **To address this hazard, the team then analyzed and reorganized the workflow to ensure the highest standards of safety were met.**

Some other minor sequencing issues that were uncovered through the use of Synchro were with the stormwater tanks, existing ball field demolition and foundations. These were all corrected as the team went through the schedule and animation together.

Aside from sequencing, the team used the model and animation to pick up on some design gaps. Because of the load in civil work associated with this project, Suffolk also visualized the underground civil utilities. In doing this, the team immediately noticed that there were problems with the T-Line drainage and the original piles that were located on site. This then prompted a change in the foundation structure to a stepped footing and retaining wall and instead of piles the use of a concrete backfill element.



The adoption and integration of Synchro technology in Suffolk projects has significantly enhanced not only the planning process, but the execution as well. **Having a visualization of the schedule for continuous reference has improved communication among team members, as it ensures that nothing is lost in translation during the various stages of the project.** The margin of error has also been substantially reduced from a 2D model to a 4D one. **The detail provided by a Synchro 4D model allows team members to identify various gaps in the schedule and sequence of a project and thus, areas of improvement for correction in its early phases.** By doing so, our team is able to provide a confident plan to owners, design team members and subcontractors that allows them **ample planning time to develop a narrative about an optimal workflow and precautionary items while also helping to mitigate risks and keep costs consistent.**

SYNCHRO PROCESS WORKFLOW

