

EXECUTIVE SUMMARY

Growing Power's recent success and growth of their non-profit organization has led to the need of a new vertical farming facility to enhance their mission of educating the surrounding community on sustainable farming practices. The facility will provide space to demonstrate innovative farming techniques, an area to host large lectures, office space and a market to sell food grown on site. In order for the Growing Power facility to be successful, the defined flexibility, community, sustainability, and economy goals must be achieved (p. 1). The TBD construction partners contributed to these objectives by facilitating design integration, providing an accurate cost estimation, a developed schedule for both design and construction, planning for BIM uses during the facility's life cycle, and cultivating a Lean management environment within the design team and on the construction site.

INTEGRATED DELIVERY

The correct project delivery methods greatly contributes to overall project success and can benefit a growing relationship between TBD and Growing Power for future projects. By aligning Growing Power's goals and expectations with characteristics of different delivery methods, and considering Growing Power's need to mitigate risk, TBD determined the most beneficial delivery method to be Design Build.

DESIGN MANAGEMENT

Proper management of design through the beginning phases of the Growing Power facility, ensures the project progresses addressing the owner's needs and goals. Early construction partner involvement allowed facilitated integration between all design partners with the use of BIM Project Execution Planning, the Last Planner System®, process mapping, and continuous cost tracking, to produce an efficient, intelligent, and effective design for Growing Power.

SITE ANALYSIS

A detailed site analysis of the current Growing Power plot, conducted early in the design phase, identified all existing conditions, including site utility access, existing structures, business operations, neighboring stakeholders, and environmental concerns. The early identification allowed for quality decisions to be made to reduce risks during the construction phase of the project.

RISK MITIGATION

Major constructability concerns of the project assembly were addressed during the planning phase of the project to mitigate risk during construction. Detailed planning for the site excavation, structure, façade installation, interior fit out of the building, and other construction activities allow for the project construction to progress efficiently with minimized risk.

CONSTRUCTION INNOVATION

Management of the construction phase of the project is planned to utilize numerous techniques to improve production efficiency and reduce waste. The management team will cultivate a Lean management approach in a co-located office, prioritizing flow, value, and continuous improvement, with the aid of BIM tools, to turn over a quality product to Growing Power.

FACILITY OPERATION

The innovative technical aspects of the building must be operated and maintained properly in order for the vertical farm to function properly. To maintain the building systems intended level of function, TBD will engage in Growing Power staff education throughout construction, as well as provide detailed asset data containing key information from the BIM.