

Executive Summary

In accordance with the project guidelines set by the ASCE Charles Pankow Annual Architectural Engineering Competition, AEI Team 2, henceforth also referred to as “the team”, created a comprehensive building design and construction plan for a new office high rise building at the site of 350 Mission in San Francisco, California. Per the guidelines of the competition, the team considered the following in the construction design process:

- 1) **Building Design.** Construction impacted the way design progressed over the course of the project. Decisions were made regarding design practicality and how specific building systems would impact construction. The team was also conscientious about how construction impacted the community, through public building statistics and specific system display. Additionally design decisions, including the choice to prefabricate multiple building system elements, helped decrease waste created by the building's construction.
- 2) **Sustainability & Energy Efficiency.** Building design was driven by impact. How the building interacted with the community during and after construction was important to fully integrating unique ideas into the fabric of the architecture. In construction, the team sought ways to reduce waste on site. This included an integrated process to keeping the site clean and educating the public via publications during the construction process. Additionally, this included cutting back on construction waste materials, per the process of prefabrication.

Furthermore, the team made a decision to bring vital units of the building's mechanical system onsite early. It was decided that a biomethane digester will serve as the primary source of building power. This system also reduces the negative impact from the community's sewage system.

- 3) **Integration & Collaboration.** Multidisciplinary teamwork was at the core of the building progress. Construction shaped design and design also shaped construction. By innovating through construction, the team was able to bring many of the building concepts to life in our plan for 350 Mission.
- 4) **Building Reoccupation.** One of the principle goals of the overall project was alleviating building downtime following a seismic event in San Francisco. Recommendations were made by the construction team in regards to material and system selection to ensure that the design evaded significant damage in the long run. Quality control during construction and in manufacturing of building elements was essential to creating a building which will last many years.
- 5) **Building Budget.** A building budget is included within the submission, which not only details short-term construction costs of the building, but also long-term life cycle costs.

The building has a base construction budget of \$131,213,200. The project has a total duration of 19 months. Work is scheduled to begin in January of 2013 and completion is expected early in July of 2014.

The team has created a cyclical phasing plan for the erection of 350 Mission which best interacts with the surrounding area, while keeping in mind the seismic potential in the region. Short Interval Production Scheduling (SIPS) was utilized not only to shorten the construction schedule, but to also keep productivity of trades at a maximum. In summary, the construction plan was designed to be an efficient, practical approach to the conception of the office building.

350 Mission Street will serve as a focal point in the financial district south of Market Street in San Francisco. Community, sustainability, building performance, practicality, and architectural prowess have shaped the team's comprehensive design. AEI Team 2 has created a building design which performs cohesively, engages the community, enhances occupant usability, and considers the unique qualities of the San Francisco bay area.