

Executive Summary. Tasked with the comprehensive design of 350 Mission Street, a new high performance, high-rise office building in San Francisco, AEI Team 2 re-imagined the design and construction plan. Per the guidelines of the project, the team considered the following topics during the design process:

1. **Design Process, Integration and Collaboration** – An integrated, iterative, and holistic approach to the design of 350 Mission was used to create the structure, building services design, and construction plan. The team **implemented a custom plan of Version 2.0 of the CIC BIM Project Execution Planning Guide** (BIM Execution, 2014). In order to develop software interaction schemes, decision-making processes, and design or construction workflows. To aide in the design of 350 Mission, a **holistic, project-wide metric**, discussed in Section 5, was developed in order to emphasize the interactivity of building systems. Using this metric, decisions were able to be executed on a project-wide level.

2. **Sustainability and Energy Efficiency** – The project focuses on integrating environmentally-friendly principles with both the building and community. AEI Team 2 also illustrated the lifecycle economic benefits of applying sustainable and energy efficient technologies. Shown in Table 1, the following measurable metrics contributed to the team's overall decision-making metric:

Table 1: Sustainability and energy efficiency conclusions

Baseline Energy Reduction	100%
Baseline Water Reduction	84%
Baseline Waste Reduction	95%
Baseline Emissions Reduction	99%

3. **Building Reoccupation** – Because San Francisco resides within a seismically-active region, resilience was a major point of consideration for 350 Mission. Decisions were made with a goal of minimizing building downtime, following a major seismic event. These decisions would not only take into consideration life-safety, but also ensure that the building was both economically-efficient and resource-efficient throughout the building lifecycle. For safe structural resistance against lateral forces, the building was strategically designed to a **28% drift reduction beyond the competition guidelines**.

4. **Building Budget** – The budget for 350 Mission is included with the submission. This budget details

both construction and life-cycle costs for the building. In order to demonstrate that the innovative systems designed for 350 Mission are able to be codified and actualized, the design team considered the short-term and long-term economics of their proposed designs. The following project delivery metrics explained in section 5 contributed to the overall project success metric:

Table 2: Building budget and schedule conclusions

Building Budget	\$131,213,180.87
Building Schedule	19 months

Sandwiched between four taller office buildings, and across the street from the Millennium Tower, and the eventual Transbay Tower, 350 Mission strives to create an identity for itself. The team achieved this by promoting sustainable practices through community connectivity.

Goal Orientation. In order to actualize the project requirement of utilizing integrated and collaborative workflows to deliver a comprehensive building design, achieve sustainability and energy efficiency, enable immediate reoccupation, and deliver an economically-efficient project budget, the team derived three core principles: **Performance**, **Endurance**, and **Connectivity**, illustrated in Figure 1. These principles were guided by the desire of the Pankow Foundation to *leverage advanced design tools and integrated teams to create innovative building systems which can be codified*. The principles guided each area of design as follows: **Performance** guided the sustainability and energy-efficiency of 350 Mission, **Endurance** guided the resilient design of 350 Mission, and **Connectivity** guided the ability of 350 Mission to engage the urban environment in which it resides. These principles were centered on an integrated and collaborative project nucleus which enabled an economically efficient product to be codified and integrated within San Francisco's urban ecology.

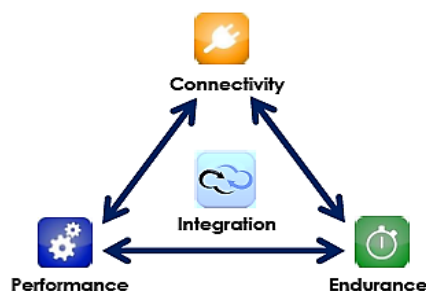


Figure 1: Three core principles revolve around integration