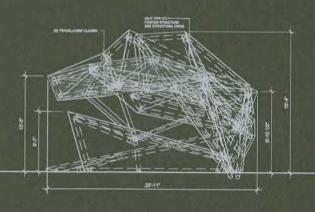
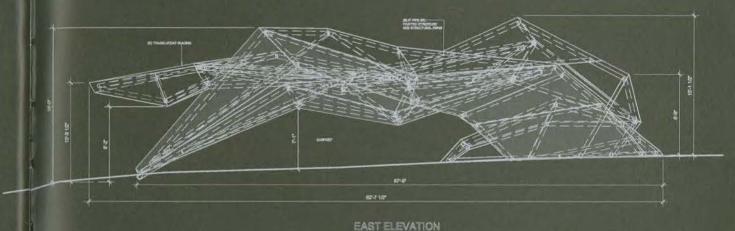
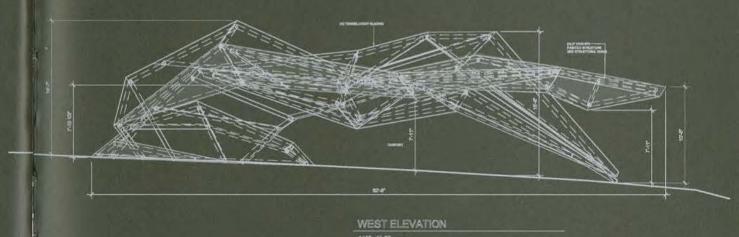


1/4"=1'-0"



For the mock-up, we built a part of the canopy in full scale out of wood and fabric in order to design all of the details and to simulate the lighting concept. We were interested in the effect the geometry had on the gradation of light. Without changing the material property, we were able to produce the desired light quality from the inside by utilizing white and colored LEDs as a light source. The same were needed during daytime, as sunlight passes through the surfaces from the outside. As part of this process, we built many prototypes with different fabric materials and revisions to the geometry before finding the right relationship of material property to form that achieved the desired effect.

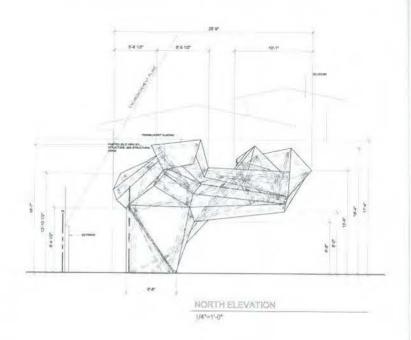


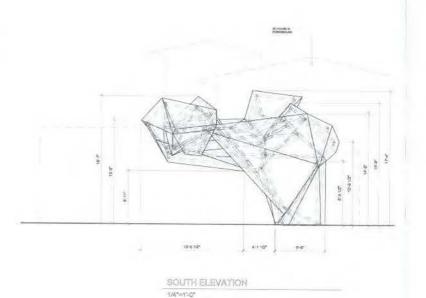


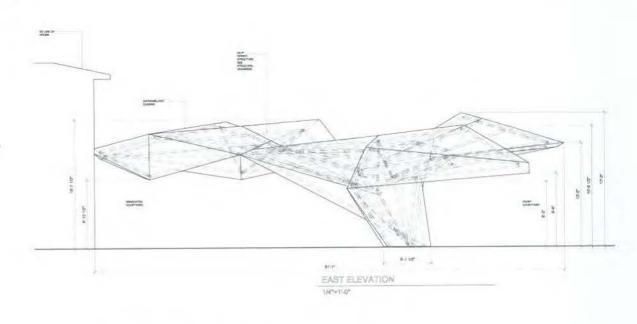
Finding the right material for the canopy was a big part of the challenge. Originally we were looking at thin sheets of Corian, a solid surface material with translucent qualities, but the material was too heavy and started to sag over the long spans. In response we started to research fabrics that we had been interested in using as building materials for a long time. We were looking specifically for a canvas-like fabric - with a flat finish - that contained the right amount of translucency and fulfilled all the technical and quality requirements such as UV resistance, fire rating, and durability, all of which would contribute to a lifetime of more than 20 years. Sail fabrics feature the translucency qualities but are not resistant to UV and fall apart over time, while most architectural fabrics come in a glossy finish and look rather opaque during the daytime. This was the start of a design process in which material properties and geometry were closely linked together. Issues of gradient transparency and fabric's usage as a building material continue to play an important role in our work.

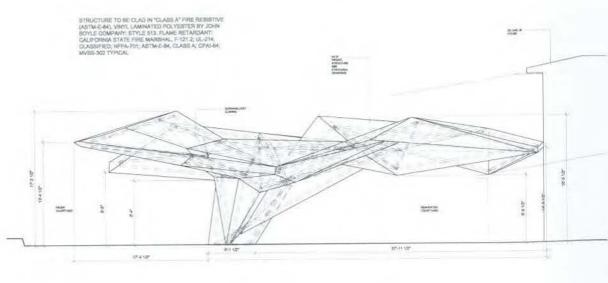


The steel frame was constructed in the shop in order to maintain quality control over the complex intersections and extremely high tolerances. The shop drawings were a graphical representation of the 3D model. The structure was constructed in three dimensions and built directly from that digital data. After the steel frame was finished in the shop, it was cut into six large chunks and delivered to the site. The large chunks were then maneuvered through a very narrow driveway on the site and welded back together. The lighting design includes white and colored LED wall washers that light the canopy fabric from within. The goal was to achieve an even light distribution while avoiding glare and hot spots. The lighting design for the canopy was very complex and difficult to predict. We wanted to create an even glow but without losing the texture and depth of the shadows that the steel frame would cast onto the canvas. Glare was also an issue. If the fixture were to become visible, the whole effect would have been lost.









WEST ELEVATION
1/4"=1"-0"

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