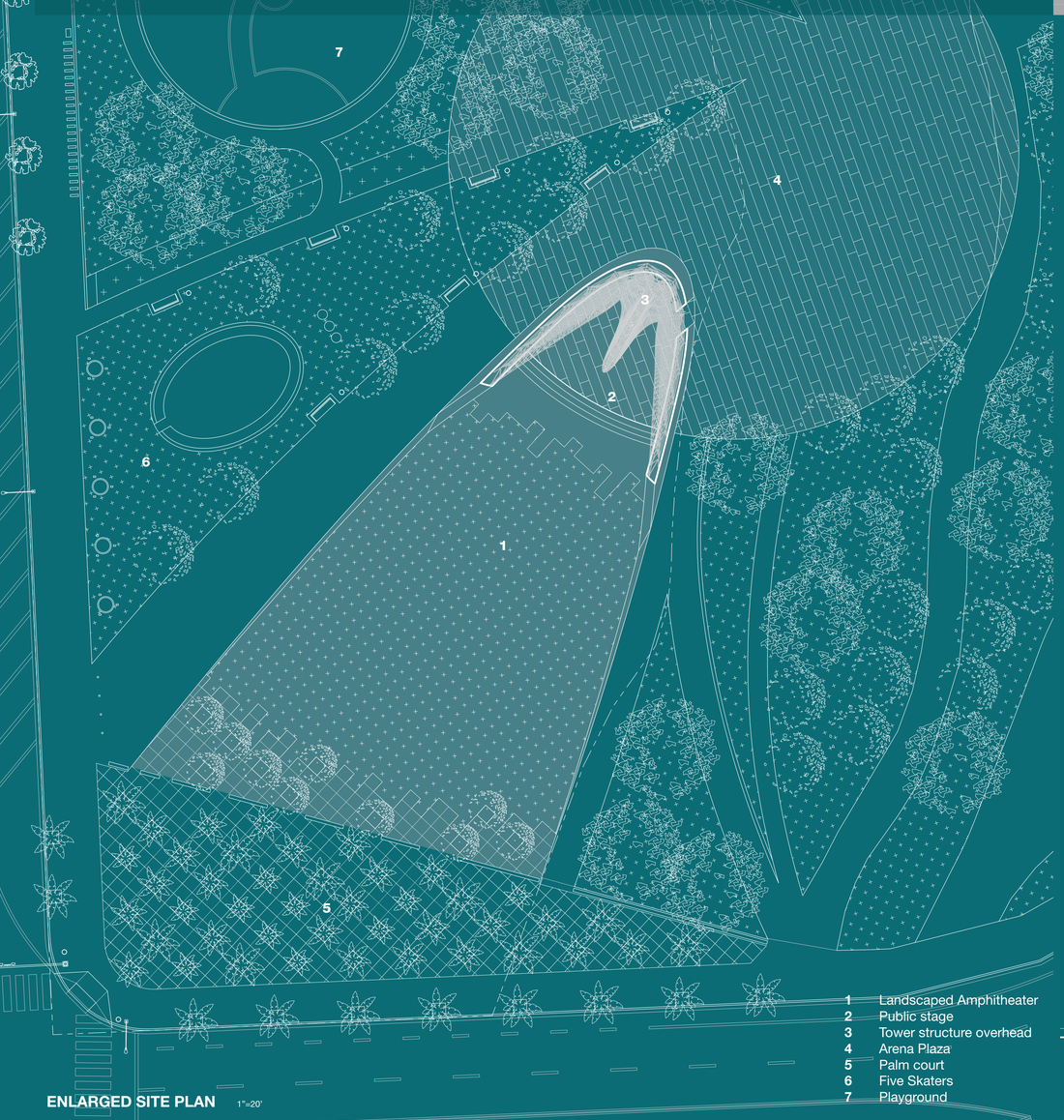
PRECURSOR

pre·cur·sor | ˌprē-ˈkər-sər , ˌpre-ˈkər-
1: one that precedes and indicates the approach of another
2: a substance or cellular component from which another is formed, such as the raw material used to produce carbon fiber.

The tower is a shining beacon of light supported by a gossamer-thin structure. It is also, however, a signal of great things to come, and its construction symbolizes ideological advancement. A projective work that is truly dedicated to the public, it acts as a model for the transforming city. Its ecological stance is precedent setting - demonstrating strategic site selection, energy production and sensitivity to natural habitat. By harnessing the latest material and fabrication advancements, it reflects the region's forward-thinking attitude. Simply, this tower celebrates characteristic traits of San Jose and Silicon Valley - progressiveness, open mindedness and exuberance.

While the tower is iconic, its true value is found at the ground, where it literally structures new highly functional public amenities within the park. By selecting a site not requiring drastic intervention (such as disruptive grading and tree removal) and with no need for relocation of existing landmarks, we are able to transform this corner of Arena Green – with a light touch. By augmenting existing topography, an amphitheater is formed in the landscape, anchored by the triangular group of palms at the corner of Santa Clara and Autumn. The two wings of the tower embrace this gathering space and, just as Guadalupe River and Los Gatos Creek converge nearby, rise to form a singular structure. In doing so, a diaphanous bandshell emerges behind a new public stage. The stage is an extension of the paved area beyond, now reconfigured as a large circular plaza. These elements collectively become a space for music, art, performance, markets, sports galas, ceremonies, festivals and assemblies - a truly democratic, celebratory place within the city.

As a light tower, the project is striking. During the day, the form reacts with the changing light to ethereal effect. Constructed of extraordinarily thin carbon fiber tubes supporting flexible thin film solar panels, from a distance it seems to nearly disappear as it approaches the ground, while the panels shimmer in the breeze. By night, the structure vanishes into the darkness, leaving visible only the programmable surface of OLED/LED lights. Every vantage point offers something new – it appears to open and close, to have mass or be extremely thin, to float and to dematerialize. It sometimes suggests profiles of other famous towers, and even resembles the California poppy, ready to bloom. It is at once a symbol, an interactive medium, signpost, public art and lantern for the city.



1 Landscaped Amphitheater
2 Public stage
3 Tower structure overhead
4 Arena Plaza
5 Palm court
6 Five Skaters
7 Playground

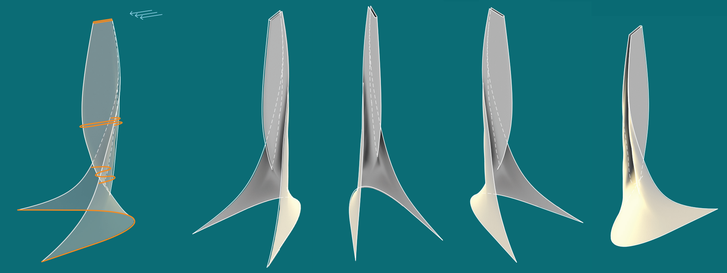
ENLARGED SITE PLAN 1"=20'

SITE PLAN 1"=150'

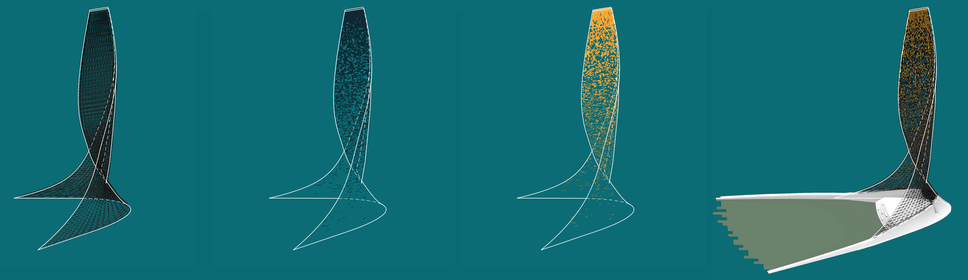
COMPOSITION

The tower's geometry is derived from a semi parabolic shell structure that reverses direction as it moves upward, eventually flattening into a single thickness. At any height in the structure, the cross section is made of parabolic or multiple parabolic shapes. Similar to a serpentine wall, stiffness and bracing is derived from the curved nature of the structure in plan.

The direction of the tower is also based on prevailing winds in the San Jose area. As the tower rises, it becomes thinner and the structure grows in depth for enhanced wind resistance and aerodynamics.



COMPONENTS



STRUCTURE
Structural elements are CNC pultruded carbon fiber tubes, approximately 2"-3" in diameter, arranged in a space truss configuration. Distance between joints is balanced with thinness of tubes to create the most diaphanous structure possible. Nodes connecting the tubes are 3D printed with carbon fiber reinforcement. Their strength to weight ratio greatly surpasses aluminum.

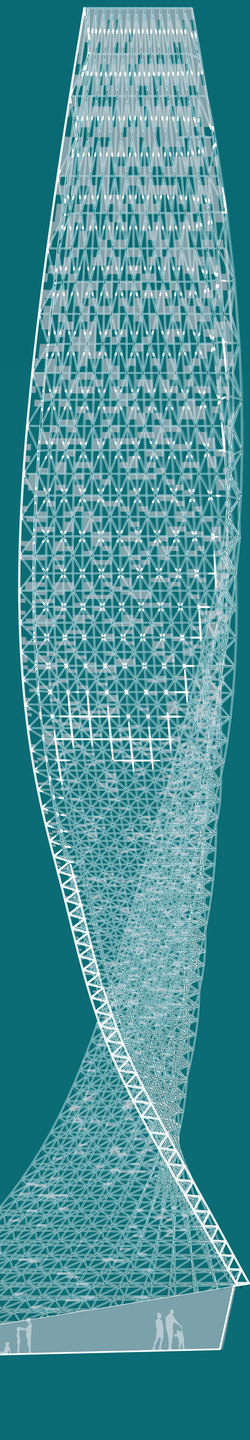
Digital modeling/fabrication is necessary (and cost effective) for the customized mass production, and will benefit accurate production scheduling and tracking. The fabrication ability for these structural parts already exists in the region.

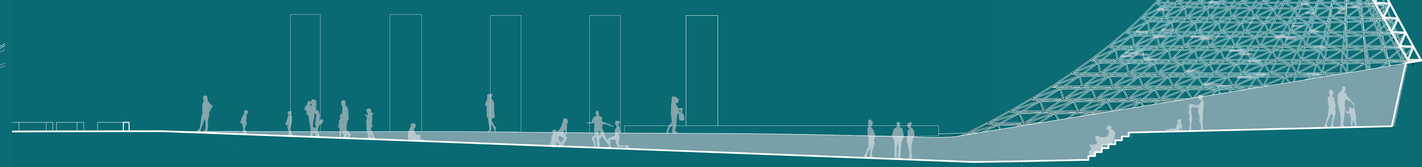
RENEWABLE ENERGY
Flexible thin film solar panels are attached to the nodes and tubes. They will not be connected on all four sides, as their flexibility will allow them to flutter in the breeze. This flexibility, combined with subtle reflectivity, will bring unexpected qualities to the structure both day and night. Panels will be mounted more densely at the top of structure and appear to dematerialize as it nears the ground. Energy will be stored within the concrete base of the structure, with surplus energy transferring back to the power grid.

PROGRAMMABLE LIGHTING
OLED light panels will be connected between nodes. They are extremely light weight and require very little energy. Luminosity and hot spots from panels is less harsh than alternatives, which benefits the riparian corridor. Similar to the solar panels, they will primarily be mounted higher due to sensitivity of flora and fauna.

Traditional LEDs will be integrated into nodes to offer further lighting opportunities for artists, text displays, etc. Power and control wiring will be integrated into the tube structure.

SITE STRATEGY
The amphitheater takes advantage of existing topography and is not intrusive to the landscape – with minimal grading and tree relocation. Paths line each side, affording open access for everyone. The structure of the tower sits on a concrete base, which houses battery storage for solar panels and electrical controls.





LONGITUDINAL SECTION 3/32"=1'-0"

MATCHLINE A

+200'

+150'

+100'

+50'

+25'

+10'

0'

-4'

MATCHLINE B

ELEVATION 3/32"=1'-0"