The Grove: a world’s abstract

Dear Granddaughter,

I hope that this letter finds you well, I’m optimistic that you are living in a world that is more prosperous and connected than before, I just wanted let you know that we are working really hard to make sure that your future energy sources will be ethical and clean, and you are currently living in a global society that is more connected and cooperative. Our scientists told us that we have only few years remaining to reverse the effects of climate change, and we are working day and night to achieve that, unfortunately, in 2019 the world is still divided politically and economically, and it is really hard to adopt a global policy, the world is in deep need for a place to contemplate the effects of climate change, that’s why I’m proposing a design for a social space that delivers this message, I’m thinking of it as a public space that advocates for the importance of global cooperation as the only way for us to survive.

Also I’d like to let you know that We still live in a world where unethical sources of energy is being utilized, We are still burning fossil fuel, abusing animals and violating human rights just to get cheaper sources on energy. We never accepted this reality, we’ll never give up and we are going to change it.

Enjoy your beautiful world, and trust me it will only going to be better.

Your Loving Grandparent.

May 2019

The Grove

The concept of the project is an abstract image for our global society, we are being faced with challenges that no single nation - despite how powerful it is - can solve them individually, and our biggest dilemma is the fragile ecosystem that is being faced with intense abrupt forces that are severely impacting the future of it.

The project tells a story of a Palm Grove, an earthy stable ecosystem. It is the first indigenous nature made shading structure that evolved perfectly to serve the climate of Arabia and North Africa. These trees are natural de-carbonizers, it transfers solar energy and CO2 from the air into a stored fuel for human and animal nutrition. They partially permit the daylight while maintaining a shaded space for various habitats to live in, and it allows breezes that naturally air-condition a hot/humid climate.

The story continues when this Palm Grove is challenged by a Flood, a sudden abrupt revolution that poses a big threat to the integrity of the ecosystem. It is a dualistic dialog between 2 natural phenomena, The Grove as a static, earthy and fragile system faced by The Flood, a dynamic, sudden and powerful natural force.

* The goal of this project is to draw an abstract image for the reality which we are currently witnessing, and the questions we are currently asking. Is the climate is changing? Why it is changing? Do we play a role in it? If so, how can we reverse it? If we cannot. How can we mitigate it? What is our future?
* The Strategy of this project is to approach sustainability in a global socio-economic fashion, adding politics and social cohesion into the energy equation. This project has the potential for being a canvas for the global dialogue concerning our 21st century climate challenges.
* The Place is envisioned to be a constellation of multi-sized interactive spaces with many levels, activities and display walls. All under a unified universal shading system. That reflects our unity on the planet while accepting our differences in local, cultural and economic interests.
* The spatial artwork is illustrated in 2 contrasting strokes, a stable vertical lines for the global grove, and a dynamic horizontal lines for the flood, these are the canvas lines for the people and activities to flow through and complete the picture within the place.

Sustainability Principles

* Infuse society and global cooperation as an immense factor in environmental sustainability.
* Encourage Walkability and outdoor interaction.
* Connecting to the context, adjacent buildings and parks.
* Reduction as a core value, the space is 100% open and 100% Passive.
* Utilizing Natural Air Tunnel as a cooling system that is perfectly suitable for Hot Humid Climates, while reducing construction and operation costs.
* Utilizing Solar Power is the most Ideal source for the region, since it is mostly sunny around the year. With maximum solar panel coverage and High Albedo finishes, the project will serve as an artificial system for reducing heat island effect.
* Provide simple modular systems and simple structures that have less embodied energy.

Energy Practices

The Project’s ultimate fuel is solar energy, the sun is around for most of the year. This will ensure a higher system efficiency and a maximum ROI. Meanwhile a good project orientation and openness provide a great opportunity to utilize the gulf breeze in a passively cooled space.

* The Roof is maximized to hold 6,588 Solar Panels.
* Thanks to the new Technology, as of 2019 we can get upward of 400 Watt per Panel.
* Typical Size of Panel is 1m X 2m
* As of 2019, the current average cost for solar panels is around $1.70 per Watt.

Budget Formula

Total Panel Costs is approximately: $4,479,840 (USD).

Peak Energy Generated: 2.6 MegaWatt

Construction Budget is approximately: $52,704,000 (USD).

(400Watt X 6,588 Panels X $20 Per Watt)

Structural System: Hollow Steel Columns With Modular GFRC Panels, and Concrete Flat Slabs