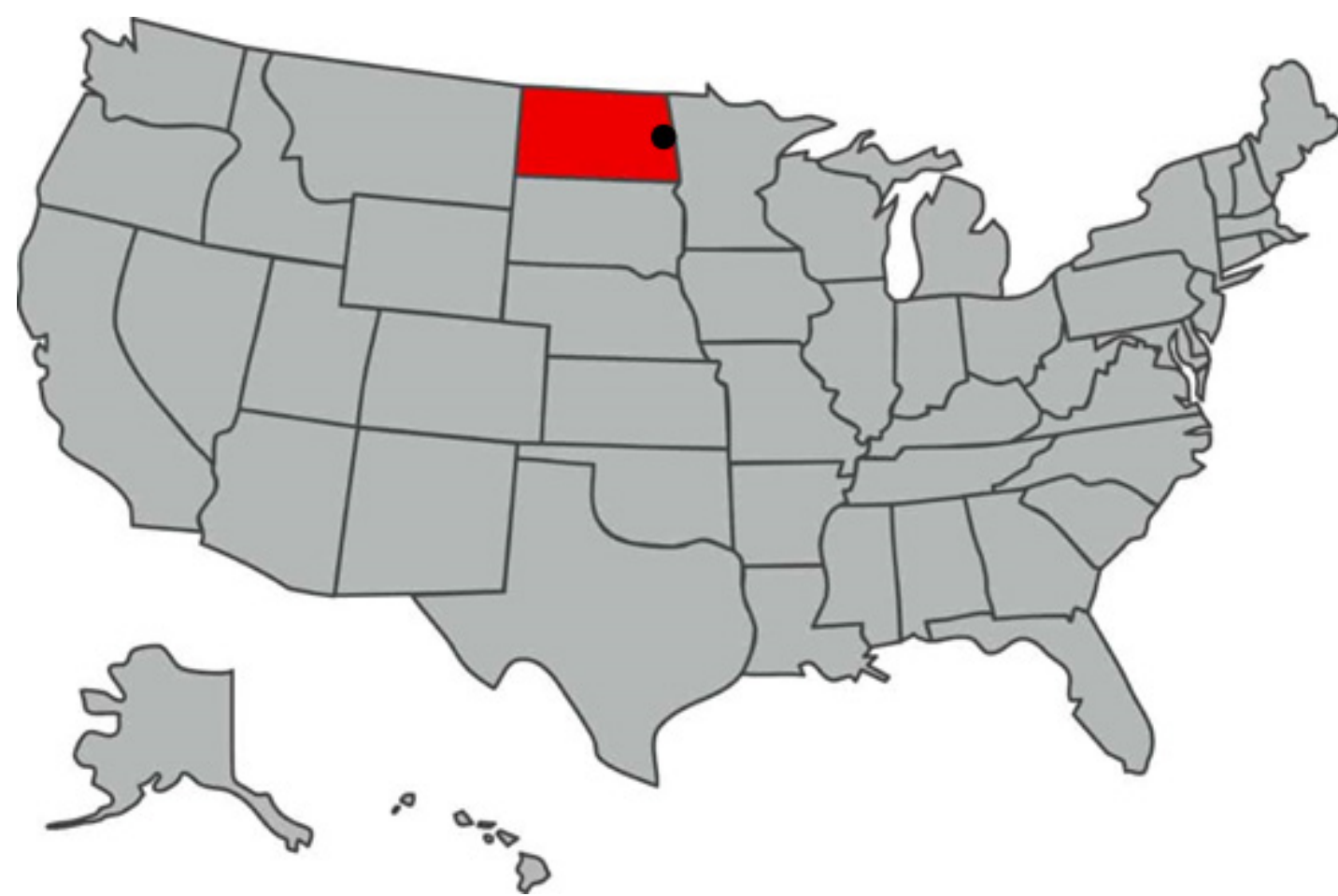


RC & SBI



Hindsight 20/20:
Architectural Exploration of Empathy
for Refugees in a Design Solution.



The Beautifully designed Refugees Center and Small Business Incubator (RC & SBI) is a design initiative intended to create a solution specifically for refugees that have settled in the United States.

Refugees are people just like you and I, the only difference is their Cycle of Life -- "Birth-Living-Death" is disrupted during the living phase.

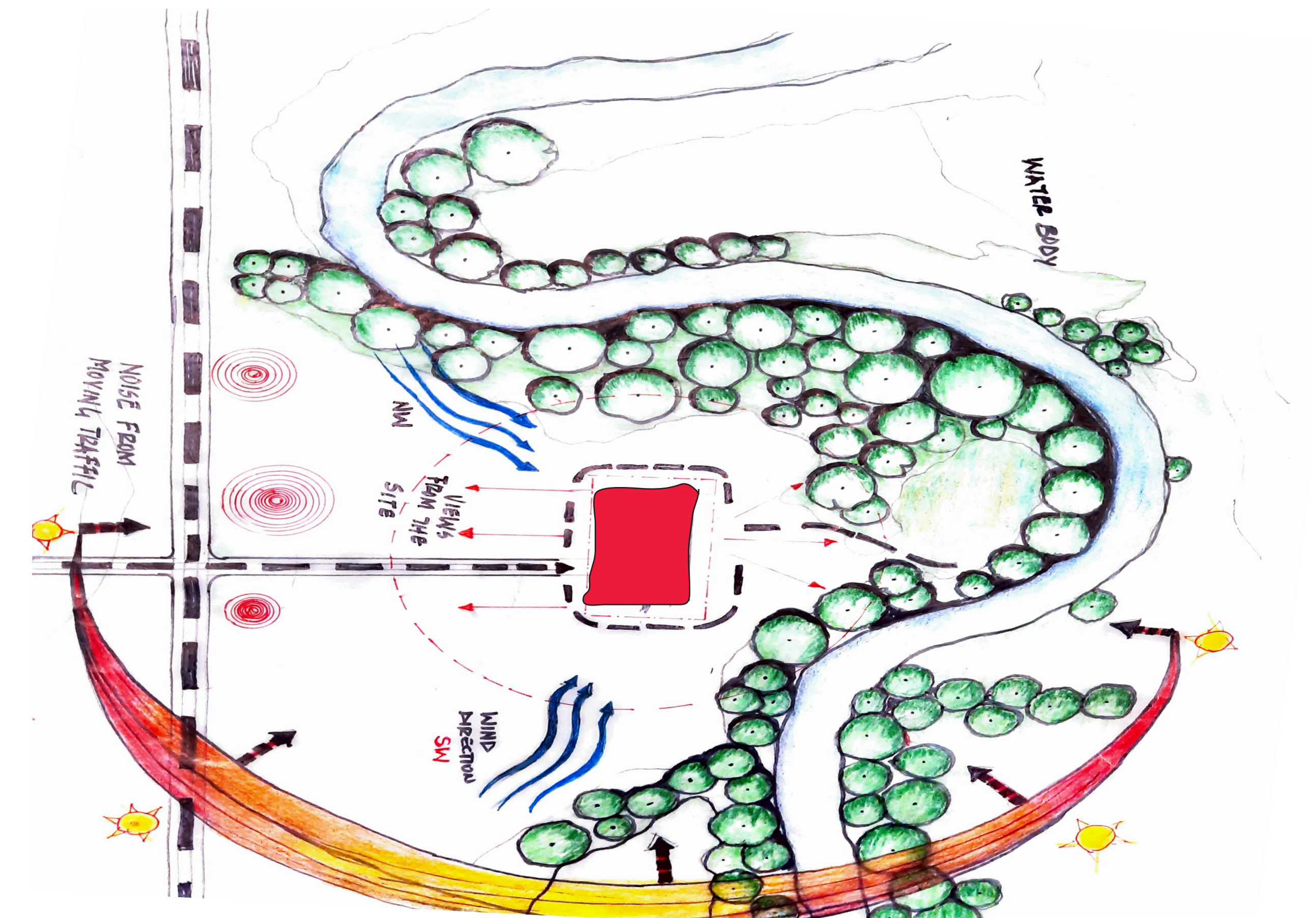
The Cycle of Life in this matter is that, Humans are Born, they Live, and Die.

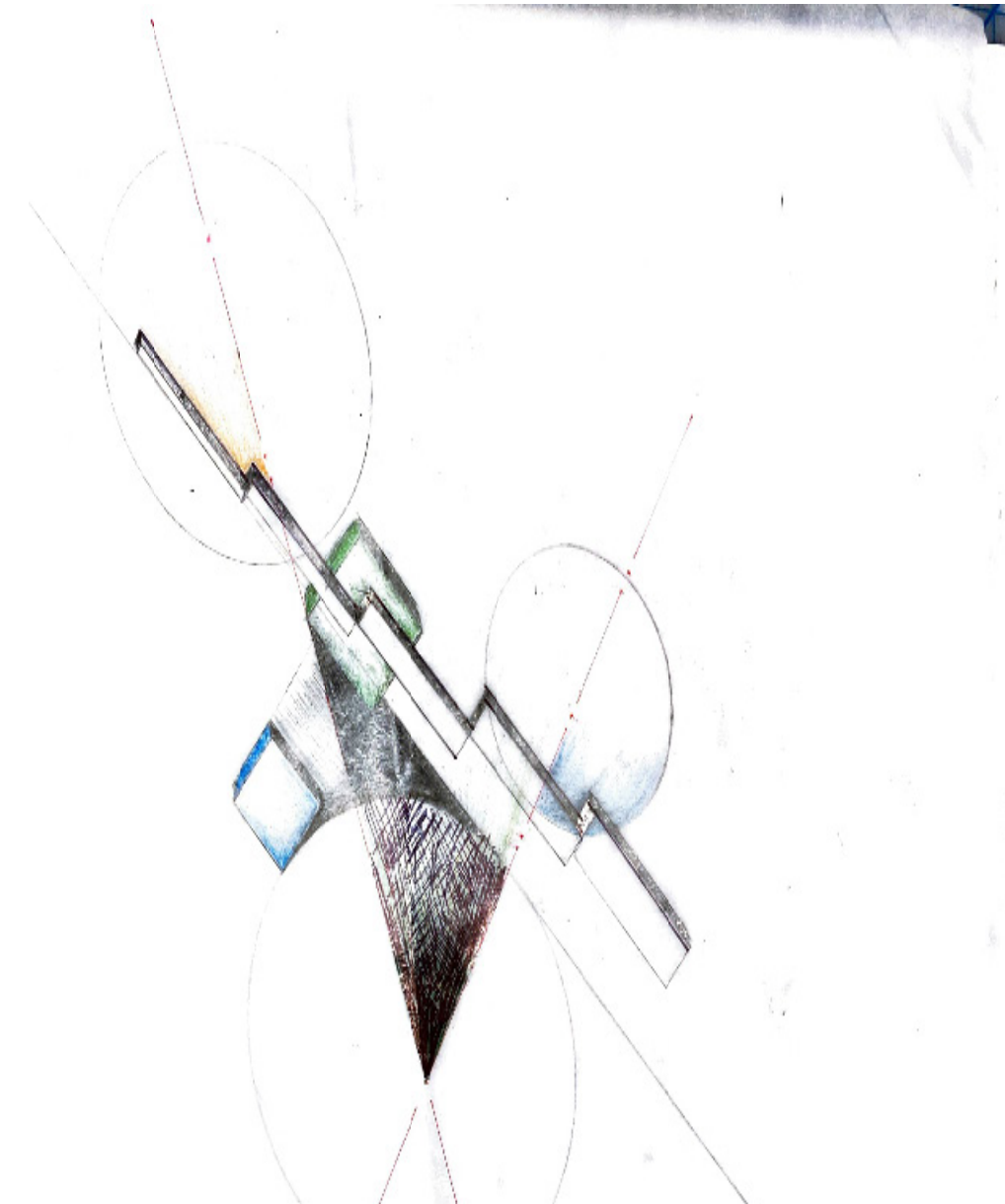
For most Refugees the Living phase is often disrupted and they have to start over in a different country, often in a different socio-cultural environment where they have to relearn the basics of society.

Most refugees had normal lives prior to being forced into refuge, infact others are Doctors, Architects, Teachers, Students, Business entrepreneurs, Tradesmen, Cooks and so much more.

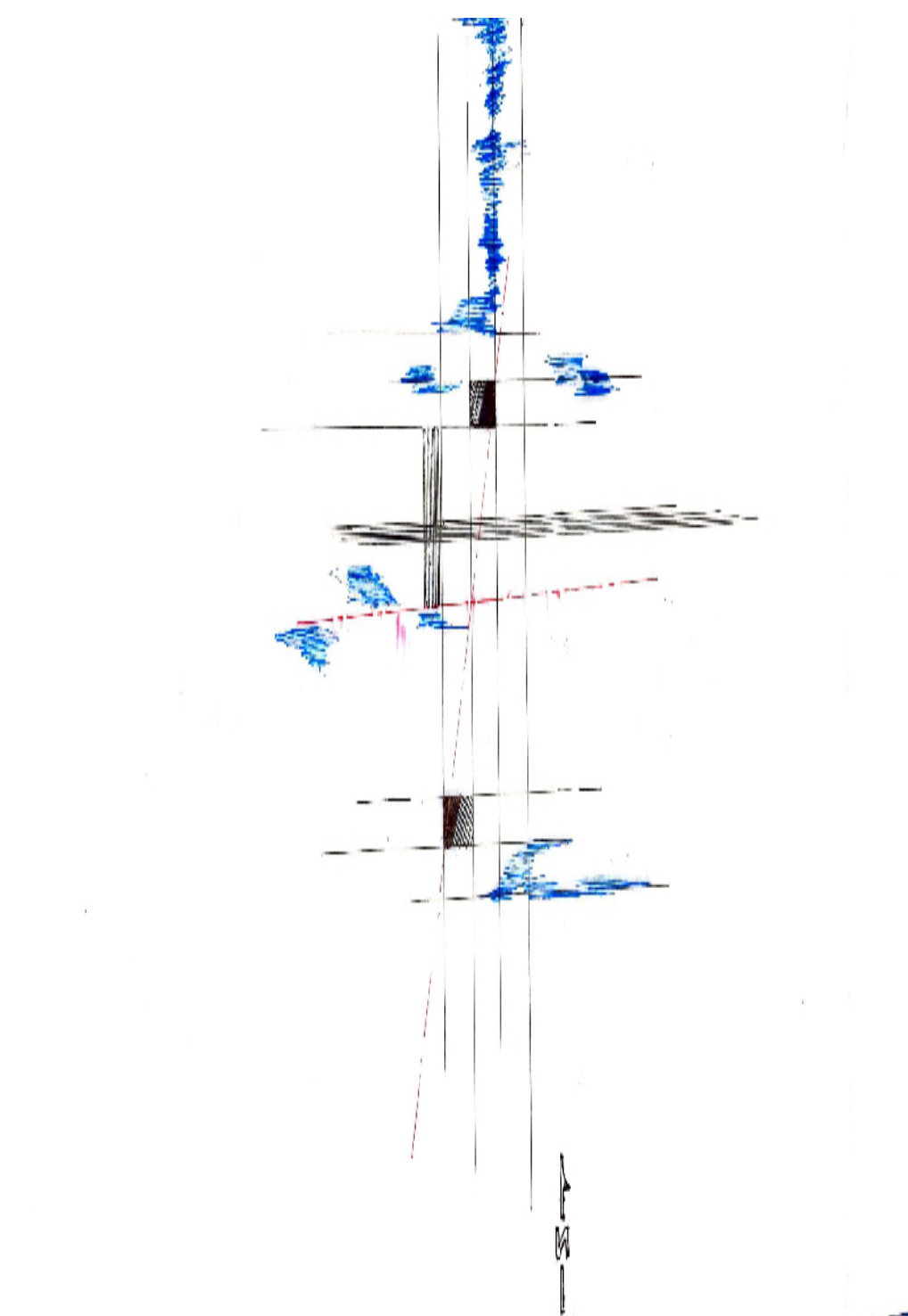
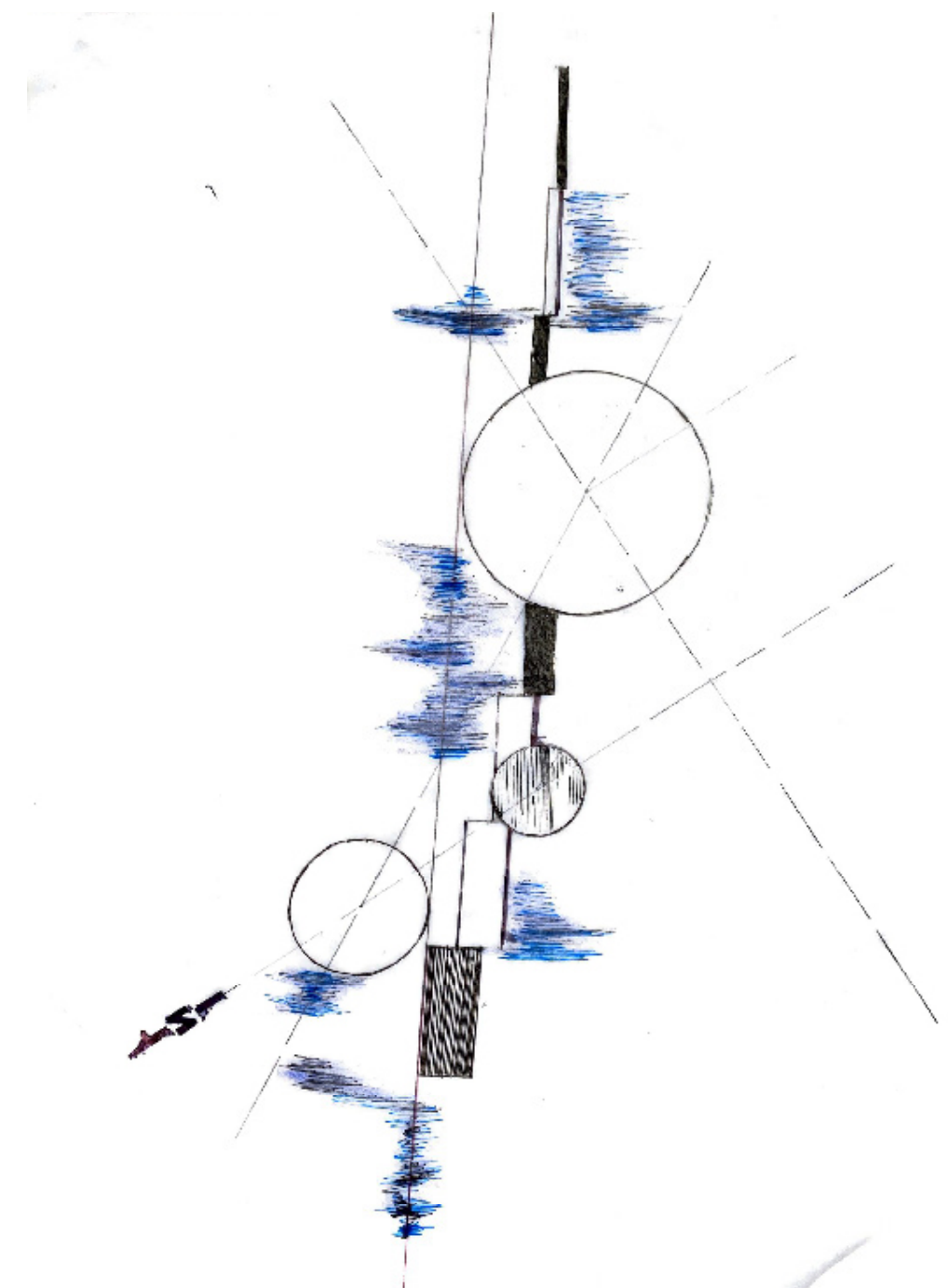
The proposed RC & SBI is designed to create a healing environment for trauma, and provide a vessel through which Refugees may continue to live as productive members of the society and maintain their culture, traditons and heritage.

The proposed site for the RC & SBI is 6102 10th St. South Fargo, ND 58104. The site is boardered to the West by University Drive and to the East by the beautiful Red River of the Norht. The Site is in close proximity to amenities such as schools, Churches, Hospitals, Grocery stores, Banks, theaters and golf courses.

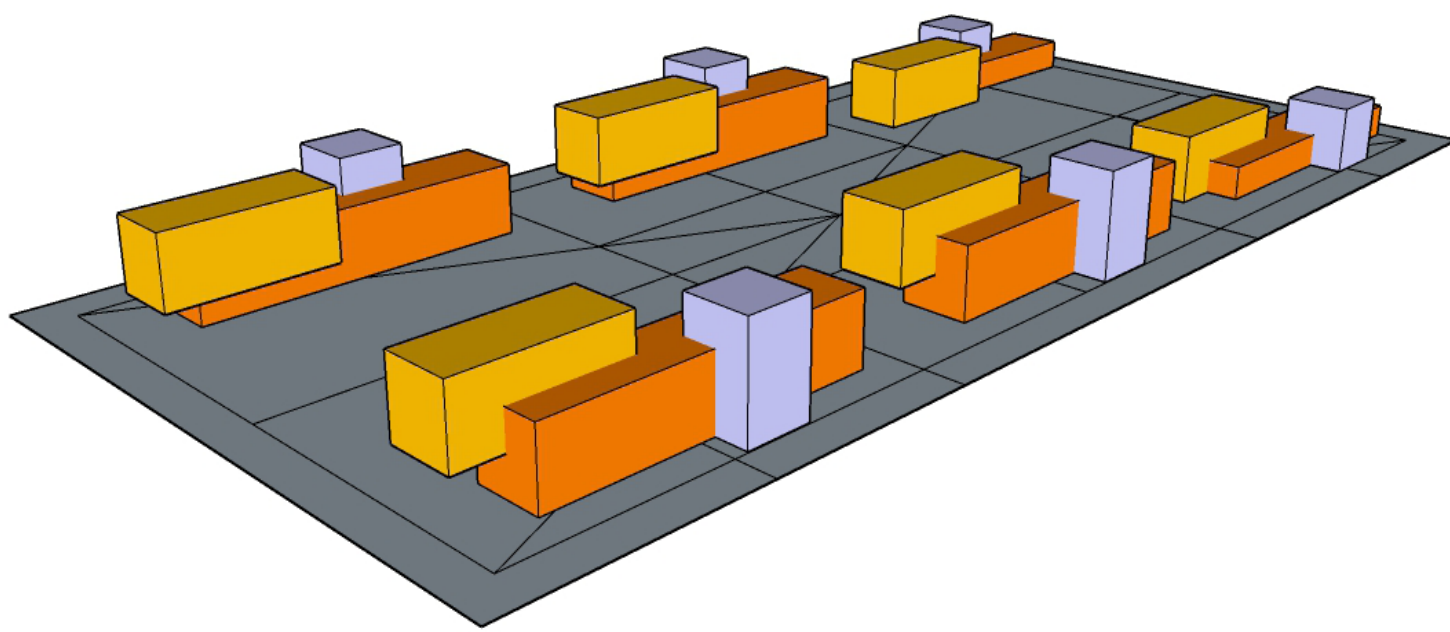




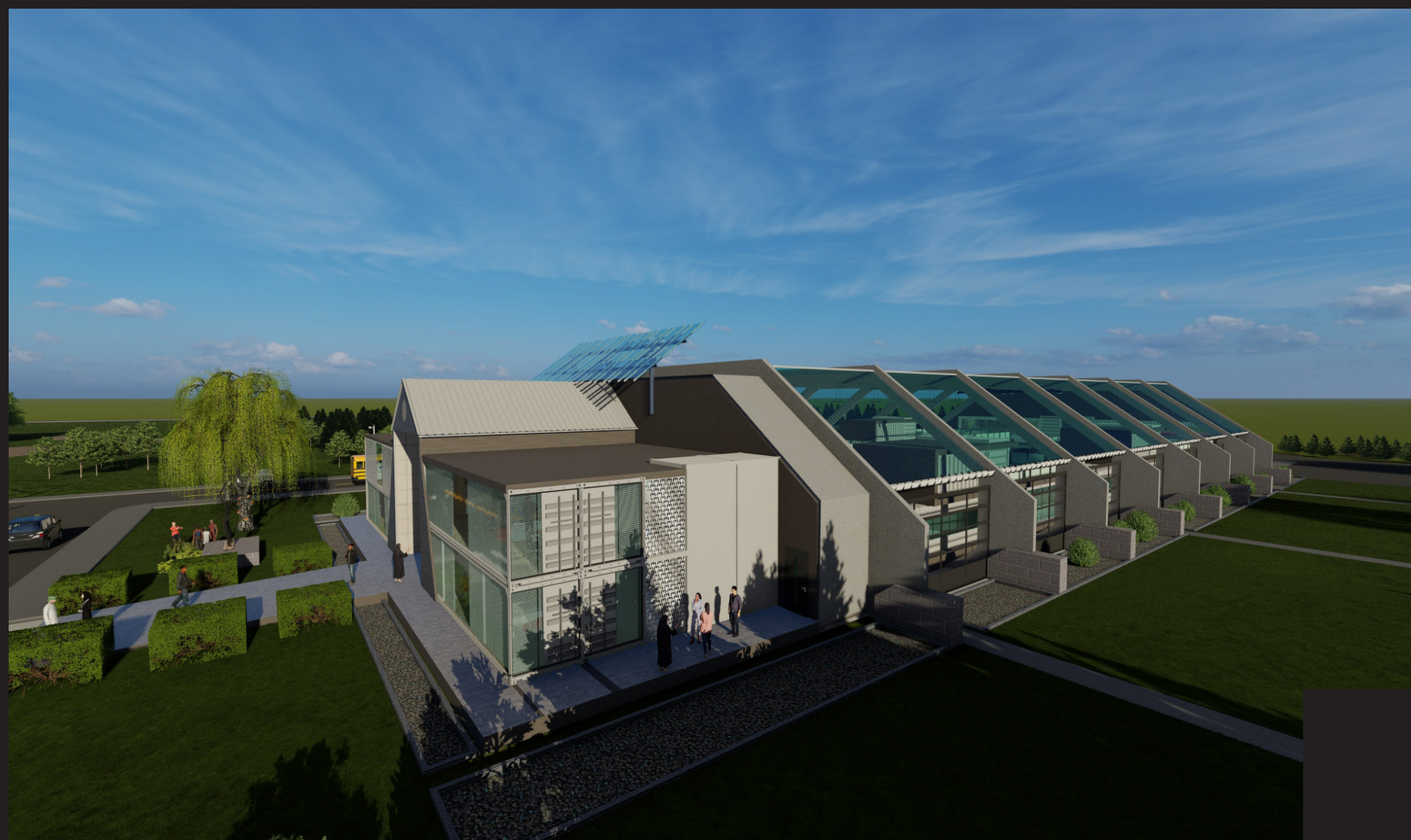
Concept drawings of space using lines and geometric shapes



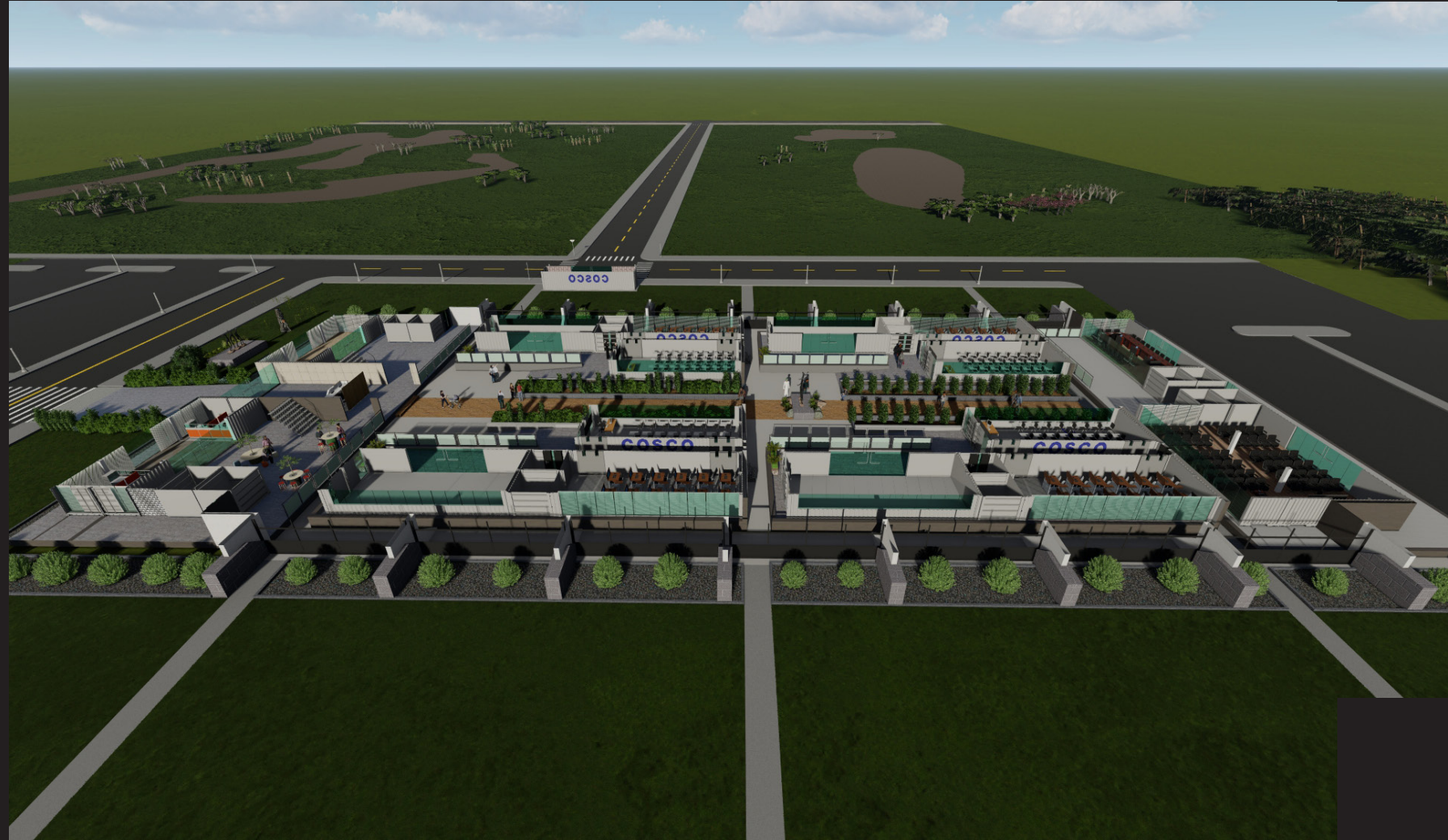
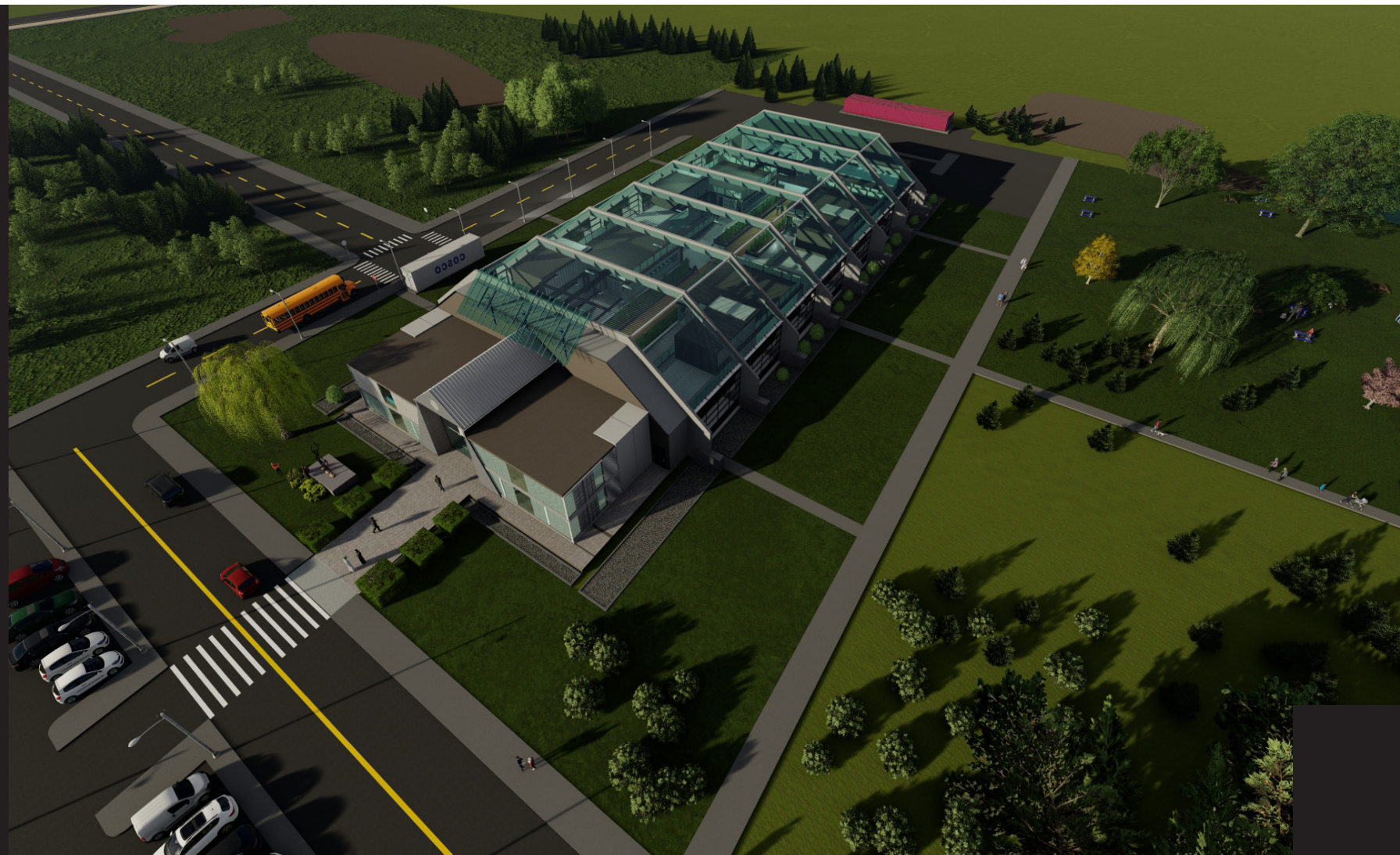
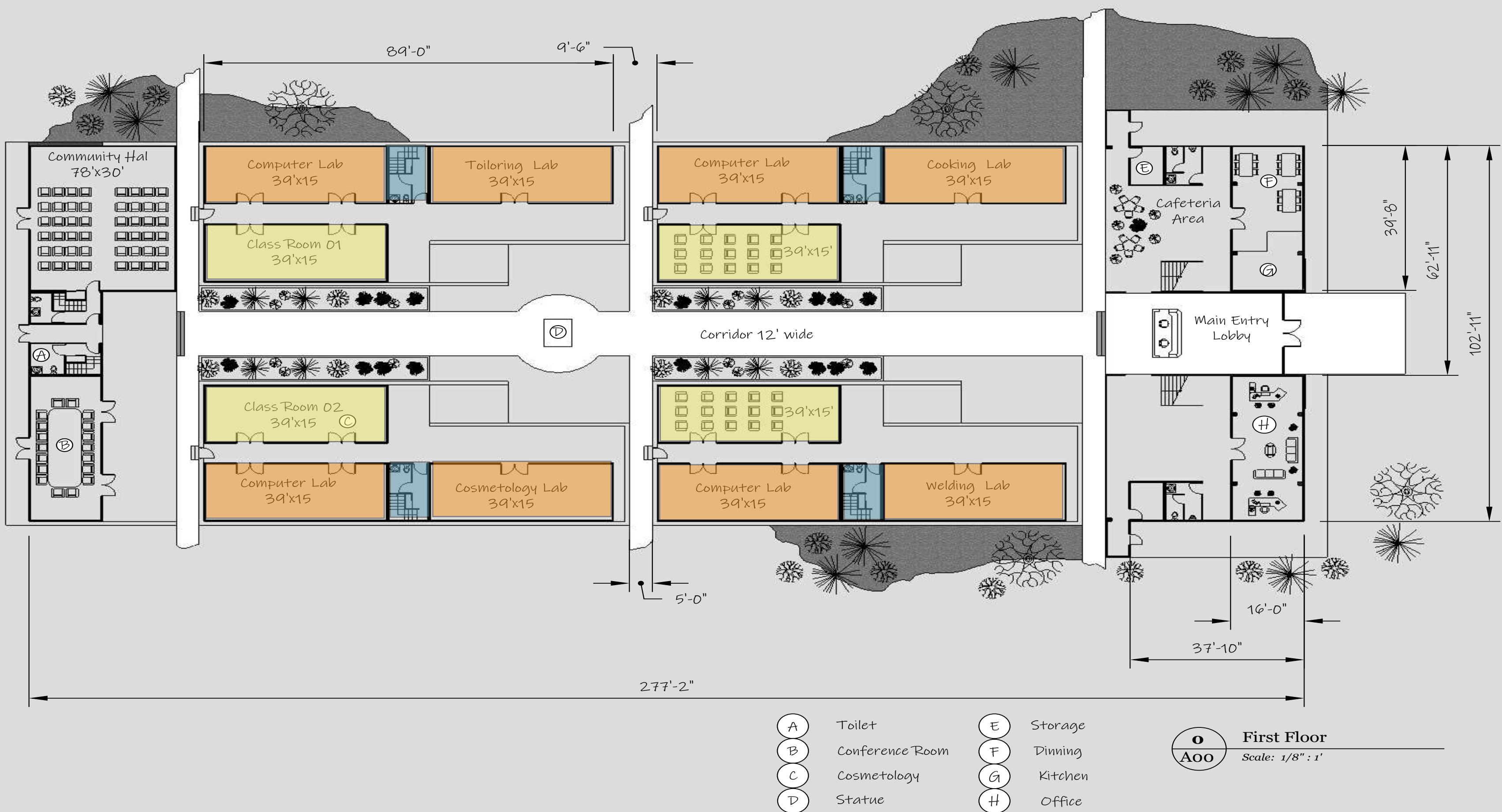
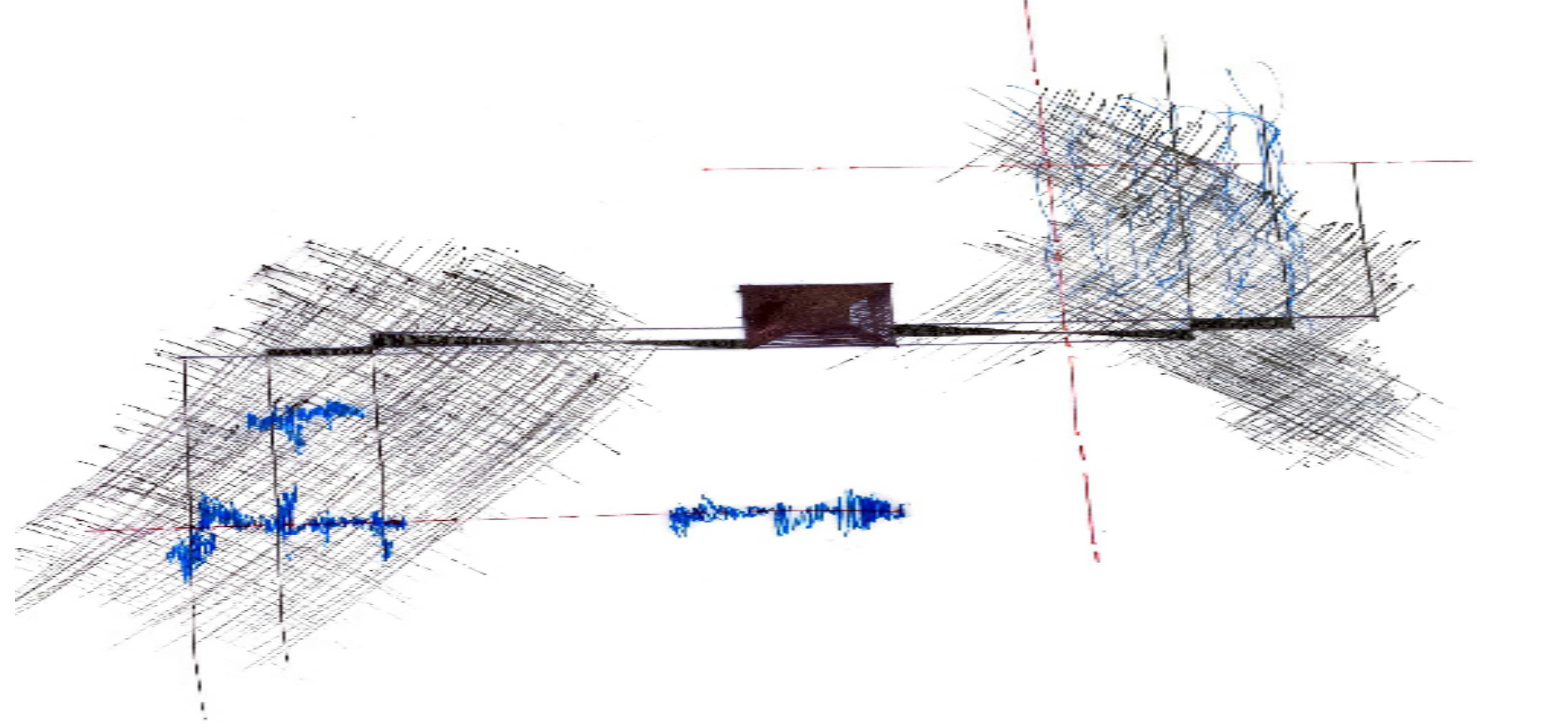
Project concept inspired by the Nomadic Museum designed by Architect Shigeru Ban, 2014 pritzker prize winner.

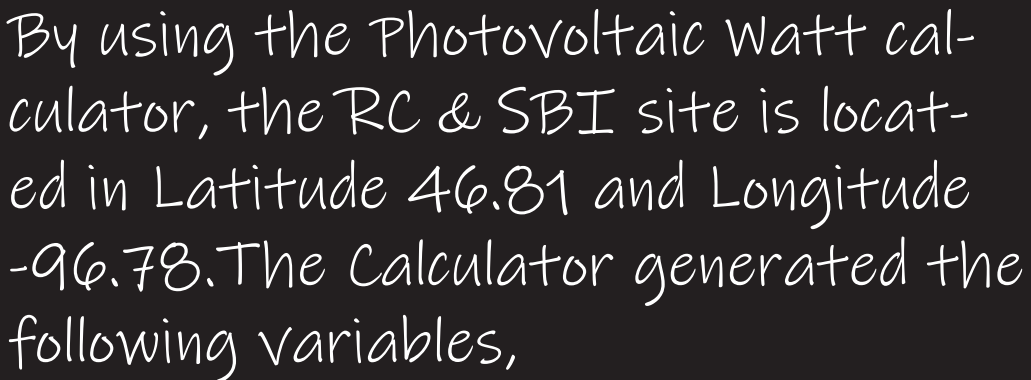


Manipulation of the rigid shipping containers to create space for human consumption.



The proposed RC & SBI viewed from the SE corner.





The retail electricity rate for commercial building in this area per the the PVWatt+ calculator is \$0.08 kWh

The resulting solar Radiation is $4.51 \text{ (kwh/m}^2\text{/day)} = 48.437 \text{ (kwh/ft}^2\text{/day)}$

The total area of the solar Panel is
 $51' \times 16' = 816 \text{ sq. ft.}$
 Total area of the RC & SBI building
 $277' \times 122' = 33,794 \text{ sq. ft.}$

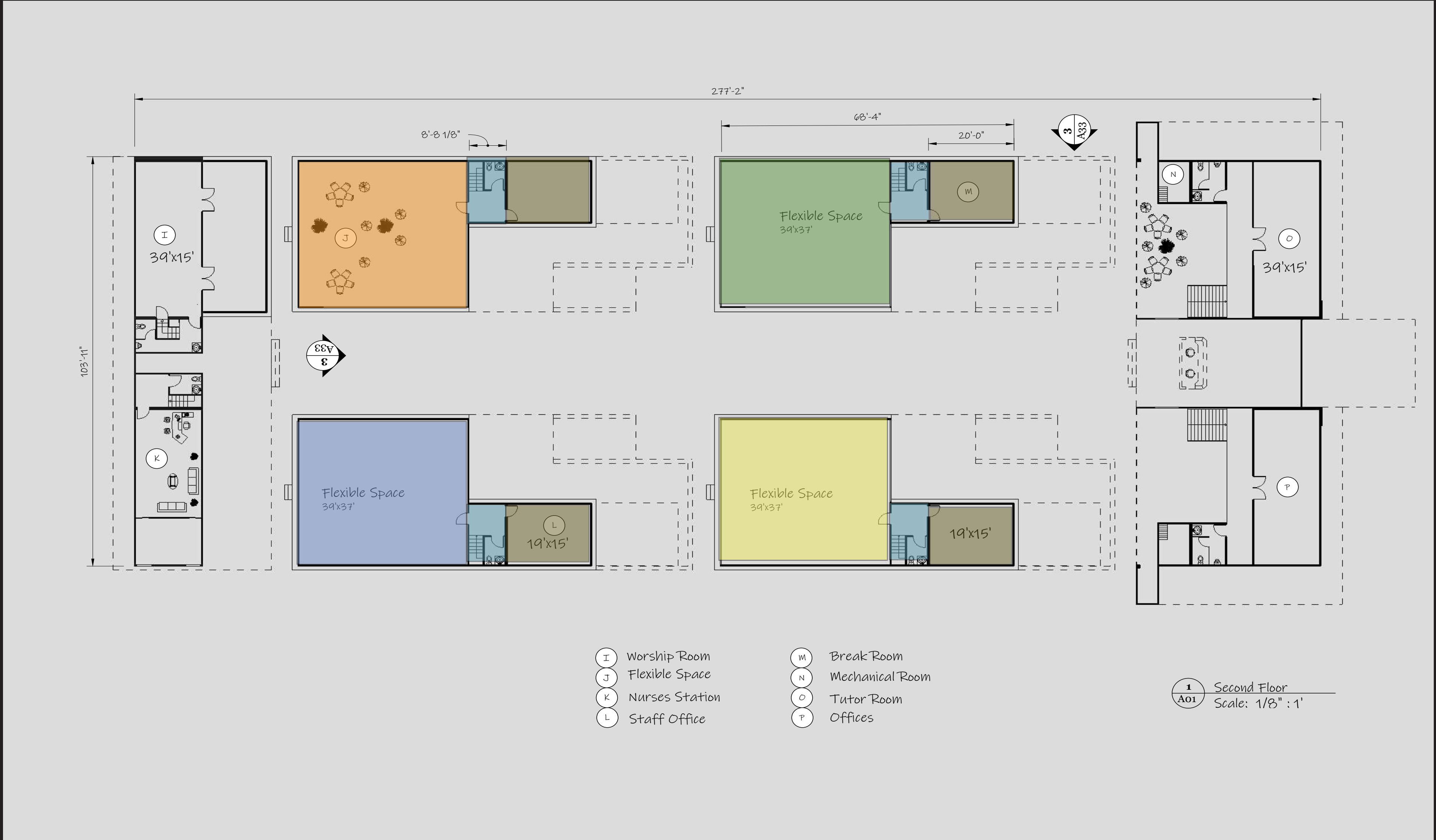
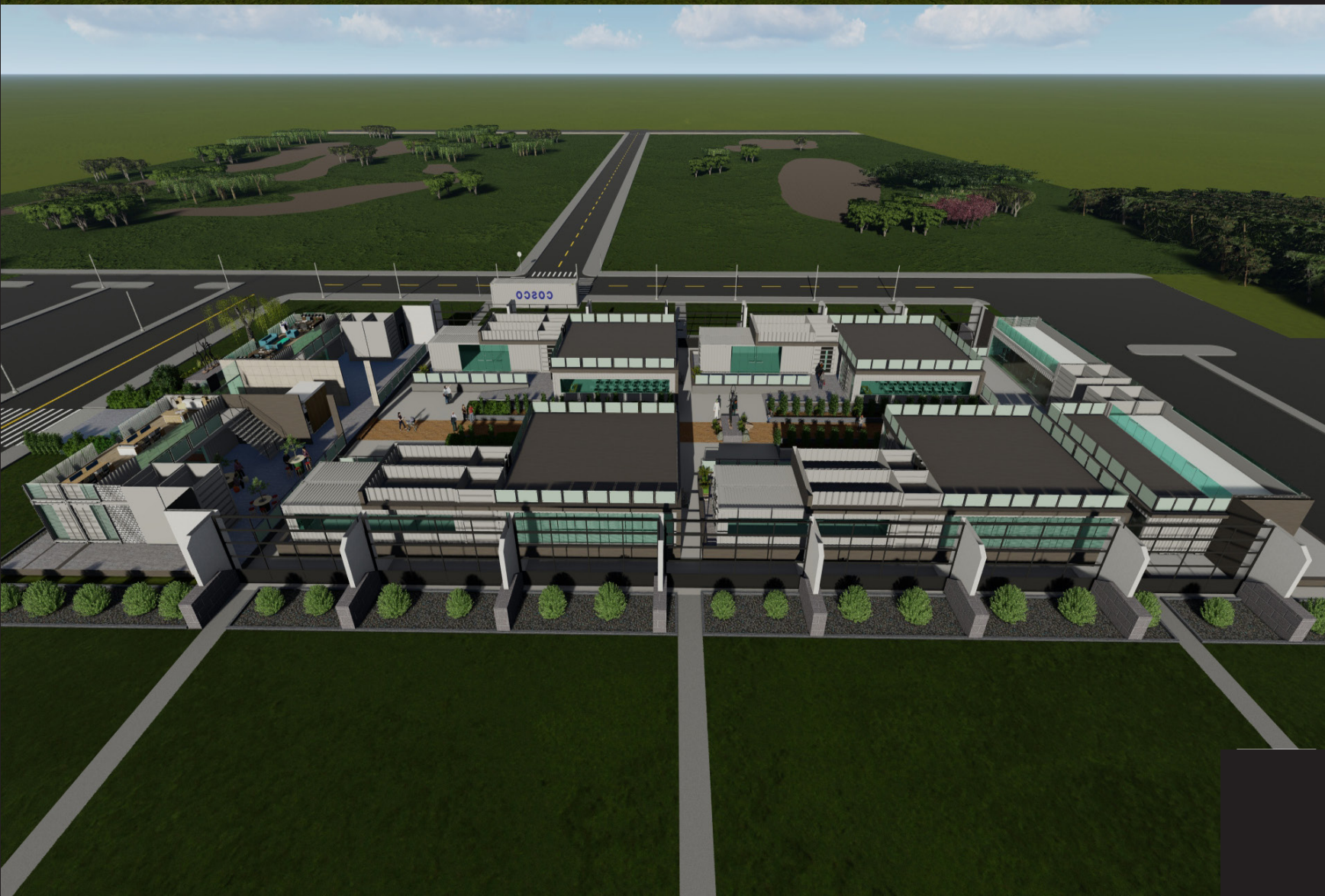
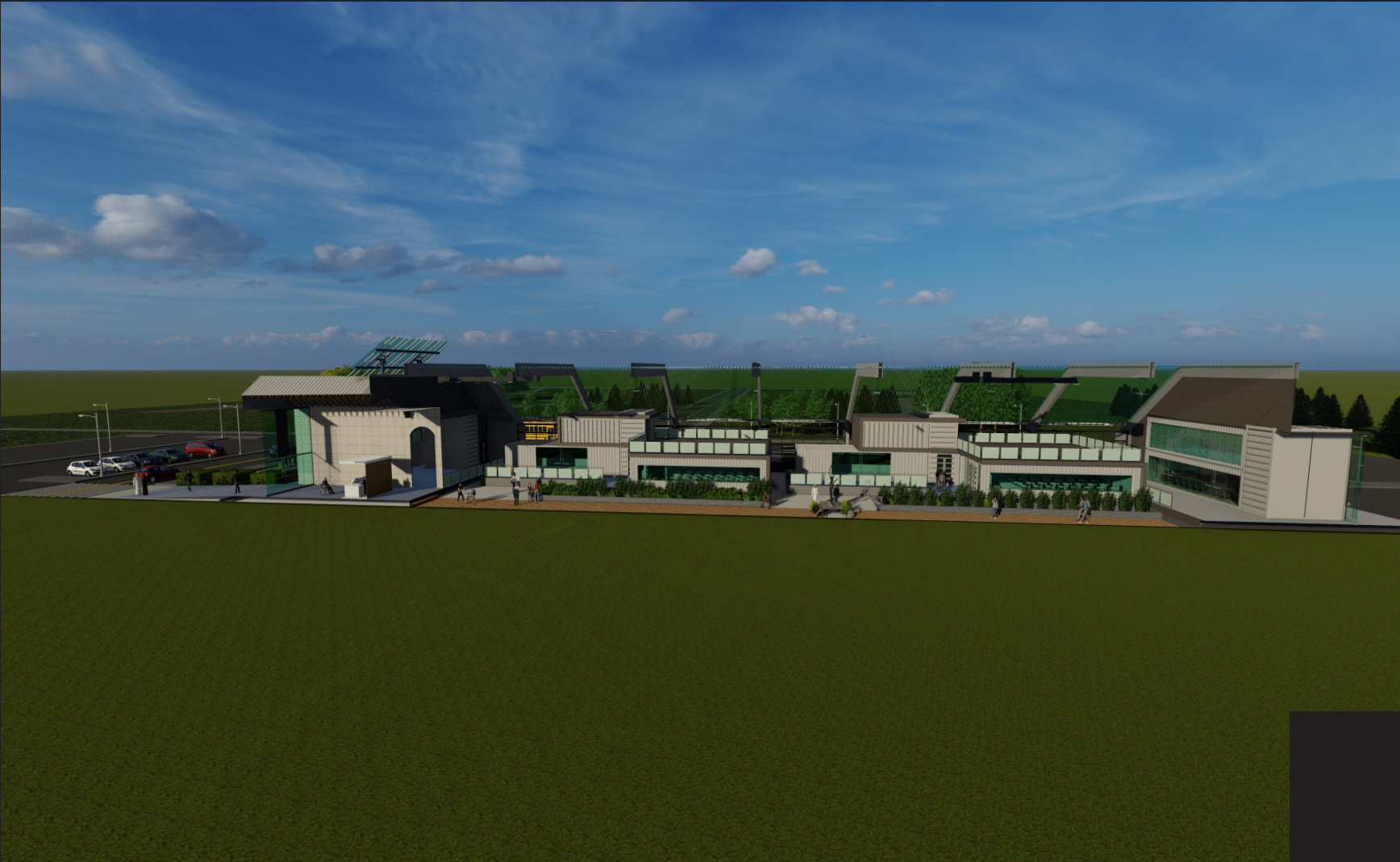
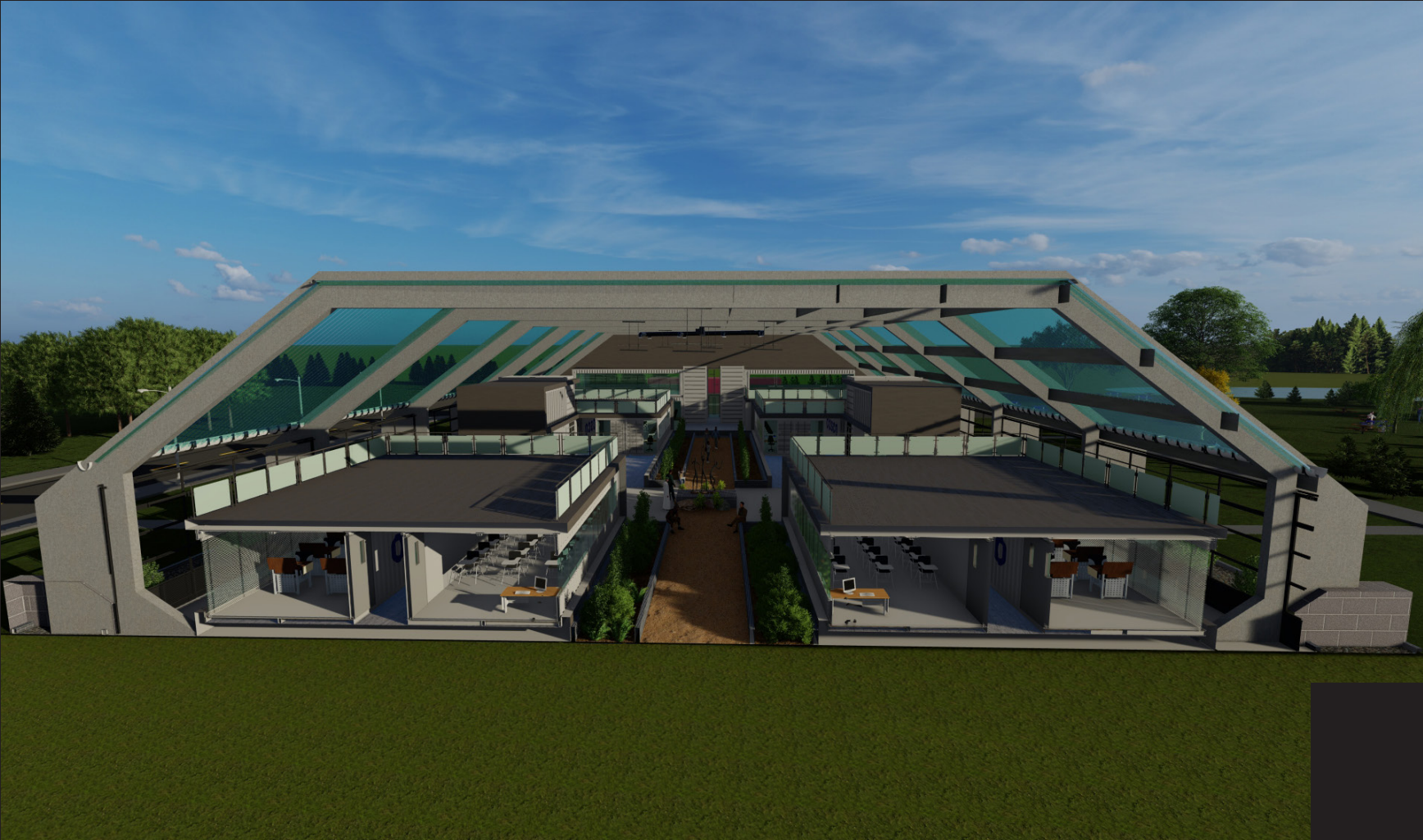
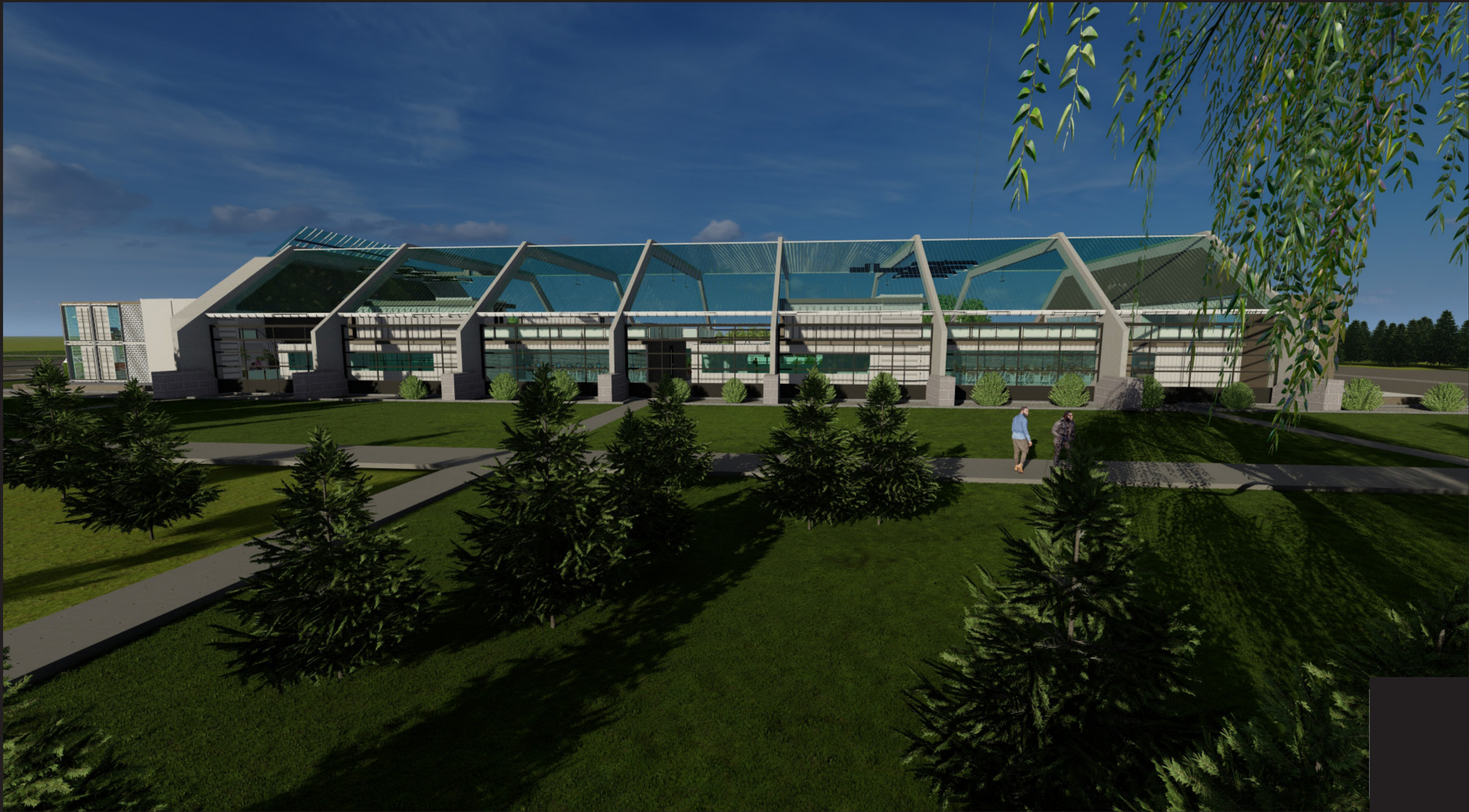
Therefore $816 \text{ sq. ft.} \times 48.437$
will equal to $39,524.592 \text{ kWh/day}$.

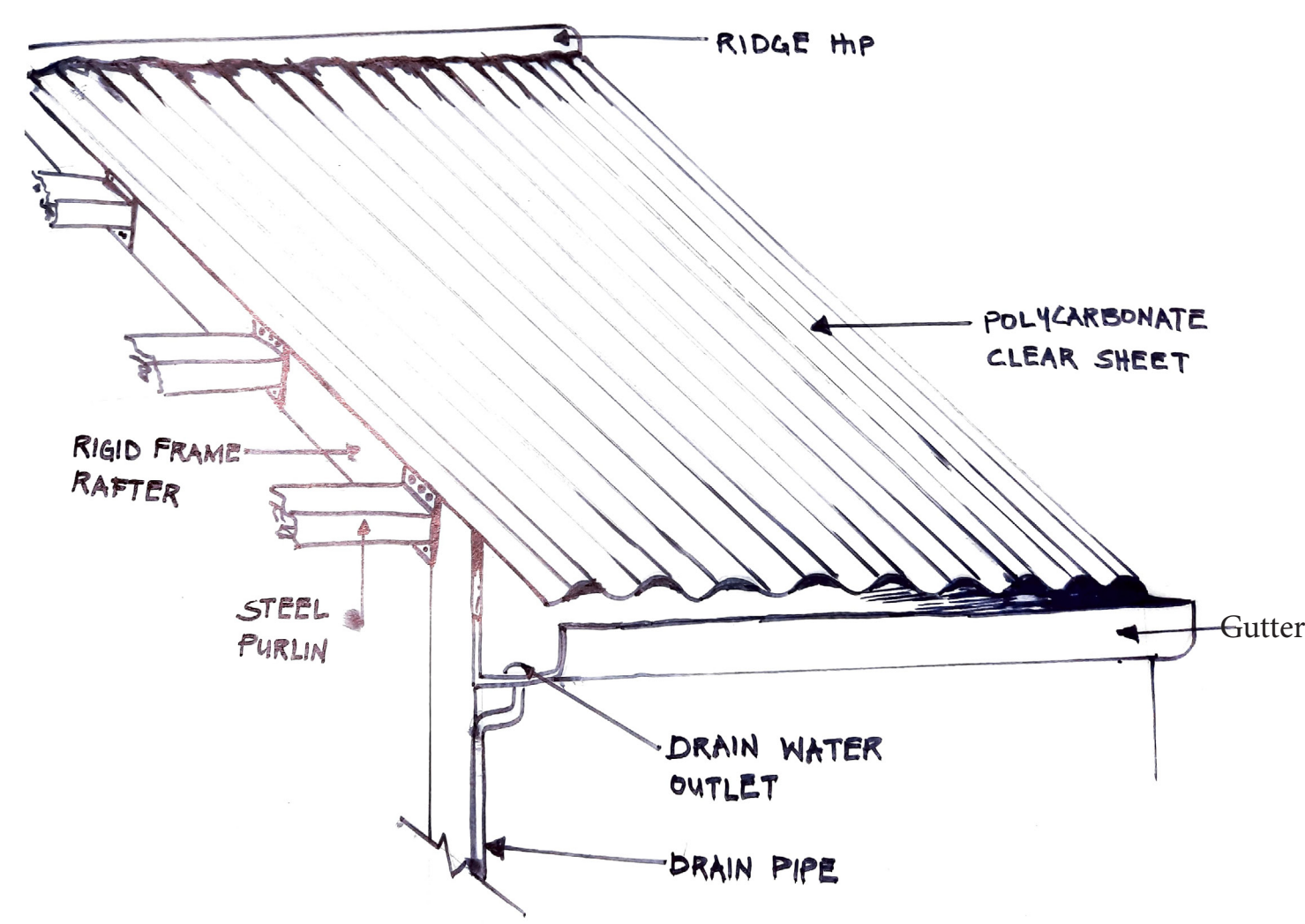
Using xcel figure of 9 kwh/sq. ft/day
multiply by the total area of the
building 33794 sq.ft, we'll get
304,146 kwh/day

Therefore $304,146 \text{ kWh/day} \times 365$
days = $111,013,290 \text{ kWh/year}$.

And for our solar panel, $39524.592 \times 365 = 14,426.08 \text{ kWh/year}$

About 1/10 of the total power required for the whole building. That fraction would be used to pump the harvested water for indoor irrigation and other minor operations within the facility.





The major elements that make up the Building Structures and the skin are the Rigid Frame Rafters, the Steel Purlins, the Concrete Footings, the clear Polycarbonate sheets and the shipping containers.

The use of Polycarbonate for roofing the RC & SBI helps in the Green House Effect and allows the refugees to extend their growing season during the winter months, creating a perfect condition for planting all year round. Polycarbonates are best known for blocking 99% of Ultra Violet Rays, and the diffused lights saves plants from Burns.

Water harvested from the roof during snow and rainy seasons are Chloride free and good for irrigating the indoor gardens during the winter months.

The Interior Images directly to the right shows paved corridor with Earth transported from Africa in shipping containers used in constructing the units for the programs. The Earth and Sky connection attempts to bring nature and its energy inside the traumatized refugees for healing and well-being purposes. The long stretch corridor paved with the Earth reflects on the refugees journey from Africa, the long distance walk on bare foot in search of solace. The connection between the Earth and the sky through the clear polycarbonate roof manifest the relationship that humans have with the Earth and the Heavens in search of peace.

