Senior Design / BS Project May - 2020

Coral Gables Sustainability Museum

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Abstract

Sabal Engineering proposes a Coral Gables Sustainability Museum with a botanical garden for the 536 Coral Way development. We believe this program would advance Coral Gables into the future of construction. Coinciding with the desires of the City of Coral Gables, we expect that the construction of a sustainability museum with displays in sustainable design, construction, and maintenance, will inspire Coral Gables residents and propel the city into an environmentally conscious and "smart- city" future.

Introduction

Sustainability was at the forefront of all design disciplines in our project. Each innovation will be featured in its prospective exhibit space. The museum includes a number of flexible programming features in order to make the space adaptable and attractive for many audiences.



The exterior botanical garden fulfills the wishes of our client to create more green space within Coral Gables. The site's proximity to residential neighborhoods, historic Miracle Mile, and the Coral Gables City hall makes it an ideal location for park infrastructure. Additionally, this proximity to such Coral Gables attractions makes it a keen location for community engagement and events.





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Design

Planning for the year 2100 served as the inspiration for the building's design. We carefully balanced an emphasis on aesthetics and sustainability. The key sustainable features of our project include:

Double Exterior Wall

Steel Dome Roof

- Greywater Reuse System
- Lighting Optimization

- Solar Energy Panels
 - Composting Plan
- LEED Verification

VRF System

Transforming Lives Through Teaching, Research, & Service

- Heat Release Technology



Conclusion

Combining all of our sustainability initiatives together, our project was able to achieve LEED Platinum certification. This is a terrific feat for the City of Coral Gables and further instigates our goal of inspiring the future of "green" construction in Miami-Dade County.



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