2025 THIRD PRIZE

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LYCEUM

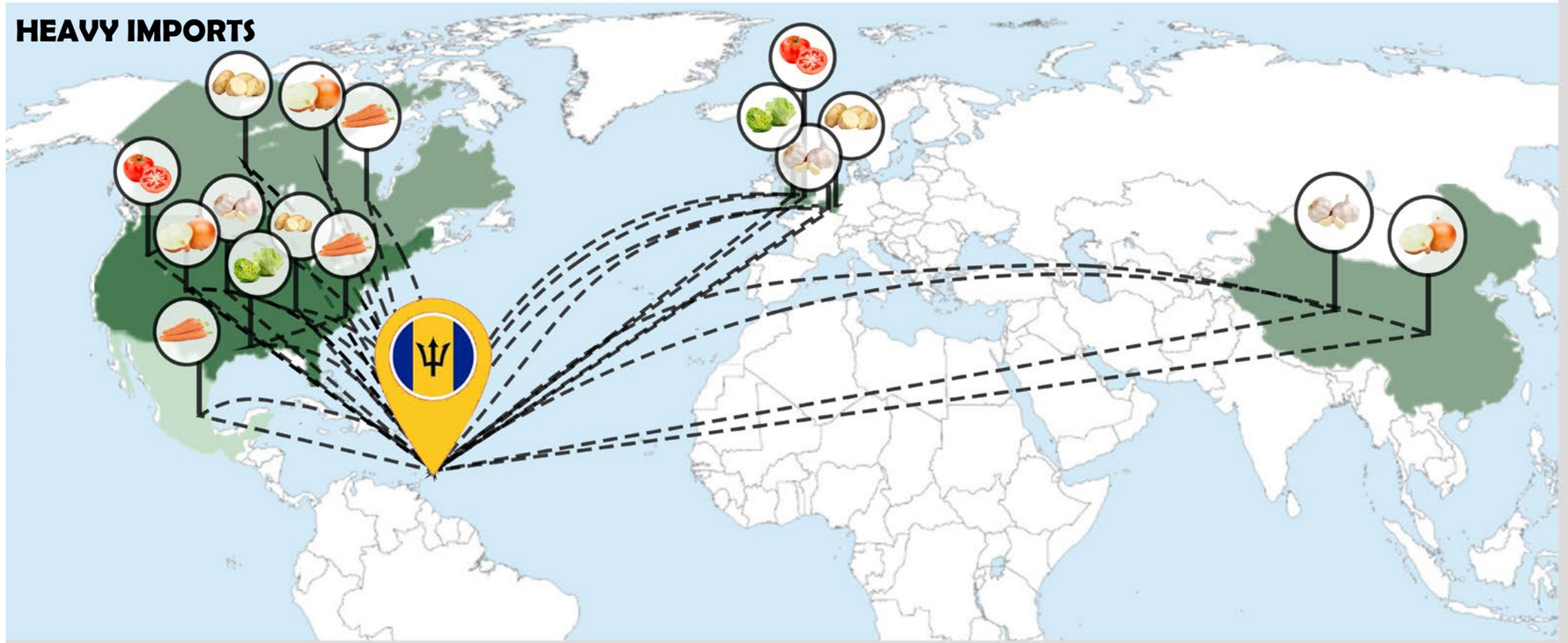
A traveling fellowship in Architecture

GROW GASTRO

ID: LF-12217

WHY THE NEED FOR IMPROVEMENT?

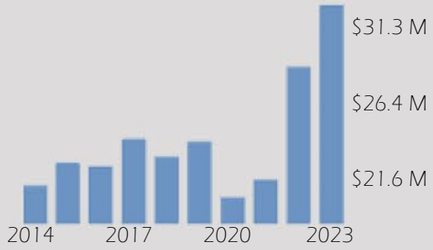
HEAVY IMPORTS



Many vegetables are imported due to lack of supply and demand in Barbados. Although grown in Barbados, potatoes, carrots, onions, tomatoes, and garic harvestings don't meet the needs of the people in Barbados. Trading economics say that nearly **$32 million USD** is spent just from imports of vegetables, fruits, and nut food preparations last year.

As Barbados is increasingly gaining popularity and population, future imports and money spent are set to also increase. **Traditional farming methods are becoming less efficient** which is a great opportunity to implement more modern and efficient farming methods and/or technology.

SIGNIFICANT INCREASE IN MONEY SPENT ON VEGETABLE IMPORTS



LIMITED AGRICULTURAL LAND

Agricultural land makes up around **23.26% of land area** in Barbados

Farmland

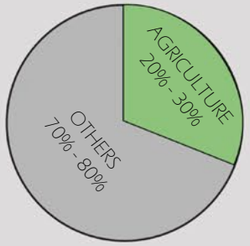
WATER SCARCITY

LIMITED FRESHWATER RESOURCE

Barbados is a small island (around 430 square kilometer). T**he island relies heavily on underground aquifers** for its freshwater supply

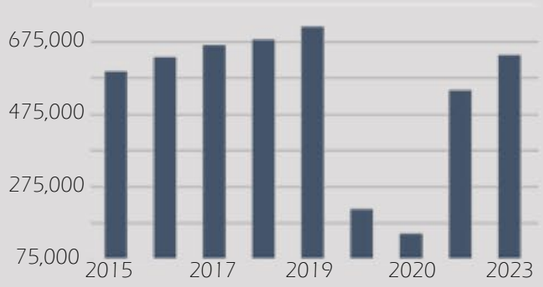
- Bridgetown, Barbados
- Reserviors
- Wells
- Pumping Stations

MASS AGRICULUTRAL WATER USE



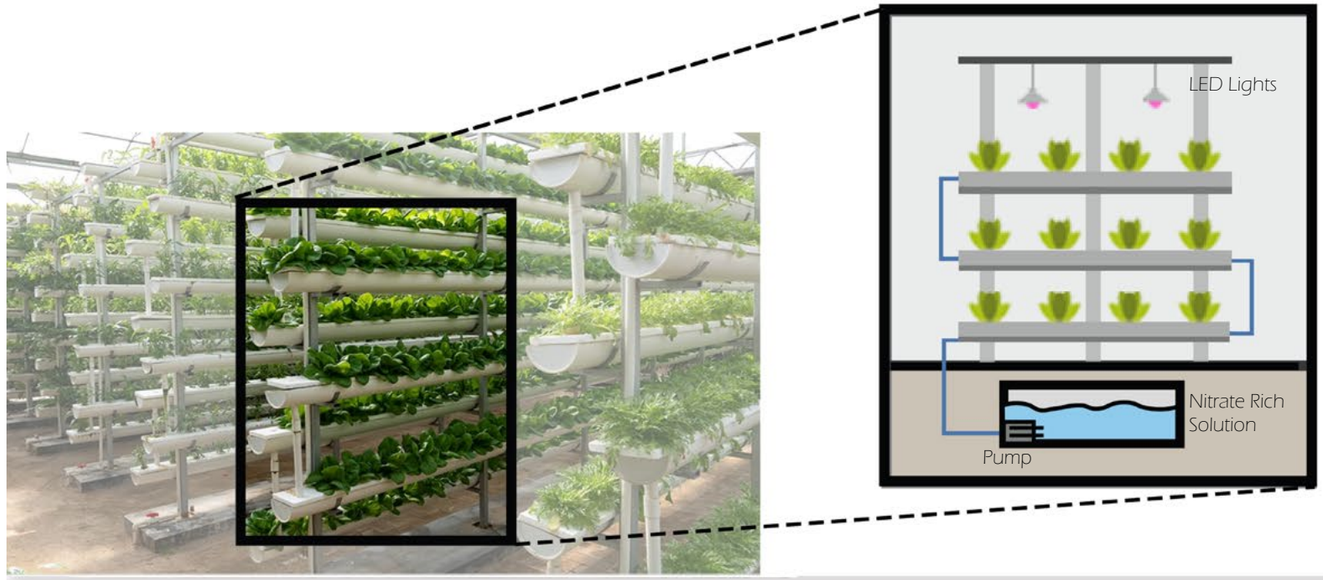
The island has a significant agricultural sector, particularly in crops like, sugarcane, which requires a lot of water. Traditional irrigation method often waste water through evaporation and inefficient distribution, placing more pressure on the water supply

MASS INCREASE IN TOURISM

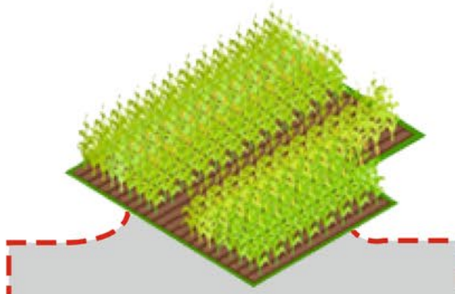


WHAT TO IMPROVE?

HYDROPONIC VERTICAL FARMING



TRADITIONAL FARMING VS. HYDROPONIC FARMING



- INEFFICIENT LAND USE
- USE OF PESTICIDES
- MASS WATER CONSUMPTION
- SEASONAL WEATHER

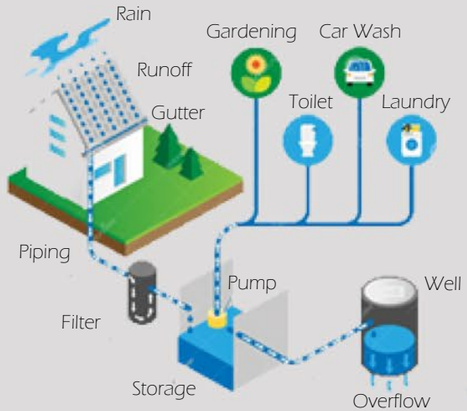
- SPACE EFFICIENT
- NO PESTICIDES
- 90% RE-USABLE WATER
- GROW FOREIGN VEGETABLES

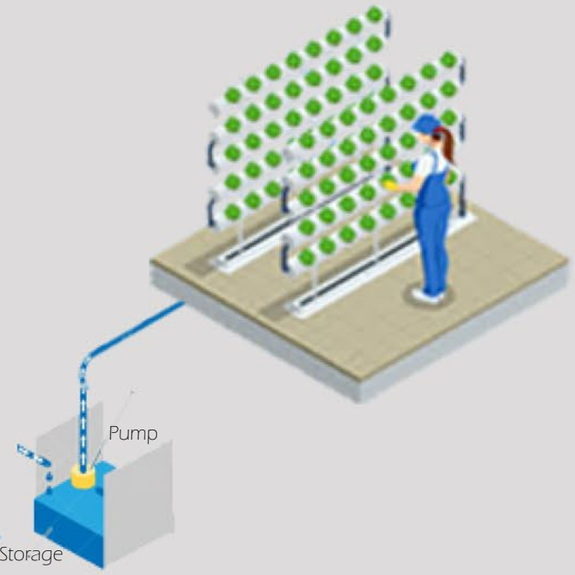
THE CONNECTIONS

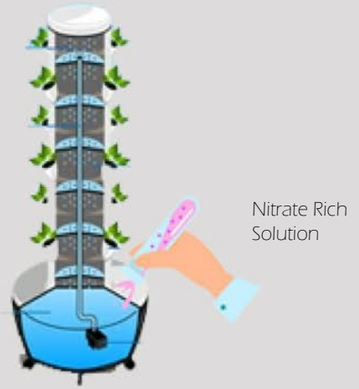
Many homes, farms, and buisnesses have set up rainwater catchment systems, where water is collected from roofs and directly into storage tanks. This **helps conserve groundwater and reduces the pressure on the island's aquifers.**

Farmers in Barbados are increasingly using rainwater harvesting systems to irrigate crops, particularly during dry periods when ground-water supply are low. This helps to **maintain agricultural productivity and resilience against water shortages.**

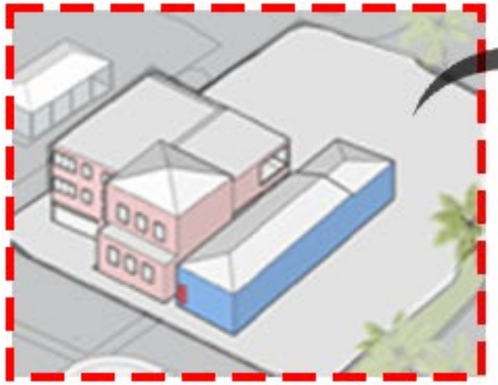
RAINWATER HARVESTING SYSTEM



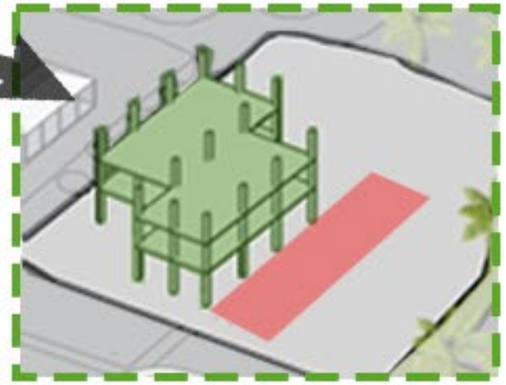




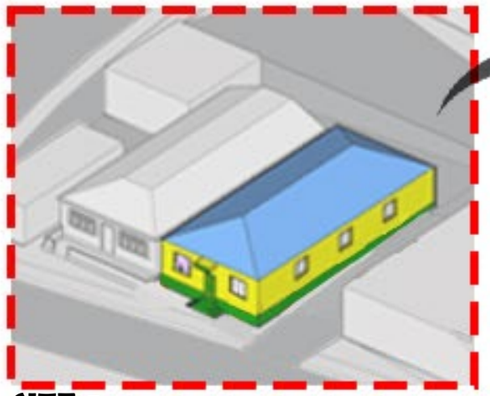
ADAPTIVE RE-USE



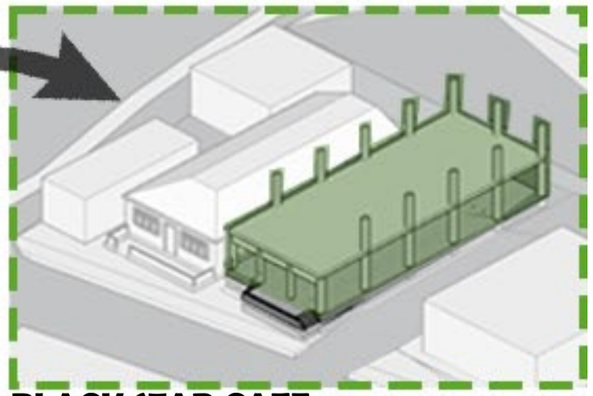
SITE 1



BLACK STAR RESTAURANT



SITE 2



BLACK STAR CAFE

PROPOSED SITE MAP

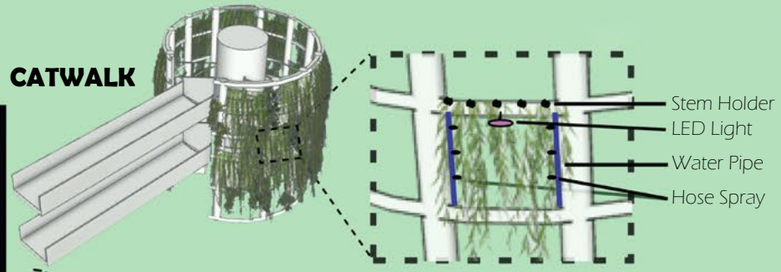
BLACK STAR RESTAURANT

FARMING

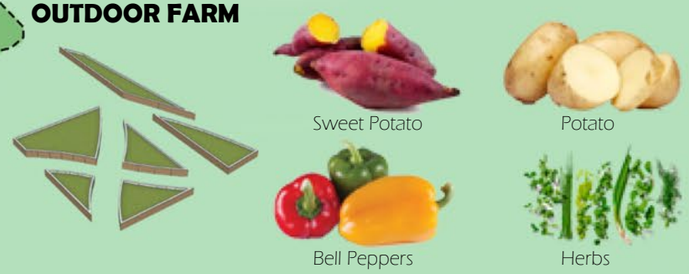
The main farming structure also acts as the main vertical circulation

VERTICAL TOWER

CATWALK



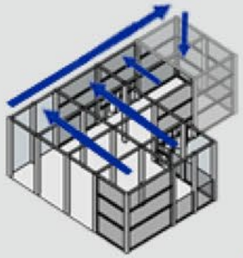
OUTDOOR FARM

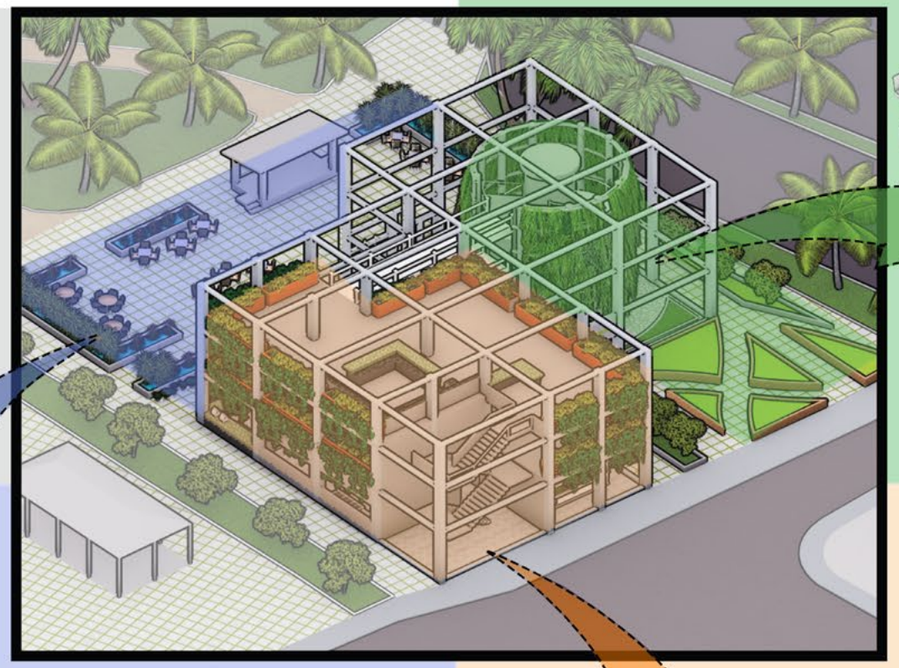


GREENHOUSE

The large enclosed glass structure provides **transparency** for people to look into the building and seeing all the vegetation growing as well as a **controllable environment for non-native vegetation**

RAINWATER HARVEST





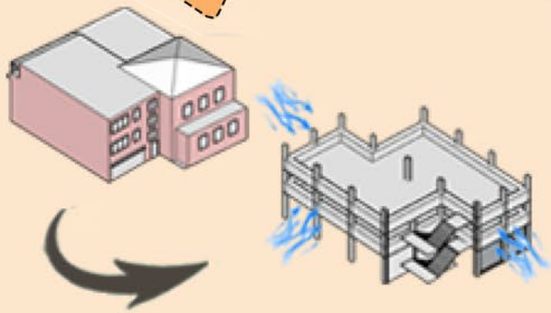
WATER FEATURE

As part of a water feature, sugarcane can grow in a hydroponic system called deep water culture. Implementing these farming beds, **they can create individual spaces as well as circulation and paths**

DEEP WATER CULTURE

In some areas, cabbages can grow in order to **provide views to the beach**

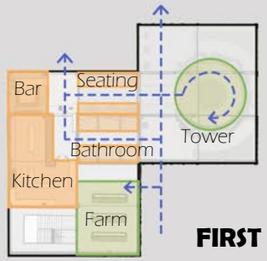
PLANT BOXES



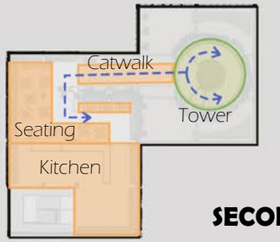
By knocking out all the walls, this allows for **better air circulation**. To provide coverage and more vegetable growth, plant boxes replace the walls **providing privacy while having open air circulation**

BLACK STAR RESTAURANT

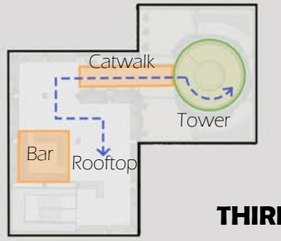
CIRCULATION & PROGRAM



FIRST FLOOR



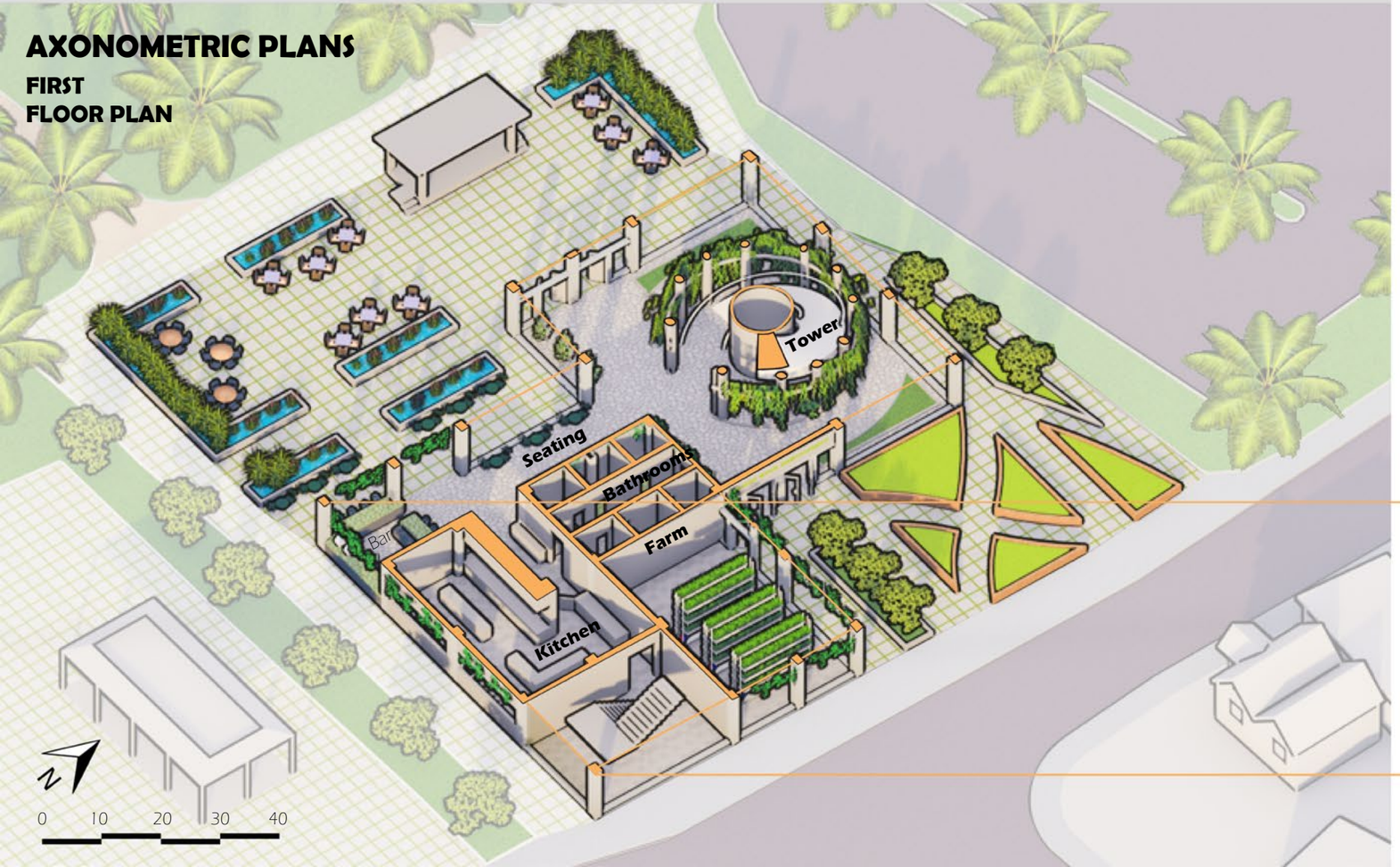
SECOND FLOOR



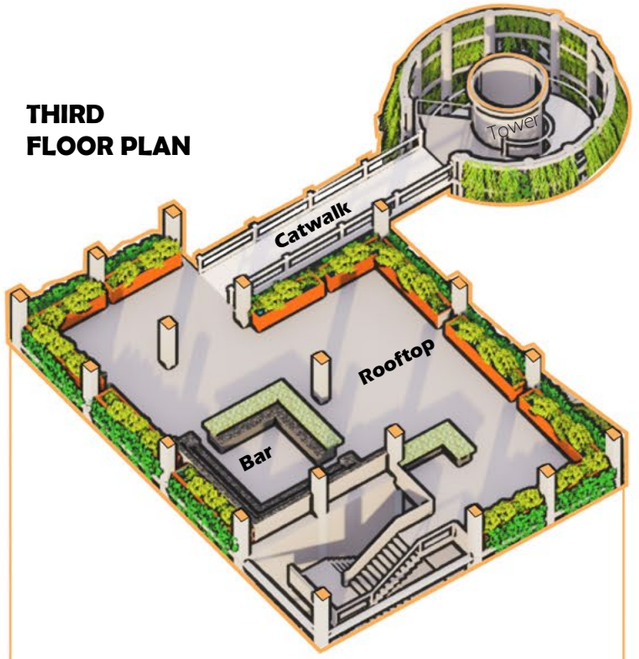
THIRD FLOOR

AXONOMETRIC PLANS

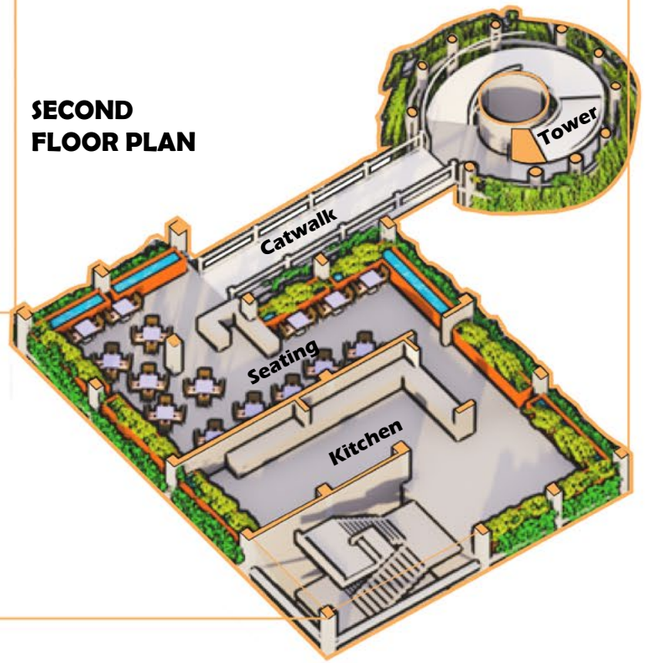
FIRST FLOOR PLAN



THIRD FLOOR PLAN



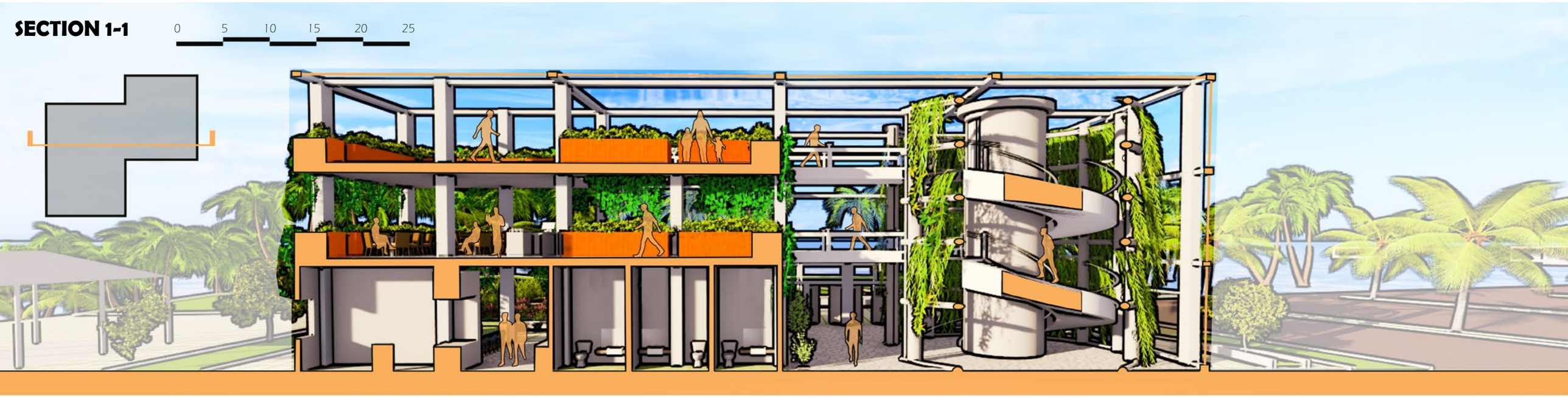
SECOND FLOOR PLAN



BLACK STAR RESTAURANT

SECTION 1-1

0 5 10 15 20 25



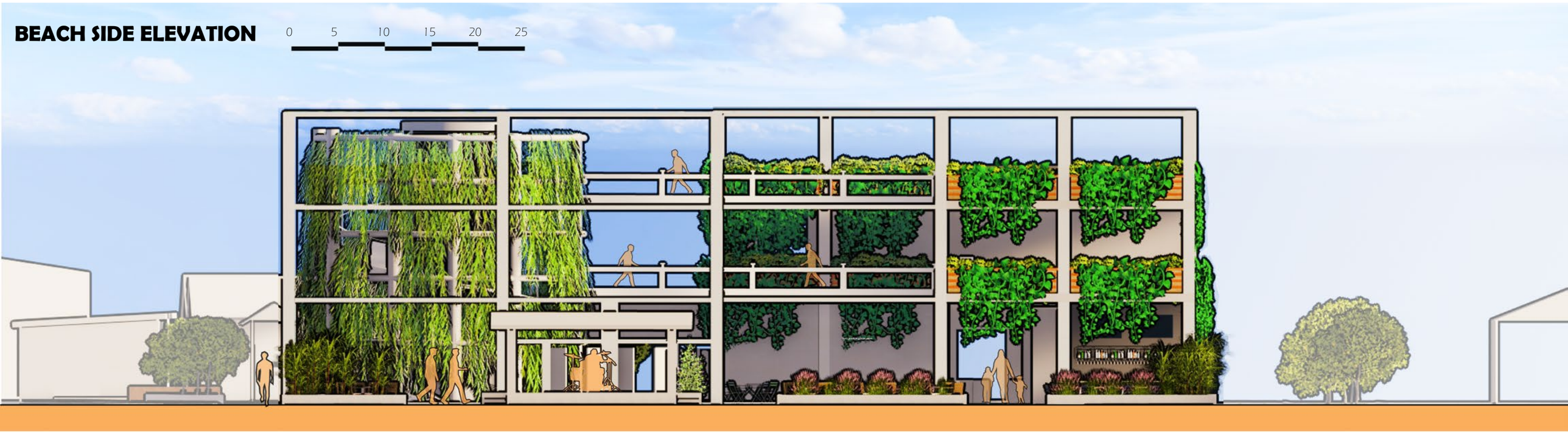
SECOND FLOOR DINING

THIRD FLOOR CATWALK

BLACK STAR RESTAURANT

BEACH SIDE ELEVATION

0 5 10 15 20 25



BACK SITE PERSPECTIVE

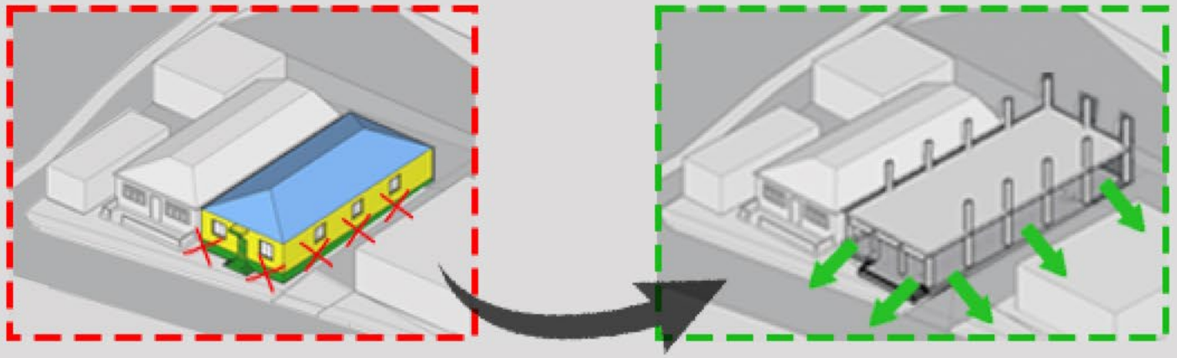
OUTDOOR SEATING PERSPECTIVE

BAR PERSPECTIVE

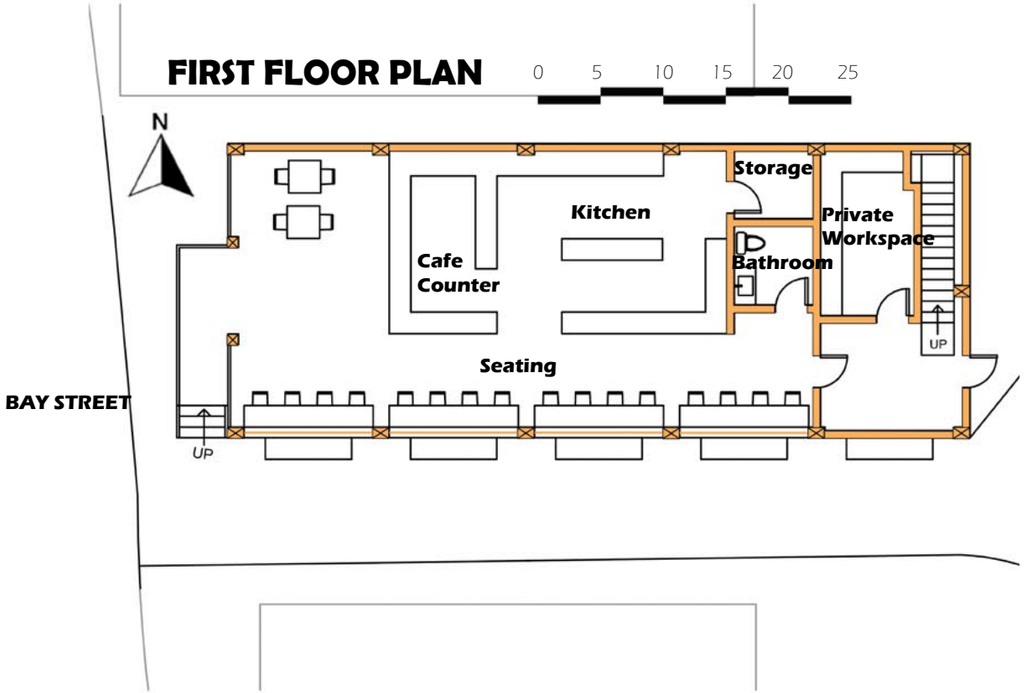
BLACK STAR CAFE

EXTERIOR PERSPECTIVE

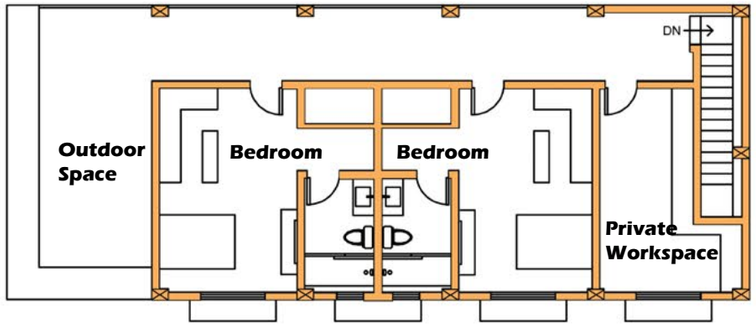
OPENING UP TO PUBLIC



FIRST FLOOR PLAN

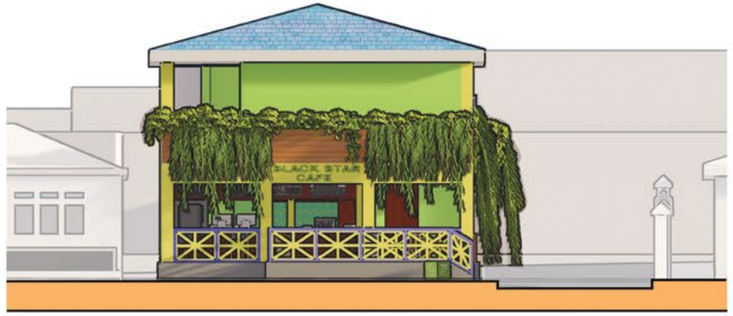


SECOND FLOOR PLAN

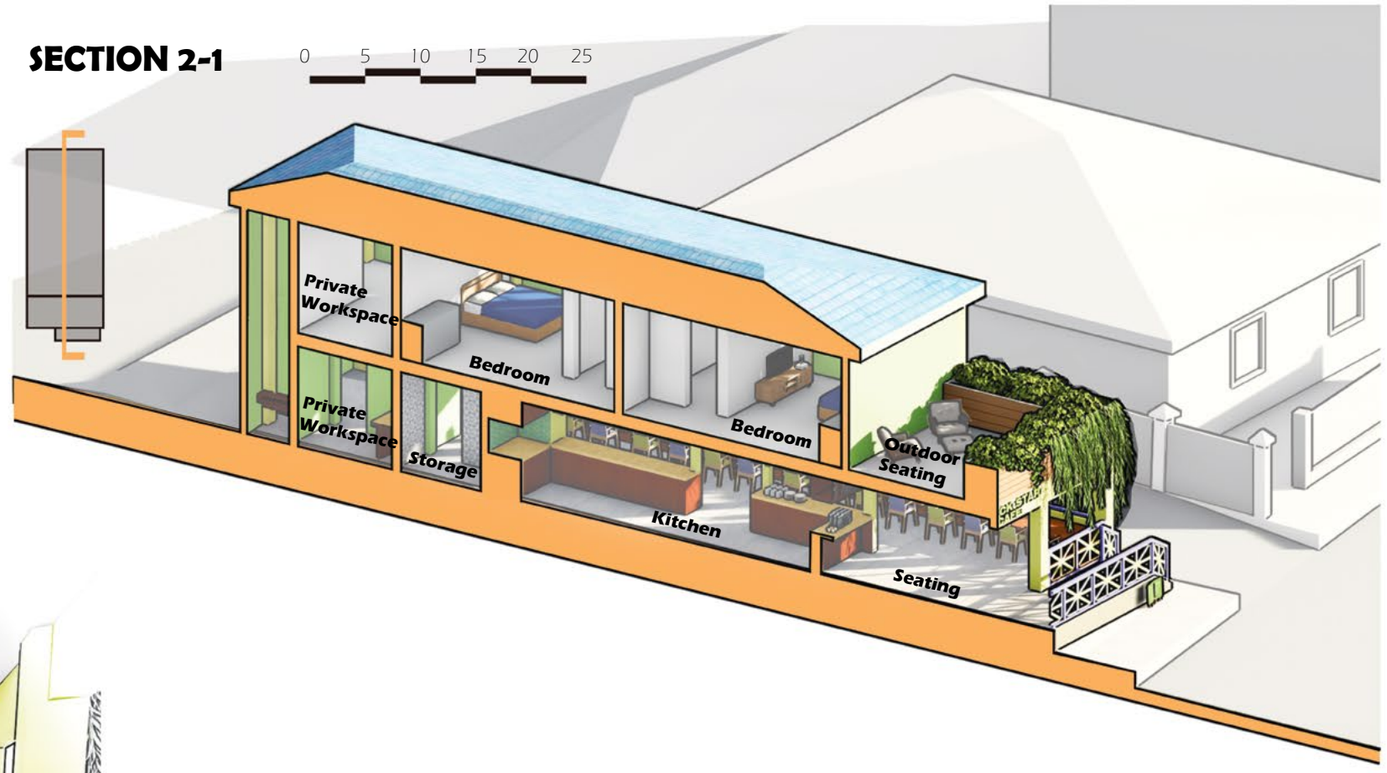


BLACK STAR CAFE

BAY ST. ELEVATION



SECTION 2-1



INTERIOR PERSPECTIVE

DRIVEWAY ELEVATION