01.

THE PARKER

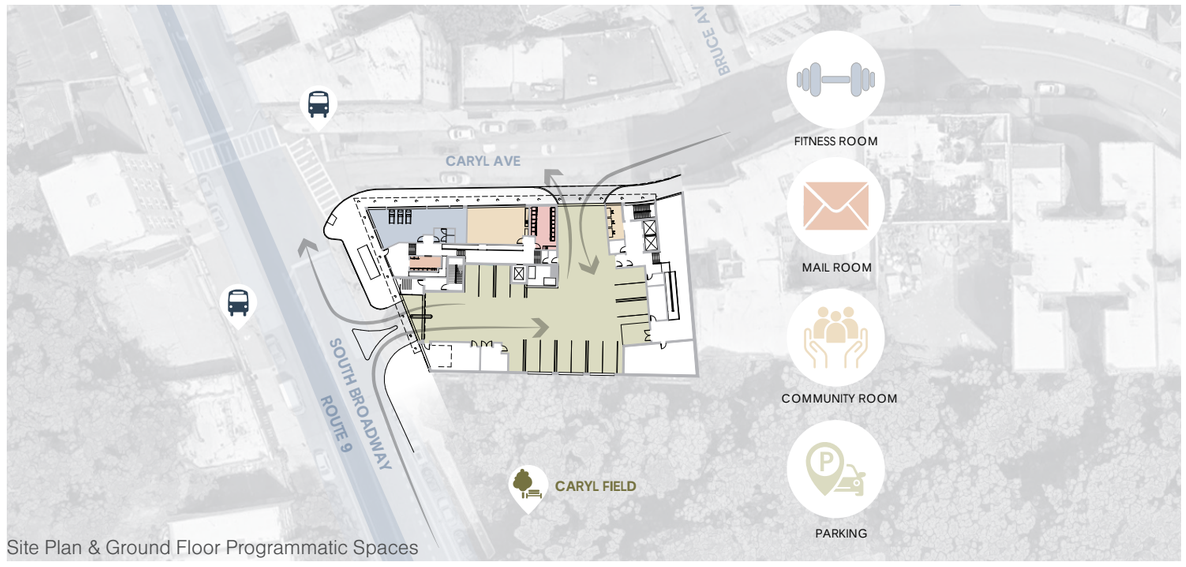
Multi-Family Residential | Unbuilt

Team	Nexus Creative Design
Collaborators	Jaclyn Tyler, John Fry, Christina Kessel, Marieta Delisa, Kazia Garvey
Location	Yonkers, NY

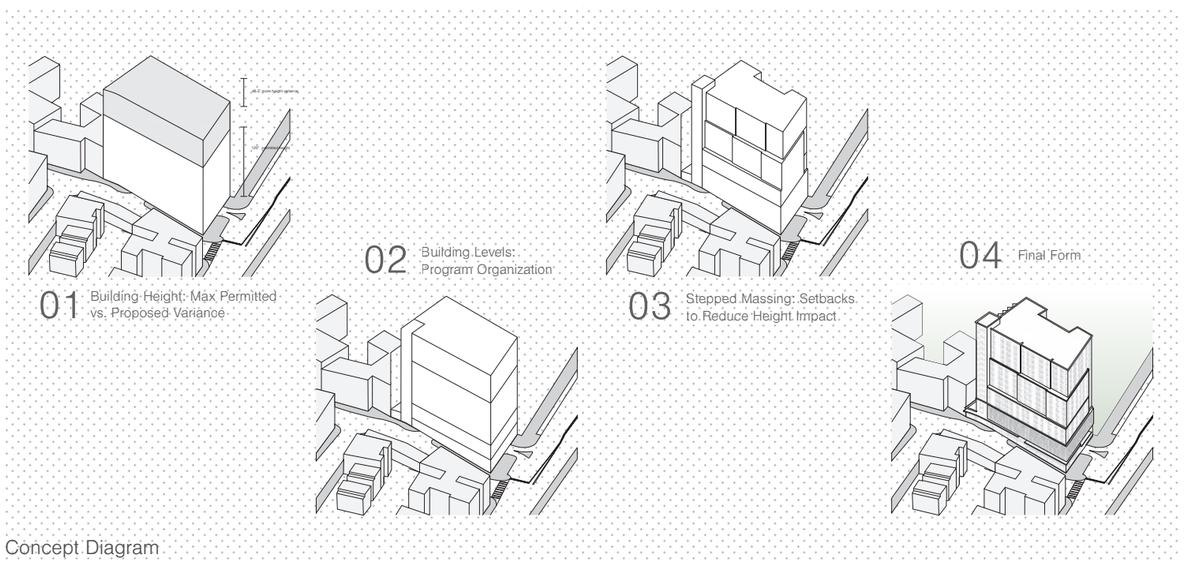
The Parker has been designed as a 16-story multifamily residential building at 632-636 S. Broadway in Yonkers, near the Riverdale border. The design includes 160 affordable apartments, with a mix of studio, one-, two-, and three-bedroom units. The site, currently occupied by a one-story sports facility, will be redeveloped under the South Broadway District zoning regulations, in which this newer district allows for an increased height and density.

The building's design highlights include an elevated height of 166.5 feet, a reduction in parking requirements to promote sustainable transportation, and a minimal setback to maximize space utilization. Residents will enjoy a range of amenities such as a fitness center and convenient laundry facilities. The internal parking is strategically planned across below-grade and at-grade levels, ensuring efficient and accessible parking solutions.

Evening Render at Street Level View



Site Plan & Ground Floor Programmatic Spaces



Concept Diagram


The Parker
Diggie Salon
ARIEL DEL OCERY

02.

OLIVE OPERA HOUSE

Re-use Historic Building I In Progress

/	Team	Nexus Creative Design
/	Collaborators	Jaclyn Tyler, John Fry, Jaime Rodriquez, Kazia Garvey
/	Location	Ossining, NY

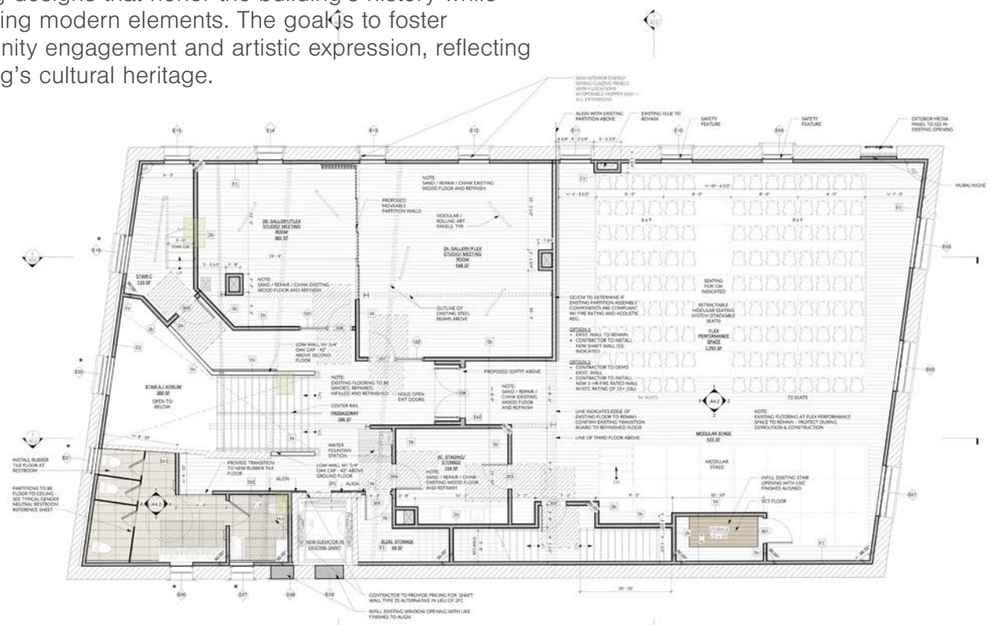
Anchoring the corner of Central Avenue and Brandreth Street, the Olive Opera House at 63-67 Central Avenue is a historic building in downtown Ossining. Originally designed by Hugh Herringshaw in 1865, it has served various roles, including a theater and community center.

Efforts are underway to transform this 13,000 square foot space into a vibrant cultural hub for the local arts community. The project will create accessible performance areas for local theater organizations, gallery opportunities for artists, and a dedicated section for the Sing Sing Museum, while retaining a bookstore as a tenant.

Navigating approvals from the State Historic Preservation Office and the Historic Preservation Commission involved creating designs that honor the building's history while integrating modern elements. The goal is to foster community engagement and artistic expression, reflecting Ossining's cultural heritage.

Evening Render from the 'Five Corners' Intersection

Buidling Envelope Diagram



Second Floor - Performance Space & Supporting Spaces

Day Render from the 'Five Corners' Intersection

Early Design Section Perspective Render by Kazia Garvey

03.

PATCHWORK

Housing as Process I Fall 2021

/ Instructor Laura Lubniewski

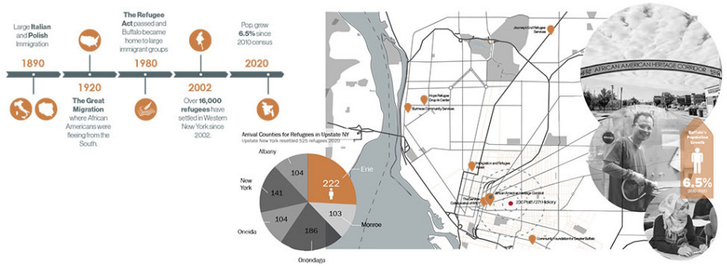
/ Collaborators Abdul Mohammad

/ Location Pratt-Willert Neighborhood, Buffalo

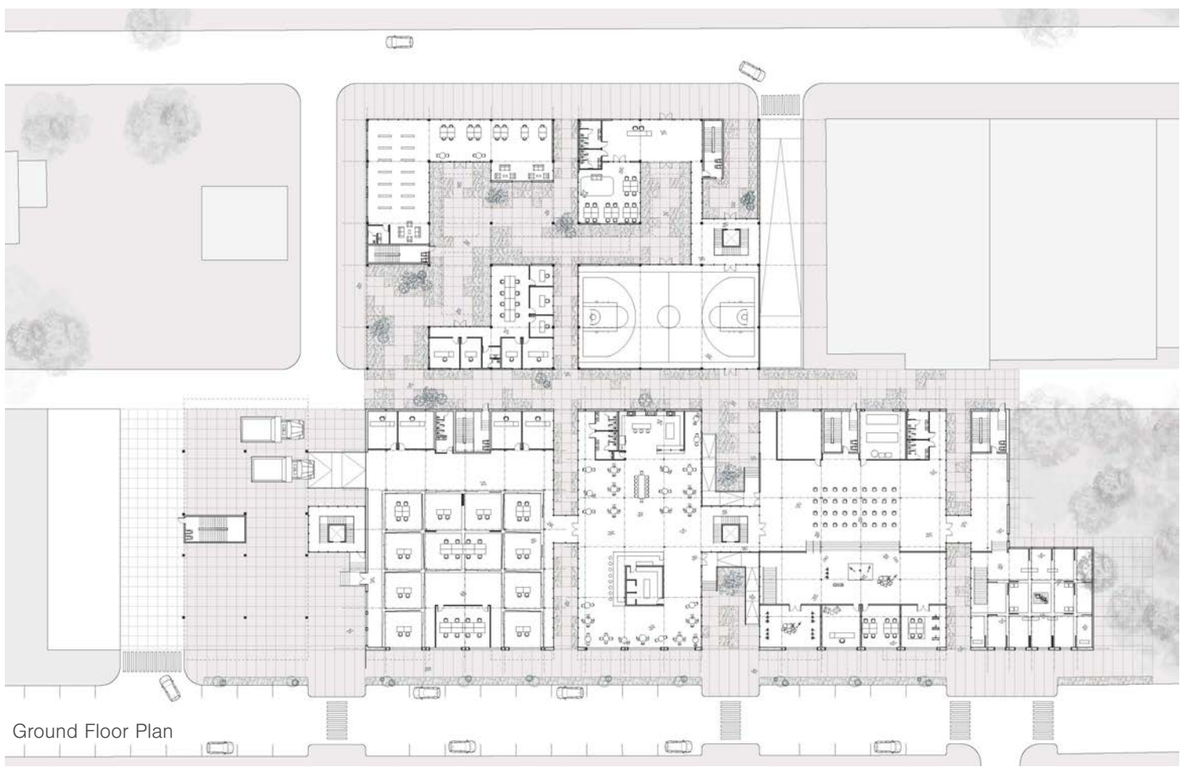
The senior architecture competition was to demonstrate different housing methods in response to Buffalo's poor East Side housing conditions, specifically in the Pratt-Willert neighborhood. One of the design challenges was to work with existing infrastructure on the proposed site while also working with community partner C & R housing to develop a proposal that blends housing and commerce. C & R Housing is a local contracting firm with deep roots within Buffalo's East Side whose aim was to transform what was once a portion of Iroquois Brewing Company into a catalyst for positive change regarding the neighborhood's long-standing housing inequities.

While studying the historical conditions that shaped the current socioeconomic setting of the neighborhood and how these phenomena have continued to develop within the community, PatchWork took the approach of creating affordable housing for refugees and immigrants settling into the city of Buffalo.

Mixed Media Collage - Concept Sketch



Axonometric



Ground Floor Plan

PURPOSE

Buffalo, commonly known as “The City of Good Neighbors,” has been known to welcome and provide a safe environment for refugees and immigrants. Buffalo’s population grew six and a half percent in the past ten years largely due to an influx of incoming refugees and immigrants. PatchWork seeks to provide affordable housing for the residents in East Buffalo while welcoming incoming refugees and immigrants seeking housing, employment, and an inclusive environment where they can celebrate their respective customs.

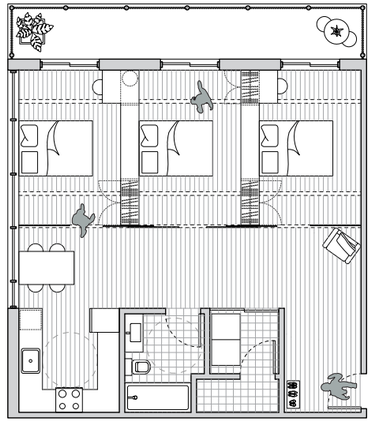
The primary goal was to prioritize adaptable spaces to meet users’ specific needs of cultural inclusion. This was achieved through the allocation of space on the ground floor to make for a larger multi-use space utilized as a market vendor space during the day or a venue for celebrations at night. PatchWork’s residential units host a track system that allows them to be flexible so residents can change the layout based on their preferences or circumstances. Overall, PatchWork seeks to accommodate different family structures particularly suitable for diverse refugee and immigrant populations and helps provide resources and support services for its residents to aid in the deelopment in a more stable, inclusive, and stimulating Pratt-Willert community.

Section Model

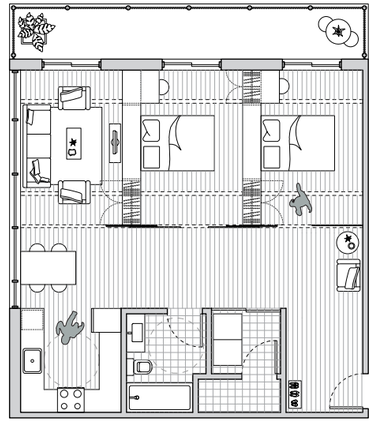
3 rooms

2 rooms

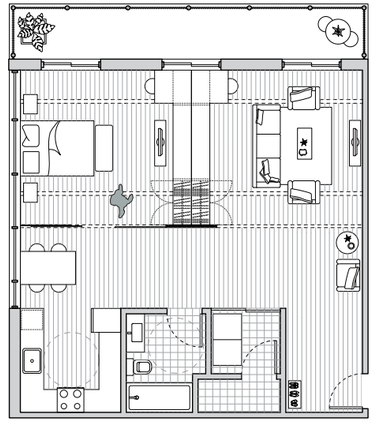
Open



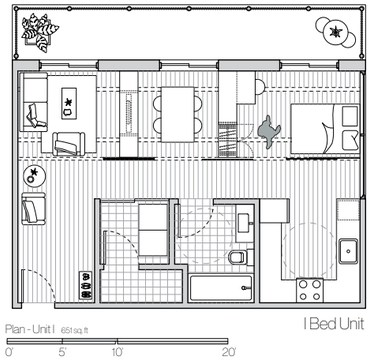
3 Bed Unit



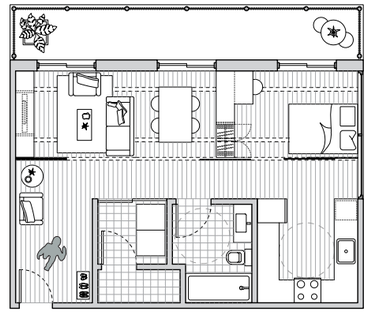
2 Bed Unit



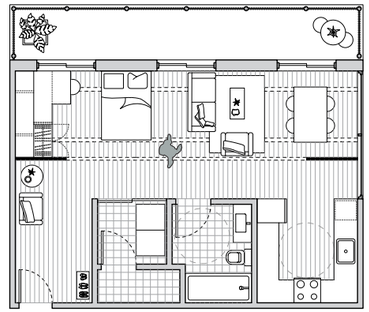
1 Bed Unit



I Bed Unit



1 Bed Unit



Studio Unit

Unit Configurations

Section Perspective

04.

PASSIVE SOLAR HOUSE

A Tiny Home For Good I Spring 2022

/ Instructor — Brad Wales

/ Collaborators — Riley Stiler, James Herlily, Mike Martinovic & Juan Romero

/ Location — Syracuse, NY

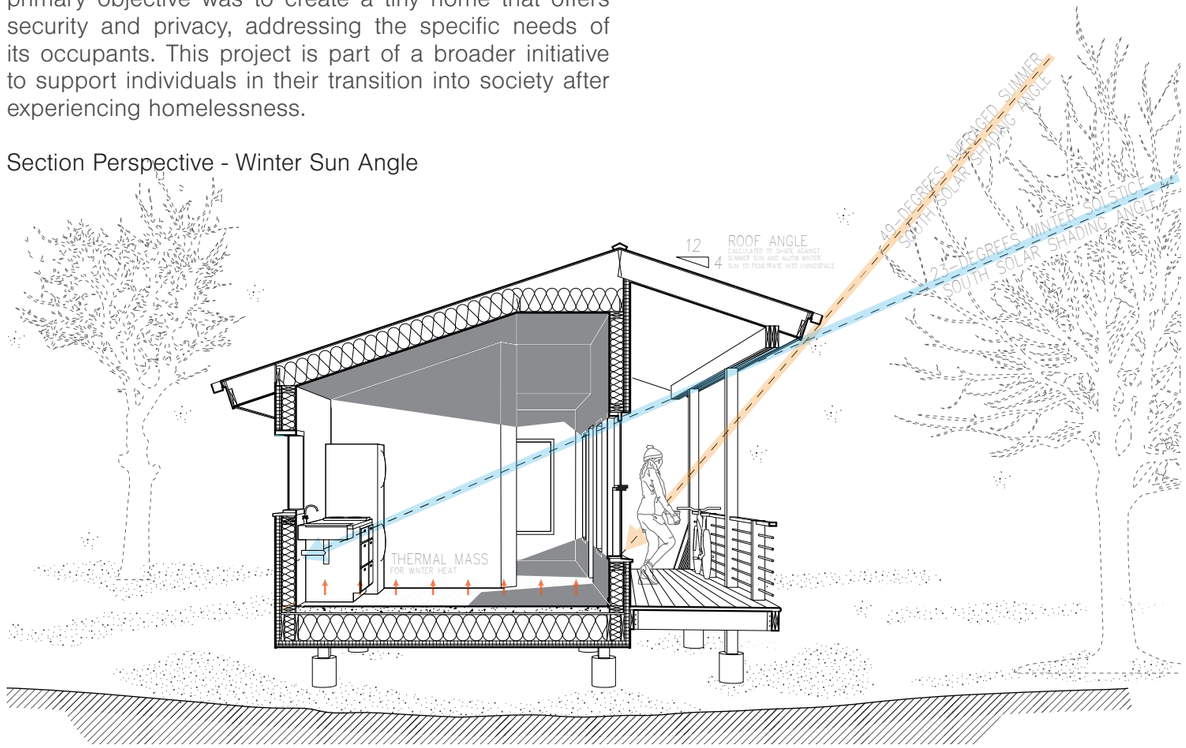
This project was in partnership with Andrew Lunetta, founder and executive director of A Tiny Home for Good. This Syracuse non-profit renovates abandoned structures and constructs high-quality homes on vacant lots. Each apartment is rented out to one person who has experienced homelessness. The designed 360 square-foot tiny home prototype has recently begun its construction process on Rich Street in Syracuse, NY.

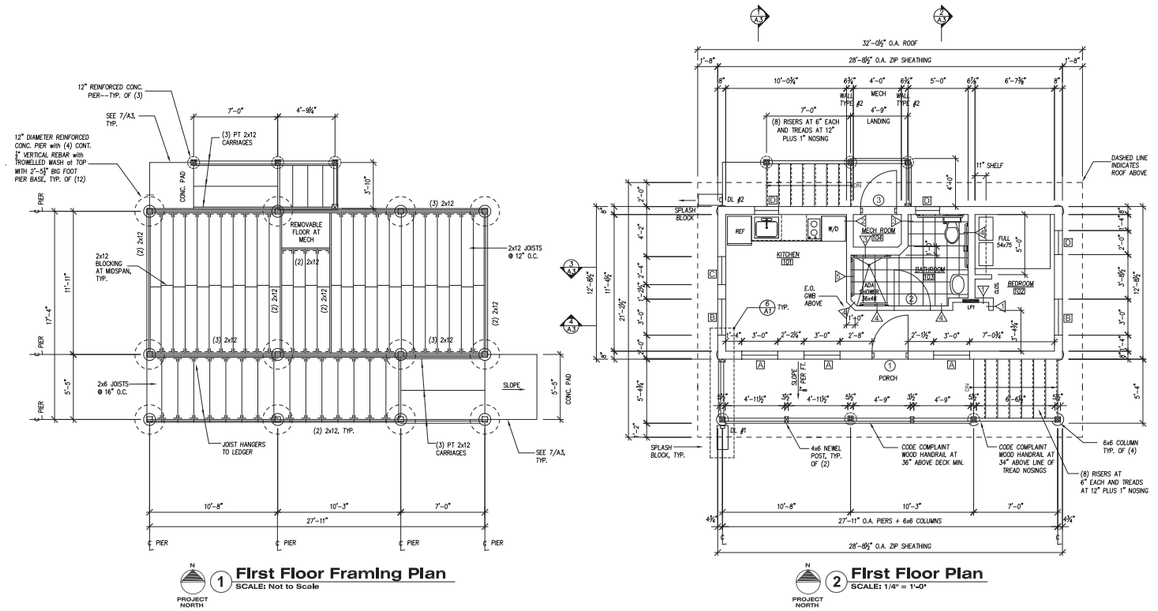
The Passive Solar house focuses on providing an energy-efficient home that allows for solar shading during the summer, while also allowing the sun to penetrate creating a thermal mass during the winter. The primary objective was to create a tiny home that offers security and privacy, addressing the specific needs of its occupants. This project is part of a broader initiative to support individuals in their transition into society after experiencing homelessness.

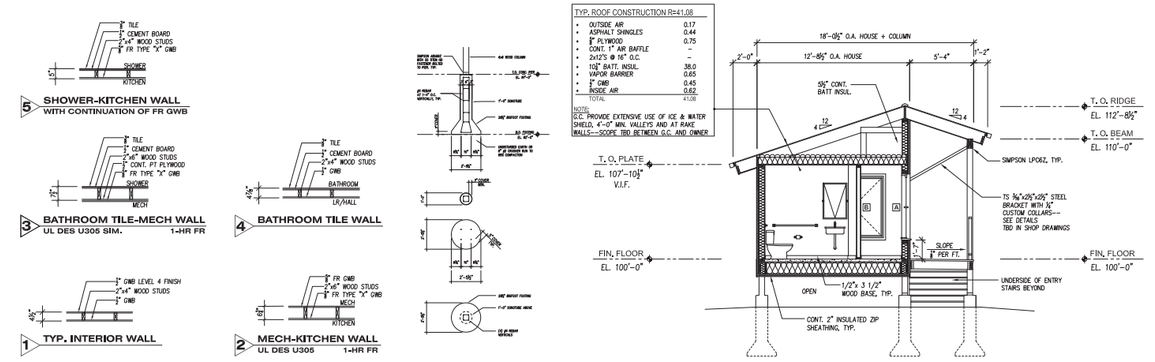
Summer Render

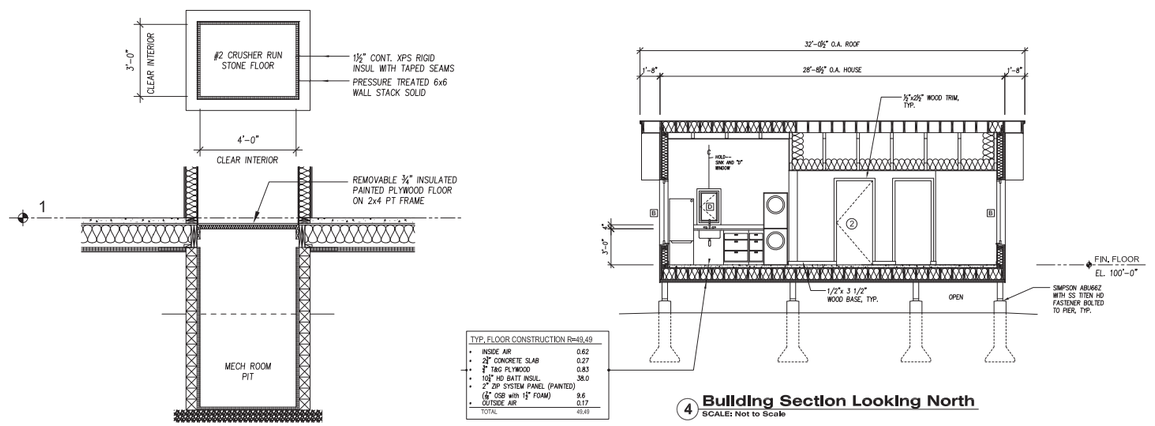
Winter Render

Section Perspective - Winter Sun Angle









05.

CREST

Tectonics of Buoyancy I Fall 2020

/ Instructor Elaine Chow

/ Collaborators Zach Stefanovic

/ Location Buffalo Outer Harbor

This course assisted in developing a theoretical, scientific, and intuitive understanding of the fundamental elements regarding the mechanical operation of structures. The aim was to establish a concise relationship between architectural form, space, and structure while navigating through the challenges of a proposed buoyant structure. A collaborative design exploration prompted the emergence of a curve buoyant building focusing on an “expanding and contracting” movement in both its form and the cohesion of its members.

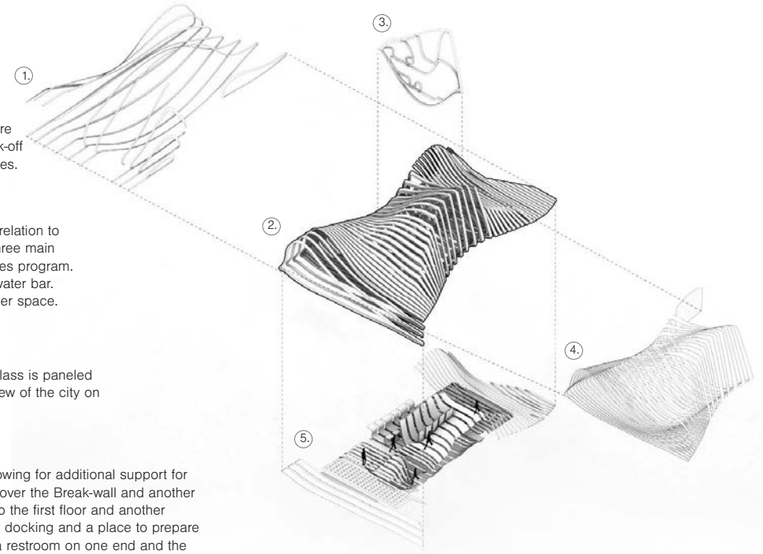
1. **Tectonic System: Secondary Structure**
/ The Y Members are Bent Laminated Wood that act as the Secondary Structure. They wrap around the X-members, connecting to them in many points.

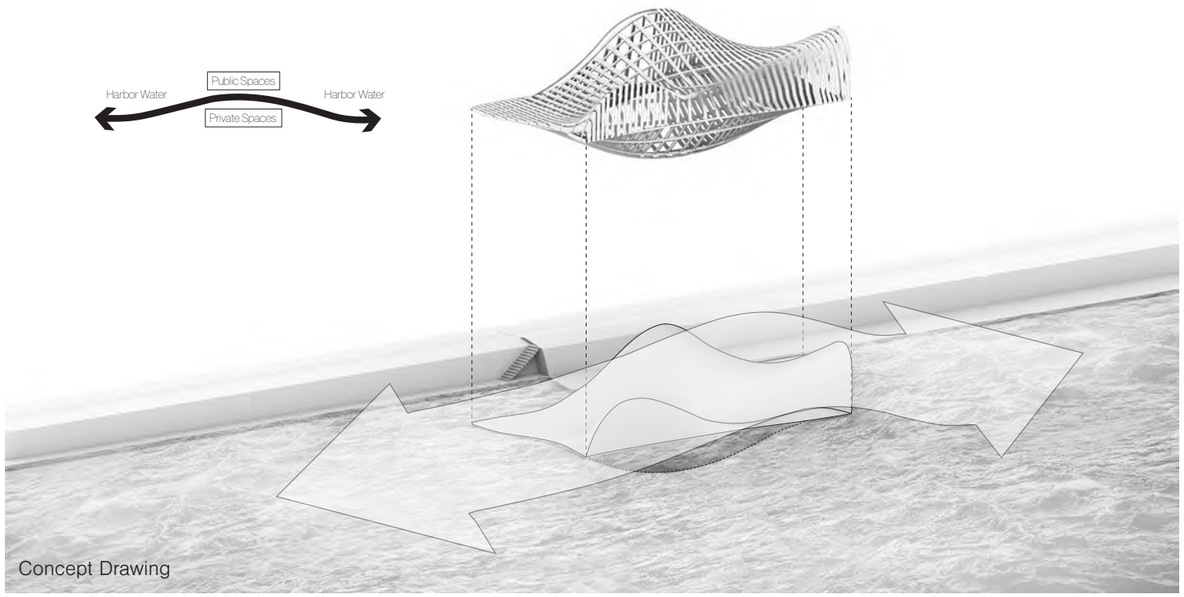
2. **Tectonic System: Primary Structure**
/ The X Members are the primary structure. They are perpendicular to the Y-members. The X and Y members are the primary tectonic system of Wave Crest. Multiple “break-off points” located on the X-members create the interior spaces.

3. **Tectonic System: Tertiary Structure**
/ The X-members in the middle are the most “dense” in relation to break-off points. The primary break-off point creates the three main spaces. Two of the break-off points help support the spaces program. One creates a kitchen space while the other is an under-water bar. The fourth break-off is part of the stairs leading to the upper space.

4. **Tectonic System: Skin**
/ Glass fills the space in between the X-members. The glass is paneled in between the X and Y members. There is also a large view of the city on the first floor that is broken by mullions.

5. **Human Occupation**
/ Floor boards are connected to the break-off points, allowing for additional support for the X-members. The above water space allows for a view over the Break-wall and another view of Buffalo. There is a staircase connecting the level to the first floor and another leading towards the exterior deck. The first floor allows for docking and a place to prepare meals. The under water space is primarily a bar. There’s a restroom on one end and the mechanical room located in the other end of the space.



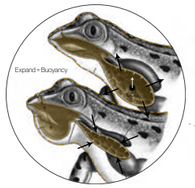


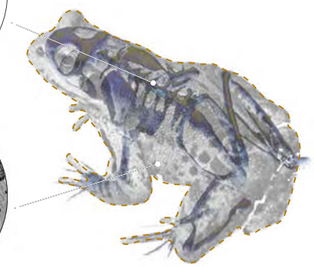
Concept Drawing

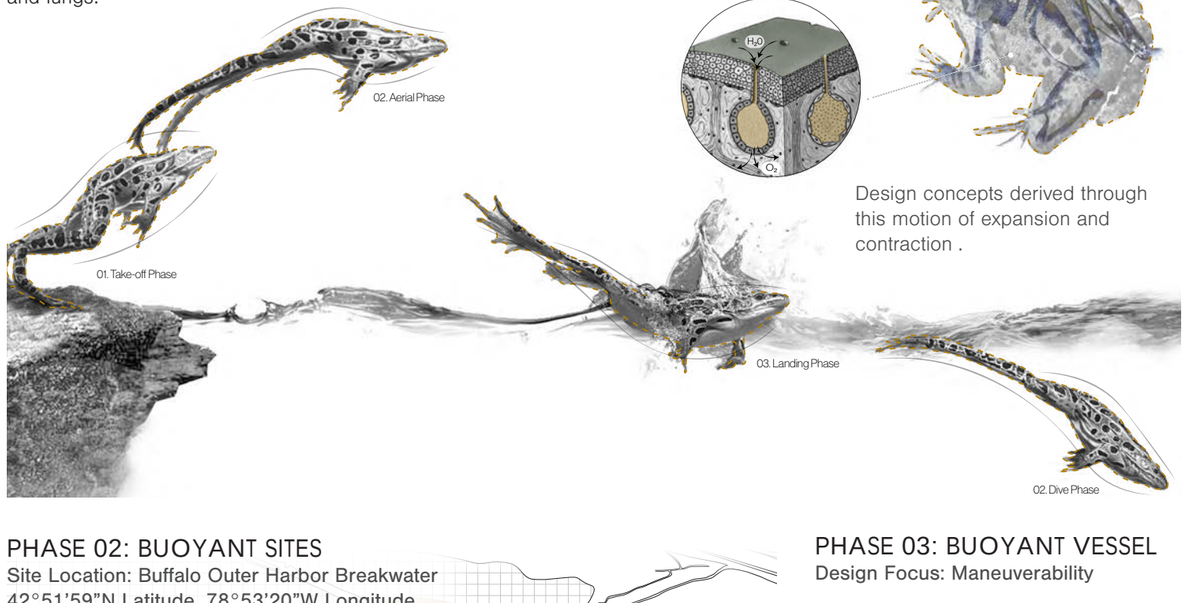
PHASE 01: BUOYANT OBJECTS

Marine Animal Study: The Anura

In order to gain scientific and technical proficiency into the medium of water and the natural phenomena of buoyancy, I first conducted research a frog (Anura) due to its ability to adaptable to water. A frog can rely on their lungs when skin respiration alone can't provide the needed oxygen. A frog will take in air through a series of expanding and contracting movements through their buccal cavity and lungs.





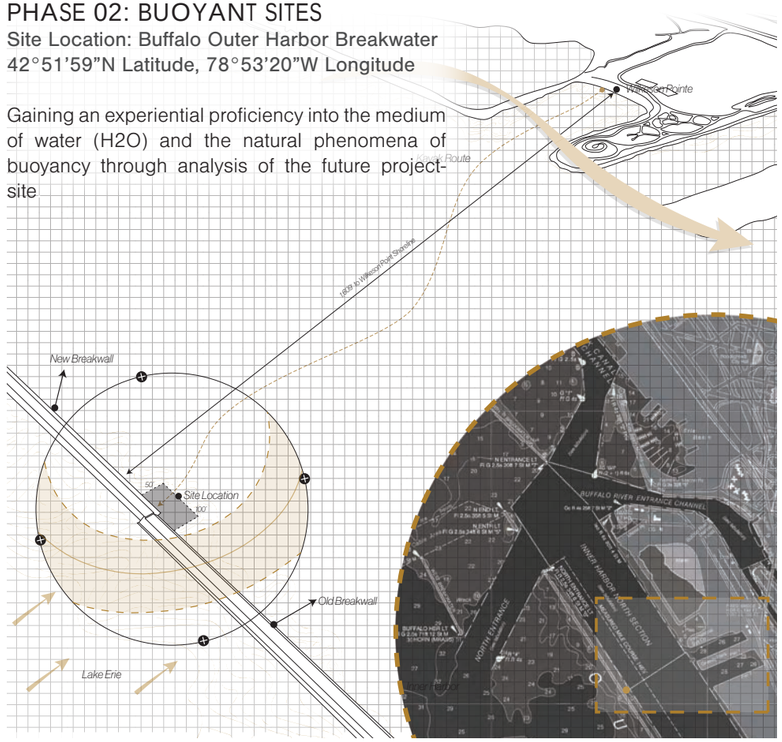


Design concepts derived through this motion of expansion and contraction .

PHASE 02: BUOYANT SITES

Site Location: Buffalo Outer Harbor Breakwater
42°51'59"N Latitude, 78°53'20"W Longitude

Gaining an experiential proficiency into the medium of water (H_2O) and the natural phenomena of buoyancy through analysis of the future project-site



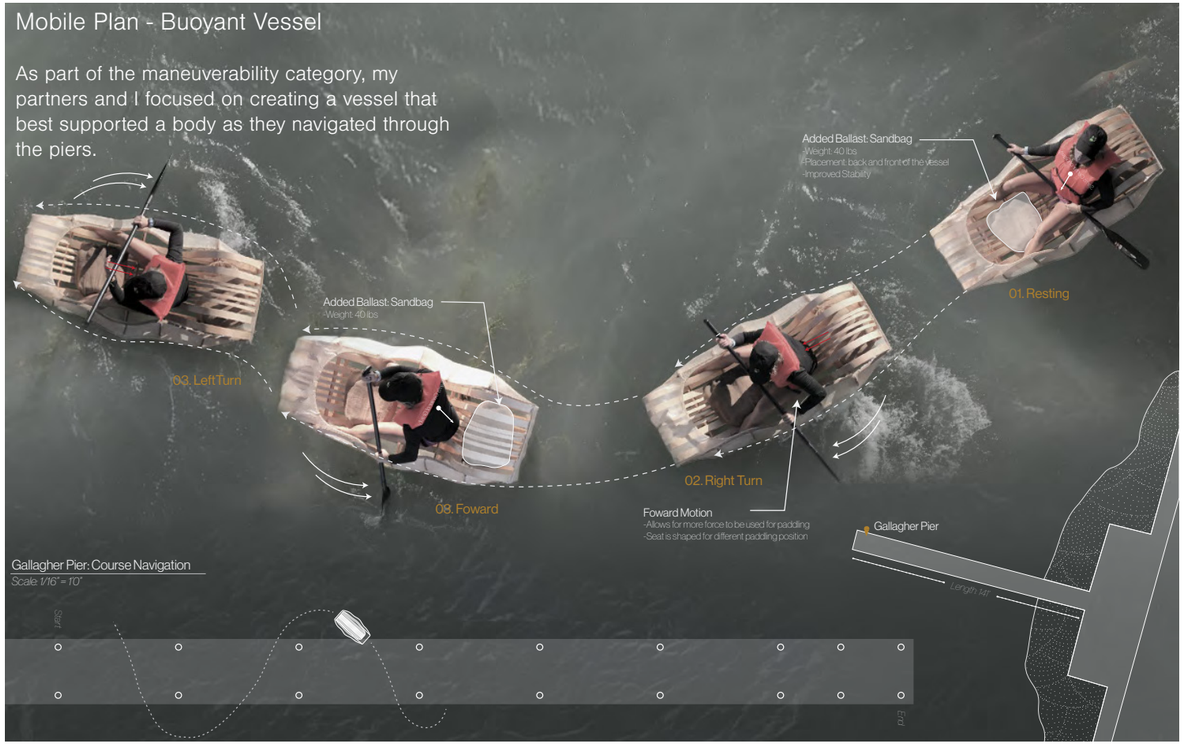
PHASE 03: BUOYANT VESSEL

Design Focus: Maneuverability

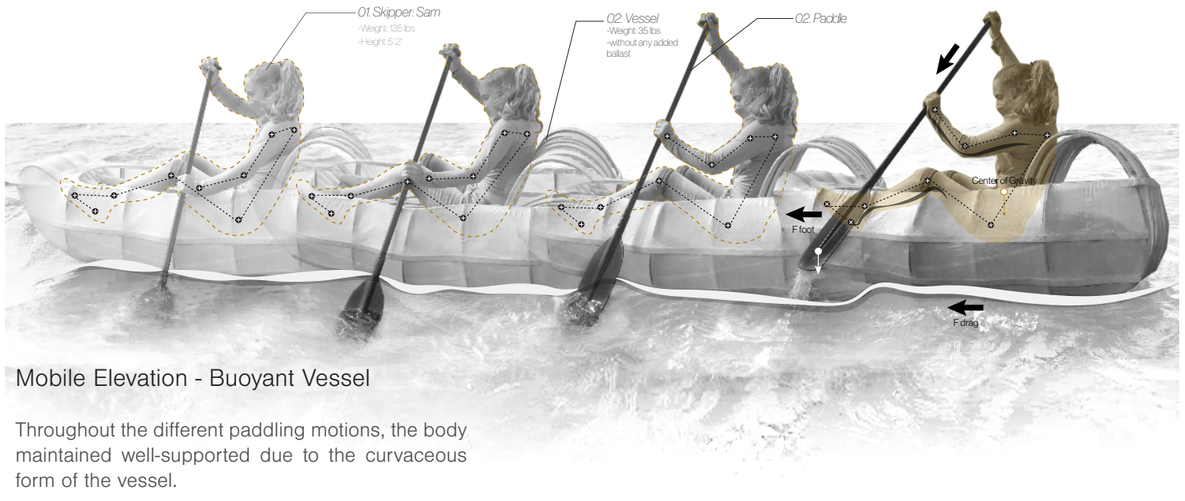
Buoyant vessels are ideal objects for the investigation of many fundamental questions that pertain to the tectonics of architecture, space and geometry, structure and skin, form and function, material and construction, etc.

Mobile Plan - Buoyant Vessel

As part of the maneuverability category, my partners and I focused on creating a vessel that best supported a body as they navigated through the piers.



The designated skipper, Sam felt comfortable as the curved wood supported her back while also exerting all of her force through her feet as she paddled through the rough waters of the Buffalo's Outer Harbor.



Mobile Elevation - Buoyant Vessel

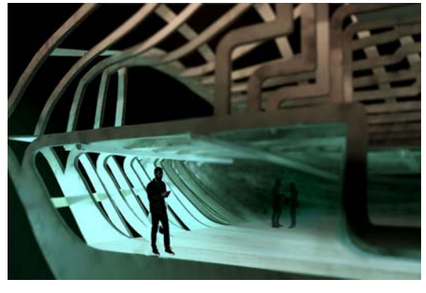
Throughout the different paddling motions, the body maintained well-supported due to the curvaceous form of the vessel.

BUOYANT TRANSFORMATION

Outer Harbor Water Structure

The exploration of the structural, envelope, and material systems concerning the site's environment and spatial circumstances served as the project's starting point. Then, the objective became discovering buoyant tectonics designed for three distinct aquatic environments: on water, above water, or underwater. Each tectonic system also produced a structure, a skin, a buoyancy strategy, a space to keep occupants dry (inhabitation), the introduction of light and air (environment), and a means to deal with the instability of the water during unpredictable environmental conditions (motion).

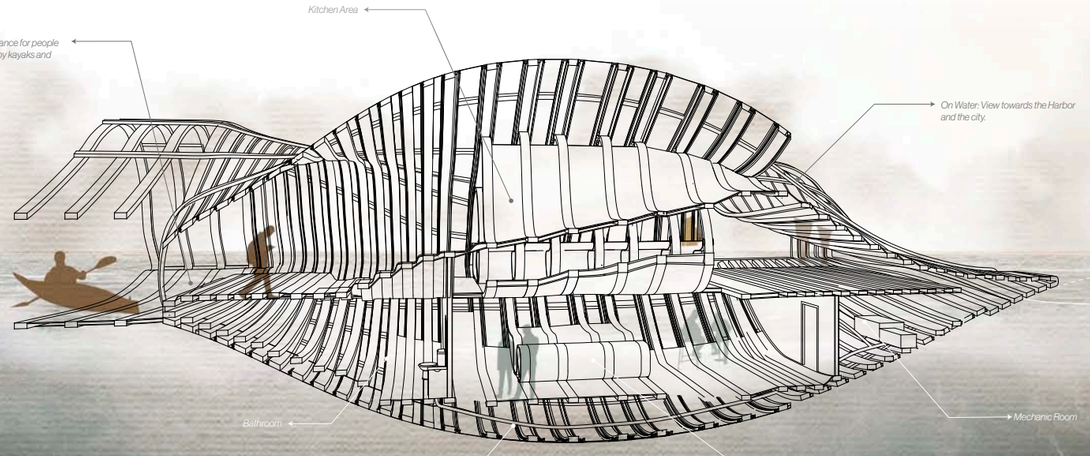
Crest comprises natural curving members that allow it to blend with its surroundings. The structure's outer elements are continuous curves that flow in the Y and X directions and split off to form interior areas. These curves are derived from the bottom shape of the frog during its most buoyant phase. As one approaches this structure, you're drawn in by the varying heights of the curves. Once users arrive at the Wave Crest, they have multiple docking options. One is covered by the roof and connects to the interior space. The other dock is located between the break-wall and the buoyant structure. The feeling of compression and expansion can be felt throughout the space as these curves lead you into a tight circulation and open up to specific view outs of the city, the harbor, and Lake Erie.

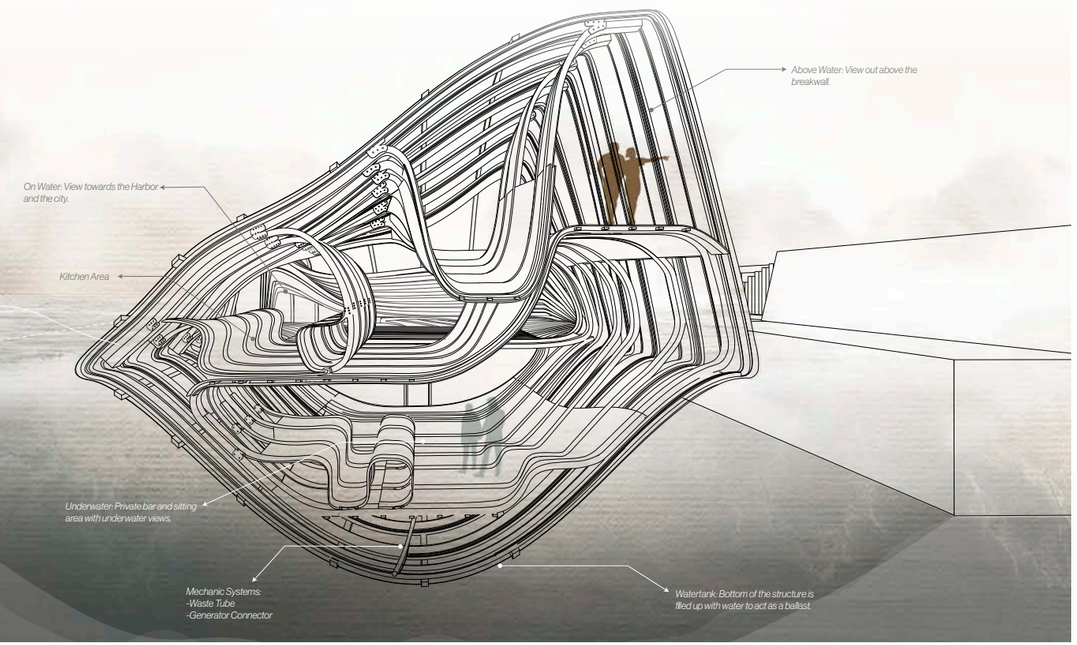


Section cut model showing the relationship between the tectonic system and the layout of the structure.

Interior rendering of the experiential underwater level of the structure in which users have a view of the Outer Harbor's fauna and flora from under water.

Interior renderings of the space from different levels. Top render shows the view from an above water level. Bottom render is showing the space at water level.





06.

BLACK ROCK COMMUNITY CENTER

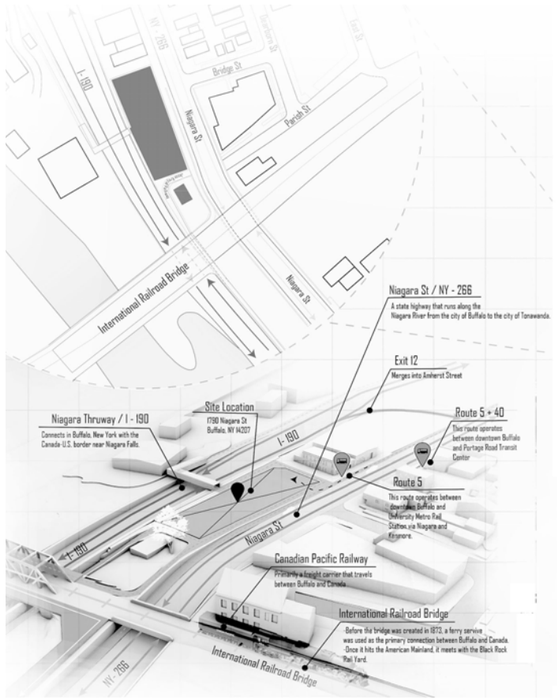
Building Integration I Spring 2021

/ Instructor Paul Battaglia

/ Location Black Rock, Buffalo

An analysis of the site's surrounding context, demographics, socioeconomics, and historical data was crucial to identify vulnerabilities within the community and solutions through design.

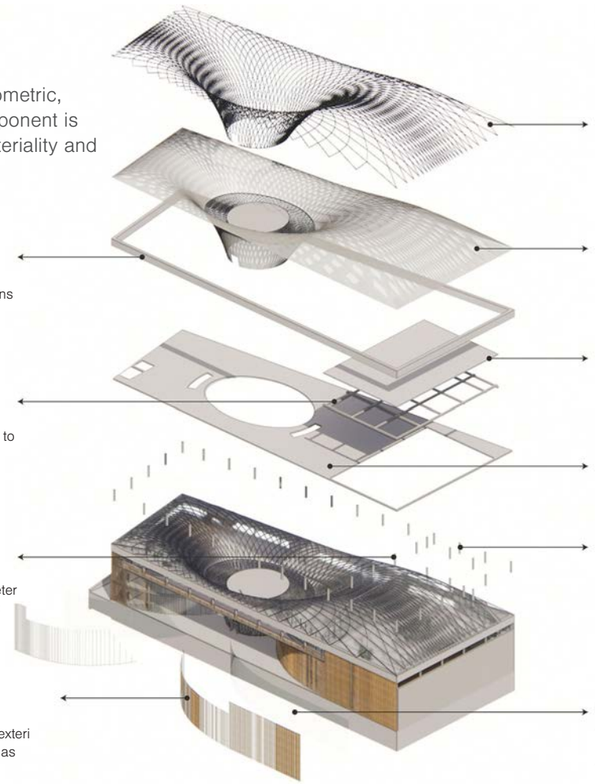
People and nature have always been interconnected, however, urban developments have caused a strain on that relationship. The incorporation of biophilic design into the Black Rock Community Center aims to reestablish this bond by promoting activities related to nature, agriculture, and food production. This project envisions itself as a gathering place for families and friends, fostering education on sustainable food production and inspiring positive change for future generations. Its impact extends beyond the immediate community, as it also seeks to safeguard cultural knowledge for the long term.



Road Access and Traffic Analysis near Site Location.
Site Location - 1790 Niagara St, Buffalo, NY 14207

Structural Systems & Materiality Axonometric

Through this exploded axonometric, each different structural component is separated to highlight its materiality and purpose.



Roof Steel Members
/ Material - Steel
/ Uses steel nodes to connect steel beams together

Glass Roof Panels
/ Material - Glass (Low-E)
/ Fritted glass helps reduce glare and cut cooling coasts

Concrete Floor Support
/ Material - Reinforced Concrete
/ Allows for steel beam connections

Greenhouse Floor Slab
/ Material - Reinforced Concrete
/ Two way reinforced slab 8" thick

Greenhouse Floor Support
/ Material - Reinforced Concrete
/ Beams running in both direction to help the greenhouse load

Floor Slabs
/ Material - Reinforced Concrete
/ One way reinforced slab 14" thick

Inner Columns
/ Material - Reinforced Concrete
/ Follows the grid from the perimeter columns and also surrounds the lobby area

Perimeter Columns
/ Material - Reinforced Concrete
/ 18" thick and helps support the load from the roof

Exterior Wood Louvers
/ Material - Wood
/ Acts as the second layer of the exteri or facade and provides shading as well as privacy in needed areas

Exterior Glass
/ Material - Transparent and Translucent Glass
/ Acts as first layer of the exterior facade and allows for light to come into the space

Longitudinal Section

First & Second Level
/ Community Center Programs

Third Level
/ Greenhouse & Communal Kitchen

Roof
/ Glass Roof

Lobby Render

Greenhouse Render

Communal Kitchen Render