
ALEXANDER J **BECKER**
Selected Works



Alexander J Becker

Master of Architecture candidate with a background in Environmental Design and Business, ready for immediate employment as an Intern Architect to fulfill AXP experience and prepare for licensure.

abecker6@buffalo.edu

(716) 512-0708

Buffalo, New York

WORK EXPERIENCE

Photographer & Digital Curator Assistant

State University of New York at Buffalo

October 2016 - August 2018

Photograph Events, Lectures, and Tours

Digital Asset Management

Graphic Editing

Visual Marketing

Student Assistant for Recreation Intramurals

State University of New York at Buffalo

May 2015 - October 2016

Rental Contract Filing

Athletic Equipment Prep & Organization

Retail Sales

Administrative & Special Events Intern

Frank Lloyd Wright's Fontana Boathouse

June 2014 - September 2014

Event Preparation & Caretaking

Marketing

File Management

Docent of Architecture

Retail Sales

Mayor's Office of Strategic Planning Intern

Buffalo City Hall

December 2013 - January 2014

Data Research for Buffalo Green Code

Mapping

Excel Data Entry

TECHNICAL SKILLS



AutoCAD



Grasshopper



Photoshop



Bridge



Excel



Revit



V-Ray



Illustrator



Word



Access



Rhino 3D



Sketchup



InDesign



PowerPoint

SOFT SKILLS

Teamwork



Written & Oral
Communication



Decision Making



Concept



Presentation



Leadership



EDUCATION

Master of Architecture 3.5

State University of New York at Buffalo

February 2016 - February 2019

Inclusive Design Graduate Research Group

GPA 3.5

Bachelor of Arts in Environmental Design

State University of New York at Buffalo

February 2013 - February 2016

GPA 3.3

Associate in Business Administration

Erie Community College (SUNY)

September 2010 - February 2013

02

ART BOX

City Art Gallery | Comprehensive Studio

Exploring the synthesis of daylighting and building systems while connecting to an urban fabric.

08

SENSORIUM AT THE SILOS

Master Plan and Renewal | Inclusive Design Studio

Renewal of an abandoned grain silo complex to generate tourism for The City of Buffalo.

12

GRAYCLIFF WELCOME CENTER

Expansion Project | Introduction to Revit

Providing a solution to a circulation and capacity problem.

16

CONSTRUCTION DRAWINGS

Detail Axon | Construction Technology

A reinterpretation of construction drawings portrayed in 3-dimensional form.

18

MODELING FORM

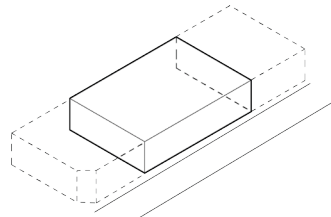
Abstract Form Finding | Design Studio 1 & 2

First year studio projects portraying form finding process.

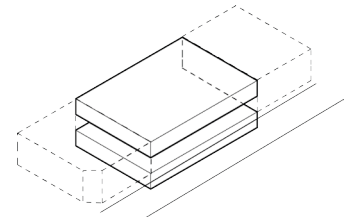
ART BOX

City Art Gallery | Comprehensive Studio
Collaboration with Joseph Miller

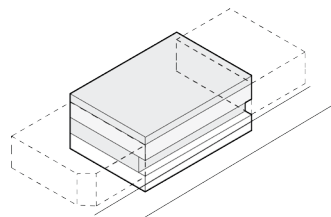
The project aims to fill an empty lot in the urban fabric with a gallery that is as focused on its interior program as it is to its connection to the street. The driving concept is about bringing in and **experiencing daylight** on all levels of the museum while adhering to the **curators freedom**. This was accomplished through a variety of light wells and a 2-way gridded structure that allows long spans and curating flexibility.



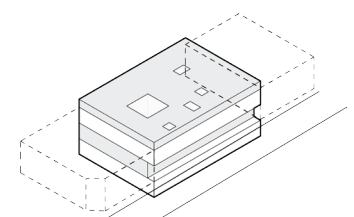
Fill the Site



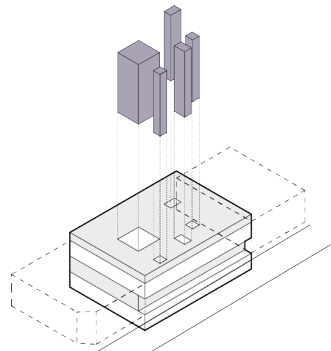
Split Gallery Space



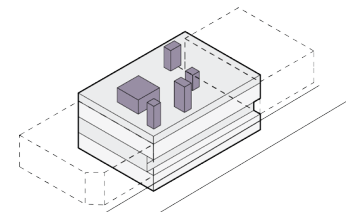
Insert Public Space



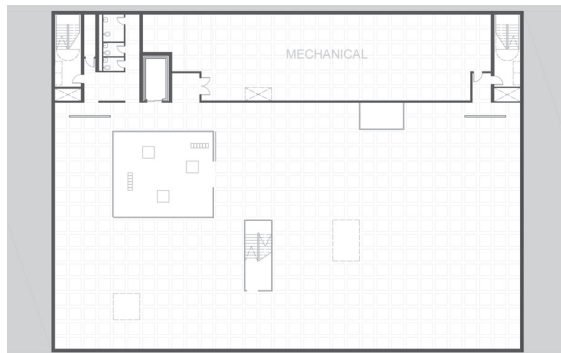
Open Light Wells



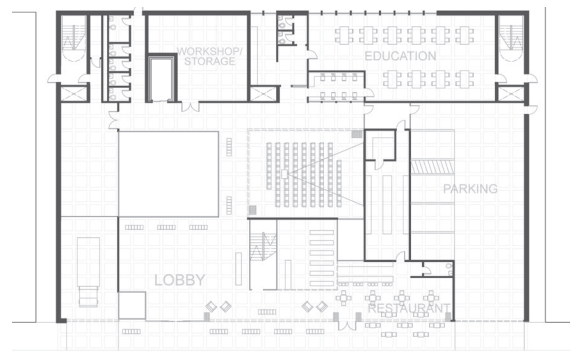
Insert Light Shafts



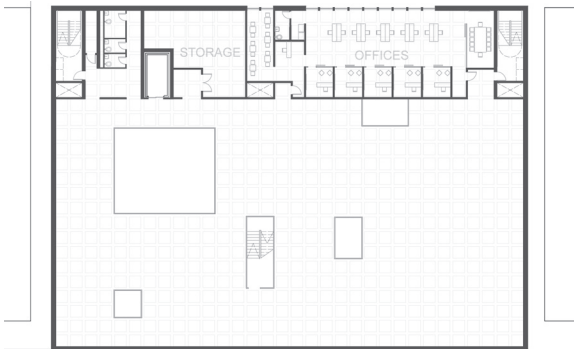
Form



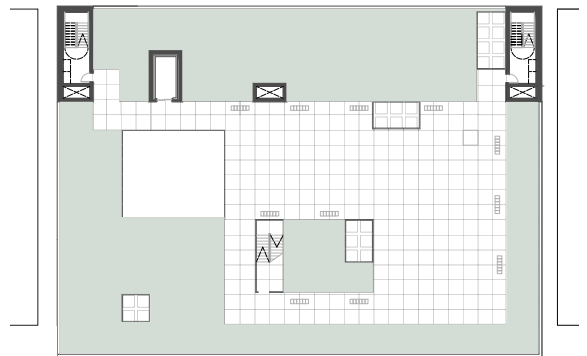
Basement Level



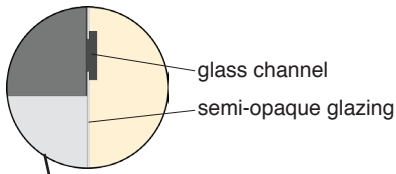
Ground Level



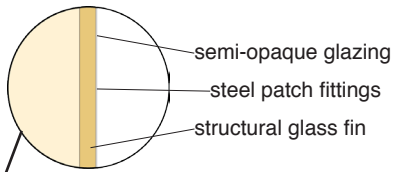
Second Level



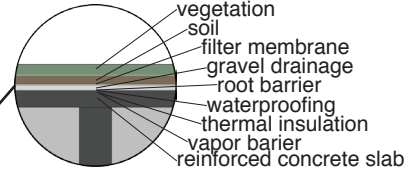
Roof Level



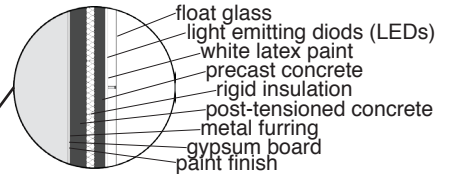
Frameless Hanging Glass
Free from Mullions
Continuity in Light Shaft Structure



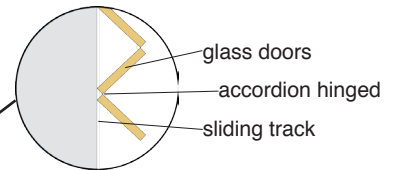
Raised Light Shafts
Natural Light for All Floor Levels
Translucency Filters Light
Lights up at Night
Acts as a Sign of the Building



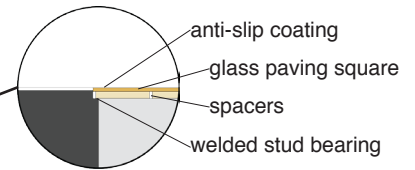
Green Roof
Brings Nature to an Urban Infill
Enhances Thermal Properties
Creates Outdoor Public Space



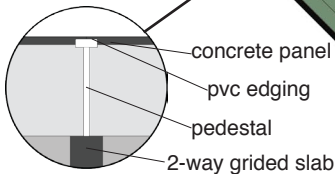
LED on Concrete Facade
Glossy Appearance
Programmable LED Lighting
Concrete Transfers Load



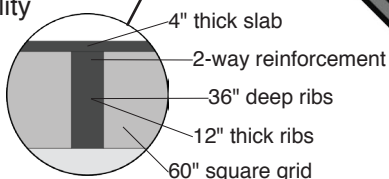
Accordion Glass Doors
Completely Opens Ground Level to Street
Visually Open when Closed



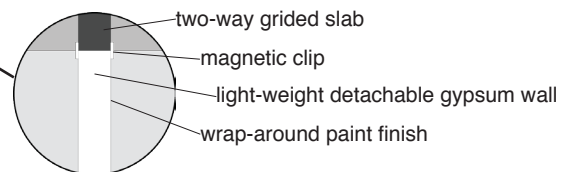
Glass Paving Squares
Pours Natural Light into Basement
Filters Light
Lights up at Night



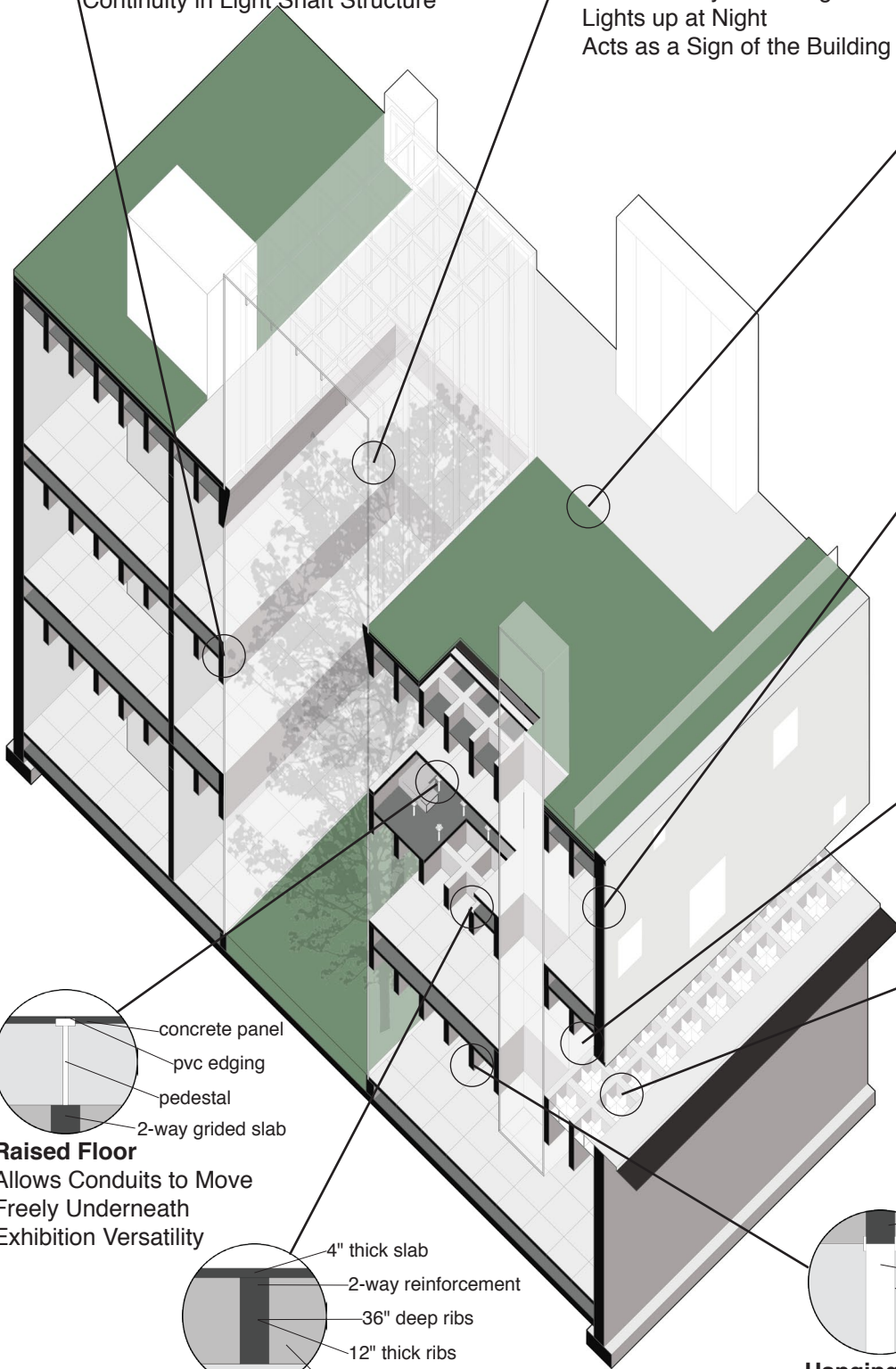
Raised Floor
Allows Conduits to Move Freely Underneath
Exhibition Versatility



Two-Way Grided Slab
Achieves Long Spans
Allows a Column-less Gallery Space
Increases Thermal Mass



Hanging Moveable Walls
Hangs on Two-Way Slab
Provides Curator Freedom
Changeable Gallery Space





Daylighting Models used to make a gradient of light to dark spaces for a variety of exhibition options.

Sustainability Measures

Design and Innovation

1. Main Light Shaft allows for Indoor Contained Growing of Plants up to 60 feet
2. Generous Amounts of Natural Light available on all levels including the basement floor.

Regional and Community Design

1. Addition of Public Spaces at Ground and Roof Levels
2. Proximity to Bike Share and Public Transport (Bus/Metro)
3. Proximity to numerous parking structures

Land Use and Site Ecology

1. Reuse of Brownfield Site
2. Site upgraded from Parking to Cultural Institution
3. Green Roof replaces the site footprint

Bioclimatic Design

1. Extensive Green Roof holds rainwater to provide free evaporative cooling, enhancing the thermal properties

Light and Air

1. Natural light entry through Light Shafts and Skylight
2. Fully glazed street facade brings in natural lighting for the ground floor

Energy Flows and Energy Future

1. Daylighting Reduces energy consumption for lighting and heating
2. Thermal Well provides energy offset
3. High Thermal Mass from Concrete

Materials and Construction

1. Concrete with Recycled Aggregate
2. Blast Furnace Slag and Fly Ash used to reduce the embodied energy and lighten the color of the concrete to increase reflectivity

Long Life, Loose Fit

1. Recycled Aggregate mixed with Concrete
2. Long Span Concrete Slab allows for maximum flexibility in reconfiguration





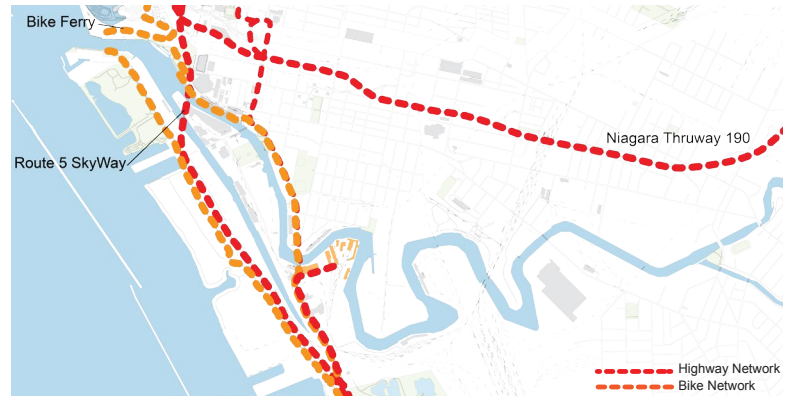
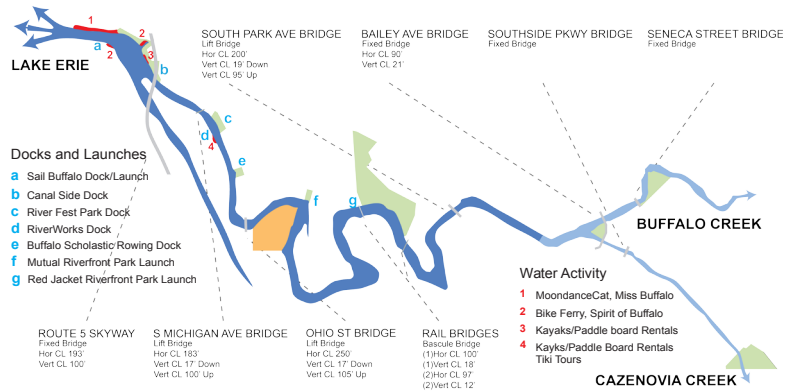


SENSORIUM AT THE SILOS

Master Plan | Inclusive Design Studio

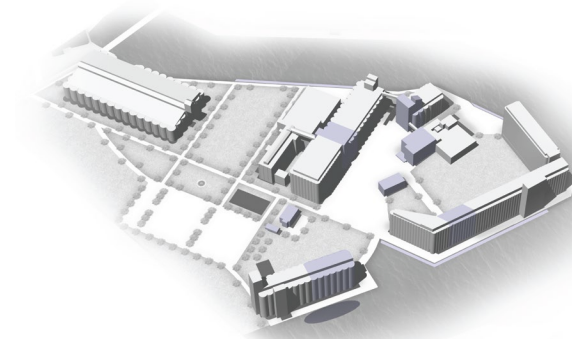
As a way of generating tourism and reviving the abandoned grain silos of Silo City, the project transforms the massive and historic industrial site into a **center of art for the senses**; visual, tactual, aural, olfactory, and gustatory. The master plan accommodates a center for each sense that is programmed with **galleries** as well as **classrooms** for both learning and creating.

The master plan concerns itself on connecting to the urban context by activating itself to the bike path network and the Buffalo River. Through its connection it will become its own district in the city that is known for its diverse creativity and entertainment attractions.



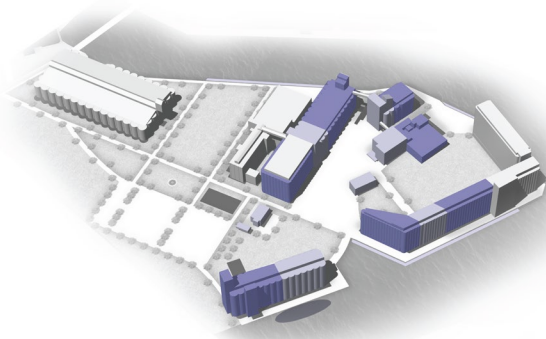
PHASE 0 - DEMOLITION & EXCAVATION

- Clear River's Edge for Bike & Walking Path
- Demolish for Open Sculpture Space
- Excavate for Boardwalk and Dock Access



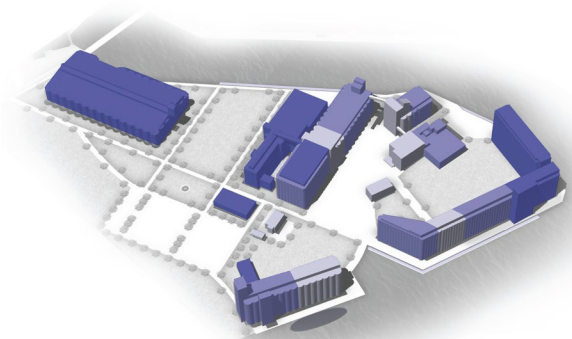
PHASE 1 - LANDSCAPE & GALLERIES

- Administration Building
- Open Gallery for Each Building
- Open Parking
- Establish Water Fronts, Public Park, Sculpture Garden, & Concert Grounds
- Place Docks
- Open Existing Bar
- Open SS Columbia Ship



PHASE 2 - EDUCATION & VENDORS

- Introduce Education Workshops in Each Center
- Introduce Shops
- Introduce Restaurants
- Expand Galleries



PHASE 3: ACCOMODATION & EXPANSION

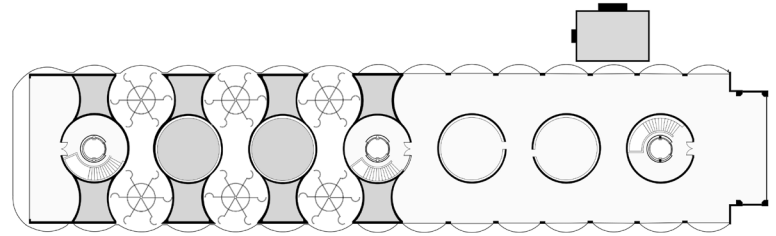
- Open Lofts & Hotel
- Create Shopping along Center Axis
- Expand Parking

SOUND CENTER

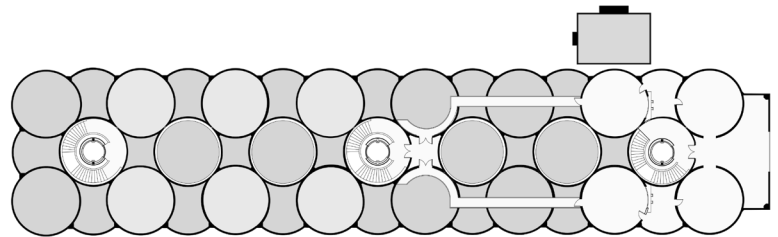
Marine A Elevator | *Sensorium at the Silos*

The design for Marine A uses the acoustic qualities of the former grain elevator to develop a multisensory experience with the art of sound. For Marine A having a history of sound artists utilizing this particular building for the long reverberation effects it has, the aim of the design was to take advantage of this quality and translate it into a place that is unlike any other.

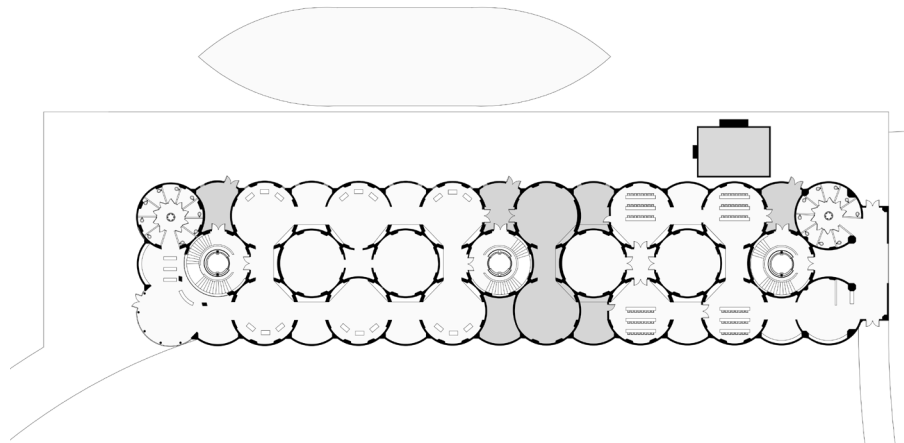
The Sound Center Gallery holds the most unique space in the Marine A Silos. The design was based on two known facts about the location, the site has **high constant winds** and the Marine A Silos have a long **reverberation time**. Taking these two facts, the gallery accommodates six spaces that use the wind to change the reverberation time. With turbines located on the top floor, the energy of the winds translates into a pulley system that pulls a ceiling up and down. Only when wind is blowing is when the **ceiling height changes**. Because the ceiling controls the volume of the space, the reverberation time changes from somewhere around twenty seconds down to only a few seconds. The result is sound quality changed by nature.



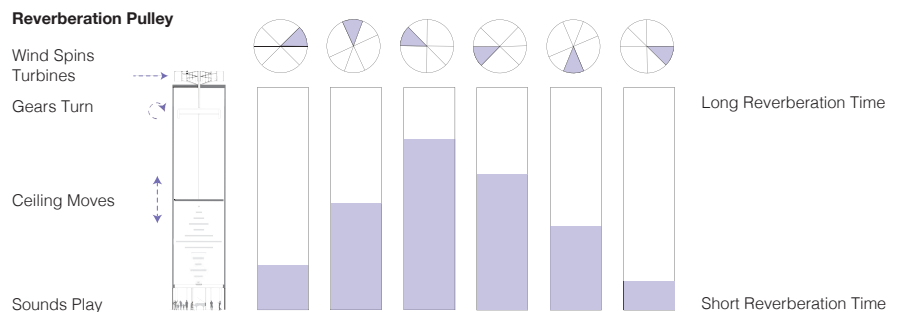
Top Floor Plan

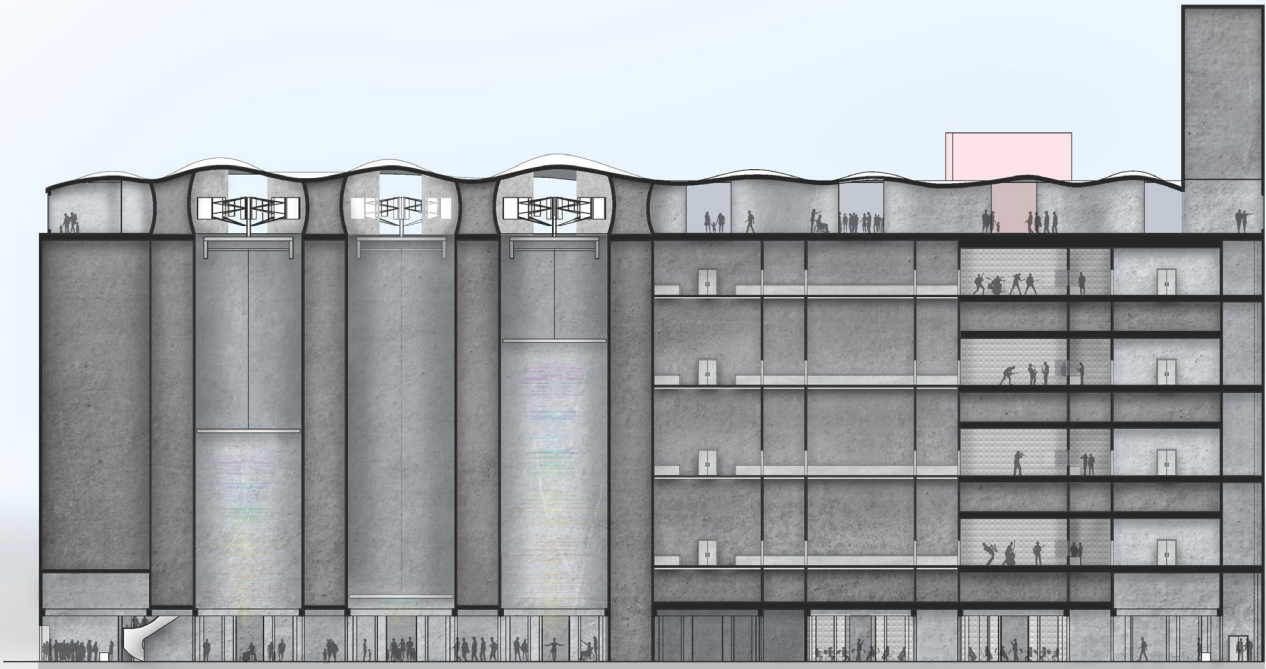


Mid Floor Plan



Ground Floor Plan





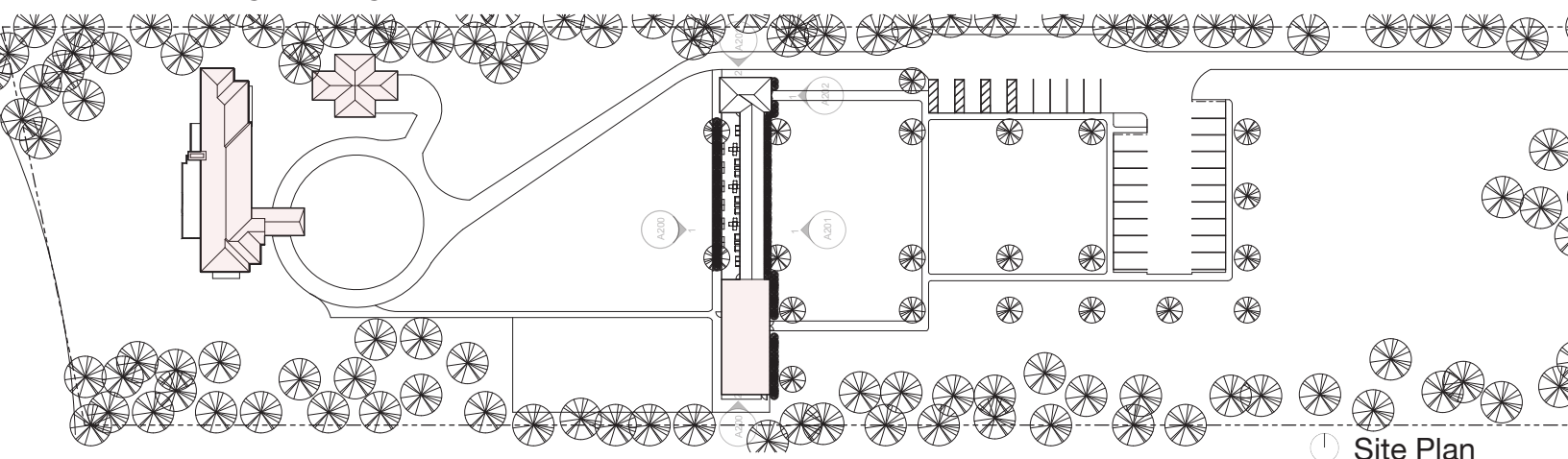
GRAYCLIFF WELCOME CENTER

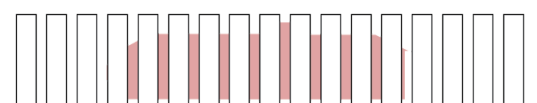
Expansion Project | Introduction to Revit Course

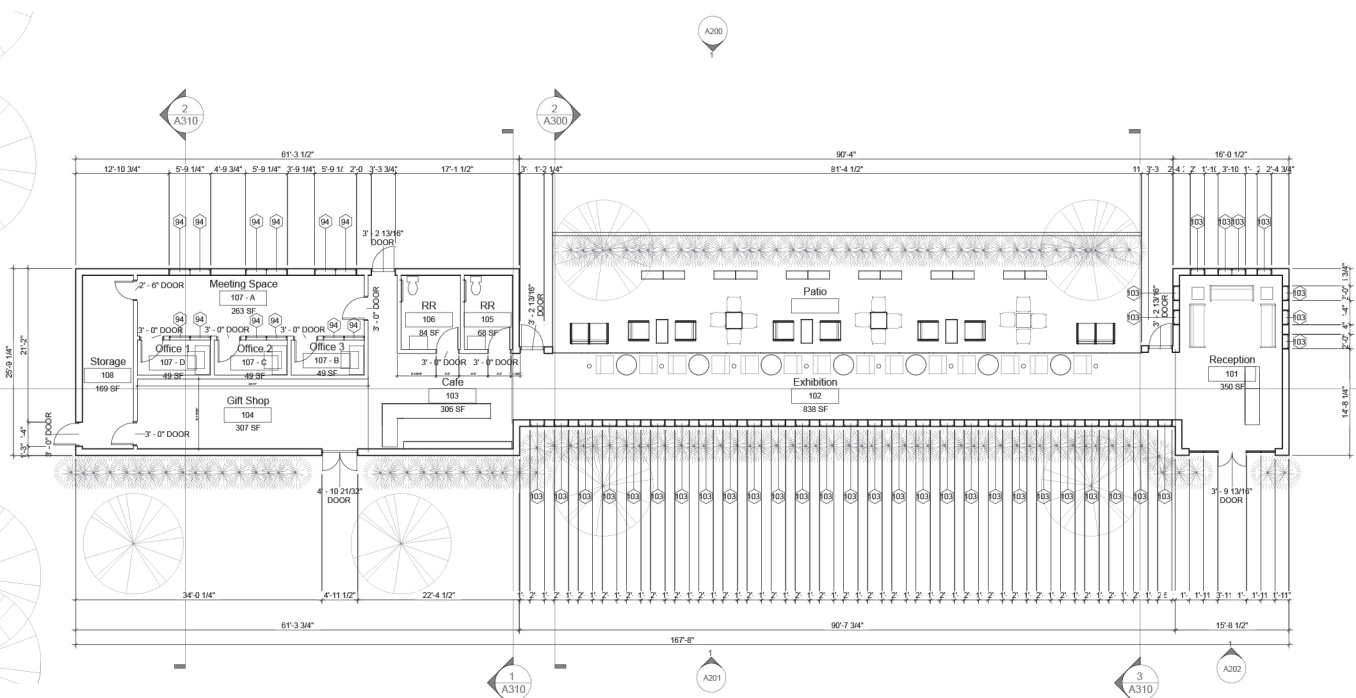
As a way of concealing Frank Lloyd Wright's Graycliff House, the project aims to **unveil the house** as visitors get closer to it. The vertical windows along the east facade entrance acts as a gate which gives near 50 percent visibility of the house on the other side. When coming into the reception area of the visitor center's entrance, I wanted to continue partial visibility until one enters into the Exhibition area, a space where a tour would begin. The Exhibition Room is the focal point of the Visitor Center as it provides a long glass curtain wall which gives a panoramic view of the Graycliff House. A patio located on the other side of the glass provides a seating area with an adjacent garden that grows in front of the original stone wall.



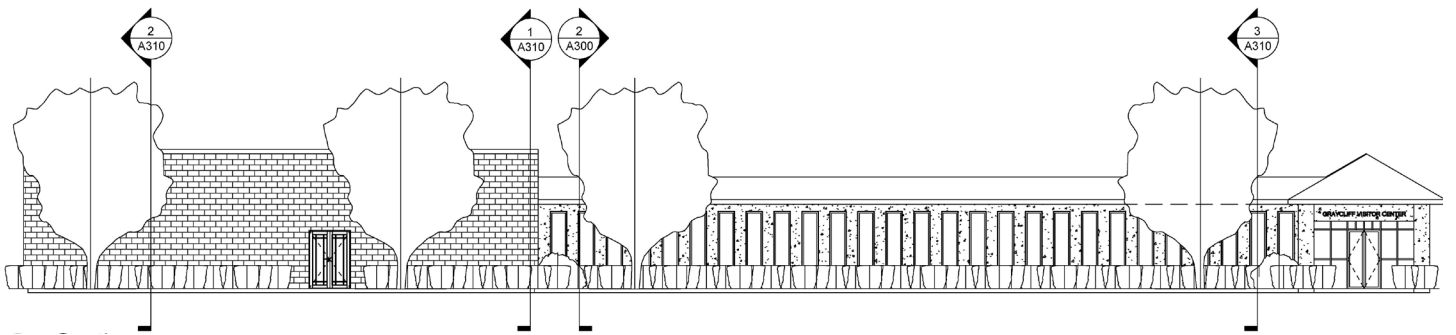
Existing Building



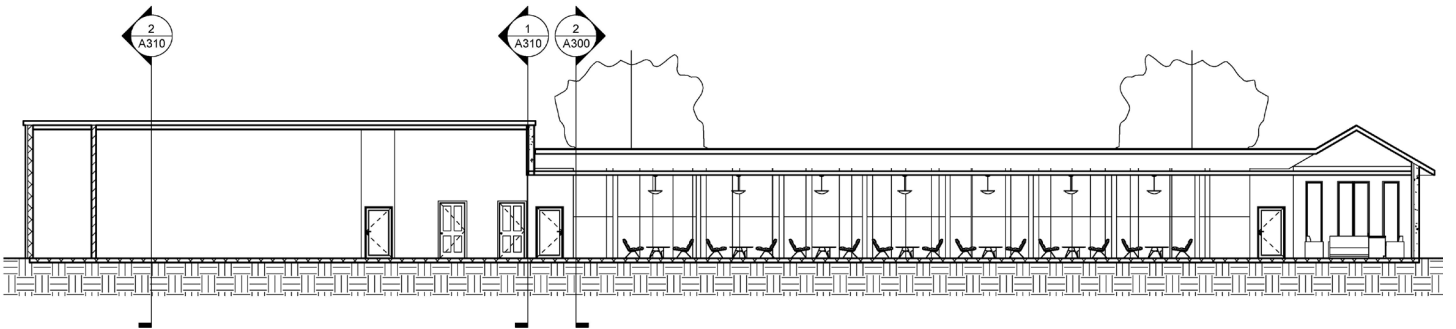




Plan



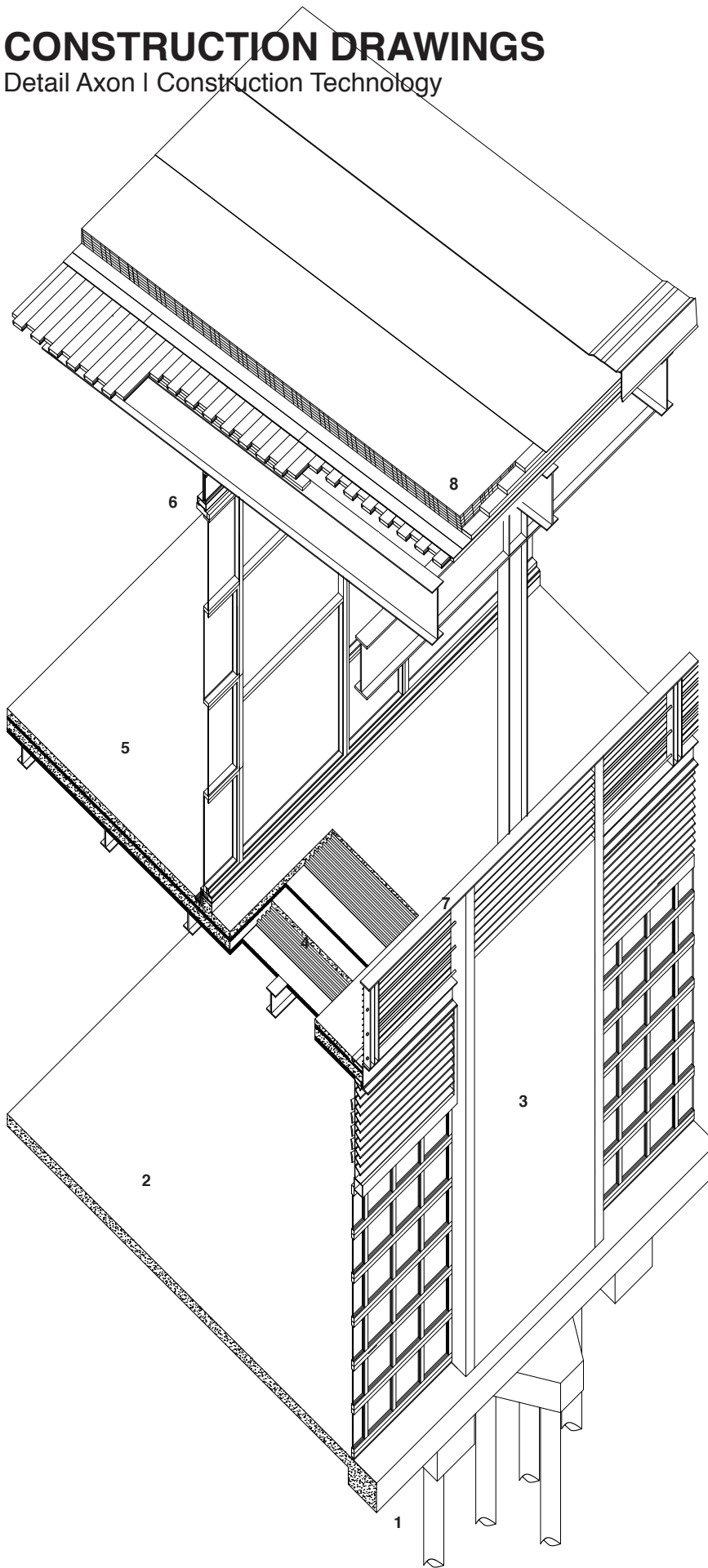
East Elevation



Section

CONSTRUCTION DRAWINGS

Detail Axon | Construction Technology



Outline Specification Notes:

1 Foundation

Site cast concrete piles and pile caps (existing)
Site cast concrete footing

2 Floor at Ground Level

"thick site cast concrete slab on grade on vapor barrier (existing)
2" Topping Slab with Broom Finish

3 Exterior Envelope at Ground Level

"thick site cast concrete bearing wall with 6x8 steel angle corner guards
HSS 6x6x $\frac{1}{2}$ " Steel beam at head of opening
Overhead Door & Track
Aluminum Louvers

4 Upper Floor – Exterior

4 $\frac{1}{2}$ " site cast concrete slab on corrugated composite steel deck
Hot Rubberized Asphaltic Membrane Protection Sheet
Drainage Composite
1" Rigid Insulation
2" Topping Slab with Broom Finish

5 Upper Floor – Interior

Existing Steel W-Section beams with 14 minimum rigid insulation finish board attached to decking

6 Exterior envelope at Upper Level

Upsland curb
Aluminum framed double glazed curtain wall with sliding sash windows
6x3x $\frac{1}{4}$ TS at underside of W-Section steel beams
Aluminum framed double glazed clere-story infill between w-section steel beams

7 Railing at Deck

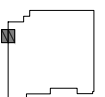
Galvanized Steel MC13x31.8
 $\frac{1}{4}$ "x $\frac{5}{2}$ " Galvanized Flat Bar Cable support between (2) $\frac{1}{2}$ "x4" galvanized steel flatbar uprights welded to channel below and top plate above
 $\frac{1}{2}$ " diameter solid stiffener rods weld to uprights
3/16" diameter Stainless Steel with factory threaded swedged ends and lock nuts
 $\frac{3}{4}$ "x6" Galvanized Steel Plate Top Rail

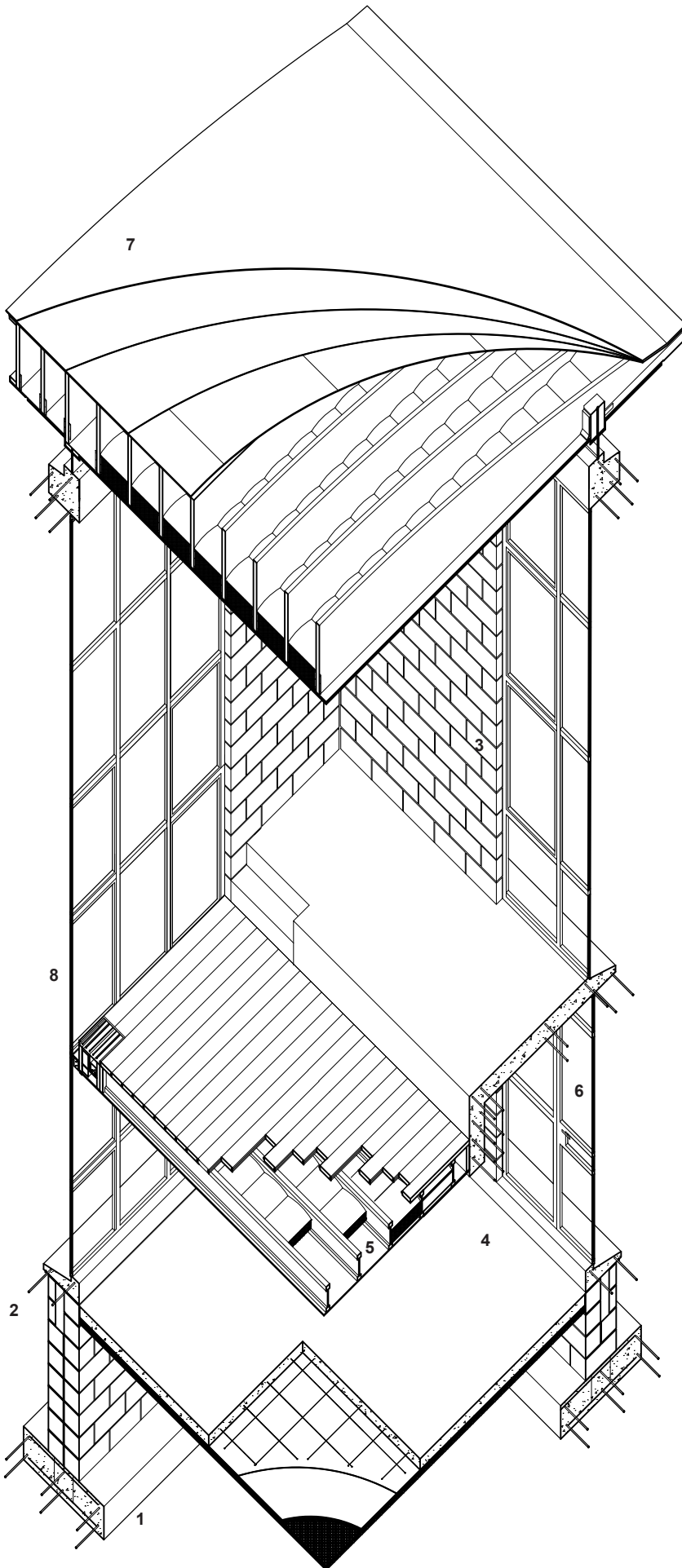
8 Roof

2x6 Pressure-treated nailers
1 $\frac{1}{2}$ " thick tongue and groove decking
3/8" Plywood Sheathing
Vapor Barrier
R-21 High-performance Rigid Insulation
 $\frac{1}{4}$ " Overlayment Board
PVC Single-Ply Membrane

CONIBEAR SHELL HOUSE

Miller Hull Partnership
Alexander Becker, Amanda Schoene, Joseph Miller





Outline Specification Notes:

1 Footing at external walls

2'6" wide x 12" deep site cast concrete
 ship footing with #3-#5 rebar long
 (bottom)

2 External wall below grade

8x16x8 CMU inner wythe with #5
 vertical rebar,
 grouted solid at corners, openings and
 48" O.C., and horizontal joint reinforce-
 ment at 8" O.C.
 bituminous dampproof
 8x16x8 CMU outer wythe

3 External wall at upper floors

8x16x8 CMU inner wythe with #5
 vertical rebar
 grouted solid at corners, openings and
 48" O.C., and joint reinforcement at
 16" O.C.
 bituminous damproofing
 2" rigid insulation
 2" air space
 8x8x4 CMU outer wythe

4 Ground Floor

Crushed Stone
 1" Rigid Insulation
 Vapor Barrier
 4" thick Cast in Place Concrete slab on
 grade with wire mesh reinforcement at
 12" O.C.

**5 2x10 Plywood Web I-Joists at
 16" O.C.**

Batt Insulation
 2x6 Tongue and Groove wood deck
 Plywood painted ceiling

6 Large windows

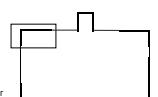
Cast in Place Concrete Sill
 Cast in Place Concrete Lintel
 Steel framed double glazed windows

7 Roof

Painted plywood
 Filler beams, thick steel plate with
 4x2 stagger bolted Laminated Veneer
 Lumber Joists at 16" O.C.
 Batt Insulation with vapor barrier
 Plywood Sheathing
 Underlayment
 Slip Sheet
 Metal Roofing

8 Clerestory

Thick Frameless Glass



MODELING FORM

Abstract Form Finding | Design Studio 1 & 2

