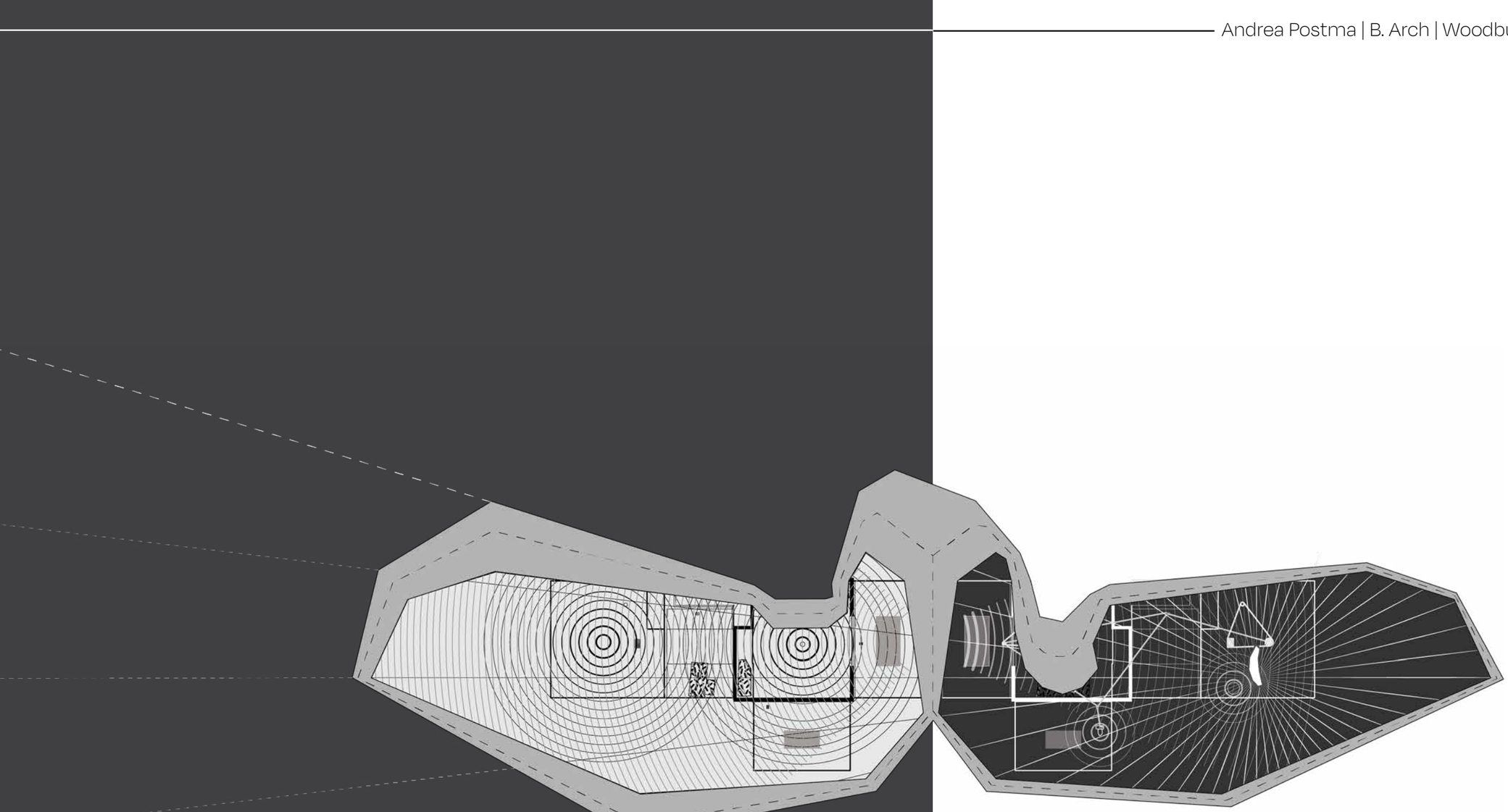
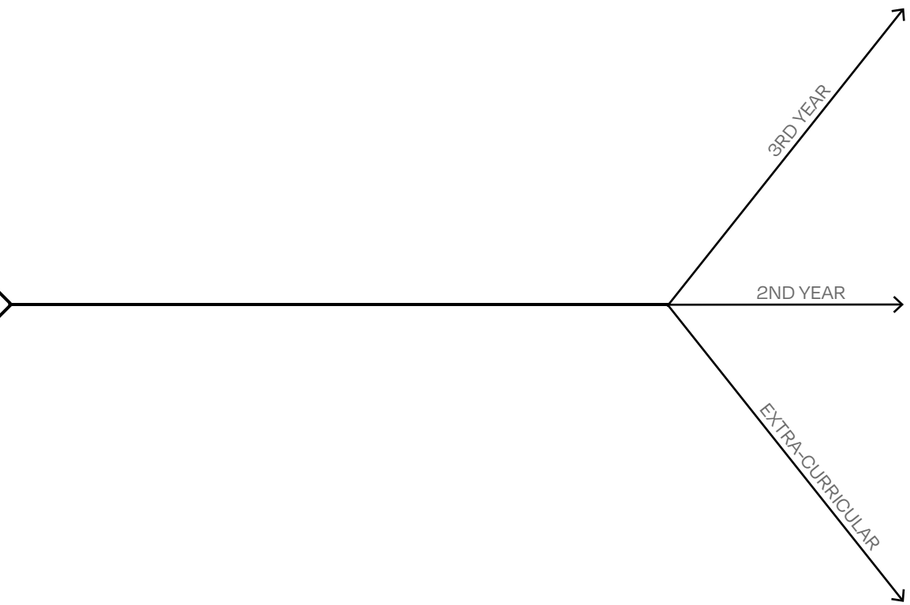
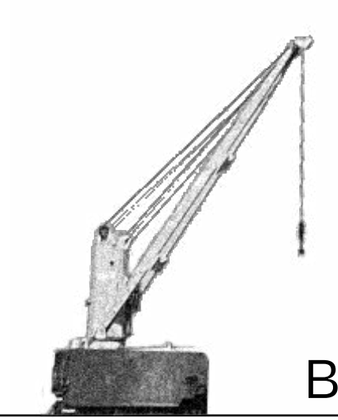


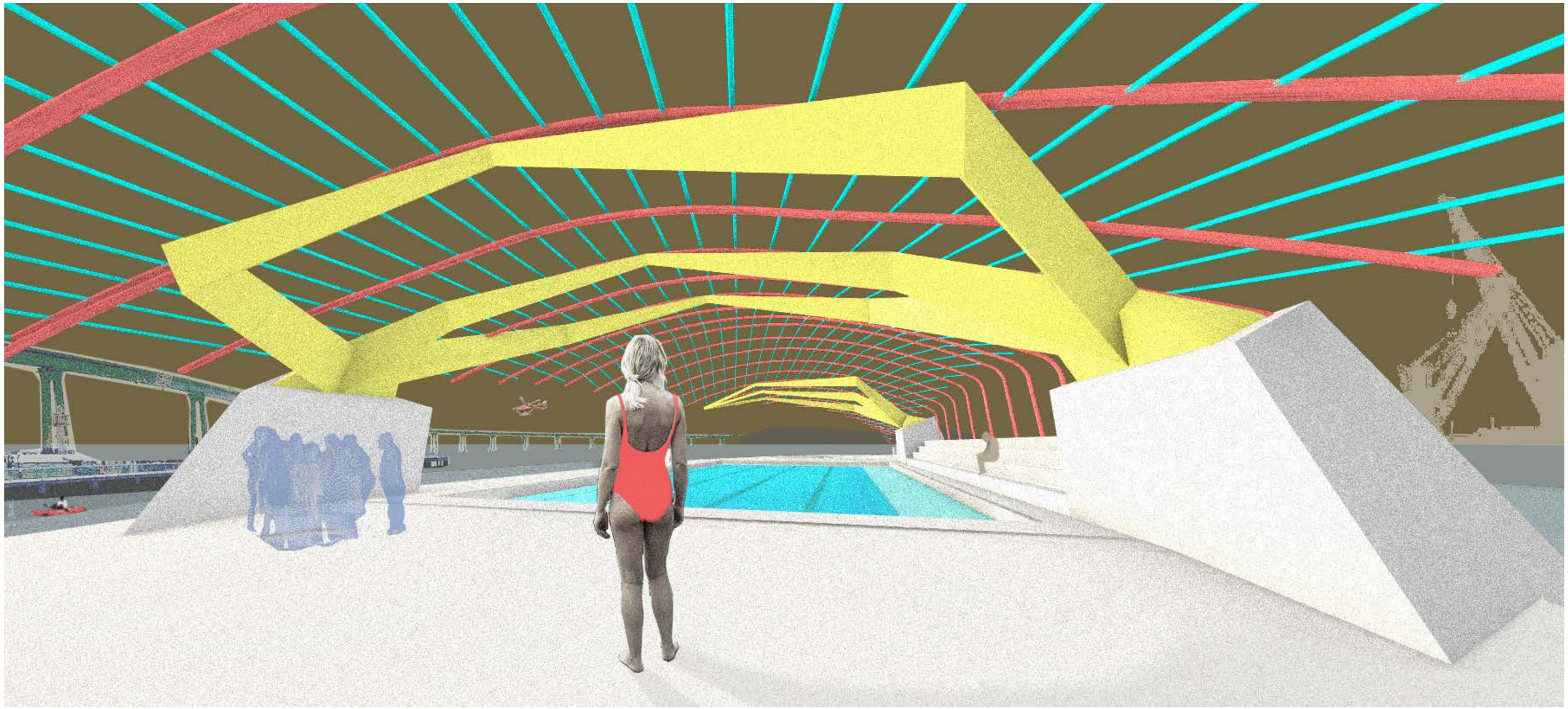
POSTMA
[Projects]

CONTENTS





BARRIO PIER – SPRING 2021



BARRIO PIER

[Long Span Structures|ARCH_302|Patrick Shields|Woodbury University|05.21]

COLLOQUIALLY referred to as “Barrio Beach”, the site for this Aquatic Center is Cesar Chavez Park, the only remaining parcel of water access for the community of Barrio Logan.
Since the 1960s, residents of Barrio Logan have been continually at odds with encroaching infrastructure and industry.

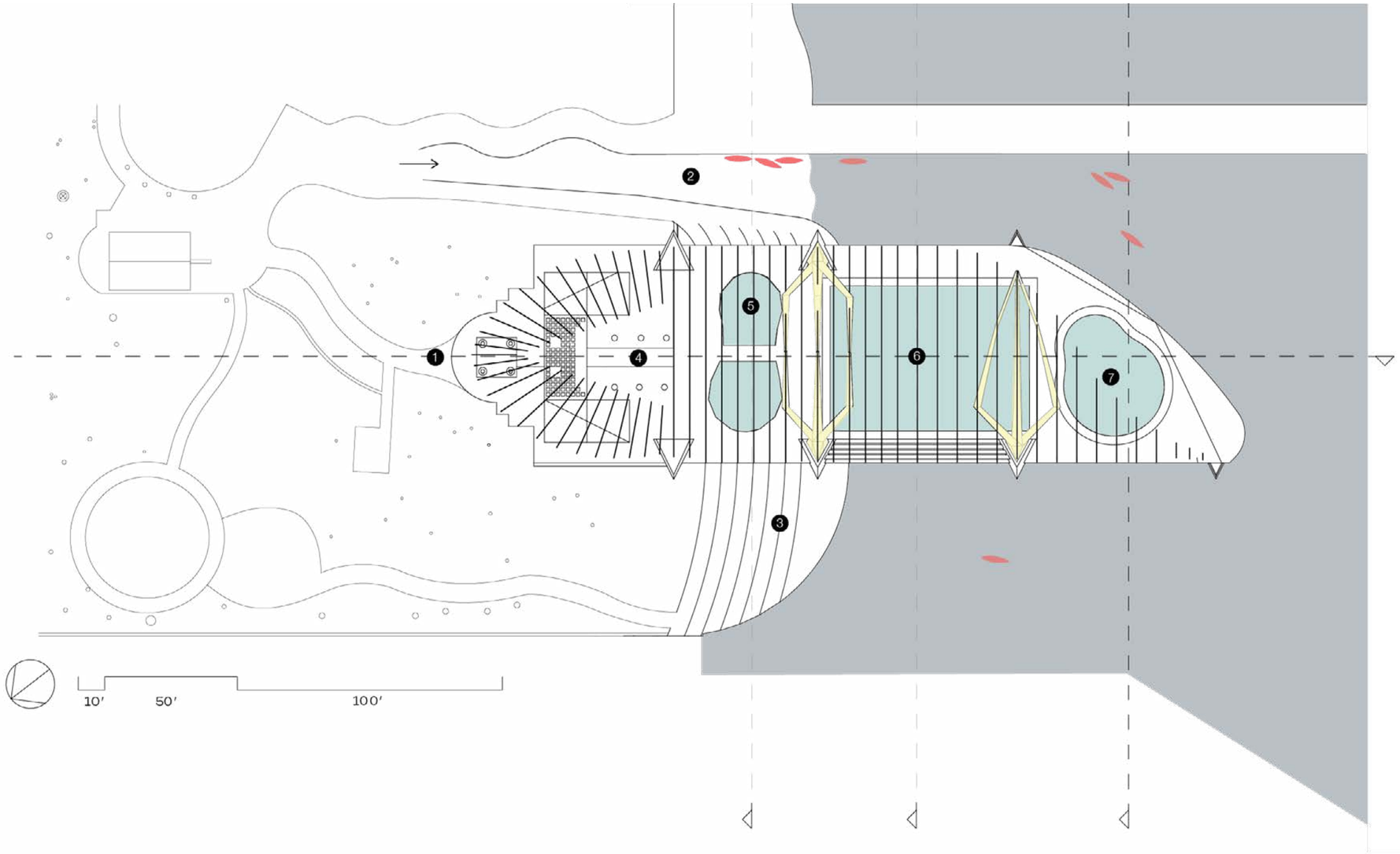
CESAR CHAVEZ park rests under the shadow of the Coronado Bridge, nestled between the cranes and noise of the shipyard. A breakwall deters access to the visibly polluted bay. The park smells like blooming jasmine, low tide, and diesel. It is most frequented by workers on break, families, and soccer players in the adjacent field.

THE PROPOSAL for Barrio Pier includes a shallow pool for children, a deep pool for adults, and a standard size competition pool. The seawall will be transformed into a series of concrete steppes and ramps in order to allow physical access to the bay. The southern portion of waterfront will be gently sloped and filled with sand to serve as a boat launch.

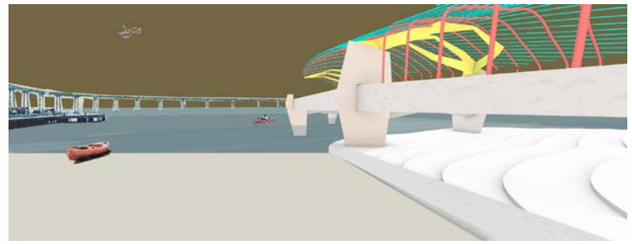
RATHER THAN detracting from the only waterfront park south of downtown, this proposal utilizes the grid from the existing plan and extends a massive pier into the bay to create space for three open-air swimming pools. Its material language is that of the surrounding infrastructure and industry.

BARRIO PIER

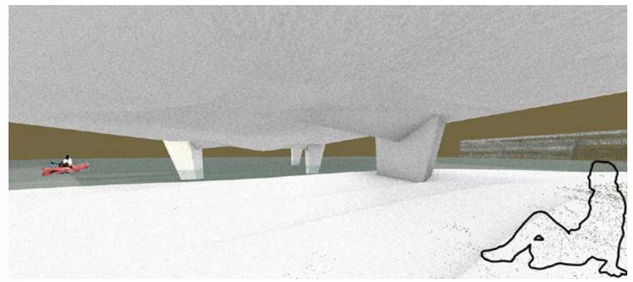
[Site Plan|ARCH_302|Patrick Shields|Woodbury University|05.21]



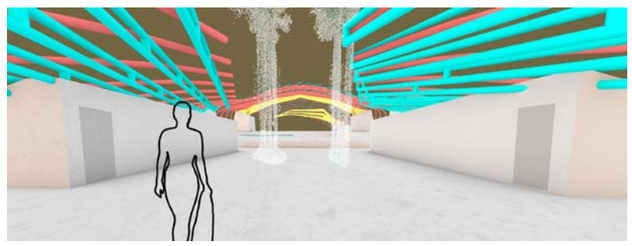
1. MAIN ENTRANCE



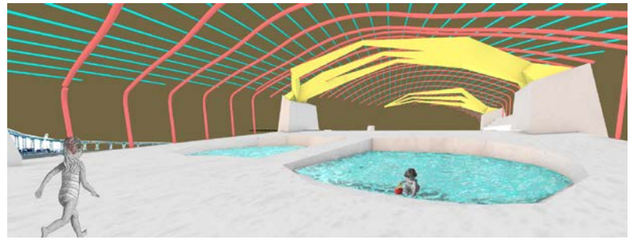
2. BOAT LAUNCH



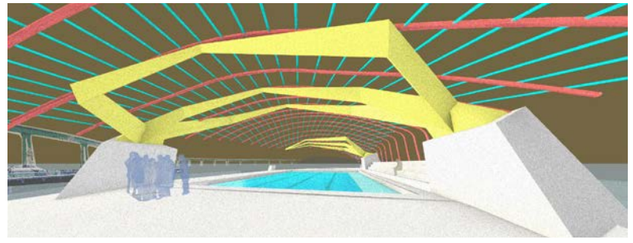
3. WATERFRONT STEPS



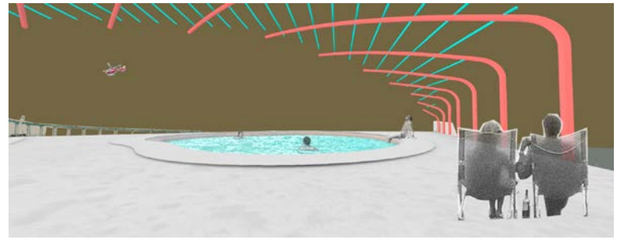
4. LOCKER/SHOWER ROOMS



5. CHILDREN'S POOL



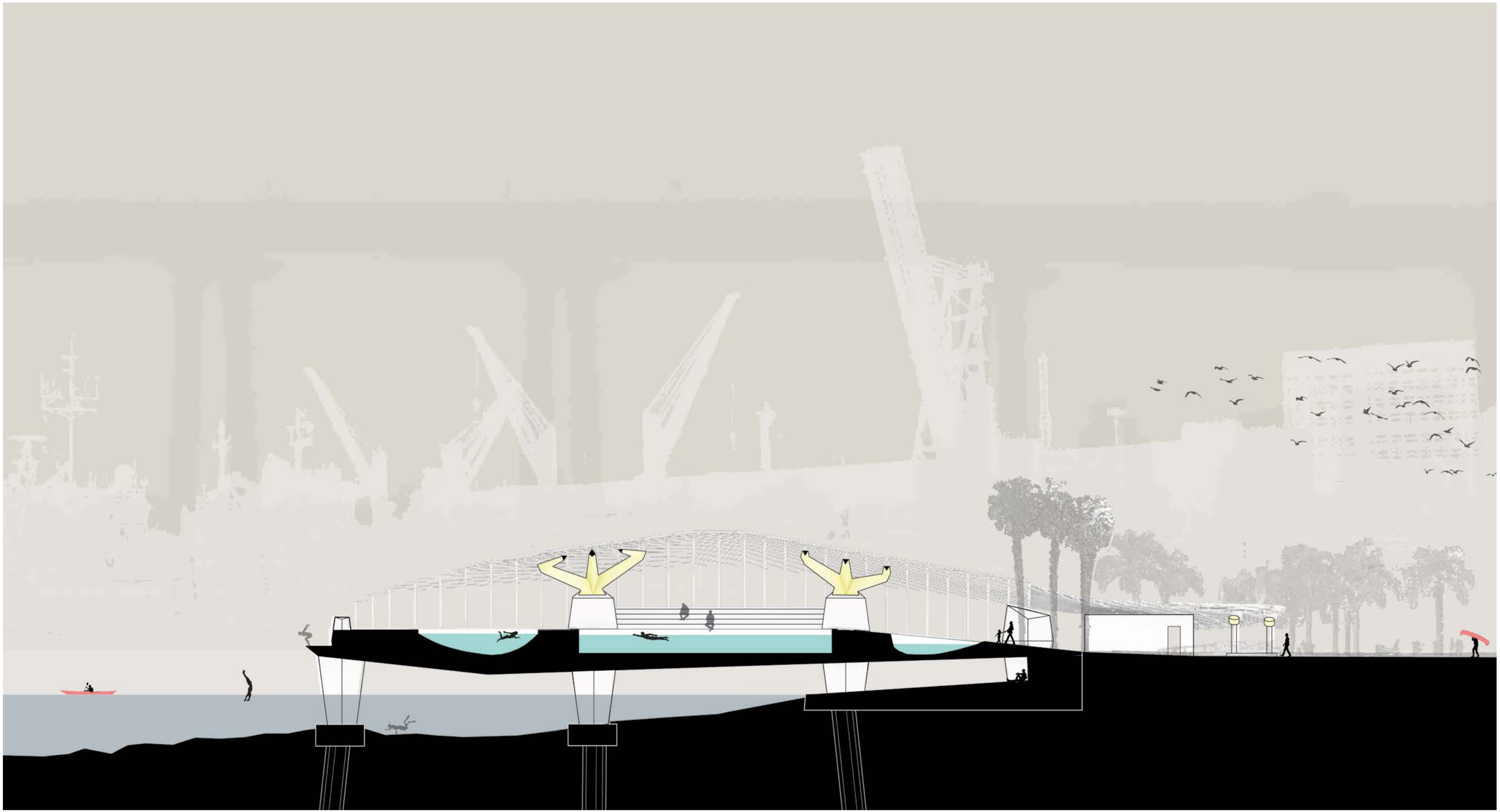
6. COMPETITION POOL

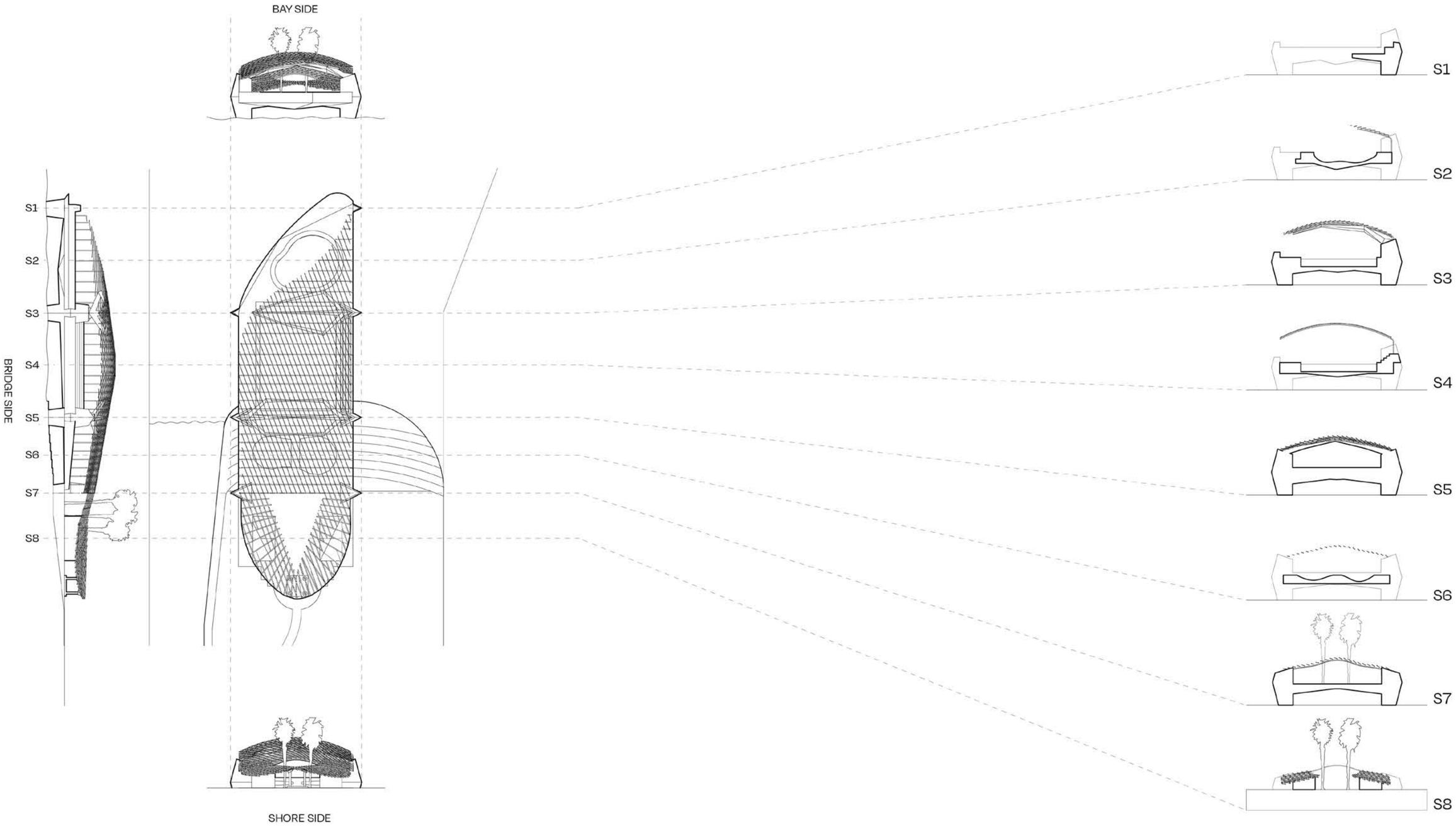


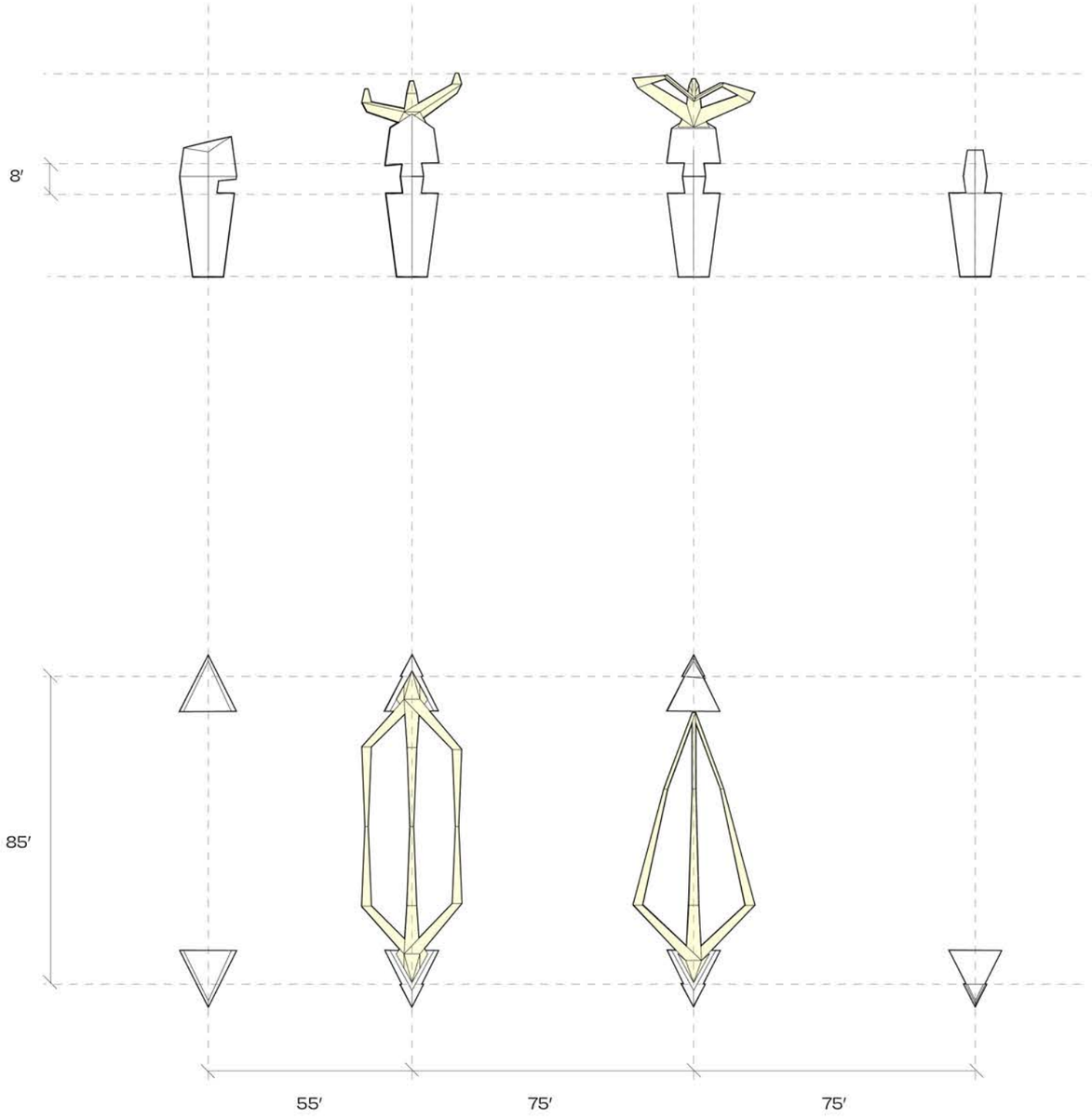
7. ADULT POOL

BARRIO PIER

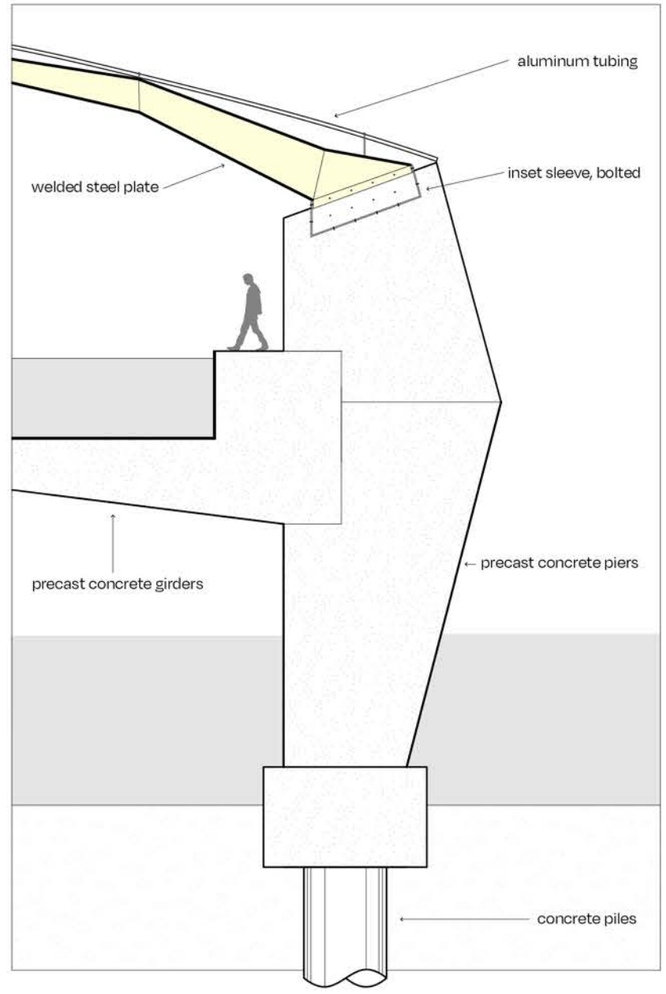
[Longitudinal Section|ARCH_302|Patrick Shields|Woodbury University|05.21]



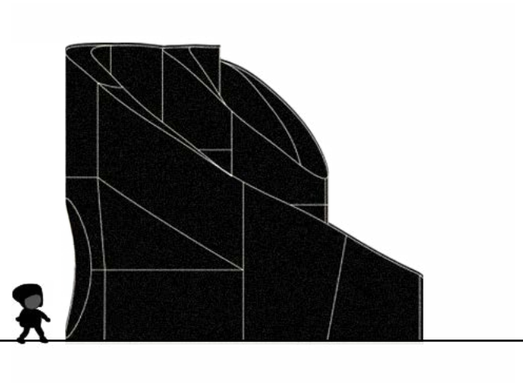

BAY SIDE
S1
S2
S3
S4
S5
S6
S7
S8
BRIDGE SIDE
SHORE SIDE

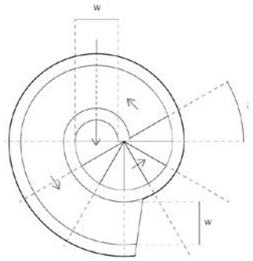


PIER + TRUSS ELEVATION, PLAN



PIER + TRUSS DETAIL

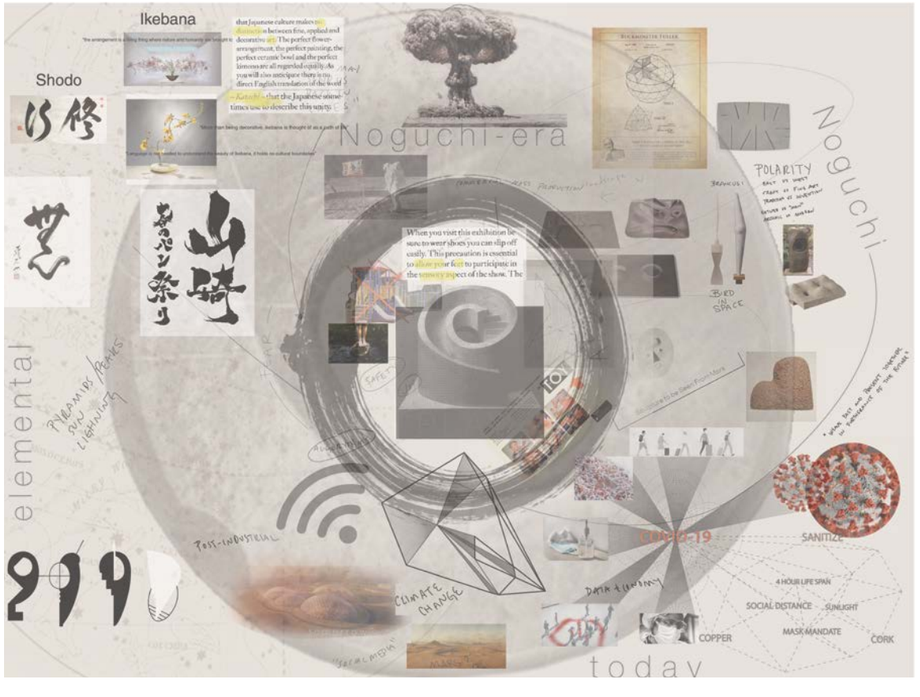




IN PROFESSIONAL PRACTICE 1, we were afforded the opportunity to collaborate on a real-world design project. The New Children's Museum of San Diego desired play elements inspired by Isamu Noguchi's Slide Mantra. Our class was tasked with the in-depth study of Noguchi's life and work in order to develop relevant design proposals.

We began by conducting broad and spiralling research into the life and work of Isamu Noguchi, as well as playground equipment and Covid-era constraints. We also made replicas of his 2D and 3D work in order to better understand his process and ethos.

Teams assembled this research into "maps" to better develop a design strategy, and worked in groups throughout the semester to develop buildable proposals.



Noguchi "Map": Andrea Postma, Sara Ghazy, Monica Diaz

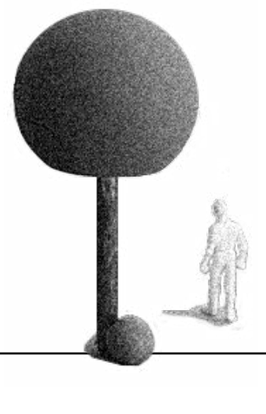
LINK: RESEARCH PRESENTATION. collaboration, Professional Practice I Spring 2021
Individual Contribution: script elements (below), organization, children's voiceovers

01. TOY MANTRA is a fusion of the Eames modular mass-produced toys of the 1950s with the shape of Slide Mantra broken into blocks of soft, lightweight foam.

02. USING WOODBURY'S digital fabrication lab, we could CNC cut a wide range of foam available on the market. EVA foam is lightweight, durable, recyclable, and of course child-safe. With the versatility of CNC, Toy Mantra could be produced at any size... perhaps baby, toddler, and child sizes.

03. TOY MANTRA is in keeping with Noguchi's ethos because it respects children's ability to guide themselves through learning and play, it utilizes mass-production to make art more accessible, it combines contemporary materials with timeless form... and kids will love it!

LINK: TOY MANTRA ANIMATION



FALL 2021

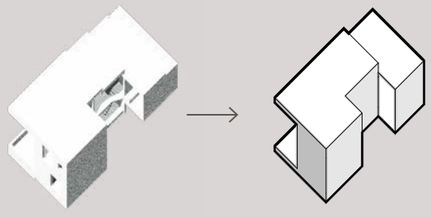
PRECIPICE

[Student Housing|ARCH_301|Hector Perez|Woodbury University|12.20]

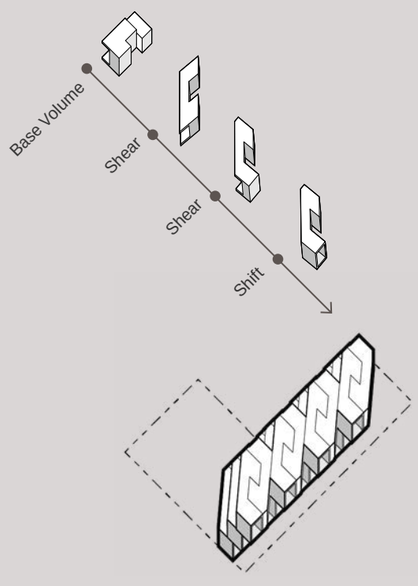
THE NEED: Woodbury School of Architecture San Diego is currently without housing. With the adjacent parking lot as our site, we were tasked with finding a solution that was both dense and porous, as well as embraced San Diego's ideal climate.

THE METHOD: Inspired by Operative Design: A Catalog of Spatial Verbs we were to alter a given base volume three times, then stack and deploy variations onto the site, choosing which iteration was best suited to refinement as student housing.

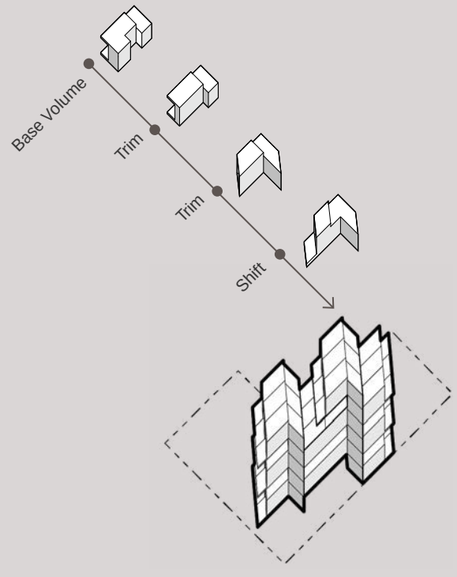
THE RESULT: The final design resembled the face of a cliff, and utilized rooftops and catwalks to explore thresholds between public and private experience and thus was dubbed "Precipice".



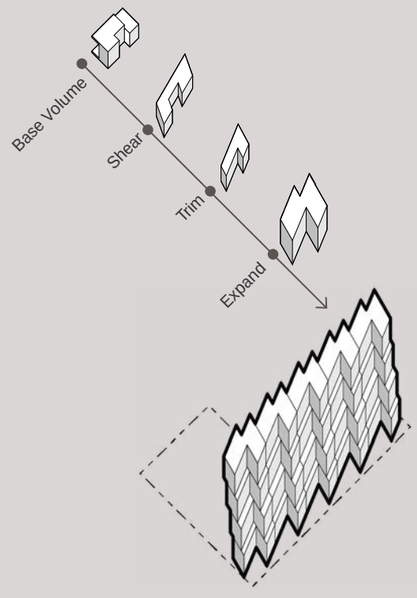
BASE VOLUME



ITERATION 1



ITERATION 2



ITERATION 3

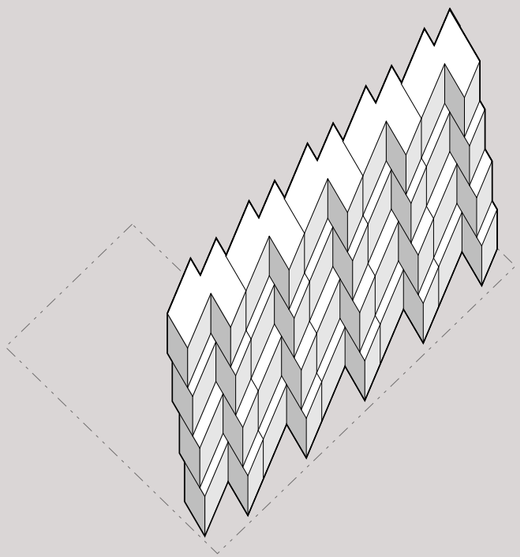
WUSD STUDENT HOUSING

- 11,100 SQ FT
- 3 FLOORS + ROOF GARDENS
- 18 LOFTED UNITS
- HOUSES 42 STUDENTS
- PUBLIC EATERY
- SHARED LAUNDRY ROOM
- PRIVATE PATIOS
- OUTDOOR MEETING SPACES

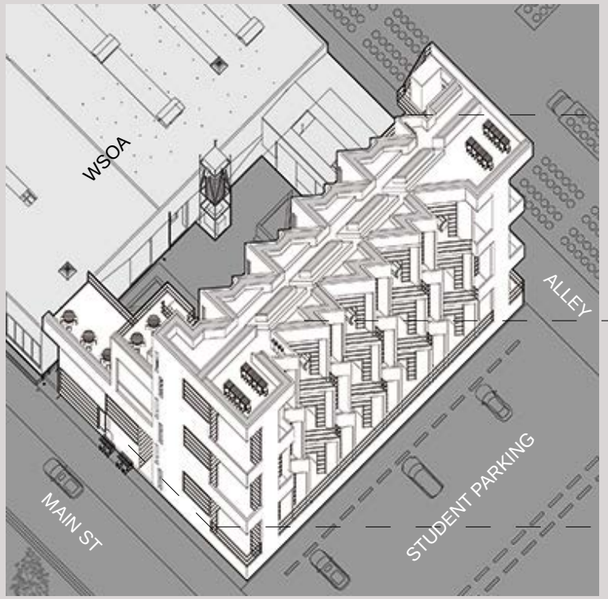
IN ADDITION to the housing units, a 1,000 sq ft public eatery and adjacent student laundry facility is proposed. The eatery would have both street and school-side access, addressing the need for student access to nutritious food, as well as workers that use the street on their way to and from shipyard parking.

IN RESPONSE to a lack of green space in the immediate area, rooftops would be lined with planters, creating additional space for outdoor meetings against the backdrop of the San Diego bay.

ITERATION 3

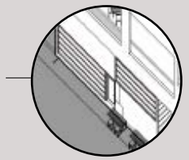


PROPOSED HOUSING



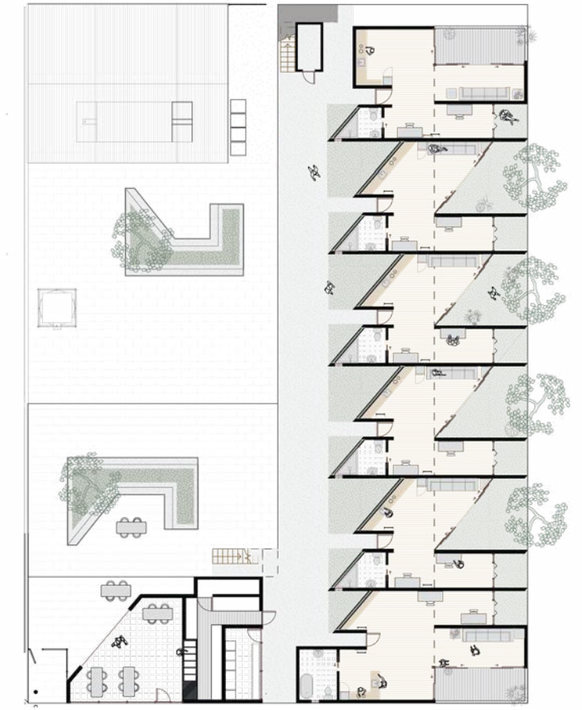
Rooftop Planters

2 Private Patios per Unit

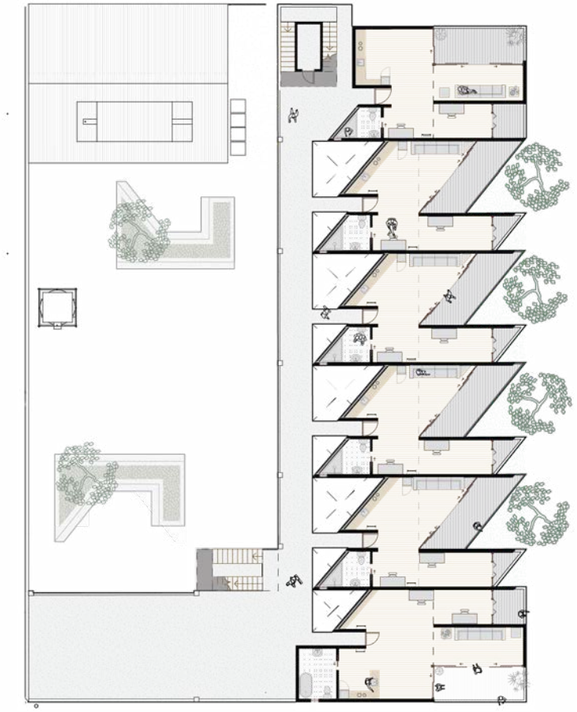


SOA Cafe: Public Access

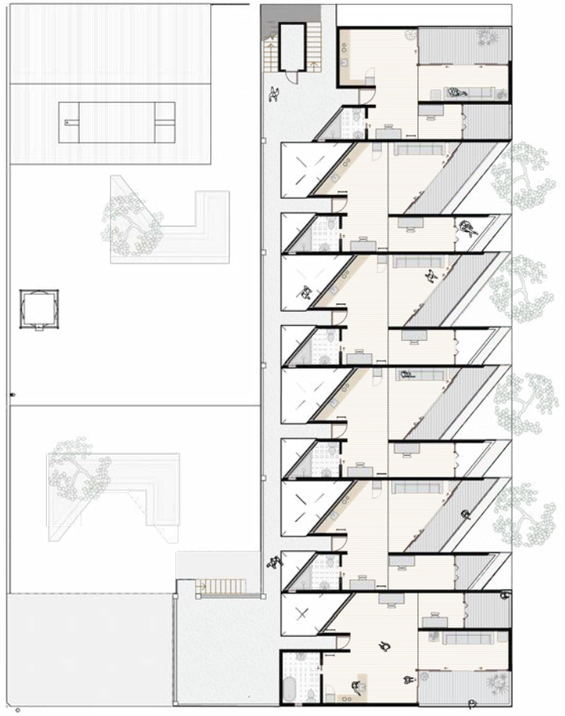
FIRST FLOOR



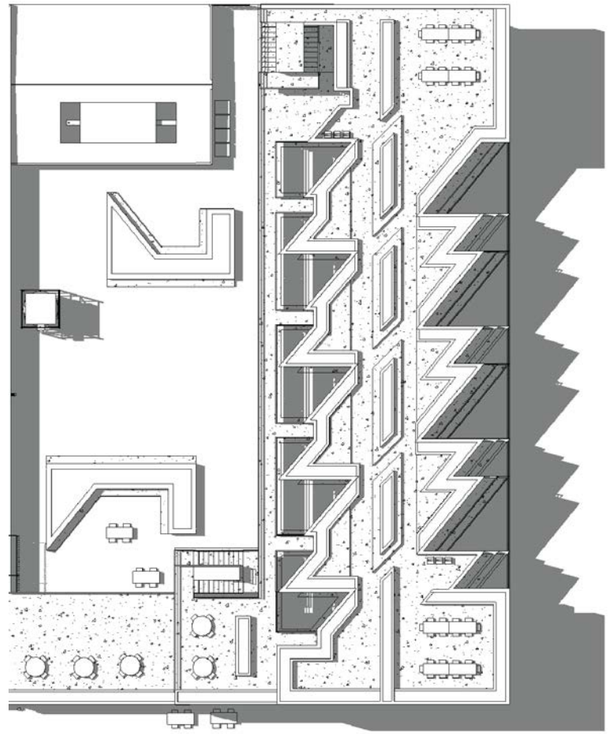
SECOND FLOOR



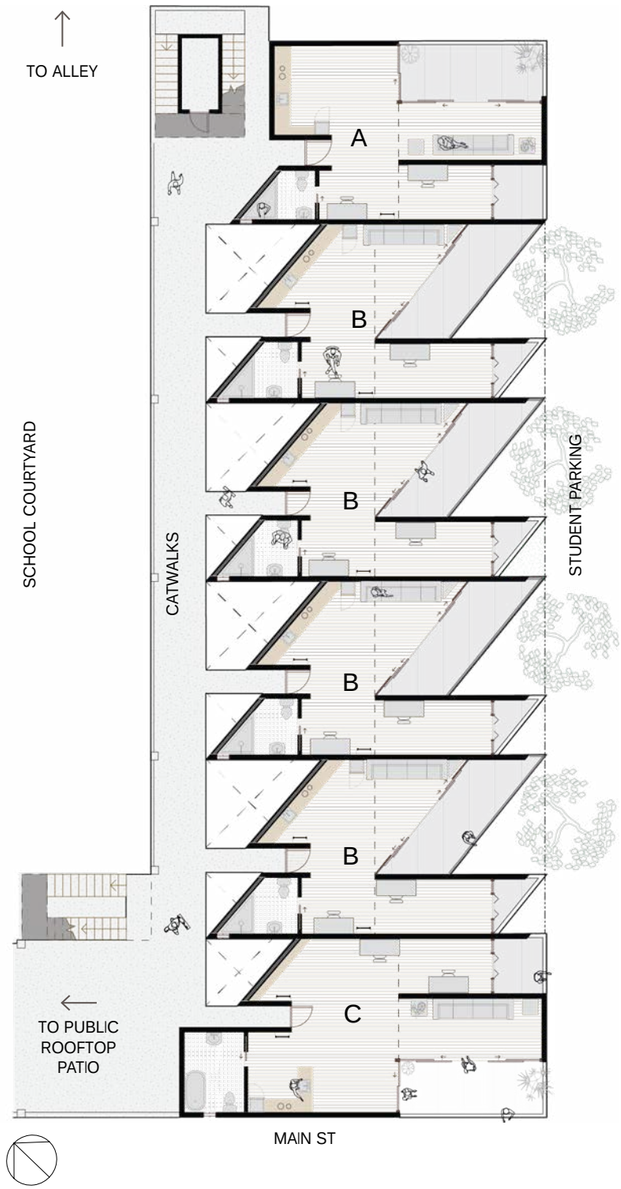
THIRD FLOOR



ROOF



SCALE: 1" = 30'

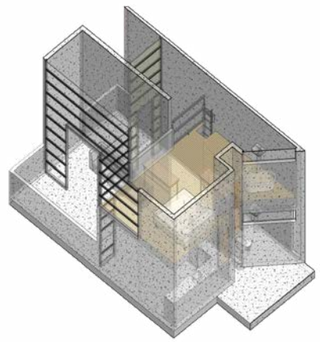


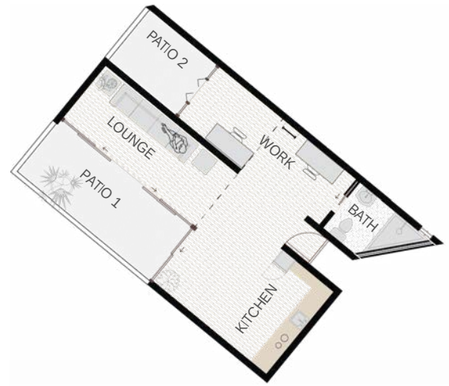
PROJECTION

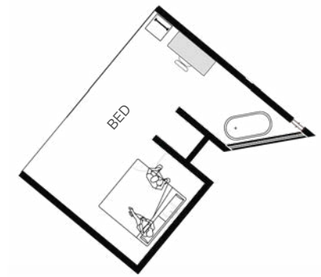
ENTRY LEVEL

MEZZANINE LEVEL (SLEEPING LOFTS)

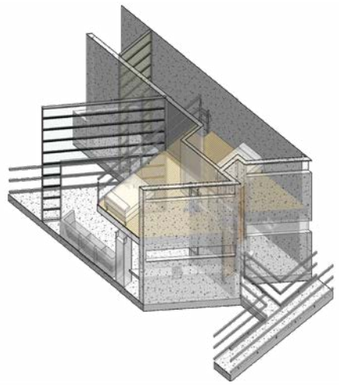
UNIT TYPE A
- 1-2 STUDENTS
- 700 SQ FT
- 1 BED
- 1.5 BATH

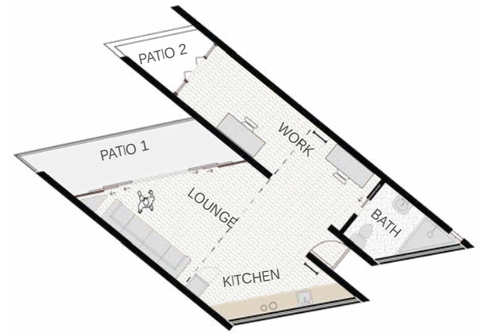


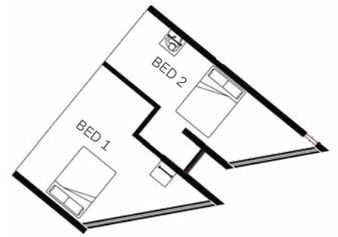




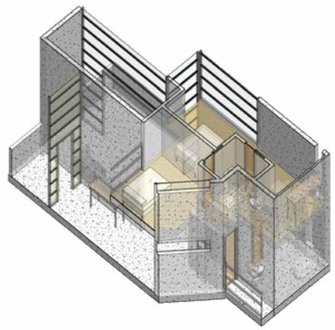
UNIT TYPE B
- 2 STUDENTS
- 550 SQ FT
- 2 BED
- 1 BATH

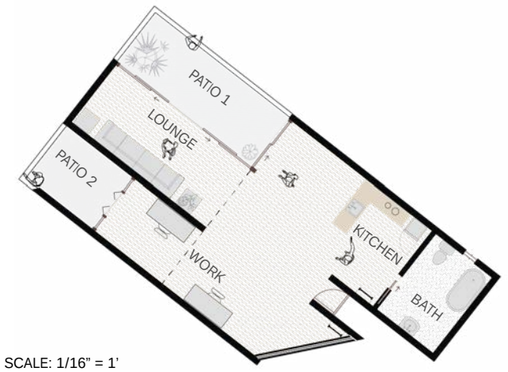






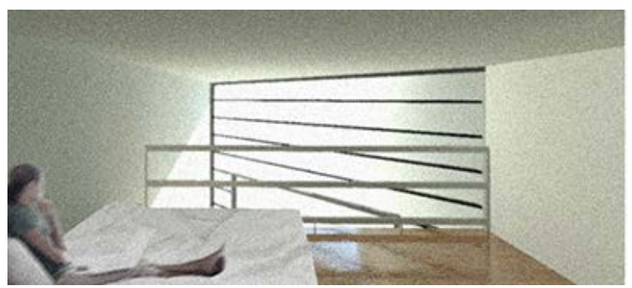
UNIT TYPE C
- 2-4 STUDENTS
- 800 SQ FT
- 2 BED
- 1.5 BATH





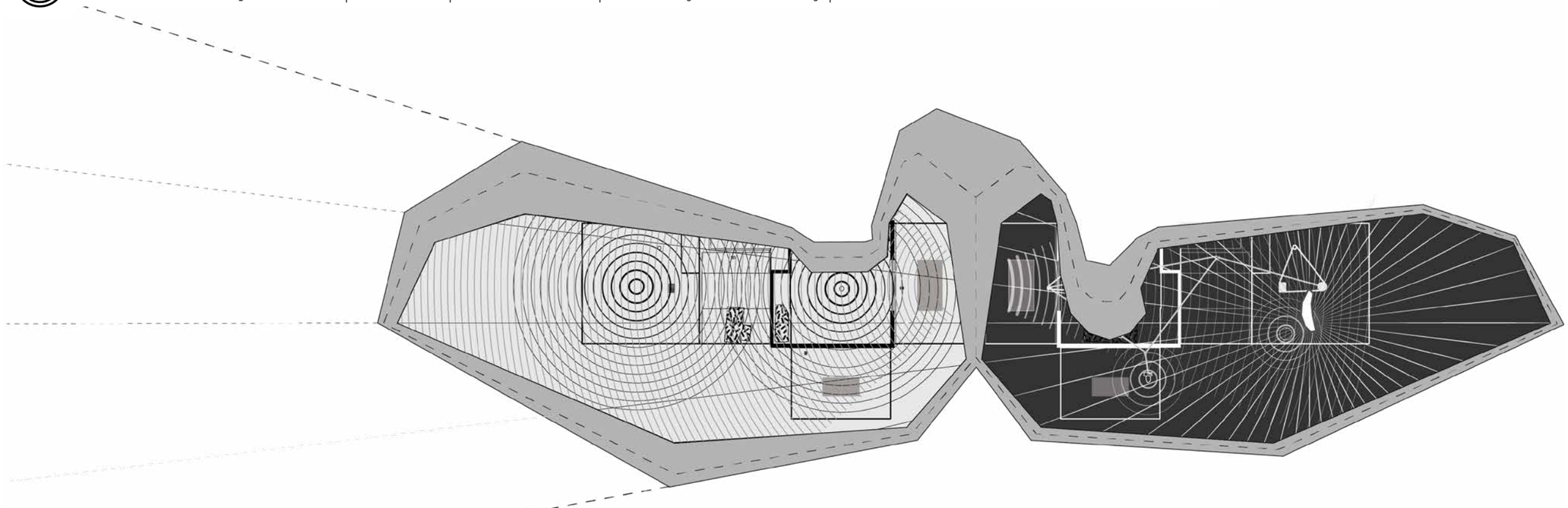
SCALE: 1/16" = 1'

CREATIVE SPACES. Each unit is accessed either via catwalk (upper levels) or through garden space (ground floor) creating islands of privacy despite shared walls. 15' ceilings and open floor plans create a feeling of spaciousness and creative potential, while still offering private lofted sleeping quarters. Both social and work-space balconies open wide to morning light, taking advantage of the exaggerated angles of the form to create private outdoor space. Northwest walls feature narrow horizontal and vertical windows that allow cross-ventilation, and serve to visually separate students from the school during their off-hours, while also minimizing harsh afternoon sun.



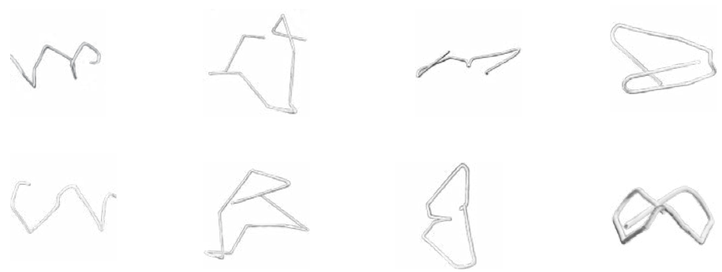
IDIOSYNCRATIC MAPPING

[Habitation Exploration|ARCH_301|Hector Perez|Woodbury University|09.20]

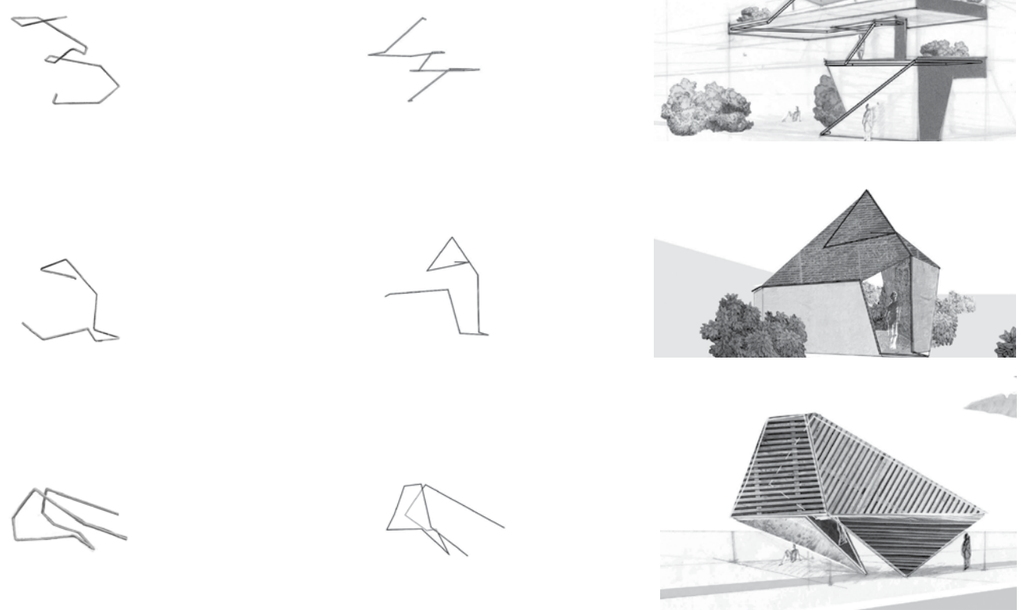


FROM LINE TO FORM. To begin our habitation-centric studio, our first exercise was to create a floor plan of our own bedroom, mapping not only the dimensions, openings, and furniture, but seeking out the seen and unseen elements that give a banal space personal significance. I chose to highlight the distinct difference of my bedroom from night to day. During the day, it serves primarily as a thoroughfare to backyard and laundry room, whereas at night the ceiling seems to reflect the invisible pressures of everyday life.

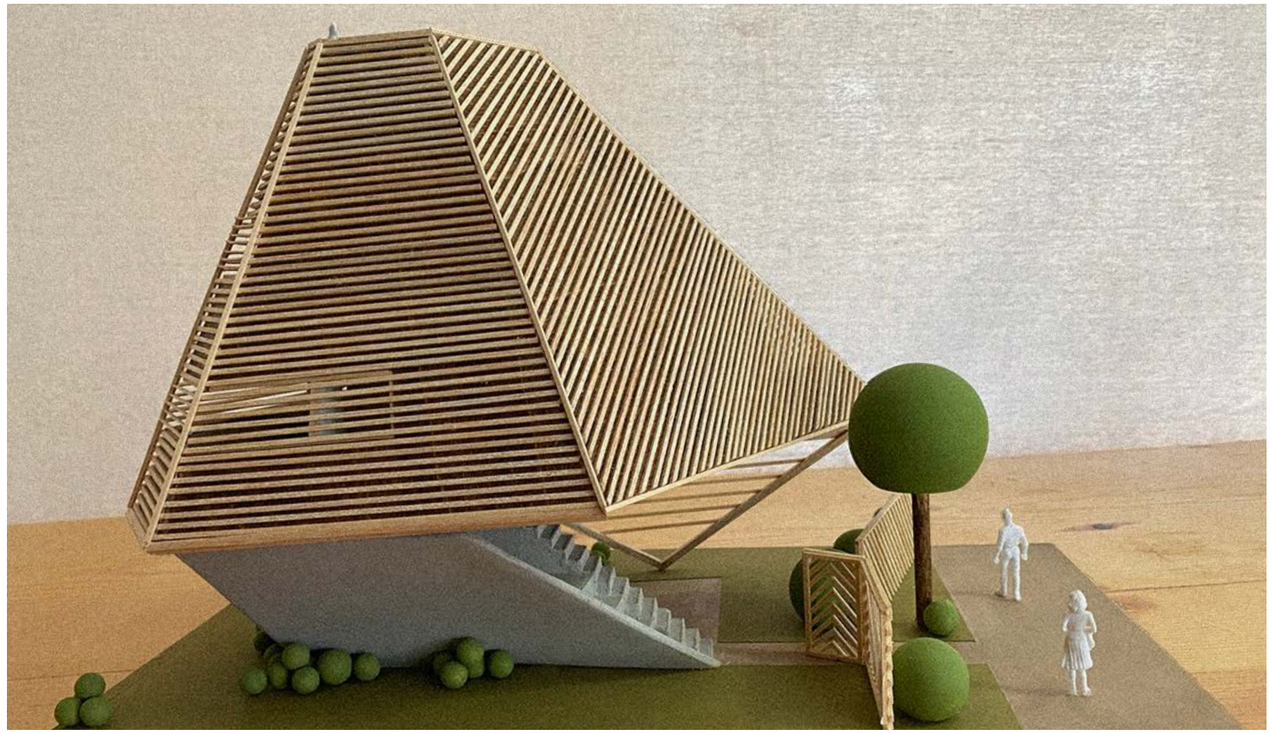
WE THEN were to express this 2-D drawing as wire sketch models. The most promising three were chosen and developed into small collages, the only requirement that the result must in some way resemble a built structure. The collages were created intuitively from magazine clippings. The most compelling was selected to be the form for the following project. I chose iteration #3 purely because it possessed the most visual interest, but also because it was the most challenging to resolve into a feasible building.

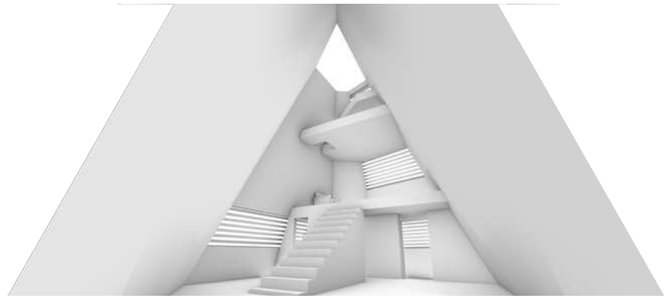


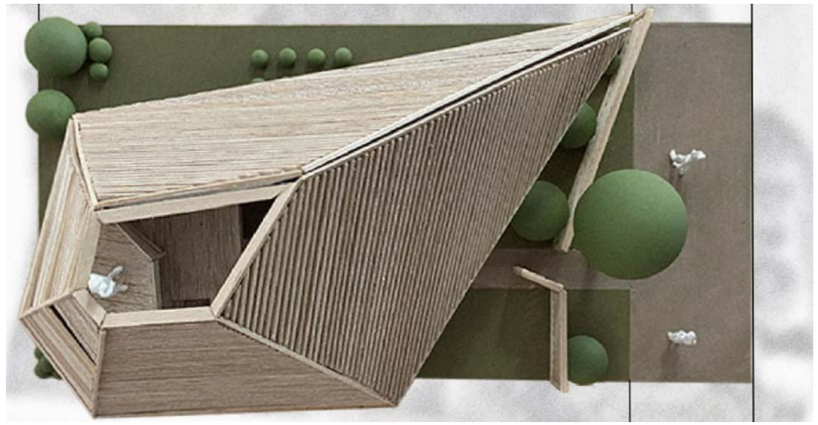
WIRE SKETCH MODELS



WIRE MODEL → DIGITAL PIPE → COLLAGE



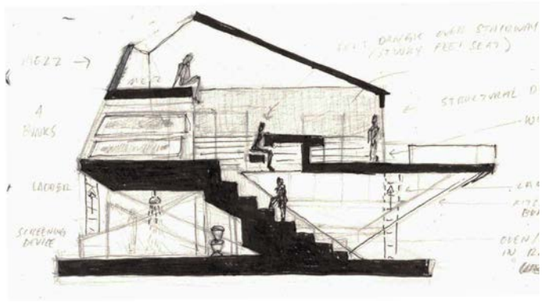




COLLAGE

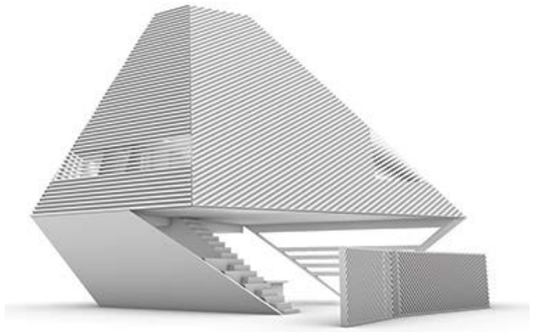
THE COLLAGE was then assigned a program of our choosing, so long as it fell loosely under the auspice of “a house”. I chose to turn my spaceship-like design into a temporary artists’ residence for a growing arts culture in Barrio Logan. We were required to remain as true to the original collage as possible.

SKETCH



Before drawing in CAD, I hand-sketched plan and sectional views.

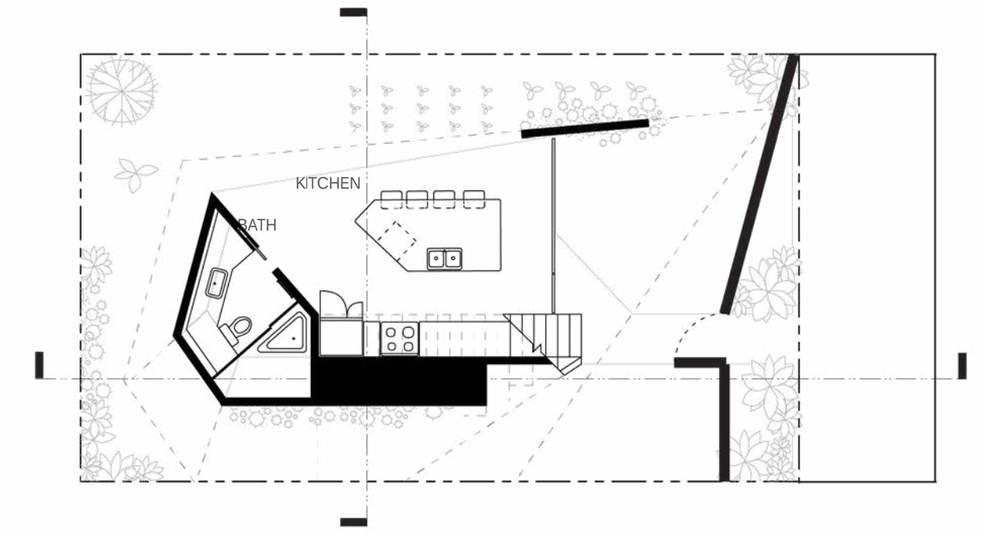
DIGITAL MODEL



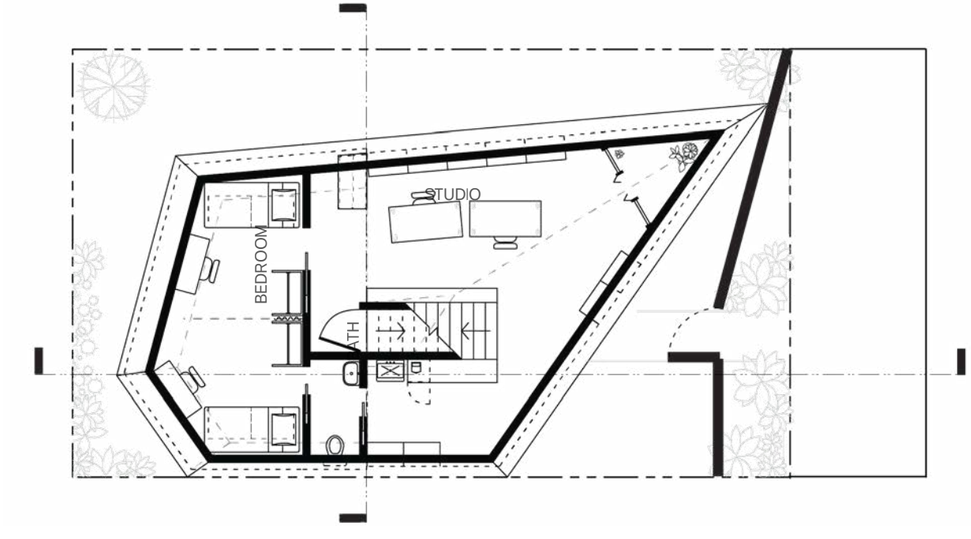
Rhino was used to convert sketches into a detailed digital model.

PHYSICAL MODEL

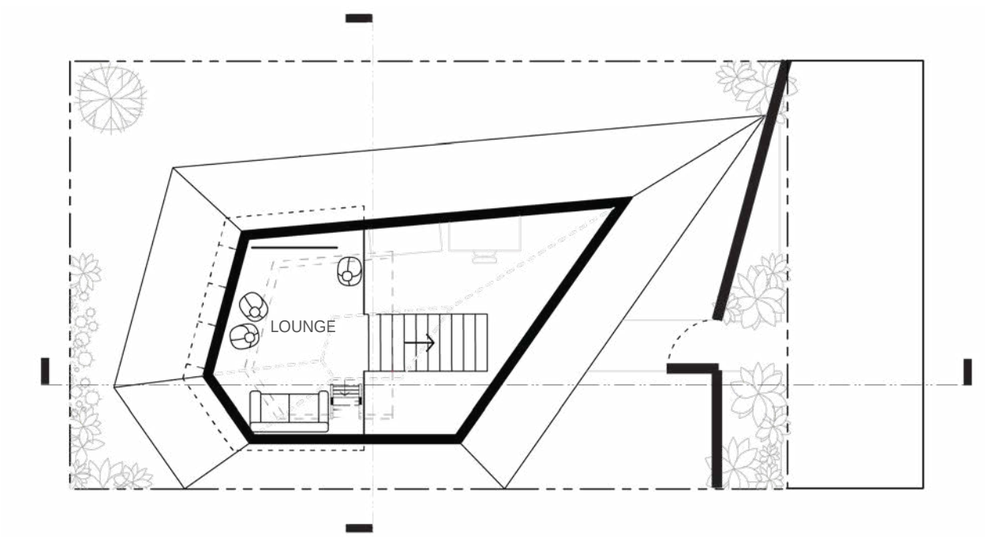
The digital model was used as reference for building a physical model out of balsa and basswood.



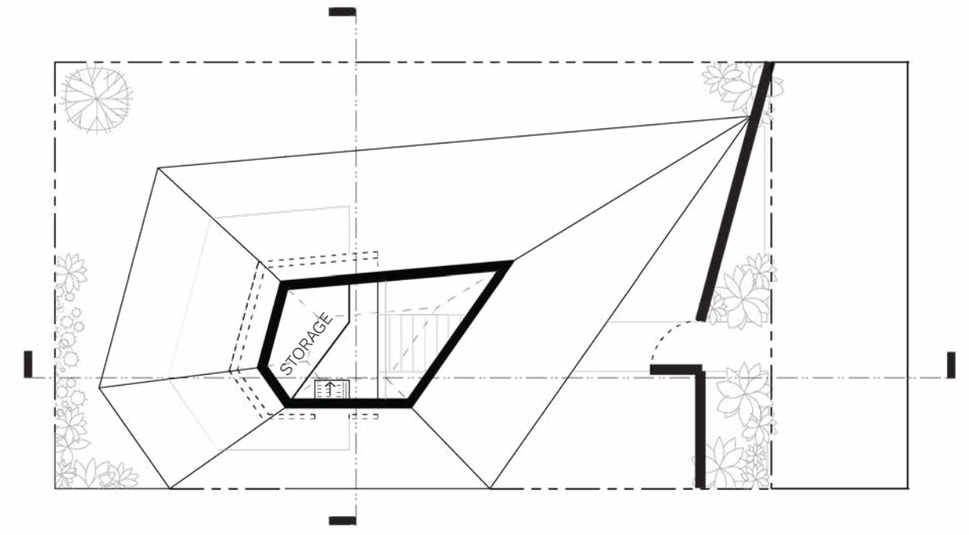
00 - GROUND FLOOR



01 - SECOND FLOOR: STUDIO & SLEEPING SPACE

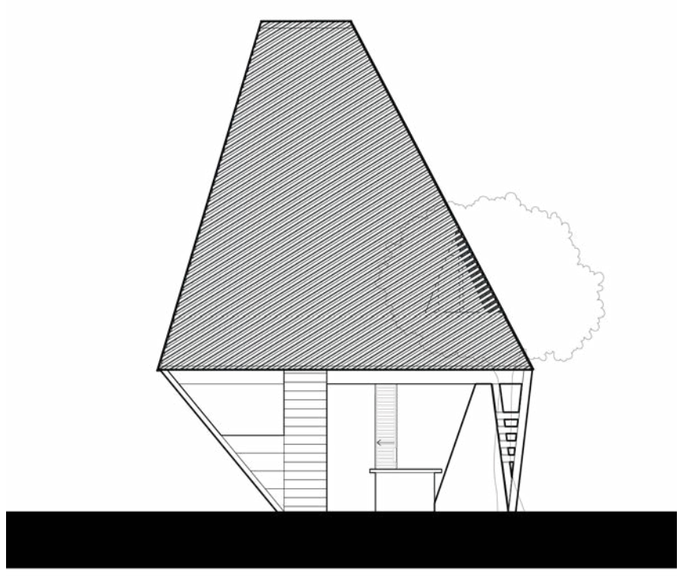


02 - MEZZANINE 1: LOUNGE

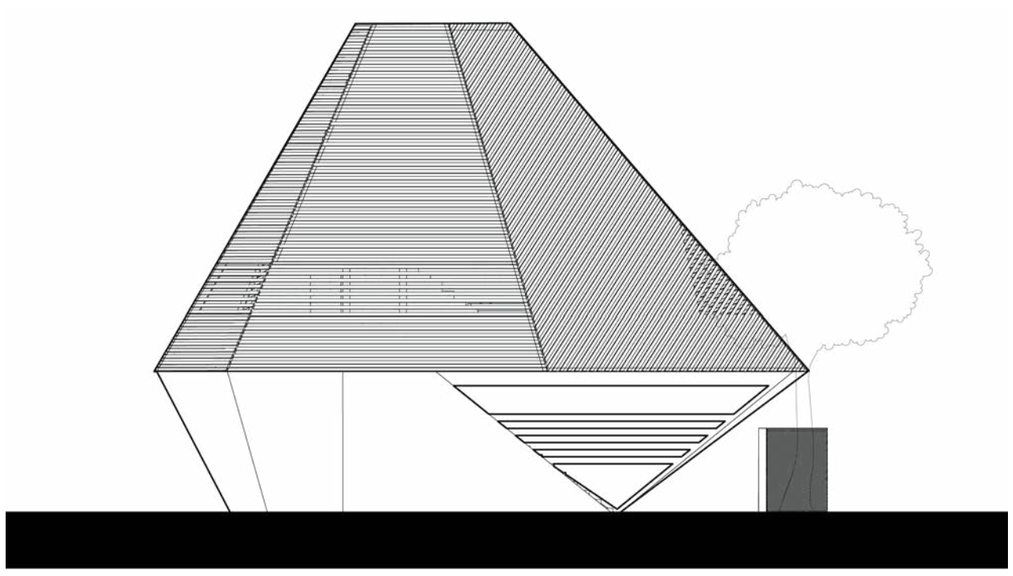


03 - MEZZANINE 2: “STORAGE” / VIEWING PLATFORM

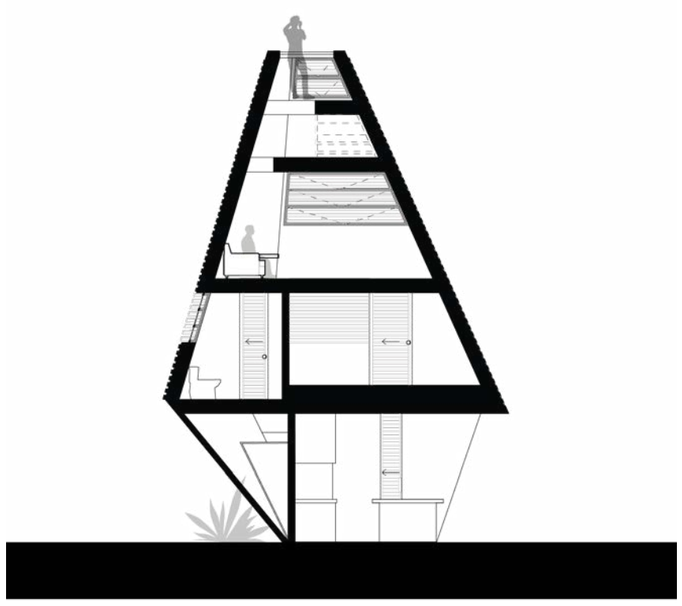
SCALE: 1/32” = 1’



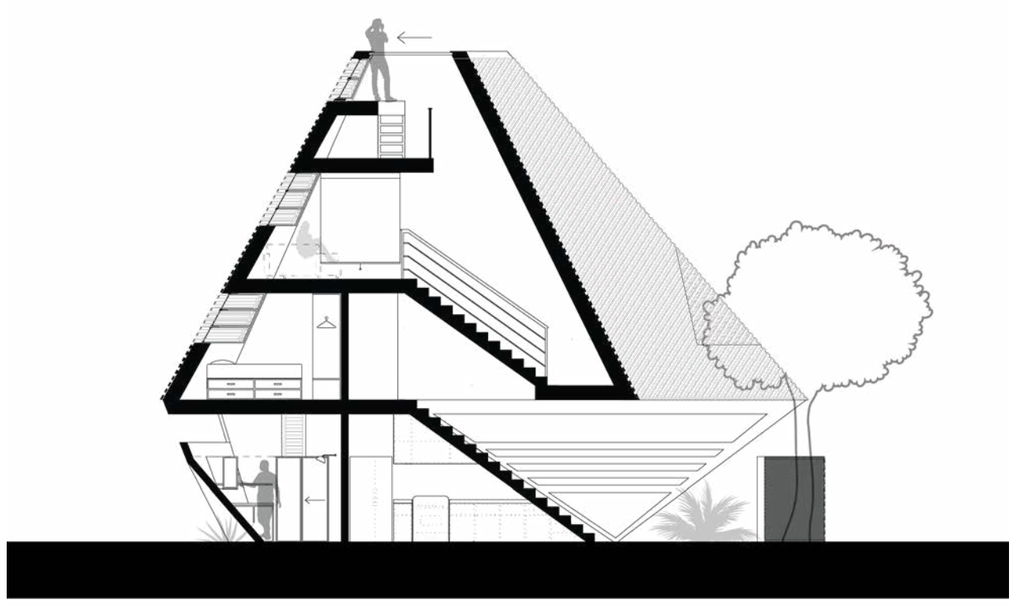
ELEVATION A



ELEVATION B



TRANSVERSE SECTION



LONGITUDINAL SECTION

SCALE: 1/32" = 1'

BRICK 7590

[Material Investigation|Arch_243|Eric Johnson|Woodbury University|12.15]

INITIAL INVESTIGATION. Tasked with choosing a traditional building material and studying a physical example, I chose to explore the brick, and found this LAPB Co firebrick ca. 1926. Research revealed its origins to be a clay mine in Riverside.

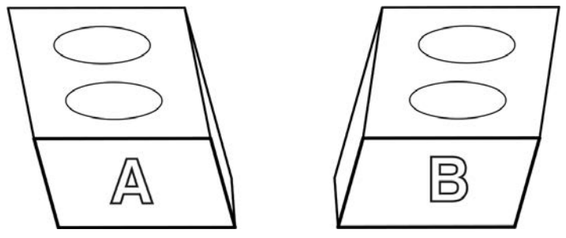
REINVENTION. The second phase of this project involved redesigning and physically creating a new version of our chosen material. I chose to shear the brick's form at 75 degrees bi-directionally. Mirroring this form created a compelling stacking formation.

Prototype 1

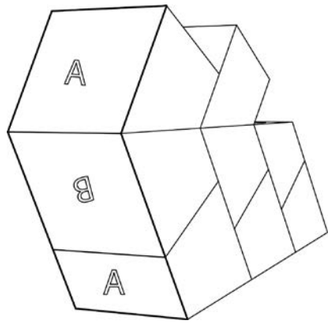
Although initial attempt successfully produced angled "bricks", the overall effect was unimpressive. The design was then revised.

Prototype 2

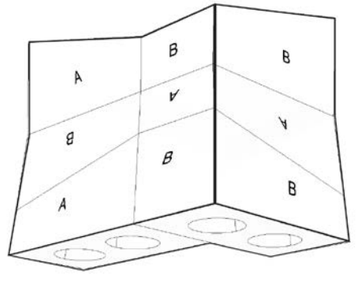
I scaled the design up to traditional CMU dimensions, and added 4" PVC piping to reduce weight and leave potential rebar space. 12 complete CMUs required several casting attempts.



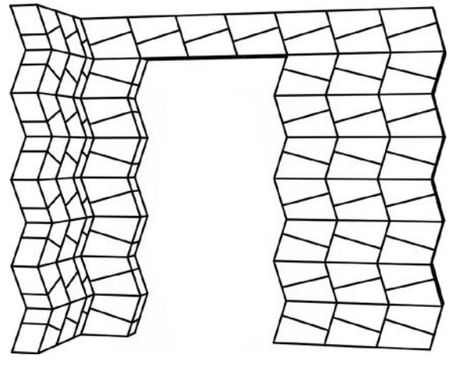
2 Mirorred Bricks



Linear Arrangement



Corner Arrangement

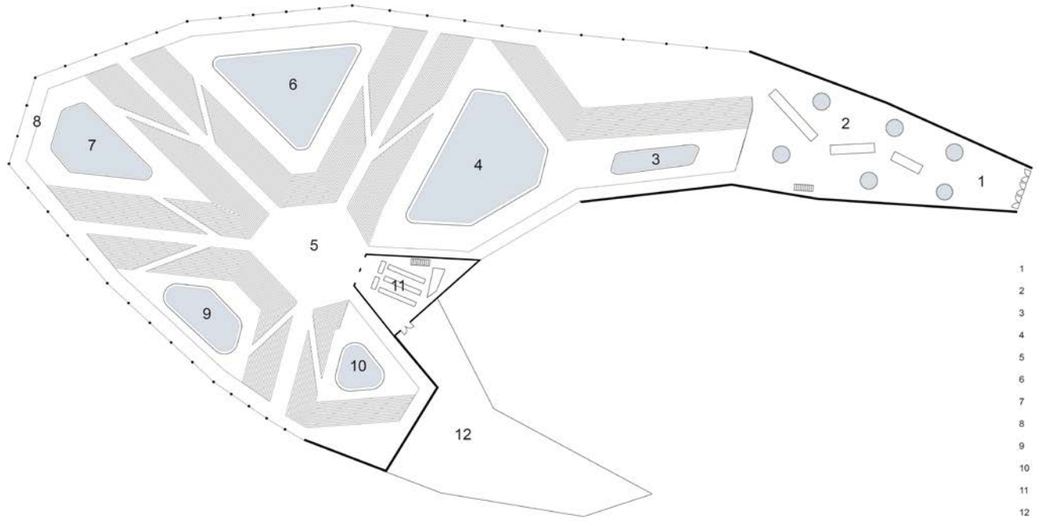


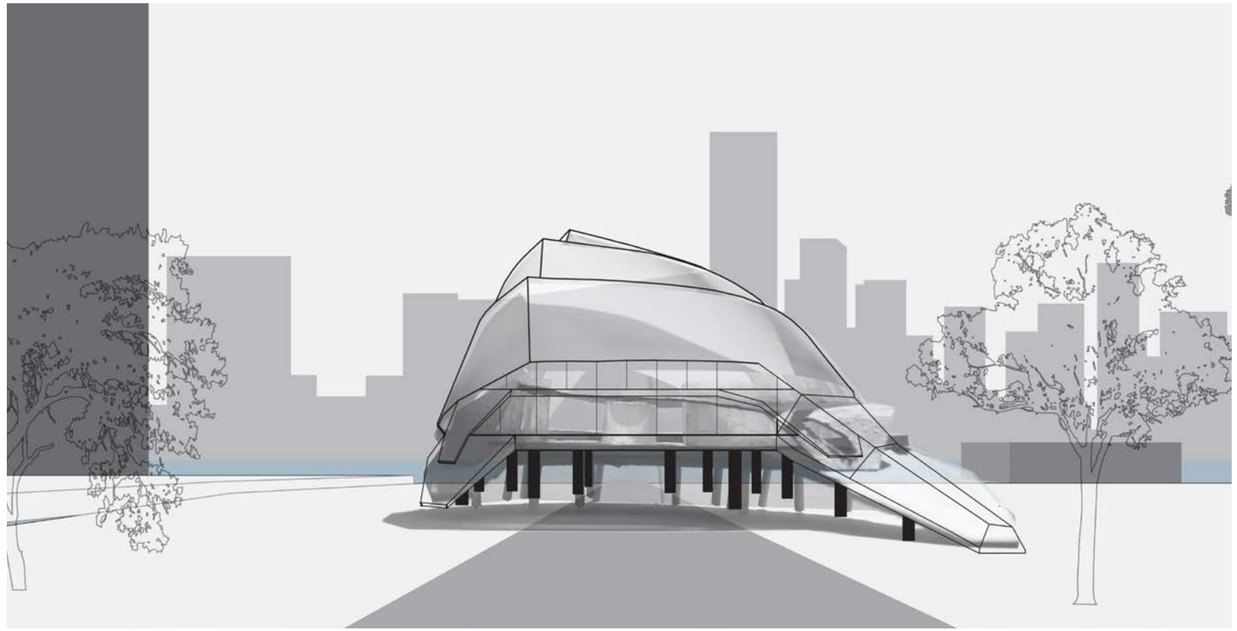
Doorway Arrangement

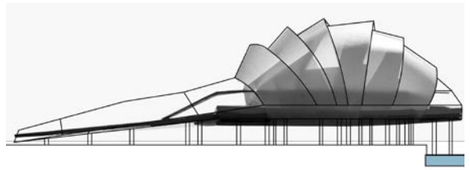
NEW QUEENS AQUARIUM

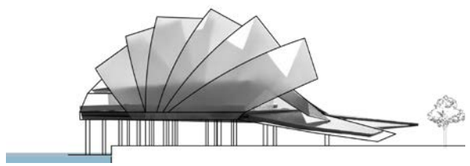
[Studio 2B|ARCH 283|James Brunner|Woodbury University|04.16]

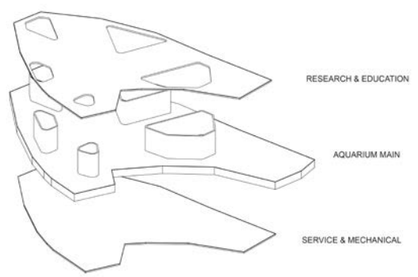
THE NEW QUEENS AQUARIUM will revitalize its waterfront location with a flexible public park, provide facilities for marine research and stand out as a cultural icon. Against the backdrop of the Manhattan skyline, all main tanks will be viewable simultaneously. The upper level will allow access to tanks for servicing and research. The existing canal will be utilized for the mooring of small vessels conducting post-hurricane Sandy wildlife conservation.

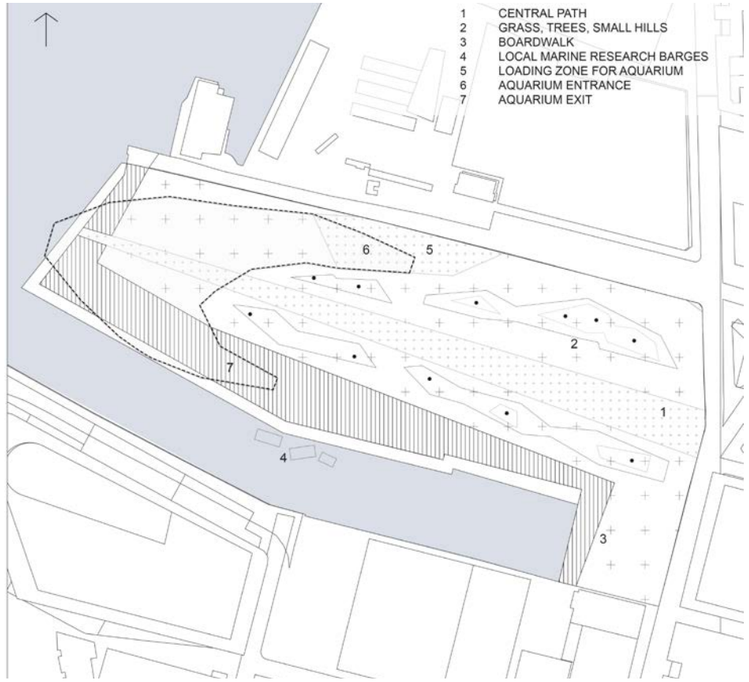


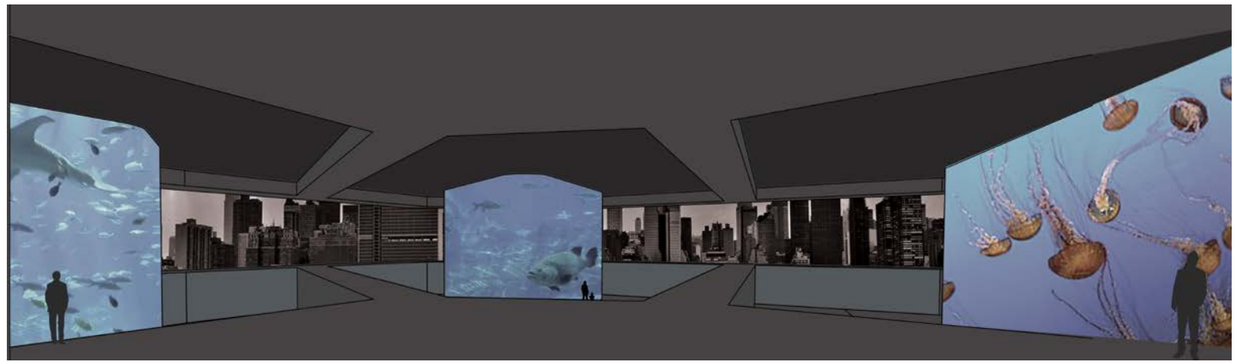








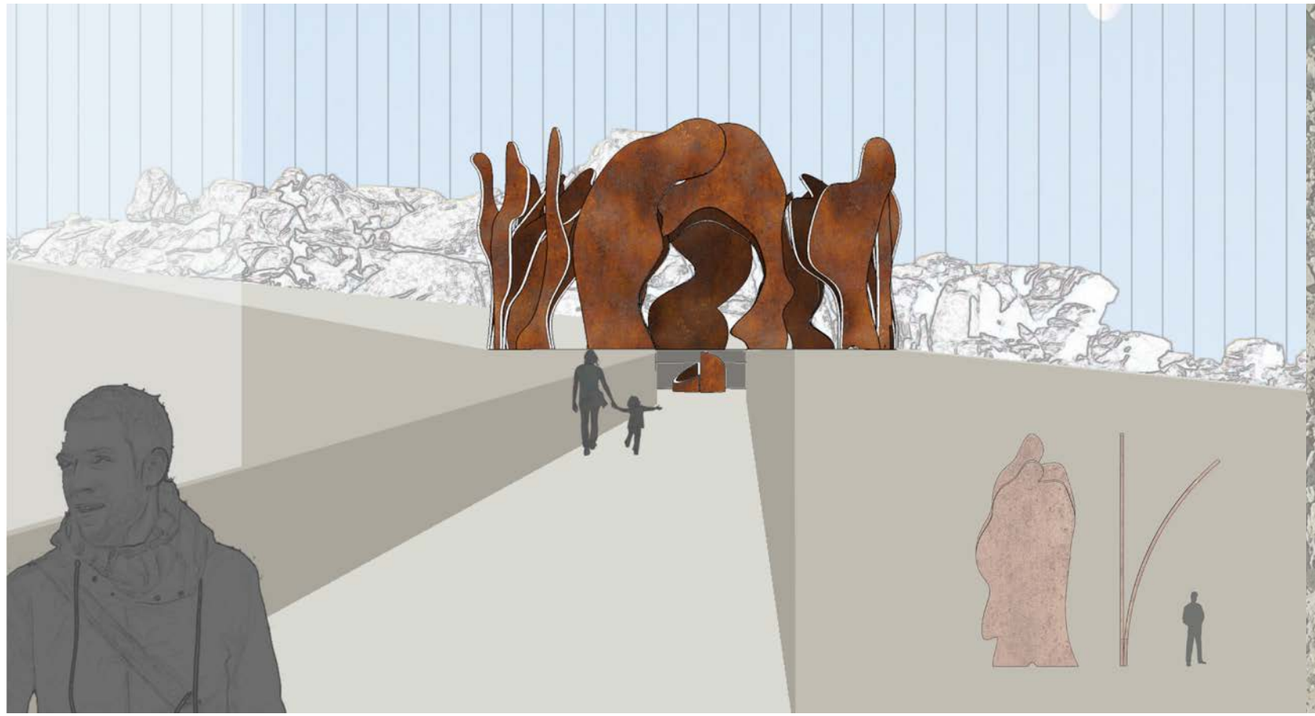


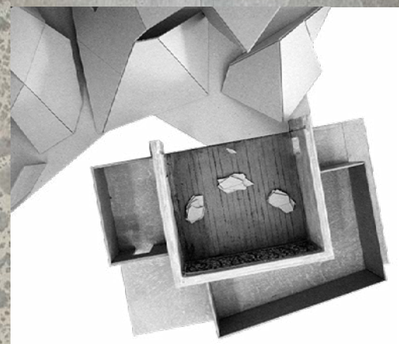


POLLOCK CHAPEL

[Studio 2A|ARCH 281|Stan Bertheaud|Woodbury University|11.15]

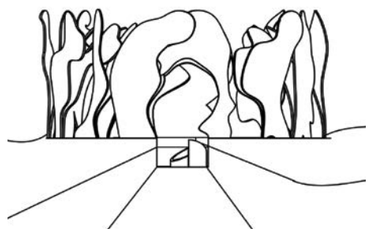
POLLOCK CHAPEL AND GALLERY is a Cor-ten steel sculptural space located in Joshua Tree National Park, intended for the gathering and appreciation of the American West. The forms for the chapel were deconstructed from Pollocks Mural, 1943. The gallery nearby houses this same painting.





Mural, Jackson Pollock. 1943. 19’ 10” x 8’ 1”

Deconstructed Forms from Mural



Front View

Plan View

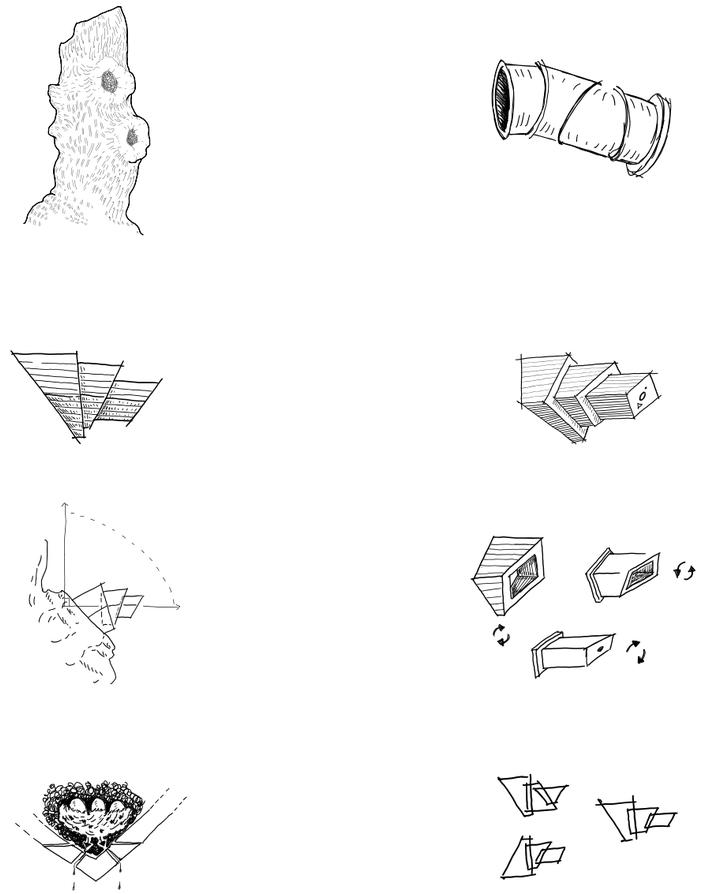
EXTRA-CURRICULAR

NESTBOX

[Legendary Birdhouse Competition|07.20]

SHORTLISTED for the 2020 Legendary Birdhouse Competion, Nestbox is a self-containing birdhouse kit, made of 100% wood. It is intended to be mounted to the pruning wounds of trees, utilizing the tree canopy for weather protection and allowing birds to nest in their natural environment. As pruning cuts are generally cut at 45-degree angles, Nestbox is made of three interlocking segments cut at 15 degrees. Nestbox can be assembled into 4 different arrangements to best suit each particular wound. The kit is constructed from a small piece of standard 1 x 6” hardwood board and dowels, although could be easily adapted for smaller and larger size lumber. Each kit contains the three birdhouse sections, mounting bracket, 8 dowels, a sample of eco-friendly wood glue, and instructions detailing recommended positioning and surface treatments. Because Nestbox is self-contained, the kit minimizes shipping costs and materials. Like a prosthetic limb, Nestbox returns a small space back to nature.

Generative Sketches



NESTBOX

[Legendary Birdhouse Competition|07.20]

MATERIALS:

3-1/2’ of 1x6 (3/4” x 5-1/2” actual) hardwood lumber

64” of 3/16” dowel

Wood Glue (eco-frendly recommended)

TOOLS:

Miter Saw

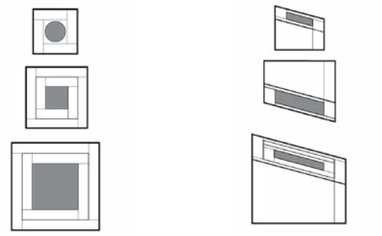
Hole Saw

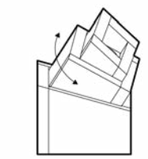
Drill Guide

Hacksaw

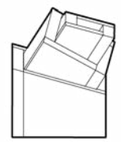
Miter Clamps

Handheld electric sander (recommended)

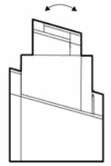




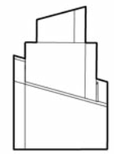
POS. 1



POS. 2



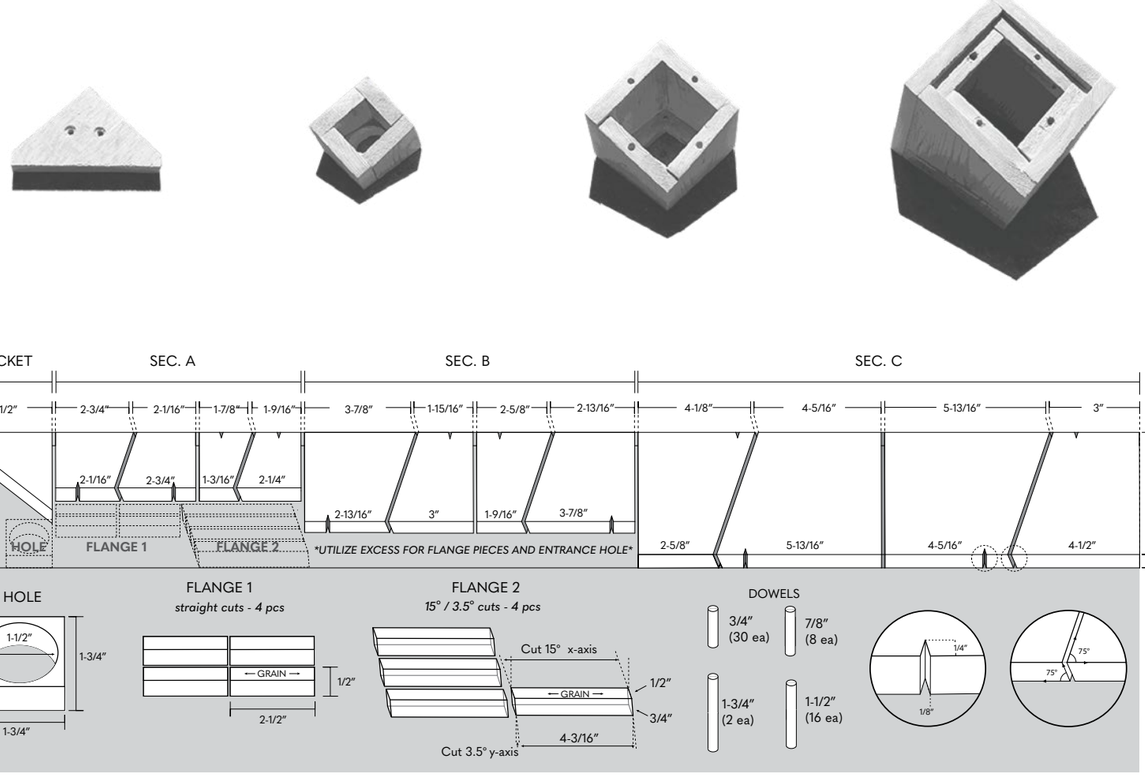
POS. 3

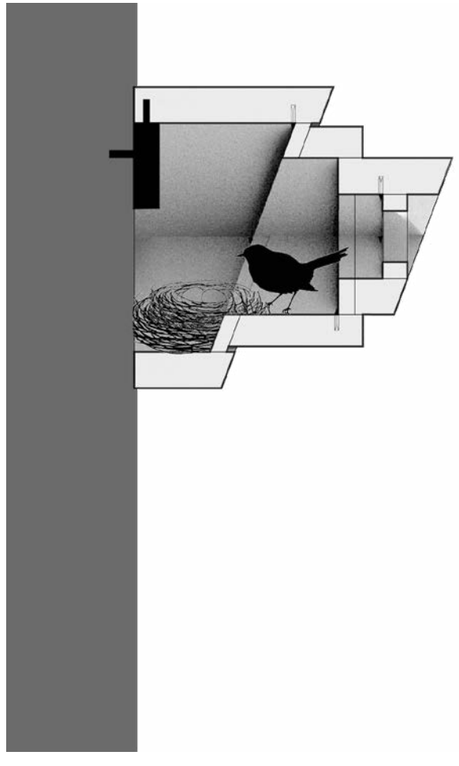


POS. 4

CONSTRUCTION can be accomplished with simple and affordable tools, utilizing standard size lumber with minimal waste. Hardwood is strongly recommended for longevity.

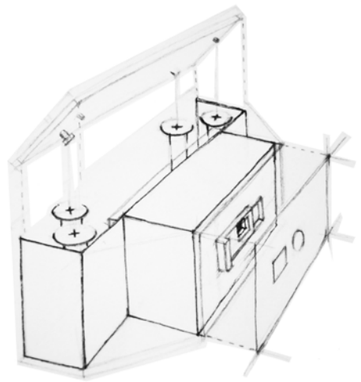
1. All cuts can be made with miter saw, although table saw would be more efficient.
2. Ventilation and drainage grooves, hand cut.
3. Joints are doweled (accuracy is critical-use drill guide)





CAMERA

[Personal Project|01.15 - Present]



A PERSONAL PROJECT beginning in 2015 but is still in use. 120mm film pinhole camera. Photos from Summer 2019.

This project is about introducing elements of chance and accident into the mathematical photographic process. Calculations are needed in order to produce a result, but the long-exposure method, combined with approximate view angles, expired film, and the irregularities of the handmade leave the final result a mystery until film is developed.

Because the camera is lensless, there is no image distortion, making it an ideal format for photographing structures. Dimensions of the camera were entirely decided by the ideal final fram ratio and field of view.

Materials used were acid-free binders board, copper sheet, 16 ga. carbon steel (for balance and weight) as well as repurposed electrical knobs. Film spool pin was customed machined.

The Ore Dock, Marquette, MI

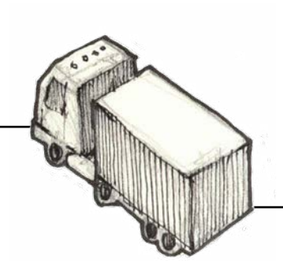
Dude Ranch, Blaney Park, MI

Tony's Shop, Blaney Park, MI

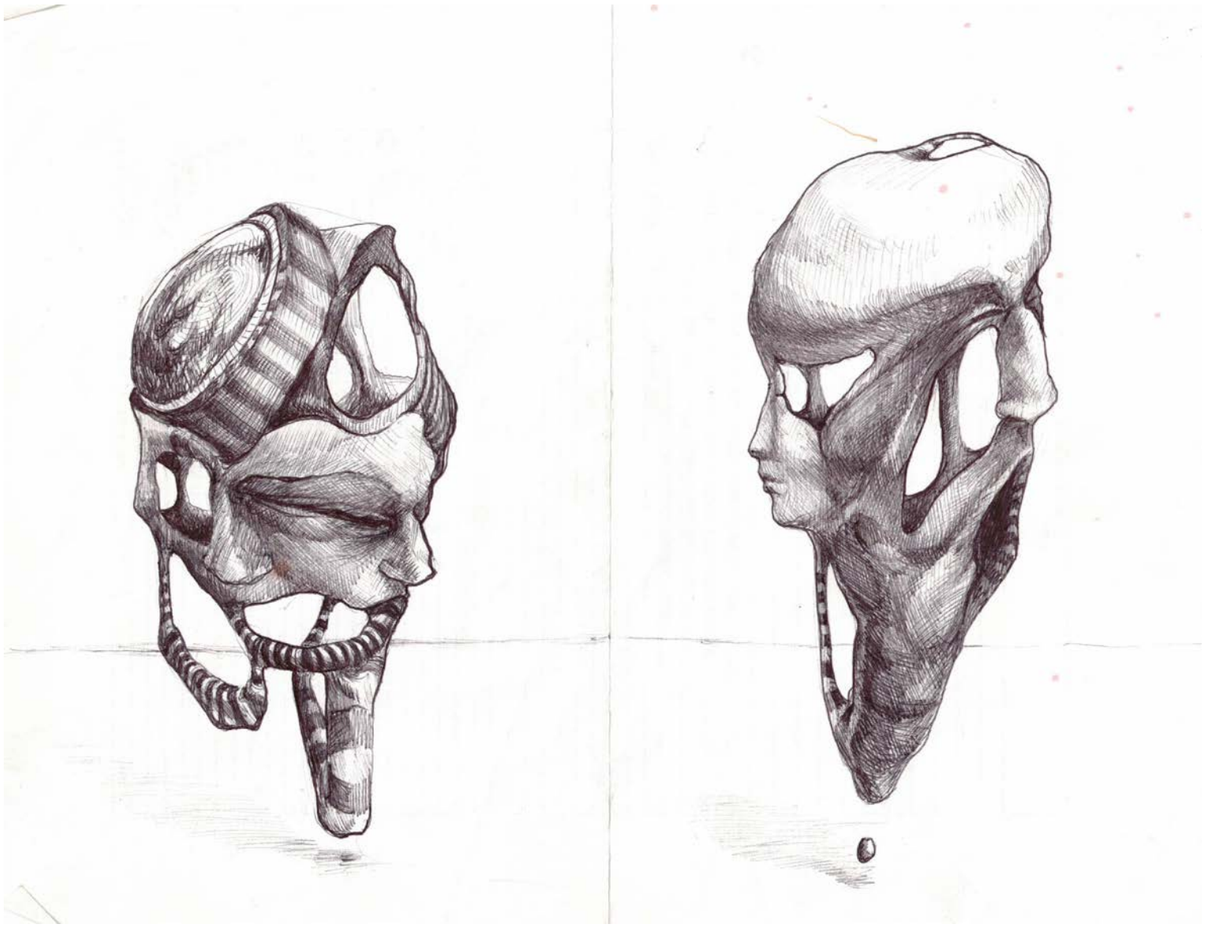
WORKBENCH. Built for needed flexible workspace during pandemic. Caster wheels and varnish were added. Height is appropriate to reduce lumbar strain while model-making and drawing. Narrow shelf is ideal for 18x24 paper storage. Lower shelf stores drill press and material organizers.

QUILTS. Pair of cotton crib quilts, 2017

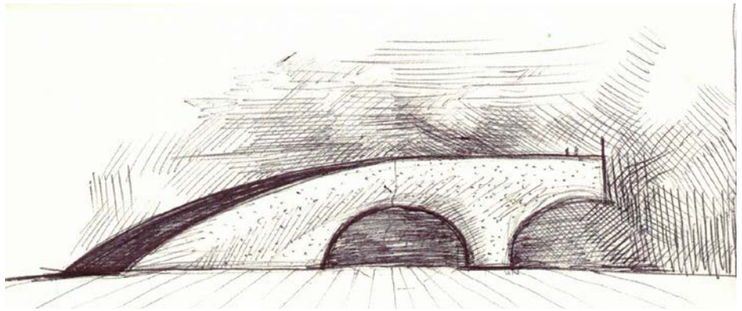
LOOM. Made from scrap materials, 2019

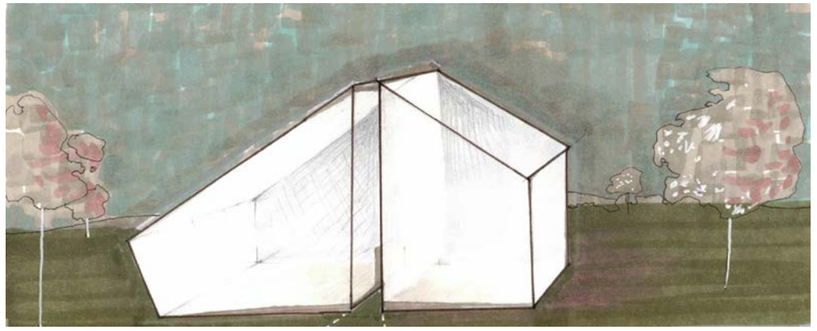


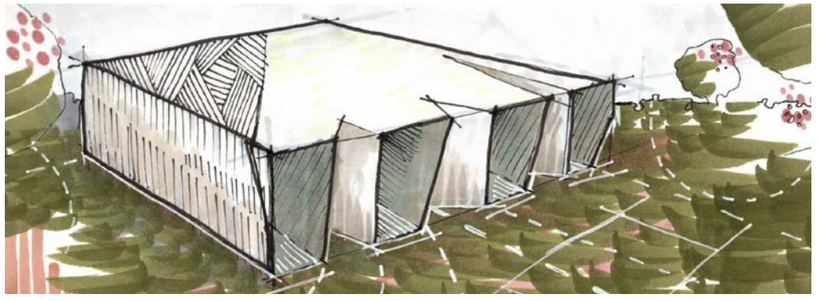
SKETCHES



Ballpoint pen on discarded watch logs, 2015

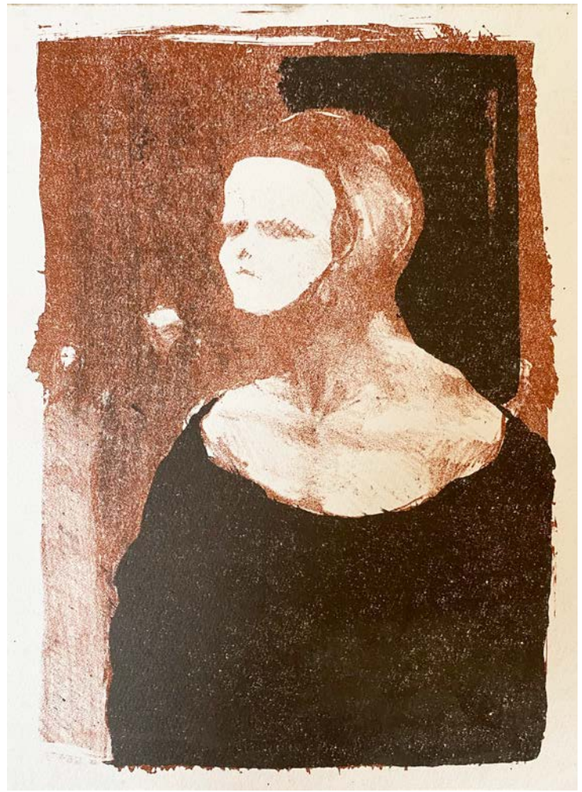






Various sketches, 2016-2019

FIGURE. Charcoal on newsprint



UNTITLED. Lithographic print

EGGS. Charcoal, shellac, oil-based pigment

THANK YOU

andrea.postma@woodbury.edu