



architecture & art portfolio
dagny elise carlsson
stanford university, university of pennsylvania
2019-2023

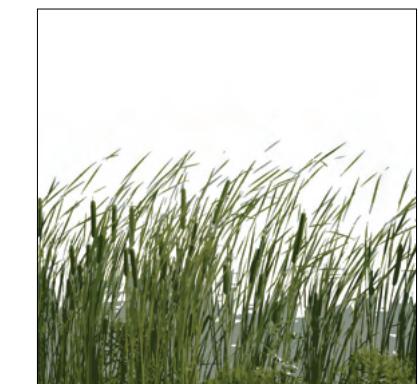


Dagny Elise Carlsson

dagny@design.upenn.edu
713-838-5421
Philadelphia, Pennsylvania

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Education

- 2023 - University of Pennsylvania
- 2027 *Master of Landscape Architecture and Master of Architecture*
- 2019- Stanford University
- 2023 *B.S. Civil Engineering - Architectural Design*

Relevant Experience

- 2025 **Research Assistant**
EMLab, Ian L. McHarg Center, Philadelphia PA
Conducting research into wave attenuation strategies, floating breakwaters, and various strategies to protect our coastlines. Assisting with design and site visits for the Lab.
- 2025 **Extern**
James Corner Field Operations, Philadelphia PA
Shadowed office work and completed a speculative project for the office to analyze and deconstruct the Market Street East sector of Center City, Philadelphia.
- 2025 **Moderator, Architectures and Ecologies of Amazonia**
University of Pennsylvania
Moderator for Forest Spaces with Catherine Seavitt, Isabella de Bonis, Fernando Lara, and Glenn Shepard.
- 2025 **Teaching Assistant**
University of Pennsylvania
Teaching assistant for several courses, including Professor Fernando Lara's undergraduate seminar ARCH 2101: Concepts for Understanding Space in the Americas and Professor Rashida Ng's undergraduate seminar ARCH 0110: Design, Race, and Climate Justice. Also supported LARP 7910: Landscape Operations, LARP 7390: Landform, and LARP 7920: Digital Media.
- 2023-2024 **Design Fellow**
Penn Praxis, University of Pennsylvania
Worked with the Ramapough Lenape Turtle Clan to design a new community for their tribe in northern New Jersey. Prepared visuals and documentation for a design proposal for tribal relocation.
- 2024 **Architectural Coordinator**
SITIO, Philadelphia PA
Extern through PennDesign's Externship program. Completed documentation for a project for the Free Library of Philadelphia. Assisted with construction documents and attended progress meetings. Worked on final renderings for documentation.
- 2022 **Architecture Intern**
Kirksey Architecture, Houston TX
Worked with the Interiors studio to design architectural interiors for a multitude of clients and six major projects. surveying, making space plans, creating test fits, drawing construction documents, and specifying furniture and finishes.

Community Experience

- 2025- Student Council Co-President
- 2026 *University of Pennsylvania Weitzman School of Design*
- 2025 Executive Committee
University of Pennsylvania NAMLA Chapter
- 2024- Secretary
- 2025 *Urban American Indian Working Group, City of Philadelphia*
- 2025 Lenape Research Fellowship Advisory Panelist
Bartram's Garden, Philadelphia

Awards & Honors

- H+U+D Grantee, 2025
- Awarded for my ongoing research project, "In Their Own Dreams: Reimagining Architectural Process through The National Museum of the American Indian," focused on revolutionary architectural process. Susan Cromwell Coslett Travel Fellow, 2025
- Awarded for my application, "None Without Us: Indigenous landscape critiques in conversation with Roberto Burle Marx," which includes travel to Brazil for research.
- Weitzman Scholar - 2023
- Full tuition scholarship to the University of Pennsylvania Stuart Weitzman School of Design for four years of study.
- Warren Powers Laird Award - 2024
- Awarded to students with the highest standing in all courses in the first year of the professional degree program in architecture.
- Will M. Mehlhorn Scholarship - 2024
- University of Pennsylvania; For exceptional work in the M.Arch theory sequence.
- Payette Sho-Ping Chin Memorial Academic Scholarship - 2024
- \$10,000 Scholarship for housing and supplies; granted to an exceptional student of Architecture.

Skills

Design: Surveying, AutoCAD, Rhinoceros, Revit, Sketchup, Grasshopper, ArcGIS, Adobe Creative Suite, VRay

Language: English (Native), German (Advanced), French (Conversational)

Citizenship: United States of America, Cherokee Nation (Oklahoma), Shawnee Tribe (Oklahoma)

Other Experience

- 2022- Mazda Team Lead
- 2023 *Palo Alto Racing Team*
- 2025- Graduate Chair
- 2026 *Natives at Penn*
- 2025- Admissions Interviewer
- 2026 *Stanford University*
- 2020- Life Science Technician
- 2023 *Kingsley Lab, Stanford*
- 2020- German Language Partner
- 2022 *Stanford University*
- 2023- Laser Technician
- 2025 *University of Pennsylvania*

01

tranquility ridge

PennPraxis

Partnered work with Keith Scheideler & Dyan Castro

Critic: Ellen Neises

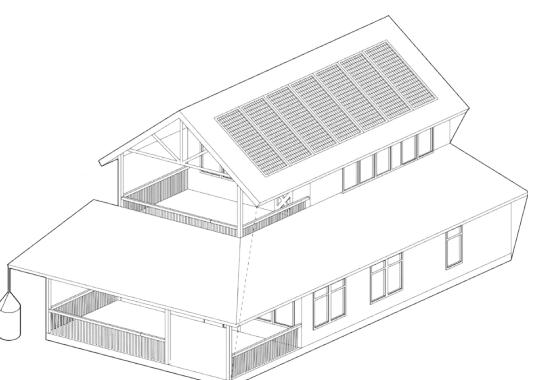
The land near Ringwood, NJ has been Lenape homelands as long as the Ramapough Lenape have existed. After the signing of treaties such as the Treaty of Easton (1758) which ceded Ramapough land to the English, industrialization took hold in the region, and large swaths of land were purchased for mining and manufacturing.

After a long period of industrial activity, Ford Motor Company opened a plant in nearby Mahwah, and Ford contractors began trucking waste and paint sludge to dump down the mineshafts of Peters Mine and Cannon Mine, both of which were located in extremely close proximity to the Ramapough Lenape Turtle Clan community in Ringwood. The dumping continued until 1974, and the Mahwah plant shut in 1980.

Although it has been decades since the dumping occurred, the waste remains, and the resultant pollution has caused a slew of negative health outcomes for Clan members. Due to the extreme levels of pollutants which were then found present at the site, the EPA placed the Ringwood Mines on the Superfund program's National Priorities List in 1983.

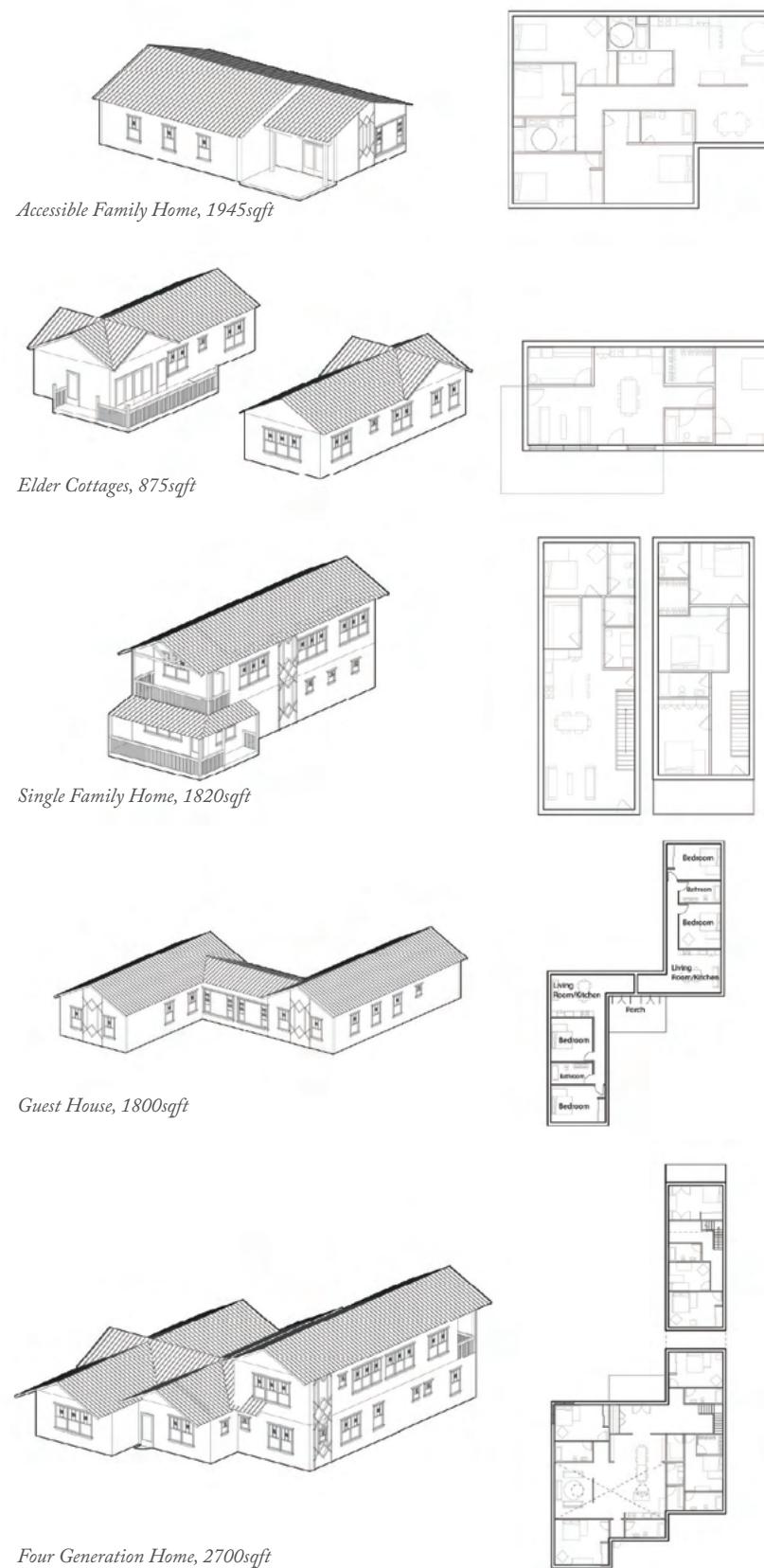
This story is widely considered a classic case of racial and environmental injustice. Our team set out to work with the Turtle Clan to build a proposal for a new community in nearby Tranquility Ridge, designing a community that would meet their spiritual and cultural needs.

Our team completed a set of detailed maps, showing site elevation, grade, exposure, and combined them into an overall suitability map to determine where the ideal locations for construction would be. We merged this with state information on setback requirements to complete a plan that would be compliant with all relevant laws.



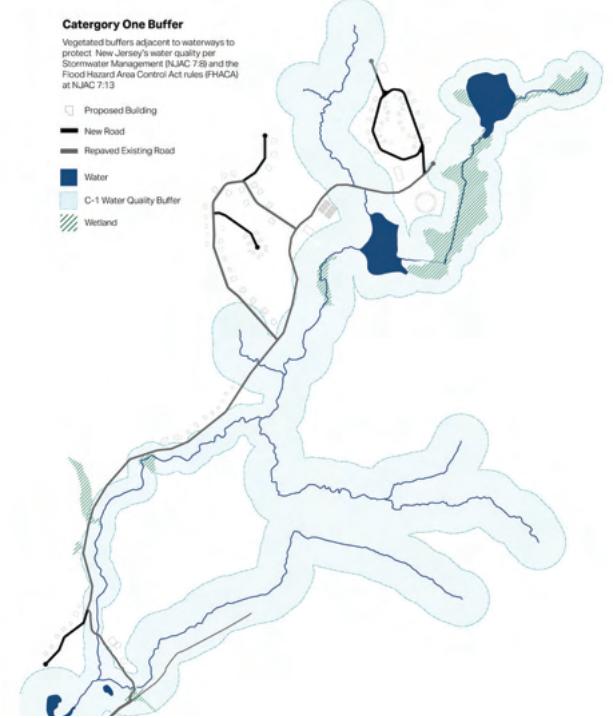
*Above: Sustainability diagram axonometric.
Right: View of Sterling Ridge Circle, Keith Scheideler and Dagny Elise Carlson.*





View of Peter's Mine, Dagny Elise Carlsson and Keith Scheideler

I completed a study on HUD-funded projects, specifically targeting sustainable and resilient projects designed for Indigenous communities in the United States and Canada. The study also considered eco-friendly developments located in similar climates to our chosen site in New Jersey. I then used the approved floor plans and designs to develop and iterate upon a range of floor plans that would suit the Turtle Clan community and provide an appropriate amount of housing for the Clan.



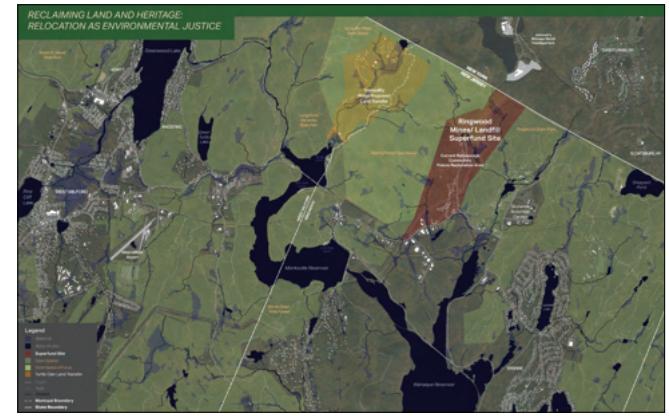
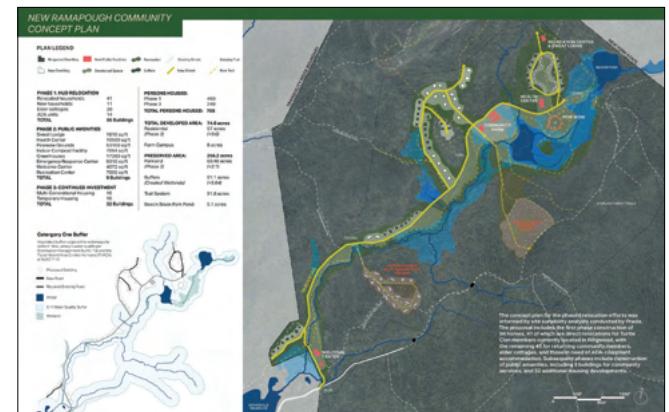
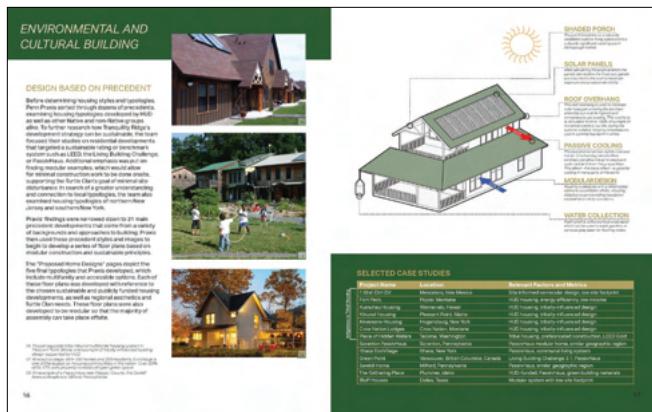
Right: Required setbacks around the creek, as required by New Jersey law. Drawing co-created with Keith Scheideler.

Left: Floor plans and axonometrics produced for tribal housing, based off HUD precedent.



View of community center, Keith Scheideler and Dagny Elise Carlsson

The final additions to our site plans included a community center, which would be large enough to host major tribal gatherings and even guests from other nations who would gather here. With particular attention to the fact that the tribe wished to minimize impact, celebrate local materials, and center heritage and endurance, we designed a community center that would both embrace the surrounding forest and, at certain points, take center stage as a flexible, ever developing space.



Rendering of powwow grounds and lowlands, by Keith Scheideler and Dagny Elise Carlsson.

Our proposal was carefully arranged and documented in a public proposal aimed at providing information to local environmental advocates and lawmakers, both sympathetic to and against our cause. The final maps were included to make the case for the relocation of the Turtle Clan and the establishment of new facilities in what is currently Tranquility Ridge, a county park.

This proposal found success with our partners in the Turtle Clan, who were enthusiastic about our ideas for tribal housing and environmental protection efforts in this area. Another project, targeted at documenting and preserving local ceremonial stone landscapes (CSIs), influenced our planning and conservation recommendations.

Unfortunately our work is on pause due to the recent wildfires in Tranquility Ridge in late 2024, causing all public advocacy and planning to come to a halt while the area rebuilds and recuperates after the disaster. We hope to resume efforts when possible, continuing our advocacy for fair, safe, and pleasant environments for all.

Left: Selected pages from our proposal, which included renderings, maps, and narrative about the Lenape influence and stewardship in the area, ultimately making the case for our relocation effort.

02

bloomfield community land trust

LARP 6010 - STUDIO III

AQUEHONGA MANACKNONG

Critic: Catherine Seavitt

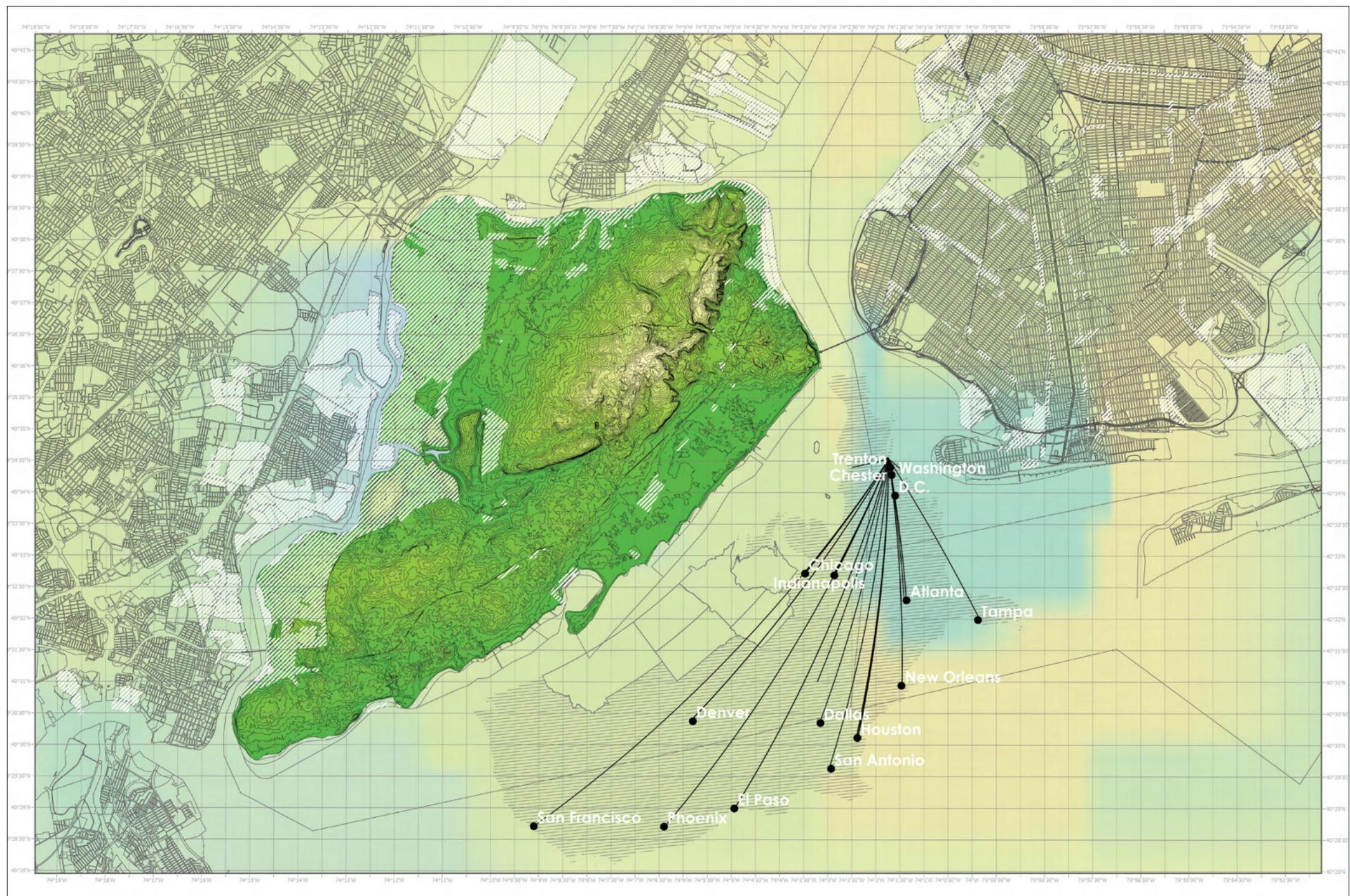
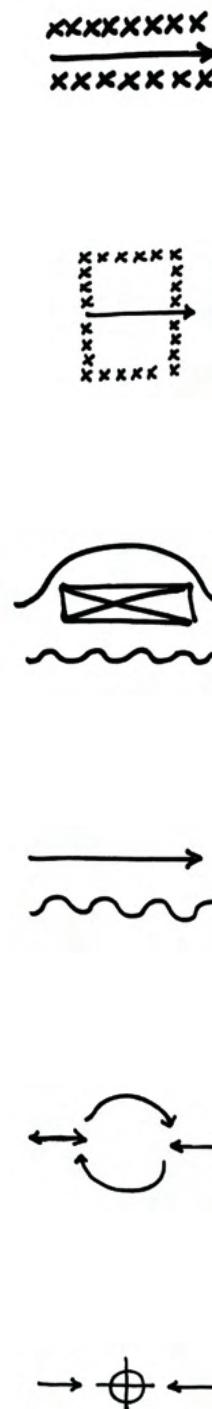
Extraction is also a word that characterizes the western side of Staten Island, bordering the body of water known as the Arthur Kill. The majority of the land on the water's edge is zoned as industrial, and it abuts the highway that separates the inland communities from the coast. From the middle of the island, you'd almost forget you were surrounded by water.

There is also difficulty in getting down to the water. Much of the land here is private; there are no parks, and there are nearly no sidewalks in industrial sections. The new Amazon warehouse complex located in Bloomfield does not have sidewalks, and there is nearly no way to get around as a pedestrian. Private car and city bus are the two ways in and around.

Absentee landlords are another issue. Significant portions of the land here are registered to addresses in states across the nation, with plots on both the New Jersey side and the New York side functioning as New York headquarters for companies across the country. The presence of these industries has had a profound effect on the area's wetlands, which are threatened. Many of these wetlands became the site for industry because the water could be drained elsewhere, channelized, and the land flattened for building. Wetlands, like upland meadows, are desirable for development because they are easy to clear. These wetlands, however, are in danger, and most distressingly they are home to a species of endangered frog, the Atlantic Coast leopard frog.

These kinds of technical landscapes are very extractive, yet these kinds of industrial landscapes are necessary for modern living. Among the industries you can find here are, of course, Amazon; Designer Stone, which sells countertops; Richmond Recycling; a plumbing company; City Asphalt, which produces Asphalt; Big Apple Ready Mix, which sells concrete; Pratt Industries Paper Mills; Con Edison of New York; and DSNY's composting facility. We cannot necessarily expect these industries to vacate the island, nor can we expect them to stop working.

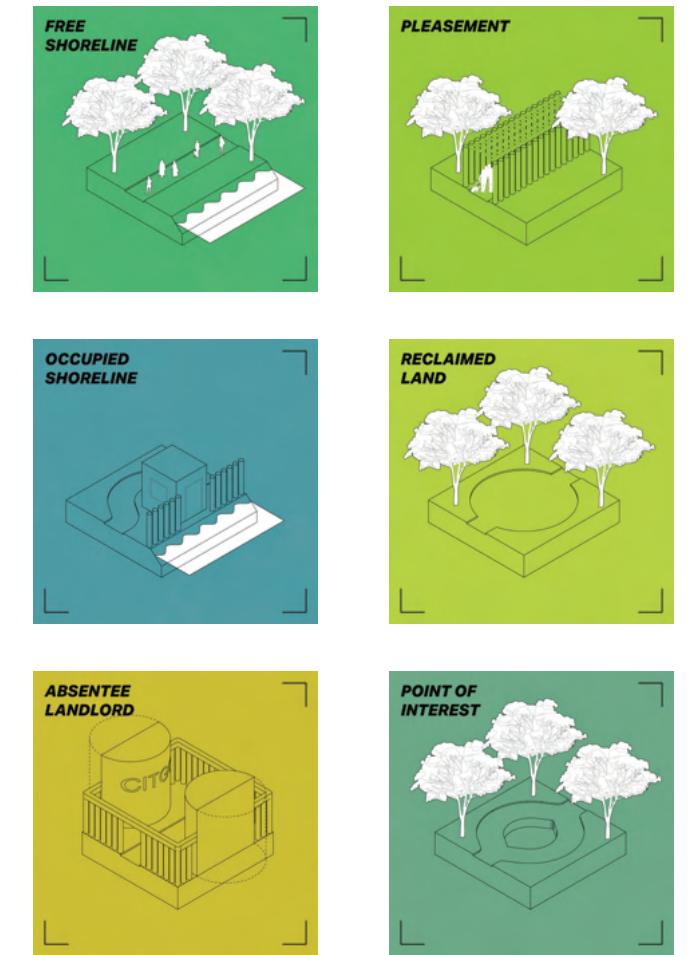
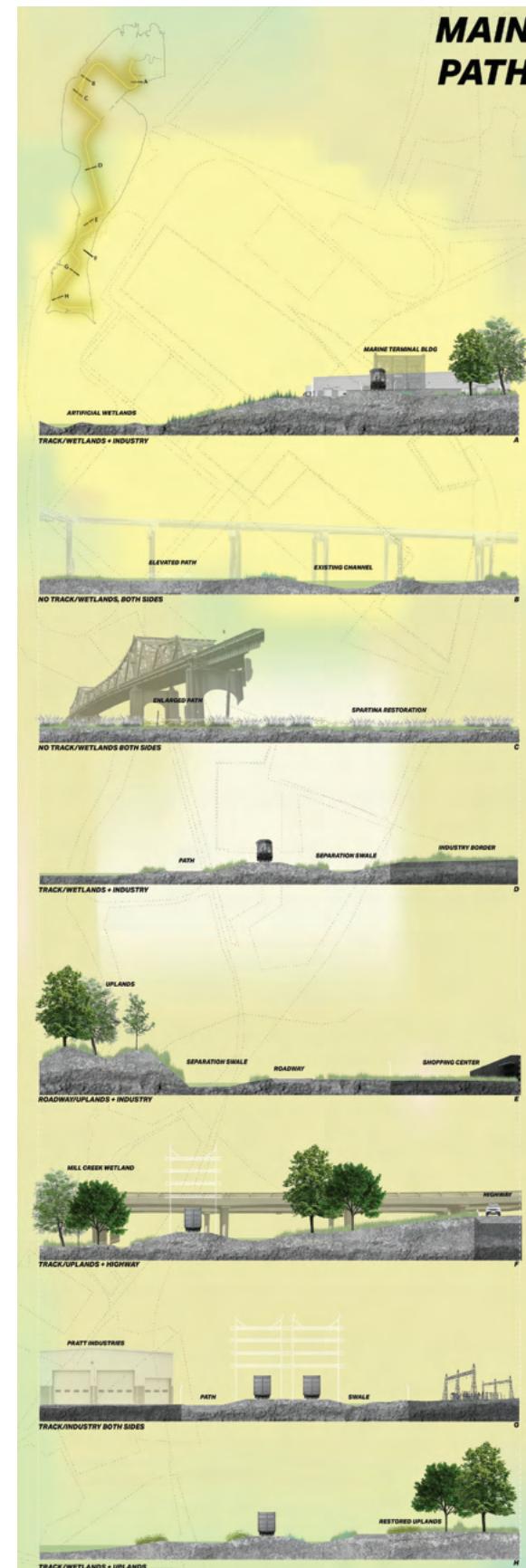
This project explores a potential solution that allows industry to stay but increases access to the vacant land in Bloomfield and protects the threatened wetlands in the area. This proposal creates a community land trust for wetland stewardship and access along the kill, including between Fresh Kills and Mariner's Marsh Park.



Industry connections map, depicting industrial zoning in New York and New Jersey on both sides of the Arthur Kill, as where as major properties are registered to regionally.



Staten Island layered model, with etches of floodplains, industry zoning, historic land plots from Dutch settlement, and current street layouts.



OWNERSHIP

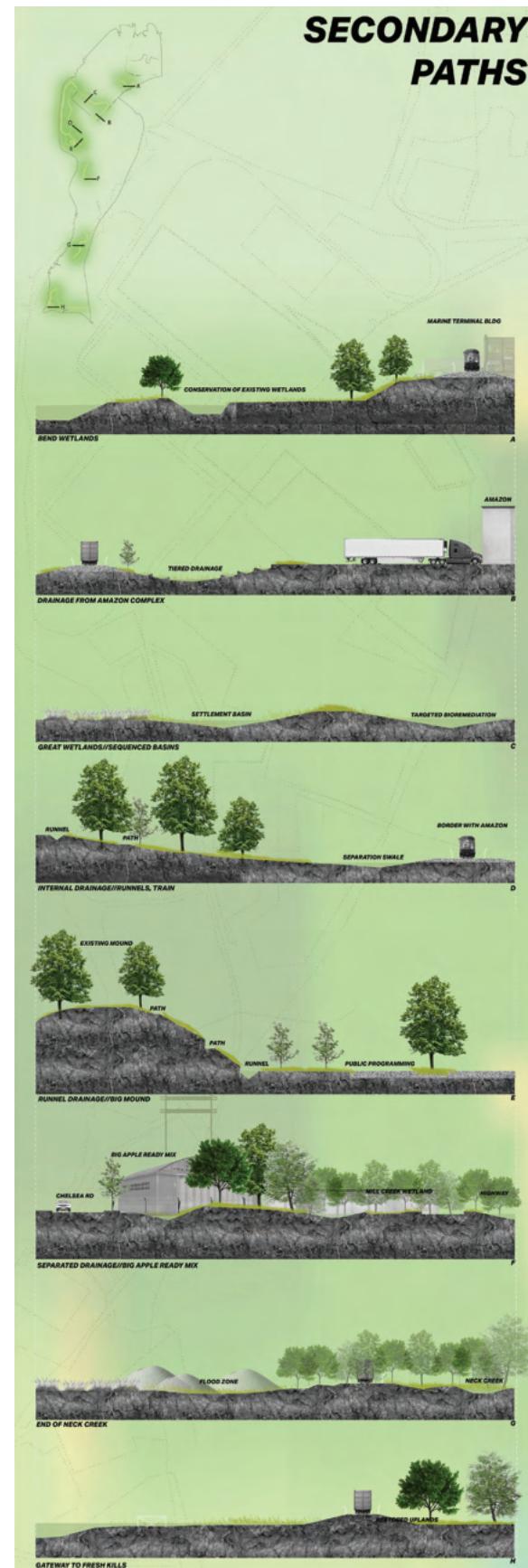
By examining usufruct, easements, and right-of-way, this project takes a railway line that connects the land in this section of the island and proposes pairing this existing right-of-way with a set of pathways that connect various different sites on this part of Staten Island, including the site of a historic explosion as well as access to Fresh Kills. At several points, the pathway deviates from the railway to allow walkers to travel through the various wetlands that lie along the trail.

Initial exploration included classifying sites as one of six categories that overlap and combine to create property conditions (see above axonometrics). Each of these site classifications was tied to a real site bordering the Arthur Kill.

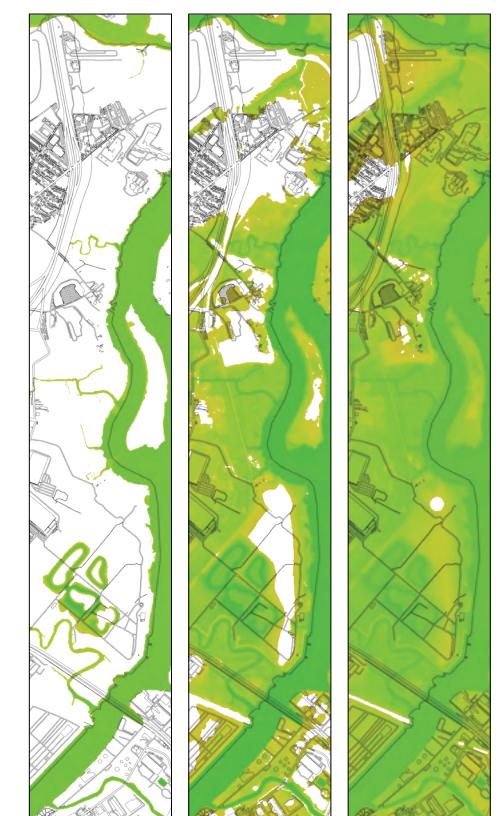
Left: Sequential sections for paths along and away from the rail line. Above: Six axonometrics for site conditions.



Regional plan depicting local industry with overlaid topography, ownership zones, and wetland suitability.



Imagined site access sections, including industry and rail.



WETLAND SELECTION

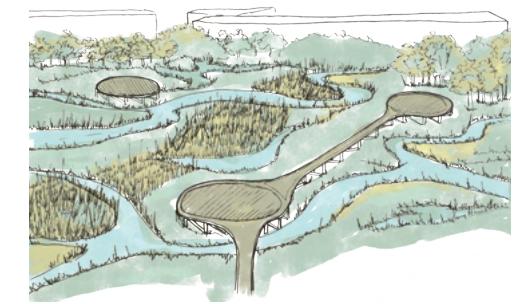
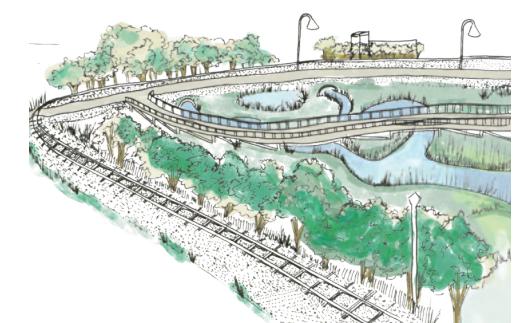
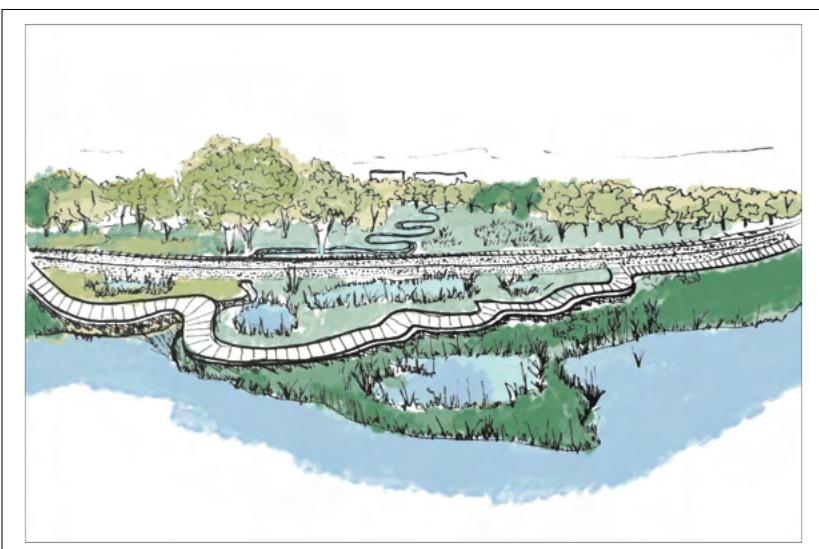
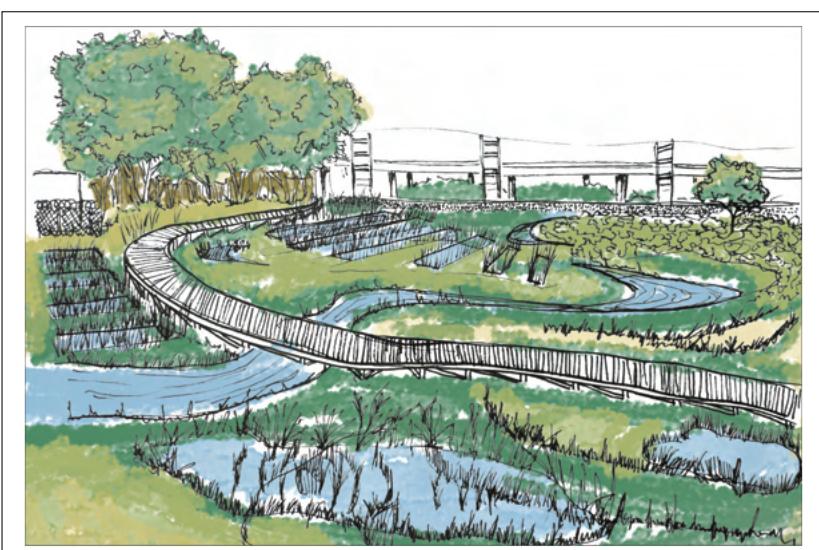
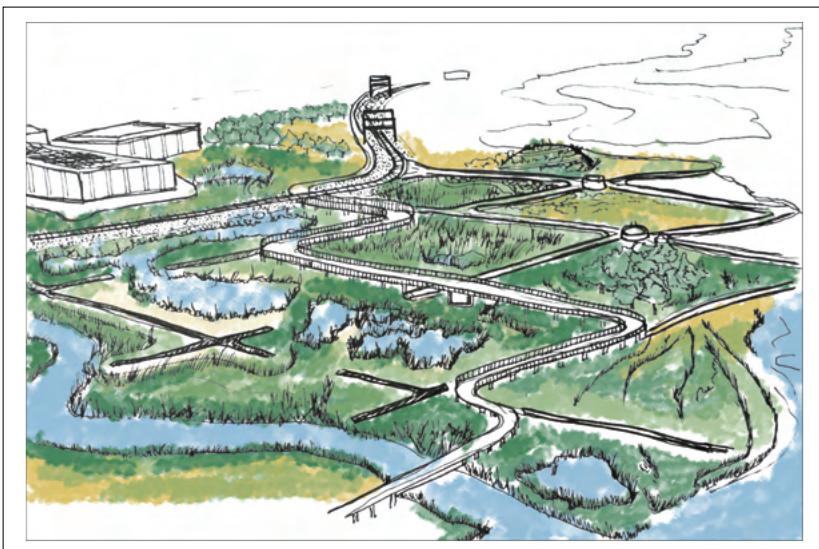
This proposal focuses on five distinct wetland sites that already exist in this area, depicted in darker green on the map to the left. These areas are typically near the two creeks that characterize this section of the island, Old Place and Saw Mill. These waterways are threatened by industries and highways bordering them on all sides, but they can be maintained through careful management and serve as a pilot project that could be implemented in New York City.

This pilot project would demonstrate how industry, in partnership with local land trusts, could use wetlands to filter runoff from sites to ensure it is cleaned before entering major waterways. If industrial areas were required to keep a minimum percentage of their land as wetlands, it would help to treat runoff and mitigate flooding in the area.

Sea level rise is predicted to reach 10 feet in the coming century, with an approximate rise of 25 feet during catastrophic events. The sea level rise maps at the top show how much of this area would be affected in these scenarios. As we build up areas to mitigate the worst effects of flooding and prepare Staten Island to face some of the worst flooding these communities have witnessed, wetland protection will be critical.



Draft plan of the Great Wetland.



POSTCARDS

The aim of the project involved detailing how the five distinct wetland sites will be managed as a part of a community land trust. Each site connects to the rail line, and each uses remediation to respond to the industries directly neighboring it. Three depicted on the left are the Great Wetland (Amazon), the Treatment Trains (neighboring Big Apple Ready Mix and Pratt Industries) and the Gateway to Fresh Kills (abuts DSNY, Pratt, Con Edison, and Fresh Kills). Each wetland implements various types of treatment pools to slow runoff and collect pollutants in controlled areas.

These postcards were imagined as part of a fundraiser to support the land trust, depicting the wetlands as healthy, safe environments in their urban contexts with accessible walking paths, abundant water, and thriving botanical communities.

SITE PLAN

The Great Wetland serves as a protected area for the leopard frog and a gathering place for the hundreds of workers at the Amazon warehouse (the first unionized Amazon warehouse in the country). It also repurposes former road layouts to create maintained treatment ponds to filter floodwater before it reaches the Kill. Major pathways remain elevated to allow visitors to pass through wetlands without disturbing this sensitive habitat.

Left: Enlarged plan of the Great Wetlands cleaning ponds and schematic planting. Top: Postcard renderings imagined as part of an advertising and fundraising campaign for the community land trust.

03

market street east

James Corner Field Operations

This project is an approximately one-week investigation into the question, "what would a revitalized Market Street corridor look like?" Headed by the Philadelphia office of James Corner Field Operations, this externship project allowed me to spend a week on speculative research and documentation of existing conditions on the under-invested Market Street corridor, reimagining it as a linear garden.

This part of Market has an incredible history, yet recent years have introduced problems of vacancy and low productivity. The street is dominated by cars. This project addresses these problems by using Market to reconnect city hall with Philadelphia's main tourist attraction by reducing private traffic and limiting transit to bus lanes. Pedestrian pathways and takeover of three car lanes allows businesses sidewalk space for outdoor dining and a vibrant pathway to accommodate heavy foot traffic.

The planting scheme is intended to read as the story of Philadelphia, from the Atlantic Coastal Plain to the Piedmont, spanning the entire city limits. The planting near Independence Hall would open the mall into a field of grasses and rushes, with planting gradually increasing in height over five blocks to eleventh street where the intersection would be shaded by tall, manicured street trees. The height of the planting would then decrease to reveal city hall, as rendered on the right.

This project prioritized existing street conditions and character, also integrating a lighting scheme to make Market safer and reference the former character of this unique street.



Section collage of Market Street facing Philadelphia City Hall.

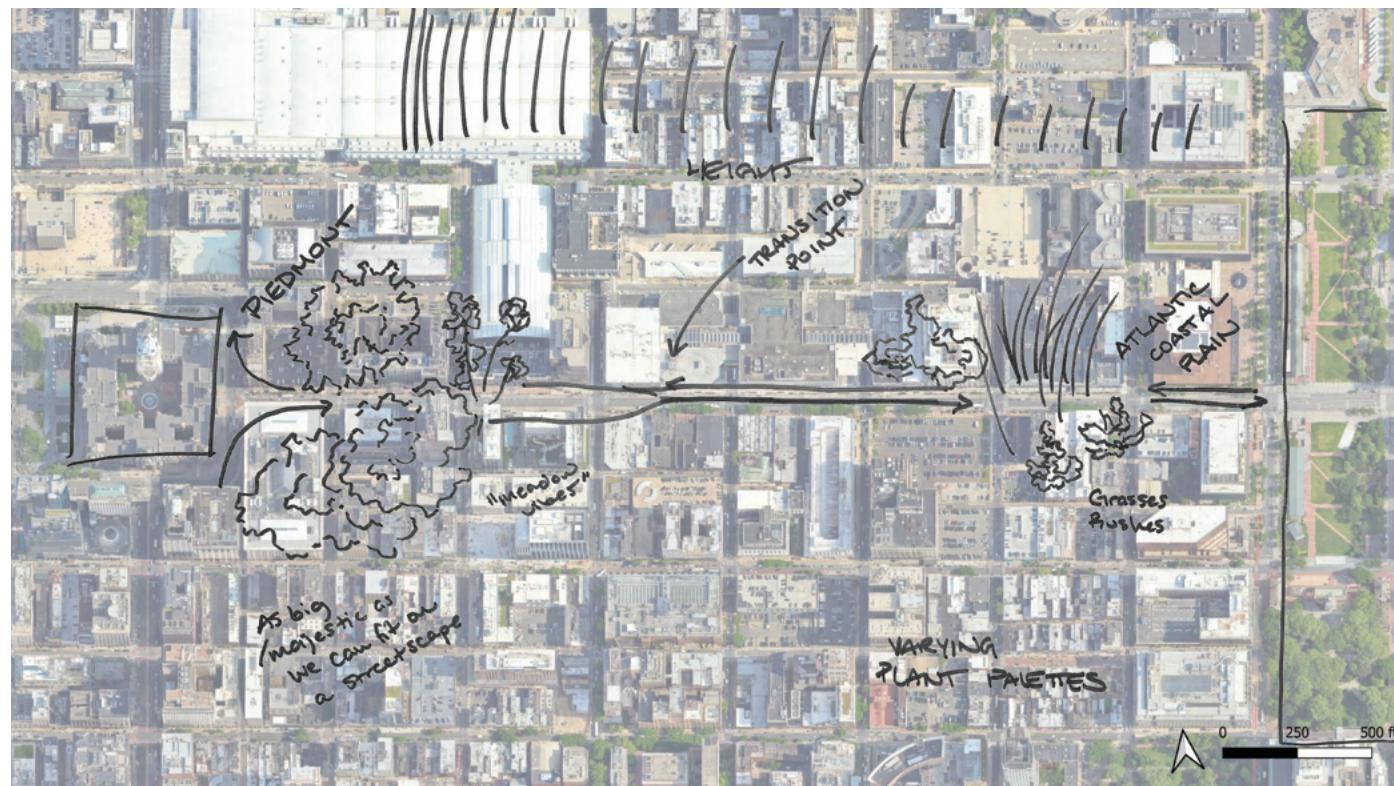


STREET SCENES

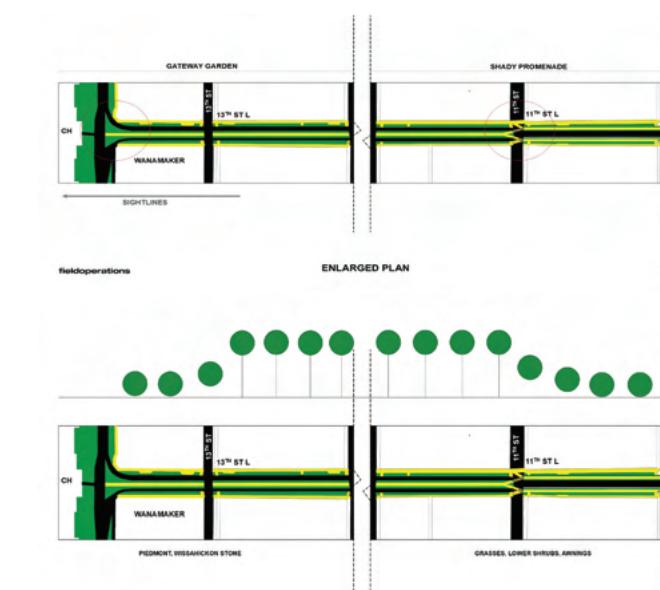
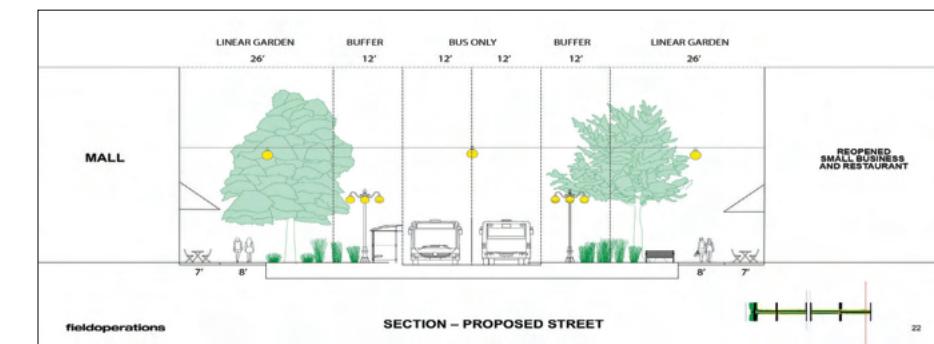
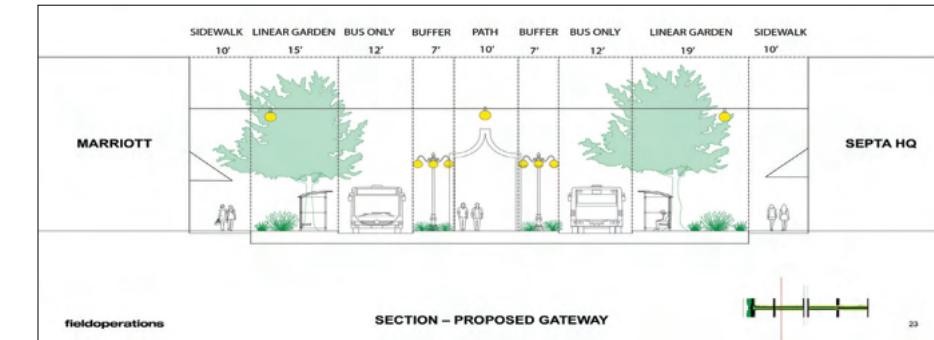
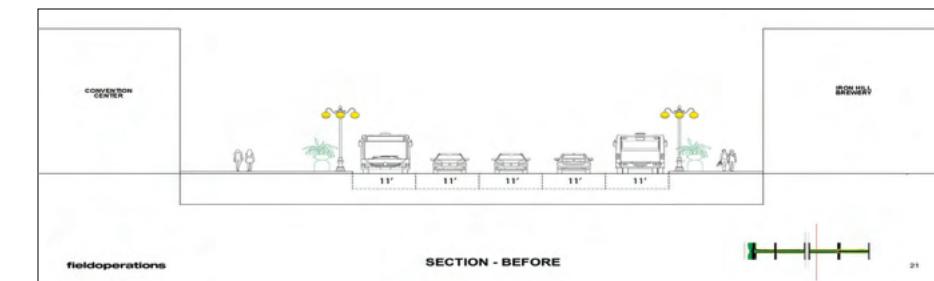
The project began with site walks over the course of two days. Sketches based on site photos depict imaginary bike lanes, heritage lighting schemes, and vegetation: three factors that have the potential to strengthen or better highlight the character of Market East.



Traffic flow and greening scheme.



Conceptual sketch demonstrating planting transition.



TRANSECT RESPONSES

The street plans and planting height sections above and to the left are meant to represent a transect from the Atlantic to the Pennsylvania Piedmont region, with planting elements growing in height near the 11th and 12th street intersections. This urban forest approach would highlight the L stops beneath Market street, making this an attractive place to disembark and return to the surface.

These planting heights also respond to the information gathered in the initial site walk surveys: this section of Market lacks any semblance of shade structures and is devoid of substantial street trees. Reconfiguring the flow of traffic would provide space for planting and provide relief for pedestrians on this section of the main thoroughfare.

Left: Diagrams of Market Street East focusing on planting schemes, heights, and a traffic and access analysis.

04 on the wihittuck

LARP 5020 - STUDIO 2

GROUNDWORK

Critic: Azzurra Cox

This landscape is set on an industrial waterfront next to Penn Treaty Park, located in Philadelphia's Fishtown neighborhood. The park is known for the eponymous Penn Treaty which took place in 1682. Penn Treaty now hosts Philadelphia's yearly Indigenous Peoples' Day Powwow, an intertribal event open to the city.

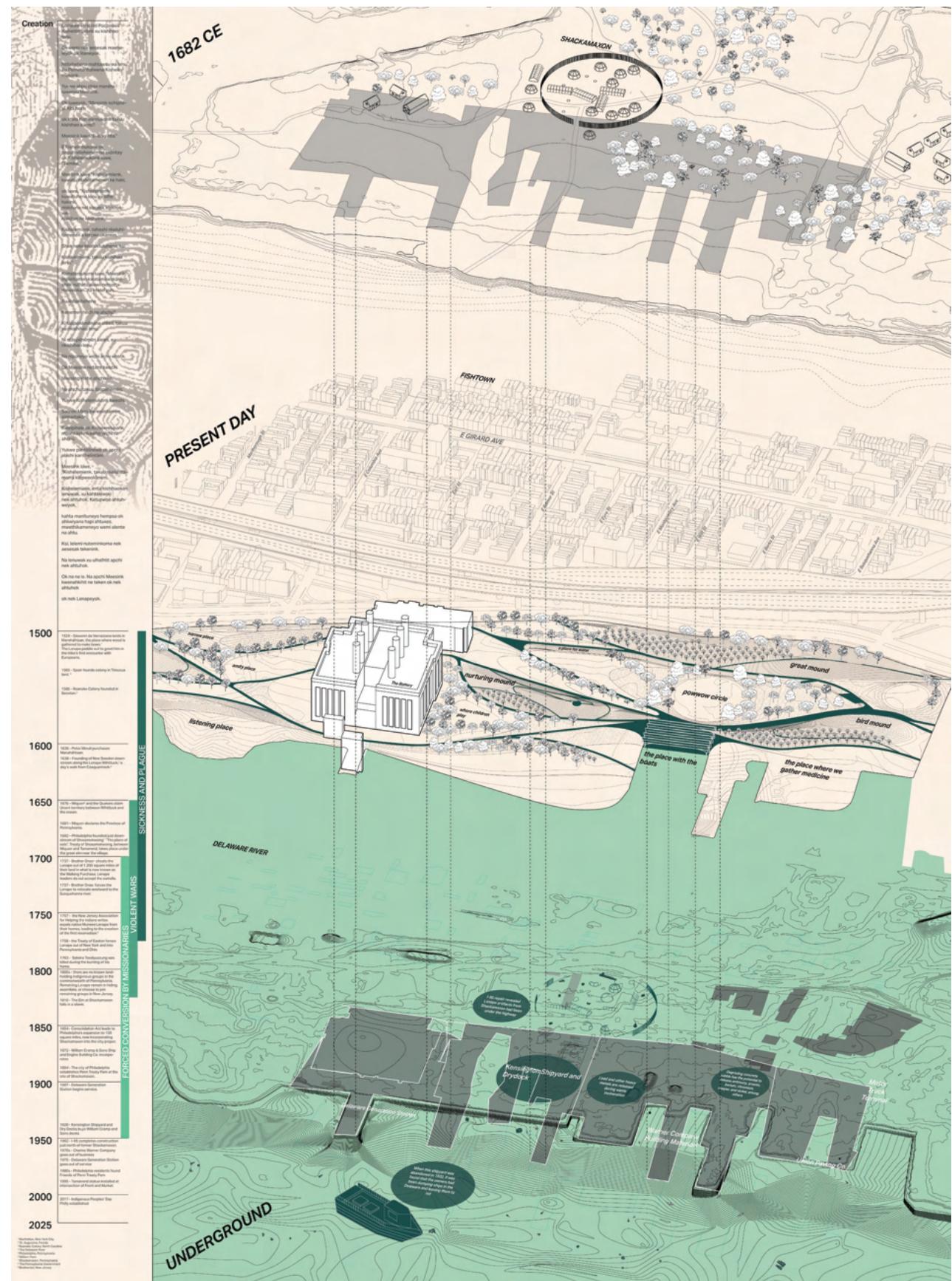
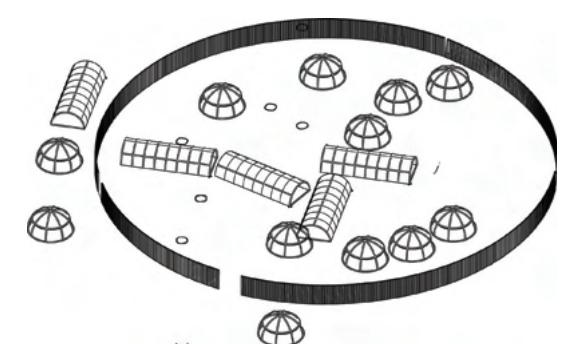
The park, connected by the Delaware River Waterfront master plan, would require extensive remediation efforts following years of industrial use and neglect. It is speculated to have high concentrations of heavy metals, volatile organic compounds, and other pollutants.

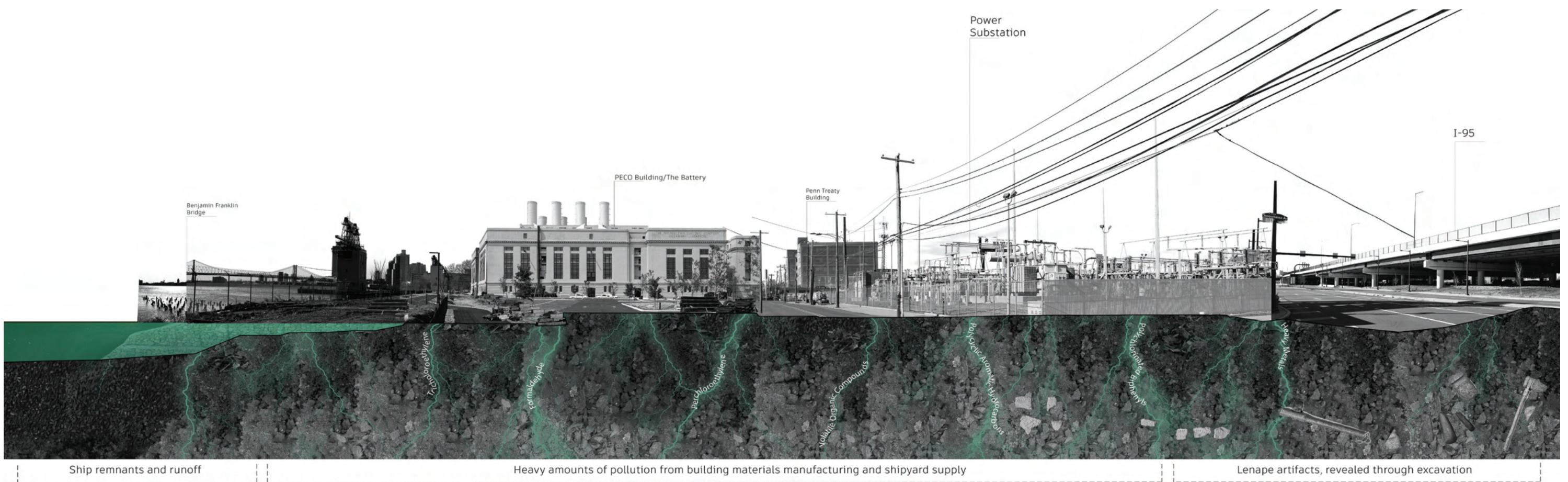
Community conversations have led me to propose a public park that incorporates designated powwow grounds, areas for future forest, and a medicine garden comprised of some of the most useful and sacred native plants from this area. Lenape storytelling helped to curate the potential plant palette and site design.

The final scheme includes phasing plans for remediation and final planting, as well as dedicated spaces for powwow events and allowances for rising floodwaters and community events at the riverbank. Crucially, this area would be one of the only publicly accessible riverbanks on the Delaware within Philadelphia city limits. Special thanks to C.L., C.D., and D.D., as well as members of the Nanticoke Lenni-Lenape Nation and Native American House Alliance who have provided valuable feedback and guidance.

Right: Exploded axonometric showing historical locations and related pollution sources, including timeline showing information about the site and Lenape displacement.

Icon: Imagined drawing of Shackamaxon, based on historical records

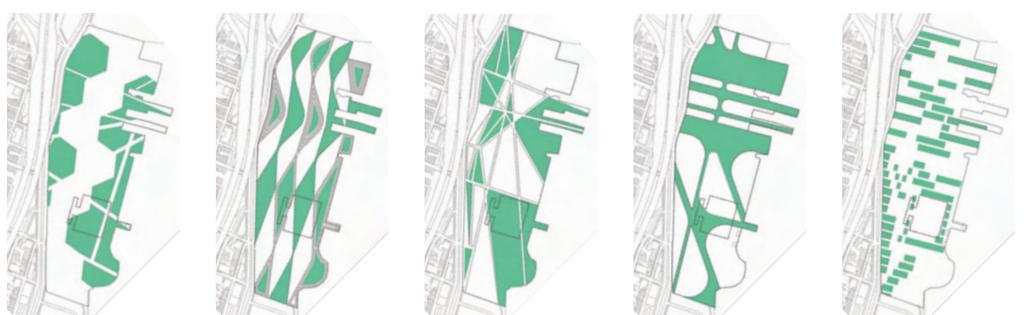




Collage section perspective with annotated pollution hazards and archaeological findings.



Mapping critical considerations.



Various different organizational schemes.

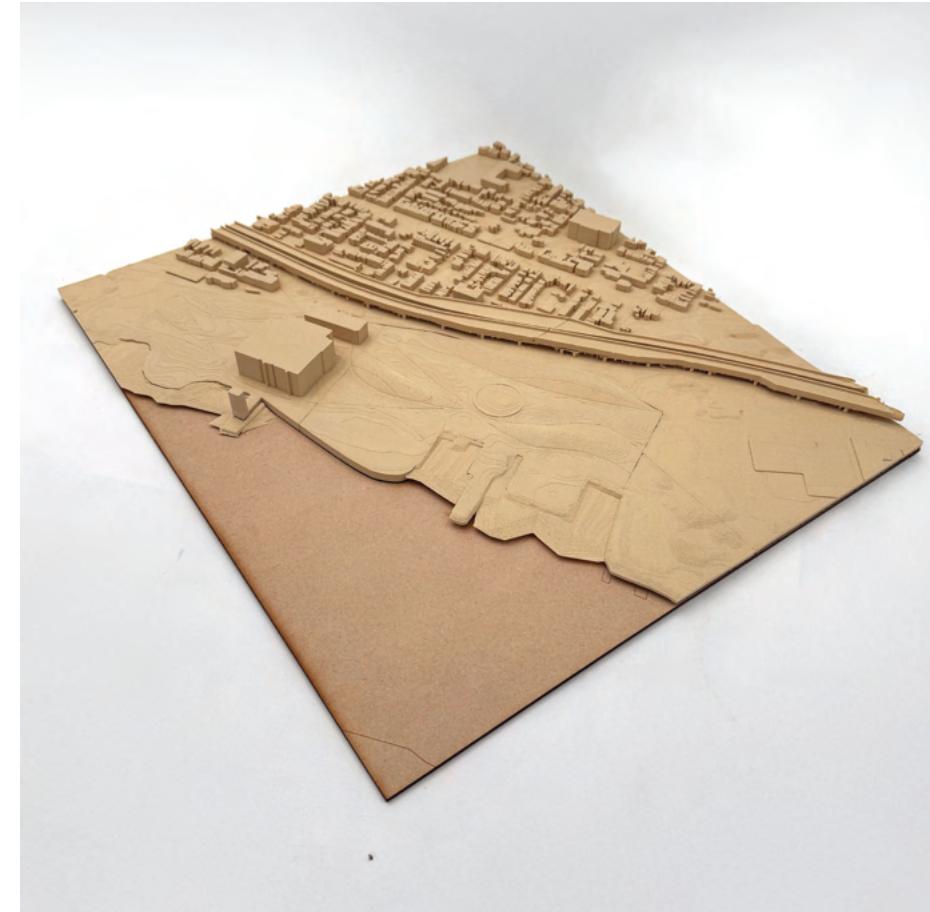
MAPPING AND FORM-FINDING

ArcGIS was instrumental in informing the site design; after mapping key transit connections, site pollution, sea level rise, and bathymetry, it became clear that site topography would respond to each of those factors. Additional information regarding site archaeology and industrial history suggested that several significant Lenape artifacts could be located underneath the surrounding highly toxic soils.

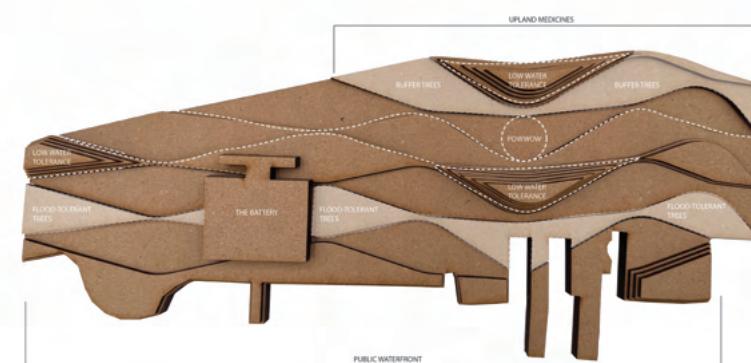
The final site grading would need to respond to these issues through either separation or remediation. By mounding, some of the soil could be capped and covered; crucially, creating mounds could allow the site planting to include a wider variety of species, not just ones that tend to be more water-tolerant. Mounds would also create a combination of private and public spaces, as well as contribute to directing the flow of people from one side of the site to the other. Additionally, connections with the Delaware river waterfront and surrounding sidewalks and trails, site connectivity also helped to determine the responsivity of the final form, which was then modeled and further refined in clay.



Twelve significant species including detail about their uses and where to locate them.



3D printed model of site topography and surrounding conditions.



Woven form diagram, selected.

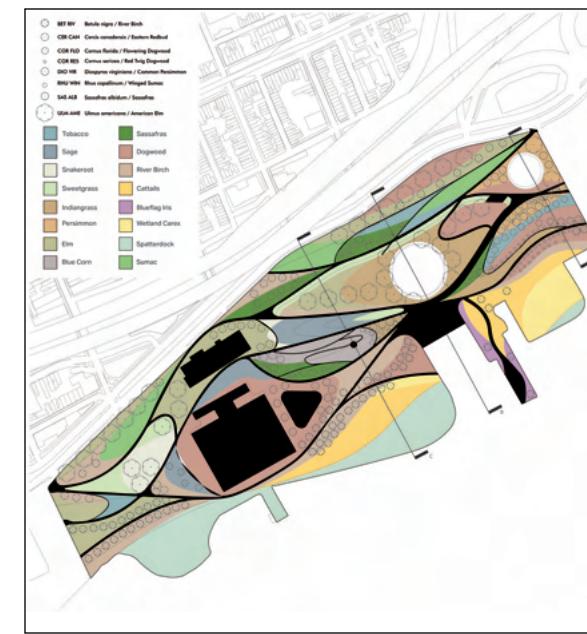
BOTANICAL RESPONSIVITY

Plant selection for this project was an extensive process involving community consultation and a literature review. Lenape stories and medicinal practice suggested the palette on the opposite page, which primarily consist of medicines used to make teas (sassafras), tinctures (snakeroot), and offerings for ceremonial burning (tobacco). Other significant plants, including dogwood, were selected for their prevalence in this region and environmental impact, especially on birds.

However, not all of these significant medicines grow in the same circumstances. Indeed, not all of them are even wetland indicators; some of them only grow in more upland environments. Therefore, the site grading was crucial to the palette's need for higher ground. The planting plan is a direct response to the grading plan and can be read as a wide range of heights, depths, and slopes in response to the unique needs of each medicinal plant.



Grading plan with included tree planting and schedule.



Schematic planting plan.

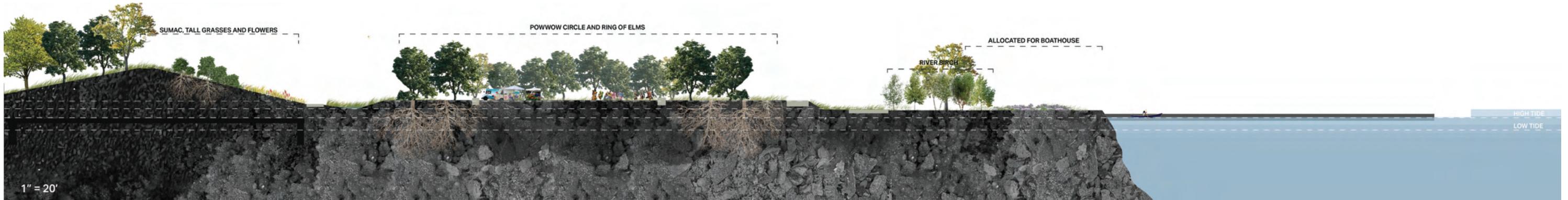
CODE	BOTANICAL / COMMON NAME	TREES
BET RIV	Betula nigra / River Birch	
CER CAN	Cercis canadensis / Eastern Redbud	
COR FLO	Cornus florida / Flowering Dogwood	
COR RE5	Cornus sericea / Red Twig Dogwood	
DIO VIR	Diospyros virginiana / Common Persimmon	
RHU WIN	Rhus copallina / Winged Sumac	
SAS ALB	Sassafras albidum / Sassafras	
ULM AME	Ulmus americana / American Elm	
ZEA MAY	Zea mays / Corn	
CODE	BOTANICAL / COMMON NAME	SHRUBS
ACH MIL	Achillea millefolium / Common Yarrow	
CODE	BOTANICAL / COMMON NAME	SHRUB AREAS
NIC RUS	Nicotiana rustica / Aztec Tobacco	
ACT RAC	Actaea racemosa / Black Snakeroot	GROUND COVERS
AST ERI	Aster ericoides / Heath Aster	
CAR EBU	Carex eburnea / Bristleleaf Sedge	
CAR PYL	Carex pensylvanica / Pennsylvania Sedge	
HIE ODO	Hierochloe odorata / Sweetgrass	
JUN CO5	Juncus bufonius / Common Toad Rush	
PEN DIG	Penstemon digitalis / Beardtongue	
SAL LY2	Salvia lyrata / Lyreleaf Sage	
SPO HET	Sporobolus heterolepis / Prairie Dropseed	
TYP ANG	Typha angustifolia / Narrow-Leaved Cattail	
TYP LAT	Typha latifolia / Broadleaf Cattail	

GRADING AND PLANTING

By modeling projected water-level rise and future flooding scenarios, the final grading strategy treats water as a formative force. The site is sculpted to create protected zones for upland species—elevated refuges designed to remain viable even under extreme inundation. These planting zones act as ecological strongholds, reserving the most resilient ground for the species least tolerant of prolonged submersion.

The water shed from the mounds is then guided into a network of swales running alongside the primary paths. These channels choreograph runoff toward the river, transforming drainage into an ecological asset for the water-loving species planted within the swales. As more than infrastructural devices, the swales become habitats in their own right, supporting hydrophilic species such as blueflag iris and snakeroot.

At the powwow circle, water is gathered into a runnel and released toward the waterfront, making movement visible. Here, water becomes both spectacle and signal—its flow marking time and season, even as it exits the site.



Site section including waterfront and steep bathymetry.



Site section including playground and mound scales relative to one another.



Site renders highlighting dynamism through different seasons and modes.

SECTIONS AND RENDERS

Final programming for the site included both accessible and inaccessible mounds, as well as planting and drainage strategies that designed to the contrived topography and medicinal uses. Designing with care for the waterfront and water level rise, this project accounts for constantly changing water levels, allowing the water to enter specific areas of the site. In particular, water creeps slowly towards paved areas, whereas the former piers are close to a relatively dramatic increase in depth.

With regard to planting choices, large areas of monocultures intersect with areas of more varied planting, highlighting aesthetic characteristics of local medicinal plants and allowing visitors to the site to experience them in many different dimensions.

05

platonic imperfection

LARP 5010 - STUDIO 1

MAPPING, MEASUREMENT, AND
PROJECTION IN TIME

Critic: Leah Kahler

Mistakes are evident when a perfect idea meets the ground and responds to reality. "Mistake" is not necessarily a pejorative term; it is merely evidence of slippage. Perfection is boring when it is predictable. Spaces get interesting at points of irregularity.

The garden proposal begins with a field exercise intended to generate mistakes from which I could learn. For this site, I did my best to survey perfect 30' x 30' squares to mark out a perfect grid comprising half an acre, beginning from a conspicuous and natural starting point near the Orange Trail. The perfect vision then met the ground and encountered topography, biomaterial, and the creek, all of which disrupted the platonic grid, warped its form, and turned it into something real.

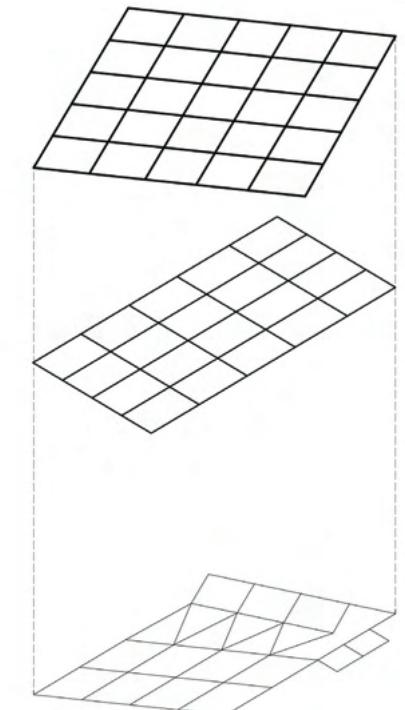
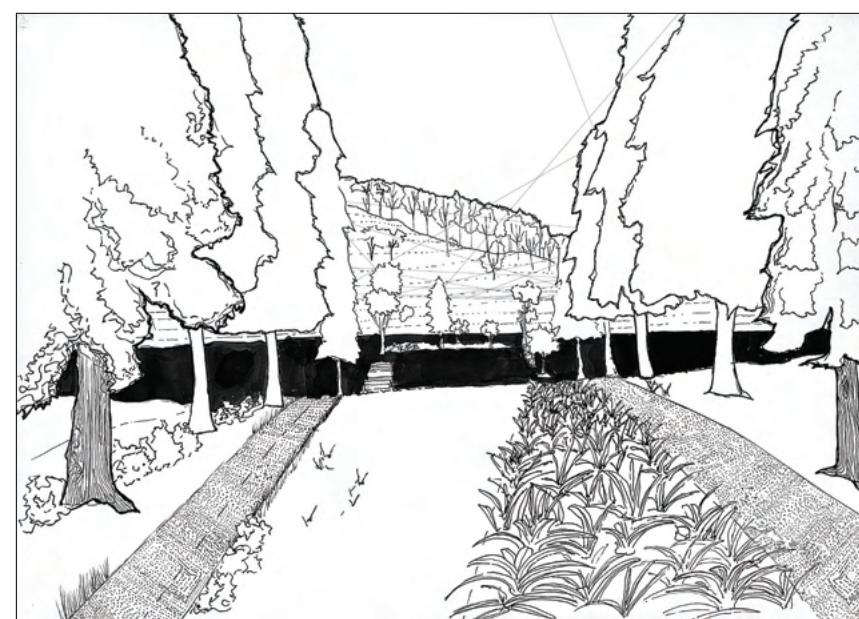
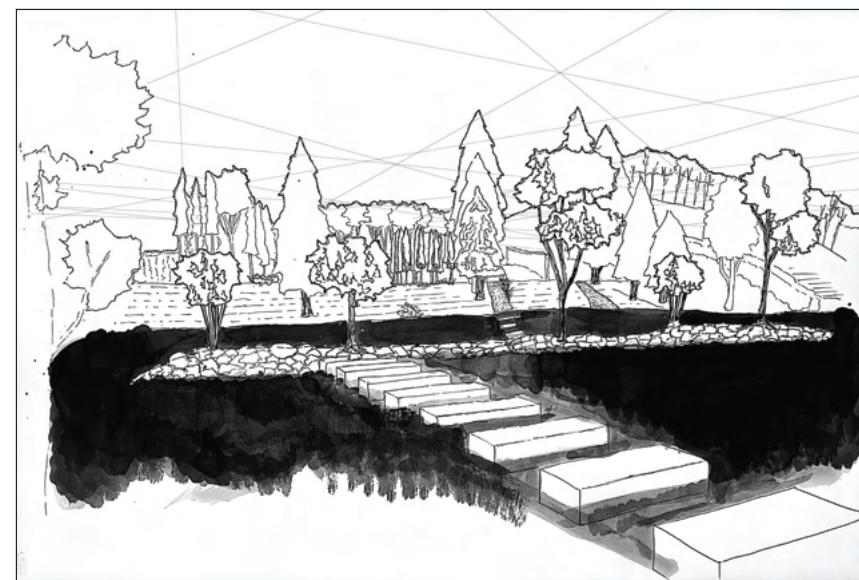
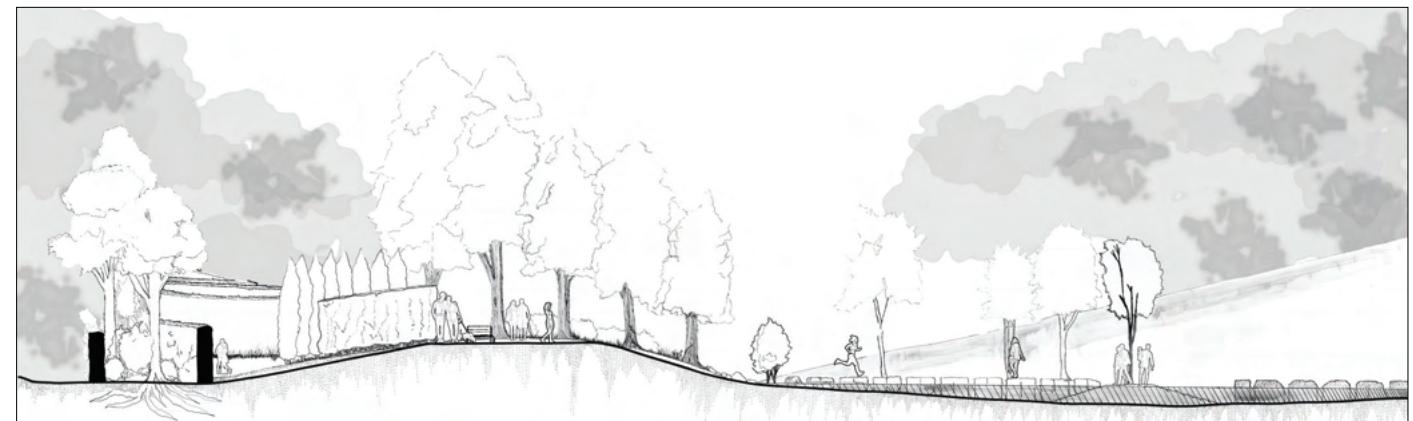
Because the perfect idea only becomes apparent when it is legible in the landscape, the proposal for this garden demarcates the intersections of the real grid. The garden deploys paths and planting to make the real grid tangible, allowing arrowwood hedges (*Viburnum dentatum*) and waymarkers such as river birch (*Betula nigra*) and Eastern red cedar (*Juniperus virginiana*) to conform to invisible lines. As the garden travels through time, the trunks and hedges will remain aligned while branches will grow in response to light, water, and other onsite conditions and begin to obscure the original aligned plan. The eventual erasure of the grid can show how "perfect" ideas lose their shape when encountering the natural entropy of the world.



Collage highlighting the site survey grid process and how intersections and sightlines are found through it.



Site plan including imaginary gridlines from survey and locations of tree markers.



PLAN, SECTION, PERSPECTIVE

By imposing survey lines onto the environment, I derived linear and area planting strategies that responded to the invisible grids [see above]. These grids, when layered, create both points and areas, which then became trees and area planting. The perspectives show how this plan strategy creates a site experience that, perhaps unbeknownst to the visitor, is determined by a highly linear and structured plan only observable at certain locations.

Top: Section completed using pens and India ink.

Left: Perspective sketches demonstrating planting strategy and sightlines.

Right: Imposed grids, cartesian and survey.



Site model made of stacked MDF, laser cut acrylic, twisted wire, and nails.

SITE MODEL

The process for creating this model was reliant on the same methodology used to design the garden. The MDF site model was etched with the survey grids and drilled at intersection points to mark the locations of trees. Wire trees were then secured to nails at each intersection.

The wire trees of the physical model are how the intersections gain dimension; hedgerows delineate site edges and give form to imaginary limits.

06

waters of reconciliation

ARCH 5020 - STUDIO 2

NATURA LUDENA

Critic: Annette Fierro

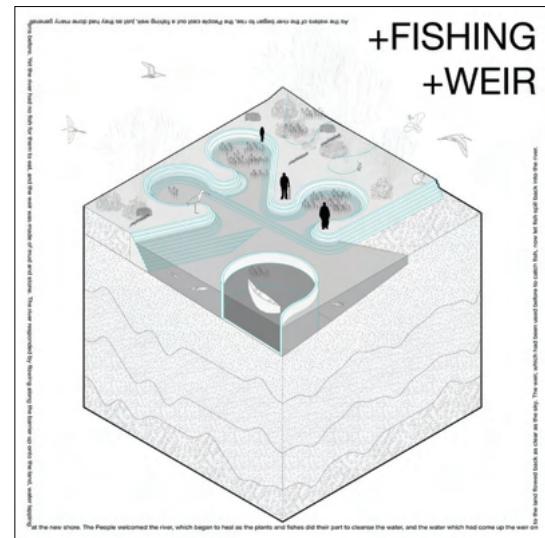
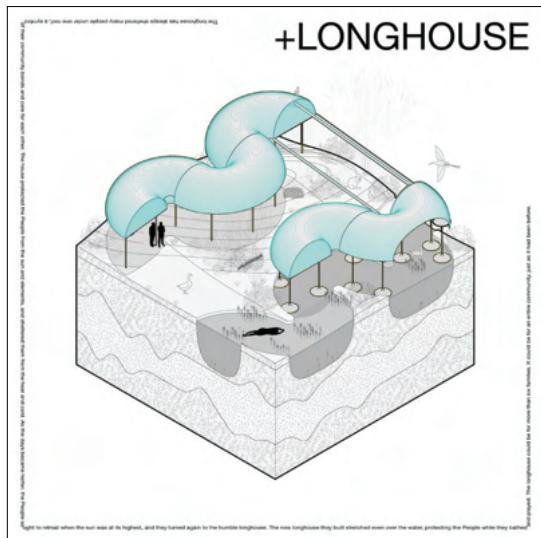
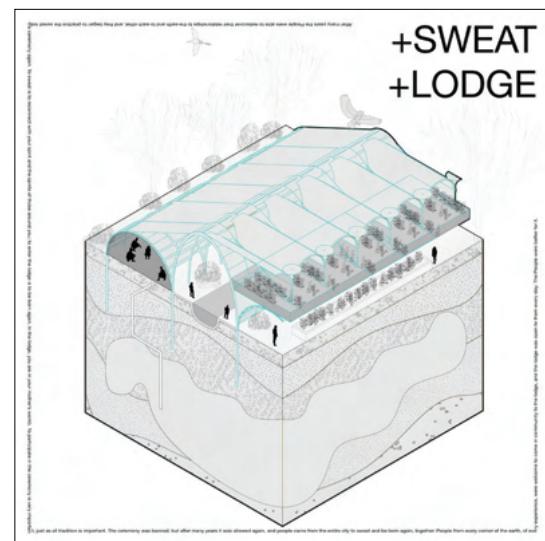
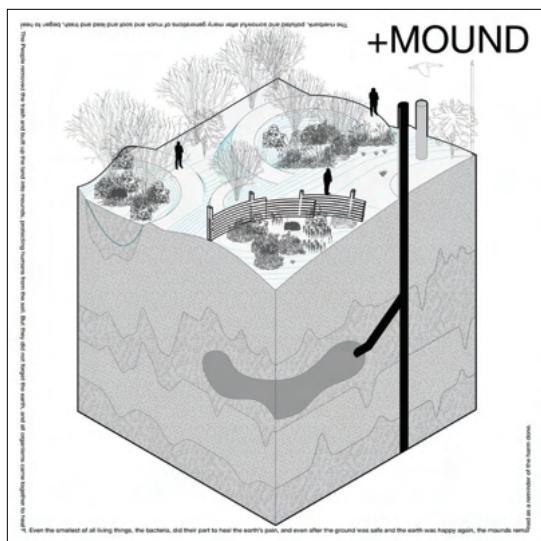
Waters of Reconciliation is an investigation into the concept of decolonial architecture and landscape. What does it mean to build a bathhouse in one of the most historically marginalized neighborhoods in Philadelphia? How do architects engage with the complex histories of the site as they design?

Designed for a former industrial site near Kingsessing in Philadelphia, Pennsylvania, this bathhouse was charged with remediating the surrounding land and providing enjoyable spaces for bathhouse visitors as well as migrating birds that often pass directly overhead.

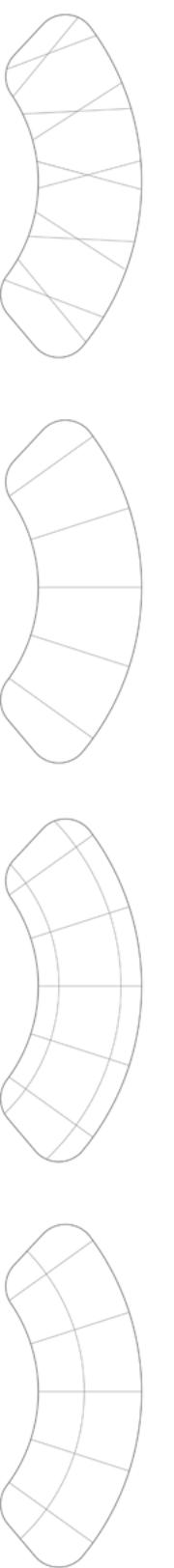
This investigation utilized Indigenous storytelling methods and combined oral tradition with ritual and ceremonial places on the American Atlantic Coast prior to colonial contact. These ritual places transformed into site solutions for bathhouse site, which will soon face historic floods, severe heat waves, and changing bird migration patterns. This project used five stories to inform how traditional ritual places could be reimagined to provide shade, remediate polluted water and soil, and provide a sanctuary for bird species. The bathhouse—taken from the original form of a sweat lodge—sits at the center of the plan.

These five “follies” are derived from Native American oral tradition. Chosen as sites of ritual significance for Indigenous peoples, they each serve a distinct purpose in remediating and healing the land and people around them. The mounds serve as a landscape cap to heavily polluted soil; the longhouses provide shade in a heating climate; the sweat lodge is a living revival of Indigenous ceremonial practice; the forest is a habitat for the birds that migrate south, passing through Philadelphia; and the fishing weir creates shallow pools where plants can help to bioremediate the Schuylkill River.

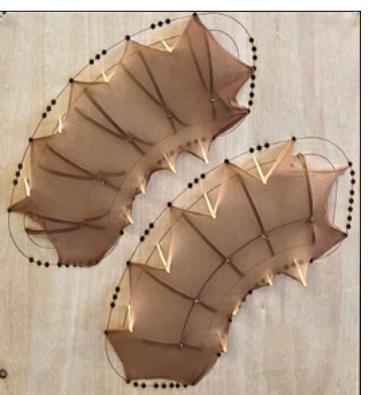




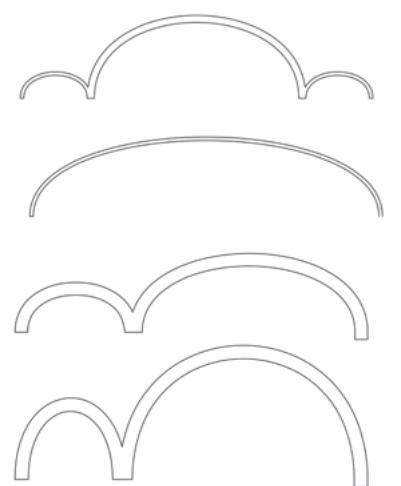
Five follies, each inspired by stories from Eastern Woodlands tradition.



Diagrams of interior structure options.



Test structural models.



Archway strategies.

STRUCTURE

The design of the bathhouse originated from a response to the circle in the center of the site, taken from the existing streets and pathways that meet at the corner of Botanic Ave. The bathhouse floor plan is designed to wrap around a central circle, cradling the center.

Following the floor plan, study models using tensegrity systems (and later, an internal structure) revealed the assembly of the building. I tried multiple different structural plans using a range of arches and various combinations of positions to attempt different forms.

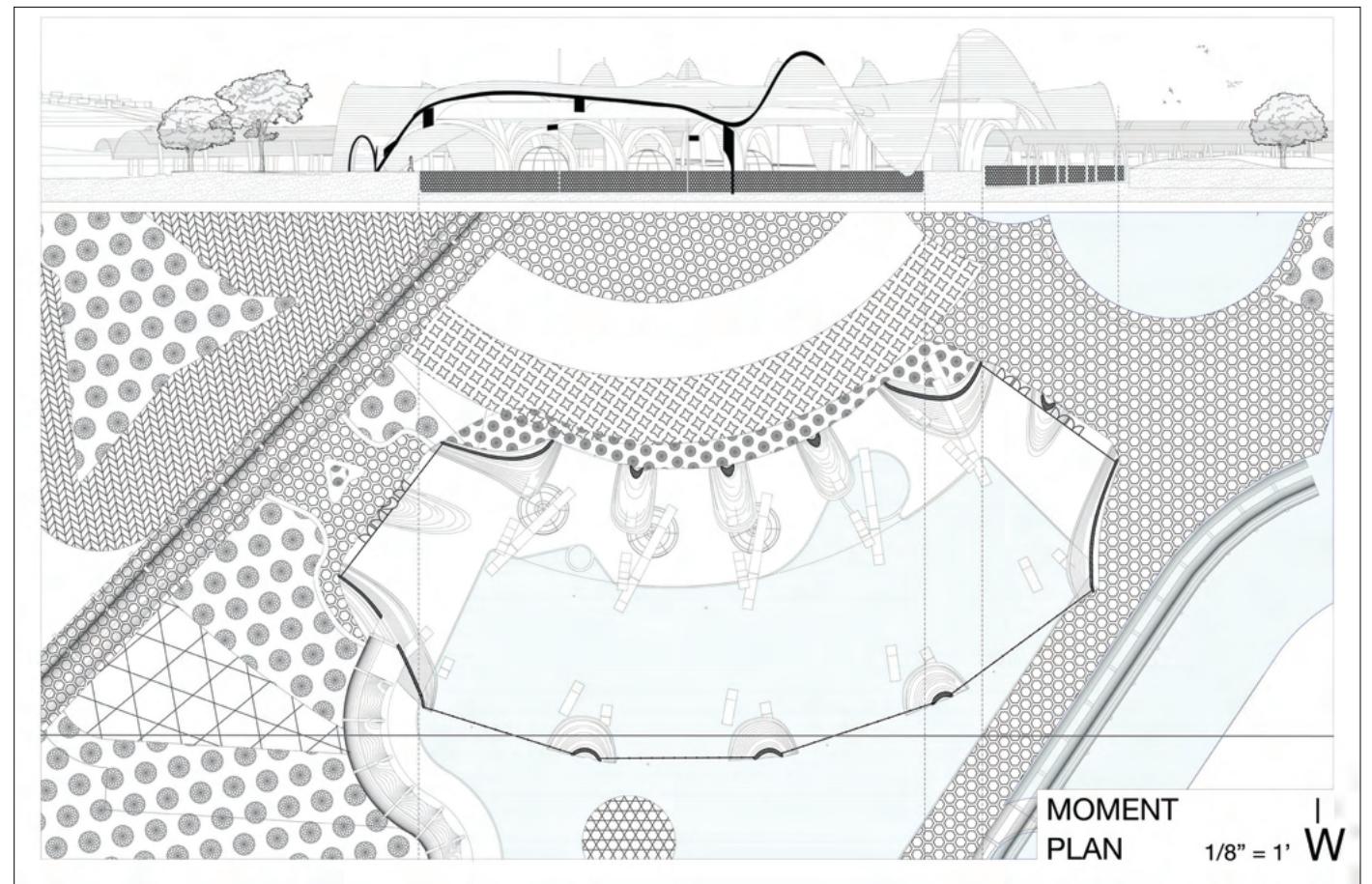
Each of these was laser cut into a frame with tiny holes around the perimeter, and scale versions of the arches were cut out of wood and glued to the frame. Then, using pantyhose, toothpicks, and wire, I assembled each miniature version, threading the pantyhose through the frame to anchor it down at various locations between each support. All of this was done to observe how the system worked, paying close attention to how the fabric responded to each iteration of the internal structure and where the fabric anchors were located.

When the fabric proved too tight and the structure was not easily legible from the outside, I anchored the fabric to the frame using the wire, revealing where the arches were located and creating dips in the fabric. Ceratin structures were more successful than others at creating suitable openings for egress and fenestration.

The final model was derived from the most successful test model, which included ten arches, five large and five small, each criss-crossing the other under a central beam. This can be seen in the model and assembly drawing on these pages.



Site model, plan view.



Diagrammatic plan with bathhouse interior, sweat lodges, and pools.

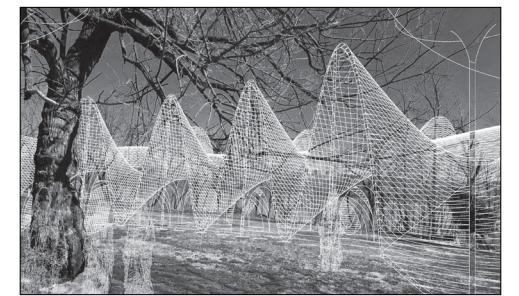


MODEL

The site model, as well as the accompanying test structural models seen on the last page, were made from pantyhose, toothpicks, wire, and wood. In place of toothpicks, the final model uses dowels to provide structural support. Laser-cut wooden arches were also input according to the pattern determined by the test model.

The final model also uses an additional layer of fabric to simulate the roof's variable depth.

The plants shown around the bathhouse are made from actual biomaterial taken from the site, which was pressed, dried, and arranged according to the various zones present for the site, which include dense riverine forest, upland grassland, tended garden, and lawn areas for congregation. The vegetation on the model, while not a direct reflection of eventual planting, is meant to suggest the necessary variation of the landscape and the dynamism that such planting would create in response to the bathhouse facilities.



PLAN

The final plan for the bathhouse and surrounding parkland incorporates places for human and nonhuman use, including a birdhouse, a manged forest, and a river structure intended to allow a safe place to swim in the Schuylkill. Although this project does not include a planting schedule, it is imagined that plant selection would involve significant care for the migrating birds, as well as a number of plants native to the shoreline of the river.

Suggested plants include river birch, swamp oak, blueflag iris, little bluestem, flowering dogwood, american elm, and a wide range of medicinal plants native to the region.

Left: Detailed site plan depicting vegetation and compliant roadway and parking spaces, as well as ADA compliant ramp locations.

Above: Imagined site images, drawn over photos taken of the site.

07

botanic spectacular

ARCH 5020 - STUDIO 2

NATURA LUDENA

Team work with Jesus Frias, Yuhang Zhou, and Josh Shen

Critic: Annette Fierro

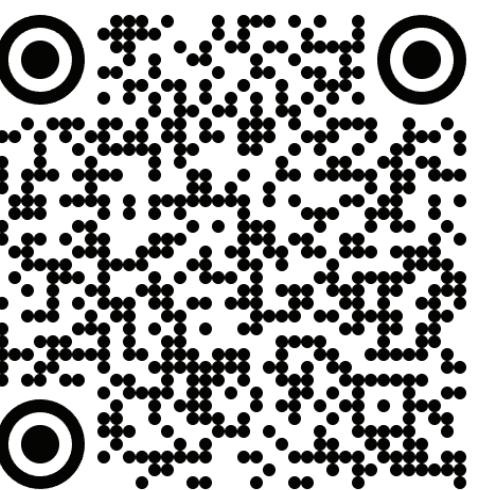
This project featured a geographic section of southwest Philadelphia, a vibrant neighborhood running alongside industry zoning lining the Schuylkill River. The neighborhood, which was once sustained by the industry, now feels burdened by abandoned buildings on land that could be reclaimed by Philadelphia's public parks system. This short project included an intentional 3-hour walk through the neighborhood, examining what it means to exist in this location and reimagining what a future for this land could be.

The final part of the project consisted of a design for a 'Bothy' that could be placed in the neighborhood, along with a map of our findings. I composed an accompanying soundscape that tells our story.

On Grays Avenue, the concrete arteries of West Philadelphia pulse with a different rhythm. The Grays Avenue of yesterday was where building materials were produced and where, after having been depleted of human use, they returned to be scrapped.

Now, life dances to the theme of a reemerging nature. The warehouses and manufacturing plants, once a bastion of industrial prowess, have since surrendered to the embrace of the wild. Gone are the rigid binaries of city and garden, industry and flora. In their place, an inevitable amalgamation of the two emerges.

Bartram's Garden, once confined by tracks and zoning lines, bursts forth, deconstructing the very borders that sought to contain it. Nature has reclaimed this land once again, forcing the creators of its confines to acknowledge that they too are subjects of nature's dominion. The purple "industry zoning" has long since evolved into green tendrils, not erased but blurred, a reminder that boundaries are merely lines on a map, easily reshaped by the flow of life. Now the city is a park; the park is the city.



*Above: Scan for Botanic Spectacular soundtrack.
Right: Bartram's Garden wander map, created in collaboration with Josh Shen.*





Collaborative rendering done with Jesus Frias, Yuban Zhou, and Josh Shen. Some images were created using generative AI as required by the assignment, but all have been altered by us.

08

field book

LARP 5110 - WORKSHOP 1

Critics: Marie Hart, Sally Willig

This field book was completed over seven hiking trips to rural and suburban New Jersey and Pennsylvania to document native and invasive species in our environments. Each chapter includes a narrative, a hand-drawn section of common or important species and relationships, and a careful explanation of the dominant plants and biomes. Accompanying detail drawings and narrative help to build a better picture for the character of each place.

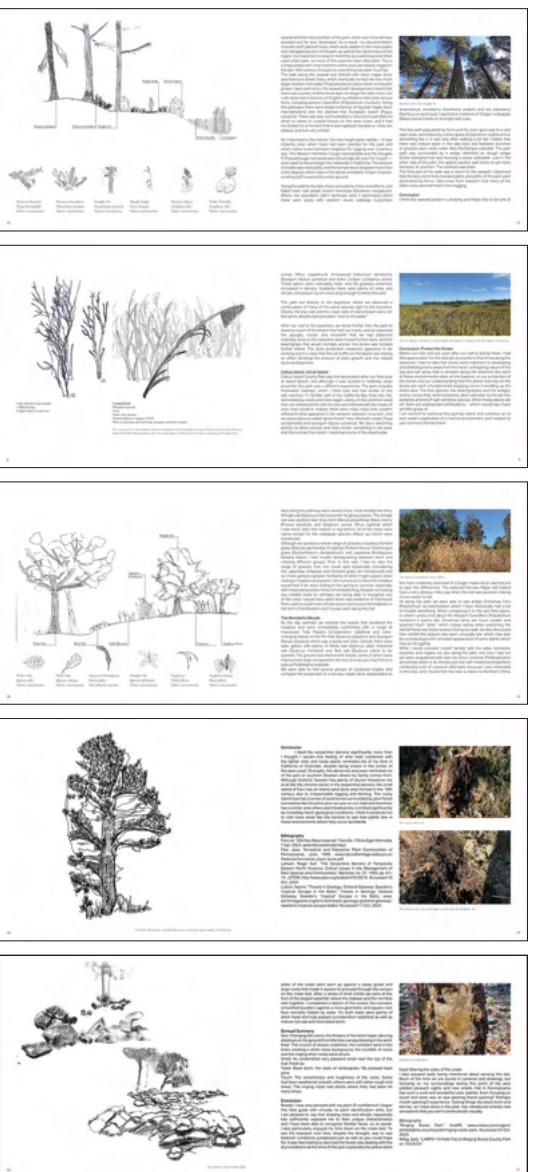
Particular attention was paid to the dominant regions of the greater Philadelphia metro area including the Atlantic Coastal Plain and the Piedmont. Threatened or endangered species such as white cedar, eastern hemlock, and seabeach amaranth are highlighted and discussed in the field reports.

The field book was accompanied by a plant identification quiz demonstrating that I was capable of identifying and describing common plants within the region. This was aided by careful sketching of relevant species.

This project is ongoing and will be continued on future trips.

Chapters:

Island Beach State Park, Toms River NJ
Wading River and Pine Barrens, NJ
Stanley Park, Vancouver, BC (independent trip)
Houston Meadow, Philadelphia PA
Nottingham State Park, PA
Ringing Rocks State Park, PA
Hawk Mountain Sanctuary, PA



Selected field book entries.





Transect section, from New Jersey to British Columbia



Unfolded transect drawing.

This transect drawing was completed after a dozen hikes in locations spanning the Atlantic Coastal Plain and the Piedmont in the PA/NJ/MD/DE region. Also pictured is a walk I took in Stanley Park, Vancouver, BC, drawn in for comparison and as a stand-in for a location I could not visit in New Jersey.

This transect highlights key species of each hike, beginning on the left at the Atlantic and ending on the right at the Pacific. Each species is labeled and drawn to approximate scale.

Also note the soil change in the Serpentine barrens, in Nottingham County PA. The Serpentine barrens are notable for their nutrient-poor soil and a nearly immediate change in prominent species. In Nottingham County, I noticed there were many more instances of Blackhaw viburnum (*Viburnum prunifolium*) and greenbriers (*Smilax rotundifolia*) when compared to the surrounding forest.

This drawing was completed over the course of three weeks and took approximately 30 hours of work to complete, due to the involved nature of the stippling and fine detail.

09 forbidden language

ARCH 5010 - STUDIO 1

SUNKEN RELIEF

Critic: Daniel Markiewicz

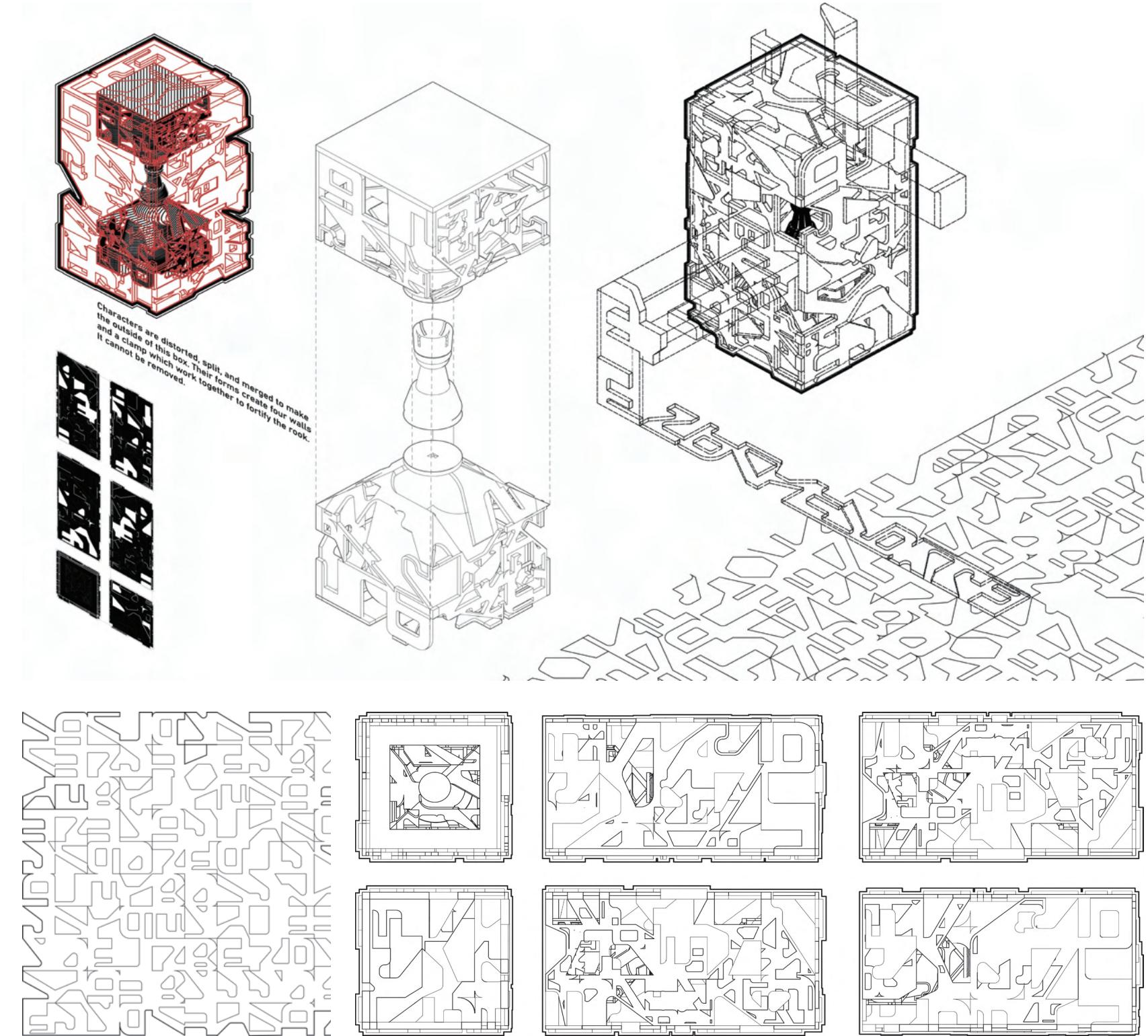
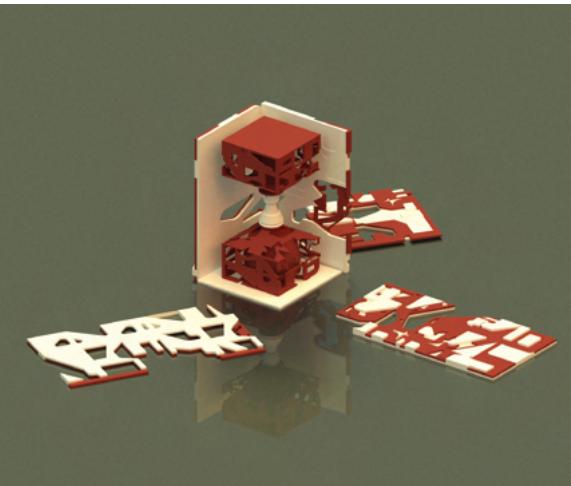


The Strongbox brief challenges students to design a container that not only secures an object, but is fundamentally shaped by it. Each box must fit within a rectangular prism and maintain a defined interior volume. The Sunken Relief studio emphasized cladding relief and incorporated chess pieces as objects. Aligning with the Strongbox concept, I selected the rook as my protected object.

My response to this brief became an exploration of language—its visual forms, its symbolic weight, and its role in shaping cultural and familial bonds. Like the rook, language is versatile, but it can also be a barrier, a defense, or something akin to a physical wall.

This box is an ode to language and the barriers it produces. The strongbox exterior is composed of abstracted letterforms that are almost, but not quite, English—mutating, blending, and slipping into one another. Inside, these same letters transform into a structural cradle for the rook, positioned at the exact center of the object.

The rook is fully encased by this linguistic architecture—held, protected, and ultimately trapped. It cannot be removed.



10 jardin studies

LARP 5010 - STUDIO 1

Critic: Leah Kahler

Our first landscape studio tasked us each with representing a garden we may have not visited before using images and descriptions.

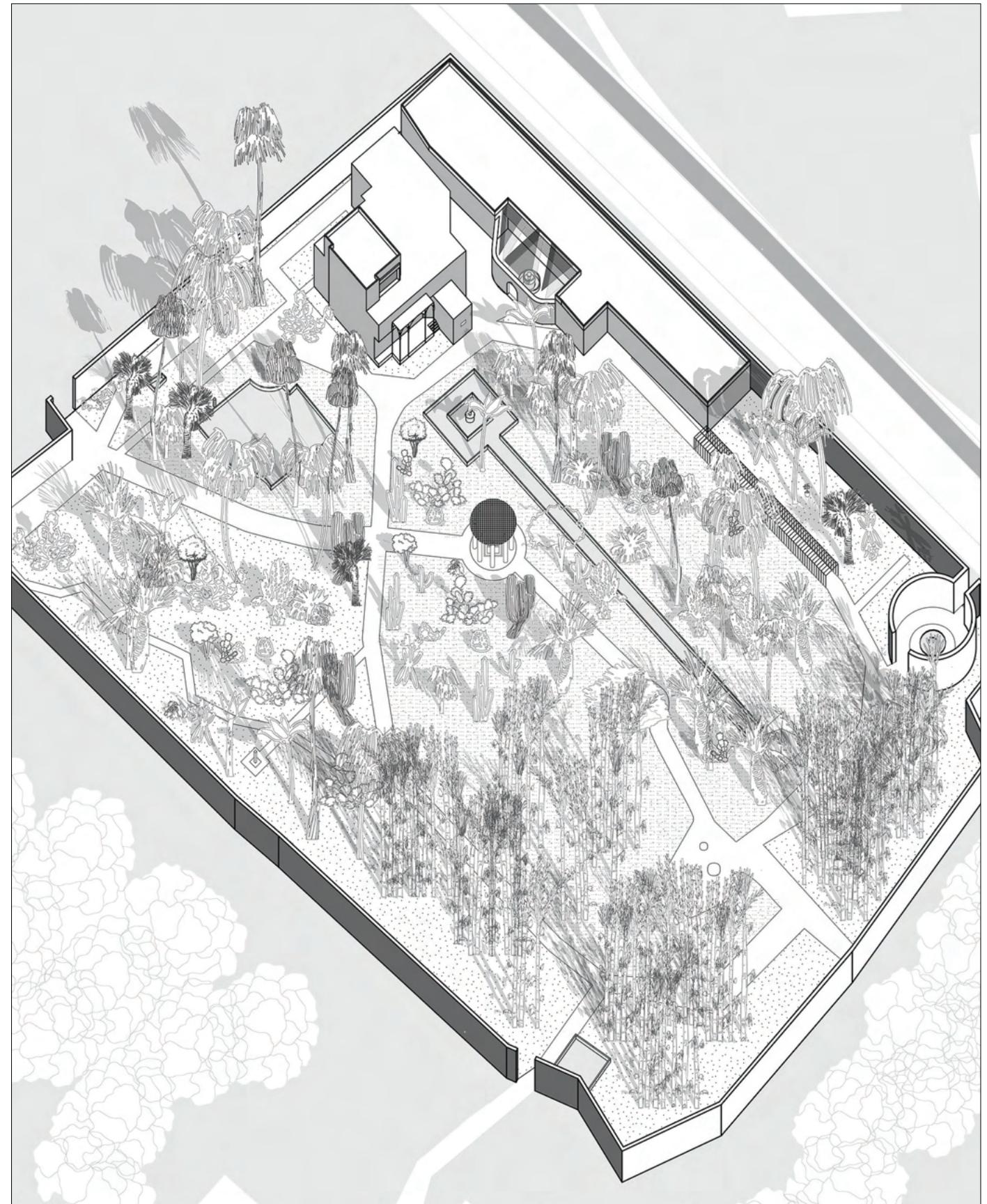
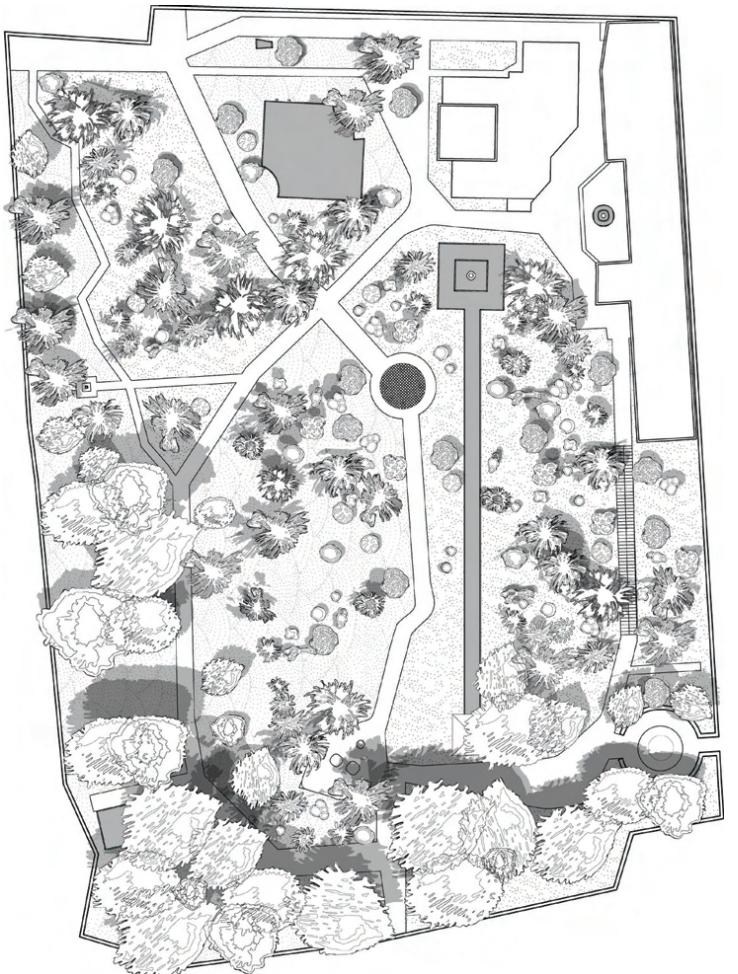
My assignment, the Jardin Majorelle in Marrakech, Morocco, is known around the world for its distinctive color and unique style. Jacques Majorelle curated the garden over the course of his life, and upon his death it fell into disrepair for a time before being purchased by the famed fashion designer Yves Saint Laurent. It has since been featured as a popular tourist destination.

I have not yet visited this garden, but using the internet, Google Maps, and archival pictures I was able to recreate a version of it to distill it down to its most recognizable and remarkable elements. I was able to produce a plan, section, and axonometric, and from there I developed a storyboard to dig into an element that the garden uses to relate to its context.

The diagrams shown here are likely not entirely correct due to the lack of information online and no access to any of the original plans or plant palettes. However, they are useful as representation studies and attempts to communicate concept over accuracy.

Above: Garden site plan and daylight study.

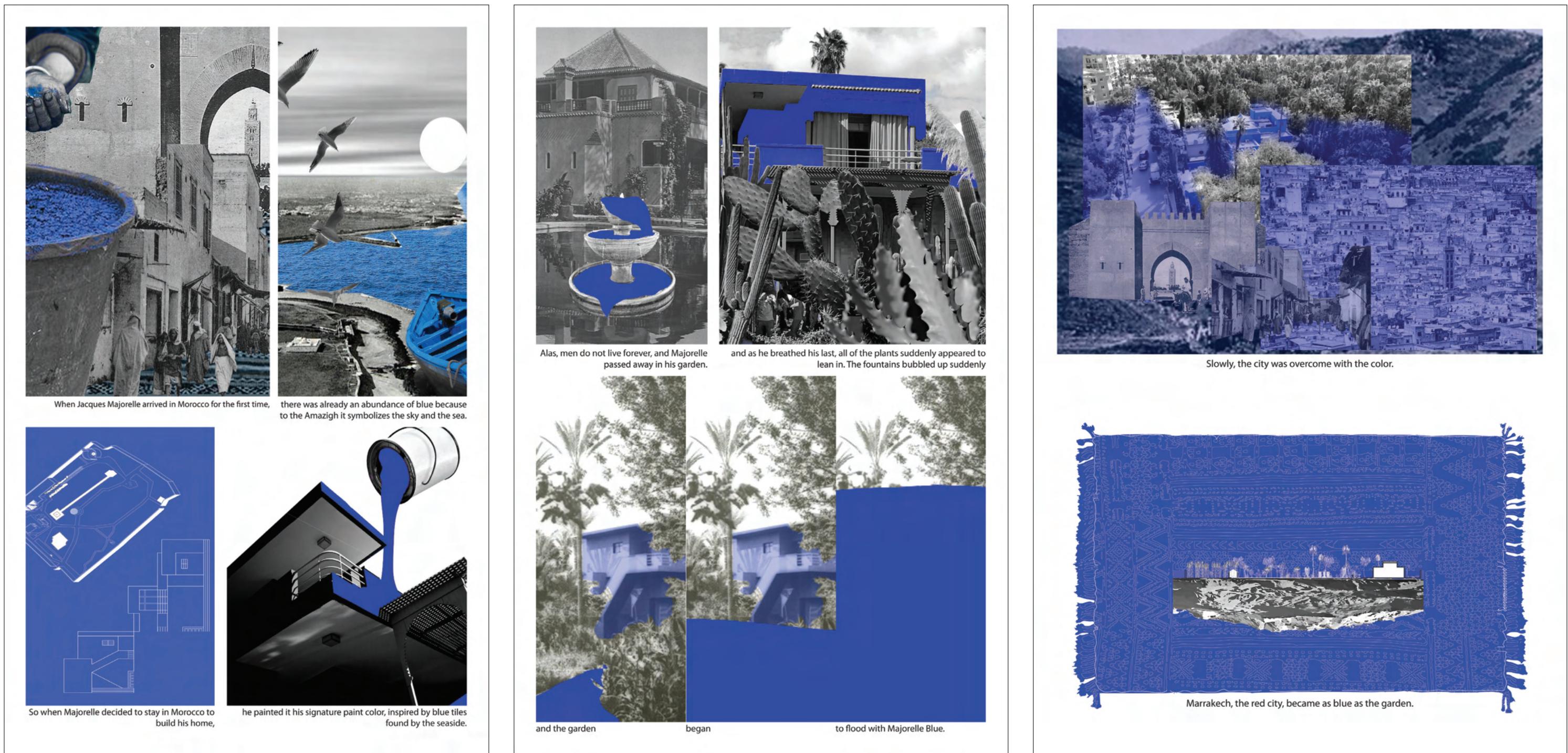
Right: Garden axonometric reconstructed using photography and site maps.



**SECTION**

Imagined garden section including linear fountain and approximate planting heights.

1'=10'



Storyboards for an imaginary tale about Jardin

11 jardin studies

ARCH 5010 - STUDIO 1

SUNKEN RELIEF

Partnered work with Spencer Relihan, Lena Guo, and Darren Sun

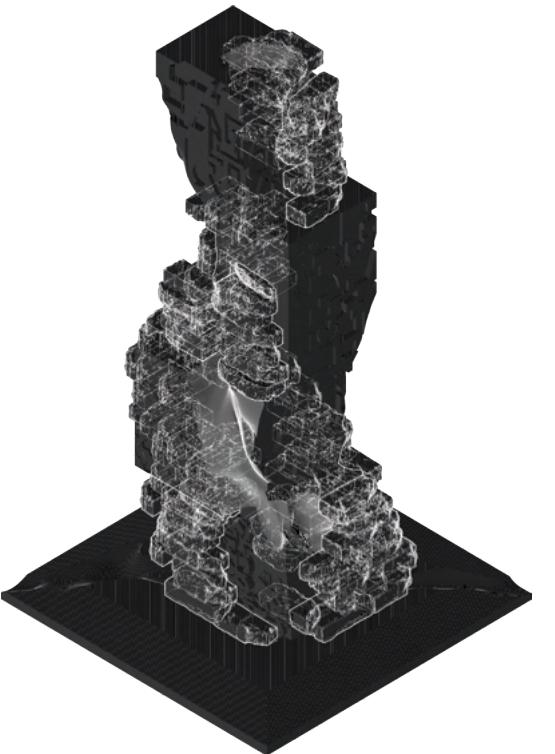
Critic: Daniel Markiewicz

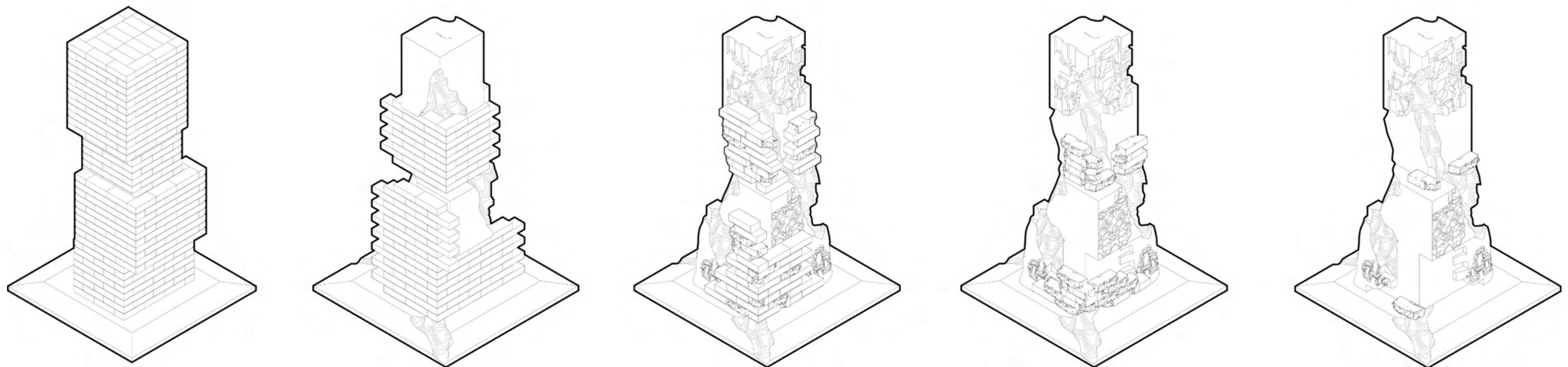
The story of decay has never ended with destruction—we believe that decay results in growth, rebirths, and new beginnings. Our monument, designed as an exploration of growth and decay, consists of four different masses. Each mass or 'box' is defined by their reliefs and a series of cuts that run through the structure.

We imagined that each of the boxes was once completely encased in brick, forming a solid sarcophagus. However, the passage of time has torn this brick away, and the stone within is growing, morphing, and wearing down to release life. Now, something that was once entirely unnatural has become home to mosses, lichens, and flowers. They are the rebirth.

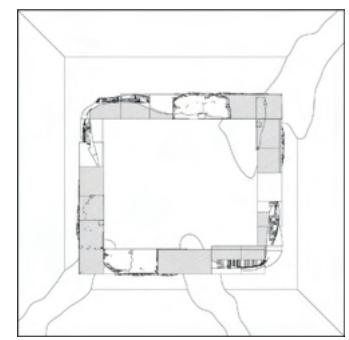
The entire structure was fabricated using low density foam, particle board, plaster, and sand. Each brick was individually handcrafted for its position on the tower through a painstaking process of repeated casting using laser cut and printed modeled 1:1 as drawn.

*Above: Tower axonometric diagram highlighting decay and drip.
Right: Render by Lena Guo.*

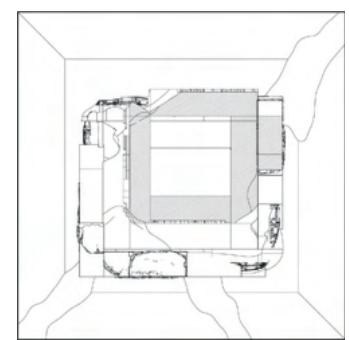




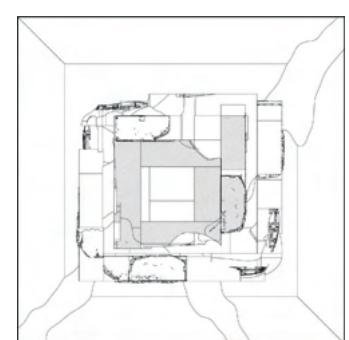
Series of decay; our structure is the third in the series.



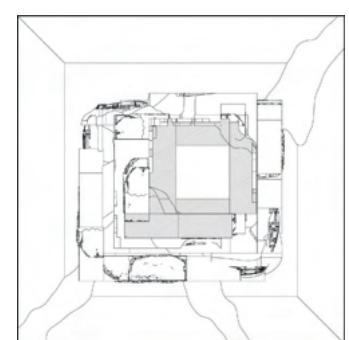
Box_1



Box_2



Box_3



Box_4

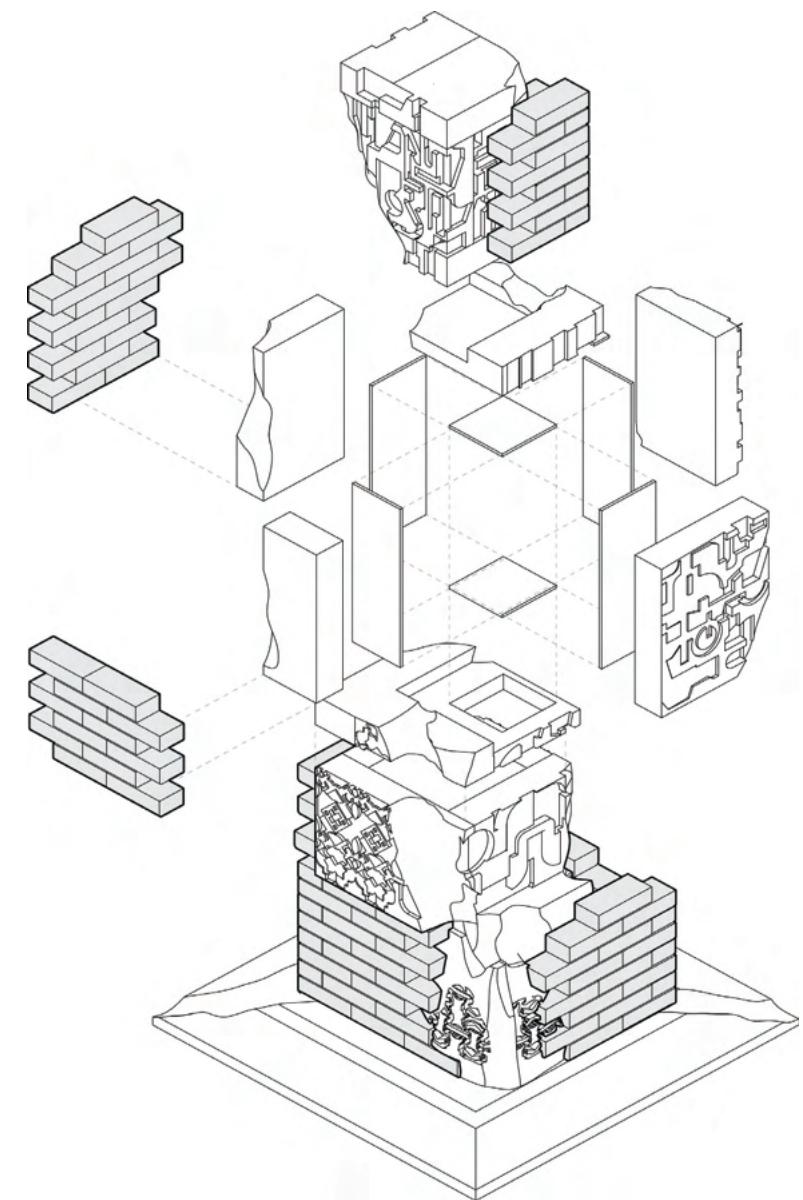
The painstaking assembly process for this seven-foot tower included countless hours casting plaster bricks, as well as a paint marbling process for the flow and several hand-painted sides. As each foam block was precision CNC'd for its exact location, brick placement had to be exact.

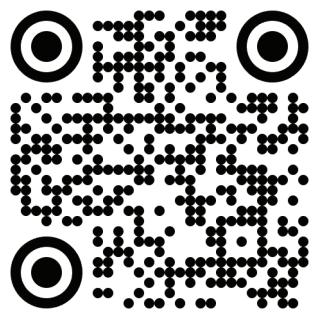
Our final representation and detailing was tailored to the process of decay. The brick detail, which includes rounded edges, is also conducive to water intrusion; this suggests that not only has the structure decayed significantly, it was always meant to decay; the tower was designed to fail.

Right: Exploded axonometric of the tower design.

Middle: Box diagrams, demonstrating the uniqueness of each.

Left: Image of tower installation, including plaster base and dried moss.





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and mission,
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decarlsson.cargo.site