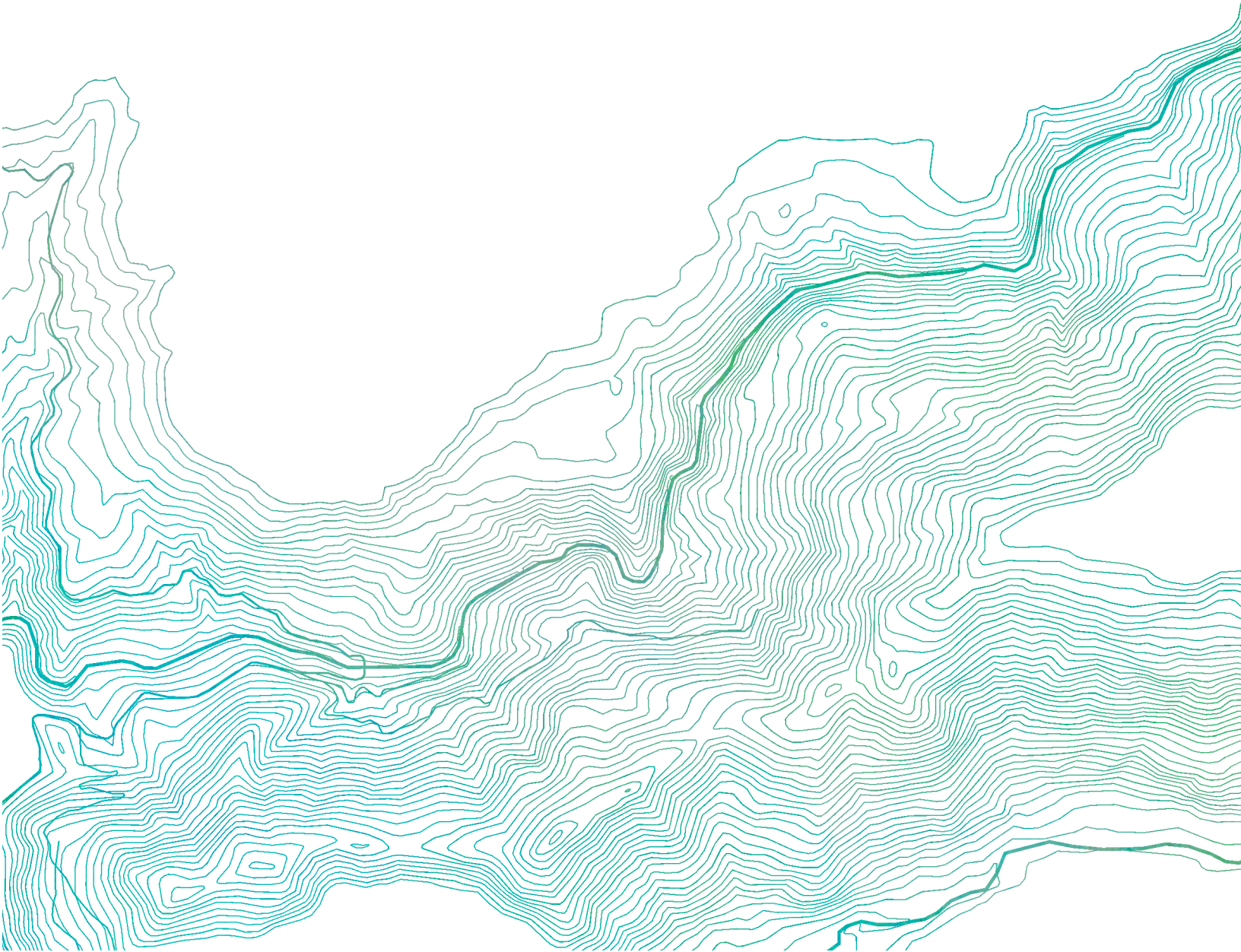


Ruby Application Portfolio  
Zalduondo University of California, Berkeley



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# Oakland Roots | "The Big Little Park"

OAKLAND, CALIFORNIA  
LDARCH 200B, 2023

The final studio project for LDARCH 200B was to redesign a small "triangle" park in the Ghosttown neighborhood of West Oakland, taking into account the site's complex history and contemporary social conditions. The site needed to provide space for three main groups:

- 1 Neighbors to enjoy the green open space
- 2 Senior residents of nearby assisted living apartments
- 3 High schoolers to engage in community service work days



## Land Use Map

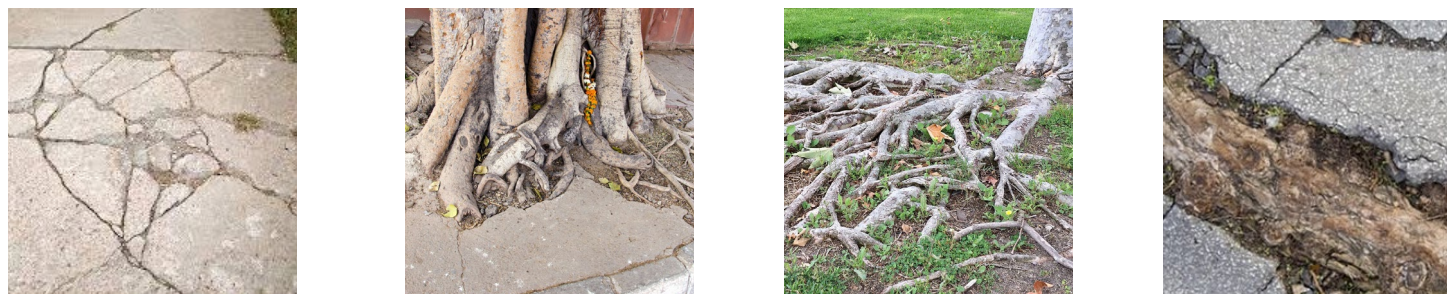


The project began with a study of park development in West Oakland over time. Using historical maps from the Oakland Public Library, I reviewed and mapped Oakland's park system over the last 90 years.

The area surrounding our site (small red triangle) has received significantly less investment in green open space than neighboring areas. From this analysis, a fourth goal emerged: this small park should have outsized impact on addressing "park poverty" by creating a space that feels larger than it actually is.

## Design Inspiration

- A The way trees, roots, and grasses erupt, disrupt, and resist the built environment
- B West Oakland's social and political "roots"

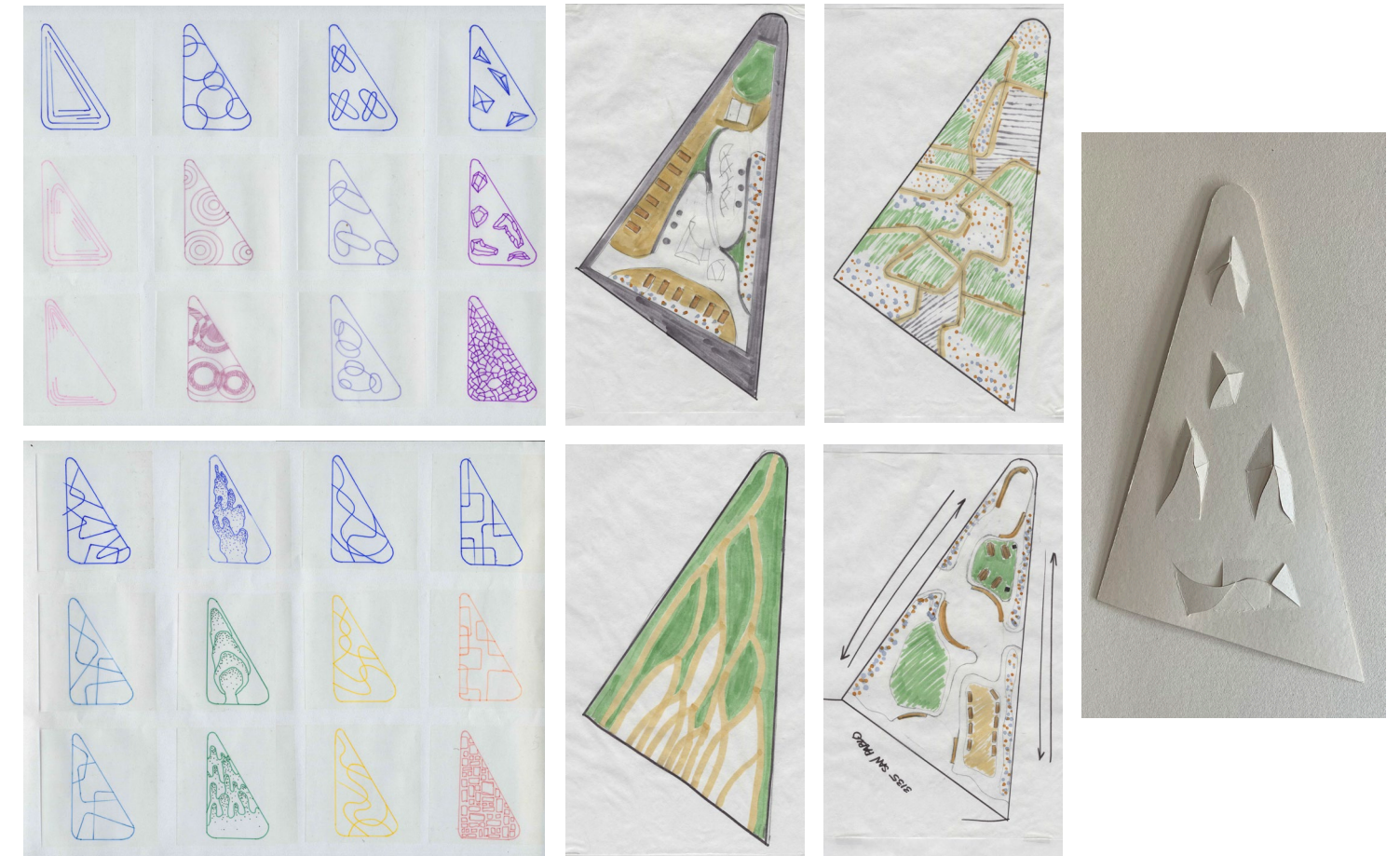


## Collage



This collage illustrates West Oakland's history as a site of resistance, racial encounter, and Black life that exists in tandem with contemporary struggles for land ownership, health equity, and food justice. I explored our site's "roots" through the lenses of disruption, recognition, route, and connection.

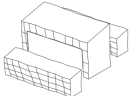





## Design Iterations



# Final Plan



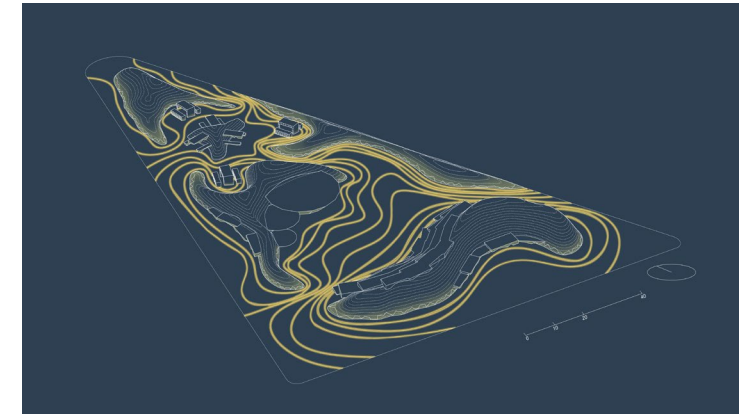
The final design draws upon heavily upon the "Oakland Roots" metaphor, with the physical eruption of landform "roots" breaking the pavement surface. Several details throughout the site reify the design's stance that the built environment cannot hold down the deep and powerful legacies that live just under Oakland's concrete surface.

-  Granite Benches + Tables
-  Curvilinear Lighting
-  Stacked Granite Curbstone
-  Amphitheater Seating
-  Stage
-  Landform "Roots"

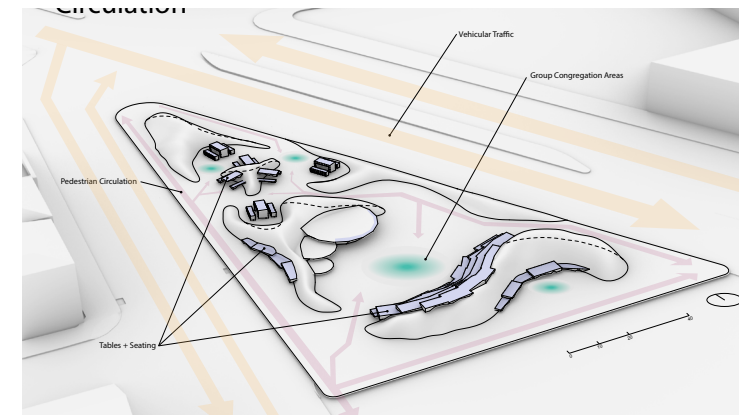


The height of the landforms across the park create a visual illusion that the space is much larger than it really is. Disrupting visitors' line of sight with the steep berms and planting gradient creates moments of discovery through the division of space.

# Lighting



# Circulation



# Programming



# Scale Model



Rough edge conditions bordering the landforms mimic the slow but steady power with which tree roots lift up sidewalks. The benches, tables, and amphitheater seating are made of rough-cut slabs of granite, signalling the re-use of concrete broken up by the landforms. The small stage in the center of the park is shaped like a turkey tail mushroom growing off the side of tree's root.



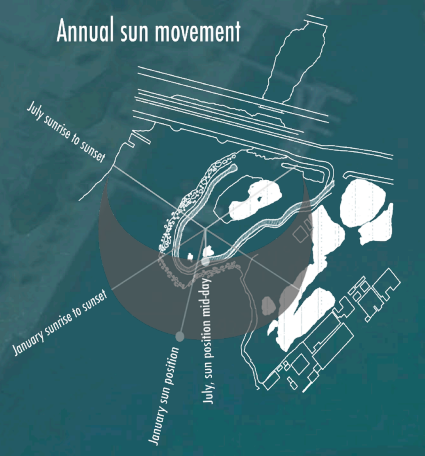
# Tidal Garden

LDARCH 200A Final Project, 2022

For thousands of years, this site and its surrounding area has held significant natural, commercial, and social value. Over the last two hundred years, through periods of migration, industrialization, and deindustrialization, the site became enclosed by major infrastructure, forming the landscape we see today.

My design offers moments of relief from the abutting grey landscape. Facing the tide and sun, my site utilizes these two natural elements to contrast the freeways, bridges, railway, and BART. I wanted this to be a site of curiosity, relaxation, and joy. The tidal garden offers pedestrians the opportunity to relax, engage with the tide, and unique viewpoints across the channel.

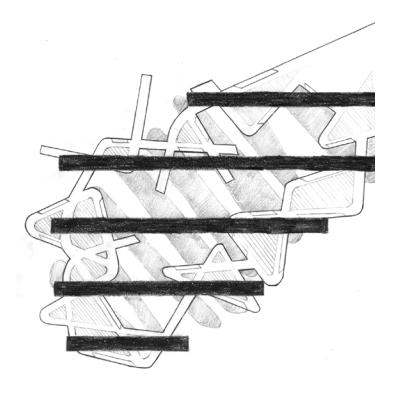
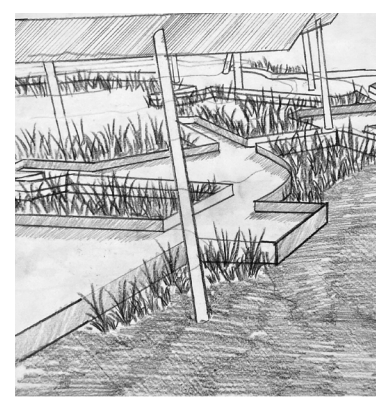
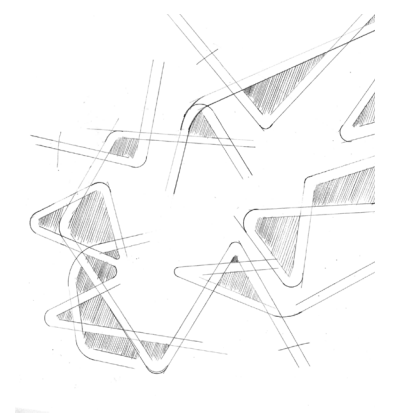
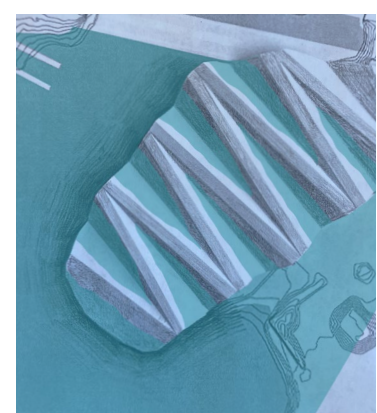
**Tide:**  
I wanted to create more access points to engage with the shore. Longitudinal cuts through the current site's topography allow for more contact area between the tide and the land. As the tide rises and falls each day, the water fills in these troughs in the land and creates opportunity for marinelife to grow, creating a tidal garden. Inspired by the long mounds of dirt on the site covered with black tarps, I used similar organic, long ovular forms to design these mounds/troughs.



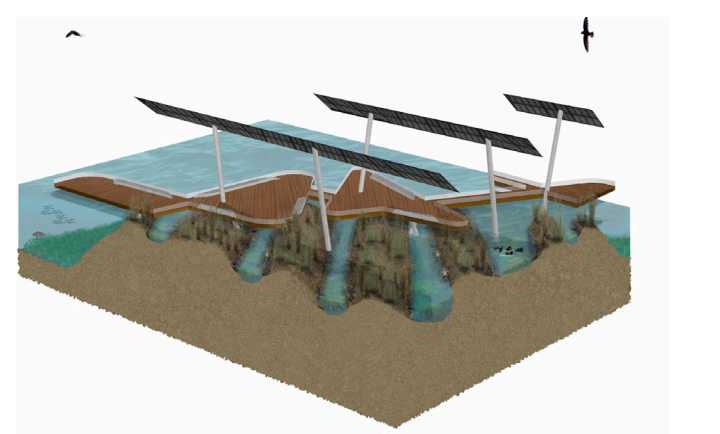
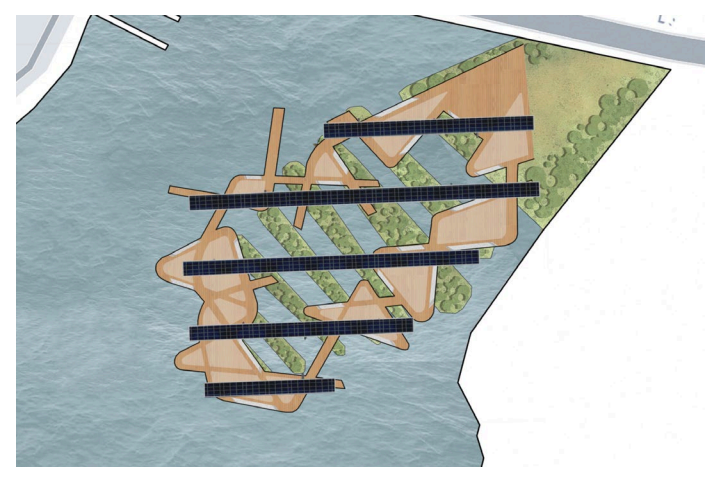
- MHHW
- 1FT SLR
- 3FT SLR
- 5FT SLR



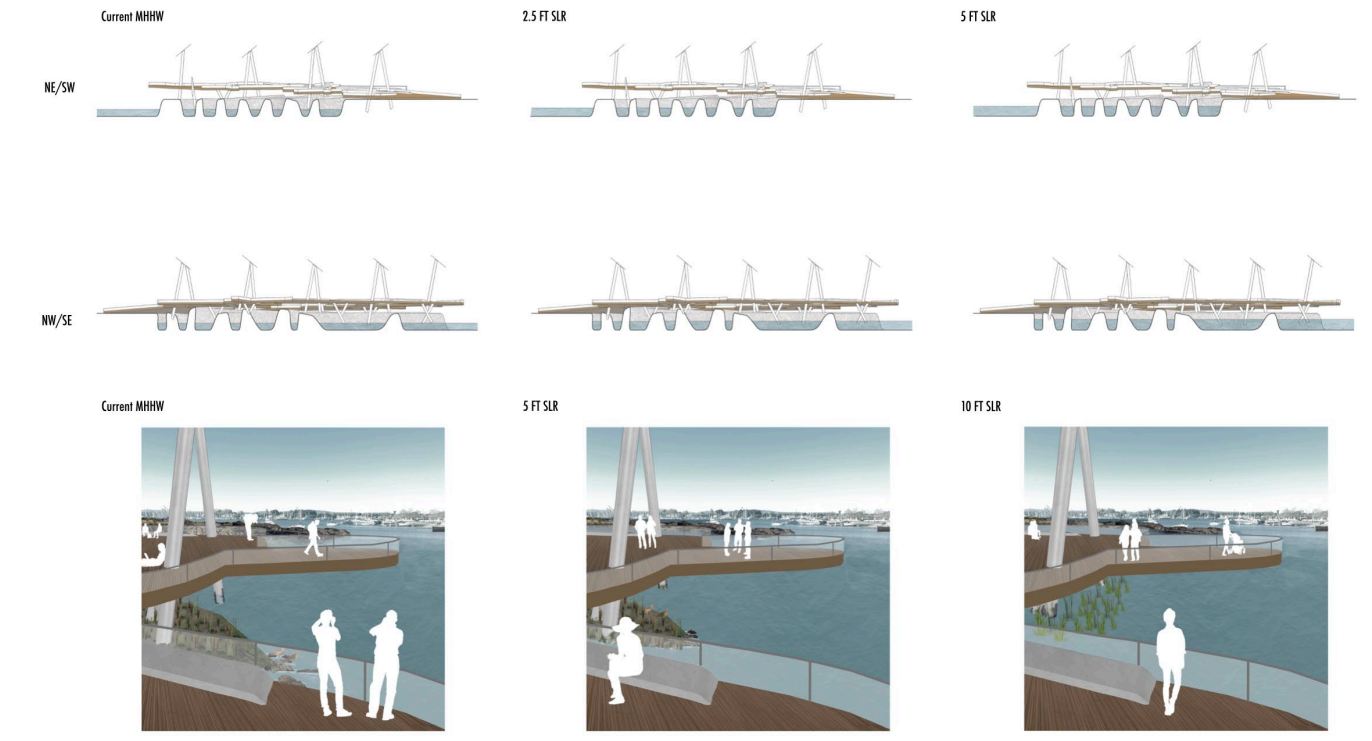
## Process Sketches & Models



## Plan



## Sea Level Rise Projection

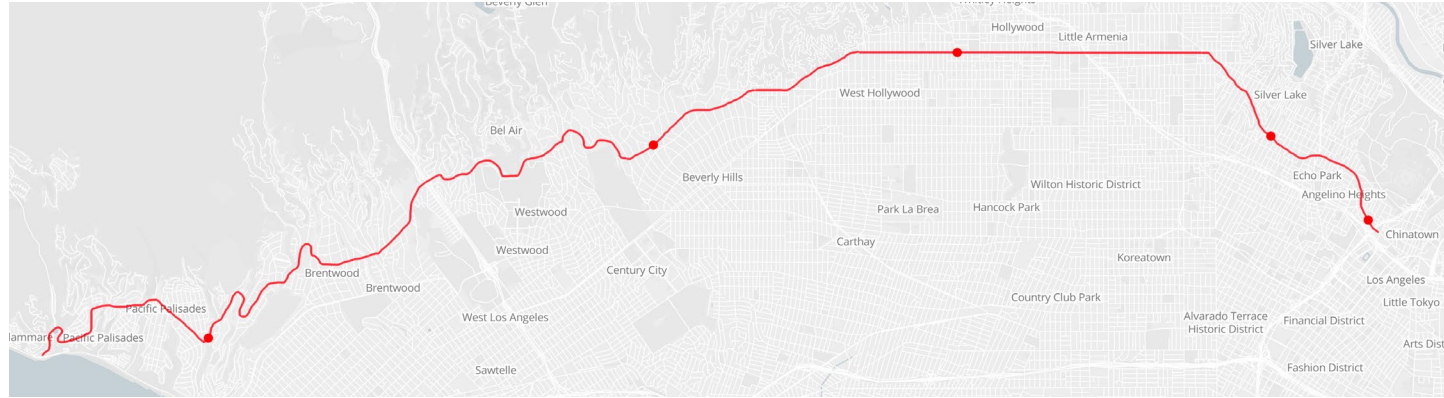


The removed material from the site is used to build up the horizontal mounds, lifting the site by 2 feet. Based on a projected 1.3-3FT of sea level rise by 2100, the site sits 5 feet above current MHHW. Looking further into the future, the sea will gradually envelop the entire site. The mounds/troughs will gradually fill in water, eventually offering a completely submerged marine habitat. Once the deck follows suit and degrades in the saltwater, the lights of the solar panels will finally be removed from the site, leaving the new marine life to grow below.

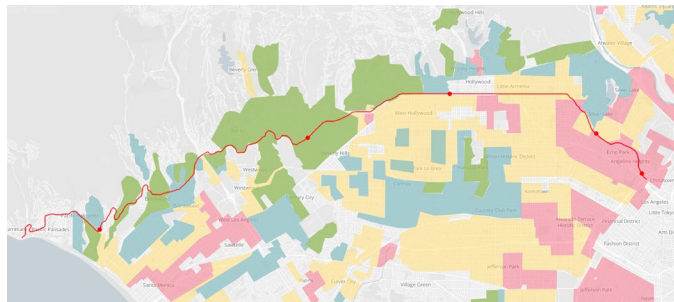
# Shades of Sunset Blvd.

Personal Project, 2021

This project explores the socio-environmental causes of Los Angeles' extreme heat. I pulled data from the NASA ECOSTRESS monitoring system, Tree People's Tree Canopy Map, and the Home Owners' Loan Corporation (HOLC) Los Angeles neighborhood risk assessment map to analyze the connection between systemic divestment and surface temperature. This project follows Sunset Boulevard, one of Los Angeles' most iconic thoroughfares, as it bisects the city's most and least resourced neighborhoods.



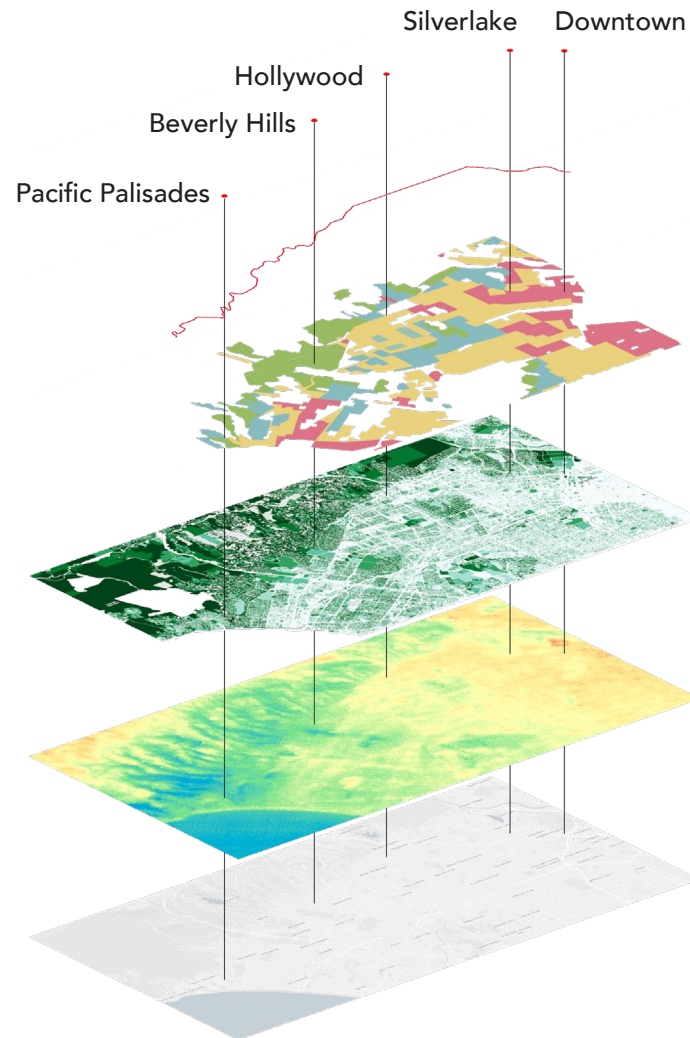
HOLC Los Angeles Residential Security Map



Tree Cover: Tree People Tree Canopy Map



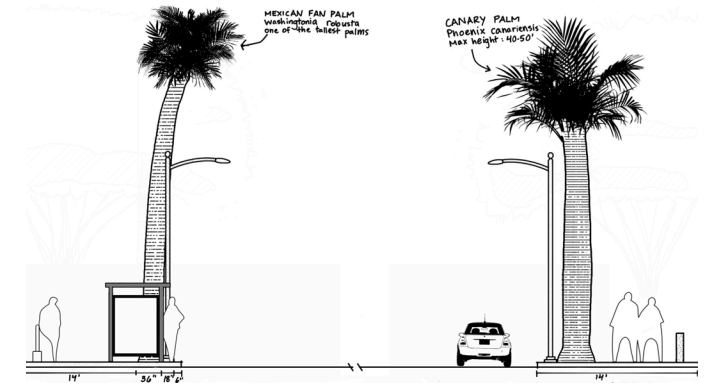
Temperature September 22, 2020: High: 90°/Low: 60°



## Tree Cover Studies

Not only did decades of discriminatory housing policies and practices create landscapes of violence, they created oppressively hot cities. Cities systemically divested in neighborhoods determined to be "redlined," including reduced public facilities, resources, and public works. This included a dangerous lack of shade trees to line streets of these neighborhoods. The effects of redlining are felt, figuratively and literally, to this day. A lack of mature shade trees combined with an abundance of dark, heat-absorbing asphalt create urban heat islands. Urban heat islands become heat danger zones, increasing the risk of heatstroke, dehydration, and fatal temperatures for residents. However, ambient temperature under shade is 7-10° cooler than temperature in the direct sun. Adequate, plentiful, and publicly accessible shade should be standard for municipal habitability requirements and code.

### Hollywood: Sunset + La Brea



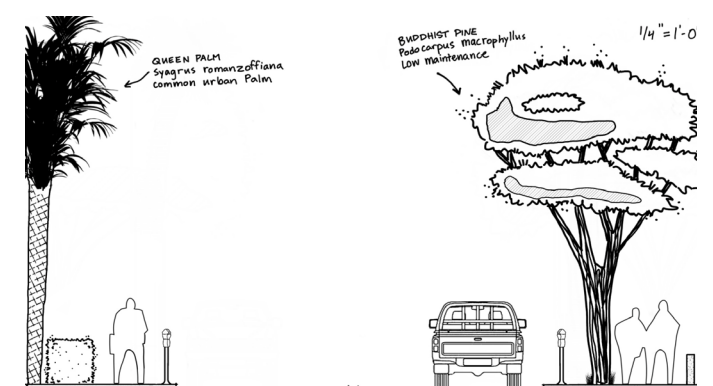
Palms offer little shade cover. Too tall and sparse to cast adequate shadow. Hot day, largely cement landscape. Heavy traffic and idling cars heats up sidewalk and street.

### Pacific Palisades: Sunset + Chautauqua



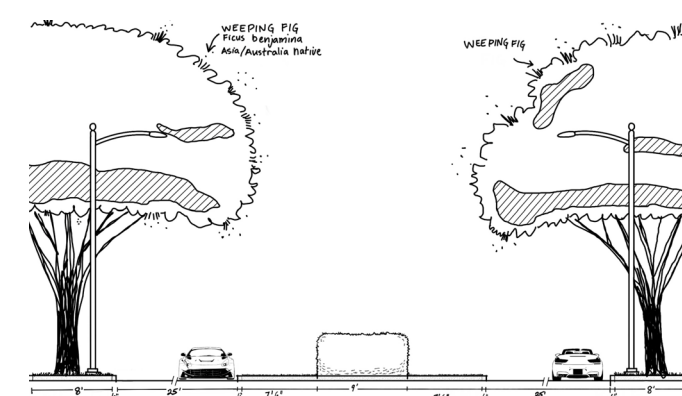
Above average shade cover. Gravel walkway, flanked by tall grass. Wide street, cool temperature, proximity to ocean also a factor.

### Silverlake: Sunset + Occidental



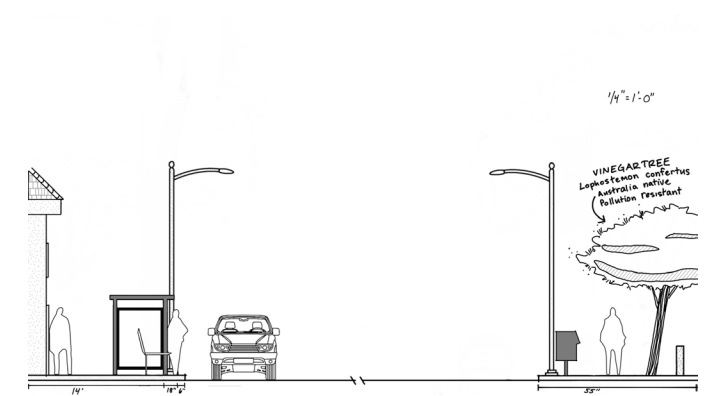
Buddhist pine good shade tree; palm not. Street lined with adequate shade trees. Temperature hotter than Palisades but cooler than Hollywood.

### Beverly Hills: Sunset + Canon



Extensive shade cover by mature ficus. Wide median; manicured lawn and hedge. Shade 10° F cooler than sun. Pleasant temperature.

### Downtown: Sunset + Beaudry



Small tree offers some shade, but across street from bus stop, where people were congregating. Hot day without much shade; people stand below awnings instead of under trees.



# Welcome 2 Afrikatown

## Individual Academic Project, UC Berkeley 2019-2021

In 2014 Qilombo, a radical community center, built the Afrikatown Community Garden on the vacant lot beside their West Oakland property. Community gardens are often a tool for rebranding neighborhoods to appeal to white, wealthy residents. Qilombo resisted patterns of displacement and gentrification by reclaiming and investing in the existing community. Facing the garden is the Afrikatown mural, which depicts a multifaceted celebration of the Black Panther Party, food sovereignty, and African liberation. This garden provided free subsistence to the community, as well as being an access point for free clothing, resources, and horticultural education. In 2018, Afrikatown was ordered to vacate by the lot's owner, Sullivan Real Estate. The group held multiple in-person and online campaigns to save the community garden. The group continued to occupy the space until 2019 when Alameda County officials closed it permanently. The Afrikatown mural can still be seen facing the emptied lot.

This visual representation aims to honor the original design, intent, and impact of Qilombo's members and leaders. Given my positionality as a non-Black person who is not native to Oakland, I acknowledge my temporal and spatial distance from the garden's inception and community. I strongly believe that the communities closest to the problem are also best equipped to create solutions. The obstacle and adversary of the garden was not unsatisfactory design but capitalist greed and institutional racism.

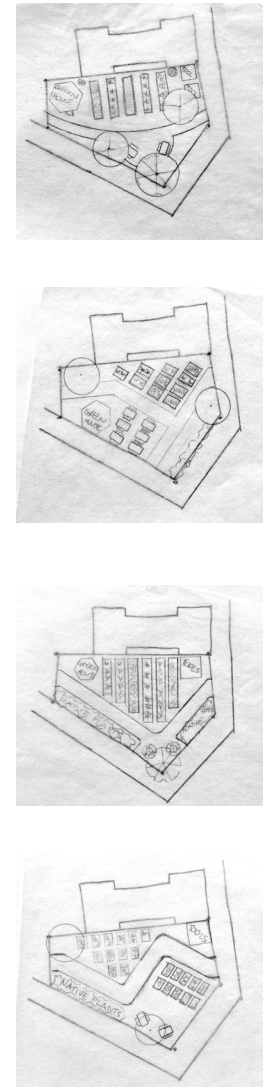
### Pre-Eviction Activity



### Site



### Process Sketches



### Render



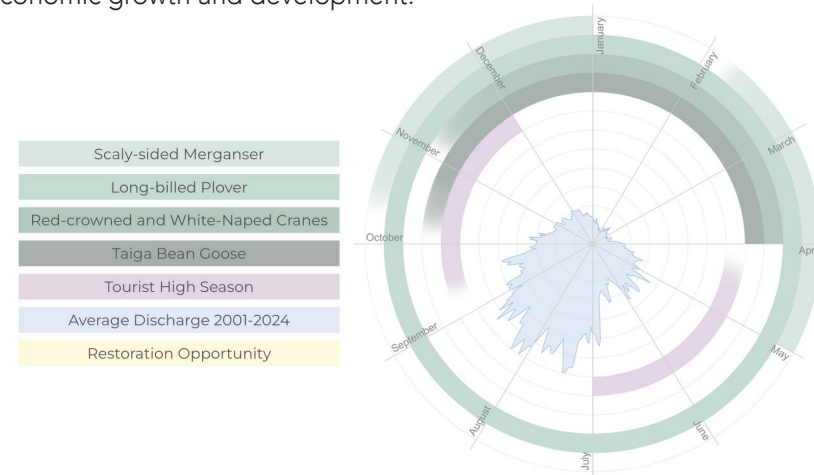
# Restoration of Jeongok Wetland Park on the Hantan River

Environmental Planning Studio, 2024

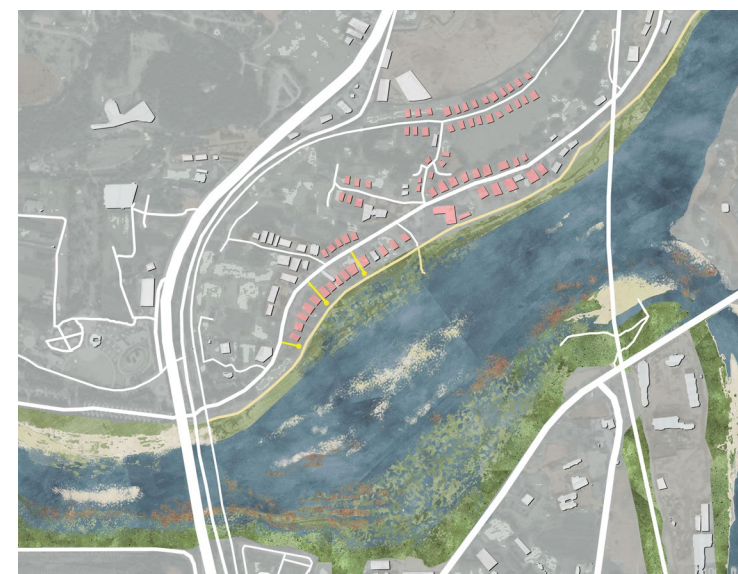
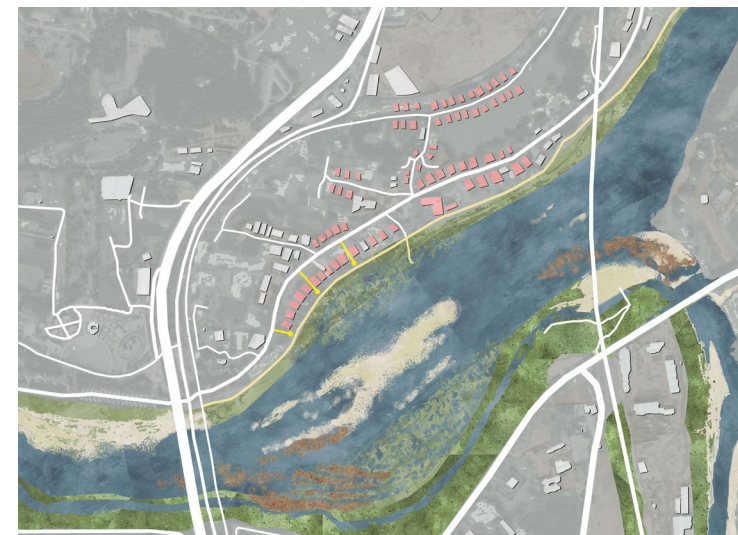
This studio assignment was to develop a plan for a 40-hectare site on the Hantan River near Jeongok City, South Korea. The project was approached through three priorities of the biosphere reserve designation: (1) re-establish the Hantan River wetlands and natural riparian zones, creating habitat for key species (2) create opportunities for education and play for people of all ages, and (3) create areas for sustainable economic growth and development.

My contribution to this group project was in fulfilling the first design pillar which was to create and re-establish ecological complexity and habitat for several species. By creating a variety of wetland and shingle bar habitat, this design supports birds and other wildlife. Utilizing the power of the river to do the bulk of moving sediment, we proposed to primary actions: (1) create pilot channels in the southern bank to restore natural river dynamics and (2) deposit dredge spoils in strategic upstream locations that allow the river to erode and deposit sediment downstream to create plover nesting habitat.

## Day Zero Restoration Plan



Year One to Year Ten Dynamic Evolution



Perspectives at Year One





# Community Solar Microgrid in Puerto Rico

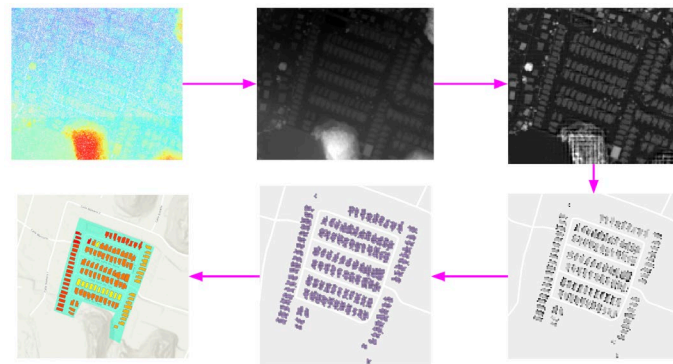
Contribution to Environmental Planning  
Thesis by Kevin Otero-Ramos, 2024

This project's aim was to address energy reliability and security within a community within Puerto Rico by doing a feasibility study of a solar-powered microgrid system as an alternative for the centralized grid system. The first half of the feasibility study (non-GIS) was conducted in collaboration with Kevin Otero-Ramos, an environmental planning graduate student at the Ana G. Mendez University in Florida.

By conceptualizing, developing, and simulating a solar-powered microgrid system model for a residential community in Puerto Rico, this could result in energy resilience, self-sufficiency, and reduced dependency on traditional fossil fuel-based power generation. The research focuses on the community of Valle Dorado, Puerto Rico, which is a small community of 117 homes.

Feasibility studies like these are important to show how communities can install and implement community-scale solar and achieve energy self-determination.

## Calculating rooftop surface area using LiDAR



## Map of Valle Dorado, Puerto Rico



## 3D Building Footprints by Rooftop Surface Area



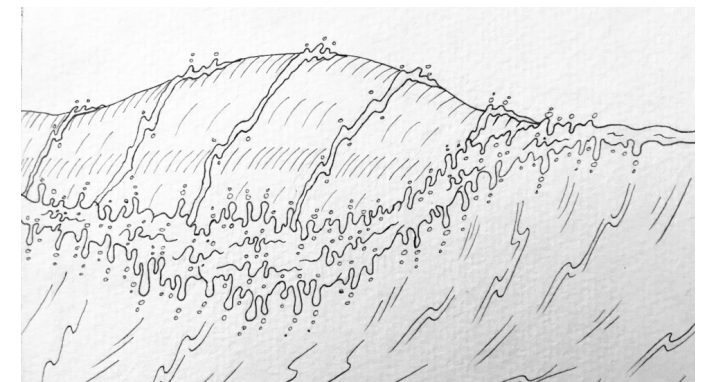
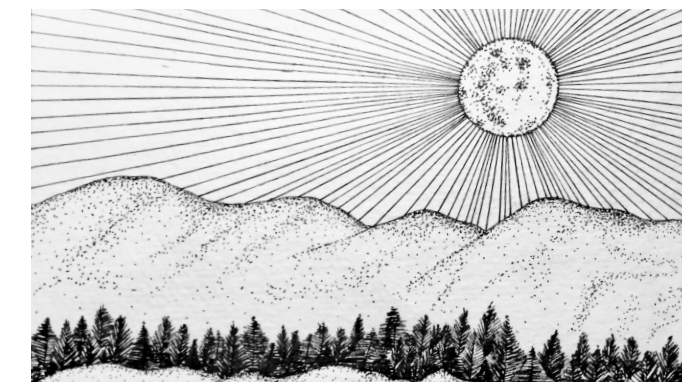
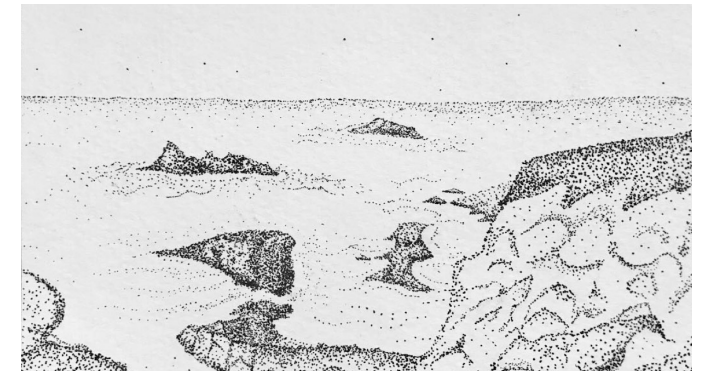
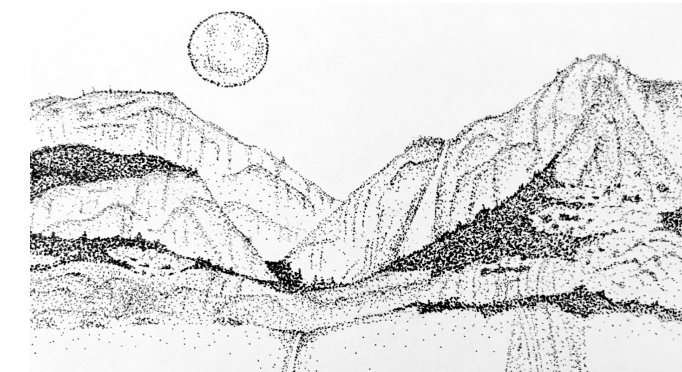
## Perspective of Rooftop Solar System in Valle Dorado



For 117 homes in Valle Dorado, all of which are relatively the same size, he calculated the overall community electrical demand to be 2,340 kWh/day. The photovoltaic system required to meet this energy demand would consist of: 11,628 solar modules and a rooftop area of 14,465.23 m<sup>2</sup>. Using data from Puerto Rico Building Footprints, Valle Dorado neighborhood boundaries, Raster DEM from USGS, and LIDAR point cloud file data, I modelled and calculated that Valle Dorado has a total rooftop area of 21,950.39 m<sup>2</sup>, sufficient for a community microgrid.

# Drawing + Carpentry

Three-hour Landscape Studies  
Stanislaus National Forest and Big Sur, 2020



## End-Grain Butcher's Block

Maple and Cherry Wood

