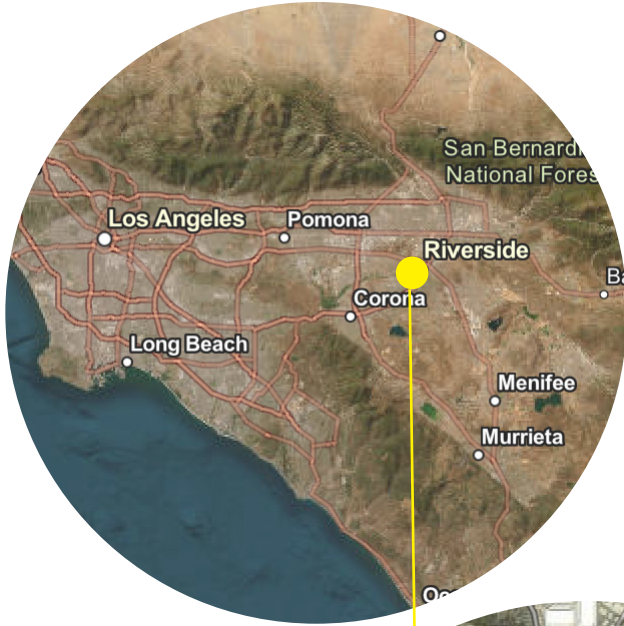


An aerial photograph of the Tequesquite Landfill site. A pink line outlines the perimeter of the landfill area. Inside this boundary, several rectangular solar panels are arranged in rows, indicating a solar farm layout. The surrounding landscape includes a mix of green vegetation, brownish soil, and a residential area with houses and streets visible in the lower right corner.

LD7: Tequesquite Landfill Redesign

Site Location



County: Riverside County

City: Riverside

Neighborhood: Grand

Street location: W of the westerly terminus of Tequesquite Ave

Adjacent waterways: Santa Ana River, Tequesquite Creek (Tequesquito Arroyo)

Adjacent Mountains: Mt. Rubidoux

Adjacent trails: Santa Ana River Trail

Zoning: Public Facilities (PF)/ GP Private Recreation (PR)

Acreage: 125 acres

Existing infrastructure: Photovoltaic solar arrays, electrical conduits, appurtenant facilities, Electrical Equipment Building- east of Landfill Gas Treatment Facility

Site Photos



Brutal shade structure



Skate park



Santa Ana River Trail Trail head



SE edge of site



PV cell arrangement



PV equipment



Service road along edge of Santa Ana River



Culvert to divert water



Above ground electrical poles

PRE-COLONIZATION



The Tequesquite Arroyo landscape (landfill area) was part of the ancestral territory of the Cahuilla, Luiseño, Serrano, and Tongva (Gabrielino) people. Tequesquite Arroyo, prior to its fill would have been a seasonal water source for the indigenous inhabitants.

1774-1776



Juan Bautista de Anza, an early Spanish Explorer traveled along the Tequesquite Arroyo, guiding settlers towards the Santa Ana River. Soon to follow would be an era of mission expansion and the establishment of rancho system.

1869



Pá'čapa was renamed Mt. Rubidoux, marking the continued dispossession of indigenous lands for the sake of settler profit in the development of Riverside.

1870s



The founding of the Riverside Colony marks a shift from ranching to agriculture, as Riverside became a major citrus producer.

1910



Early reporting indicates that the site of the Tequesquite Landfill was used for municipal trash burning.

1913



Portions of the Tequesquite Arroyo were filled/engineered to allow for urban development of surrounding neighborhoods.

1938



Flooding in the area wiped away visible trash piling at the site. The flood led to the channelization of multiple waterways in Los Angeles and Riverside Counties.

1947



End of trash burning, as city residents demanded a more efficient way of refuse control at the landfill site.

1958-1981



Garbage was dumped via ramp and area method—led to massive piling of refuse, 45' high in some parts.

1981-1985



Garbage dumping ceased, and the land became a Class III Sanitary landfill.

1985



Landfill closed and capped with 6" layer of soil to encourage vegetational growth and stabilization.

2010



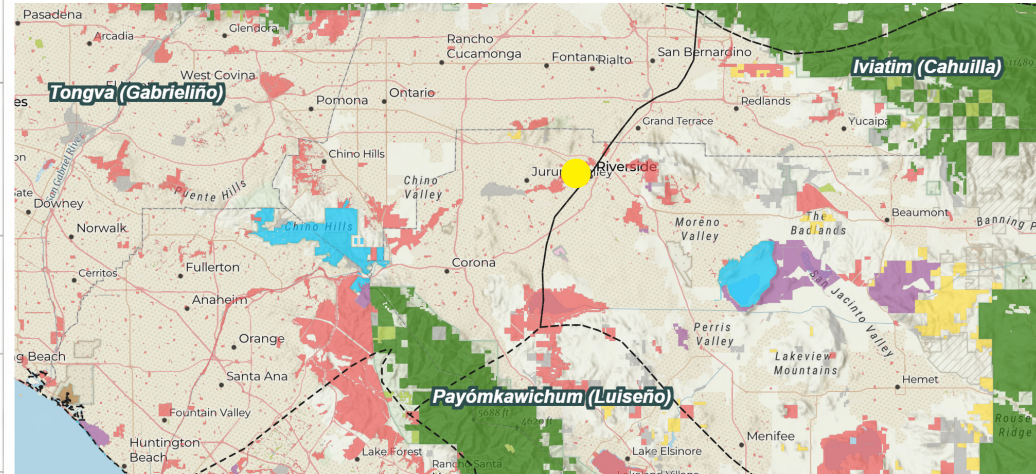
CEQA review approved for the transformation of the landfill site to a photovoltaic solar farm.

2015



Photovoltaic Solar Farm officially opened with the intent to generate 10MW (10,000 homes) with zero emissions by 2025.

Site History



Site location on map of tribal territories in Los Angeles and Riverside Counties



Citrus orchards in Riverside, 1870s



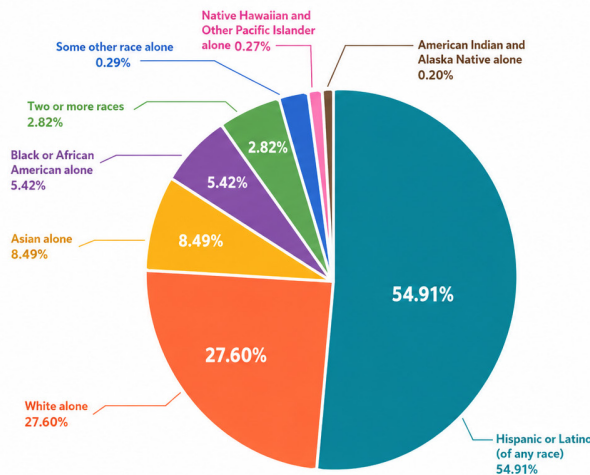
Sacred Mt. Rubidoux, today



Tequesquite Landfill Solar Project
Tate Tilles-Perrine/LD7 Spring 2026/Presentation 4

Demographics- City of Riverside, CA

Population Share of Riverside by Race/Ethnicity



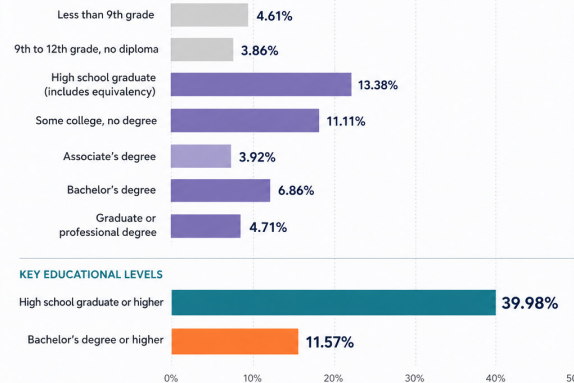
Race/Ethnicity	Population %
Hispanic or Latino (of any race)	54.91%
White alone	27.60%
Asian alone	8.49%
Black or African American alone	5.42%
Two or more races	2.82%
Some other race alone	0.29%
Native Hawaiian and Other Pacific Islander alone	0.27%
American Indian and Alaska Native alone	0.20%

Source: United States Census Bureau, ACS 2021 DP05

Population 25 Years and Over

Educational Attainment (Riverside, CA)

EDUCATIONAL ATTAINMENT BREAKDOWN



KEY EDUCATIONAL LEVELS



Source: United States Census Bureau, ACS 2021 DP02



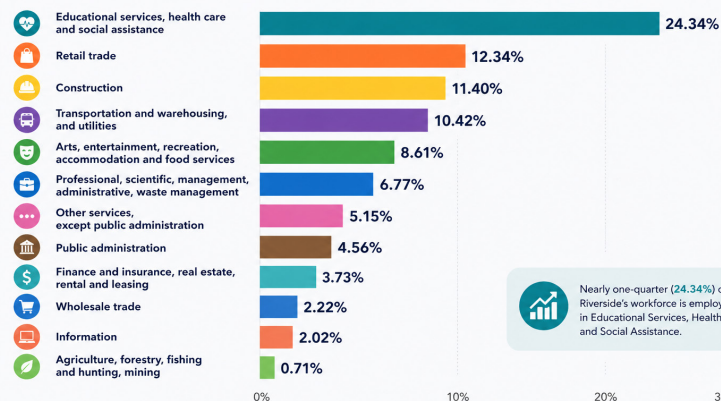
39.98%
High school graduate or higher



11.57%
Bachelor's degree or higher

Industry

Share of Riverside's workforce by industry



Source: United States Census Bureau, ACS 2021 DP03



Nearly one-quarter (24.34%) of Riverside's workforce is employed in Educational Services, Health Care and Social Assistance.

Additional Statistics

Population size: 323,757

American Indian and Alaska Native alone: 0.2%

% Foreign born, persons present '20-'24: 22.4%

Median-value of owner occupied home: \$584,800

Persons w/o health insurance, under age 65: 9.9%

Persons experiencing poverty: 12.2%

Median household income: \$90,004

Site Context



LEGEND

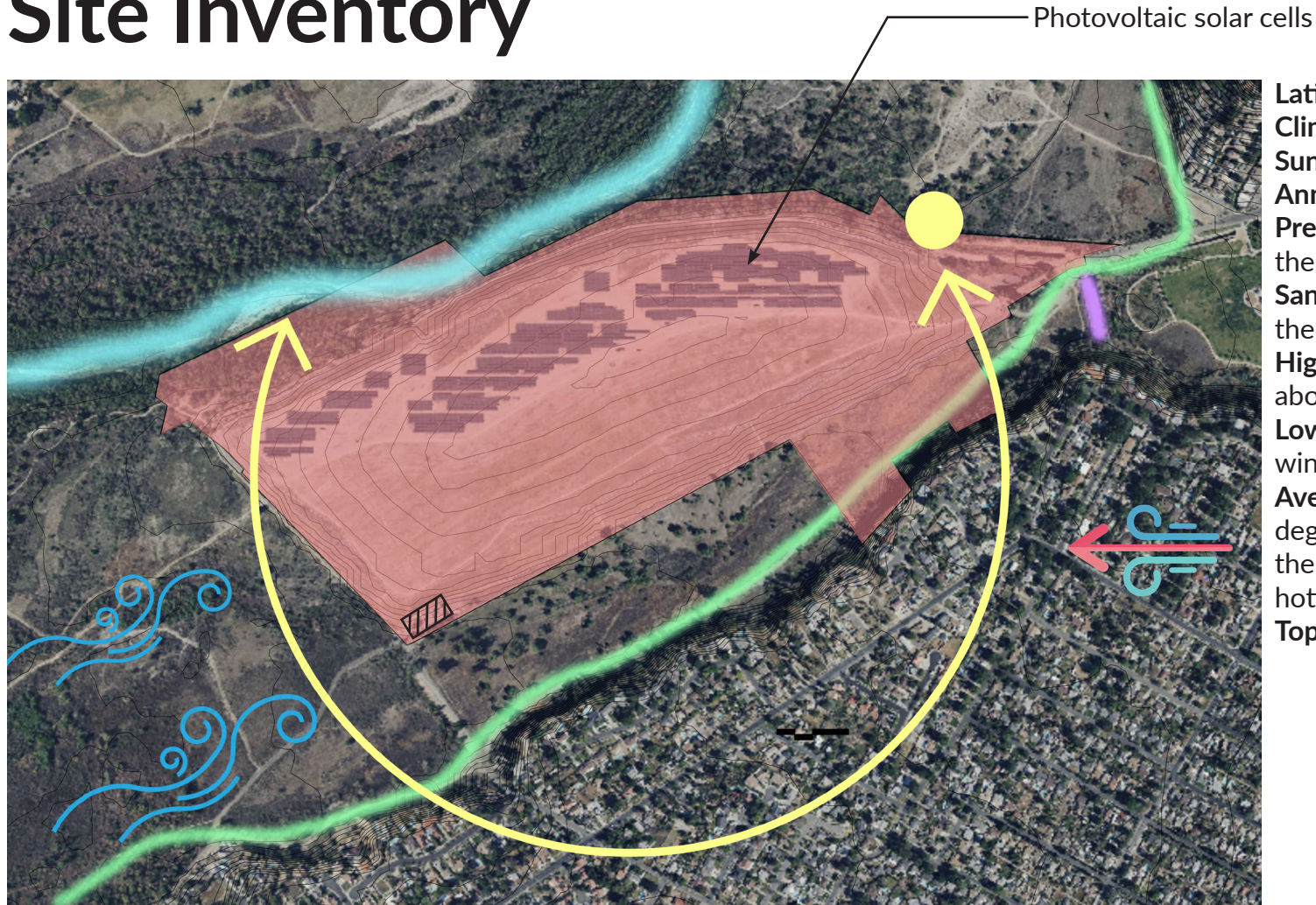
- Limit of Work/Landfill
- Residential/Mixed commercial
- Parkland/Open space
- City College/Collection of Schools

- Cemetery
- Riverside Hospital
- Flabob Airport
- Santa Ana River

- Mt. Rubidoux



Site Inventory



Latitude: 33.9 degrees N
Climate: Mediterranean
Sunset Climate Zone: 18
Annual Rainfall: ~12-15"
Prevailing winds: coming from the west/southwest
Santa Ana Winds: coming from the east
Highest angle (solar noon max): about 82° in summer
Lowest noon angle: about 33° in winter
Average temperatures: 45 to 90 degrees with December being the coldest month, and July the hottest
Topography: every 4'

LEGEND

Skate park

Santa Ana River Trail

Limit of Work/Landfill

Solar path

Santa Ana River

Prevailing winds

Santa Ana winds

Methane incinerator



Existing Native Shrubs



CA Buckwheat
Eriogonum fasciculatum



Desert Brittlebrush
Encelia farinosa



Sapphire Woolly-star
Eriastrum sapphirinum



Alkali Heliotrope
Heliotropium curassavicum



Annual Burweed
Ambrosia acanthicarpa



Slender Pectocarya
Pectocarya linearis

Existing Non-Native Shrubs



Long-Stemmed Filaree
Erodium botrys



Russian thistle
Salsola tragus



Tocalote
Centaurea melitensis



Australian saltbush
Atriplex semibaccata

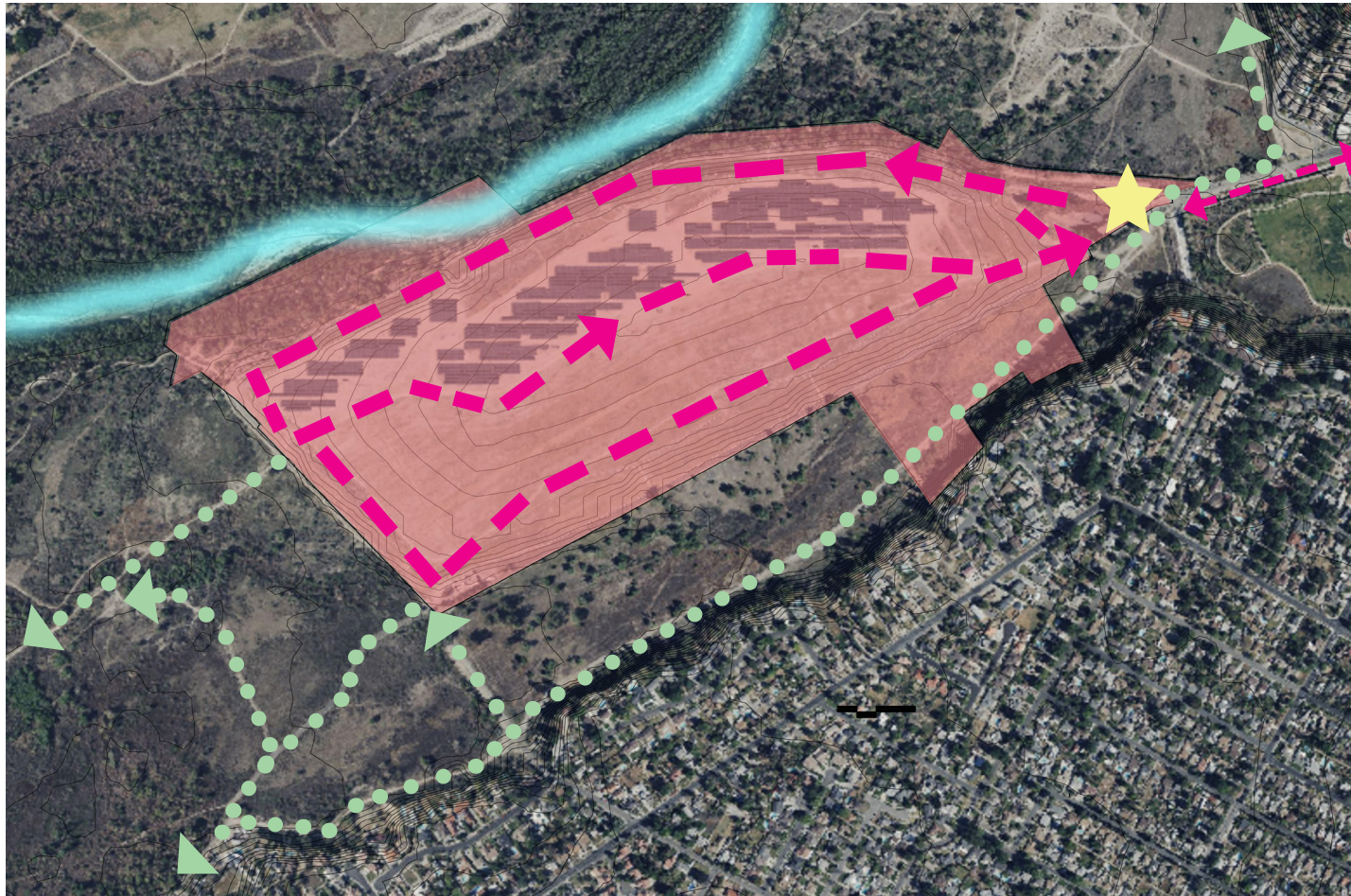


Summer Mustard
Brassica geniculata



Red brome
Bromus madritensis ssp. *rubens*

Circulation



LEGEND

- ➔ Primary cyclist (pedestrian) circulation
- ➔ Primary vehicular circulation (security and maintenance vehicles)
- - ➔ Primary vehicular circulation for residents/park-goers
- ★ Main access point

■ Santa Ana River



Drainage and Topography



Drainage culverts divert water from landfill footprint to prevent leachate or percolation that could disturb the waste beneath the surface.

Topography shows contour lines that are 4' apart.

HP: 792'

LP: 736'

- Water flows down towards the culverts that surround the base of the landfill.
- The culverts serve to reduce erosion of the topsoil as well as to safely move the water to s

Access



Travel radius

- 10-minute walking
- 10-minute biking
- 10-minute driving

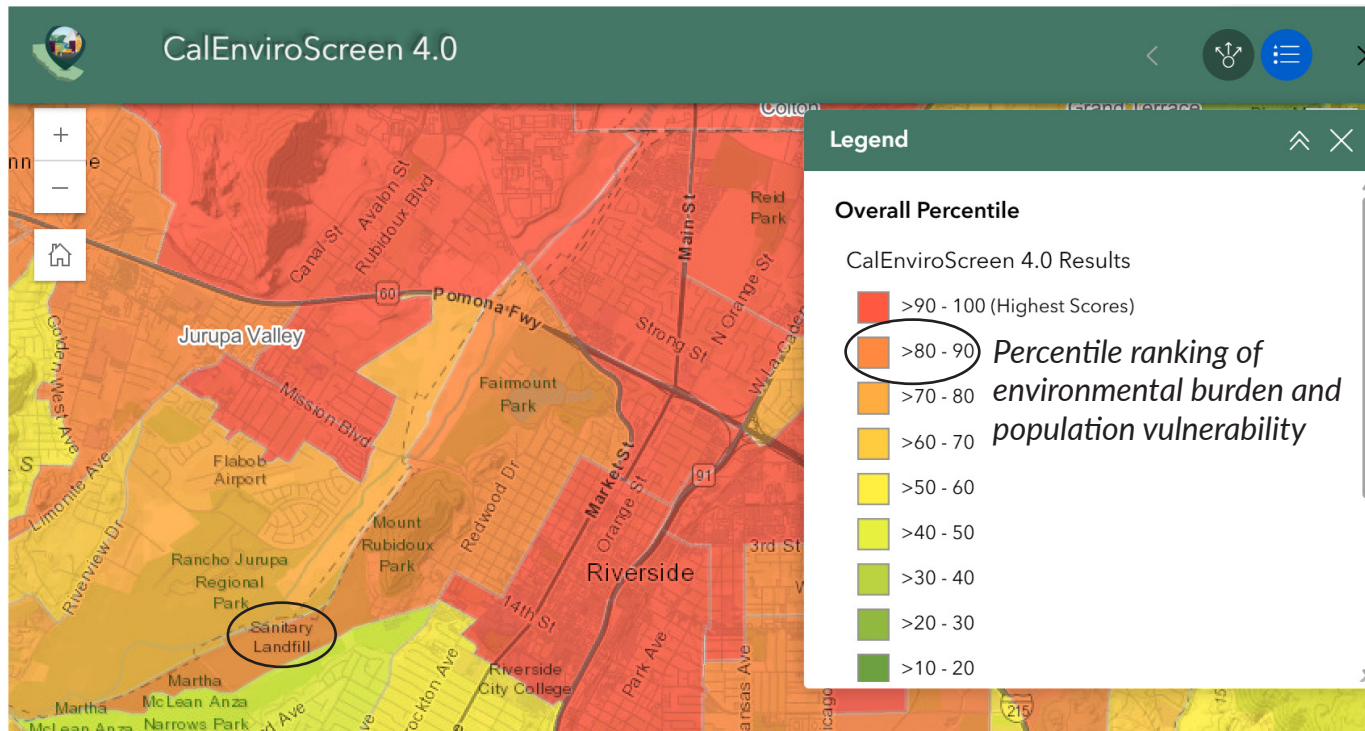


Access to this adjacent skate park give local residents/community members a safe place to skate.

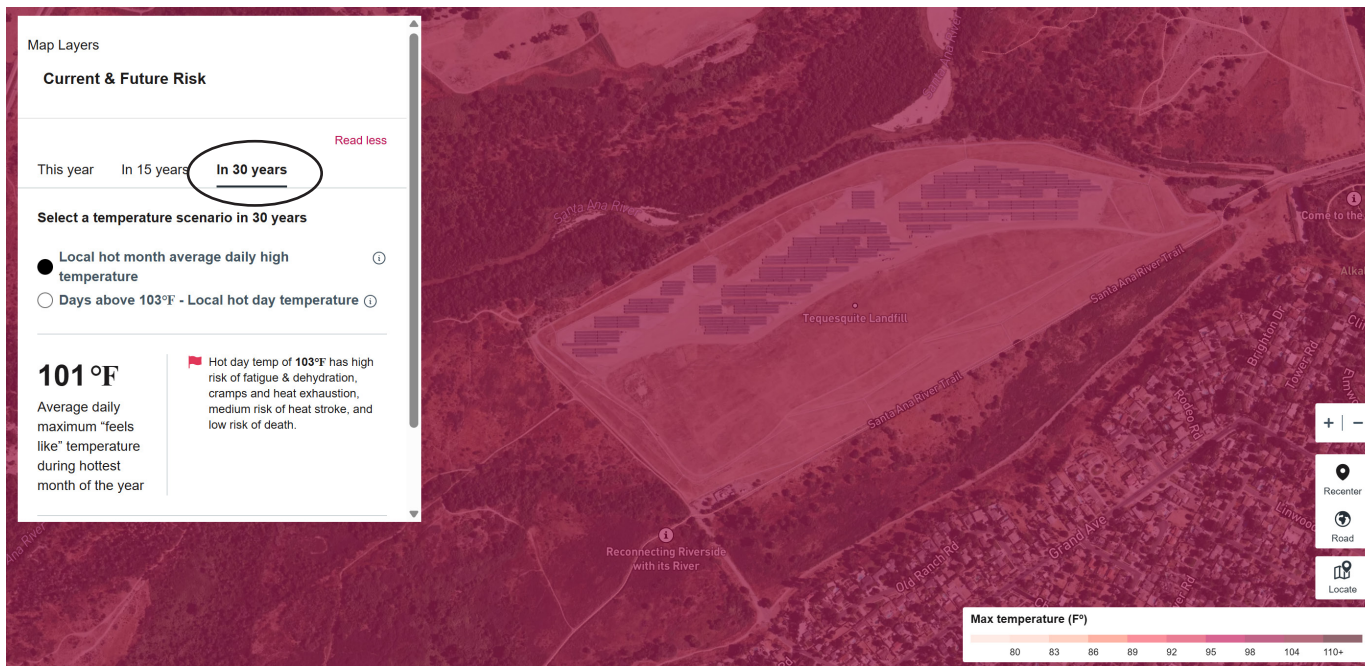


The Santa Ana River Trail allows for the easiest access for pedestrians and cyclists. It stretches along the south/southeastern edge of the Santa Ana River, and provides ample opportunities to link into the landfill site.

Urban Heat Index



The Urban Heat Index in Riverside is projected to **rise by more than 3 degrees over the next 30 years**, intensifying the impacts of climate change across the region. Rising temperatures will not only affect residents, but also local wildlife, whose habitats will become increasingly inhospitable over time. As heat conditions worsen, communities face greater risks of heat-related illness, dehydration, fatigue, and heat stroke, while ecosystems experience mounting environmental stress and habitat loss.



These impacts also **threaten the city's long-term economic resilience**. As outdoor environments become less comfortable and accessible, participation in recreational activities may decline, reducing visitation to parks, public spaces, and other community destinations that contribute to the local economy. Over time, the **loss of hospitable outdoor spaces could significantly affect tourism, local businesses, and the region's overall economic sustainability**.

Shirley Chisholm State Park



**SHIRLEY CHISHOLM
STATE PARK**
<https://parks.ny.gov>



Native Peoples: Lenape

Location: SE Brooklyn, NY

Context: Situated within the N boundaries of Belt Parkway and Spring Street Park and Jamaica Bay to the S

Acreage: 407 acres

Elevation: 130 ft above sea level

Opening Year: 2019

Park Namesake: the 1st African American woman to be elected to congress in 1968

Park Amenities: 10 miles of biking and hiking trails, a bike library with loaner bikes, waterfront access, picnicking, environmental education via public group tours, kayaking, and observing local flora and fauna

Former Operating Landfills: Pennsylvania Avenue and Fountain Avenue Landfills ('56-'83)

Method of capping: plastic cap with below ground barrier; below grade piping installed to capture methane and move it to the site's two flares; 1.2 M tonnes of soil added (4' depth).

Ecological restoration: site was planted with over 35,000 shrubs, trees and native grasses.

Unique feature: site has developed "self-guided" interpretation pamphlets- help visitors navigate the site in fun and engaging ways



Shirley was also the first African American woman to run for president.

This park is unique in that it was developed in collaboration with various entities: New York State Office of Parks, Recreation and Historic Preservation and the National Park Service as part of the Gateway National Recreation Area. This GNR area is made up of over 20,000 acres of land that connects various parks and green spaces that link outdoor recreational spaces across water, land and sea. This park specifically, is owned by the National Park Service and leased to the state of NY for a 60 year period. Its neighboring green spaces, and its namesake reflect the community values that emphasize environmental restoration, social advocacy and community education.

Similar to Tequesquite Landfill Solar Project, this site is quite large in size. I think it is quite successful in being a part of a grouping of green spaces that are oriented towards ecological restoration. It provides people with a variety of recreational options- from kayaking to birding, biking to hiking. I take away that this is a park for the community, as it is within walking distance to local transit and provides ample bike ways for people to travel to the site sans vehicle.

Freshkills Park

Native Peoples: Lenape

Location: Western edge of Staten Island

Context: on the western bordering edge of NY and NJ

Acreage: 2315 acres

LA Firm Awarded Bid: James Corner Field Operations

First Public Access: 2008; this is a phased project, with more public access to be gained in the future

Park Namesake: Dutch word *kille* meaning “creek” or “water channel”

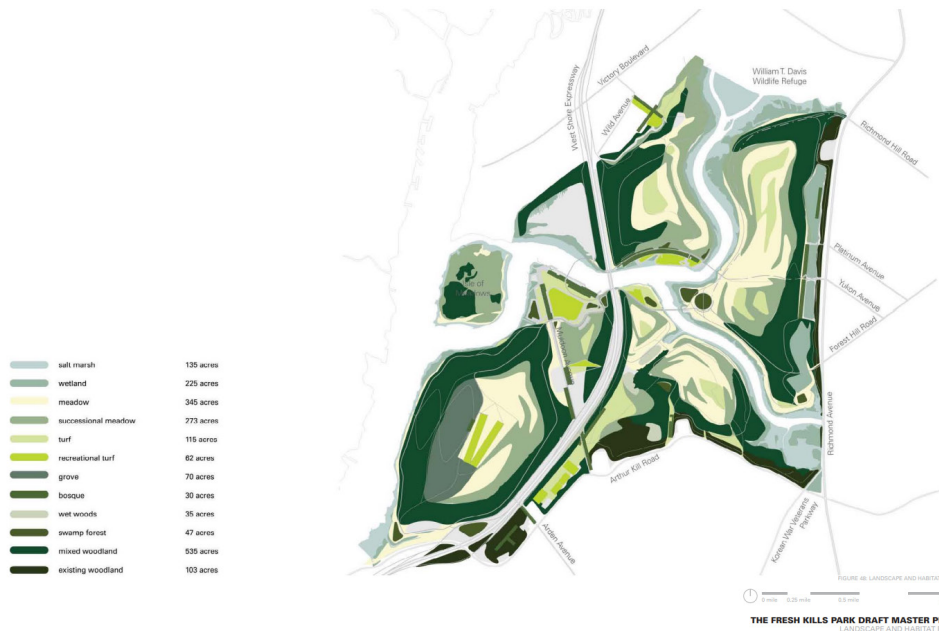
Park Amenities: 40 miles of trails, hiking, biking, picnicking, kayaking, birding, stewardship, environmental education, art, research

Former Operating Landfill: Freshkills Landfill ('48-'01)

Method of capping: The site is defined by 4 capped landfill mounds, layered with soil, geotextiles, and geomembranes (3'–12' deep); it's integrated with systems of wells, pipes, and trenches that capture methane and leachate for treatment.

Ecological restoration: only 45% of the park is the original landfill, the remaining is restored wetlands and grasslands; native floral has been planted to attract native fauna of the region

Unique feature: the park is defined as “lifescape”, meaning its considered a living system that evolves over time



Two whole years were devoted to gathering information from community members to make this a park that will get used.

This park is unique in that it is not only massive, but it sits atop the once largest landfill in the entire world. Freshkills has a long history of housing the greatest amount of waste, and now it is considered a leader in ecological renewal and recreational experience. It does an amazing job of restoring local ecology while also inviting in visitors to research, engage with, practice art with the park as the muse, and to gather as community. This park also fosters stewardship and supports organizations such as Freshkills Alliance, whose mission is to consider the future care and restoration of the site.

What I find fascinating about this site, and landfill sites in general, is that settling time needs to be factored into the design. How the land literally shifts beneath one's feet as the organic waste stored below the earth continues to shrivel and release gases that are captured and processed for release elsewhere. This site is interesting as well in that it is much larger than the Tequesquite site, and yet, the interpretive and educational ways it engages with the public seems to have attracted a community that genuinely wants to care for it.

Puente Hills Landfill Park

Native Peoples: Tongva-Gabrielino

Location: Western tip of Puente Hills, above San Gabriel River

Context: N terminus of Puente-Chino Hills Corridor

Acreage: 1365 acres of landfill; only 142 will be park

LA Firm Awarded Bid: Studio MLA

First Public Access: the plan will be released in phases.

Park Namesake: Puente Hills is the neighborhood in which the landfill exists. *Puente* means “bridge”.

Park Amenities: active and passive recreation, scenic viewpoints, multi-use trails, waste interpretation and education, native habitat

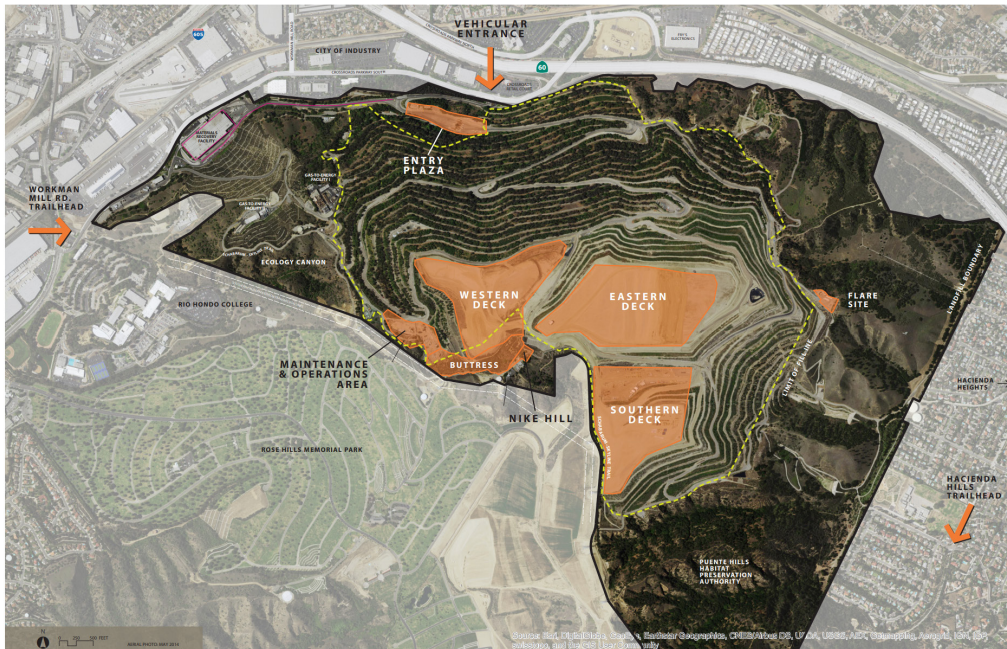
Former Operating Landfills: Puente Hills Landfill ('56-'13)

Method of capping: 5'-12' of clay cap; gas is contained by low gas permeability liners that line the bottom and walls of the landfill by causing lateral and downwards movement of the gas; methane gas management through 1,500 collection wells

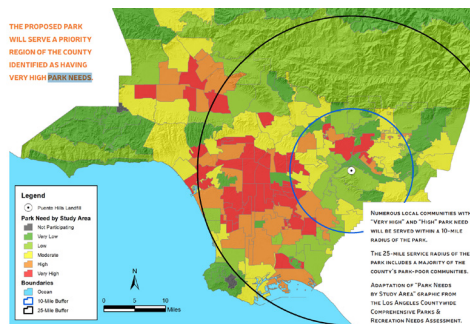
Ecological restoration: site falls within Significant Ecological Area (SEA), which makes for greater standards of protecting and preserving its biological value

Unique feature: site is at the western tip of a 31 mile Puente-Chino Hills wildlife corridor

Design challenge: strict drainage guidelines, water must continue to move and to not stagnate



SITE ORIENTATION MAP AND THE PROPOSED AREAS OF THE PARK.



Map of 10 mile radius around site; colors indicate severity of park needs per community.

Consideration of the community was essential for understanding user needs in the area. Through various forms of media- social, fliers, postcards, emails, website access, etc., the ideas and concerns of hundreds of people were reviewed in early stages of the design process. This feedback helped designers to imagine a space that would serve the local community. It is known that a few of the nearest local communities are in areas that are considered “very high” or “high” in terms of park needs.

The park’s vision is “a park for all”. By providing access to nature, recreational trails, active sports facilities, opportunities of stewardship, and places to gather, this site is intended to have something for everyone. Its unique topography makes for panoramic views of the surrounding city. Because the land will continue to settle, in years to come, imagining vehicular access is a unique challenge for this site. Additionally, the road needs to be shared with maintenance vehicles, whose wear and tear on roads can be significant, especially with a shifting under-surface.

Sai Tso Wan Recreation Ground



Native Peoples: Punti and Hakka land-based communities, along with Tanka coastal communities; although prior to landfill, topography made for fewer inhabitants
Location: Hong Kong, eastern Kowloon
Context: Lam Tin / Kwun Tong
Acreage: ~6.67 acres
LA Firm Awarded Bid: engineering, public works project sponsored by government
First Public Access: 2004
Park Namesake: translates to “west grassy bay”, nods to site’s original coastal, green landscape
Park Amenities: multi-purpose grass pitch for both soccer and baseball, two batting cages, jogging trails, playground, sports facilities, environmental gallery space
Former Operating Landfills: Puente Hills Landfill (‘78-’81)
Method of capping: it was sealed and engineered with a capping layer, landfill gas control system, and leachate management infrastructure; flared system on-site
Ecological restoration: not a major focus of this site
Unique feature: wind turbines, solar panels, methane catchment
Design challenge: smaller park space, can only be so programmed before it fails to serve community’s needs

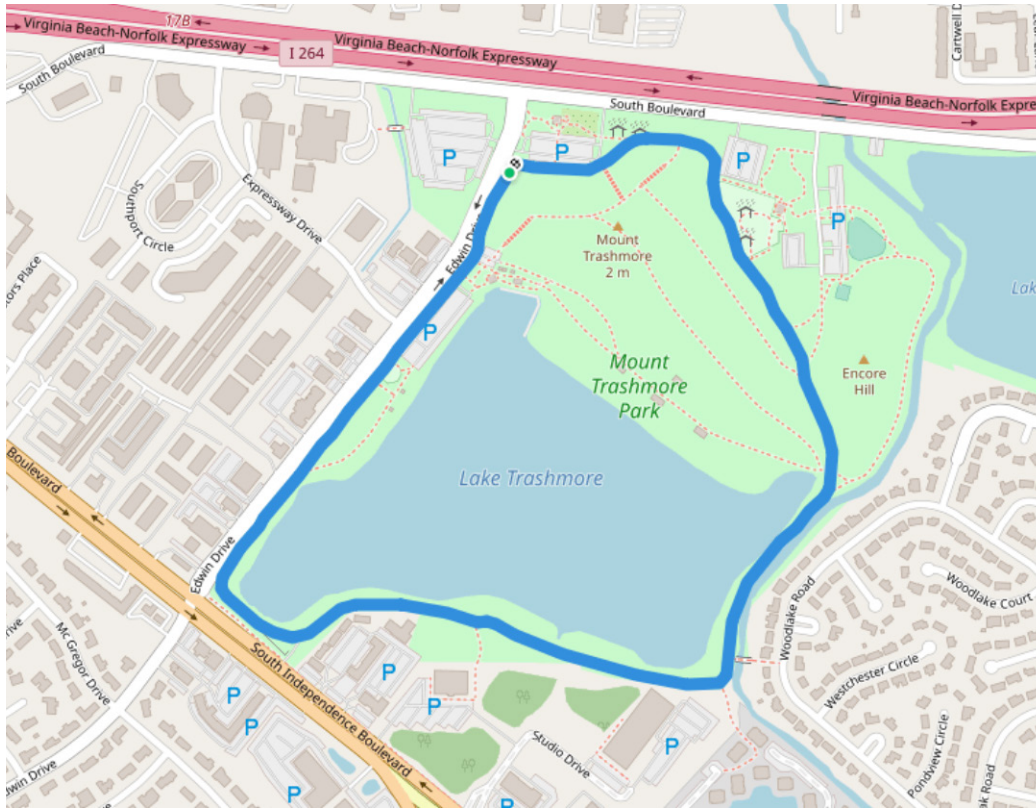


Children’s playground at recreation ground

The Sai Tso Won Recreation Ground is a smaller scale landfill and park than the previous landfills studied. And yet, the infrastructure installed for the site to generate power via wind, solar and gas is significant. Power generated on site is both stored and used for park amenities such as lighting and powering the sports’ facilities. This project is part of a series of 7 total landfills that received government investment to restore the once landfilled land to something bettered used by local communities of Kowloon.

What I appreciate most about this site is the type of programming considered in the design. In fact the first standard baseball field in Hong Kong is situated at this recreational ground. The plan’s commitment to active recreational spaces enhances community well-being and makes the site a frequent destination for its users. The site is also close to local transit stops, so its easily accessible and can be frequented. Lastly, monitoring wells have been installed at the landfill perimeter to monitor the environmental performance of the landfill, and to ensure proper engineering function.

Mount Trashmore Park



Native Peoples: Chesapeake, and the nation based nearby today, the Nansemond

Location: Virginia Beach, Virginia

Context: west of the shores of the Atlantic Ocean, surrounded by residential and a major expressway way to its north (I-264)

Acreage: 165 acres

LA Firm Awarded Bid: Dept of Public Works and Parks and Recreation collaboration

First Public Access: 1974

Park Namesake: community agreed upon name relative to mountainous landfill mounts sculpted in the park

Park Amenities: walking trails, volleyball courts, picnicking areas, 2 large lakes, birding, bicycling, skate park

Former Operating Landfill: VB Municipal Landfill ('58-'74)

Method of capping: compacted soil cover with passive gas vents that allow gas to escape safely without built up pressure; subsurface drainage to properly manage moisture and leachate

Ecological restoration: native plants used to control erosion and invite wildlife; man-made lakes allow for some aquatic habitat

Unique feature: two lakes allow for water recreation

Design challenge: age of the park lead to early engineering techniques of landfill capping, not as contemporary of a design



Children's playground named Kids' Cove at Mount Trashmore Park.

Mount Trashmore is a unique park in that it is characterized by large mounds, some reaching 60' in height and 800' in width. Its Lake Trashmore is a man-made lake that serves as a storm management system, as it captures runoff from the mounded slopes. Its main purpose is to serve as a retention pond, and yet it does create a sense of beauty and activity in the park. The park's characteristic skate park is over 24,000 sf, and is a major hot spot for local youth and skating aficionados. It has been rebuilt since its first establishment, and it allows for people to freely skate in an area.

While this park is smaller in scale than the Tequesquite Solar Landfill Project, it has park features that are similar to the park nearest the solar project. It's a good model for considering community input and seeing the direct result of providing people with recreational opportunities for which they chose to advocate. There are also phased plans to connect Mount Trashmore Park to the north side of the expressway. The intent is to link a bike/walkway for pedestrians to safely arrive from Town Center to the park without needing to arrive by vehicle.

Constraints



1. **Settling**- due to the nature of landfills, the area of the earth upon they were built will continue to settle for decades past closure, limiting development.

2. **Drainage**- water cannot pool on the surface of the former landfill; the flow of water must be consistently monitored, and a 3% slope must be maintained.

3. **Land maintenance**- The influence of invasive species on the area with periodic mowing maintenance practices can contribute to the spread of invasive seeds.

4. **Vegetated cover**-A minimum of 80% of the site's soil surface must remain vegetated, including areas beneath elevated solar panel arrays.

5. **Vegetation depth**- the landfill cap is covered by only approximately 4' of soil, constraining the range of plant species suitable for the site.

6. **Low permability layer**- due to soil quality and potential for liquefaction, limited water available for use beyond small amounts for plant maintenance.

7. **Access to below ground condensate sumps**- require consistent maintenance from vehicular pump truck to ensure leachate and other liquids are safely removed/treated below the surface.

8. **Gas treatment facility**- in southwest corner of site, prevents any programming from existing in its place.

9. **Public vehicular access**- ends at the northeast point of the site, limiting program access to ADA users.

Opportunities



7. Protection- Designated habitat areas can be buffered from intensive human use, allowing native plant communities to establish and support wildlife without the impacts of soil compaction, trampling, or disturbance.

8. Restoration- a plant nursery, outdoor classroom, and stewardship opportunities could help to generate plant material that could both be used to restore the site as well as build revenue to maintenance projects.

9. Infiltration terraces- could intercept and slow runoff, directing water into adjacent planting areas where it can be absorbed and stored in the soil before entering the culvert system, reducing maintenance watering requirements.

1. Recreation-due to the land settlement on site, and proximity to the Santa Ana River Trail, recreational activities are great considerations for land use. An extension of the trails could take place throughout.

2. Generate revenue- Bike rentals, game tickets, classes, competitions, guided tours and sponsorships could be sources of revenue for the city.

3. Habitat restoration- the site could re-establish valuable habitat that enhances the well-being of local wildlife.

4. Night use- energy from the PV cells could be used to light the area in the evening time, and allow for extended access of the site.

5. Soil stabilization- planting native habitat will help to stabilize soil that otherwise erodes with rain and wind events.

6. Access- expanding areas of entry will allow for people to be measured about the type and quantity of recreation they'd like to engage with.

Goals & Objectives



ACTIVATE

- Create distinct activity zones that attract users to practice specific sports such as: skating, hiking, and biking.
- Build a pedestrian circulation network that allows for an equal distribution of active and passive spaces that ultimately link back to the Santa Ana River Trail.
- Add interpretive signage in both English and Spanish to detail the cultural and engineering history of the project site.
- Generate revenue through equipment rentals that encourage discovery (binoculars, walking sticks, field guides)



RESTORE

- Plant a diversity of native plants that provide habitat for local wildlife, and whose roots allow for water infiltration/soil structure development.
- Control erosion by planting native species that are known to have solid root structures that can keep soil in place; terrace sloped areas to help slow the flow of water that will ultimately lead to the culvert system.
- Program for community-led maintenance, that factors in plant care and invasive species management.
- Install toolsheds for equipment storage.



COOL

- Reduce Urban Heat Index by planting trees with canopies, shrubs with dense foliage and ground covers that can cool surrounding areas.
- Add mulch and gravel that will cool the soil temperature and help to retain moisture.
- Install shade structures in areas where people will be passively enjoying the natural spaces.
- Vary the programming such that passive spaces balance active ones, and that allow for people to pause to cool themselves down mentally and emotionally.

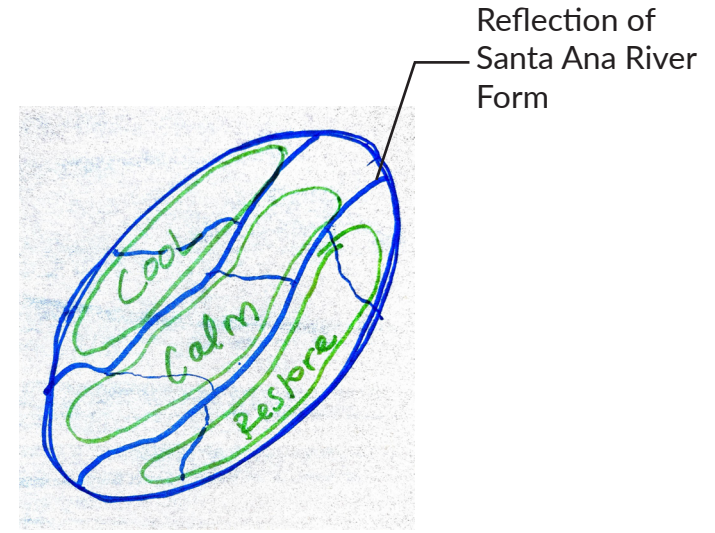
Concept 1: Cooling Ecology

Inspired by the form and environmental qualities of the chia seed, the project reimagines a restored landfill as a **cooling ecological** landscape that **supports both environmental healing and mental restoration**. The site parti takes the shape of an elongated oval — referencing the chia seed itself — layered with repeating linear pathways that echo the movement and flow patterns of the Santa Ana River.

Just as chia seeds absorb and retain water to cool and hydrate the body, when consumed, the landscape uses native ecological systems **to reduce heat, hydrate local ecology, and calm the urban environment**. Native trees, shrubs, groundcovers, and seasonal wildflowers work collectively to lower surface temperatures, increase shade, and reduce the urban heat island effect across the restored landfill. **The landscape becomes a living cooling system.**

The concept explores cooling not only as a physical condition, but also as a **psychological experience**. Meandering pathways inspired by river flow encourage slow movement and passive recreation, allowing visitors to mentally decompress through immersion in native habitat. Layers of planting create moments of softness, shade, texture, and seasonal change **that help quiet overstimulation and reduce environmental stress.**

By restoring native ecology to a previously degraded site, the design transforms the landfill into a **regenerative landscape where environmental performance and emotional well-being are interconnected**. Observing ecological processes — pollination, seasonal bloom cycles, habitat creation, and human connection — becomes part of a calming sensory experience that reconnects visitors to the rhythms of the region's natural systems.



Chia seed (*Salvia columbariae*)



Chia flower (*Salvia columbariae*)



Chia plants (*Salvia columbariae*)

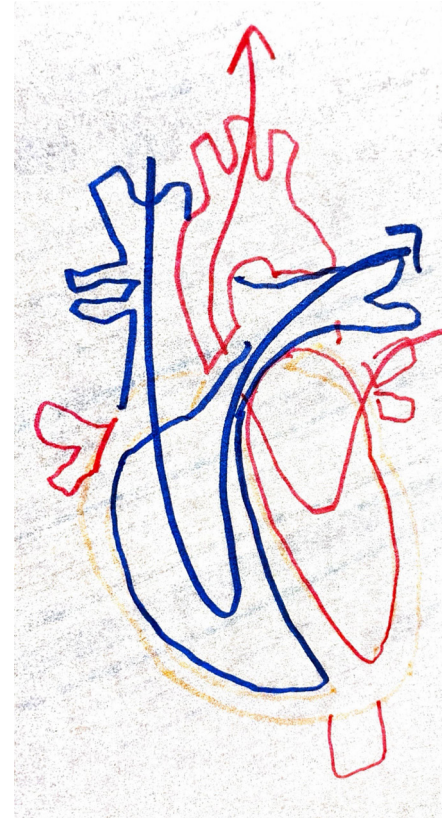
Concept 2: The Civic Heart

This project reimagines the restored landfill as a **healing organ** within the urban body — a landscape that aligns circulation, connection, and joy to the surrounding community. Inspired by understandings of the heart in traditional Chinese medicine, the design views the heart not only as a physical organ, but also as the **emotional center of the body: the source of joy, equilibrium and human connection**.

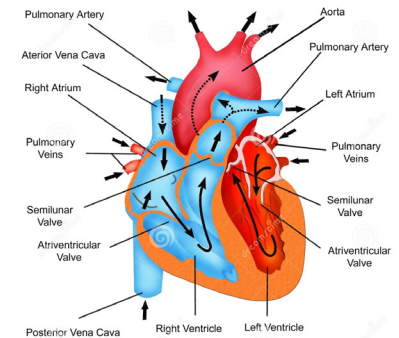
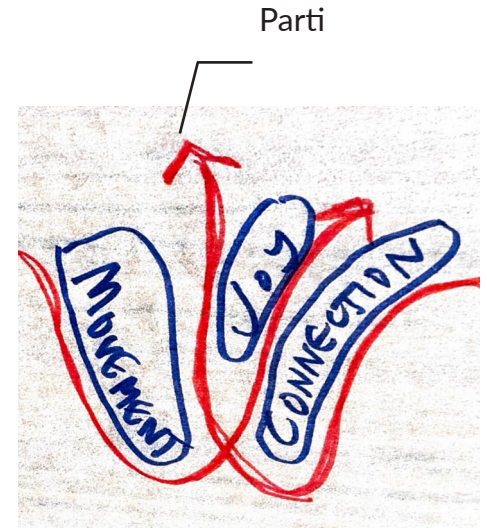
In Chinese medicine, the heart is understood to extend outward during the day, connecting with other hearts- through conversation, laughter, movement, and shared experience. A healthy heart thrives through these exchanges. When overstimulated, isolated, or disconnected, however, the heart can lose its rhythm and sense of balance. **Equilibrium can be restored through physical movement, meaningful social interaction, and moments of calm that allow the body and mind to regulate.**

The park translates these ideas into an active civic landscape that supports both **collective energy and emotional restoration**. Spaces for skating, walking, biking, hiking, sports, gathering, and play encourage movement that strengthens cardiovascular health while helping reduce stress and mental fatigue. Community spaces create opportunities for visitors to “touch the hearts of others” through celebration, conversation, games, and shared experiences, day in and day out.

As a former landfill, the site embodies transformation and healing. What was once associated with waste and environmental degradation becomes a **regenerative public landscape** that gives life back to the surrounding urban fabric. The park functions as a civic heart within the city — circulating people, movement, energy, and social connection back into the community.



Preliminary work for parti



Blood and O2 flow through heart



Couple mountain biking



Skater

Concept 3: The Living Geotextile

This project reimagines the restored landfill as a layered ecological system structured by a **“living geotextile”** – a natural, plant-based landscape fabric that performs the same functions as engineered geotextiles, but through ecological processes rather than synthetic material. Instead of being buried beneath the ground, this geotextile is alive, visible, and experienced at the surface of the landscape.

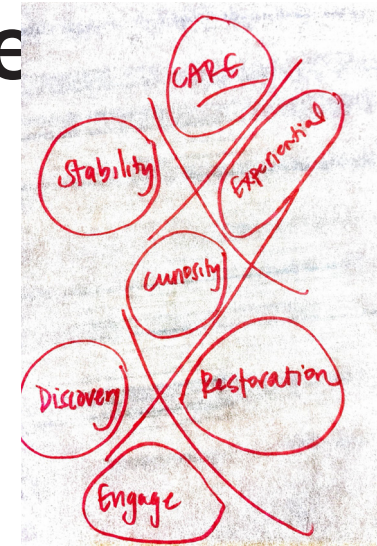
In conventional landfill restoration, geotextiles stabilize soil layers, manage water infiltration, support planting systems, prevent contamination migration, and ensure long-term structural performance. In this project, those functions are translated into an ecological framework where plant communities, soil systems, and hydrological processes operate together as an **integrated living infrastructure**.

The landscape becomes a **woven system of native ecological communities**, where each plant assemblage contributes to the stability and performance of the site. Rather than a hidden technical layer, ecological performance becomes the visible structure of the landscape itself.

As visitors move through the park, they experience these ecological weavings as spatial **sequences of discovery**. Shifts in planting texture, density, color, and elevation create moments of curiosity and immersion, transforming ecological systems into a legible and experiential landscape. The park becomes both habitat and narrative – a place where ecological function is directly visible and interpretable.

Community engagement is embedded in the maintenance and stewardship of the living geotextile. Seasonal restoration planting, habitat care programs, and guided ecological walks allow the public to actively participate in sustaining the fabric of the landscape. This ongoing stewardship reinforces the idea that ecological stability is not static, but continuously maintained through **collective care**.

Ultimately, the Living Geotextile transforms the landfill into a regenerative landscape infrastructure – one where ecological systems replace synthetic layers, and where soil, water, and vegetation function as an **interconnected fabric**. It is a landscape that stabilizes itself through living systems, restores ecological balance, and invites the public into a deeper relationship with the hidden structures of nature.



Ceremonial textile, DRC



Textile

[illegible]

Concept Development

THE GEOTEXTILE AS LIVING INFRASTRUCTURE

TRANSLATING ENGINEERED FUNCTIONS INTO ECOLOGICAL AND SOCIAL LANDSCAPES



FUNCTION	ENGINEERED GEOTEXTILE TECHNICAL / ENGINEERED SYSTEM	LIVING GEOTEXTILE ECOLOGICAL / LIVING SYSTEM	SOCIAL GEOTEXTILE SOCIAL / HUMAN SYSTEM
1 SEPARATION 	Prevents material layers from mixing. Geotextiles maintain distinct layers within landfill systems to preserve structural performance.	Encourages productive layer exchange. Organic matter, roots, mulch, and soils interact to build microbial habitat and healthy soil ecologies.	Creates gradients between activities. Distinct zones separate active and passive uses while allowing spaces to transition gradually into one another.
2 FILTRATION 	Allows water through while trapping particles. Permeable fabric filters sediment while maintaining water movement.	Supports water percolation through soil ecologies. Roots, mulch, and soil organisms structure permeable soils that retain moisture and support habitat.	Shapes how people experience the landscape. Circulation paths, signage, and planting density filter movement, attention, and perception.
3 DRAINAGE CONTROL 	Directs water flow and prevents clogging. Geotextiles channel water toward drainage systems while reducing pooling.	Slows, sinks, and infiltrates stormwater. Vegetation and terracing increase infiltration, reduce runoff, and regulate water through evapotranspiration.	Distributes movement across the site. Circulation systems guide pedestrian flow to avoid overcrowding and encourage multiple forms of engagement.
4 PROTECTION 	Protects underlying containment layers. Geotextiles prevent punctures that could compromise landfill liners and containment systems.	Creates refuge through canopy and shade. Layered planting protects soils from heat exposure while creating cooler microclimates for people and habitat.	Protects ecological systems through stewardship. Pathways, signage, and community care reduce soil compaction and support habitat preservation.
5 REINFORCEMENT 	Stabilizes soil structure. Geotextiles reinforce slopes and improve soil stability.	Strengthens soils through root systems. Grasses and wildflowers stabilize soil, reduce erosion, and support landscape establishment.	Builds long-term community attachment. Programming, recreation, and educational activities reinforce sustained public engagement with the landscape.

Geotextiles do more than separate and contain. When reinterpreted through ecological and social lenses, they become frameworks for connection, resilience, and stewardship.

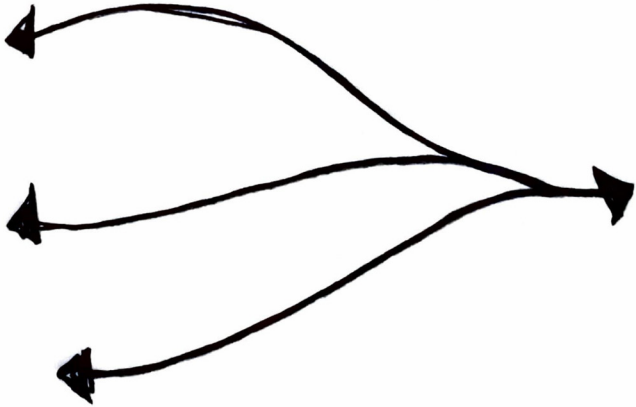
ENGINEERED
Control
Stability
Containment

ECOLOGICAL
Integration
Regeneration
Habitat

SOCIAL
Experience
Stewardship
Community

THREE SYSTEMS.
ONE CONTINUOUS LANDSCAPE.

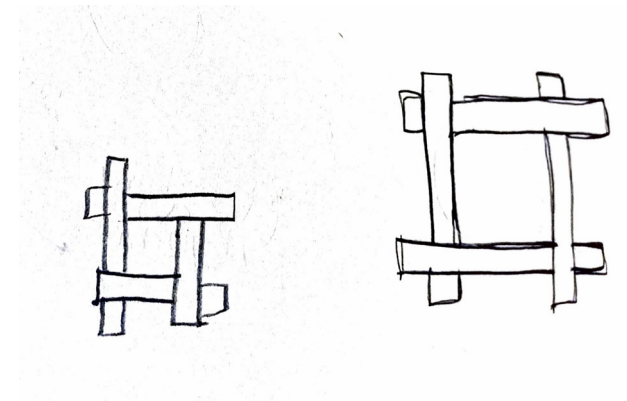
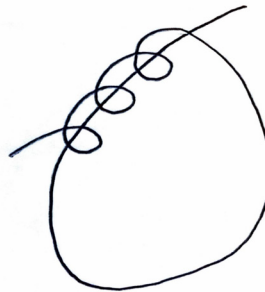
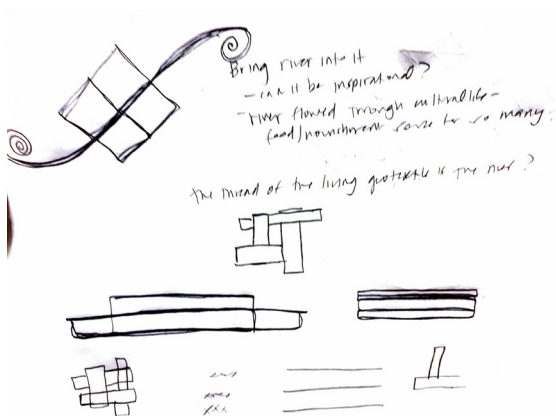
Parti Development



The Living Geotextile

The project reinterprets the geotextile as living ecological and social infrastructure. Through layered systems of vegetation, water management, circulation, and community engagement, the landscape operates as a living fabric that activates public life, cools urban conditions, and restores ecological function.

Process Partis



The process explored the layering of threads in textile-making, and early on, the twisting of material in Cahuilla basket weaving. Translating the engineered functions of a geotextile through ecological and social lenses prompted me to explore connection in a material form. The images above represent iterative studies exploring how these layered relationships could spatially and conceptually intertwine.

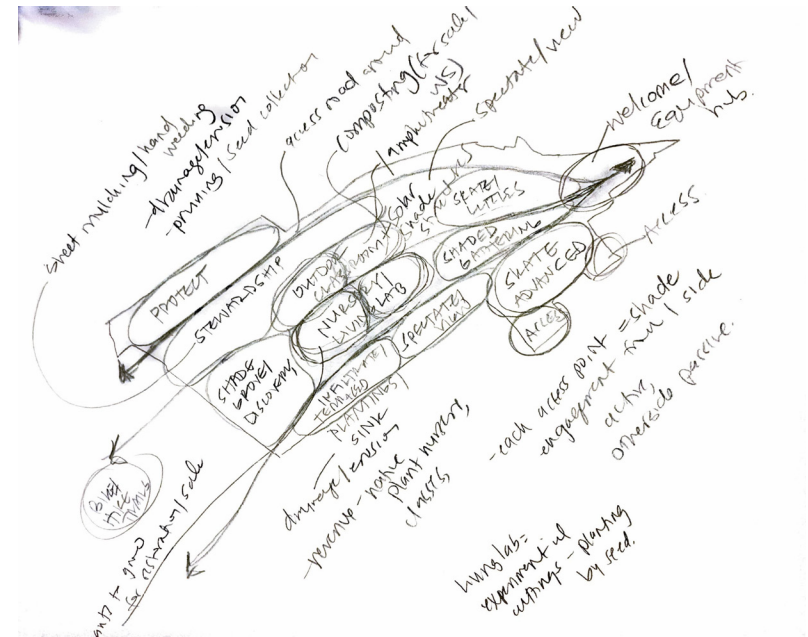
Wetlands
Sediment ~~forms~~ ~~forms~~
pH 7.4

Pa - 14 Cava

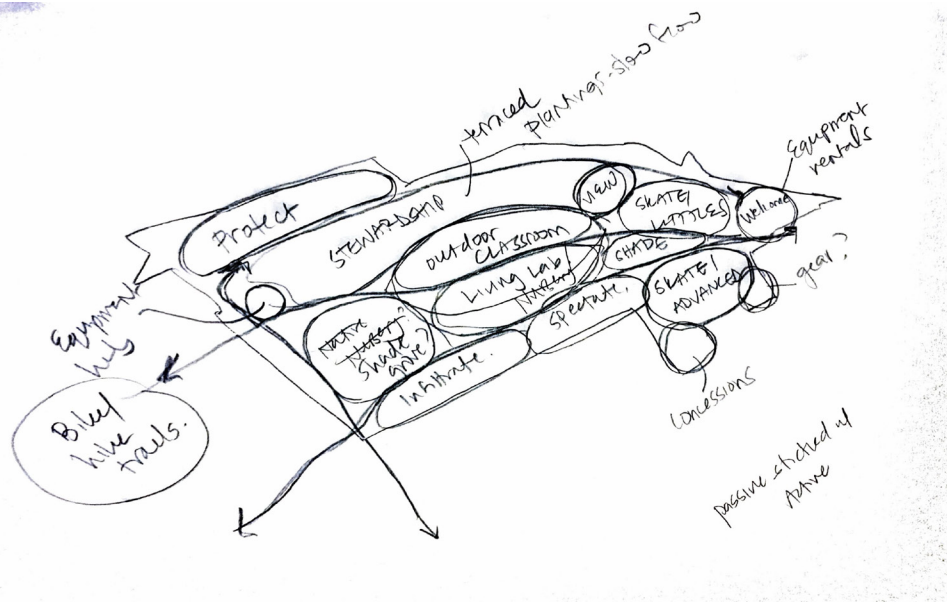
Carbon
Stability
expansion
wastage
Delivery
resistance
wages

Separation
Filtration
Damage control
Protection
Performance

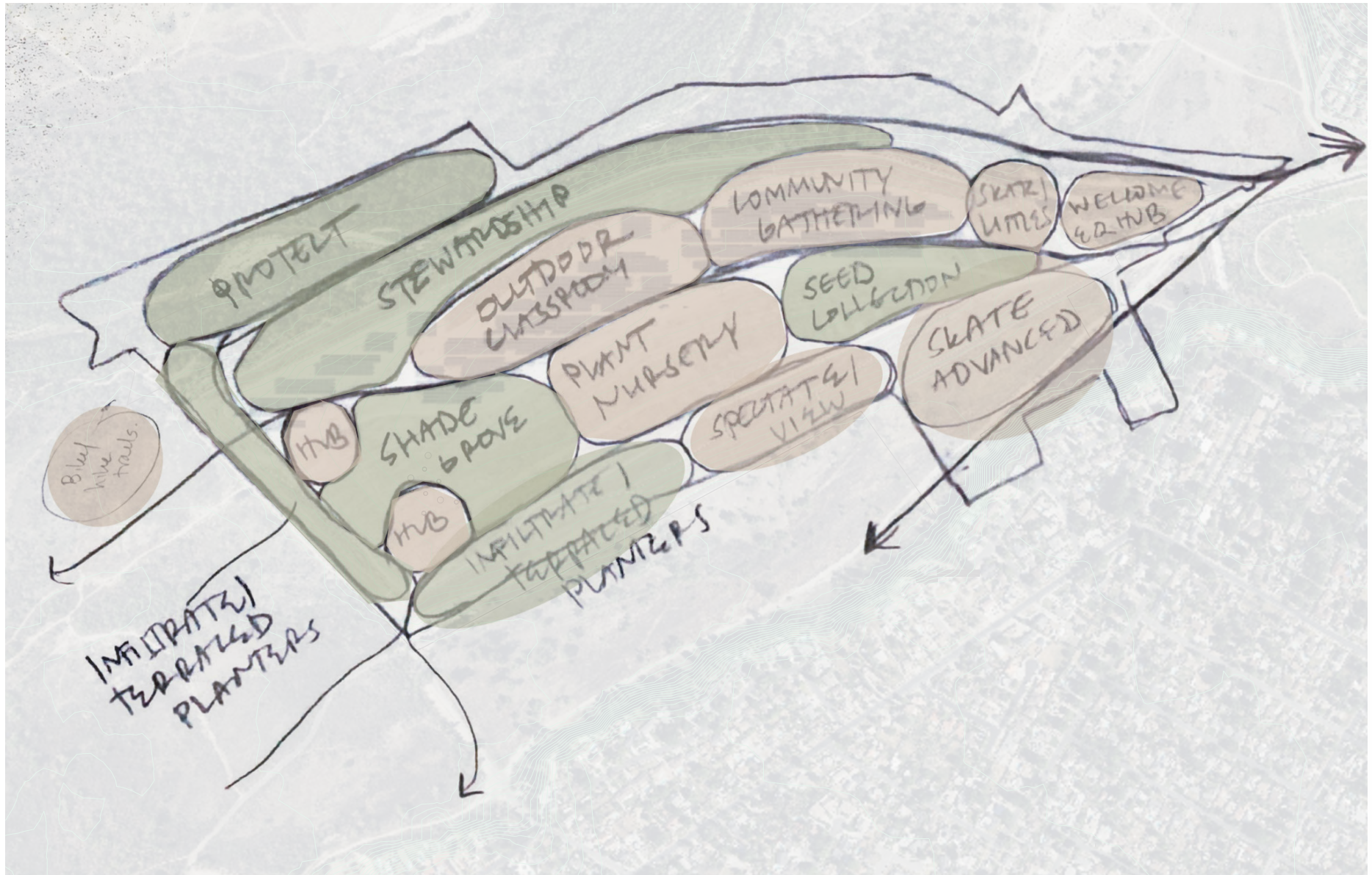
Good
Wetlands
for water
when not weaving
hangover from
your head



Thinking through studies of **rhythm, circulation, and the balance**, it was important to equally weigh **passive with active spaces** in the program. Exploring how **recreation, ecology, and revenue-generating** spaces could collectively support the landscape, sparked genuine intrigue about how to organize the site. Recreational trails became connective threads that facilitated movement and engagement across the site, while the **overall program remained simple**.



Functional Diagram Development



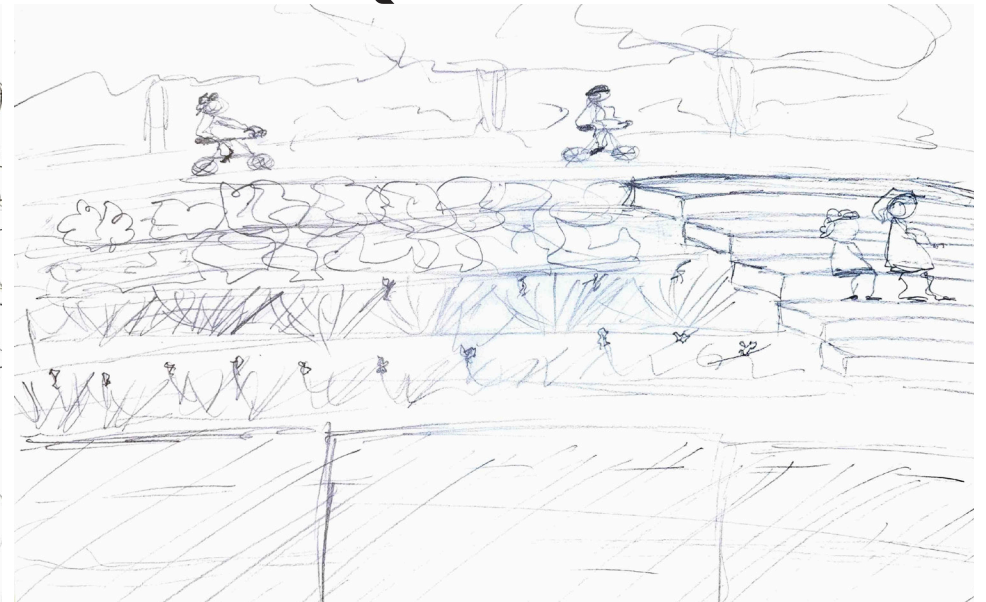
ECOLOGICAL
Integration
Regeneration
Habitat

SOCIAL
Experience
Stewardship
Community

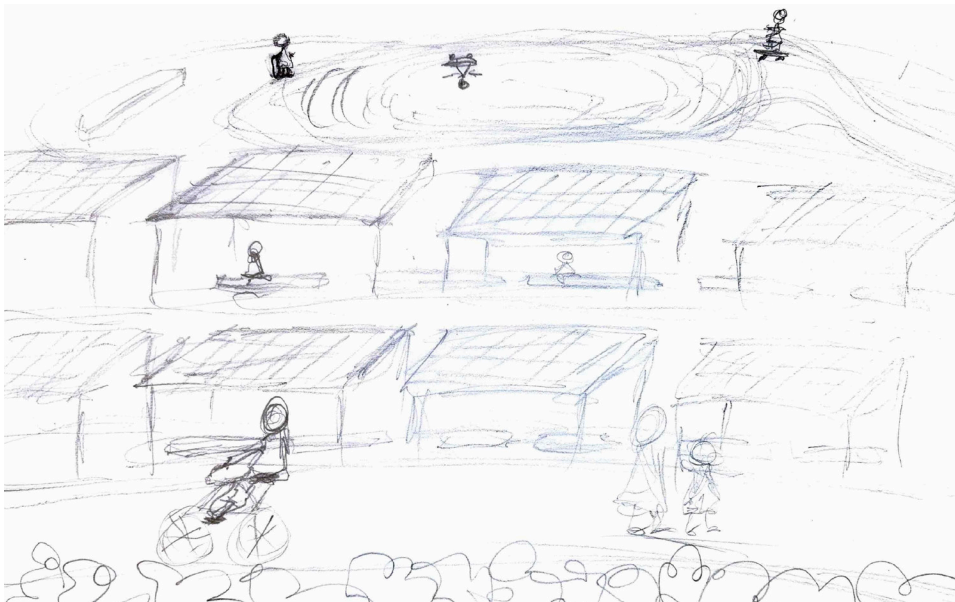
Quick Sketches



Equipment hubs at access points to encourage gear rentals, to offer site-specific information, and to welcome visitors.



Infiltration slope planted with native plants that can help slow and sink water before heading to culverts. Doubles as seating space.



Gathering area with solar panels that provide shade coverage, as well as spectator comfort.



Native plant nursery to propagate and seed plants for the site, and for sale to the public.

Conceptual Master Plan Process

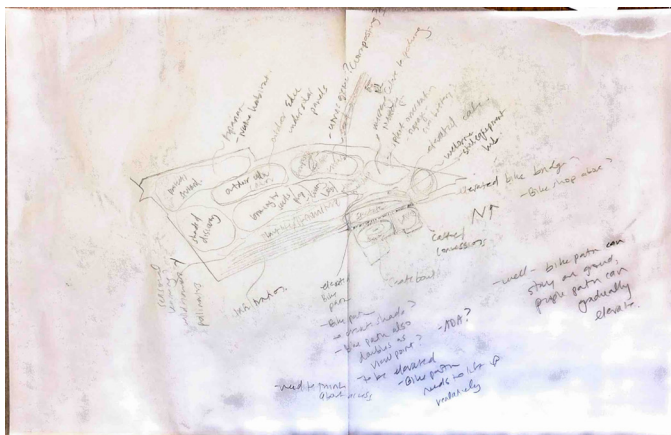


Living Geotextile Program:

- Protect
- Infiltration terraces
- Solar power
- Stewardship
- Space for seed collection/propagation for nursery

Social Geotextile Program:

- Parking, equipment hubs and coffee stations/restaurants
- U-Pick Orchard
- Plant Nursery
- Skate Parks (advanced/novice)
- Discovery interpretative trails
- Playground
- Outdoor classroom



Process work

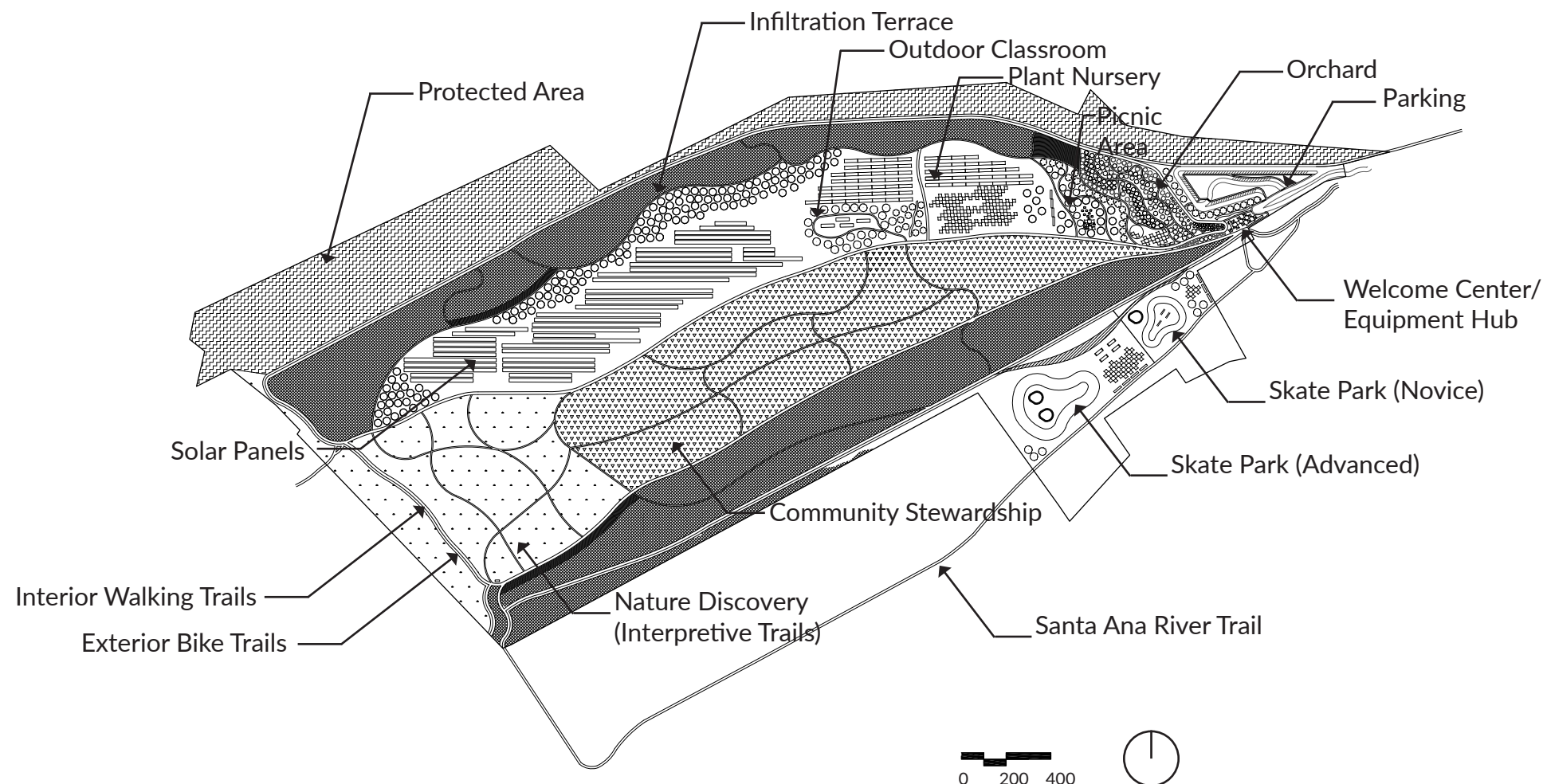


U-Pick Citrus Orchard



Elevated viewing platform over skate parks

Conceptual Master Plan



Conceptual Master Plan



ECOLOGICAL GEOTEXTILE

Restores ecological systems
and cools the landscape.



Native planting, orchards, and bioswales
restore habitat and ecological systems.



Shaded pathways and planted landscapes
reduce heat and create cooling microclimates.



Organic trails and meandering circulation
systems support immersive experiences
with the landscape.



Educational spaces interpret native ecology,
landfill history, and stewardship practices.



The nursery supports habitat restoration,
native plant growth, and long-term
ecological care.



Ecological systems are layered together to
strengthen biodiversity, resilience, and
environmental performance.



SOCIAL GEOTEXTILE

Activates community engagement
and builds lasting connections.



Pathways, gathering spaces, and the bikeway
connect people through fluid movement across the site.



Circulation encourages exploration, gathering,
learning, and discovery.



Coffee shipping containers, equipment hubs,
and outdoor classrooms activate the landscape socially.



The U-pick citrus orchard creates opportunities
for interaction, recreation, and food-based engagement.



Parking and nearby amenities provide accessible
entry points for varying levels of comfort and activity.



Educational programming and recreational amenities
encourage stewardship and long-term community connection.



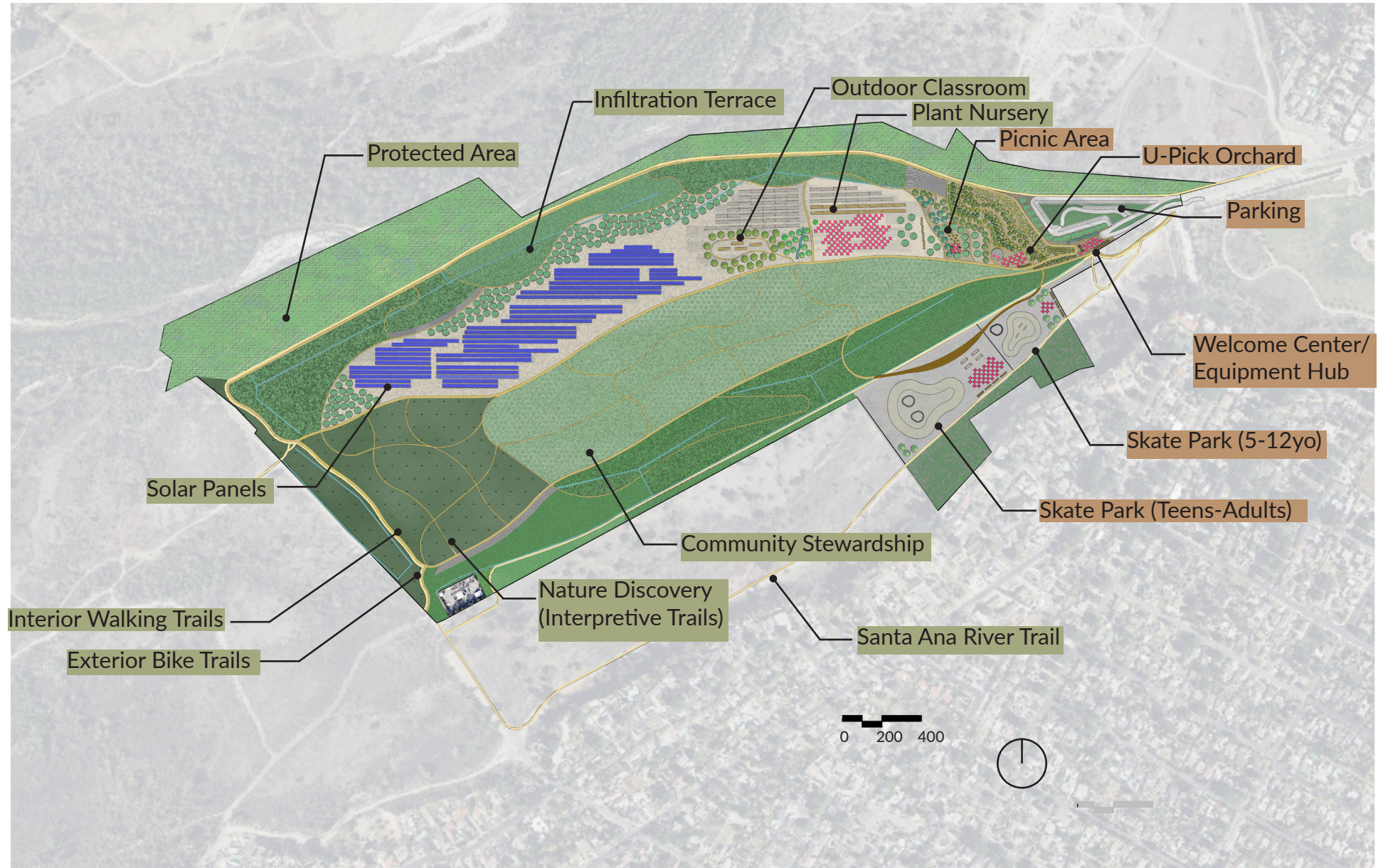
The landscape gives users choice and agency in how
they experience and engage with the site.



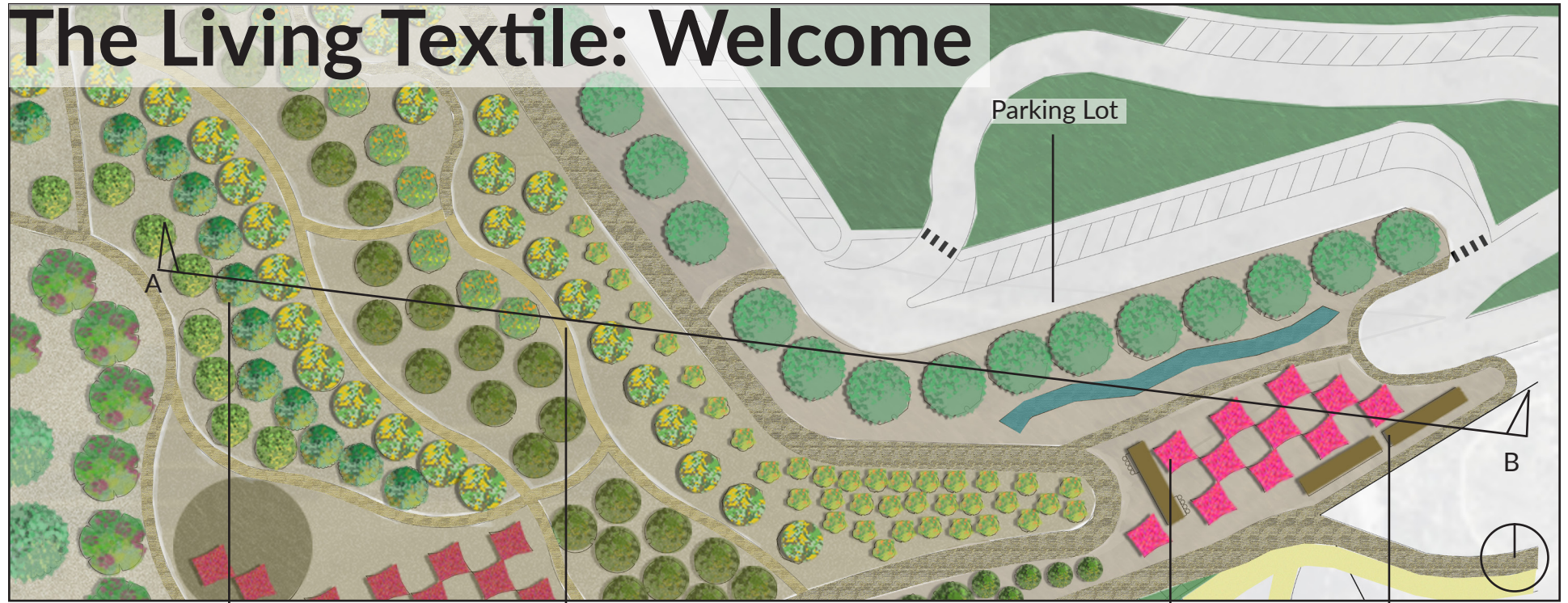
The Living Textile

Conceptual Master Plan

Ecological Geotextile Social Geotextile



The Living Textile: Welcome



U-Pick Orchard

Walking paths

Shade Structure

Welcome Center

1"=20'



A
U-Pick Orchard

Walking paths

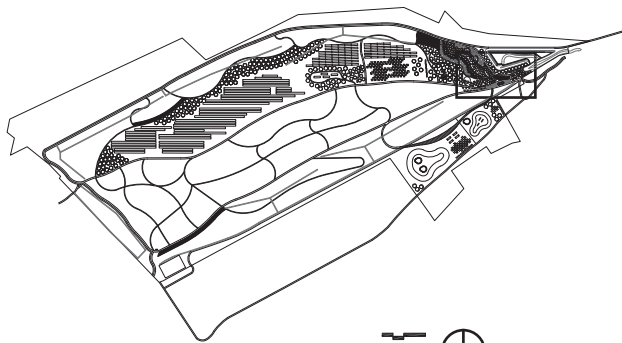
Parking Lot

Shade Structure

Welcome Center

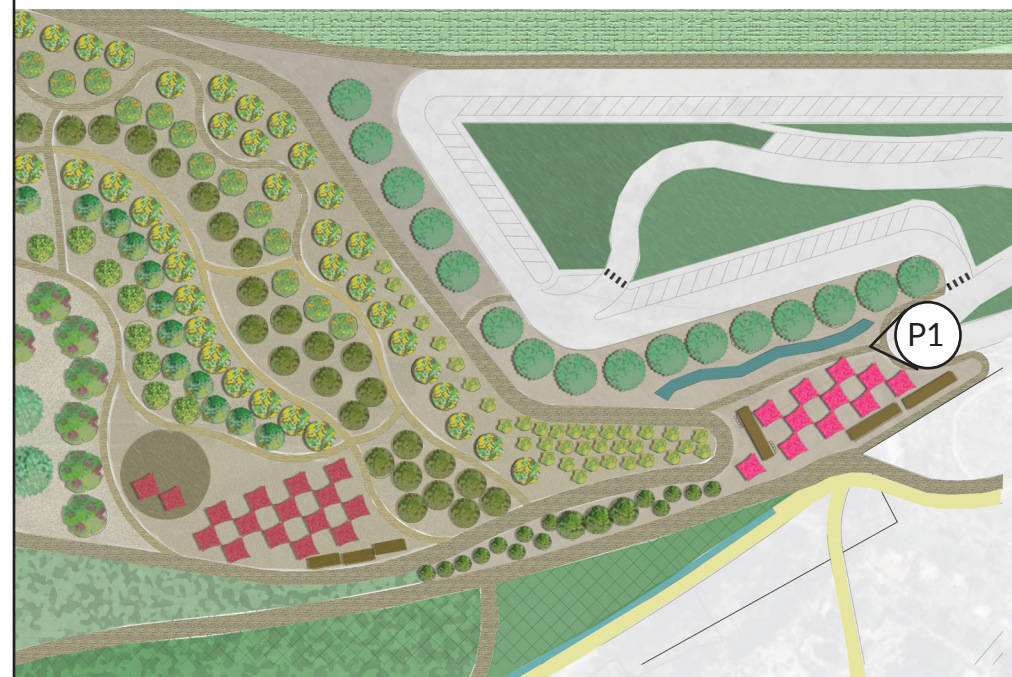
1"=20'

B

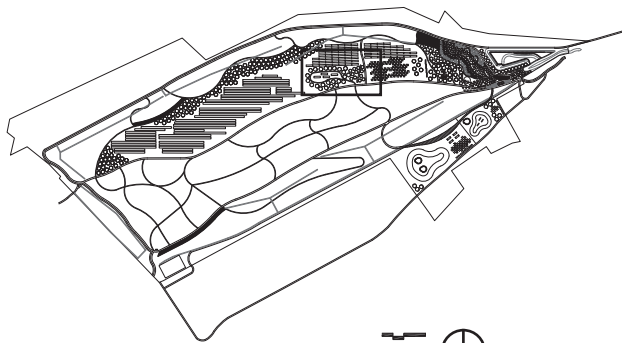
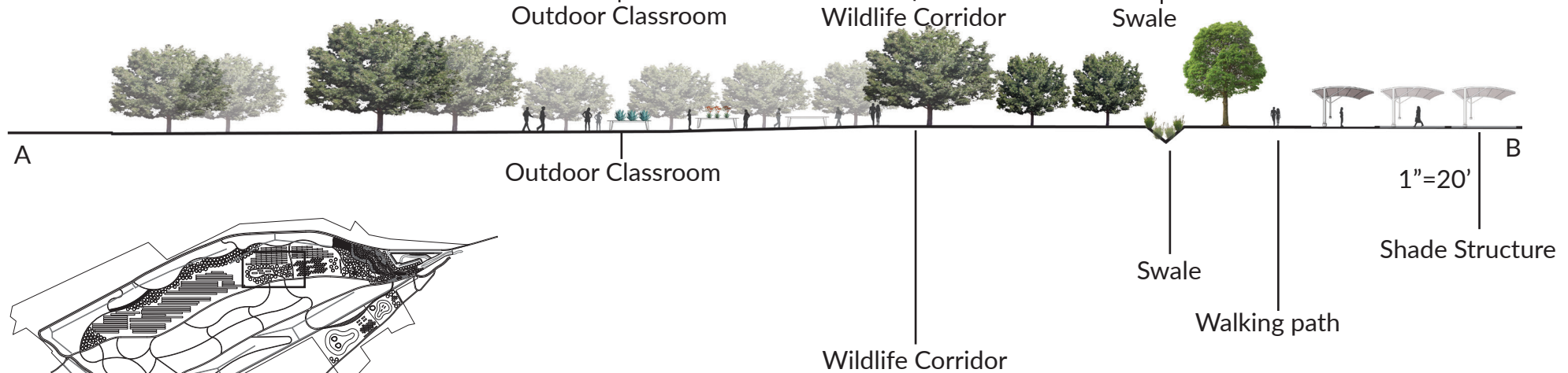
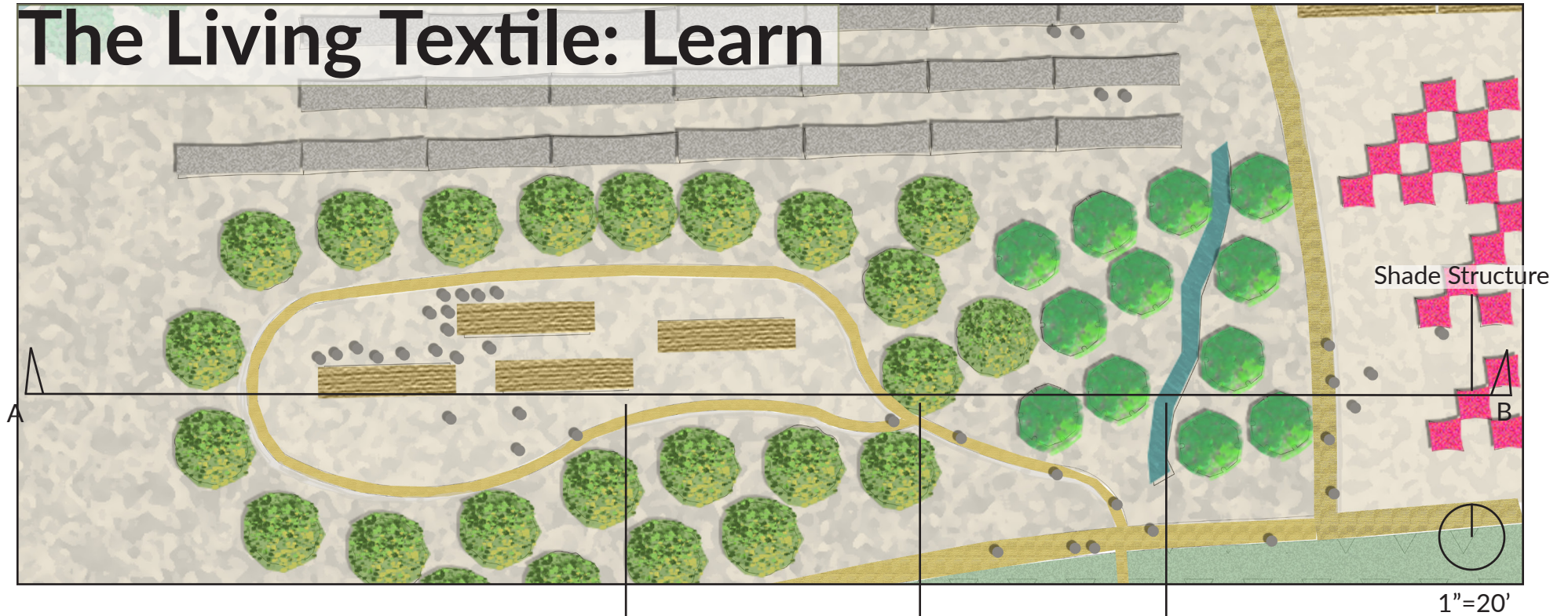


NTS

The Living Textile: Welcome



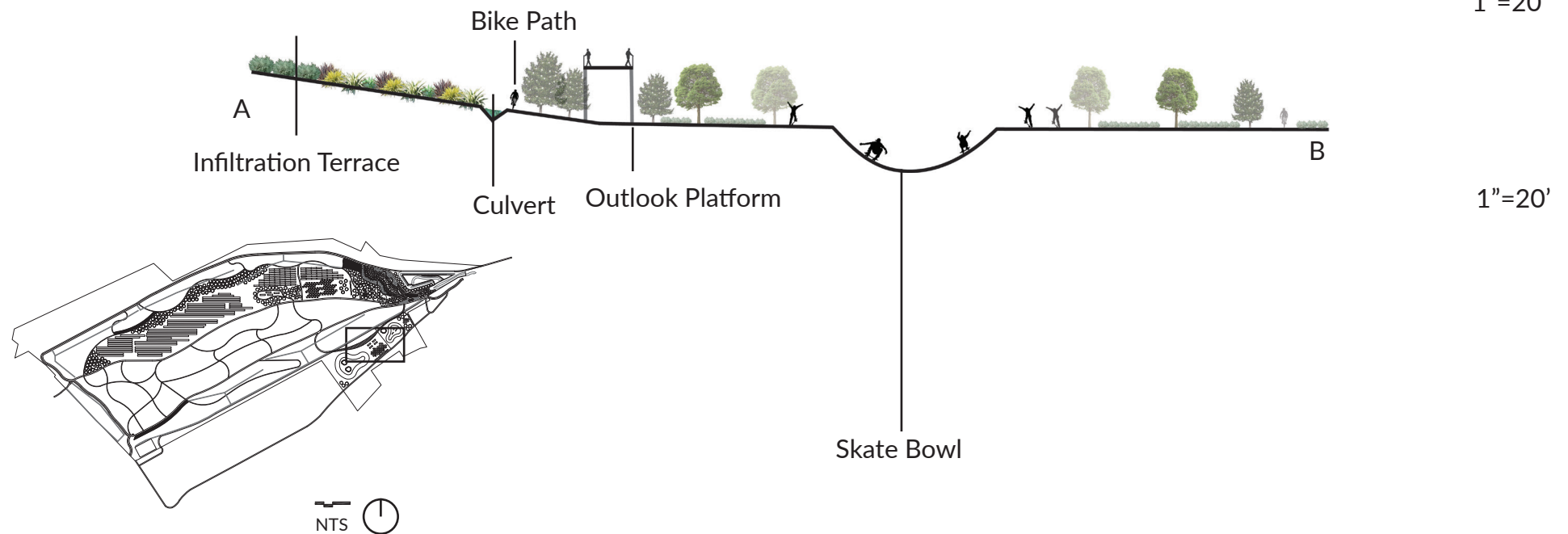
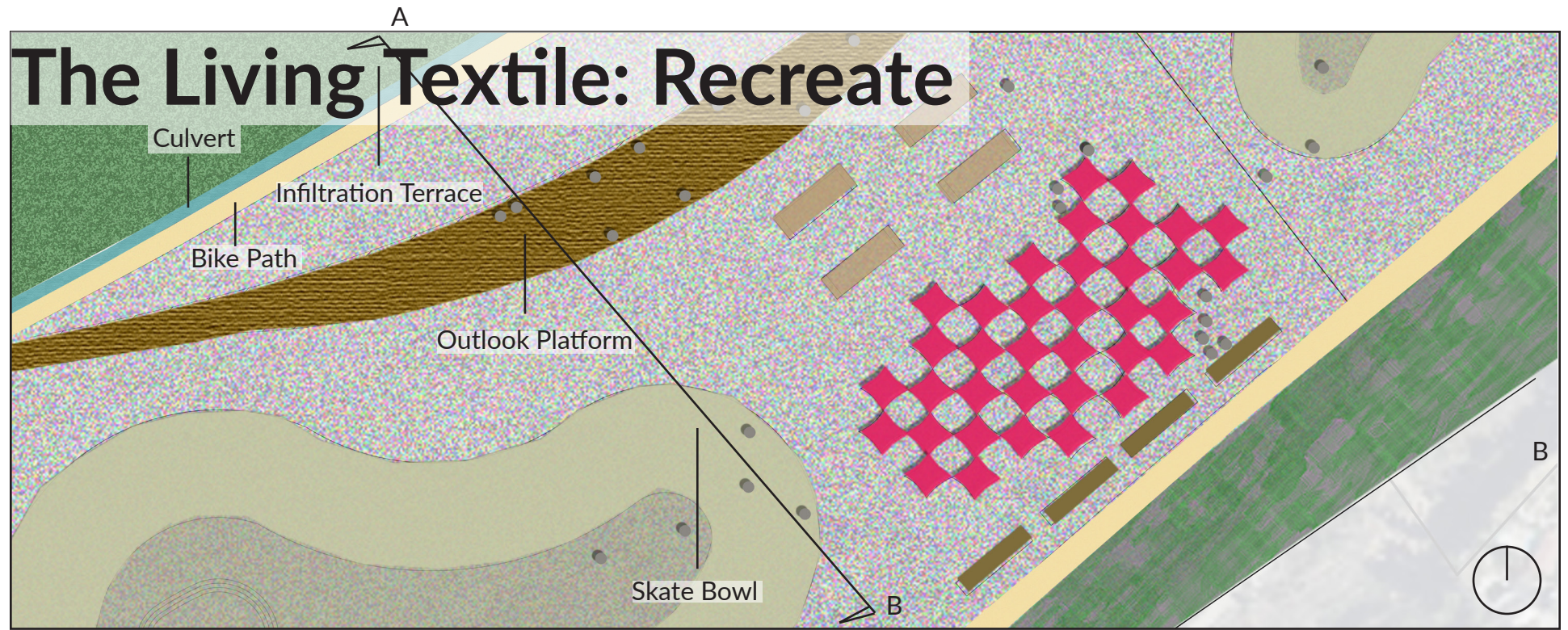
The Living Textile: Learn



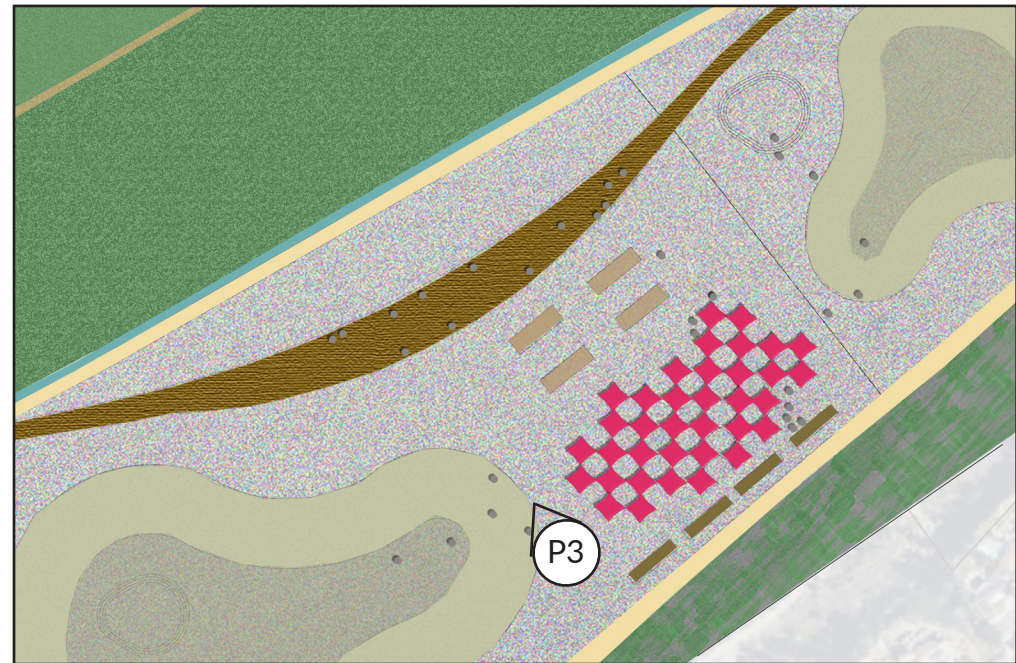
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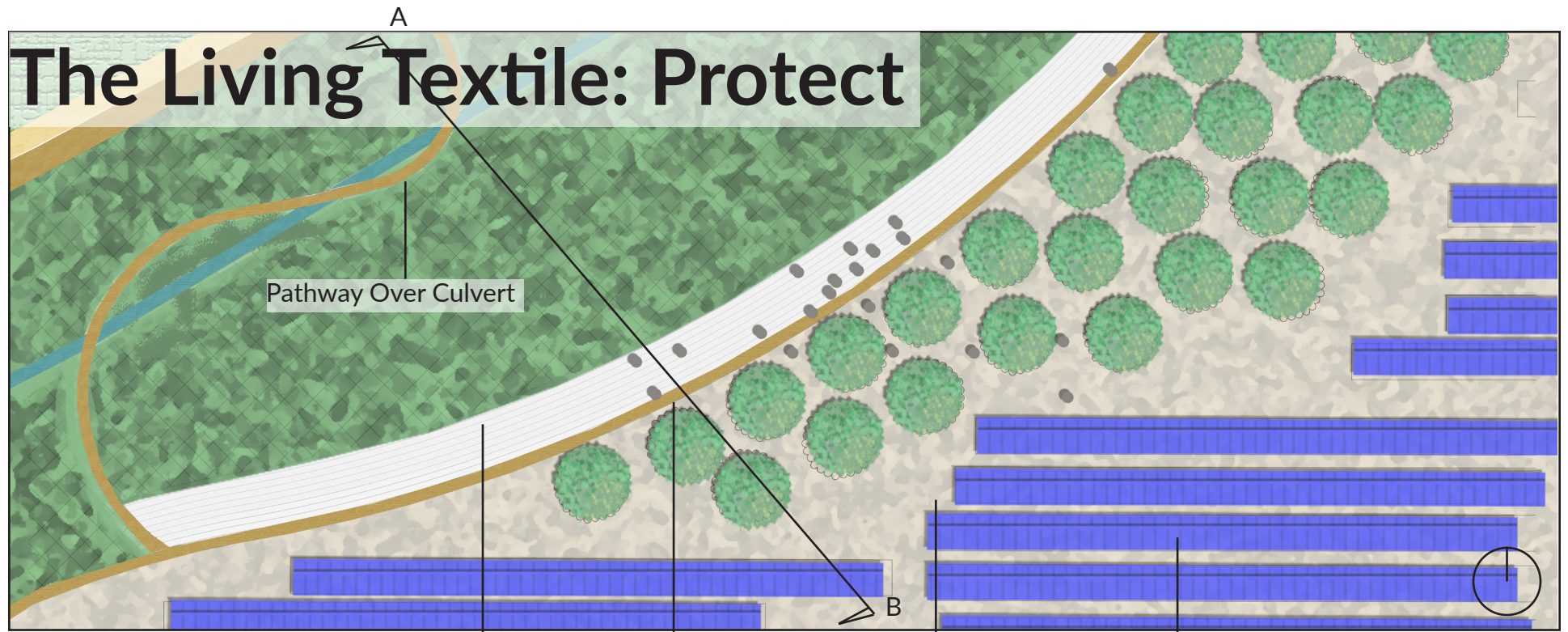
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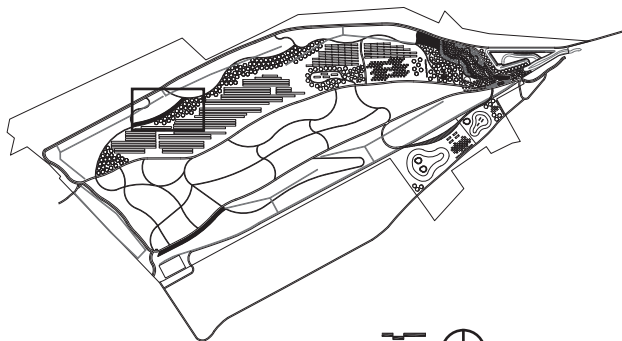
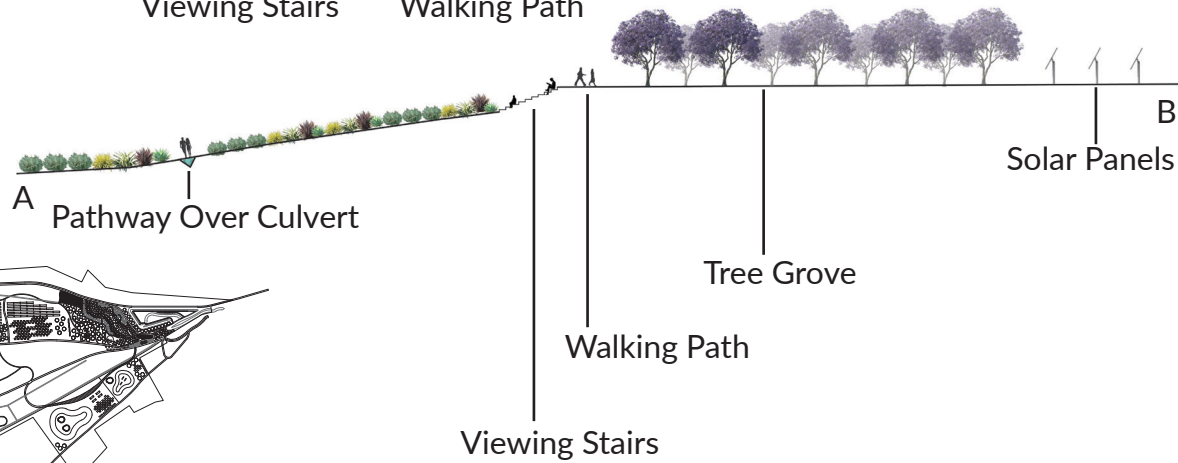


The Living Textile: Recreate





Viewing Stairs Walking Path

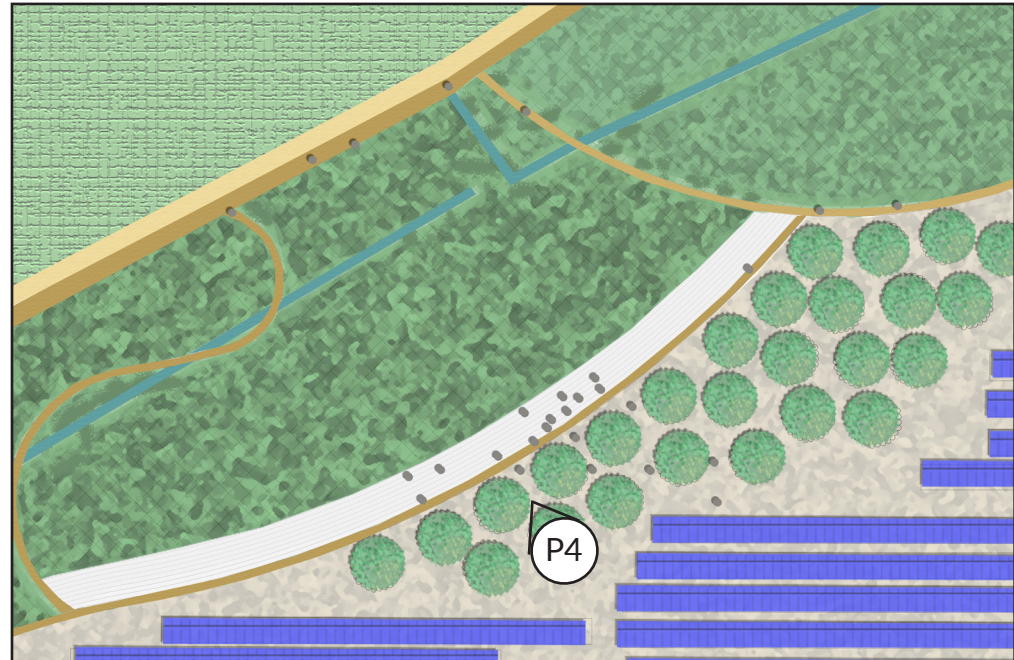


NTS

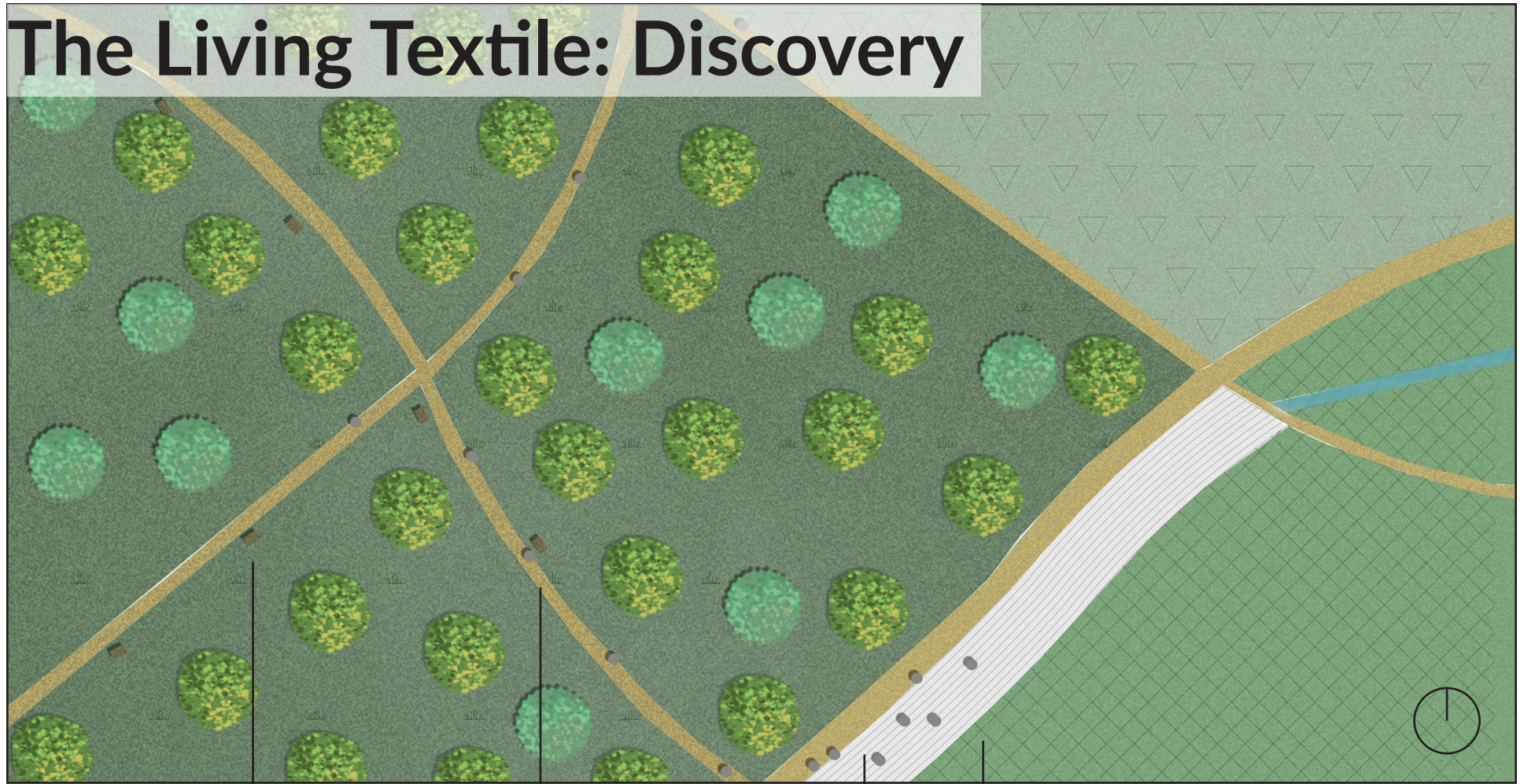
The Living Textile: Protect



P4



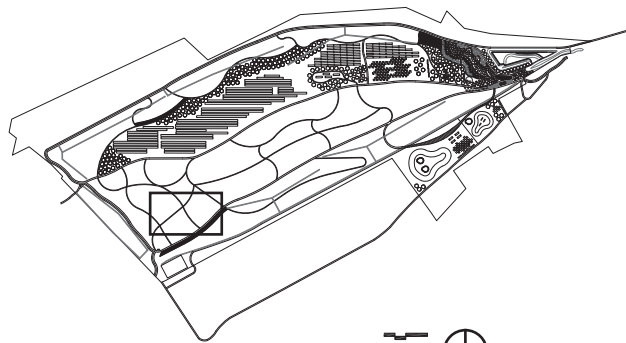
The Living Textile: Discovery



Interpretive Signage

Meandering Paths

1"=20'

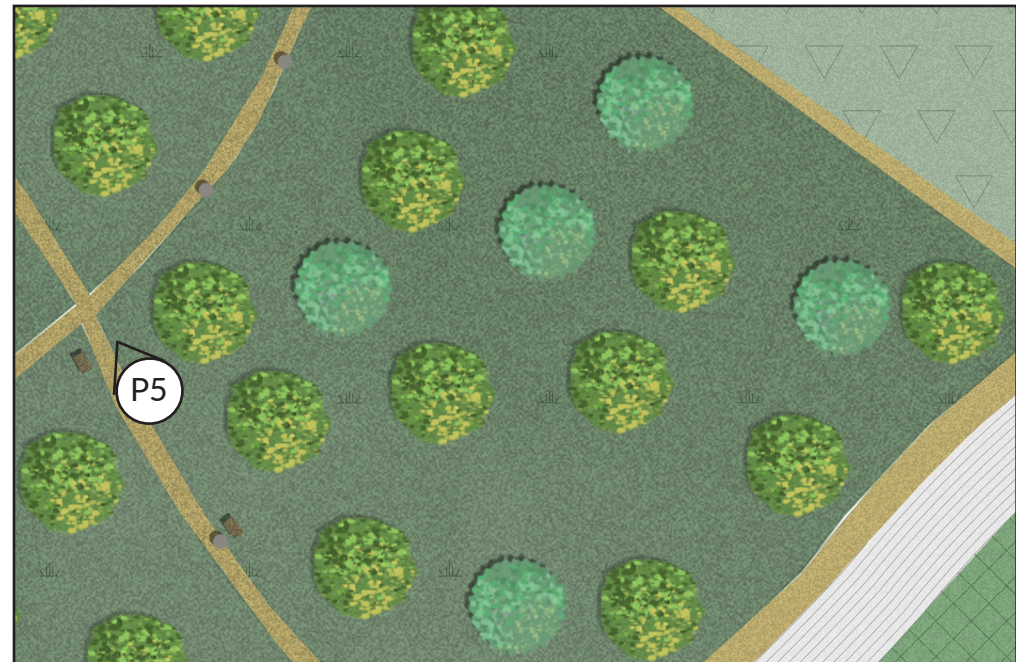


Seat Stairs

Infiltration Terrace

NTS

The Living Textile: Discovery



The Living Textile: Cross Section

