India Jenkins

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College of Environmental Design
School of Landscape Architecture

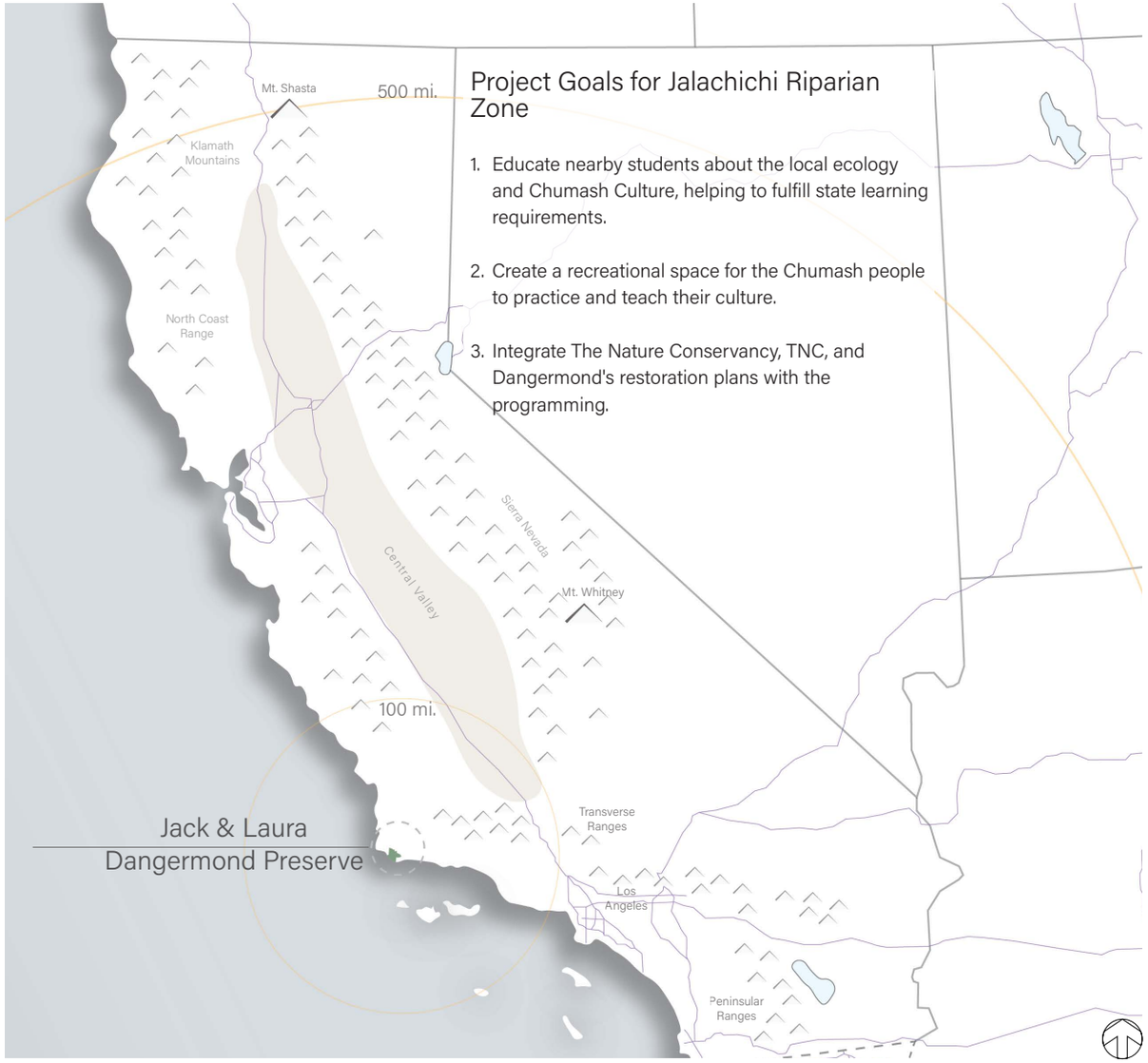
By merging urban and wild landscapes in culturally relevant and economically resilient designs, I hope to offer memorable experiences that cultivate a sense of stewardship.

01

Jack & Laura Dangermond Preserve

POINT CONCEPTION 2021

To invite the public onto the Jack and Laura Dangermond Preserve, The Nature Conservancy (TNC) sought an intervention that protected the rare habitat and met the needs of local constituents.

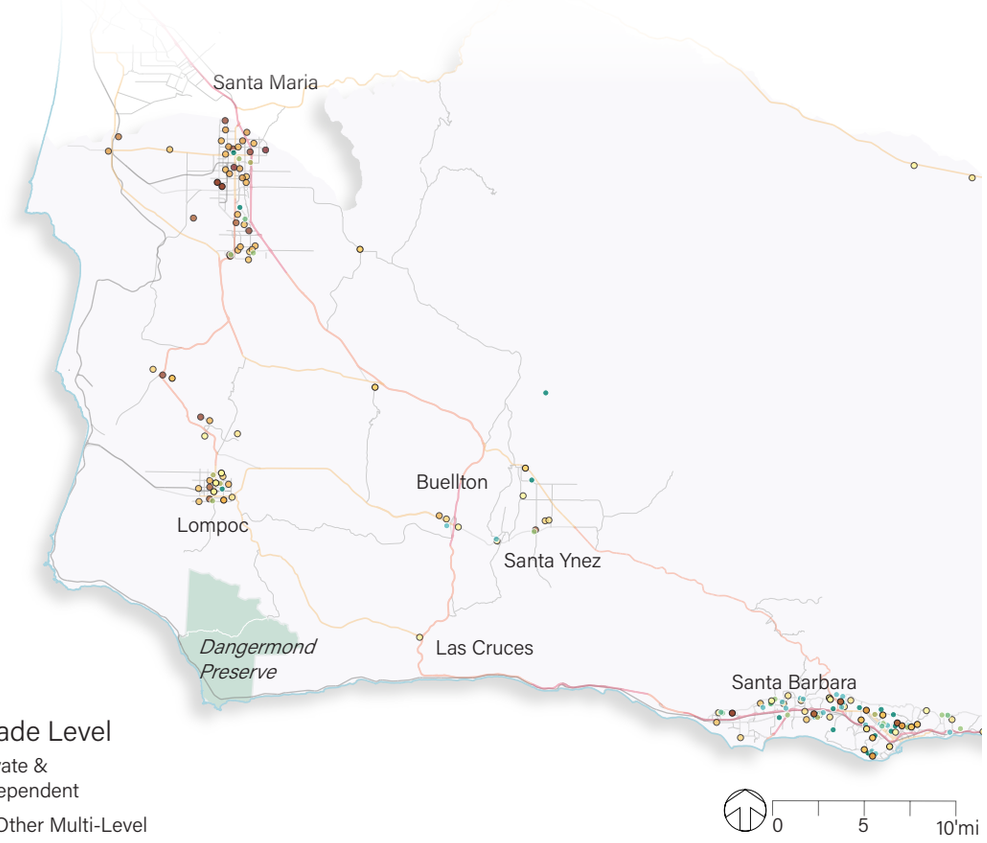


Project Goals for Jalachichi Riparian Zone

1. Educate nearby students about the local ecology and Chumash Culture, helping to fulfill state learning requirements.
2. Create a recreational space for the Chumash people to practice and teach their culture.
3. Integrate The Nature Conservancy, TNC, and Dangermond's restoration plans with the programming.

Nicholas Froehlich + India Jenkins

To determine who would be most likely to visit "The Preserve," school proximity, size, and grade level were analyzed for curriculum requirements the programing should meet.



Enrollment

Public High School

- 3081
- 11

Grade Level

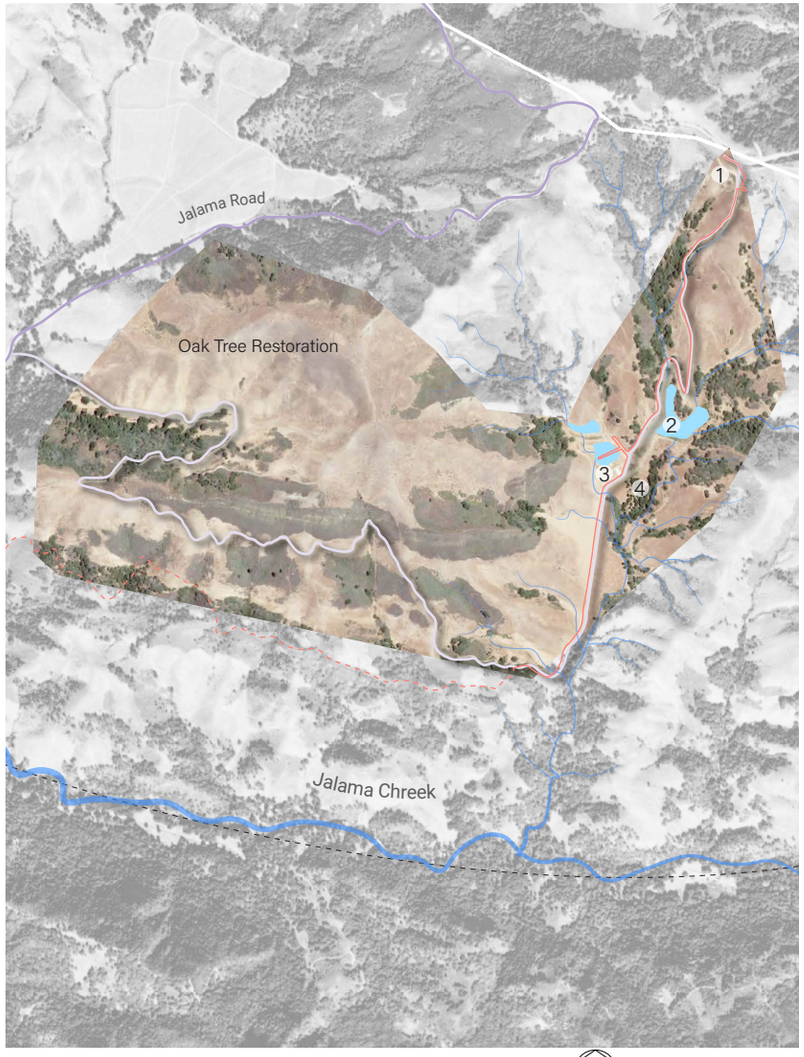
Private & Independent

- Other Multi-Level
- Preschool
- P-8
- P-6
- K-6
- K-12
- 9-12

Nicholas Froehlich + India Jenkins

Situated within the perennial headwaters of Jalama creek and the site of an TNC Oak Tree Restoration project are three stock ponds.

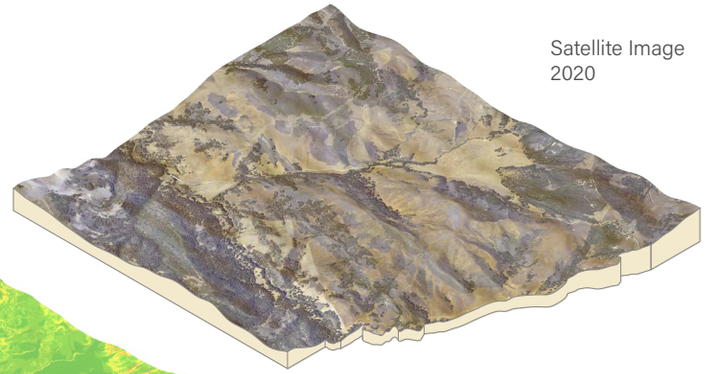
This site has the potential to reestablish habitat for threatened species. With the generation of traditional ecologies, Chumash would be welcome to take paid teaching positions and given access to private ceremony places within the site.

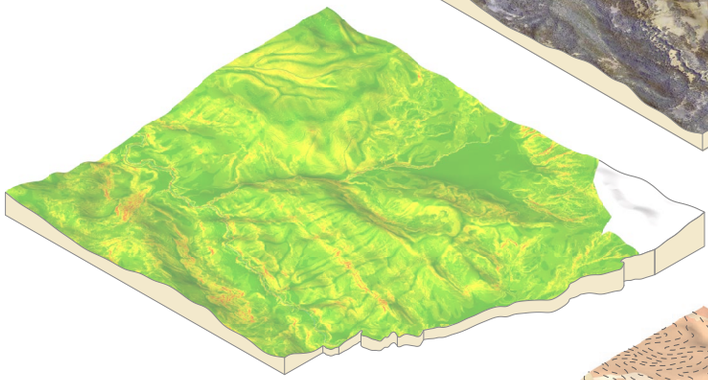


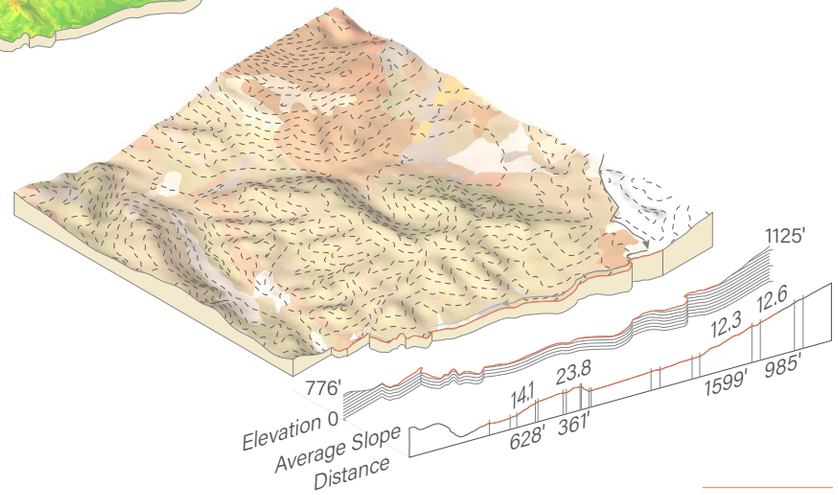
1. Parking
2. Cultural Exploration
3. Detention Basin 3
4. Food Foraging

Route Surveyed on Foot
Route Surveyed by Vehicle
Emergency Road
Proposed Trails
Creeks & Streams
Pacifico Fault

Located in the relatively young and loosely consolidated Transverse ranges, an analysis of the site's vegetation cover, slope and soil type inform the site design, construction, and lifetime maintenance approaches.







Section of the Jalachichi Trail

Soil Type

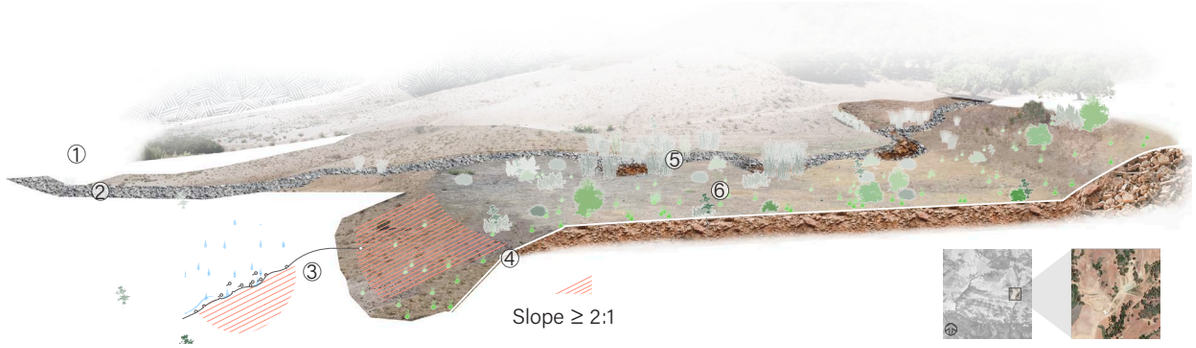
- Clay
- Clay Loam
- Cobbly Clay Loam
- Complex
- Fine Sandy Loam
- Heavy Clay
- Loam
- Other
- Rock Outcrop
- Sandy Clay Loam
- Sandy Loam
- Shaly Clay
- Shaly Clay Loam
- Silty Clay Loam
- Water

Slope (%)

- 0.00 - 1.77
- 1.78 - 3.83
- 3.84 - 5.60
- 5.61 - 7.36
- 7.37 - 9.48
- 9.49 - 12.30
- 12.31 - 17.25
- 17.26 - 26.79
- 26.80 - 90.00

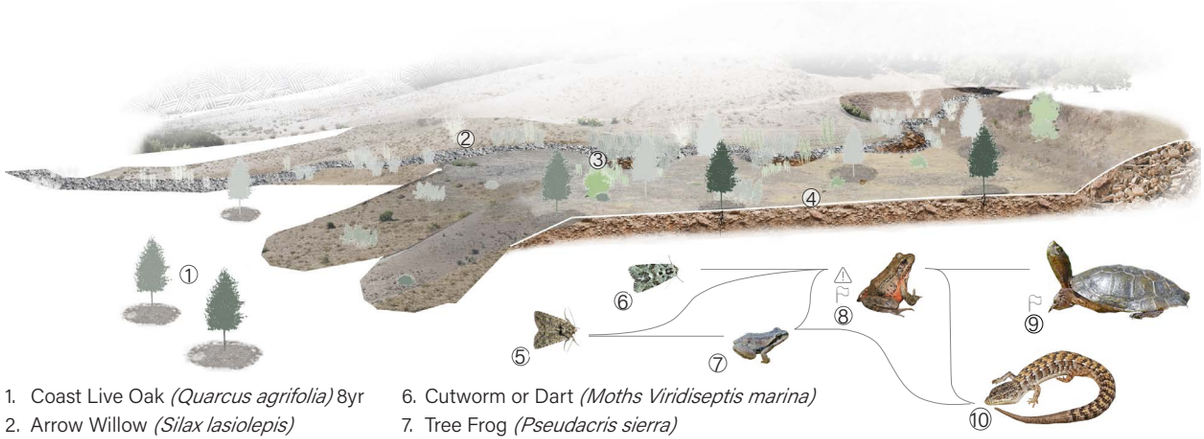
RETENTION BASIN THREE REMEDIATION 2021 & 2023

1. Poured Concrete Spillway
2. Rip Rap Berm
3. Deer Weed *(Acmispom glaber)*
4. Coyote Brush *(Baccharis pilularis)*
5. Sage Brush *(Artemisia californica gaviot)*
6. Alluvial Deposits
7. Holocene: unsorted sand, silt, clay, gravel, rock debris
8. Grassland
9. Chaparral
10. Oak Woodland



1. Shallow meander slows seasonal flushes and accommodates forbs
2. Stream lined with repurposed rip rap prevents erosion
3. Unvegetated slopes will experience some erosion
4. Removal of rip rap berm
5. Establishment of coyote brush and riparian plant communities
6. Oak tree seedlings hidden within the coyote brush

RETENTION BASIN THREE REMEDIATION 2030 & 2060



1. Coast Live Oak *(Quarcus agrifolia)* 8yr
2. Arrow Willow *(Silax lasiolepis)*
3. Horse Tail *(Equisetum sp.)*
4. Chia *(Salvia columbariae)*
5. Noctuid Moth *(Feralia deceptiva)*
6. Cutworm or Dart *(Moths Viridiseptis marina)*
7. Tree Frog *(Pseudacris sierra)*
8. Red Legged Tree Frog *(Rana draytonii)*
9. Southwestern Pond Turtle *(Actinemys pallida)*
10. Woodland Alligator Lizard *(Elgaria multicarinata ssp. webbii)*

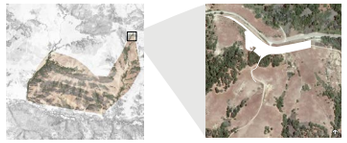
⚠ Endangered species
⚐ Sensitive species

1. Mycorrhiza fungi around roots break down the leaf litter, regenerate soil and efficiently transfers nutrients back to the oak trees from which they came.
2. Roots, although shallow, will succumb to inundation from standing water. Careful monitoring of sedimentation can protect the oak woodland from seasonal flooding.

VISITOR PARKING PLAN

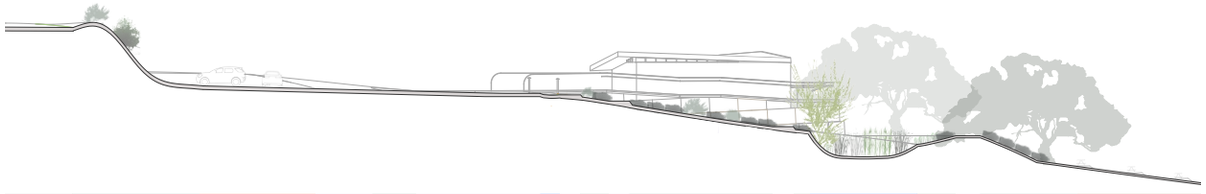
Extreme slopes and weak soils predicate a low impact site plan that curves along the topography. The site location, at the Jalama Creek headwaters, poses a threat to the watershed below.

1. Waste Collection
2. Entrance
3. Parking 2
4. Parking 1
5. Bioswales
6. Infiltration Basin
7. Accessible Ramp
8. Washroom
9. Parking 3
10. Staging Area A
11. Accessible Parking
12. Noise Barrier Berm
13. Staging Area B
14. Exit
15. Storage and Emergency Facilities
16. Terraced Picnic Area



0 60 120'

SECTIONS A & B



Longitudinal Section A

0 15 60'

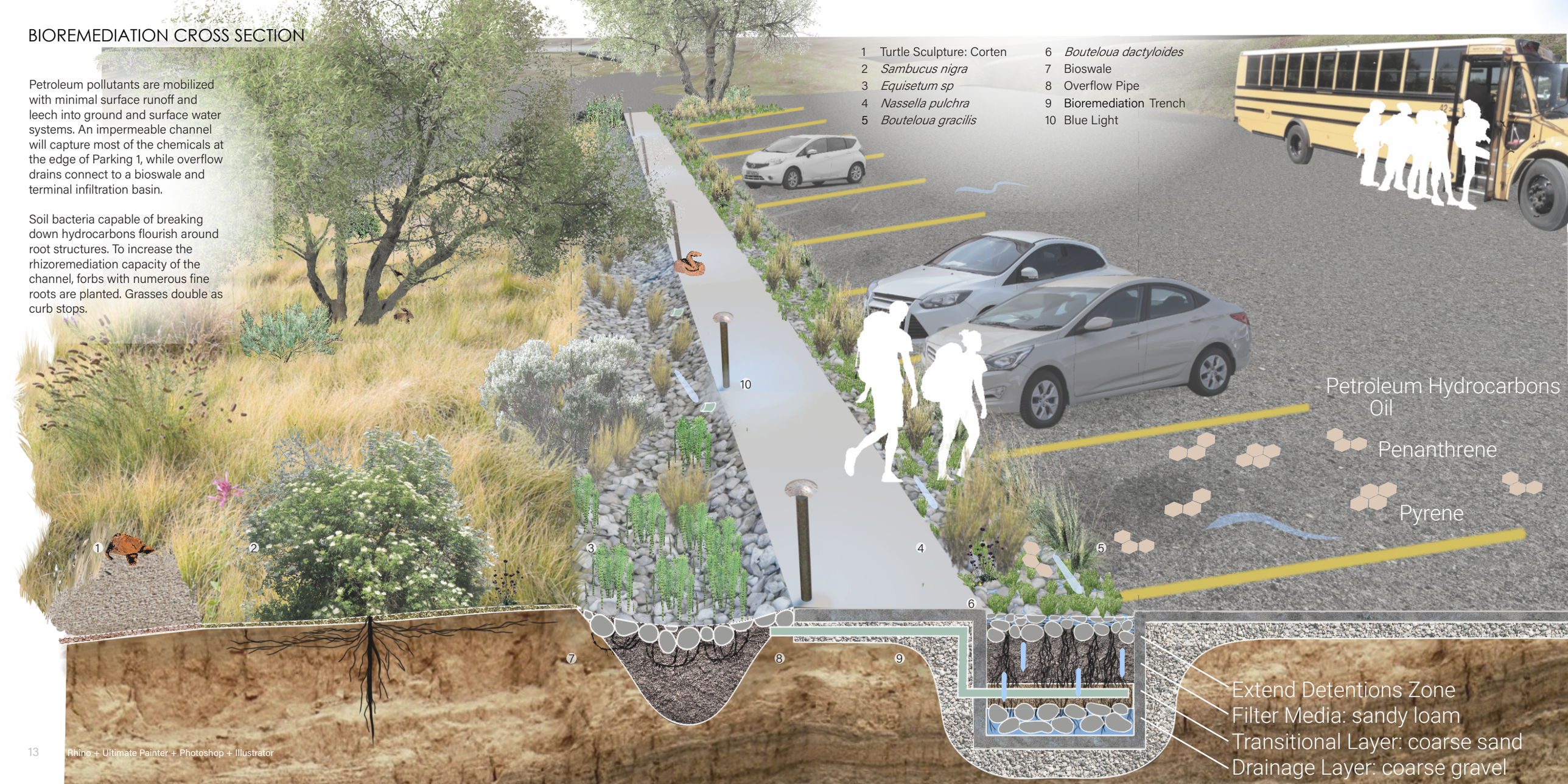
Cross Section B

0 15 30'

BIOREMEDIATION CROSS SECTION

Petroleum pollutants are mobilized with minimal surface runoff and leech into ground and surface water systems. An impermeable channel will capture most of the chemicals at the edge of Parking 1, while overflow drains connect to a bioswale and terminal infiltration basin.

Soil bacteria capable of breaking down hydrocarbons flourish around root structures. To increase the rhizoremediation capacity of the channel, forbs with numerous fine roots are planted. Grasses double as curb stops.

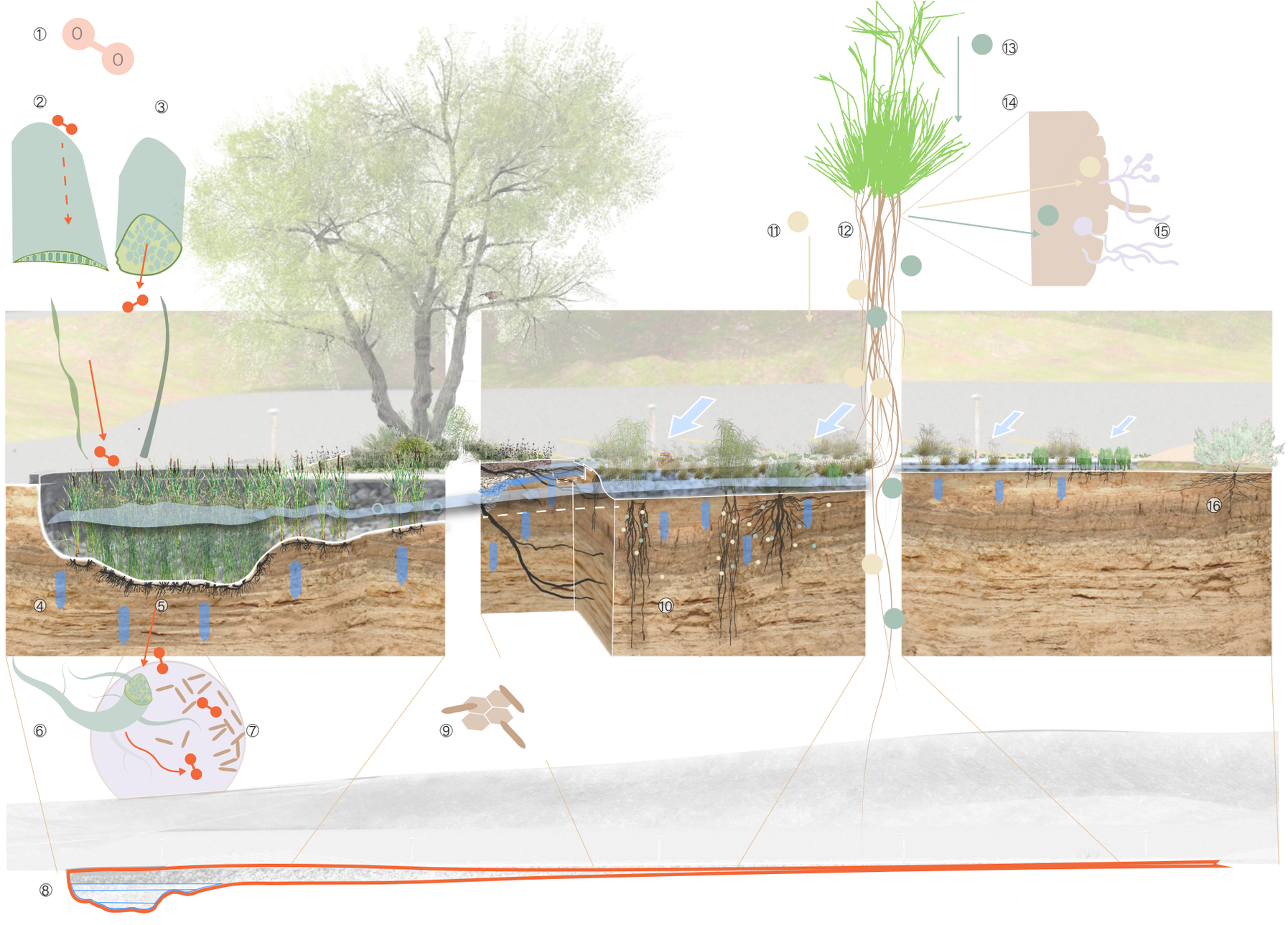


Rhino + Ultimate Painter + Photoshop + Illustrator

LONGITUDINAL SECTION

Water reaching the bioswale is slowed and detained at an intermediate basin hosting bulrush and cattails. They culture anaerobic bacteria around their roots, expediting chemical decomposition just below the water's surface.

A terraced basin increases the number of plants just below the water's surface, a necessary condition for the rhizoremediation process.



1 Oxygen
2 *Scirpoides holoschoenus*
3 *Typha*
4 Bioswale Intermediate Basin
5 Rhizome
6 Rhizome Magnified
7 Concentration of Bacteria
8 Bioswale Grade and Terracing
9 Bacteria Degrading Hydrocarbons
10 Deep *Asclepias fascicularis* Root
11 Enzymes
12 Fine Roots Increase Bacteria
13 Glucose
14 Root Surface
15 Mycelium
16 *Artemisia californica*

Rhino + Lumion + Ultimate Painter + Photoshop + Illustrator

INFILTRATION POND

A short trail connecting the lower and upper parking areas introduces visitors to the water processing system.

The infiltration basin at the end of the bioswale captures the heaviest of rains from both parking lots. The basin is 30 feet across and 4 feet deep, providing spreading and infiltrating ground.

A washroom of gabion wall and foundation construction allows for air and water porosity.

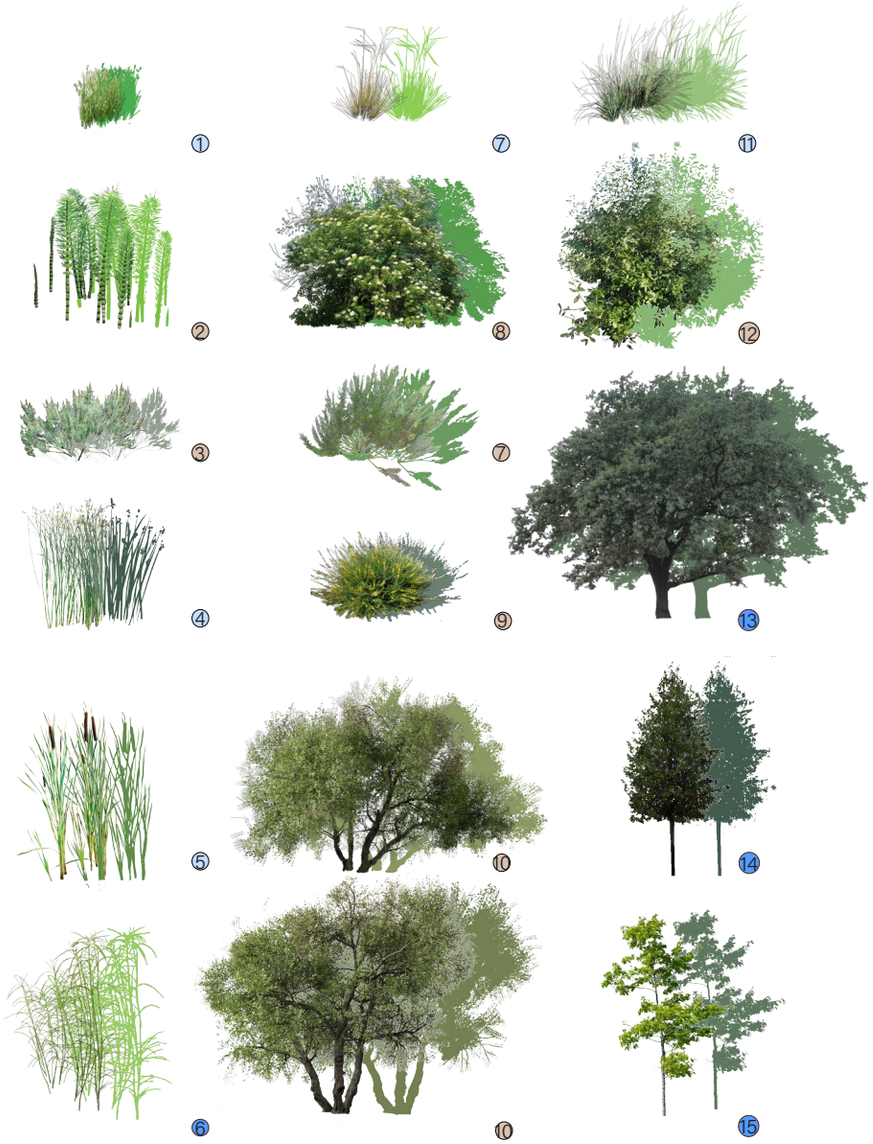
Students and families can enjoy the surprises of finding wildlife sculptures throughout the site.

1. Infiltration Basin
2. Life Sized Fox Sculpture
3. Children's Trail
4. Washroom with Green Roof

 Rhino + Lumion + Ultimate Painter + Photoshop + Illustrator

PLANT LIST

1. Blue Grama
   Bouteloua gracilis
2. Horsetails
   Equisetum
3. California Sagebrush
   Artemisia californica
4. California Bulrush
   Schoenoplectus californicus
5. Cattails
   Typha latifolia Calflora
6. Narrow Leaf Milkweed
   Asclepias fascicularis
7. Purple Needle Grass
   Nassella pulchra
8. Black elderberry
   Sambucus nigra
9. Deer Weed
   *Acmispon glaber*10.
10. Arroyo Willow
    Salix lasiolepis: types a & b
11. Buffalo grass
    Bouteloua dactyloides
12. California Bay Laurel
    Umbellularia californica
13. Coast Live Oak
    Quercus agrifolia: 40yr
14. Coast Live Oak
    Quercus agrifolia: 8yr
15. Coast Live Oak
    Quercus agrifolia: 3yr



- Phytodegradation
  Plants with deep taproots uptake contaminated groundwater
- Rhizoremediation
  Bacteria and fungi process near surface water pollutants around fine roots
- Phytostabilization
  Surface roots stabilize the soil and contain contaminats

ANIMAL SCULPTURES IN THE LANDSCAPE

1. Brush Rabbit
   Sylvilagus bachmani
2. Field Mouse
   Apodemus sylvaticus
3. Pallid Bat
   Antrozous pallidus
4. Mule Deer (Male)
   Odocoileus hemionus
5. Red Fox
   Vulpes vulpes
6. Mountain Lion
   Puma concolor
7. Grizzly Bear
   Ursus arctos californicus
8. Black-Chinned Hummingbird
   Archilochus alexandri
9. Peregrine Falcon
   Falco peregrinus
10. Raven
    Corvus corax
11. Golden Eagle
    Aquila chrysaetos
12. Blue Heron
    Ardea herodias
13. Rattlesnake
    Crotalus oreganus
14. Forest Alligator Lizard
    Elgaria multicarinata multicarinata
15. Red-Legged Frog
    Rana draytonii
16. Banana Slug
    Ariolimax californicus
17. Monarch Butterfly
    Danaus plexippus
18. Tiger Centipede
    Scolopendra polymorpha
19. California Mantis
    Stagmomantis californica
20. Roly-Polies
    Armadillidiidae
21. Western Pond Turtle
    Actinemys marmorata

02

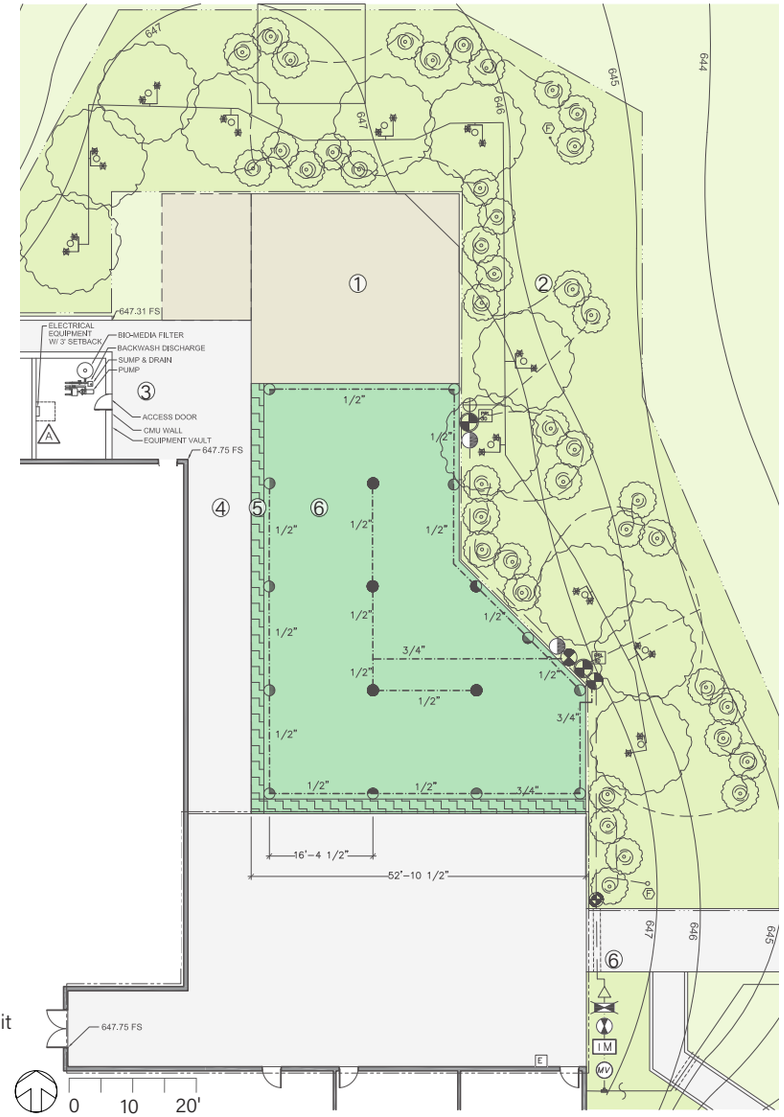
Construction Documentation

2021

Technical exercises in irrigation design, structural details, pathway and ADA ramp construction, and grading for a bioswale.

IRRIGATION PLAN EXERCISE

Lateral lines with MP rotators offset from hardscaping avoids water waste. Hunter Eco-Mat borders the walkway and patio. And drip lines encircle shrubs twice in anticipation of changes in water needs.

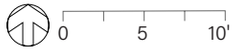


1. Picnic Area with Shade Structure
2. Drip and Emitter Irrigation Area
3. Equipment Vault
4. Walkway
5. Hunter Eco-Mat
6. Turf Area MP Rotators and Lateral Lines
5. Plaza Entry
6. Irrigation Utilities

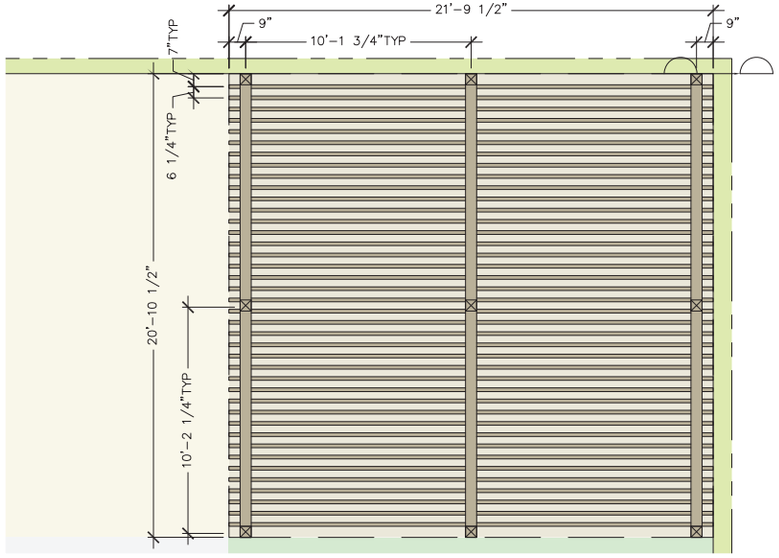
- IBV Controller Brass
- Pressure Regulator
- Reduced Pressure Backflow Prevention Unit
- Gate Valve
- IM Irrigation Master Valve
- MV Master Valve

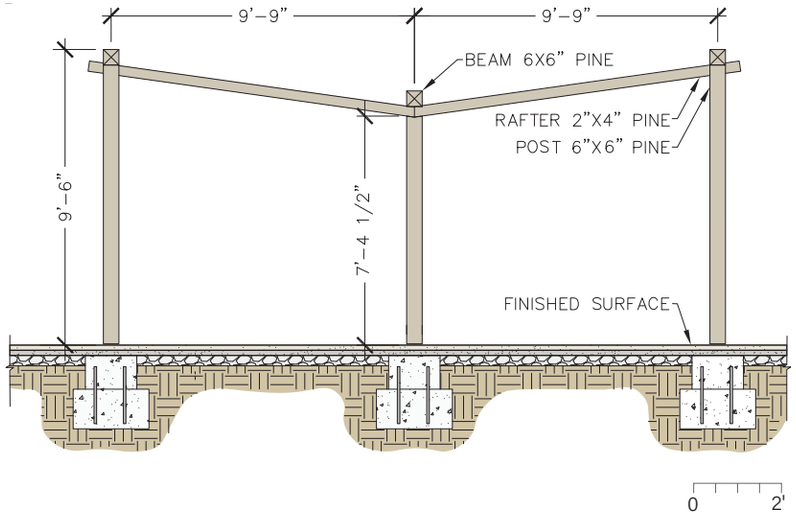
SHADE STRUCTURE

A simple shade structure featuring a butterfly roof opening towards the descending landscape on the right and towards offices on the left.

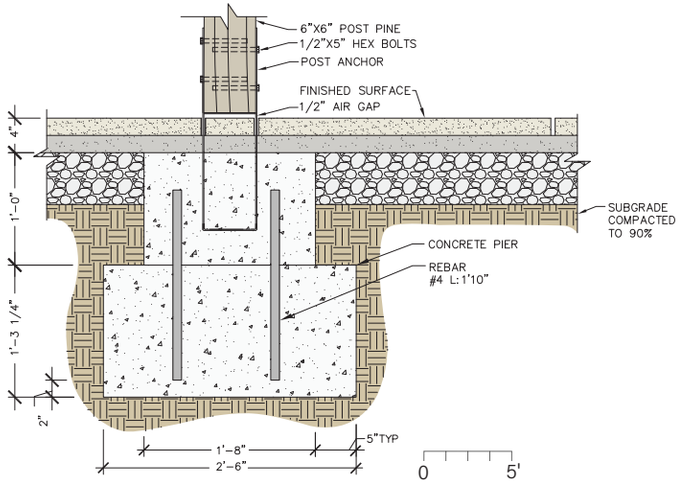


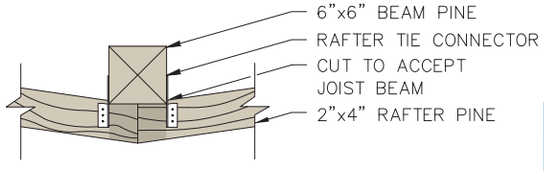
The lowered spine of the pergola defines two interior spaces which are also bisected by posts at just over ten feet.



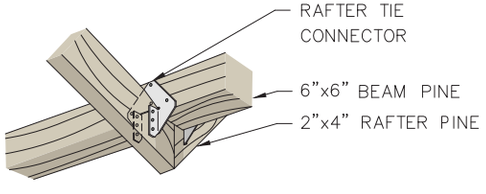


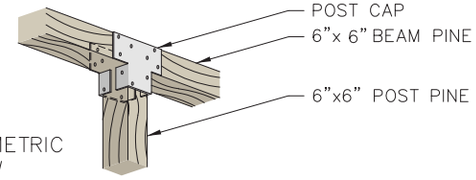
Fixture brackets positioned above closely set perlins help conceal hardware. Technically, dimensions and callouts are grouped respectively with text and leaders aligned.



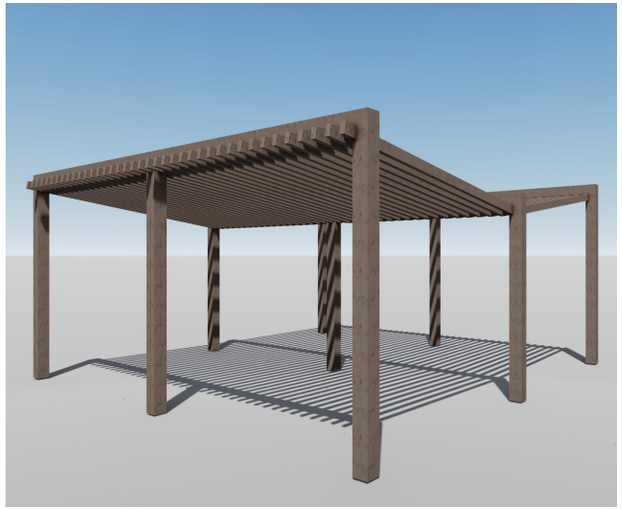


END VIEW





ISOMETRIC VIEW

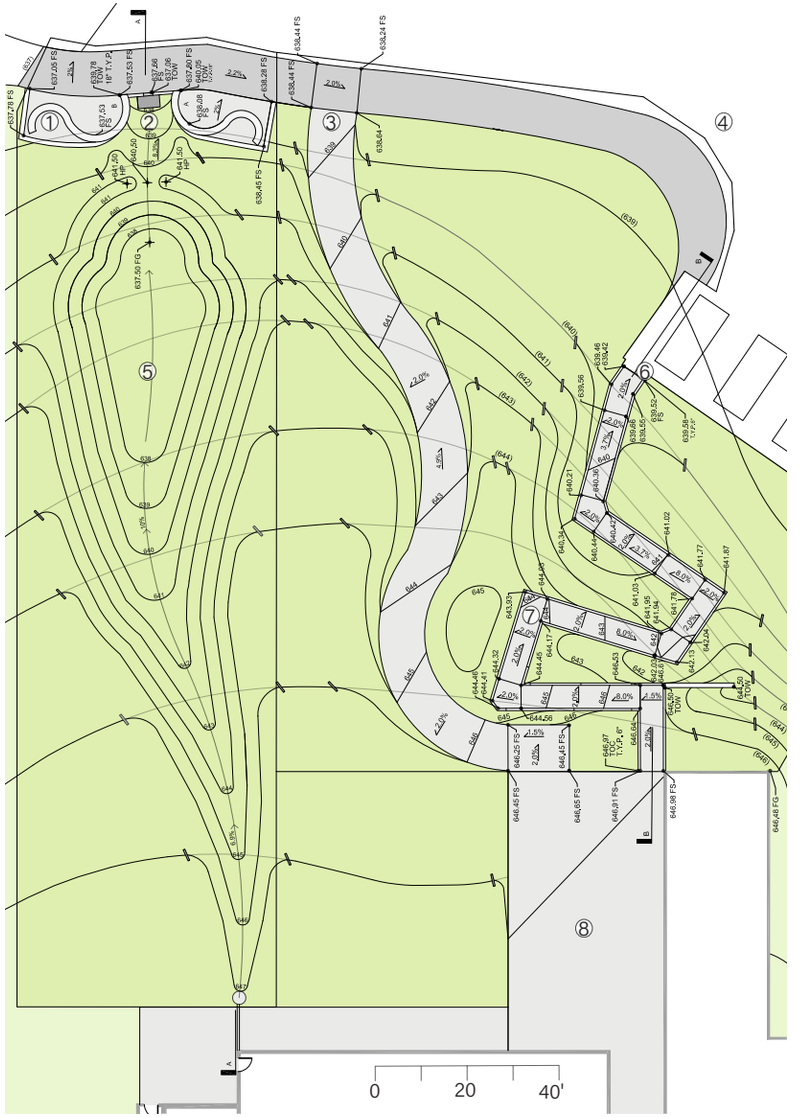


Roof and hardscape runoff is directed through a bioswale to a point of interest for people in the passenger waiting area. The main entry path, at a two percent cross slope, sheet flows runoff towards the catchment systems contributing to groundwater recharge. The accessible ramp wheel stops direct some water, at contour 644, to a corner landing drain. Extended landings and shot eight percent segments of incline help reduce fatigue over the seven feet of elevation change .

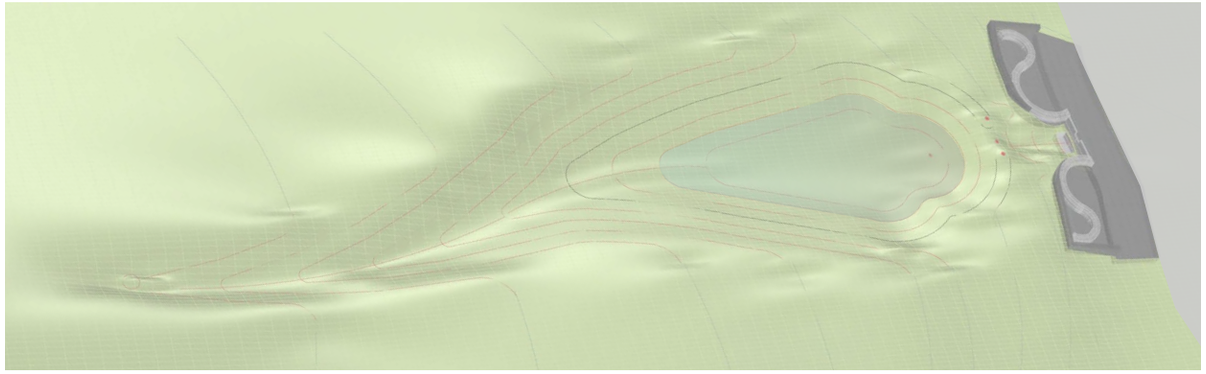
1. Pickup Drop-off Waiting Area
2. Debris Basin
3. Main Circulation Path
4. Vehicle Access
5. Bioswale
6. ADA Path
7. Drain
8. Entrance Plaza

GRADING LEGEND

SYMBOL	DESCRIPTION
BC	BOTTOM OF CURB
BS	BOTTOM OF STEP
FG	FINISH GRADE
FS	FINISH SURFACE
TC	TOP OF CURB
TS	TOP OF STEP
← 2.0%	SLOPE GRADE
	EXISTING CONTOUR LINES (1-FT INTERVAL)
	PROPOSED CONTOUR LINES
XX FS	GRADING CALLOUT



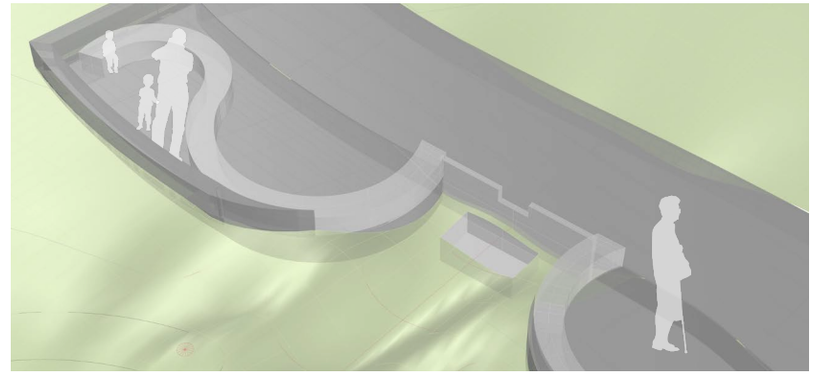
WAITING AREA BIOSWALE SECTIONS AND 3D RENDERING

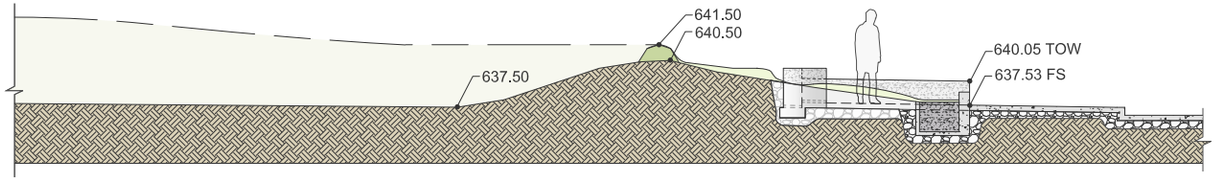


The seat-wall and waiting bay, section A-A', expresses egress distance and relative heights of berm and individual. The accessibility ramp, section B-B', exposes the minor slope.

WAITING AREA BIOSWALE SECTIONS AND 3D RENDERING

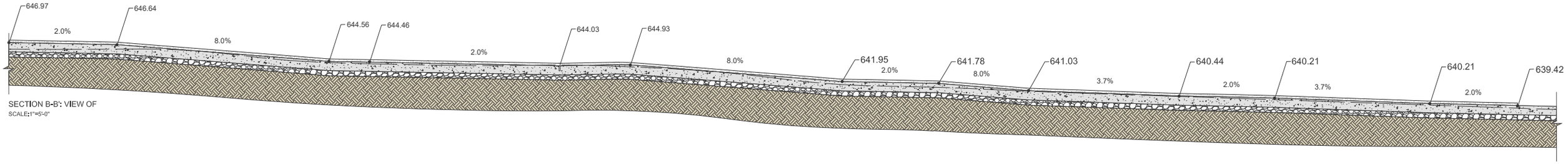
When a precipitation event surpasses the infiltration rate basin debris is restricted before water sheet flows into the





SECTION A-A': VIEW OF
SCALE:1"=5'-0"

Bioswale | Planting | Seating | Street



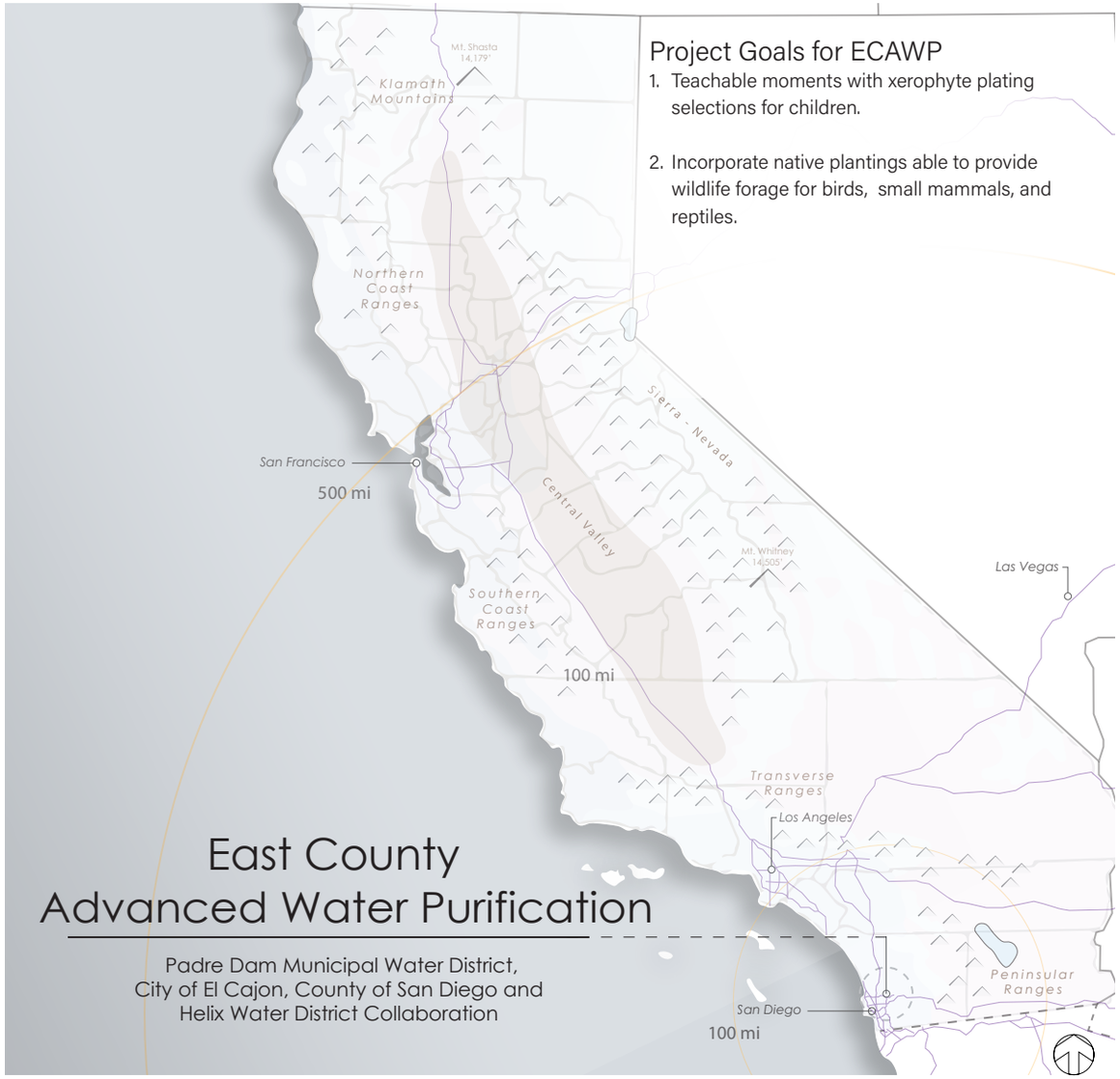
SECTION B-B': VIEW OF
SCALE:1"=5'-0"

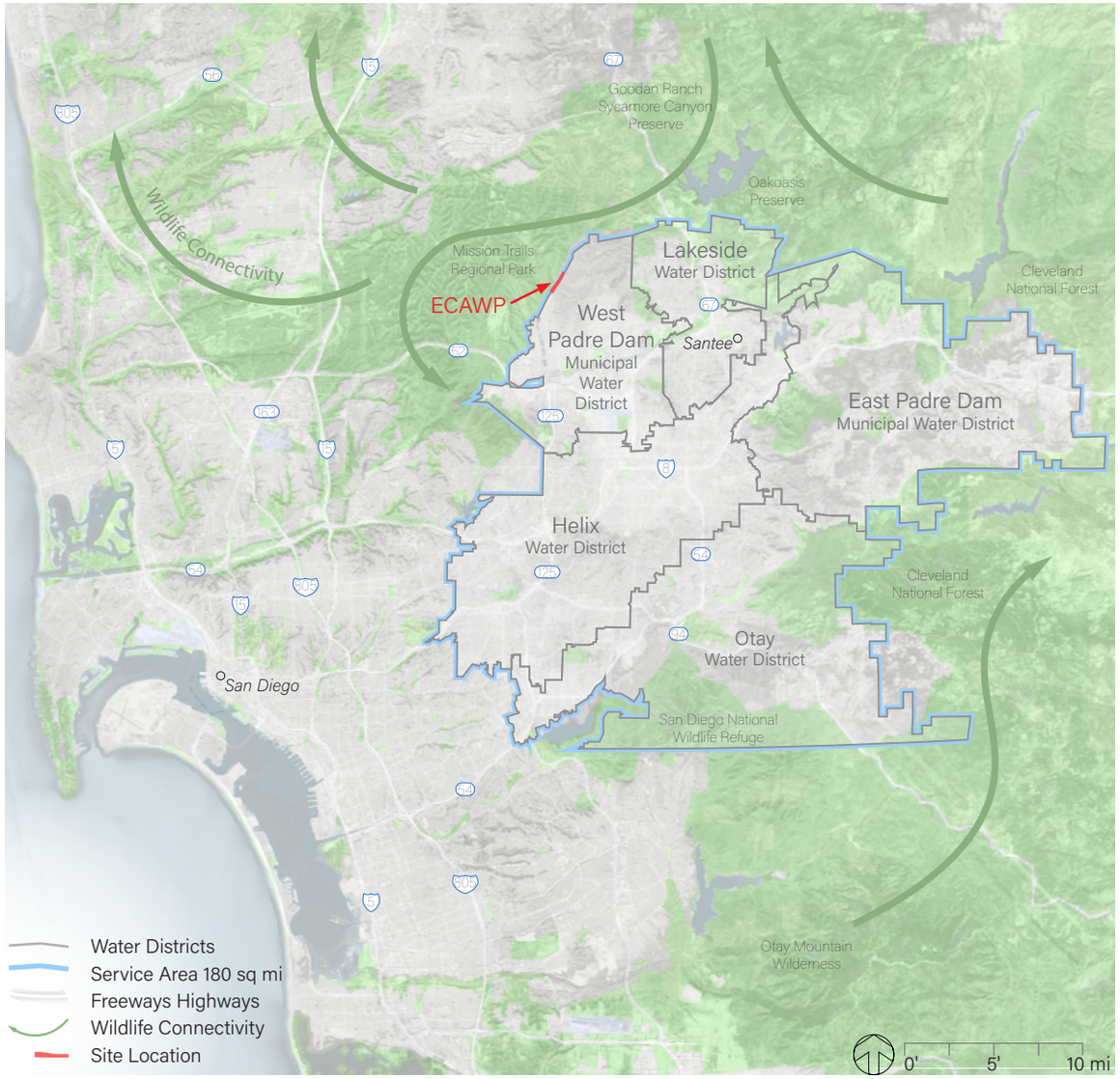
Landing | Accessibility Ramp | Street

East County Advanced Water Purification

2024

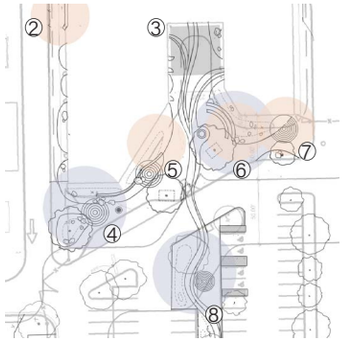
ECAWP engages developing minds with colorful plantings, fun textures and how low water adaptivity relates to water use at home; All while providing habitat for wildlife.

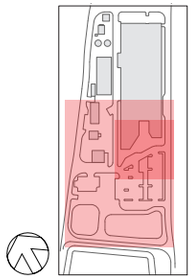

Project Goals for ECAWP
1. Teachable moments with xerophyte plating selections for children.
2. Incorporate native plantings able to provide wildlife forage for birds, small mammals, and reptiles.
Mt. Shasta 14,179'
Klamath Mountains
Northern Coast Ranges
Sierra - Nevada
Central Valley
San Francisco
500 mi
Mt. Whitney 14,505'
Southern Coast Ranges
100 mi
Las Vegas
Transverse Ranges
Los Angeles
Peninsular Ranges
San Diego
100 mi
East County
Advanced Water Purification
Padre Dam Municipal Water District,
City of El Cajon, County of San Diego and
Helix Water District Collaboration

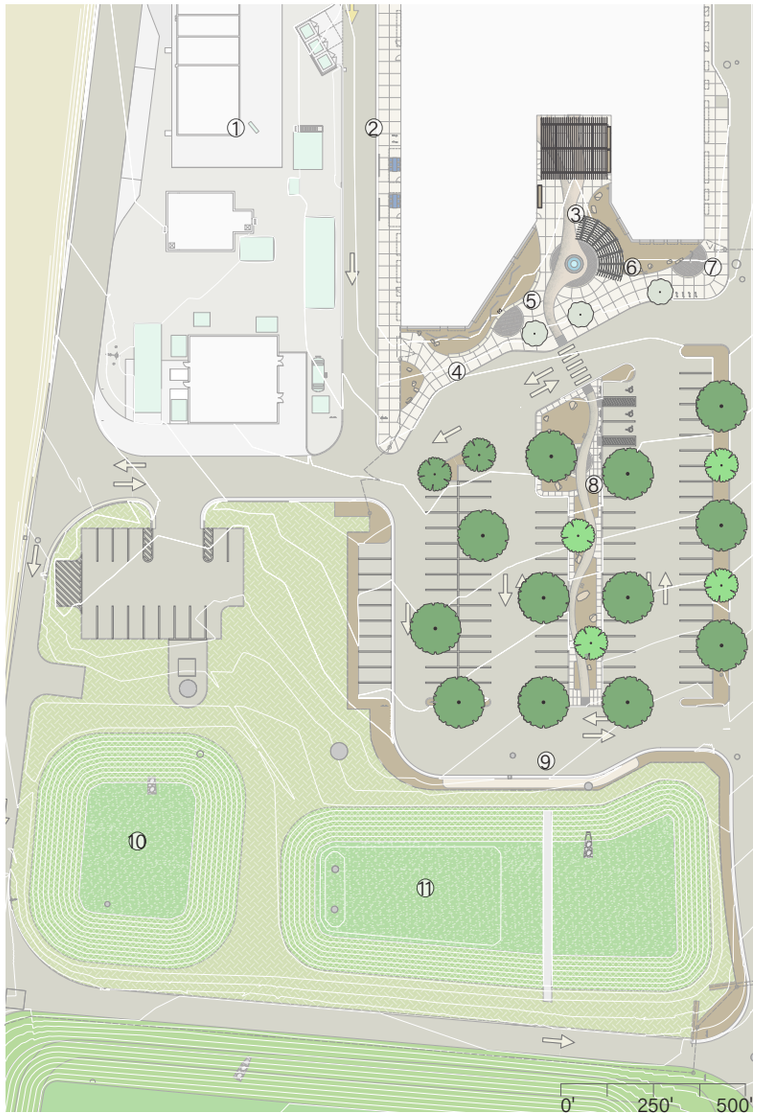

Goodan Ranch Sycamore Canyon Preserve
Oakoasis Preserve
Wildlife Connectivity
Mission Trails Regional Park
Lakeside Water District
ECAWP
West Padre Dam Municipal Water District
Santee
Cleveland National Forest
East Padre Dam Municipal Water District
Helix Water District
Cleveland National Forest
Otay Water District
San Diego
San Diego National Wildlife Refuge
Otay Mountain Wilderness
Water Districts
Service Area 180 sq mi
Freeways Highways
Wildlife Connectivity
Site Location
0'
5'
10 mi

OVERALL PLAN VISITOR CENTER PARKING AND DETENTION BASINS

Levels of engagement decrease from the visitor center to retention basins. Security fencing protects basins and from purification facility overflow.



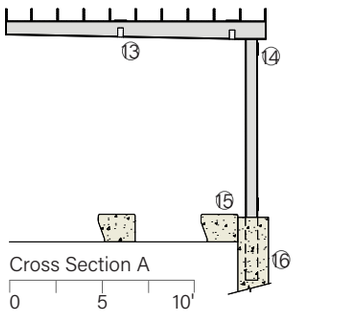


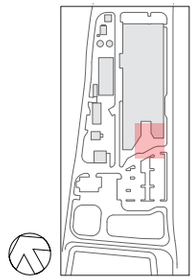


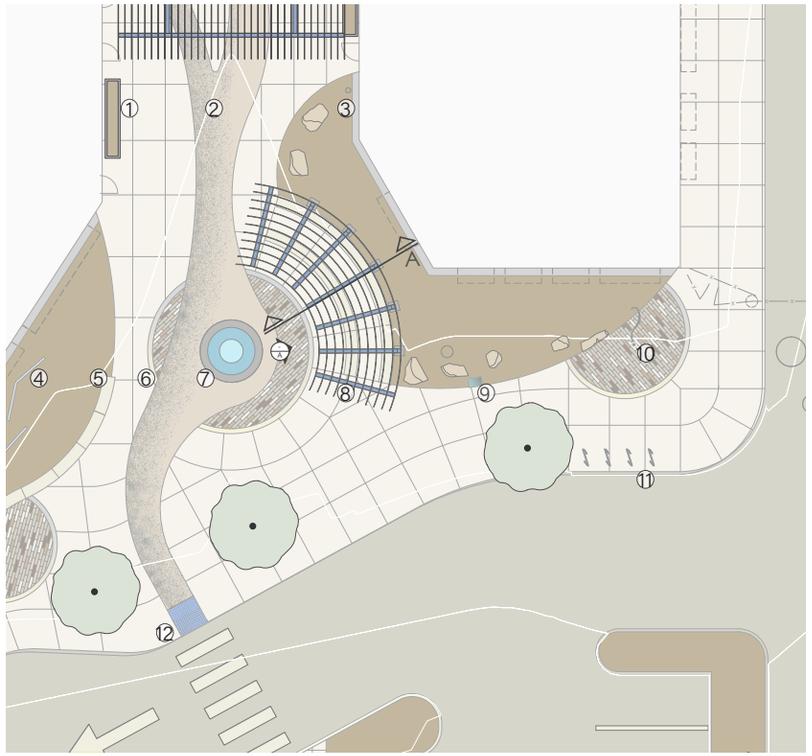
1 Water Processing Facilities
2 Employer Break Seating
3 Visitor Center Lobby
4 Bus Drop Off
5 Information Point
6 Amphitheater and Shade Structure
7 Vehicle Pickup Zone
8 Social Gathering Point
9 Bus Parking
10 Purification Overflow Basin
11 Overflow and Runoff Basin

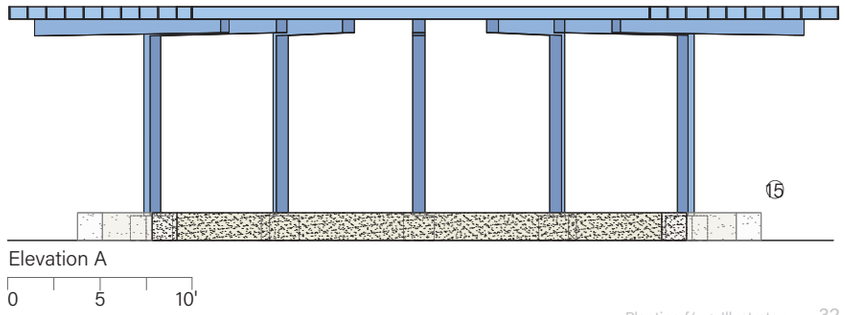
PLAZA SHADE STRUCTURE AND SITE FURNISHINGS

Semicircular seating shaded from midday sun offers a gathering point around a wellspring fountain.





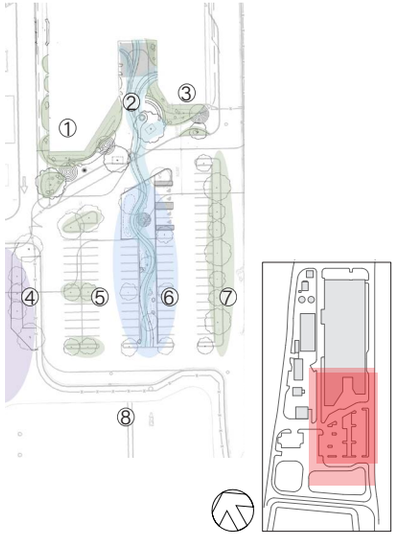




1 Planting Box
2 Lithocrete Paving
3 Aggregate Trench Drain
4 Privacy Screen
5 Seat Wall
6 Metal Inscribed Inlay
7 Fountain
8 Shade Structure
9 Informational Placard
10 Flag Pole and Waiting Area
11 Bike Racks
12 Tactile Domes
13 Recessed Light
14 Handhold
15 Bench Seat Wall
16 Post Footing

SCHEMATIC AND OVERALL PLANTING PLAN

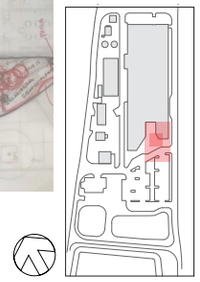
The story of local hydrology and xerophytes, integral to municipal water processing, are displayed as discussion points for visitors. Foothill-like micro berms showcase Mediterranean species of low water adaptation. Bisecting the site is the story of water featuring a fountain and fluvial path meandering through an oak woodland which transitions into savanna-like conditions outward.

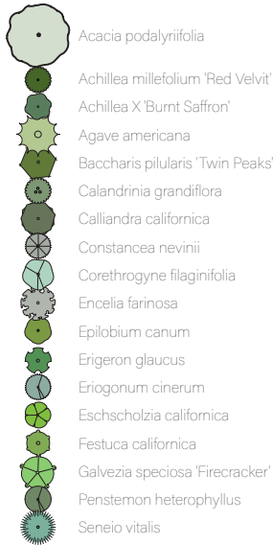


1 Mediterranean Species
2 Primary Path
3 Californian Species
4 Basin Restoration Seed Mix
5 Oak Savanna
6 Oak Woodland
7 Street Side Planting
8 Chaparral Dry & Temporary Inundation

SOUTHERN CALIFORNIA NATIVE PLANTING DESIGN

Charismatic species are arranged by foliage color, photo protective adaptation, for view shed from interior spaces, and fire requirement.



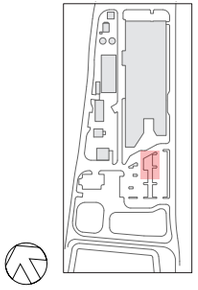


Acacia podalyriifolia
Achillea millefolium 'Red Velvit'
Achillea X 'Burnt Saffron'
Agave americana
Baccharis pilularis 'Twin Peaks'
Calandrinia grandiflora
Calliandra californica
Constancea nevinii
Corethrogyne filaginifolia
Encelia farinosa
Epilobium canum
Erigeron glaucus
Eriogonum cinerum
Eschscholzia californica
Festuca californica
Galvezia speciosa 'Firecracker'
Penstemon heterophyllus
Seneio vitalis

AXEL PATH THOUGH SHADED OAK PLANTING

A low water use planting design with compact upright and low forms suited for confined spaces.

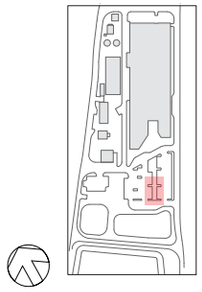
1 A punctuation
2 Maintenance Access
3 Visual Openings with Rocks
4 Bench
5 Metal Engraved Inlay
6 Access points to primary circulation
7 Interlaced cohesion

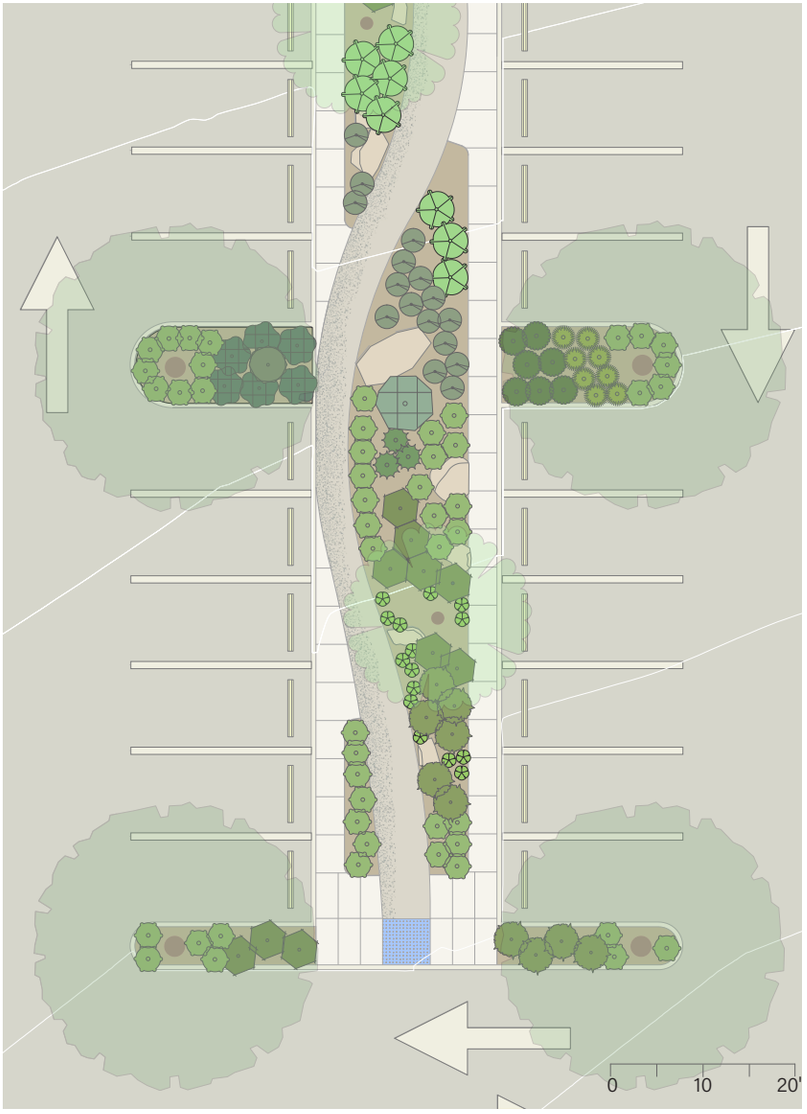


- Quercus Agrifolia
- *Achillea millefolium 'Red Velvit'*
- *Achillea X 'Burnt Saffron'*
- *Baccharis pilularis 'Twin Peaks'*
- *Eschscholzia californica*
- *Festuca californica*
- *Galvezia speciosa 'Firecracker'*
- *Heteromeles arbutifolia*
- *Penstemon eatonii*
- *Penstemon heterophyllus*
- *Peritoma arborea*
- *Salvia leucantha*
- *Senecio vitalis*
- *Lomandra longifolia 'Breese'*

TRANSITION INTO MORE SUN EXPOSURE

Towards the southwest the vegetation section is exposed to more direct sun. The planting omits heat sensitive species, and includes savanna grasslands





- Quercus Agrifolia
- *Achillea millefolium 'Red Velvit'*
- *Achillea X 'Burnt Saffron'*
- *Agave mericana 'Medio-picta Alba'*
- *Arctostaphylos X 'Emerald Carpet'*
- *Baccharis pilularis 'Twin Peaks'*
- *Dendromecon harfordii*
- *Eschscholzia californica*
- *Festuca californica*
- *Galvezia speciosa*
- *Galvezia speciosa 'Firecracker'*
- *Penstemon eatonii*
- *Penstemon heterophyllus*
- *Lomandra longifolia 'Breese'*

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India Jenkins

Education

California State Polytechnic University, Pomona

Bachelor of Science
Landscape Architecture

Regenerative Studies Minor
2018-2022

Professional Association

ASLA
Member: 2019-2024

Olmsted Fellow
2021

National Association of Minority Landscape Architects Cal Poly Pomona
Member: 2021-2022
President: 2020-2021

Student Leadership
2019-2020

Awards

Design Village: Winning Design
Cal Poly San Luis Obispo
2018

Volunteer

AECOM Green Team
Member: 2022-2024

Huerta del Valle Community Garden
2020

Entry Level Landscape Designer

Work Experience

AECOM 2024 — Landscape Designer

Code and site research, survey and analysis, precedent studies and educational program and site diagramming. Geographic, historical, cultural, and material research.
Native plating design for slope stabilization, fire resistance, mowing tolerance, detention basins, stream banks, parking areas and highways. Designed shade structures, screens, and seat walls. Irrigation and grading design.
Construction sets red line edits, sections, details, plans. Participated in meetings and design charrettes.

STUDIO PETRICHOR 2022 — Landscape Design Intern

Residential Design. Research site environs, laws, codes, constraints and local plant species. Performed preliminary site analysis, survey, and mapping. Composed plant selection list in Planting F/X.
Monitored mound culture (hugelkultur) test site in JPL Riparian Zone for water retention and vegetation health.

BAHIRA INC. ARCHITECTURAL SUPPORT 2018 — Architectural Drafter

Drafted residential and commercial landscapes and structures using AutoCAD with the aid of satellite images.
Incorporated local building codes into designs.
Submitted construction documents to the City of Norwalk, CA for approval.

MENEMSHA SOLUTIONS 2017 — Architectural Drafter

Drafted pre-exsisting building construction documents from red-lined plans. Placed symbols on plans to identify locations of 3D photographs. Hyperlinked symbols to 3D photographs and other images. Referenced image details to confirm accuracy of symbol placement.
Compiled reports of existing conditions incorporating satellite images and site plans. Placed symbols on site plans and hyperlinked images.

Leadership Experience

NATIONAL ORGANIZATION OF MINORITY LANDSCAPE ARCHITECTS CAL POLY POMONA (NAMLA CPP)

Founded NAMLA CPP in response to the Open Letter to the Department of Landscape Architecture to Combat Racism.
Held training session to help students identify their vocation and invited a large landscape architecture firm to present on the subject of community engagement.

Technical Skills

Rhino	Lumion	MicroStation	Hand sketching
Grasshopper	ArcGIS	Adobe Suite	Photography
SketchUp	AutoCAD 24’	Microsoft	Google Earth Pro
Revit	Land F/X Suite	Hand Rendering	Bluebeam REvu