

Henningesen Lotus Park Expansion

UC DAVIS LANDSCAPE ARCHITECTURE SENIOR STUDIO

WINTER 2024

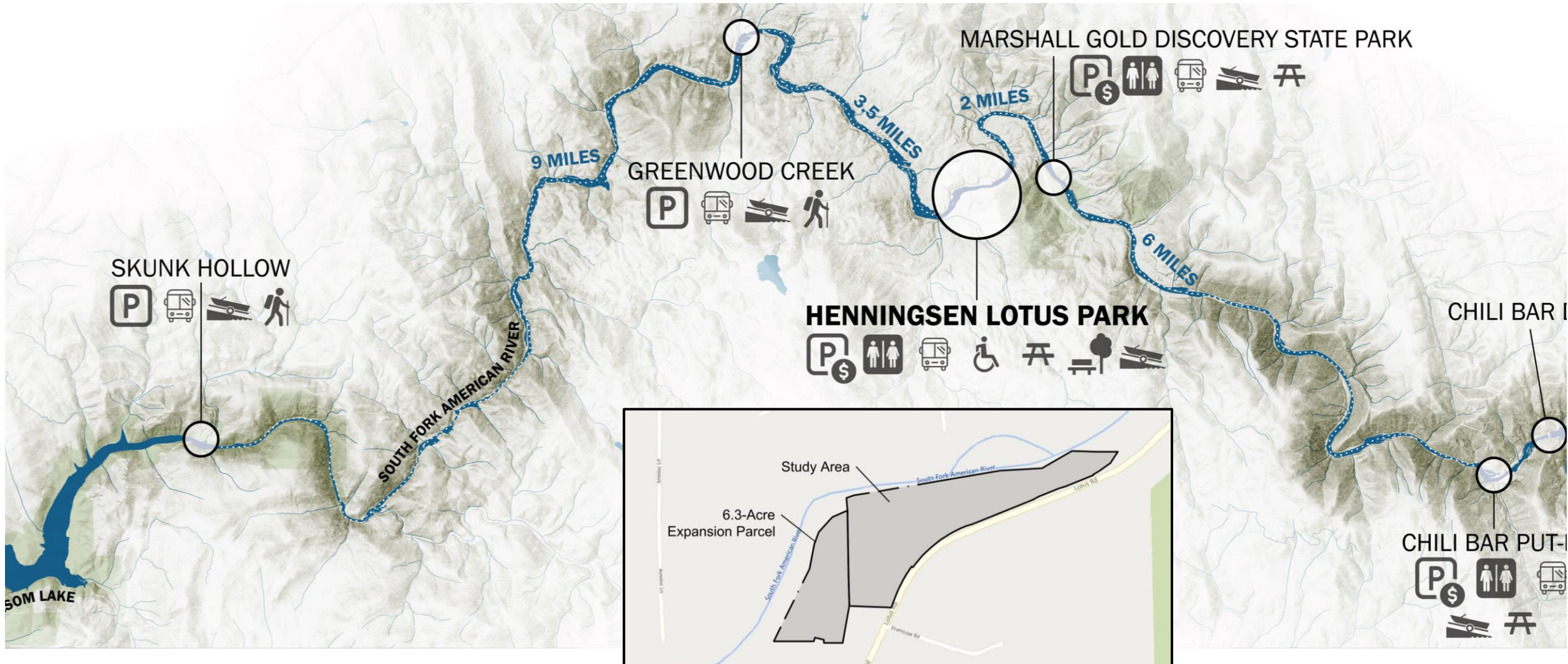
Project Scope

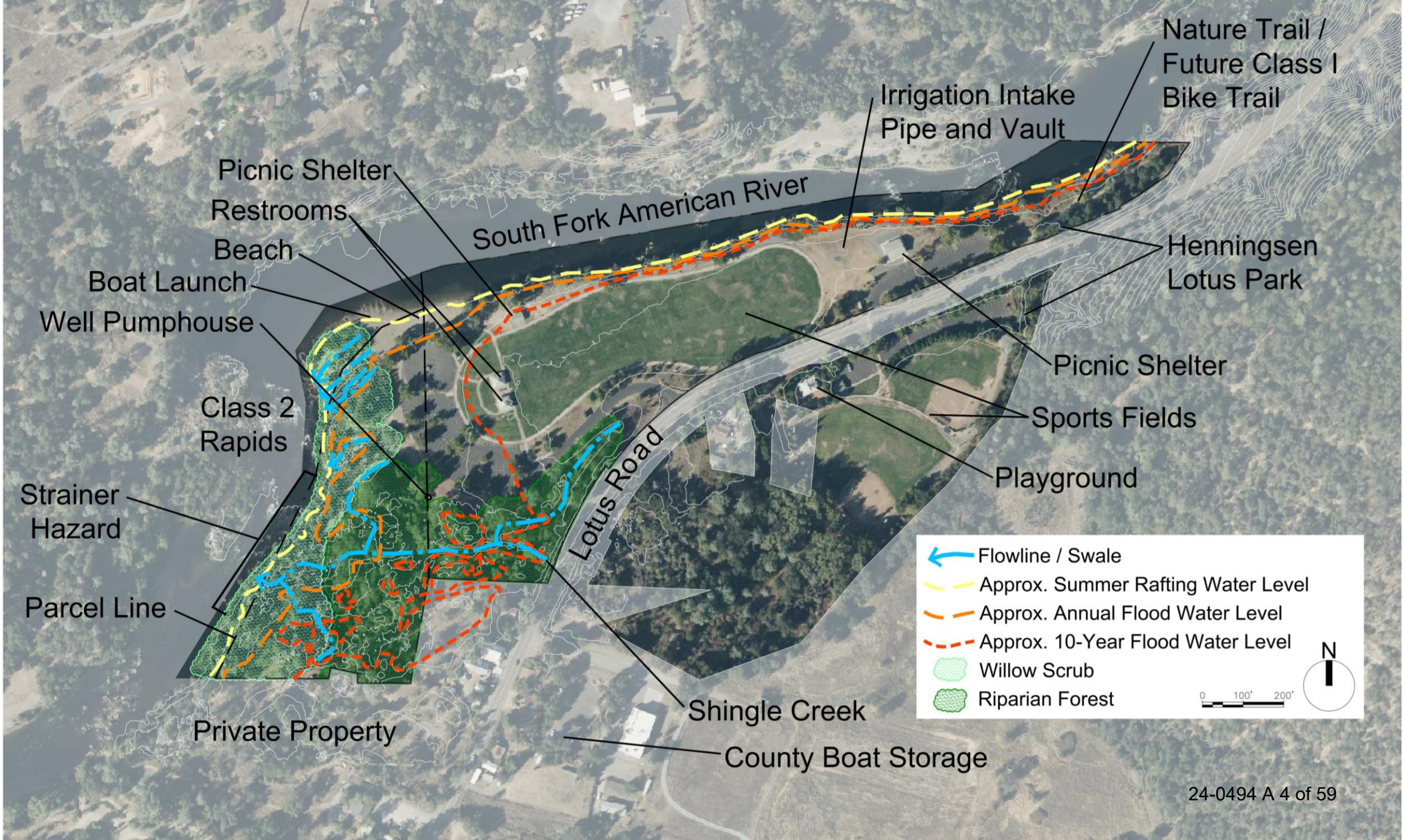
Students completed individual Site Analysis

Groups identified three primary goals and up to five secondary design goals

Prepared conceptual design for the site and detailed design for at least one proposed design feature

Site Location





Existing Conditions – Flooding

Annual winter storm:
Approximately to edge of existing
parking lot

10-year storm:
Covers most of west parking lot with
heavy rock deposition
Also floods existing well pumphouse



Existing Conditions – Recreational Use

Park is heavily used May – September for beach and river access, sports, and festivals/community events

Local use throughout the year for dog walking and more casual recreation

Parking is limited

Pedestrian crossing across Lotus Road to south half of park is challenging



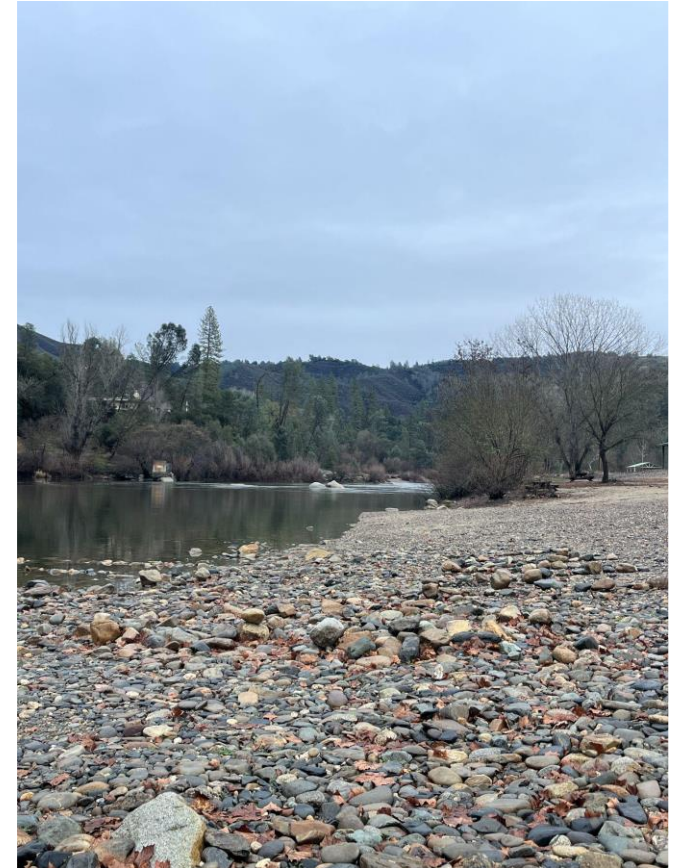
Existing Conditions – River Access

One of few public river access points in middle section of river

On the Coloma Shuttle route

Tubing from Marshall Gold Discovery S.P. has become popular (0.85 road miles, 2.3 river miles)

Boat ramp is heavily impacted by sediment deposits and often blocked by beach users



Existing Conditions – Natural Resources

Willow scrub in north and west areas:
highly disturbed by annual floods

Riparian Forest in southeast corner:
Mature cottonwoods, willows, oaks,
and gray pine with dense non-native
Himalayan blackberry understory

Located in Foothill Yellow-legged
Frog Critical Habitat





Go With The Flow

LDA 183 - Olivia, Phillip, Iris, Risa

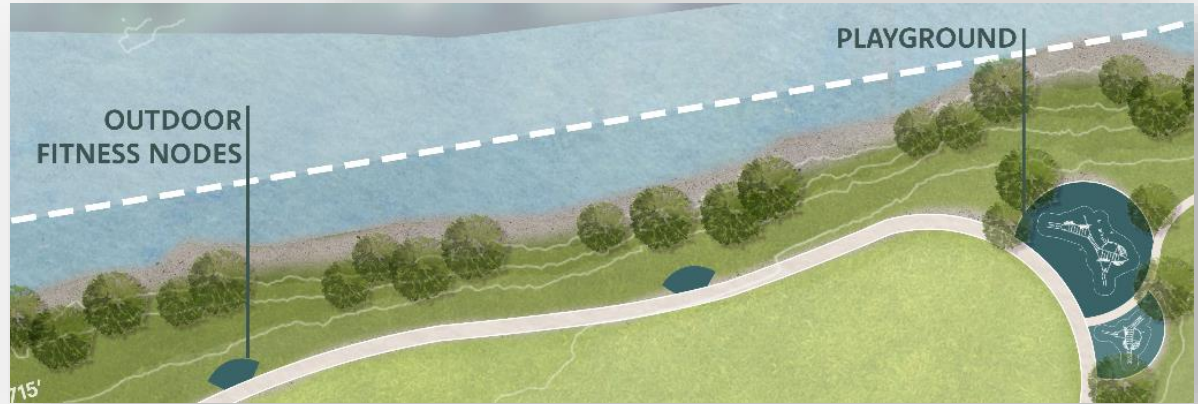
01 Our Goals



1. Improve accessibility to water
 - a. Implement ADA approved design
1. Increase site communication
 - a. Delineate trails and add signage
1. Address desires of stakeholders and enhance natural flow of water
 - a. Maintain privacy of land owners
 - b. Modify berms to ease the flow of water through site

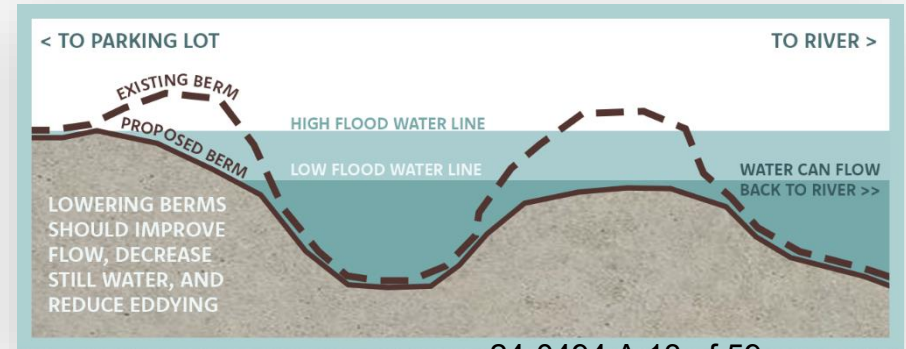
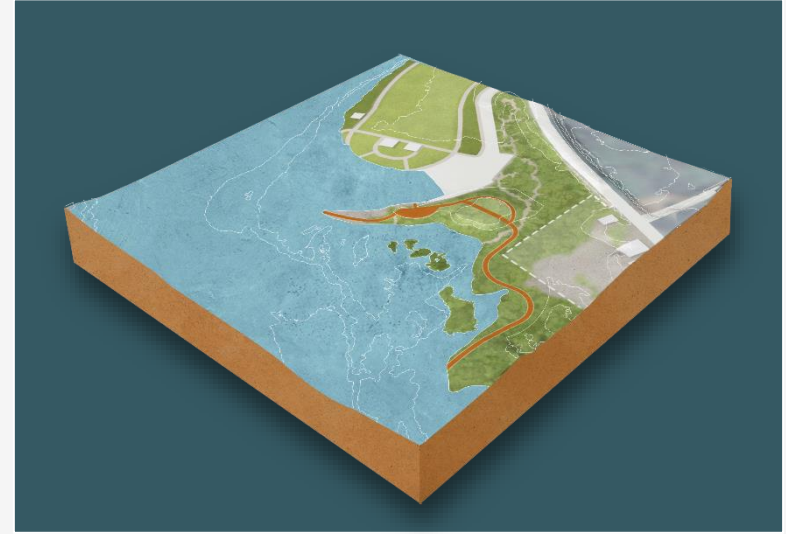
02 Conceptual Design





Working With Flooding

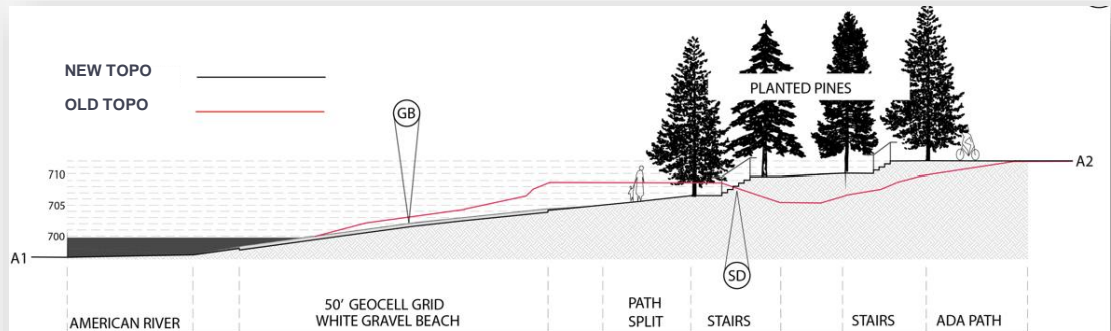
- Diagram shows site at 10 year flood levels
- Most of the designed trail and all structural amenities are above the 10 year flood line
- Lowering berms will allow for easier stormwater flow back to river
- Reduce flooding across site



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03 Detailed Design

Section A1-A2



Section B1-B2 and Before & After Image



Before

After



Slackline Park



04 In conclusion...





FINAL CONCEPTUAL PLAN

FROG HOLLOW

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AUTHORS:

RYAN FOSTER, LANXUAN WANG, MARIKA BROWN

PRIMARY GOALS



1. Improving Habitat with Topography and Water Movement

Repairing natural watercourses to support the restoration of ecosystems and habitats for riparian species such as the Foothill Yellow-legged Frog.



2. Adopting Naturalistic Materials and Design

Using natural materials to create an experience that feels in harmony with the natural environment of the park.



3. Expand Recreational Opportunities

Enhance the existing park features.
New playgrounds and play features along walking path loops that give visitors opportunities to engage and explore the expansion area.

OVERALL SITE



**EXPANDED
GRAVEL BAR &
RIVERSIDE**

- Regraded for drainage
- Allows for flooding and season river expansion
- Strainer hazards removed
- Large trees for shade and bank stabilization



IMPROVED BOAT PUT-IN

- 24 feet wide
- Loading and unloading space
- Removable bollards
- Angled away from existing beach area

SEASONAL PONDING

- Providing habitat and spawning locations for the Foothill Yellow Legged Frog
- Provide a variety of habitats
- Flood mitigation
- Water flow across site and back to river



RECONNECT WATER and HABITAT

- Natural bottom box culvert
- Re-establish creek flow



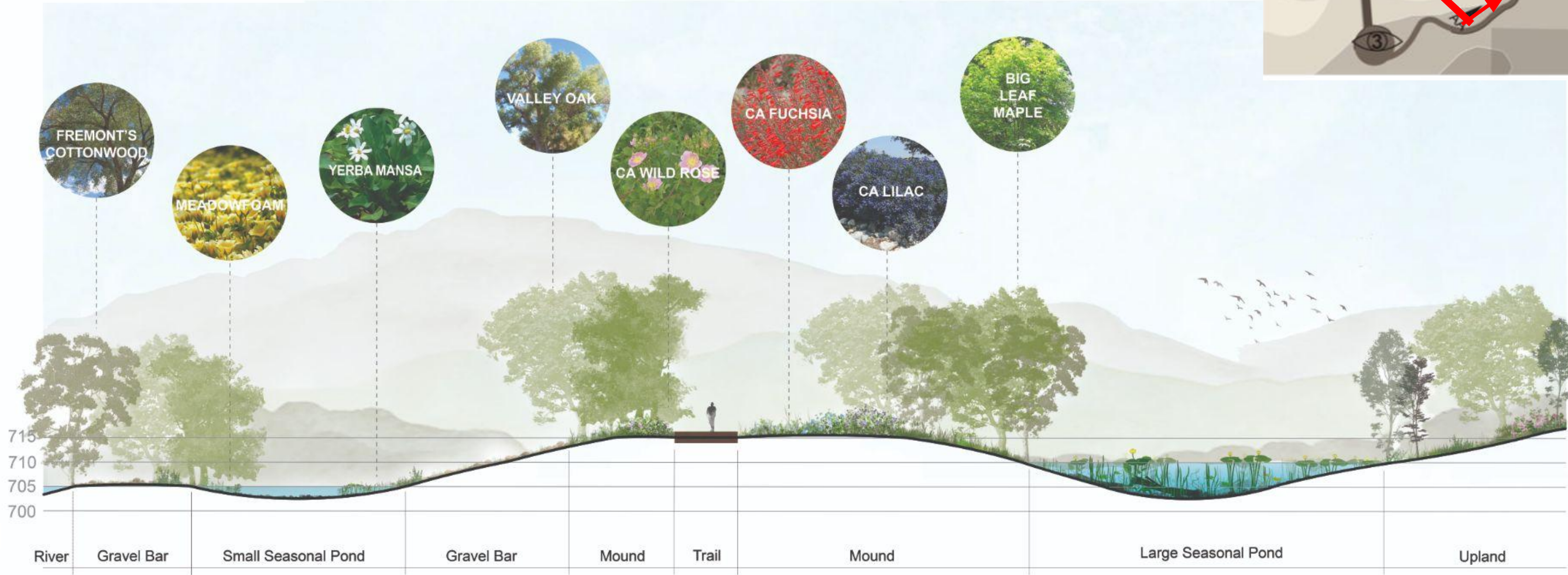
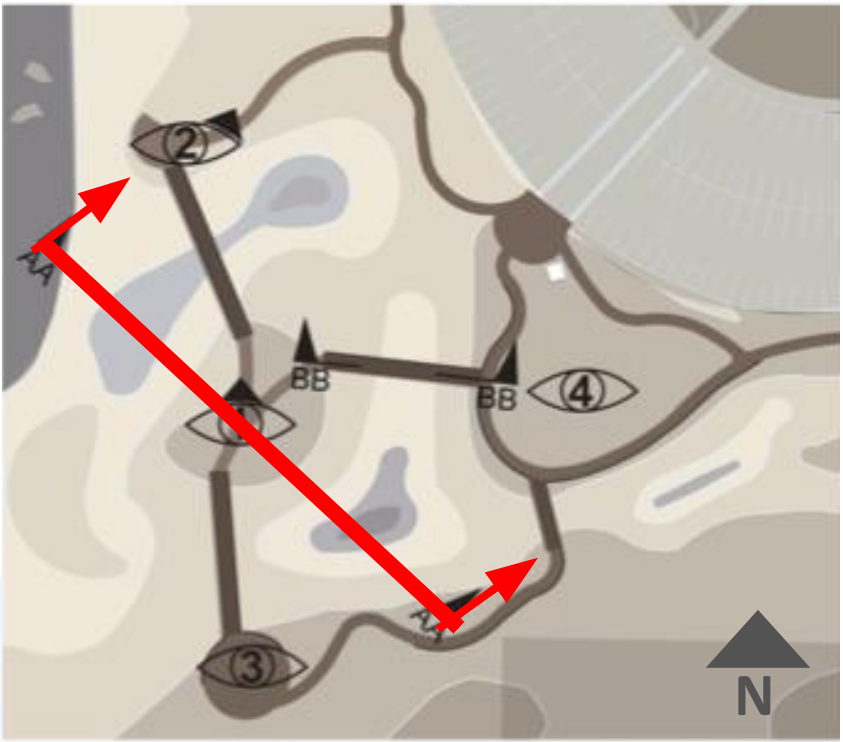
Seasonal Ponding & FYLF HABITAT

Frog spawning conditions:

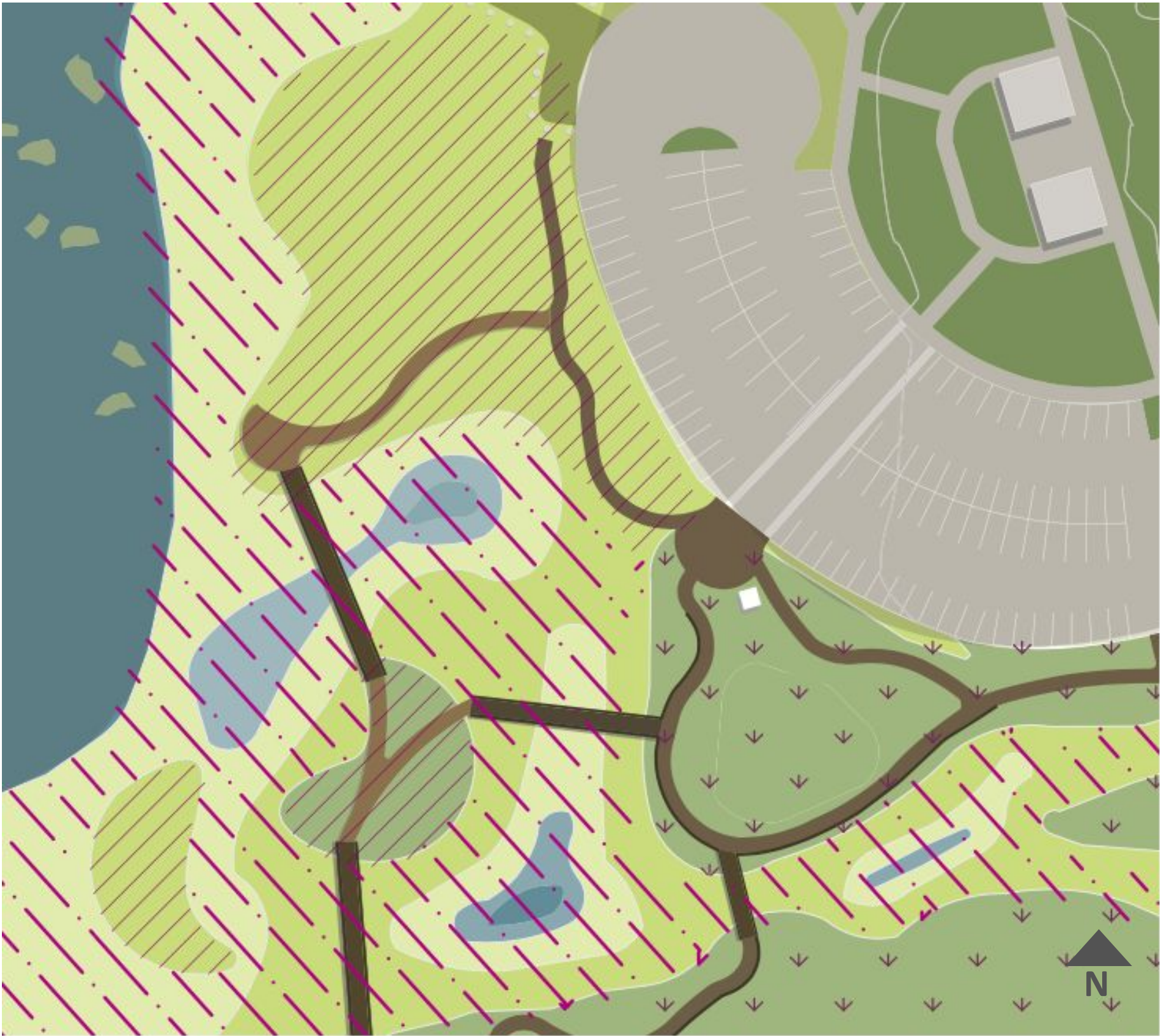
- seasonal ponds (spring-summer)
- open sky = warm water
- river stone and pebble bed
- shallow water = avoid bullfrogs

Planting palette:

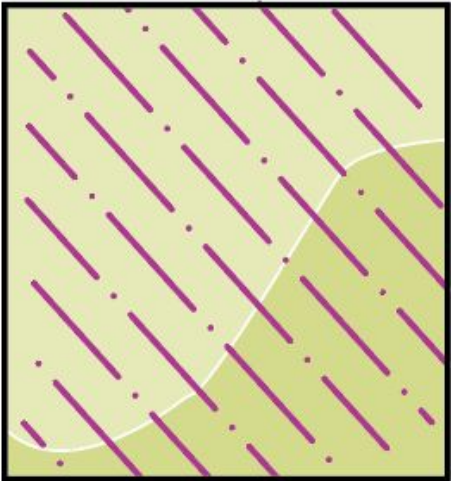
- drought tolerant, can withstand seasonal inundation
- seasonal color and habitat
- native trees for shade
- low maintenance, withstand scouring



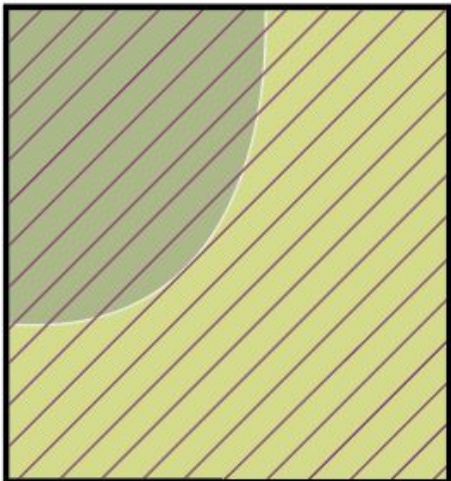
PLANT COMMUNITIES



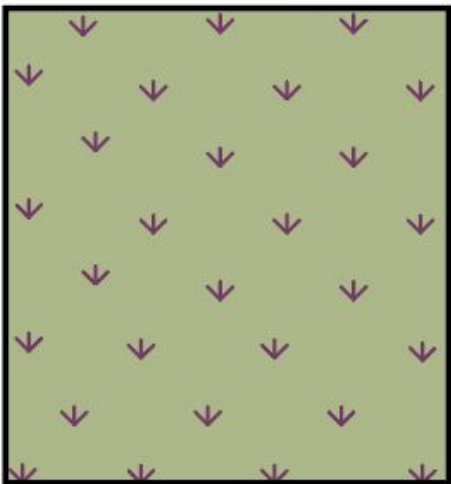
PLANT COMMUNITIES



- LOWLAND**
Spice Bush (*Calycanthus occidentalis*)
California Sedge (*Carex pansa*)
Yerba Mansa (*Anemopsis californica*)
Meadowfoam (*Limnanthes douglasii*)
Monkey Flower (*Mimulus lewisii* x *cardinalis*)



- GRAVEL BAR**
Fremont's Cottonwood (*Populus fremontii*)
White Alder (*Alnus rhombifolia*)
California fuchsia (*Eplobium* spp.)
Serpentine Columbine (*Aquilegia eximia*)
Bush Lupine (*Lupinus albifrons*)



- UPLAND**
Valley Oak (*Quercus lobata*)
Big Leaf Maple (*Acer macrophyllum*)
California lilac (*Ceanothus* spp.)
Flowering Currant (*Ribes sanguineum*)
California wild rose (*Rosa californica*)



UPLAND - GEOCELL PATHS

- Permeable
- ADA accessible

LOWLAND - RAISED BOARDWALKS

- Allows for water flow
- Potentially removable in flood events

BRIDGES

- Allows for water flow
- Connects nodes



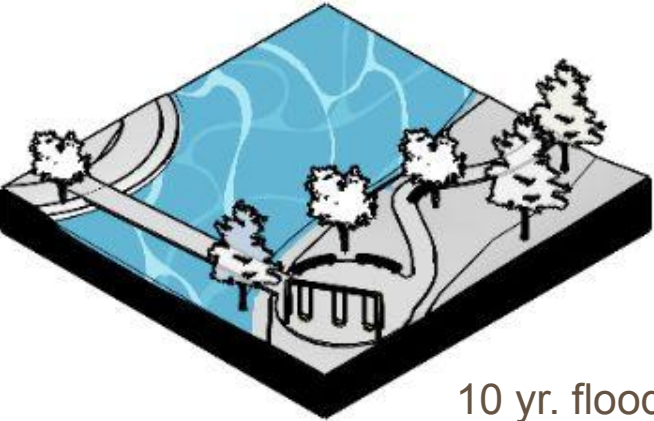
LOOPED WALKING PATHS

- ADA accessible
- Connected to existing park facilities
- Benches and picnic areas throughout

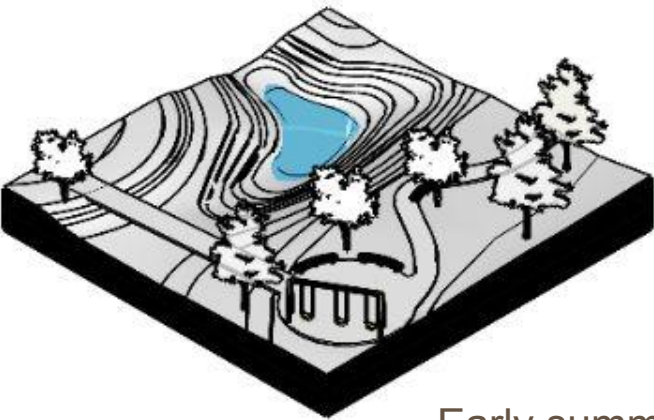


LARGE NATURE PLAYGROUND

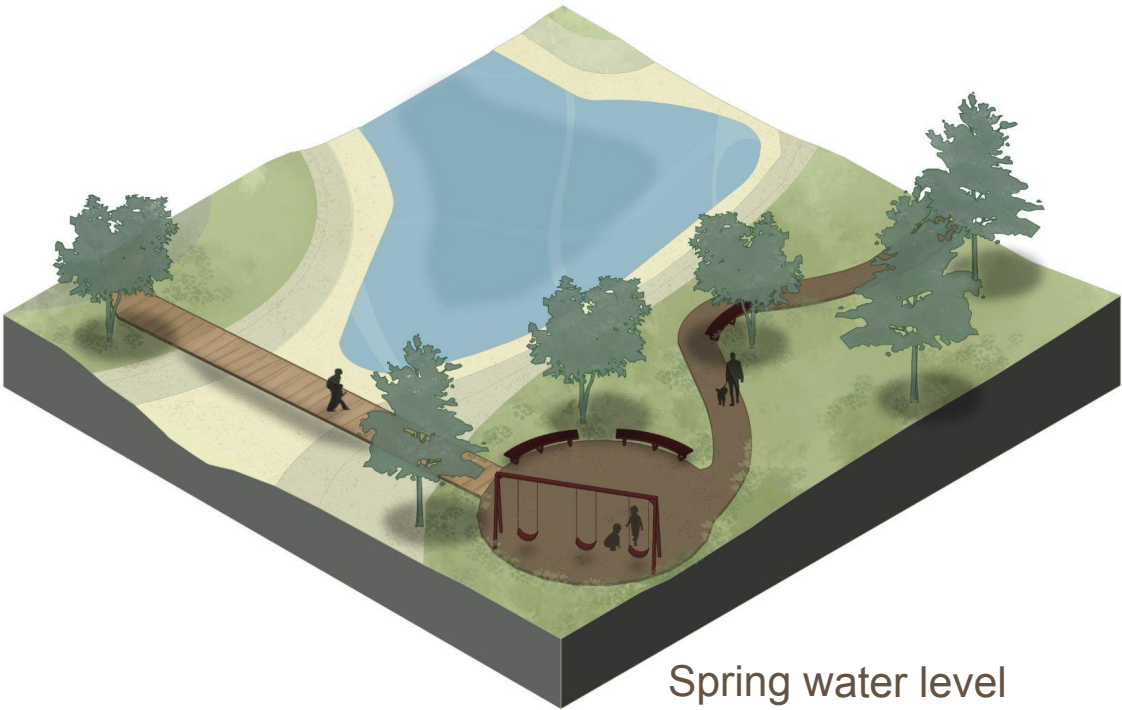
- Above the 10 year flood elevation (715-718)
- Mulch fall zones
- Shade tree perimeter
- Inspired by Presidio Tunnel Tops playground



10 yr. flood



Early summer



Spring water level



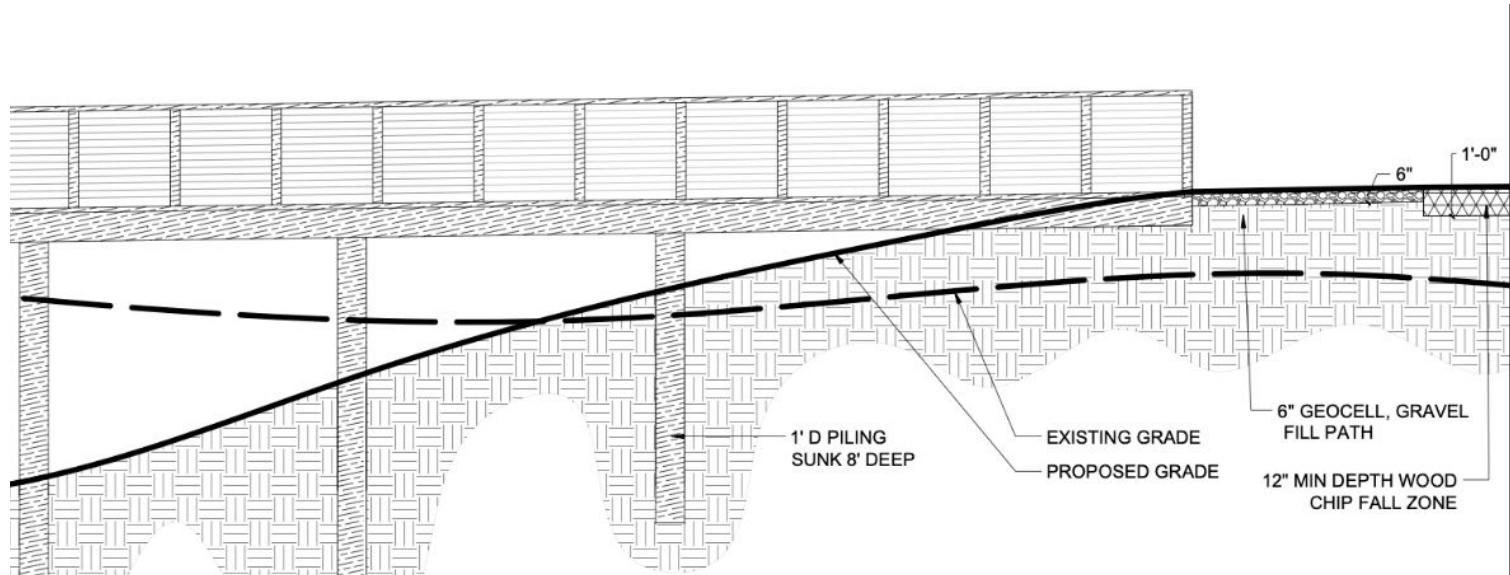
1. LOG TANGLE



2. LOG JAM



3. GIANT ROPE SWING



LEGEND

- | | | | |
|--|------------|----------------|-------------|
| | WOOD CHIPS | | WIRE RAIL |
| | EARTH | | WOOD LUMBER |
| | GEOCELL | | |
| | | EXISTING GRADE | |
| | | PROPOSED GRADE | |

FOLLOW THE FLOW

HLP EXPANSION REDESIGN

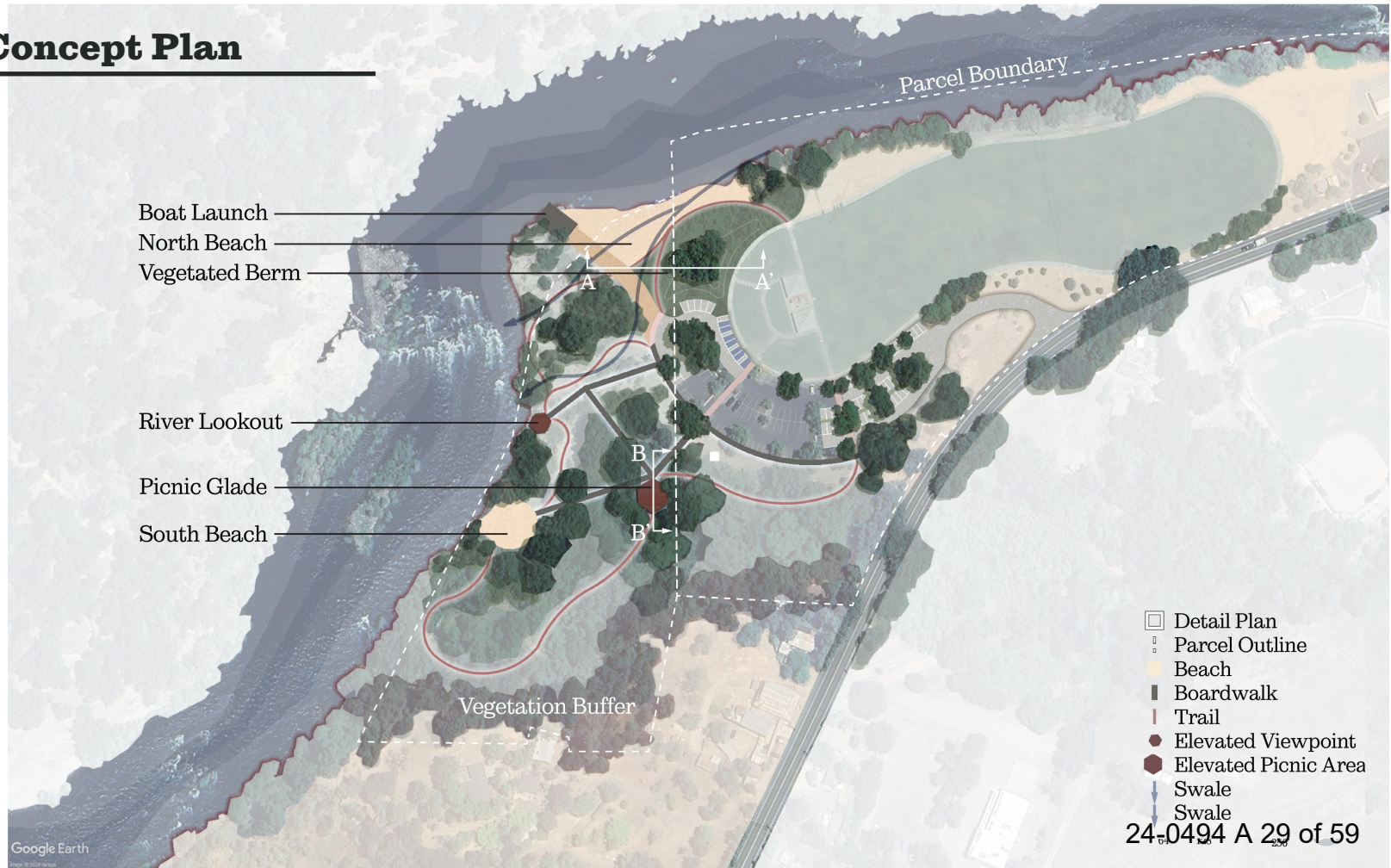


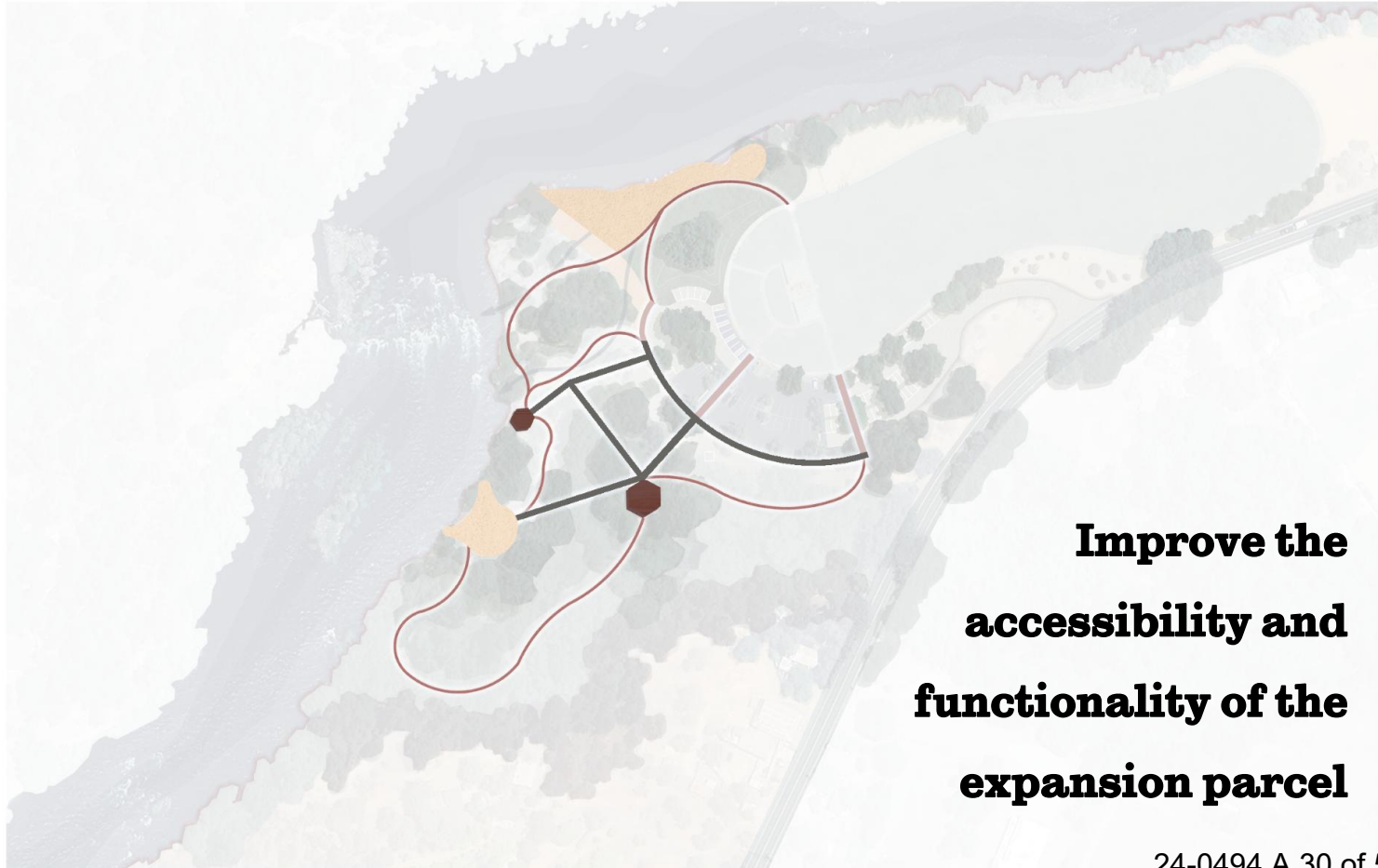
LDA 183 | WQ 24

Kendal Heiskala | Summer Camporesi | Jay Xie

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Concept Plan





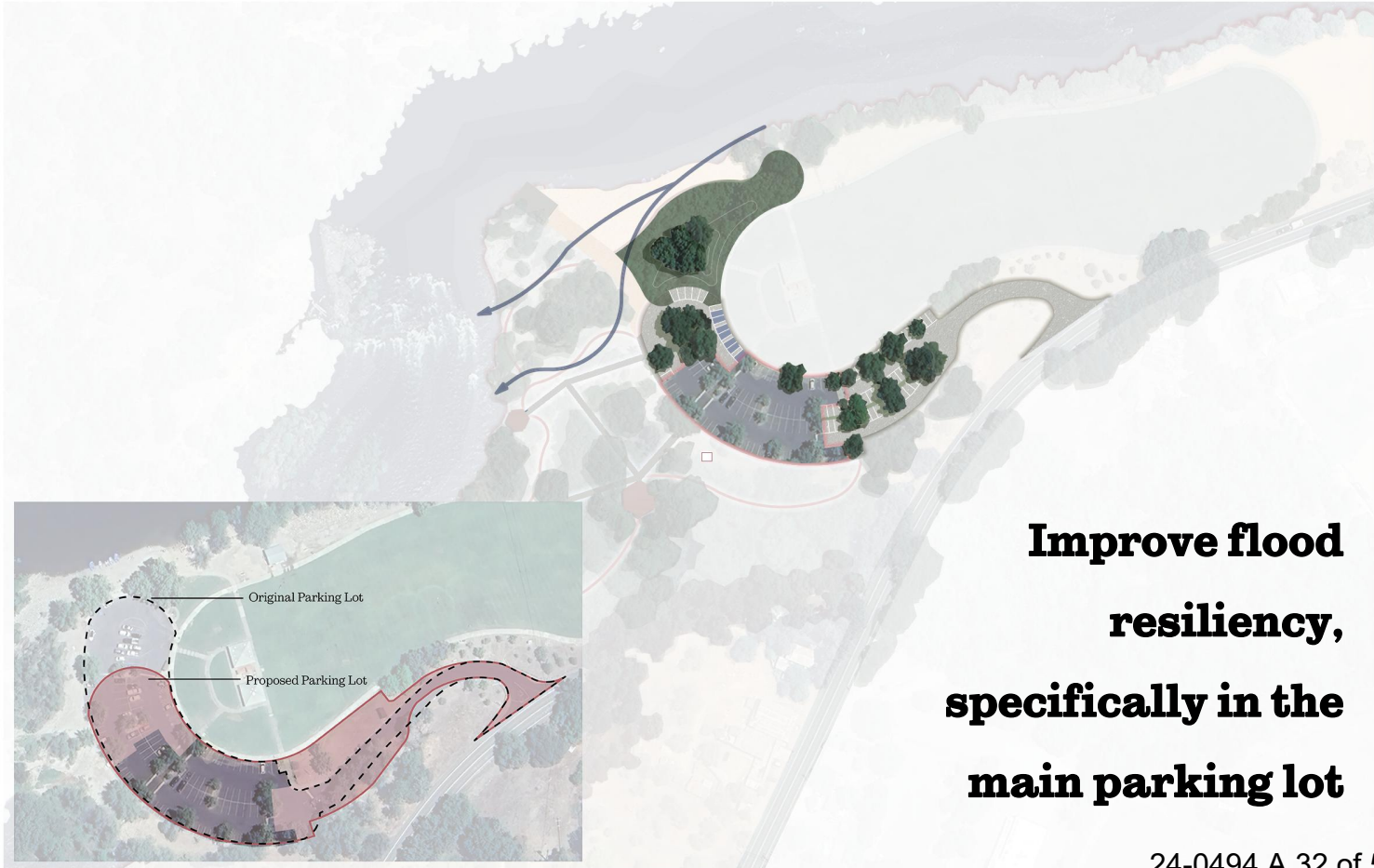
**Improve the
accessibility and
functionality of the
expansion parcel**

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**Improve the
accessibility and
functionality of the
existing boat launch**

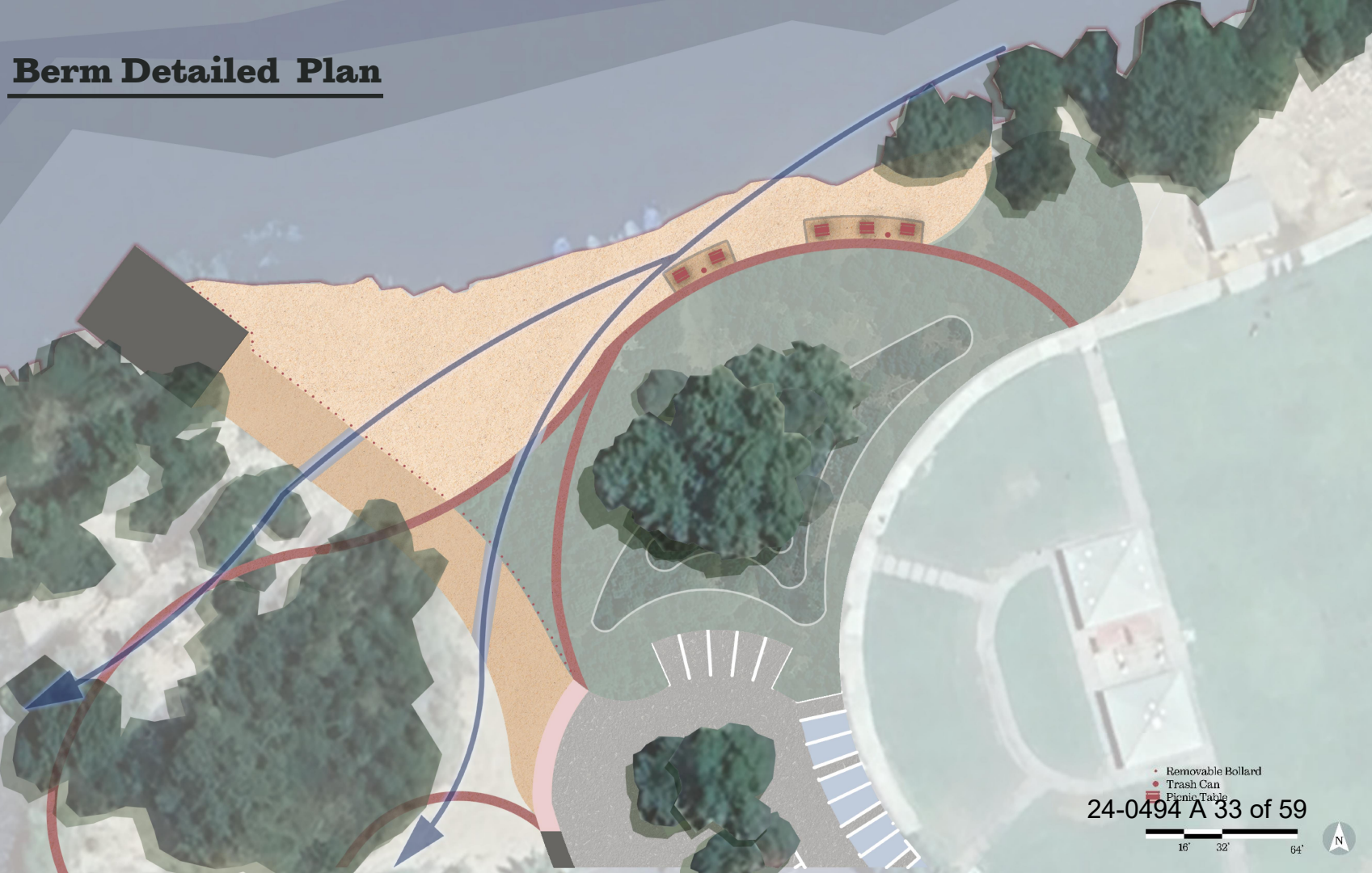
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**Improve flood
resiliency,
specifically in the
main parking lot**

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Berm Detailed Plan



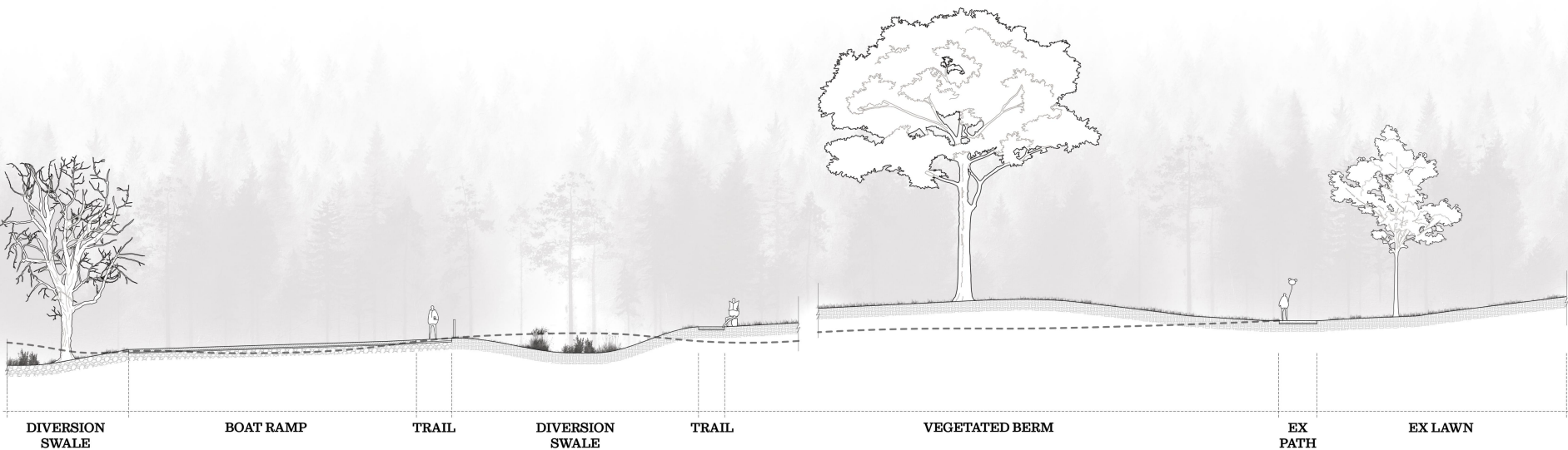
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- Removable Bollard
- Trash Can
- Picnic Table

16' 32' 64'

N

Technical Sections



Illustrative Renders



Boardwalk Entrance



Picnic Glade



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Before & After



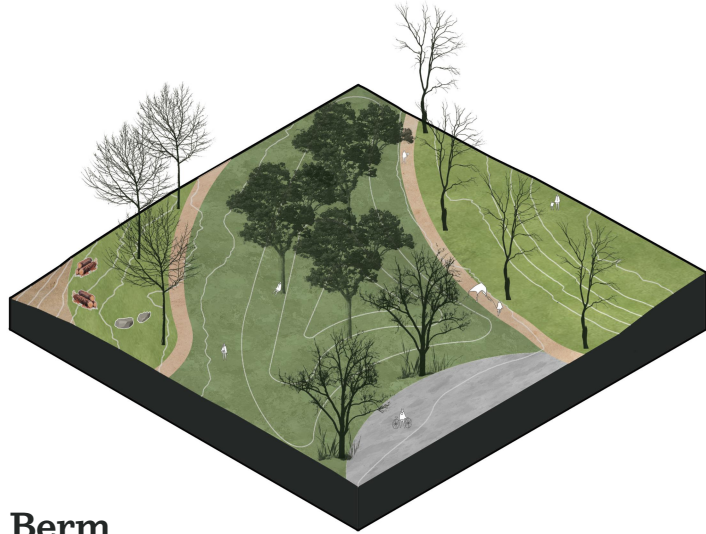
Existing Conditions



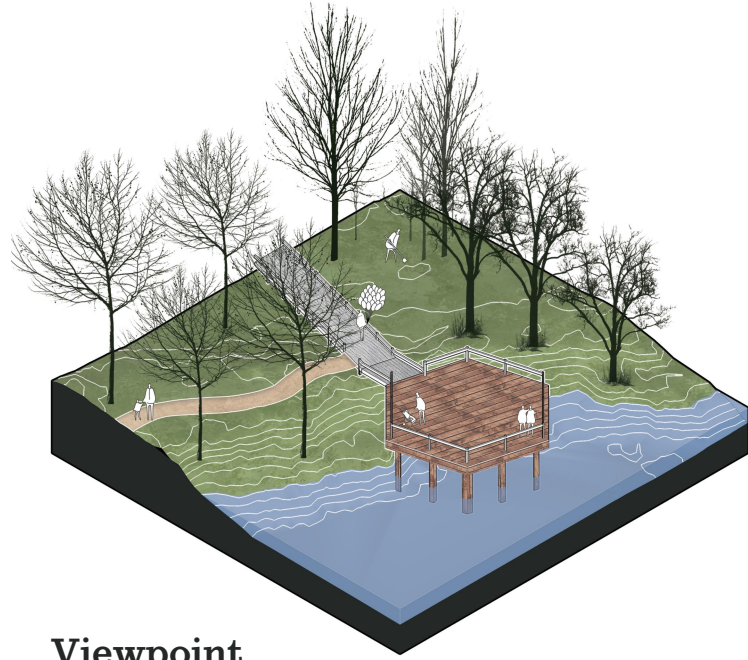
Design Vision

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Detailed Model

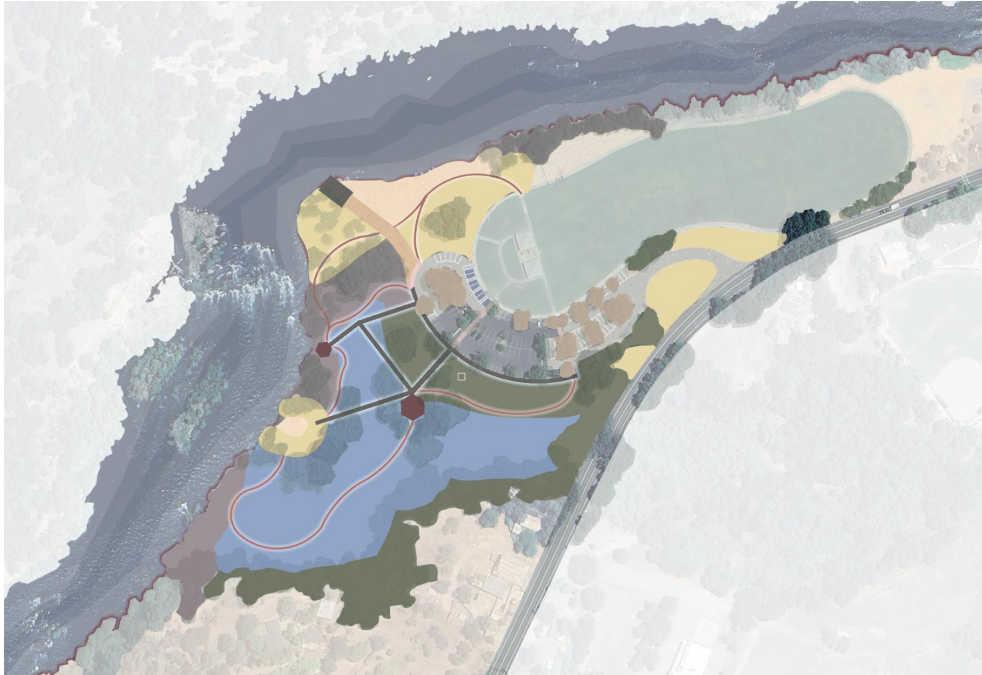


Berm



Viewpoint

Plant Species



National Vegetation Classification Standard Plant List:

- Southwestern North American Tdparlan Evergreen and Deciduous Woodland:
Pupulus frernuntii, Frernunl Cottonwood
Salix lacvigala, Red Willow
Salix exigua, Narrowleaf Willow
- California Broadleaf Forest and Woodland:
Quercus lobata, Valley Oak
Quercus wislizeni, Blue Oak
Quercus chrysolepis, Canyon Live Oak
- Vancouverian Riparian Deciduous Forest:
Alnus rhambifolia, White Alder
Quercus garryana, Oregon Qa.k
- Mediterranean California Naturalized Annual and Perennial Grassland:
Juncns patens, California Gray Rush
Elymus glnucus, Blue Wildrye
Artemiesia douglasiana, Ana Mugwort
- Also added to the parking lot:
Umbellularia californica (California laurel)

Riverside Recreation

PLANNING FOR ACCESSIBILITY AND ADAPTABILITY AT
HENNINGSEN LOTUS PARK

Jose Lopez
Song Nguyen
Amelie Funk

LDA 183

PRIMARY DESIGN GOALS



Recreation

Trails + Amenities

Install new walking trails and picnic areas in southern portion of site.



Accessibility

ADA River Access

Ensure ADA accessibility in loading area/boat ramp to allow all visitors to experience the site.



Adaptability

Flood-Resistance

Design trails and amenities that are resistant to flood damage and offer recreational opportunities at all times of year/water levels.

SECONDARY DESIGN GOALS

Drainage
1

Study river flow through site and impacts on topography and vegetation



Border
2

Delineate public park areas from private residences to discourage trespassing



Planting
3

Thin vegetation and plant drought tolerant, fire friendly, and flood resistant plants



Signage
4

Create/install signage educating visitors about strainer risks and local ecology

Storage
5

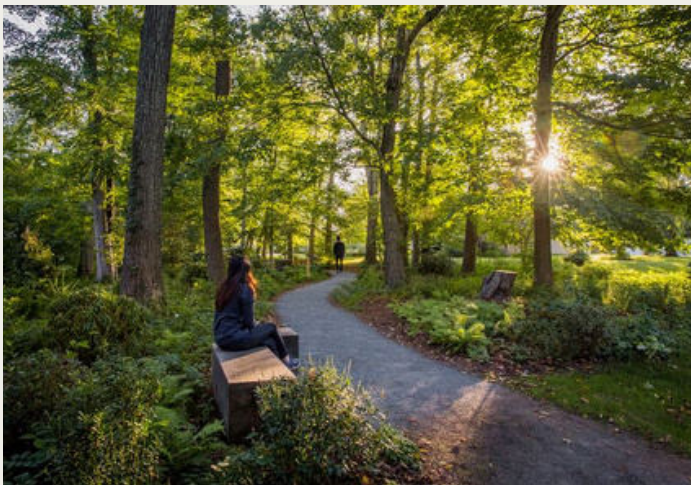
Designate space for the construction of a structure to store rafting equipment.



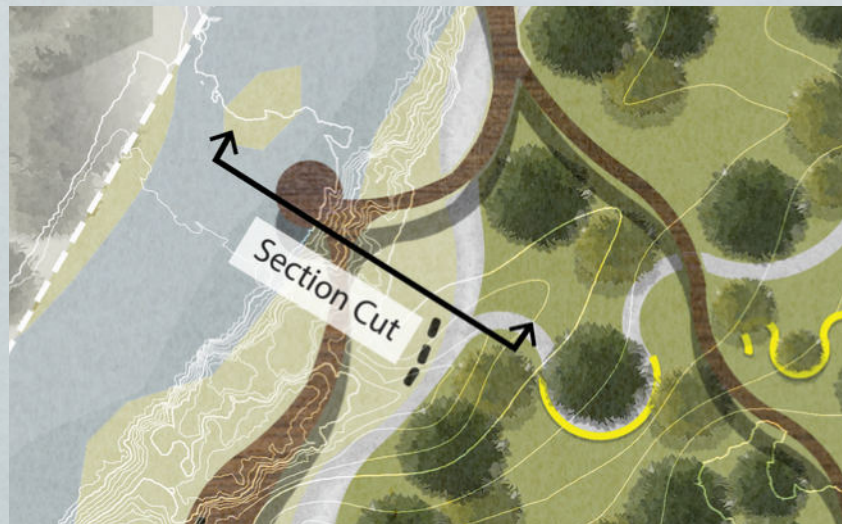
CONCEPT PLAN



DESIGN PRECEDENTS: TRAILS + AMENITIES



CONCEPT PLAN: TRAILS + AMENITIES

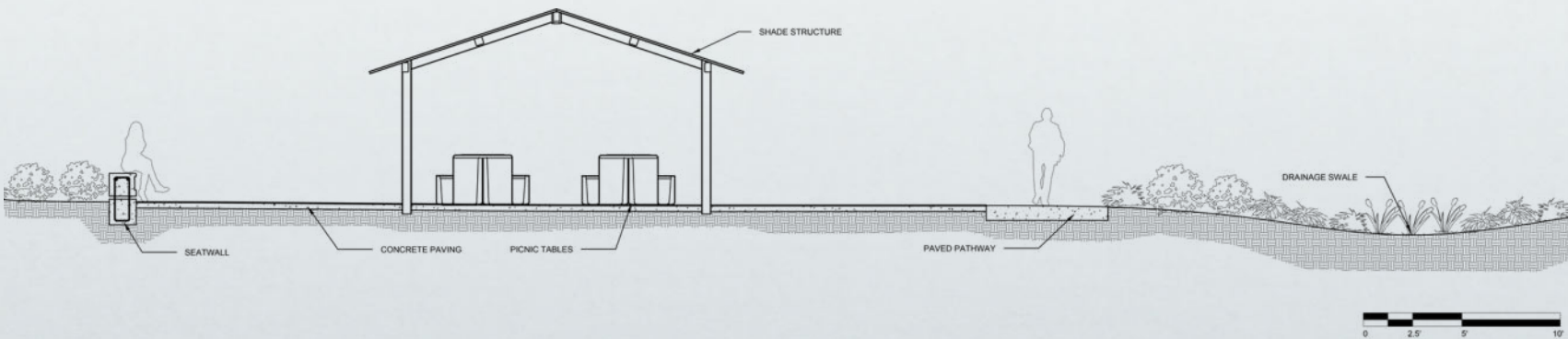


TRAILS, BOARDWALK, AND LOOKOUT



CONCEPT PLAN: AMENITIES

PLAYGROUND + RECREATION



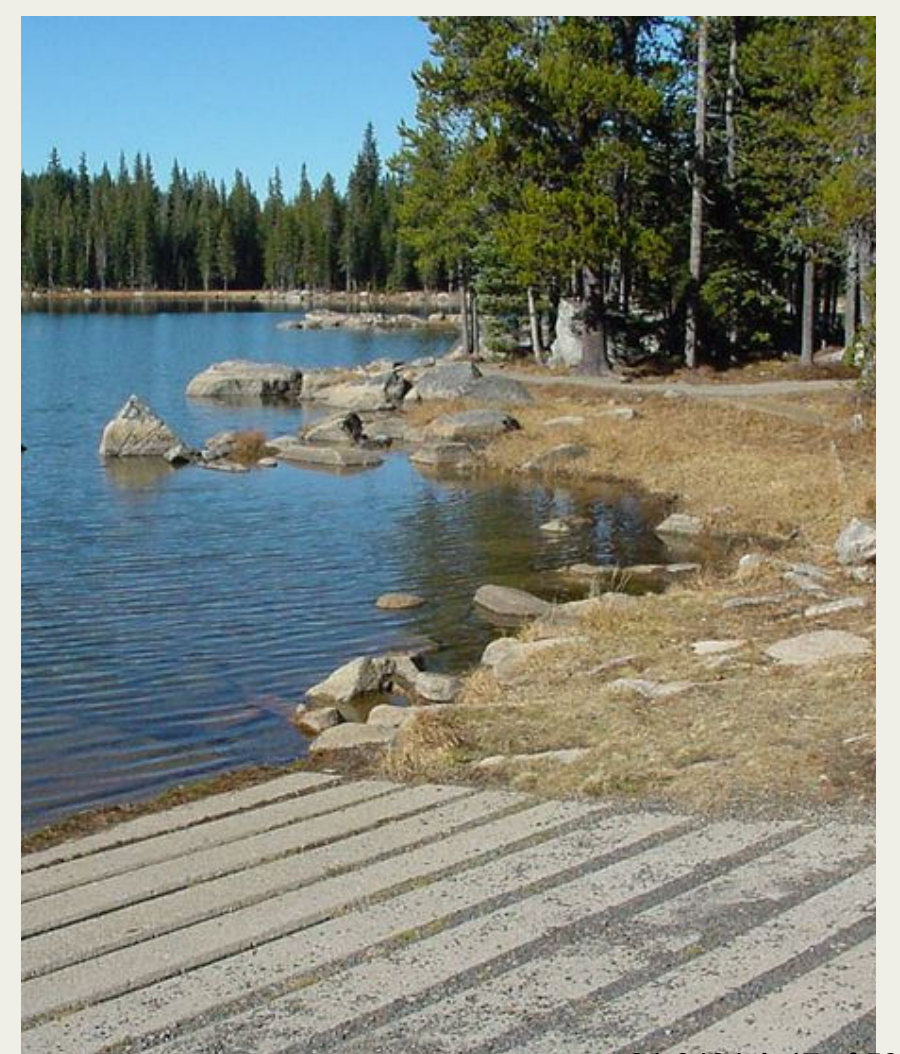


BEFORE

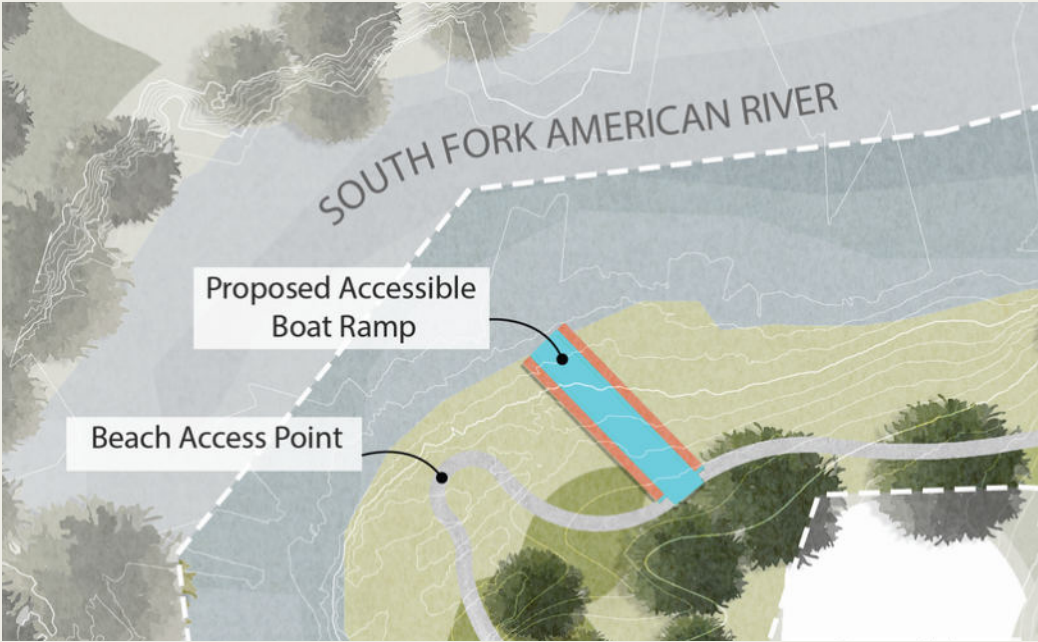
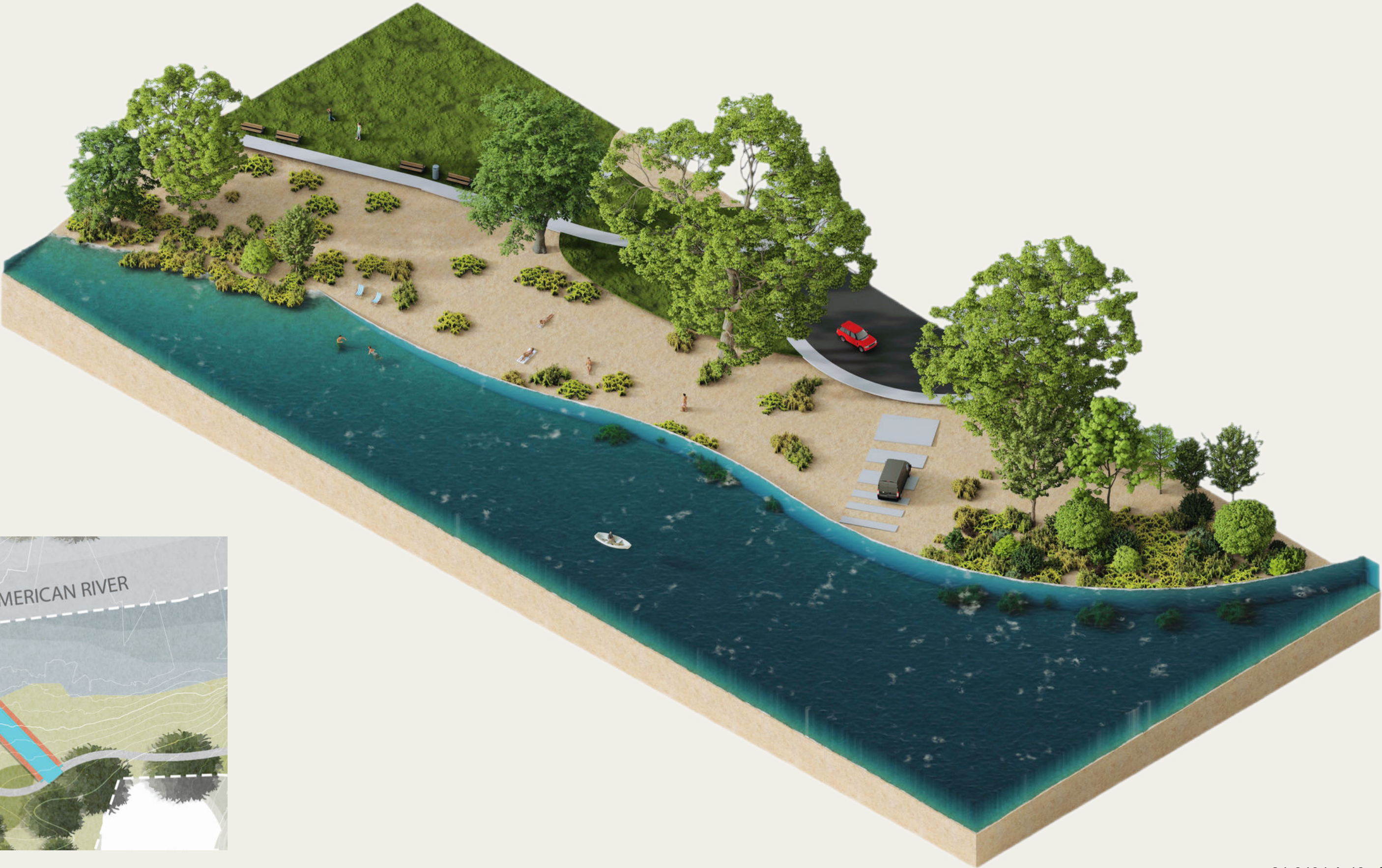


AFTER

DESIGN PRECEDENTS: ACCESSIBLE RIVER ACCESS



CONCEPT PLAN: ACCESSIBLE RIVER ACCESS



DESIGN PRECEDENTS: FLOOD RESISTANCE



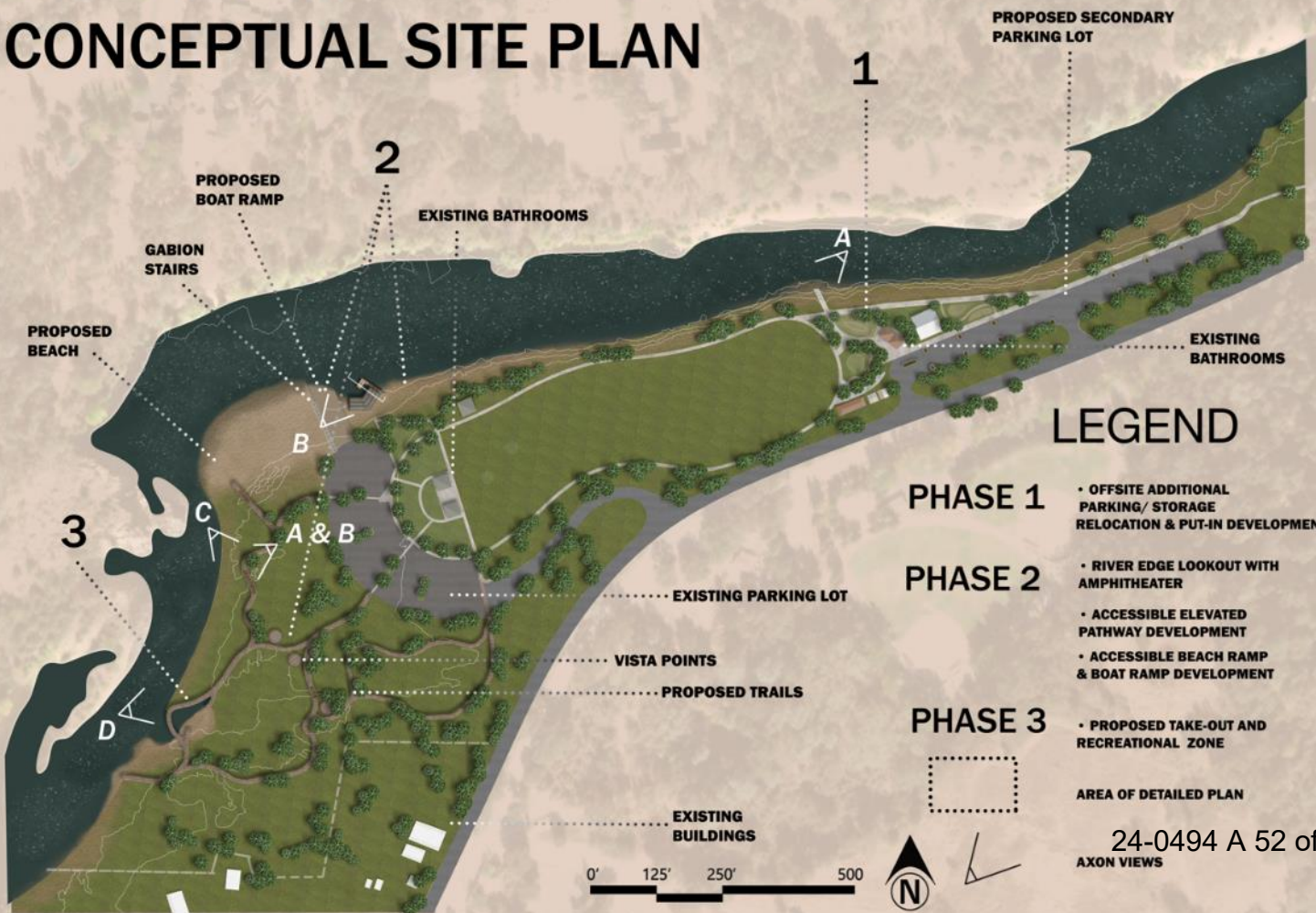
CONCEPT PLAN: FLOOD RESISTANCE

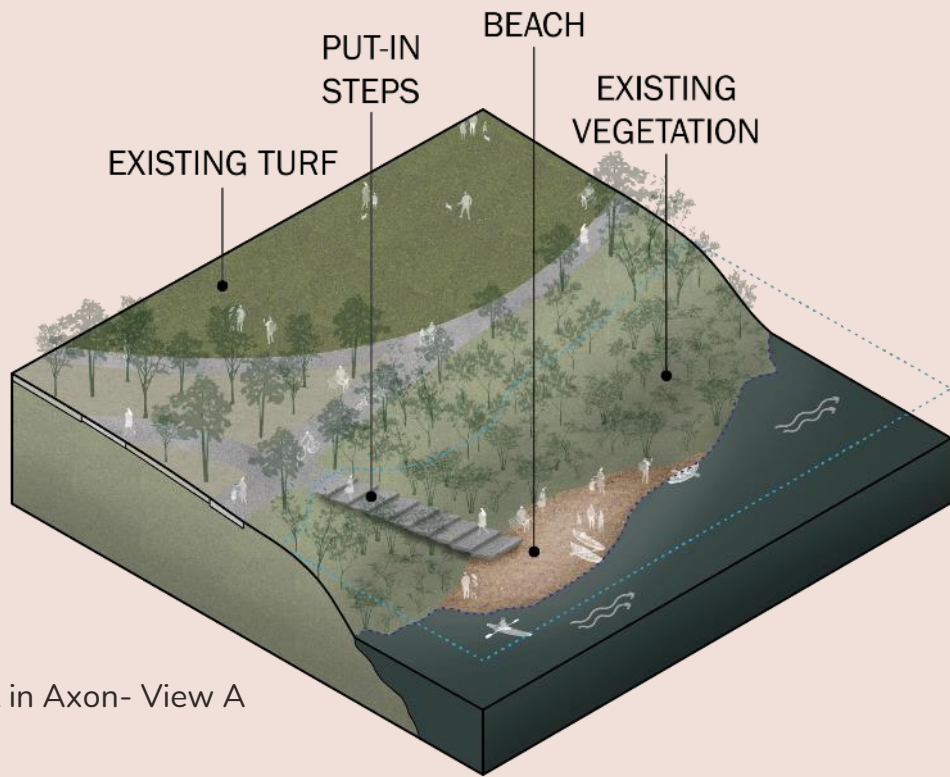


LOTUS LOOP

Jordan B, Jaime O, Caren Y, Chenel Z

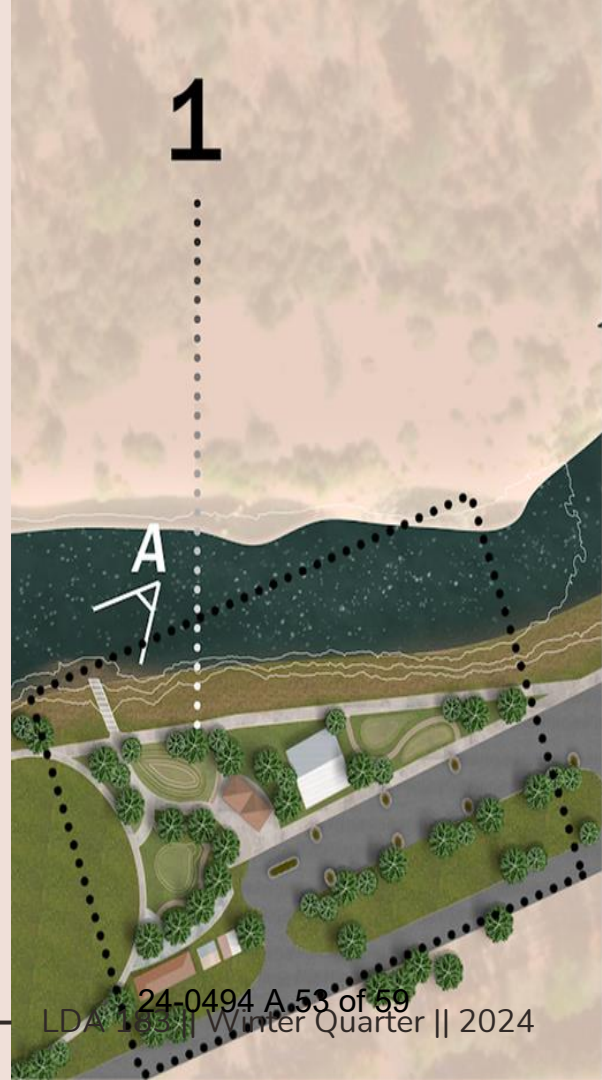
LOTUS LOOP CONCEPTUAL SITE PLAN





Put in Axon- View A

Design: Phase 1



PUT-IN
STEPS AND BEACH

ADDITIONAL
BATHROOMS

EXISTING
SHADE STRUCTURE

1"= 20' Detailed Plan

ADDITIONAL
STORAGE

EXISTING
BUILDINGS

MOUNDS

DG PATHS

PLANTERS

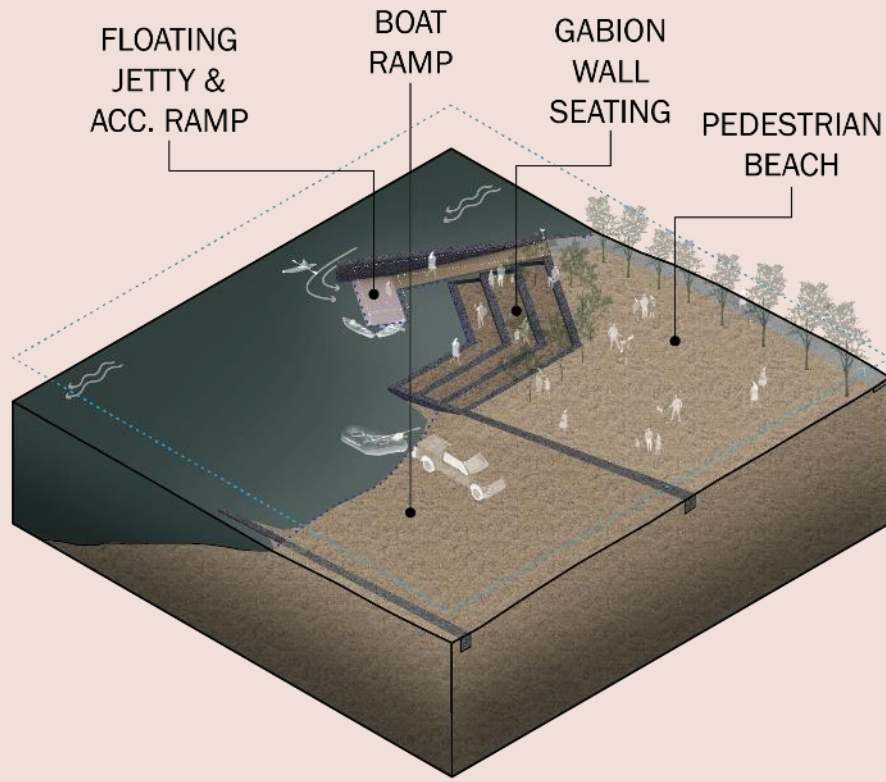
SECONDARY
PARKING LOT WITH
ADDITIONAL 60+ SPACES

Design: Phase 1



Stage Perspective- View D

Design: Phase 1



Axon- Gabion wall seating

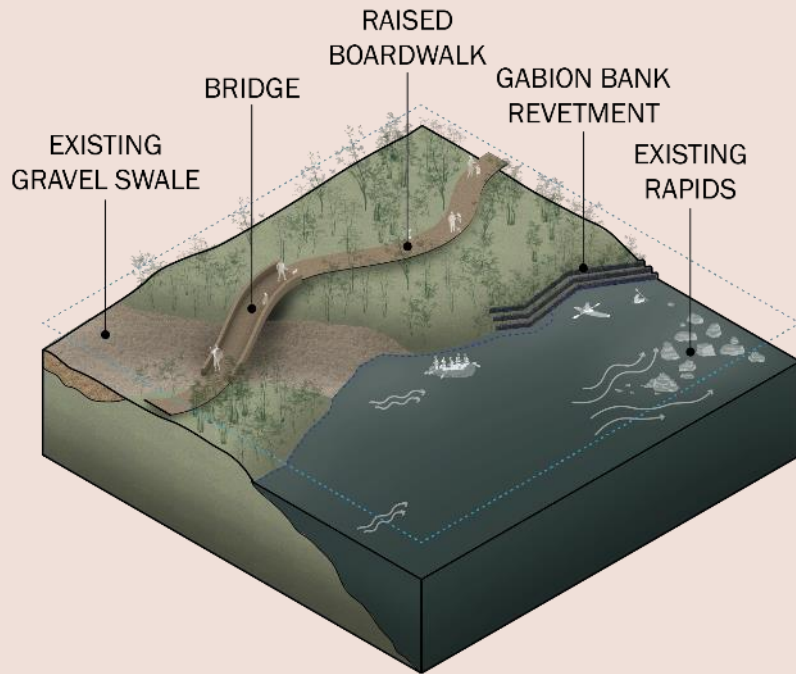
Design: Phase 2



Before



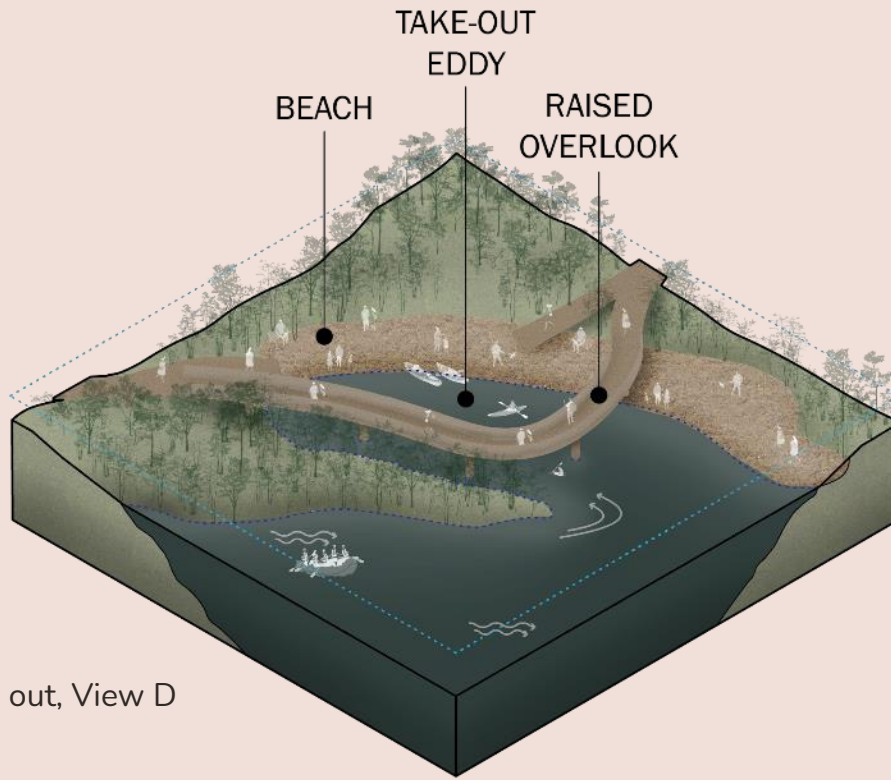
After- View A & B



Axon- raised boardwalk, View C

Design: Phase 2





Axon- Take out, View D

Design: Phase 3





Design: Phase 3

Take out perspective- View D