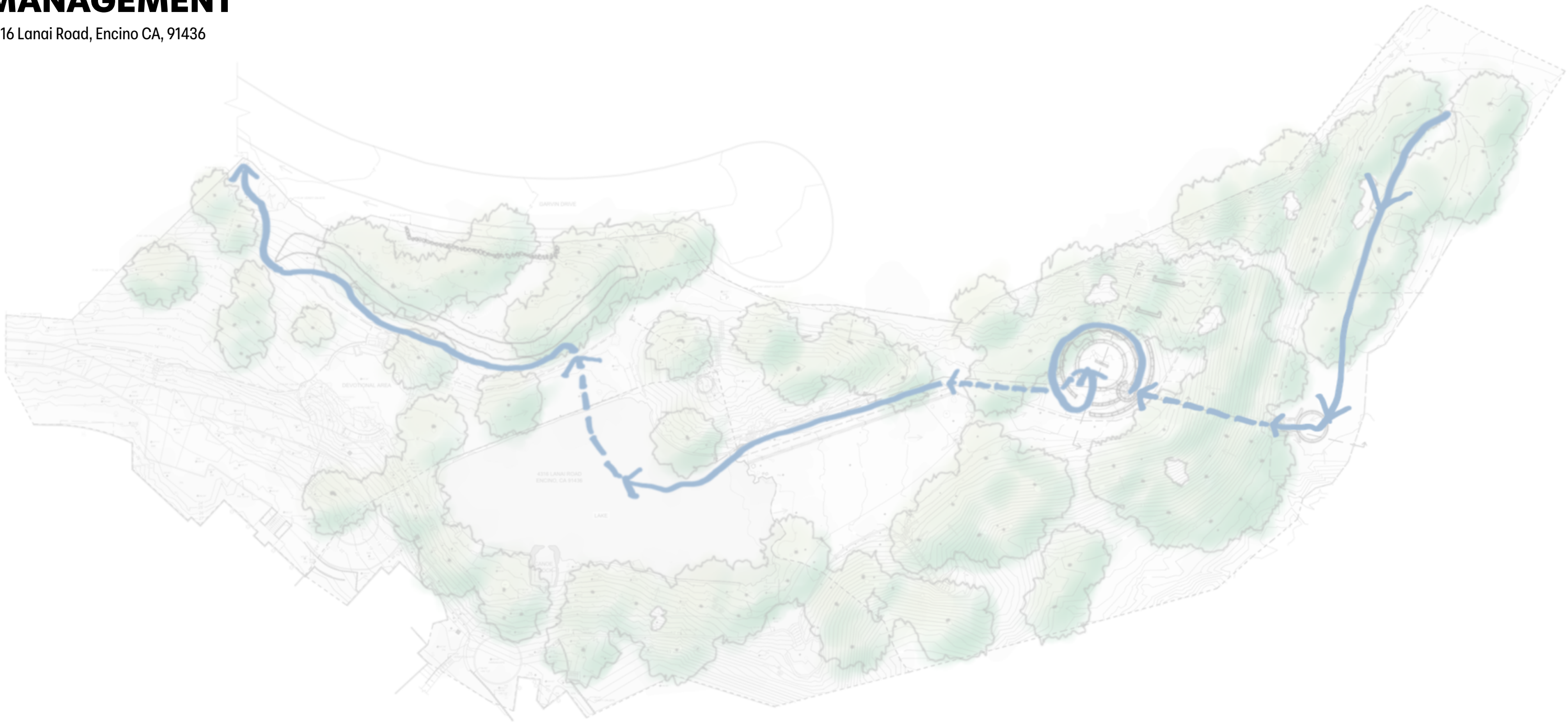


BEGINNING STORMWATER MANAGEMENT

4316 Lanai Road, Encino CA, 91436

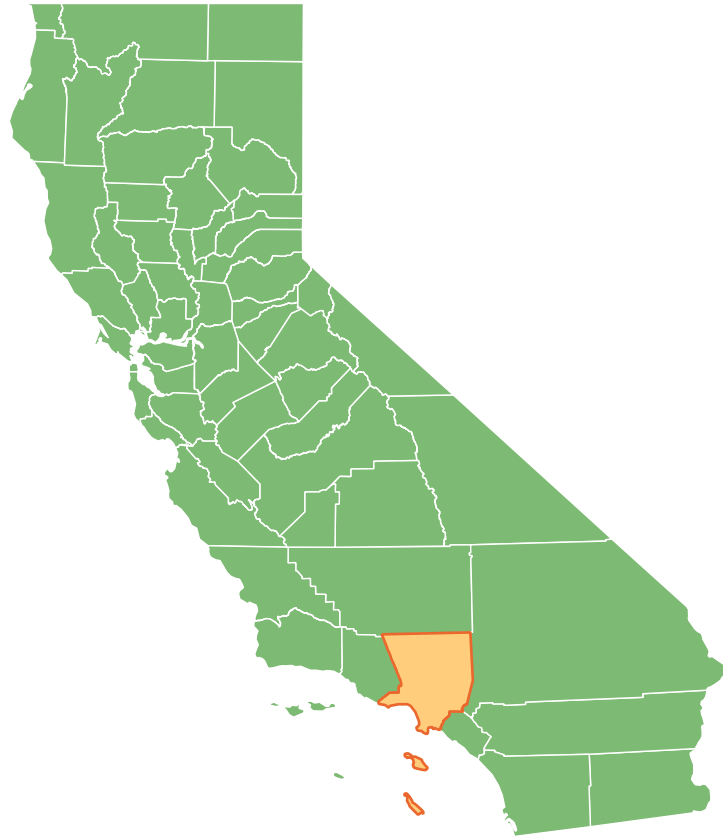


Location & Design Statement	3
Opportunities & Constraints	4
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Citations	20

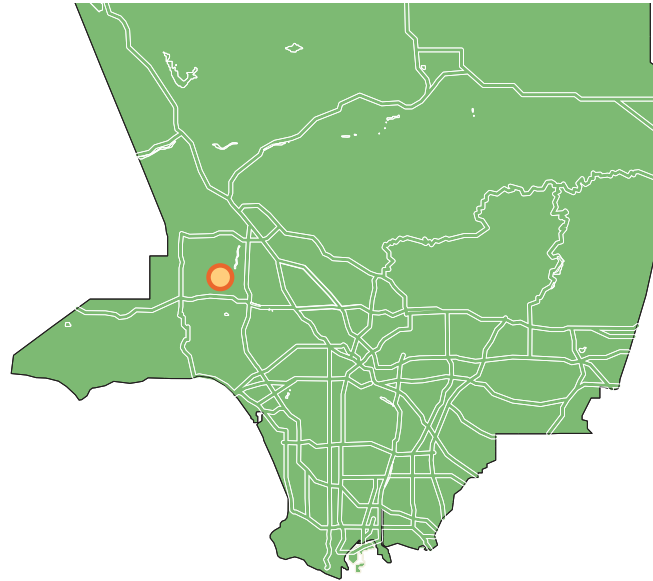


Brian Bautista

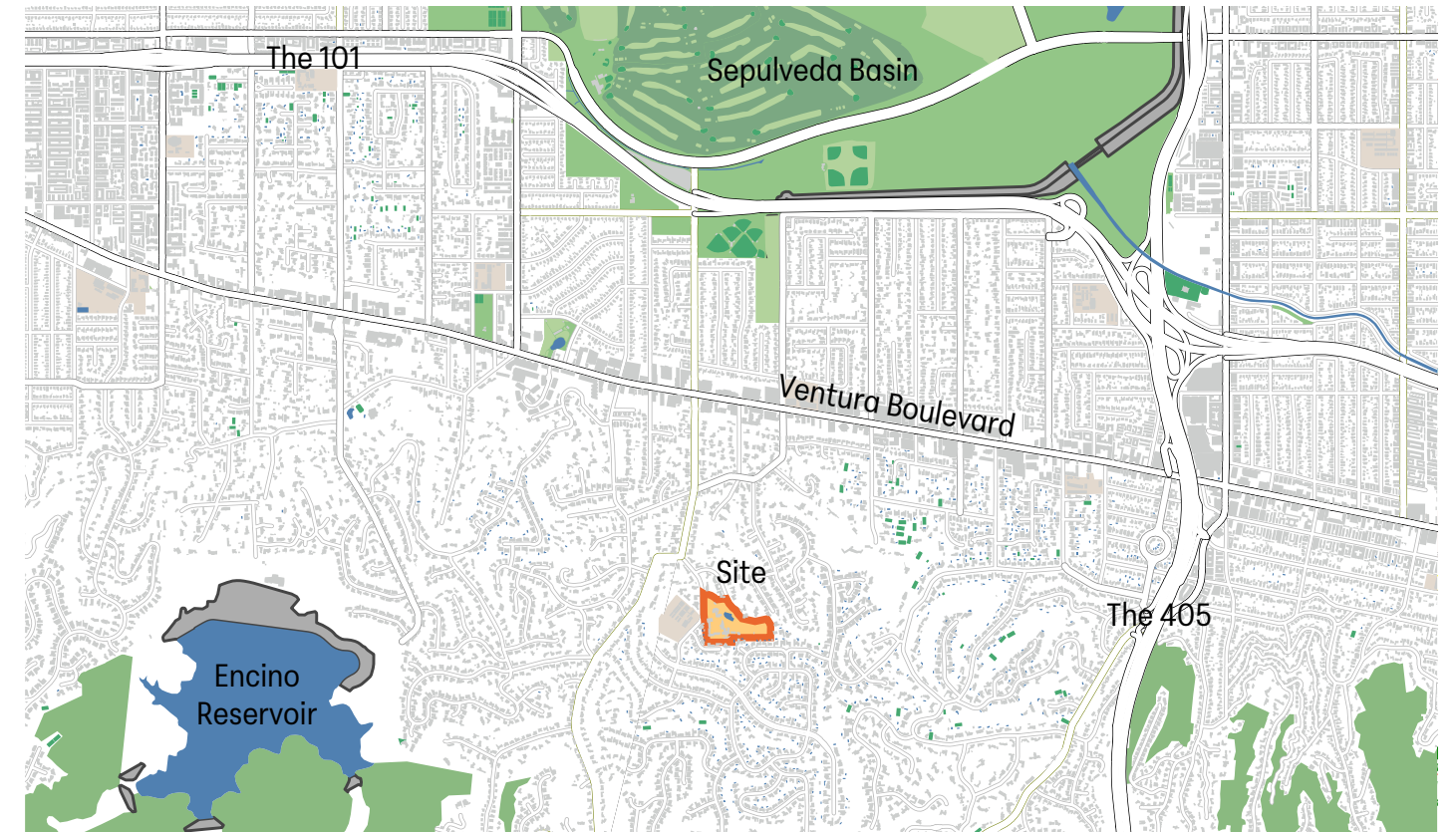
CALIFORNIA



LA COUNTY



ENCINO, CA



SYNOPSIS

Our site is located in Encino, California at the Sisters of Social Service. The Sisters are Catholic Nuns who live and operate a retreat center on a 10 acre property in Encino. The site was originally rural, with a large lake used as a landscape feature. Currently, the Sister's aim to transform their site into a place of respite, learning and joy for nearby neighbors, school children and wildlife that live here. To that end they wish to restore the native vegetation on site by capturing, infiltrating, and managing their stormwater while providing welcoming spaces for neighbors to stroll and nature education opportunities for the nearby public school.

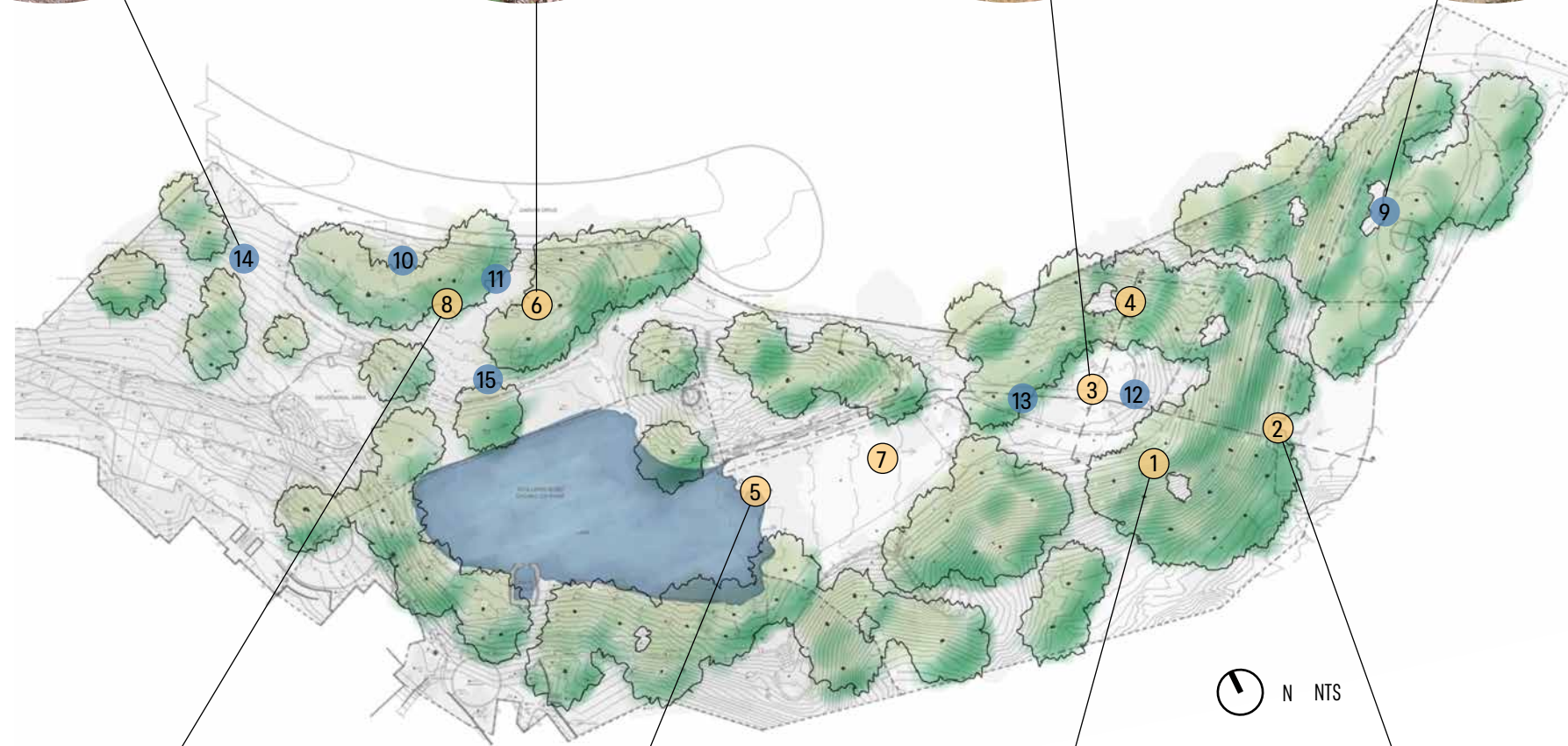
DESIGN STATEMENT

In Spanish, "encino" translates to "Oak". Historically this area was cloaked in oak trees; while there are still many on site, many more have been lost to development when the site, and the city of Encino, was built. Given the Sister's deep appreciation for the oak tree and the deep history oaks have had in this area, we have based our design around the life of an oak tree, from acorn to senescent giant, and ultimately, its death.

Even in death though, the oak continues to give to the environment. Dead oaks become shelter for animals as snags, while fallen trees create space in woodlands where new plants can receive sunlight. The fallen log becomes a nurse log, providing shelter and nourishment to new plants, starting the whole cycle again.

4316 LANAI ROAD, ENCINO, CA





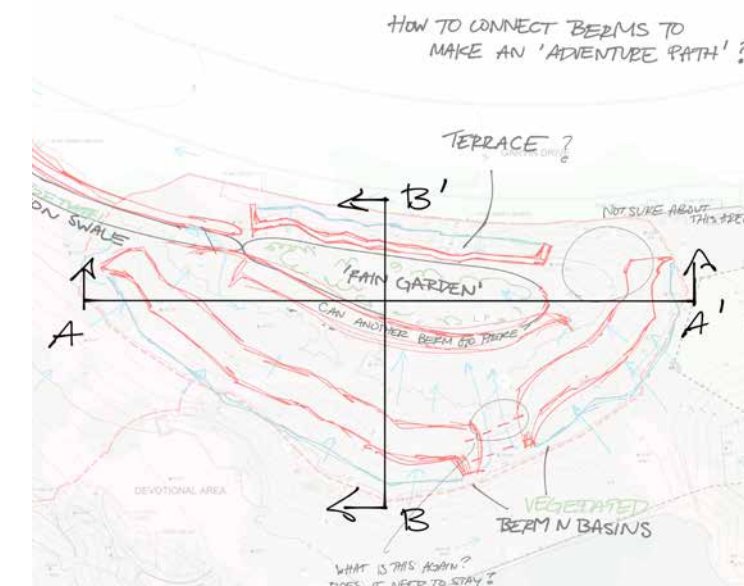
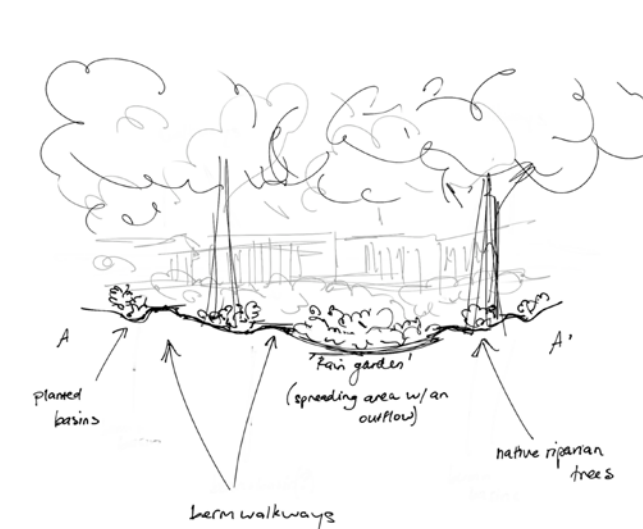
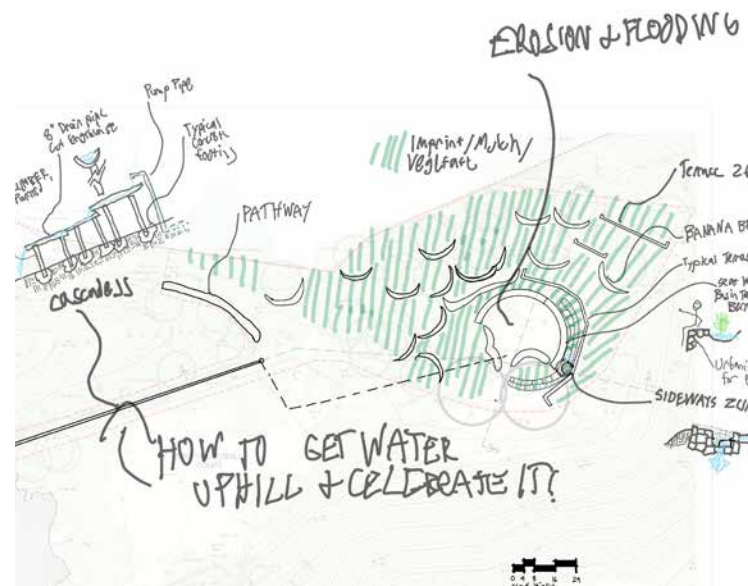
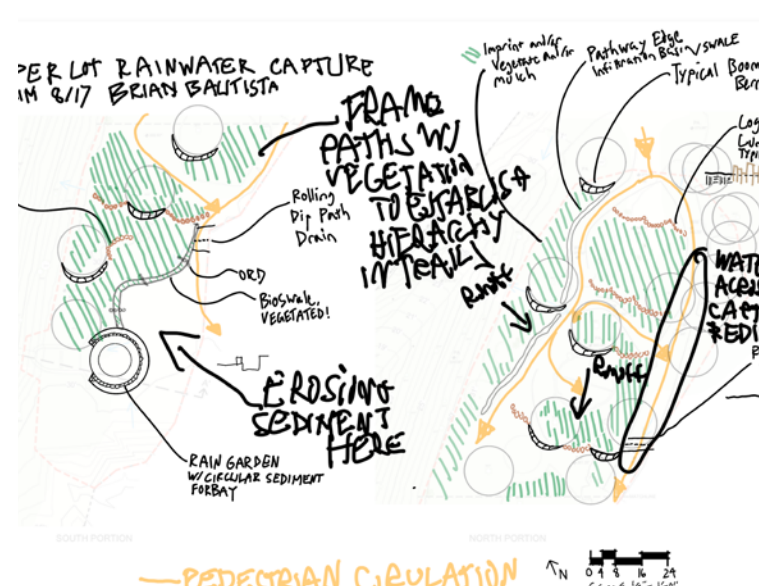
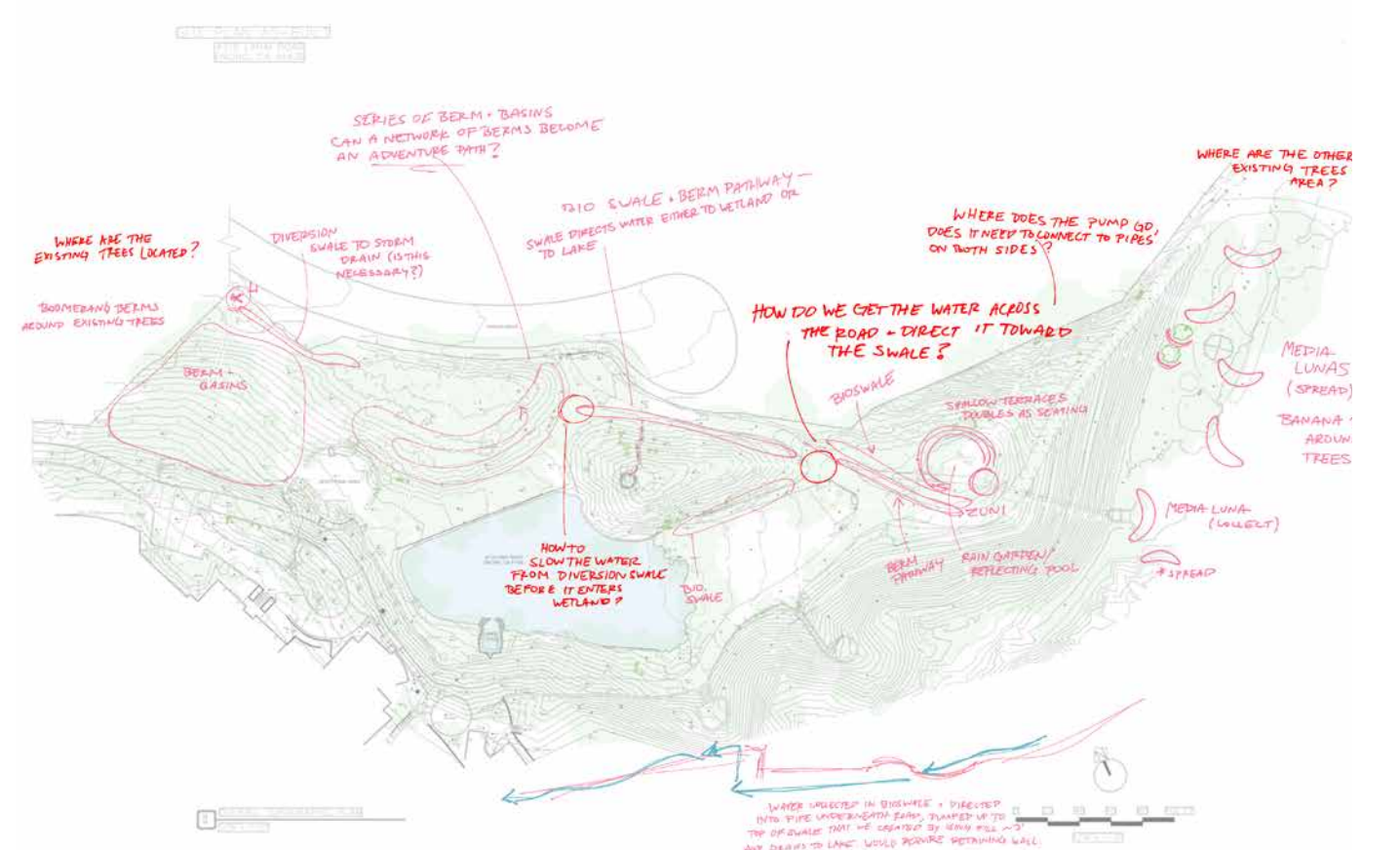
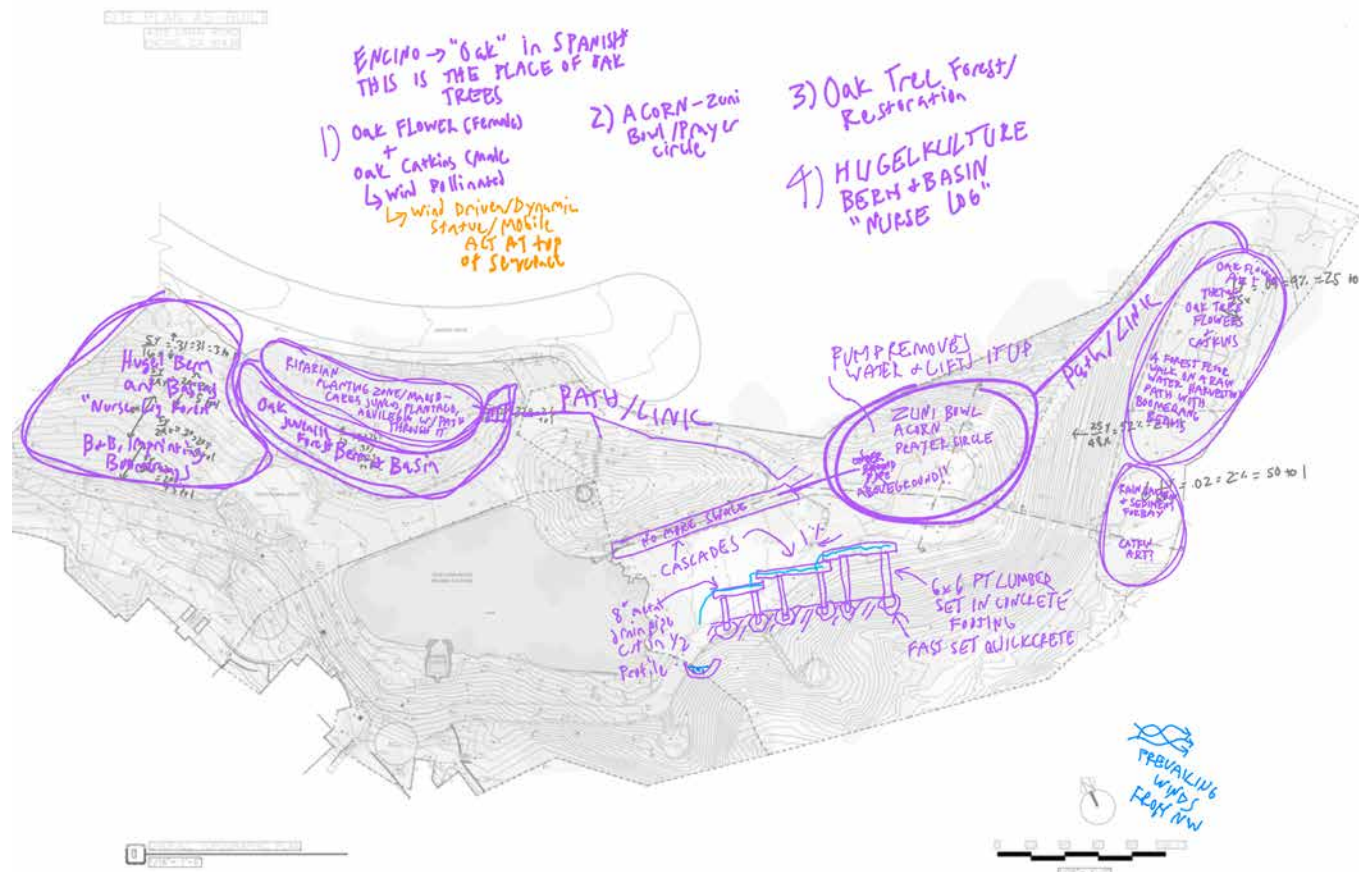
CONSTRAINTS

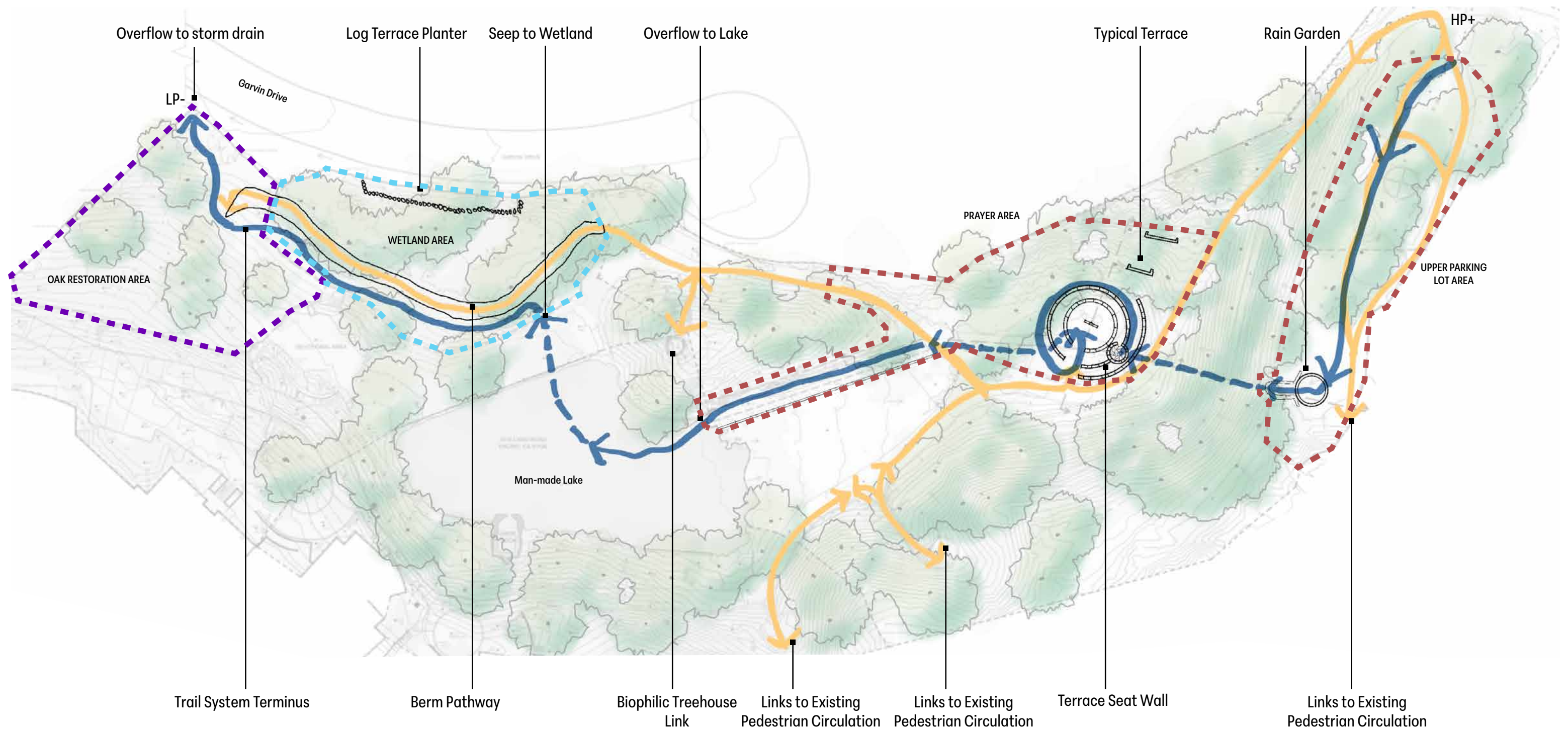
- ① Steep Slopes throughout the site cause water to move at high velocities and limit designable space
- ② Existing pipe routing water from the upper parking lot down to the prayer area cannot be altered
- ③ Existing grading of the site causes consistent flooding issues during rain events in the prayer circle area
- ④ Existing oak trees require a 10' radius root protection zone where no excavation can occur
- ⑤ Elevation of lake is higher than elevation of prayer circle area, limiting efficacy of stormwater interventions that work via gravity
- ⑥ Lake is currently leaking, resulting in saturated, anaerobic soils north of the lake
- ⑦ Existing campsite area must remain as is and cannot be altered
- ⑧ Invasive plant material, including large Shamel ash trees, suppress biodiversity and offer little wildlife value

OPPORTUNITIES

- ⑨ Gently sloping area adjacent to parking lot allows for space to slow and spread water before it's collected and sent downslope
- ⑩ Wood from removing Shamel ash trees can be adaptively reused to build berms and terraced planters
- ⑪ Saturated soils north of the lake can be planted with native riparian plantings to create a biodiverse wetland
- ⑫ A Zuni bowl at the outflow of the pipe in the prayer circle area can slow down high water velocities
- ⑬ Pump can be installed to route excess water out of the prayer circle area to reduce flooding
- ⑭ Open areas adjacent to existing oak trees in the far west portion of the site can be used to build planted berms and restore an oak woodland
- ⑮ Berms can be constructed with a flat top to double as accessible pathways

Photos courtesy of Tom Rau





Our site is divided into three zones. We tie each zone to the growth and life of an Oak Tree.

At **Area 1**, the top of the watershed, we celebrate the acorn and all its potential, along with all the potential water to be harvested.

In **Area 2**, a wetland fed by leaking water from the adjacent lake, we envision a juvenile oak

forest planted on the banks above the seep, representing the beginning of an oak woodland. We aim to restore the site and the soil to a state healthy enough to support this keystone species.

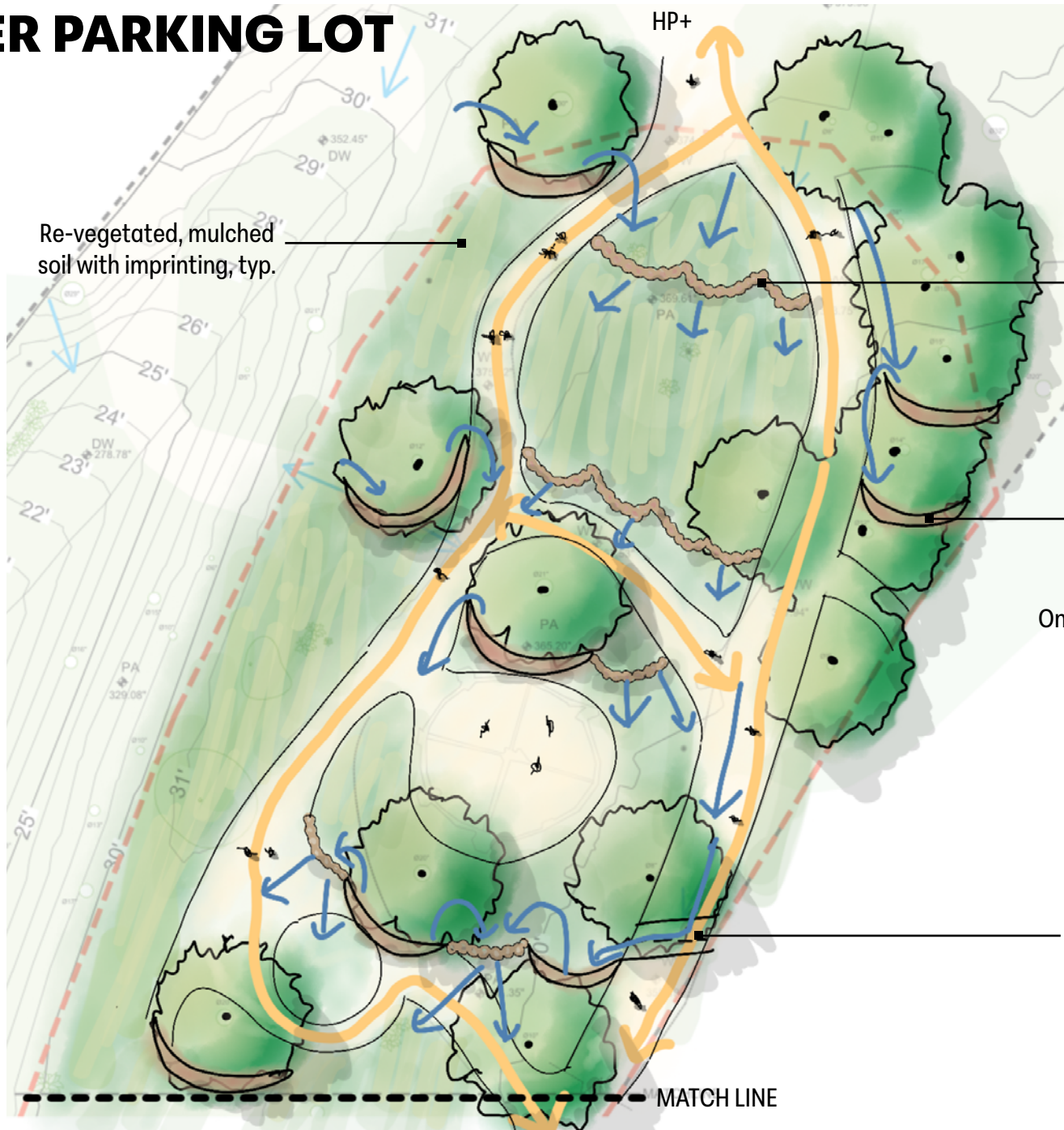
In **Area 3** we cherish mature oaks, their eventual senescence and departure with hugelkultur berms mimicking nurse logs for the next generation of oaks.

LEGEND

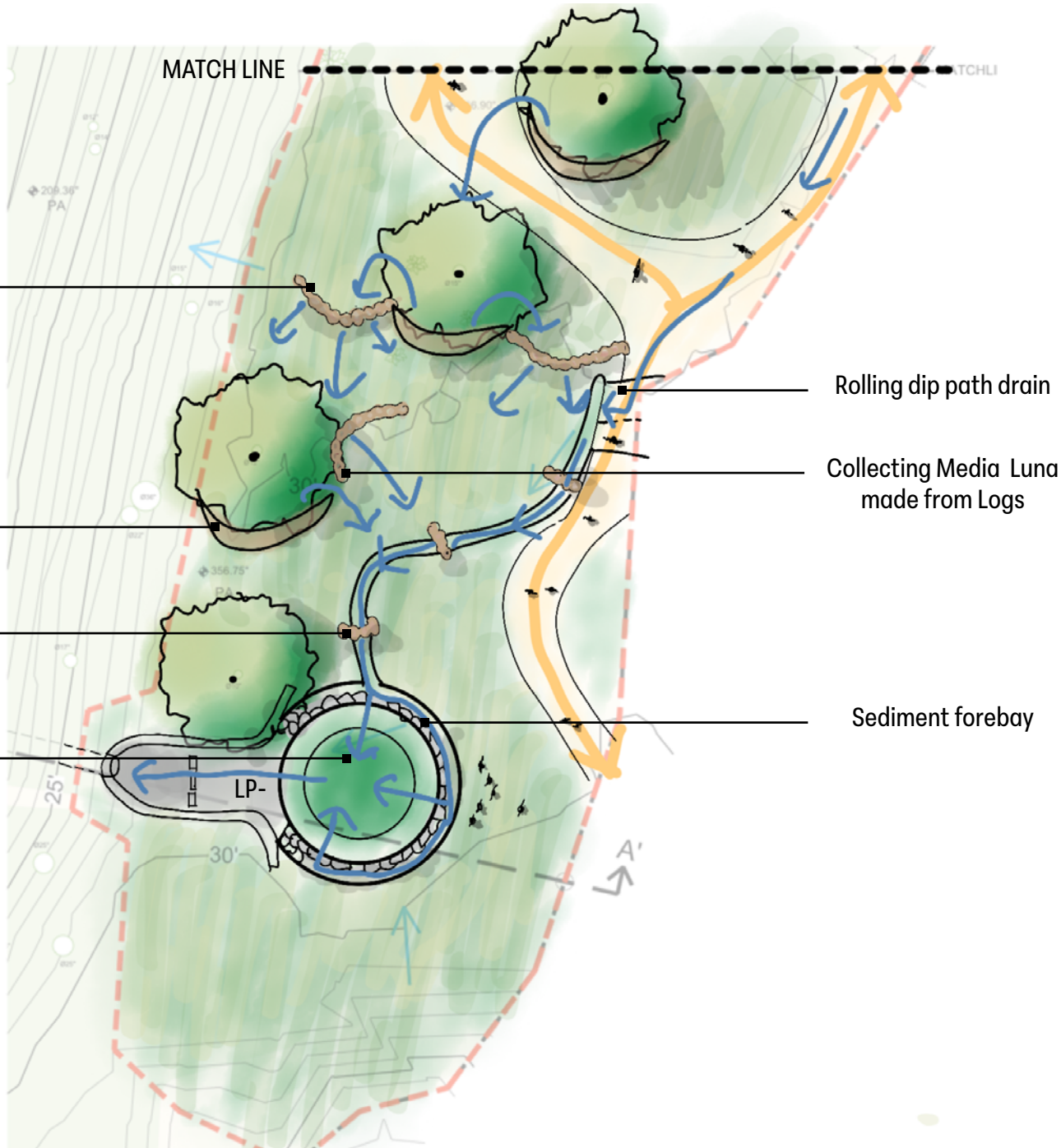
- **AREA 1:** Upper Parking Lot & Prayer Area
- **AREA 2:** Wetland
- **AREA 3:** Oak Restoration
- Water Flow
- Pedestrian Flow



UPPER PARKING LOT

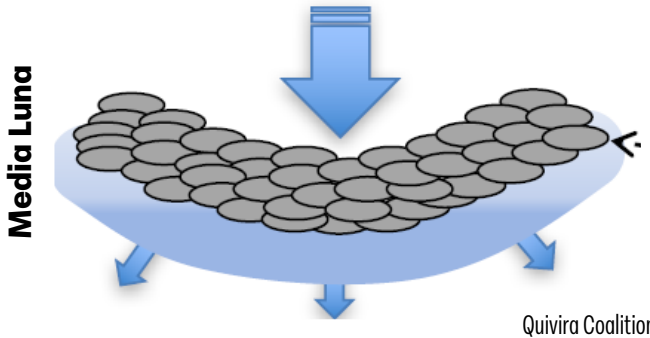


North Section



South Section

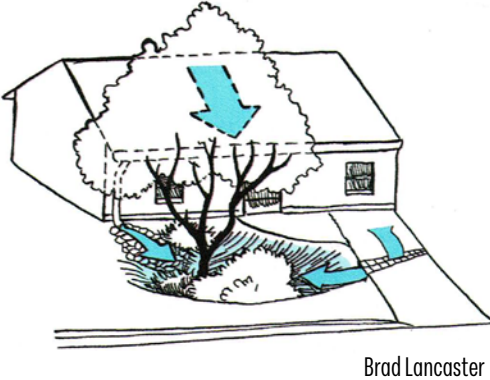
REFERENCE IMAGES



Media Luna



One Rock Dam



Rain Garden

Key Map



LEGEND

- Water Flow
- Pedestrian Flow
- New Vegetation

0' 8' 16' 32'

NTS

N

PRAYER CIRCLE AREA



Overflow to lake

Cascades Conveyance Structure

Pump Stand Pipe

Re-vegetated, mulched soil, typ.

Underground Pipe

Boomerang Berm, typ.

Vegetated Bioswale

Sump Pump Drain

Western Redbud

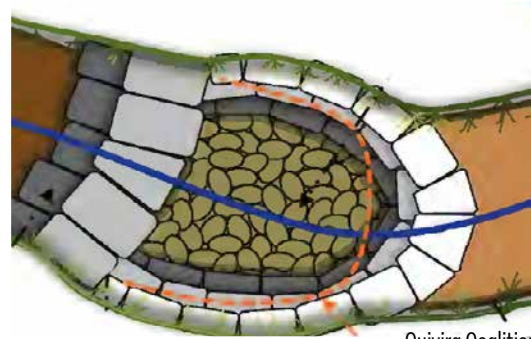
Zuni Bowl

Terrace Seat Wall

Terrace, typ.

REFERENCE IMAGES

Zuni Bowl



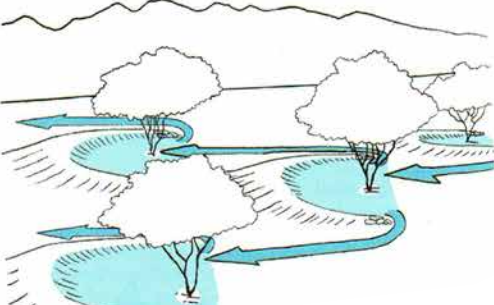
Quivira Coalition

Terrace



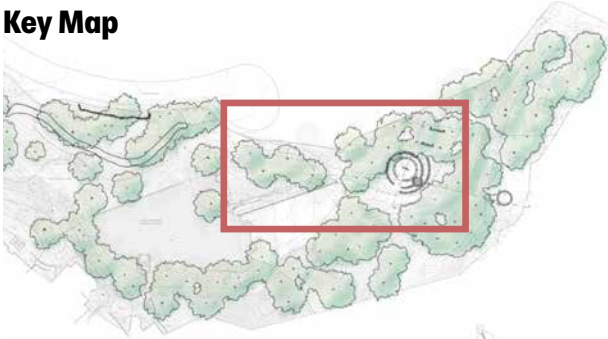
Brad Lancaster

Boomerang Berm



Brad Lancaster

Key Map

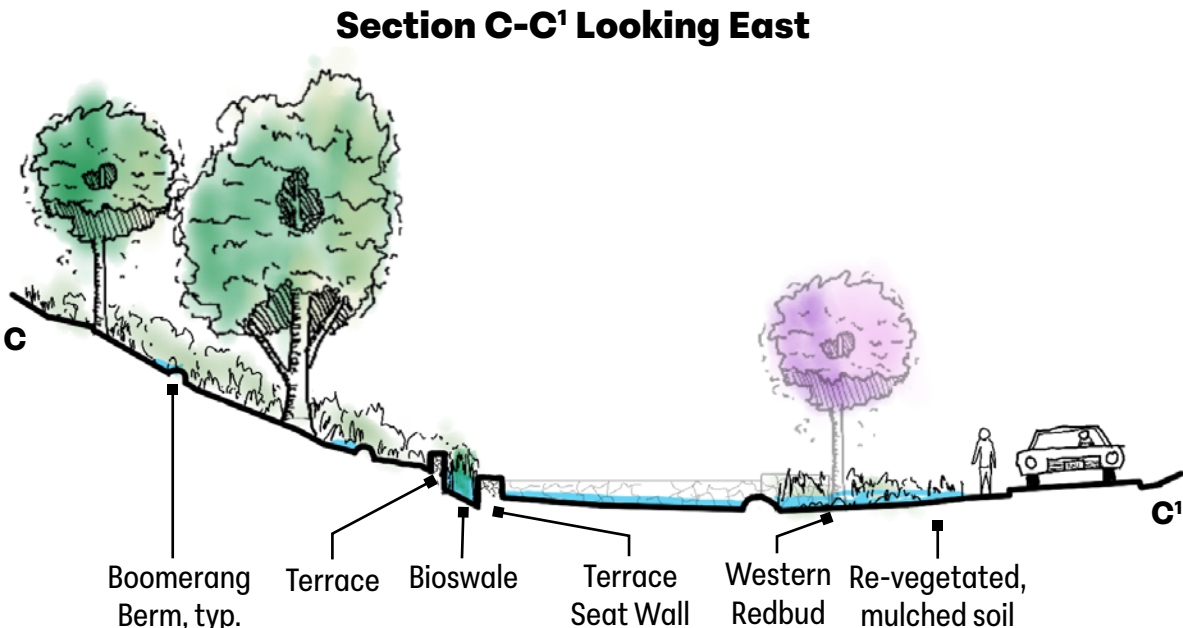
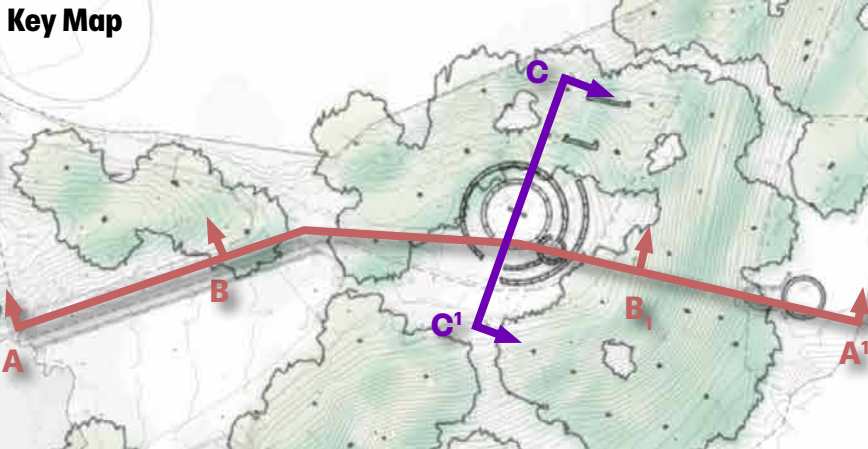
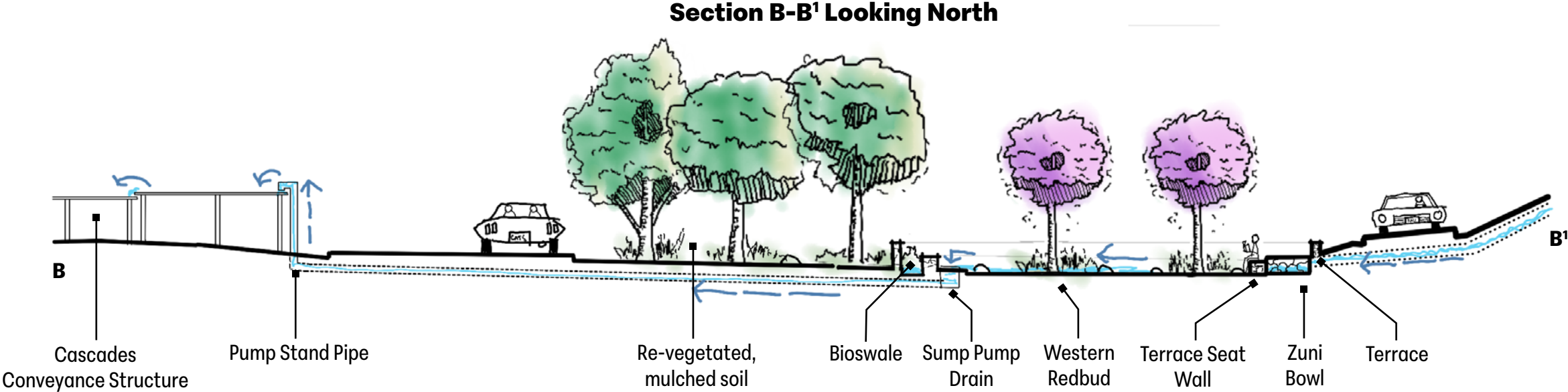
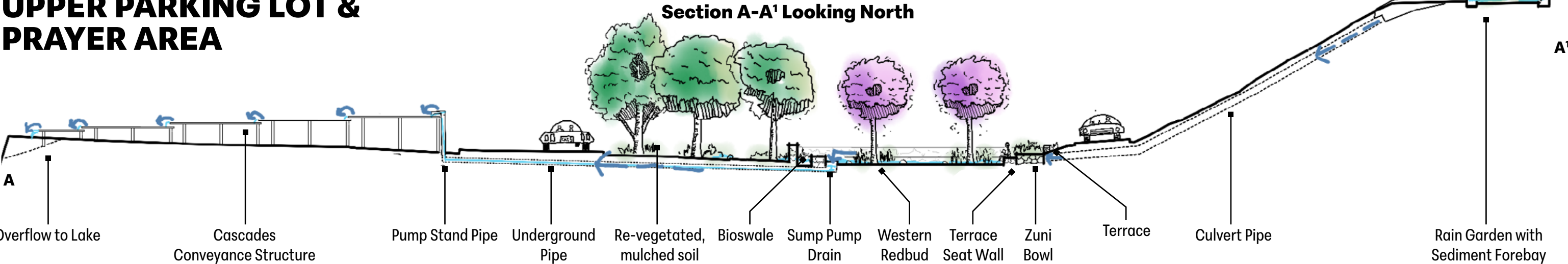


LEGEND

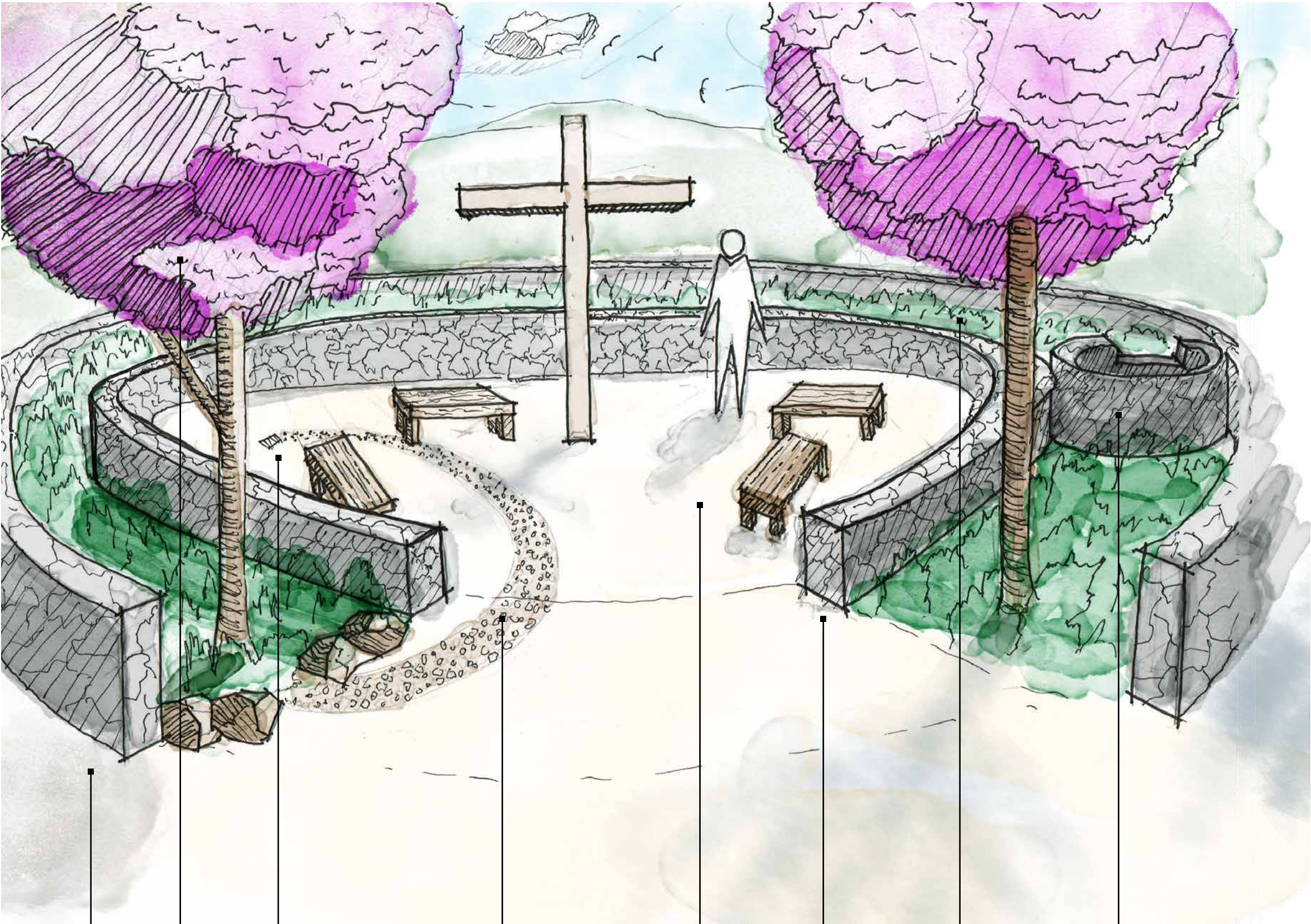
- Water Flow
- Pedestrian Flow
- New Vegetation



UPPER PARKING LOT & PRAYER AREA



PRAYER CIRCLE



Outer
Terrace

Western
Redbud

Drain Grate

Gravel Runnel to
Drain Grate

Floodable Prayer
Area

Seat Wall
Terrace

Vegetated
Bioswale

Zuni Bowl

INSPIRATION IMAGES



Zuni Bowl

Zedyk Structures



Stack Stone Terrace Wall

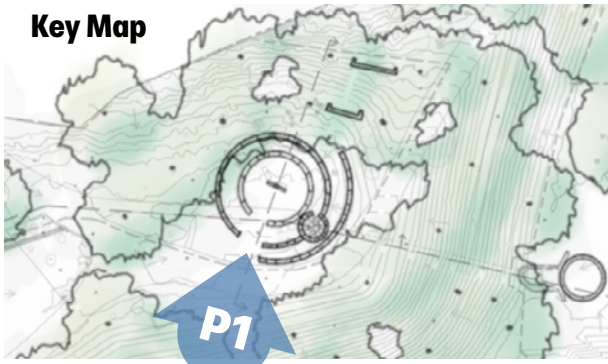
The Rain Catcher, Inc



Vegetated Bioswale

Big Valley Pipelines

Key Map



PRAYER AREA

Bioswales and adjacent areas



Carex praegracilis | Clustered Field Sedge

Plant Family: Cyperaceae
Mature Size: 1.5'x3' (HxW)
Irrigation: 40-60% (WUCOLS 3)
Soil: Tolerates a variety of soils
Bloom Color: Brown
Bloom Season: Spring to Summer
Notes: Spreads via rhizomes, excellent at soil holding and withstands periodic inundation.



Anemopsis californica | Yerba Mansa

Plant Family: Saururaceae
Mature Size: 1'x6' (HxW)
Irrigation: 60-80% (WUCOLS 3)
Soil: Tolerates a variety of soils
Bloom Color: White
Bloom Season: Spring to Summer
Notes: Spreads via stolons, withstands inundation, will go dormant in summer, returns with rains.



Juncus patens | Common Rush

Plant Family: Juncaceae
Mature Size: 3'x6' (HxW)
Irrigation: 60-80% (WUCOLS 3)
Soil: Tolerates a variety of soils
Bloom Color: Brown
Bloom Season: Spring to Summer
Notes: Spreads via rhizomes, excellent for erosion and withstands inundation. Drought tolerant once established.



Cercis occidentalis | Western Redbud

Plant Family: Caesalpiniaceae
Mature Size: 12-20'x10-15' (HxW)
Irrigation: 10-30% (WUCOLS 3)
Soil: Tolerates many soils, well drained preferred.
Bloom Color: Pink
Bloom Season: Spring
Notes: Riparian adjacent species, food source for leaf cutter ants, favored by carpenter bees.

Revegetation on slopes in part shade



Ribes speciosum | Fuchsia Flowered Gooseberry

Plant Family: Grossulariaceae
Mature Size: 4-8'x4-6' (HxW)
Irrigation: <10% (WUCOLS 3)
Soil: Well drained preferred
Bloom Color: Pink
Bloom Season: Late Winter to Early Spring
Notes: Winter blooms provide interest and nectar while berries provide food. Summer deciduous.



Heteromeles arbutifolia | Yerba Mansa

Plant Family: Roseaceae
Mature Size: 15'x15' (HxW)
Irrigation: <10% (WUCOLS 3)
Soil: Tolerates a variety of soils
Bloom Color: White
Bloom Season: Late Spring to Early Summer
Notes: Berries provide food for migrating birds in winter. Durable, evergreen and fire resilient. Can be coppiced.



Ribes aureum | Golden Currant

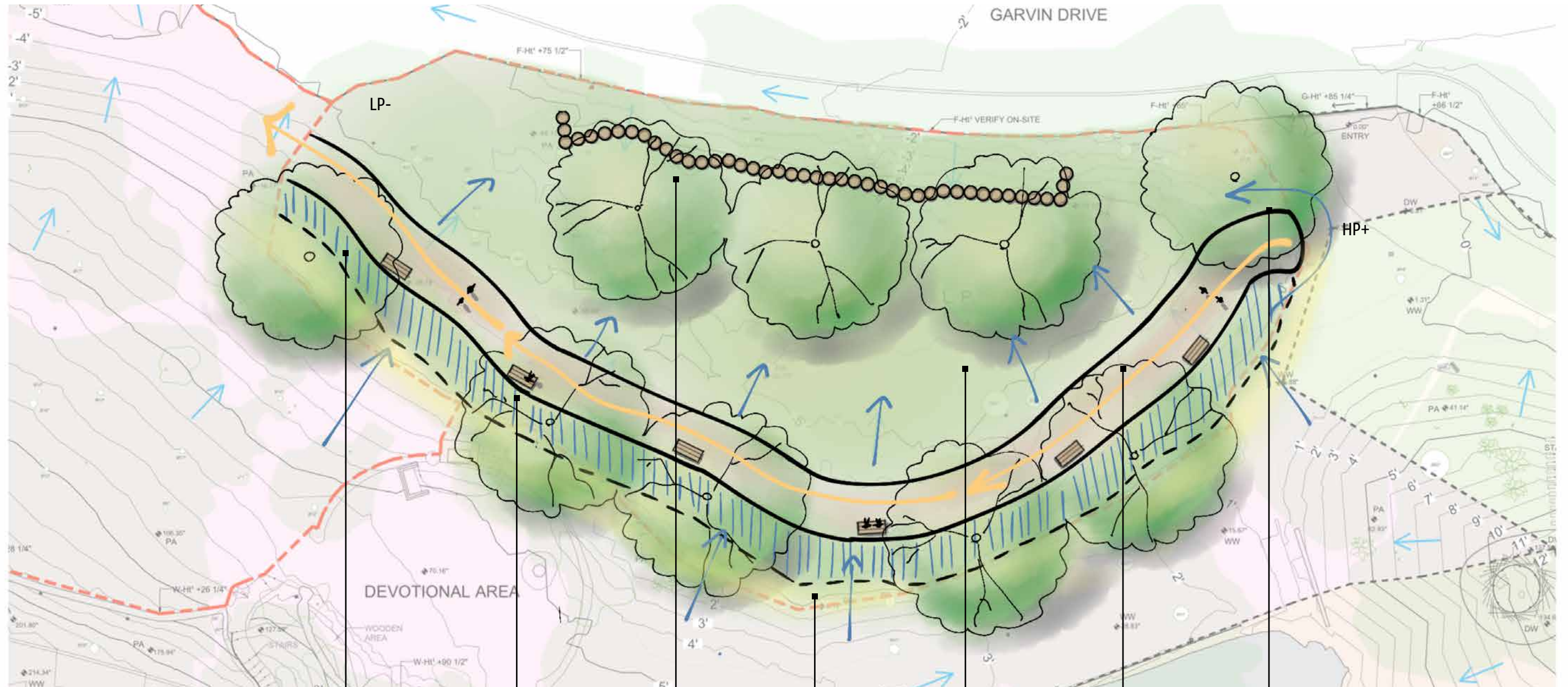
Plant Family: Grossulariaceae
Mature Size: 6'x3' (HxW)
Irrigation: <10% (WUCOLS 3)
Soil: Tolerates a variety of soils including clay
Bloom Color: Yellow
Bloom Season: Spring
Notes: Forage for Cooper and Angelwing butterflies, berries provide forage for birds. Summer semi-deciduous.



Frangula californica | Coffeeberry

Plant Family: Rhamnaceae
Mature Size: 12'x8' (HxW)
Irrigation: 10-30% (WUCOLS 3)
Soil: Tolerates many soils, well drained preferred.
Bloom Color: White
Bloom Season: Spring
Notes: Evergreen and shade tolerant, berries provide forage for birds, Scrub Jays seem to like this plant.

WETLAND



Bird watching bench

Imprinted
Slope

Accessible Pathway Berm

Quercus virginiana,
typ.

REFERENCE IMAGES

Contour Berm Path



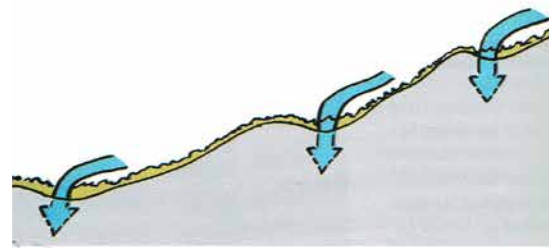
Brad Lancaster

Imprinting



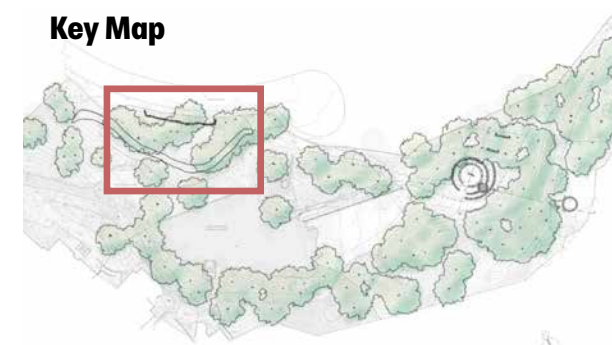
Brad Lancaster

Mulch Basins



Brad Lancaster

Key Map



LEGEND

Water Flow

Pedestrian Flow

New Vegetation

0' 8' 16' 32'

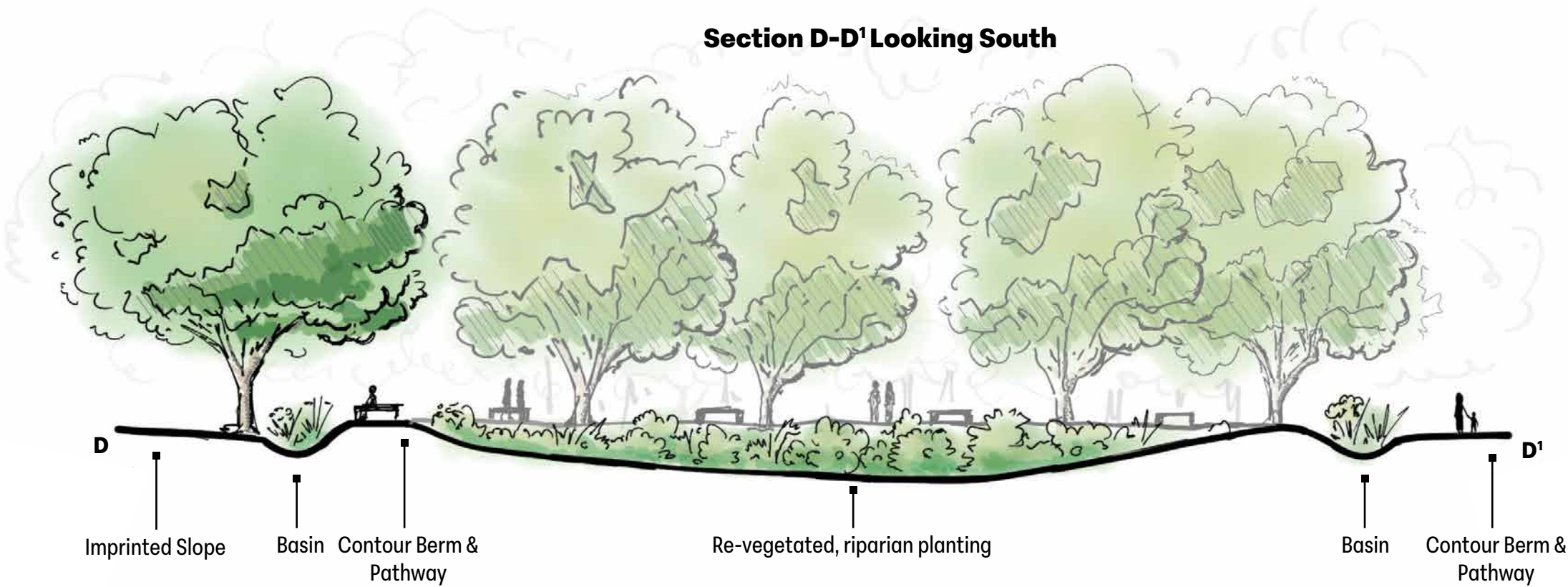
NTC

N15

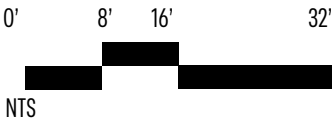
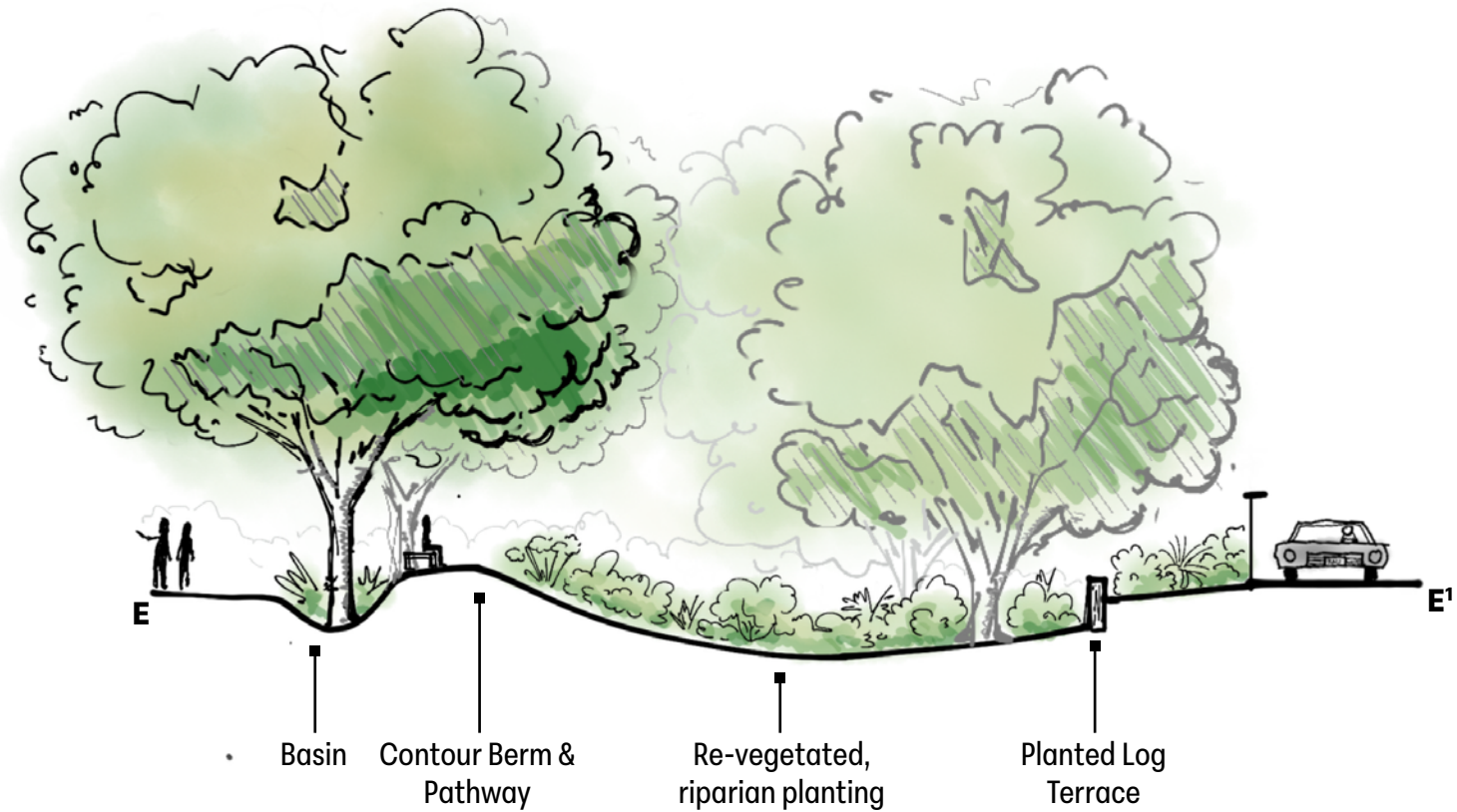


WETLAND

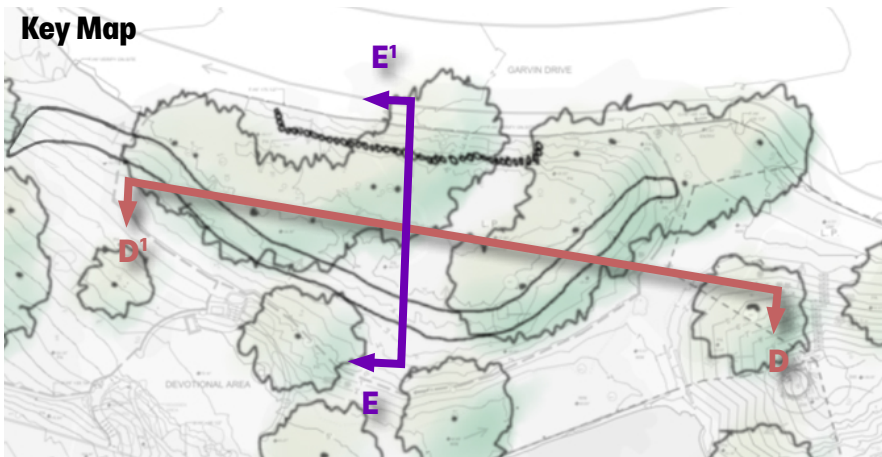
Section D-D' Looking South



Section E-E' Looking West



Key Map



WETLAND



Vegetated Basin

Nature Overlook Bench

Accessible Pathway Berm

Log Terrace

Revegetated Wetland

INSPIRATION IMAGES



Berm

Santa Cruz Permaculture



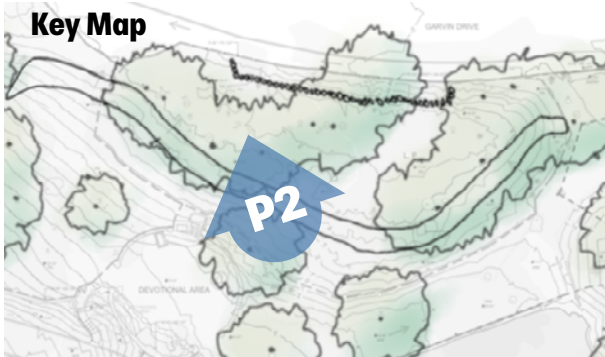
Vegetated Basin

Humblebee Organics



Revegetated Wetland

Calscape



Key Map

P2

WETLAND

Constantly moist areas



Carex praegracilis | Clustered Field Sedge

Plant Family: Cyperaceae
Mature Size: 1.5'x3' (HxW)
Irrigation: 40-60% (WUCOLS 3)
Soil: Tolerates a variety of soils
Bloom Color: Brown
Bloom Season: Spring to Summer
Notes: Spreads via rhizomes, excellent at soil holding and withstands periodic inundation.



Anemopsis californica | Yerba Mansa

Plant Family: Saururaceae
Mature Size: 1'x6' (HxW)
Irrigation: 40-60% (WUCOLS 3)
Soil: Tolerates a variety of soils
Bloom Color: White
Bloom Season: Spring to Summer
Notes: Spreads via stolons, withstands inundation, will go dormant in summer, returns with rains.



Erythranthe cardinalis | Scarlet Monkeyflower

Plant Family: Phrymaceae
Mature Size: 3'x6' (HxW)
Irrigation: 40-60% (WUCOLS 3)
Soil: Tolerates a variety of soils
Bloom Color: Red
Bloom Season: Spring to Summer
Notes: Reseeds readily throughout a space. Beloved by hummingbirds.



Erythranthe guttata | Seep Monkeyflower

Plant Family: Phrymaceae
Mature Size: 1'x4' (HxW)
Irrigation: 70-90% (WUCOLS 3)
Soil: Tolerates constant moisture and heavy soils
Bloom Color: Yellow
Bloom Season: Spring
Notes: Riparian species, self sows



Salix lasiolepis | Arroyo Willow

Plant Family: Salicaceae
Mature Size: 30'x15' (HxW)
Irrigation: 70-90% (WUCOLS 3)
Soil: Tolerates a variety of soil
Bloom Color: Yellow
Bloom Season: Late Winter to Spring
Notes: Keystone species, highest phytoremediation of heavy metals in some studies.



Baccharis salicifolia | Mulefat

Plant Family: Asteraceae
Mature Size: 10'x8' (HxW)
Irrigation: 70-90% (WUCOLS 3)
Soil: Tolerates a variety of soils
Bloom Color: White-Pink
Bloom Season: Late Summer
Notes: Blooms late in summer as a source of pollen for insects, uptakes heavy metal like cadmium for phytoremediation.



Typha latifolia | Broad-Leaved Cattail

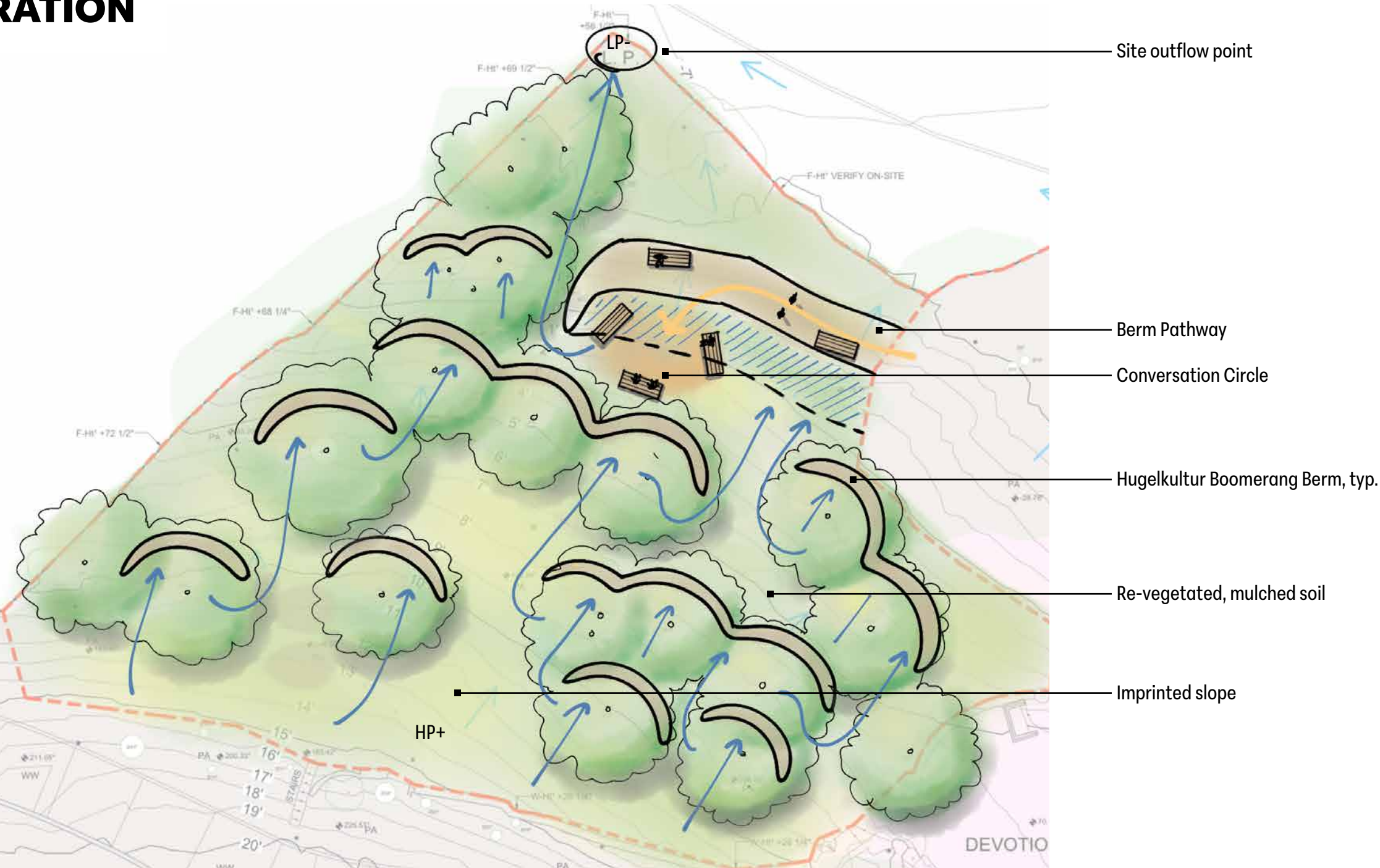
Plant Family: Typhaceae
Mature Size: 10'x15' (HxW)
Irrigation: 70-90% (WUCOLS 3)
Soil: Tolerates a variety of soils
Bloom Color: Brown
Bloom Season: Summer
Notes: Provides habitat for birds, phytoremediates heavy metals and excess nutrients like nitrogen and phosphorous.



Juncus balticus | Baltic Rush

Plant Family: Juncaceae
Mature Size: 6'x10' (HxW)
Irrigation: 40-60% (WUCOLS 3)
Soil: Tolerates many soils, well drained preferred.
Bloom Color: Tan
Bloom Season: Summer to Fall
Notes: Very high rate of heavy metal absorption including arsenic, cadmium and chromium.

OAK RESTORATION AREA



Contour Berm Path



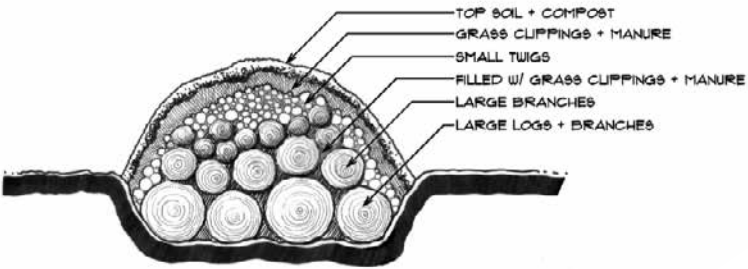
Brad Lancaster

Imprinting



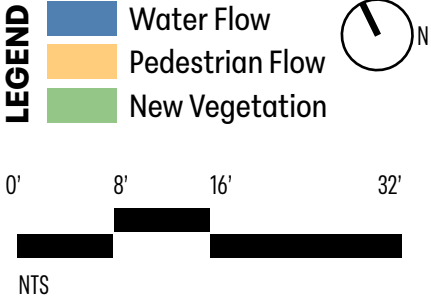
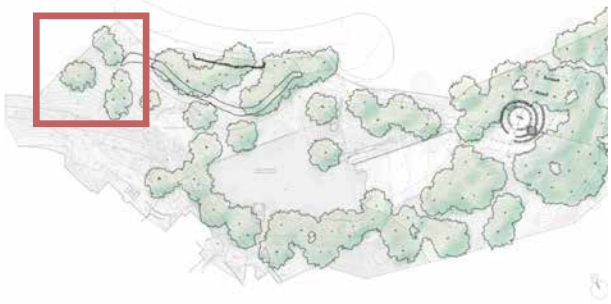
Brad Lancaster

Hugelkultur Berm



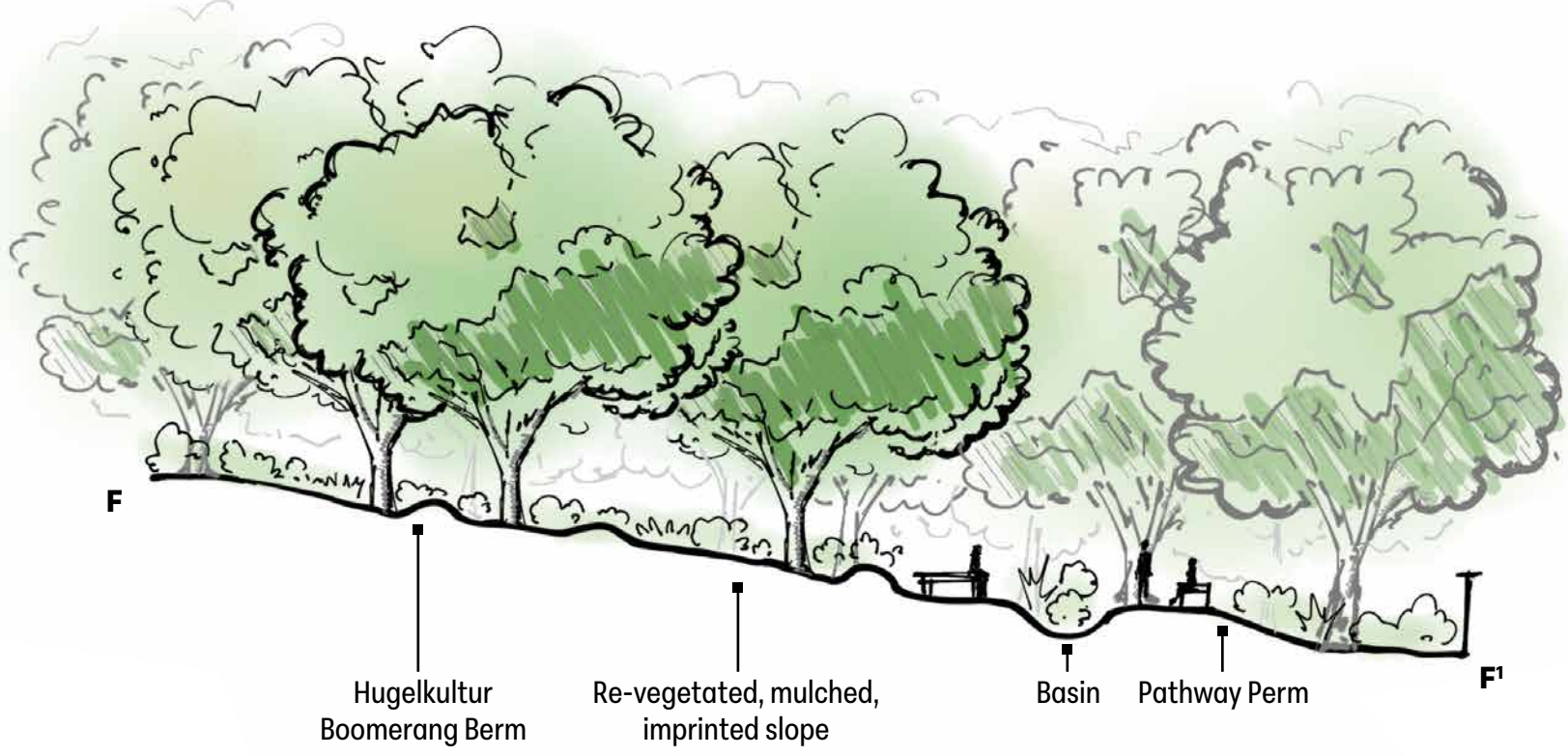
Oregon State University Extension

Key Map

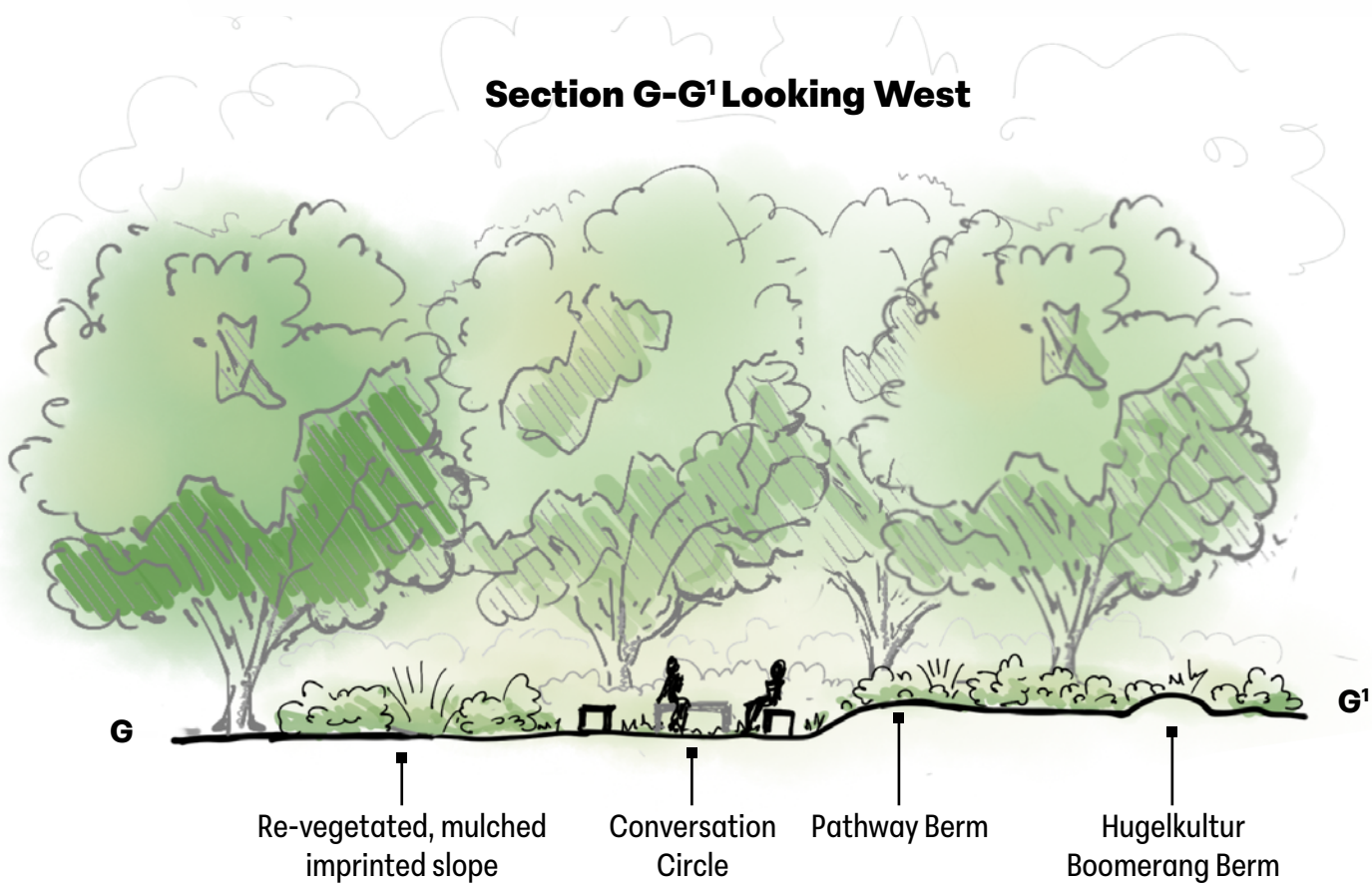


OAK RESTORATION AREA

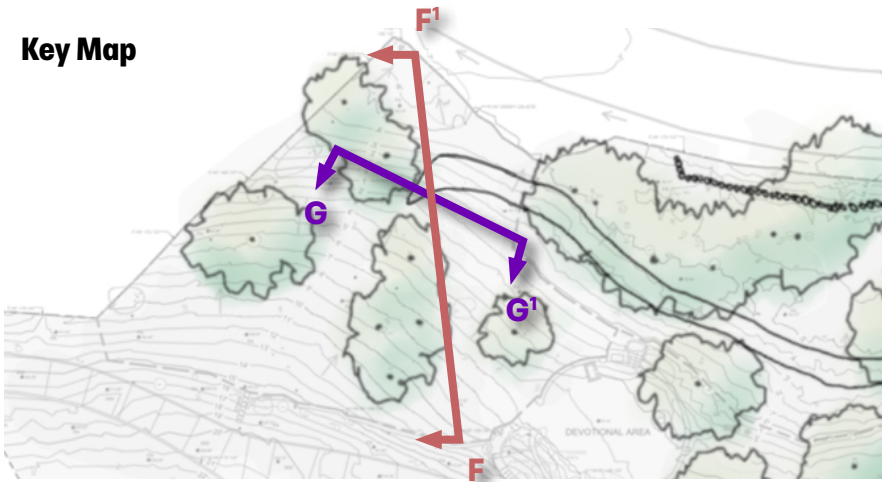
Section F-F' Looking South



Section G-G' Looking West



Key Map



OAK RESTORATION
AREA



Re-vegetated ,
mulched slope

Vegetated
Basin

Pathway Berm

Nature Overlook
Bench

INSPIRATION IMAGES



Berm

Santa Cruz Permaculture



Vegetated Basin

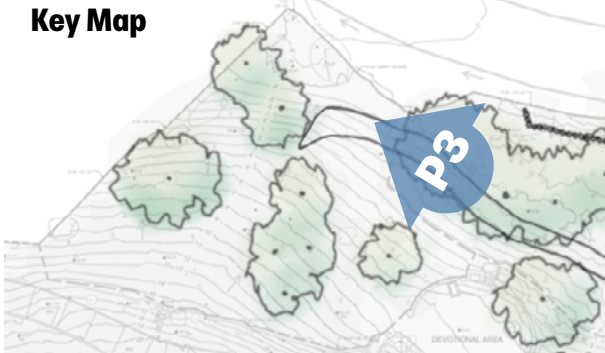
Humblebee Organics



Boomerang Berm

Galaxy Gardens

Key Map



OAK RESTORATION AREA

Revegetation on slopes in part shade



Ribes californicum | California Gooseberry

Plant Family: Grossulariaceae
Mature Size: 4-6'x4' (HxW)
Irrigation: 10-30% (WUCOLS 3)
Soil: Well drained preferred
Bloom Color: Red
Bloom Season: Spring
Notes: Winter blooms provide interest and nectar while berries provide food for birds. Summer deciduous



Lepechinia fragrans | Fragrant Pitcher Sage

Plant Family: Lamiaceae
Mature Size: 3'x4' (HxW)
Irrigation: 10-30% (WUCOLS 3)
Soil: Tolerates a variety of soils
Bloom Color: Purple
Bloom Season: Spring to Summer
Notes: An excellent smelling plant favored by hummingbirds and humans alike!



Juncus patens | Common Rush

Plant Family: Iridaceae
Mature Size: 3'x6' (HxW)
Irrigation: 10-30% (WUCOLS 3)
Soil: Tolerates a variety of soils
Bloom Color: Purple
Bloom Season: Spring
Notes: Slowly forms a colony, can be divided during winter and replanted across the site, reducing purchase costs.



Salvia spathacea | Hummingbird Sage

Plant Family: Lamiaceae
Mature Size: 1'x3' (HxW)
Irrigation: 10-30% (WUCOLS 3)
Soil: Tolerates many soils, well drained preferred.
Bloom Color: Pink
Bloom Season: Spring
Notes: Slowly spreads out along slopes in dappled shade, provides nectar for hummingbirds.



Ribes speciosum | Fuchsia Flowered Gooseberry

Plant Family: Grossulariaceae
Mature Size: 4-8'x4-6' (HxW)
Irrigation: <10% (WUCOLS 3)
Soil: Well drained preferred
Bloom Color: Pink
Bloom Season: Late Winter to Early Spring
Notes: Winter blooms provide interest and nectar while berries provide food. Summer deciduous.



Heteromeles arbutifolia | Yerba Mansa

Plant Family: Roseaceae
Mature Size: 15'x15' (HxW)
Irrigation: <10% (WUCOLS 3)
Soil: Tolerates a variety of soils
Bloom Color: White
Bloom Season: Late Spring to Early Summer
Notes: Berries provide food for migrating birds in winter. Durable, evergreen and fire resilient. Can be coppiced.



Ribes aureum | Golden Currant

Plant Family: Grossulariaceae
Mature Size: 6'x3' (HxW)
Irrigation: <10% (WUCOLS 3)
Soil: Tolerates a variety of soils including clay
Bloom Color: Yellow
Bloom Season: Spring
Notes: Forage for Cooper and Angelwing butterflies, berries provide forage for birds. Summer semi-deciduous.



Frangula californica | Coffeeberry

Plant Family: Rhamnaceae
Mature Size: 12'x8' (HxW)
Irrigation: 10-30% (WUCOLS 3)
Soil: Tolerates many soils, well drained preferred.
Bloom Color: White
Bloom Season: Spring
Notes: Evergreen and shade tolerant, berries provide forage for birds, Scrub Jays seem to like this plant.

Akulova, Zoya. Photograph. “Salix lasiolepis - Calscape.” Calscape, 2016. Accessed September 4, 2026. [https://calscape.org/plant/3333/Salix-lasiolepis-\(Arroyo-Willow\)/gallery?gallery_page=2&per_page=60](https://calscape.org/plant/3333/Salix-lasiolepis-(Arroyo-Willow)/gallery?gallery_page=2&per_page=60).

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THANK YOU!

