



# **Fresno Dry Creek Canal Park: Creating a Waterfront Ecological and Recreational Corridor and Public Park**

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UCLA Extension Landscape Architecture Program  
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# PROJECT STATEMENT

**This project will transform a portion of the underutilized Fresno Dry Creek Irrigation Canal and its adjacent parcels of land into a waterfront park and trail that:**

- **Provides recreational opportunities**
- **Recharges the aquifer**
- **Supports native wildlife**
- **Reduces urban heat island effects**
- **Connects adjacent communities**





# SITE MAP



Dry Creek Canal





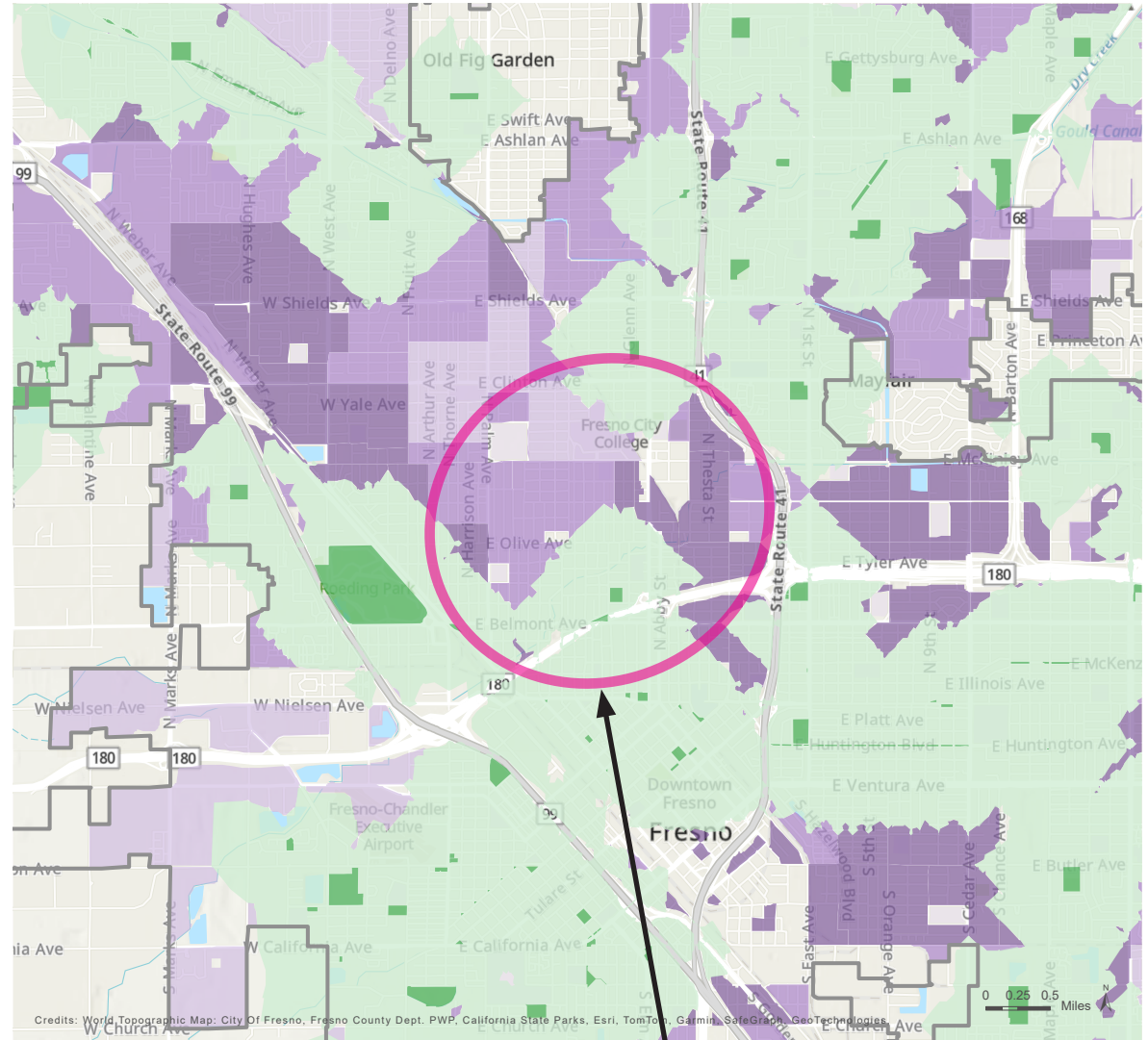
# PROJECT JUSTIFICATION

## LACK OF PUBLIC PARKS AND TRAILS

Fresno is ranked 98 on the 2023 Trust For Public Lands' Parkscore index, which is a national comparison of park systems across the 100 most populated cities in the United States. Only 5% of Fresno's land is used for parks and recreation, a significantly low figure compared to the national median of 15%. Only 66% of Fresno residents live within a 10-minute walk of a park. In other words, **Fresno desperately needs more parks.**

The Trust For Public Land's Park Serve map to the right shows that the **project site is located in an area of Fresno that is disproportionately underserved when it comes to access to public parks.**

Furthermore, there is a clear **dichotomy** in the demographics of groups that have **access to parks based on race and household income.** (map on following page)

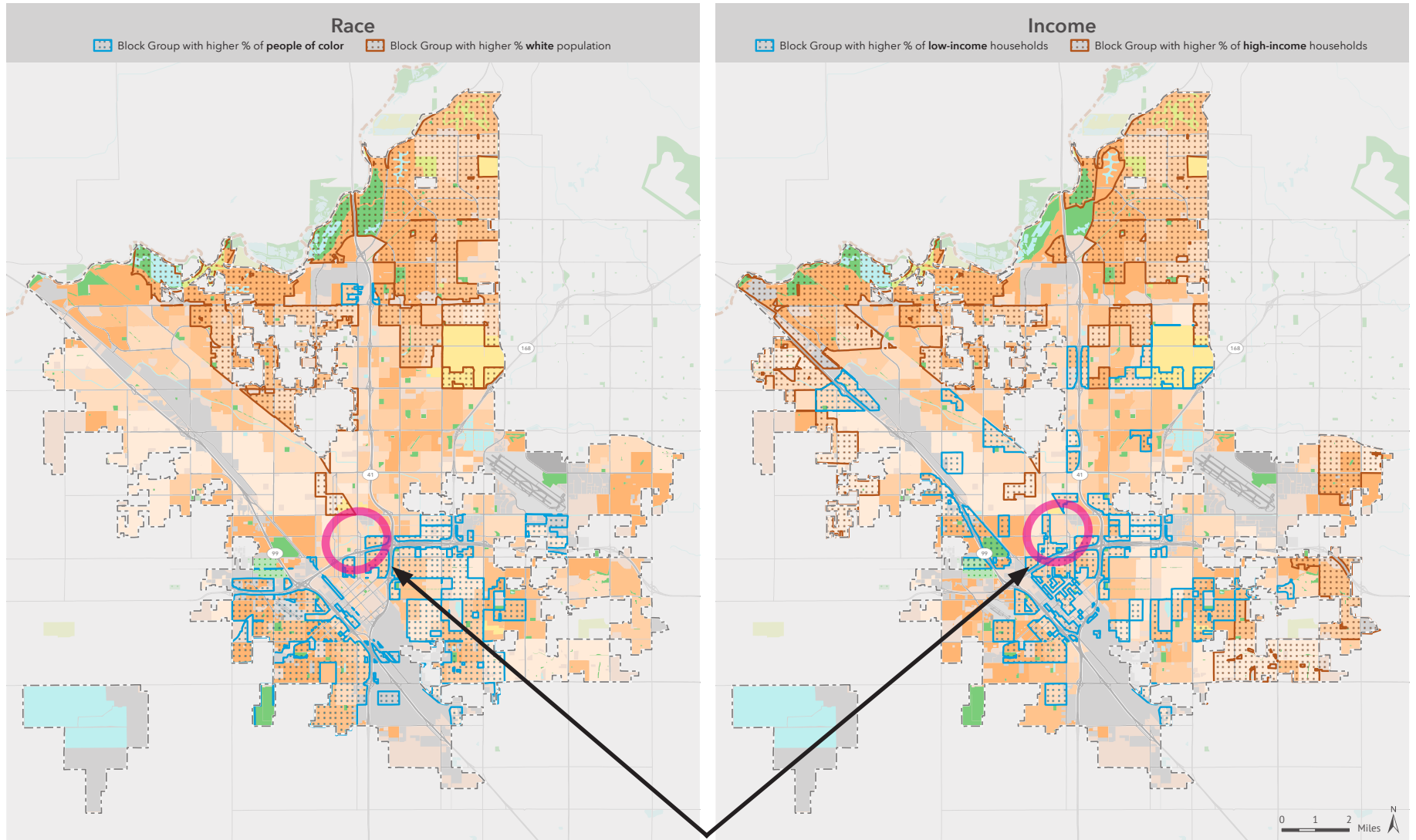


- ParkServe Place
- Park with public access
- 10-minute walk service area
- Priority areas for new parks (place)
- Very high priority
- High priority
- Moderate priority
- World Hillshade

Project Sphere of Influence



# PROJECT JUSTIFICATION



Project Sphere of Influence

## 2023 ParkScore® index: **Equity**

### FRESNO, CALIFORNIA

The Equity category of the ParkScore® index awards points in part based on the difference in nearby park space between neighborhoods in a city:

- On a per person basis, ratio of nearby public park space between communities of color and white communities
- On a per person basis, ratio of nearby public park space between low-income communities and high-income communities

Nearby park space per person effectively measures the available park space within a 10-minute walk of a micro-neighborhood, identified as those with the highest concentrations (top 20% of all census block groups in a city) of people of color or white population and high-income or low-income households. Households with income less than 75% of city median income (less

than \$50,000 in Fresno) are considered low-income; households with income greater than 125% of city median income (greater than \$75,000 in Fresno) are high-income.

In Fresno, neighborhoods of color have 42% less park space than white neighborhoods, and low-income neighborhoods have 42% less than high-income neighborhoods.

The metrics for people of color reflect each of the Census-designated race/ethnicity groups: Black, Hispanic, and Indigenous and Native American, Asian Americans, Pacific Islanders, multiple races, and other communities of color.

Demographic profiles are based on 2020 Forecast block groups provided by Esri.

- Park with public access
- Other park or open space
- Cemetery
- University
- Military
- Industrial
- Vacant zero population area
- City boundary
- County boundary
- Park acres per person
  - Very high
  - High
  - Moderate
  - Low
  - Very low

Special thanks to the following data providers: Fresno, Esri, OSM, CDC, EPA. Information on this map is provided for purposes of discussion and visualization only. Map created by Trust for Public Land on April 13, 2023. Trust for Public Land and Trust for Public Land logo are federally registered marks of Trust for Public Land. Copyright © 2023 Trust for Public Land. [www.tpl.org](http://www.tpl.org)



# PROJECT JUSTIFICATION

## PUBLIC & ENVIRONMENTAL HEALTH

“With [the] **population projected to dramatically increase in the next 25 years**, the physical growth of the city of Fresno, and in particular its parks and open space system, will have profound implications for public and environmental health.

The ability for Fresno’s increasing population to have **easy, regular access to nature and open space** will directly influence the physical and spiritual health of the city’s residents. In addition, providing open space and **active transportation networks**, including bicycle and pedestrian connections, increases opportunities for physical activity.

Parks and open spaces are also valuable for their ability to help **mitigate air and water pollution**, in both urban areas like Fresno and areas with intensive agricultural industry like the San Joaquin Valley. Environmental services provided by parks and open space include **air filtration, stormwater infiltration, and reducing the “urban heat island effect.”** These services also bring public health and ecological cost savings – a value for taxpayers, state and local agencies alike.”

*Fresno Parks Master Plan 2017*

## PUBLIC SAFETY

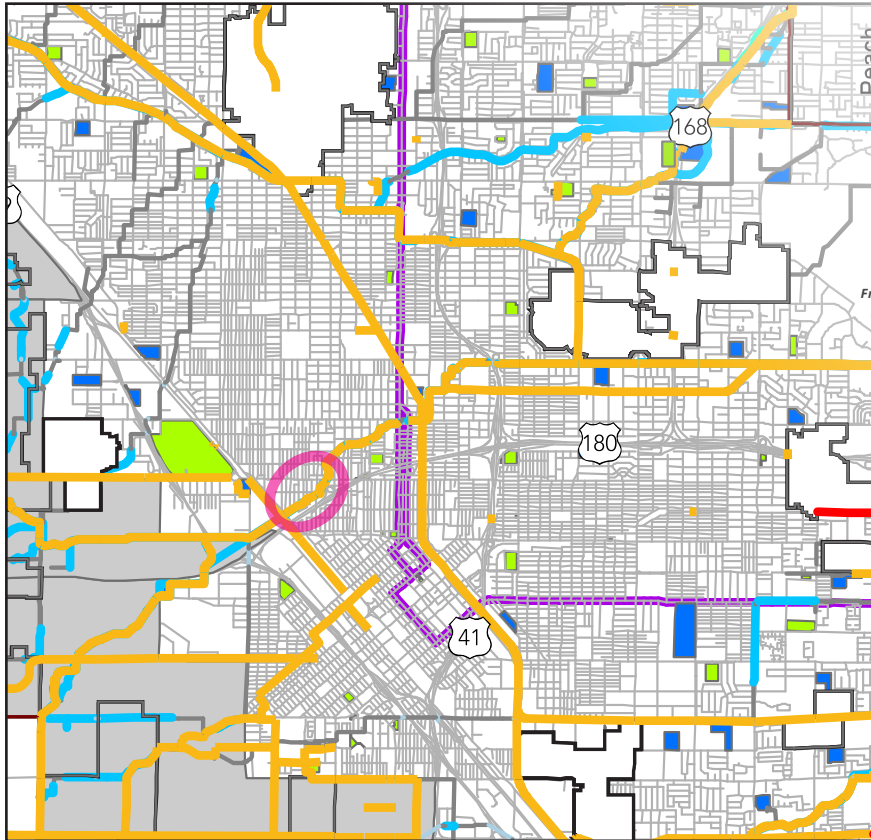
Dry Creek Canal in its present condition is a safety hazard because of the high potential for physical injury or death due to the steep rigid edge of the canal, the lack of guardrails, and at times the fast pace of the current.



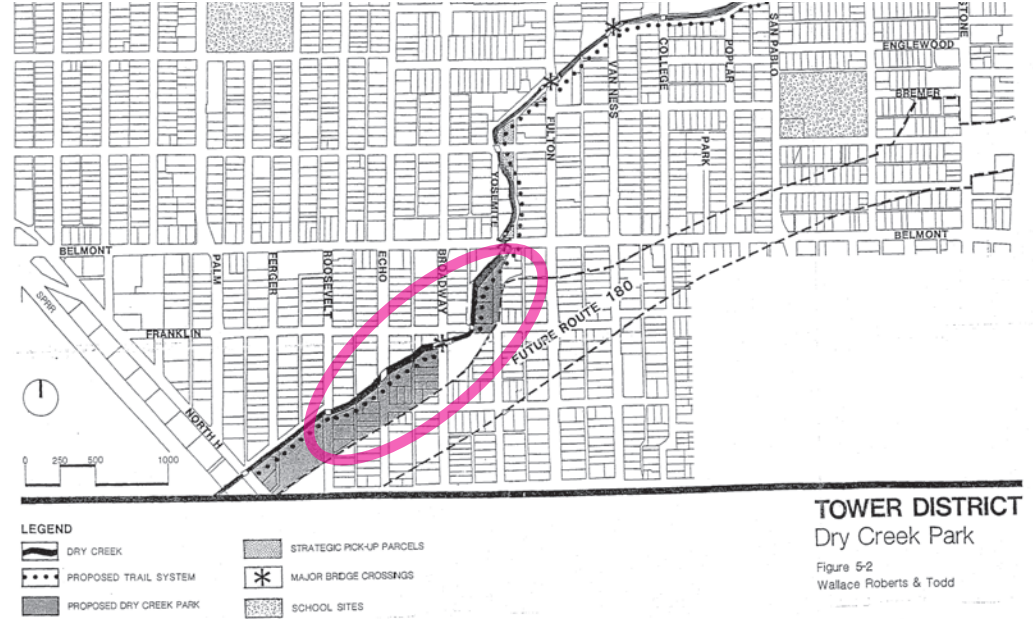


# CITY OF FRESNO PLANS

## FRESNO PARKS MASTER PLAN

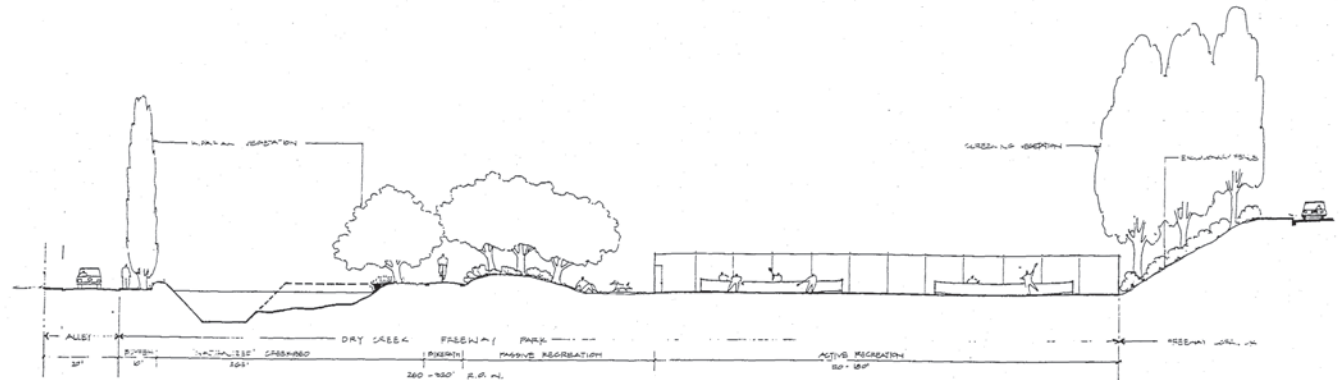


## TOWER DISTRICT SPECIFIC PLAN



The **Tower District Specific Plan** created by WRT and adopted by the City of Fresno in 1991, includes plans for **Dry Creek Park** at the location pictured above and a conceptual section diagram below.

The **Fresno Parks Master Plan**, adopted in 2017, includes the map above which proposes a **future trail system** (in orange). The future trail system is set to go along the canal.



**“No natural landscape in California has been so altered by man as its bottom lands. It was in the Central Valley that riparian forests were most extensive and were called gallery forests. Coupled with the extensive grasslands and rivers, large and small, a unique setting was created. It is now one of the richest agricultural areas in the world...”**

[https://www.fs.usda.gov/rm/boise/AWAE/labs/awae\\_flagstaff/Hot\\_Topics/riphreatbib/sands\\_howe\\_overviewriprestsca.pdf](https://www.fs.usda.gov/rm/boise/AWAE/labs/awae_flagstaff/Hot_Topics/riphreatbib/sands_howe_overviewriprestsca.pdf)





# CENTRAL VALLEY HYDROGRAPHY MAP

## Pre-colonial Natural Wetlands of the San Joaquin Valley



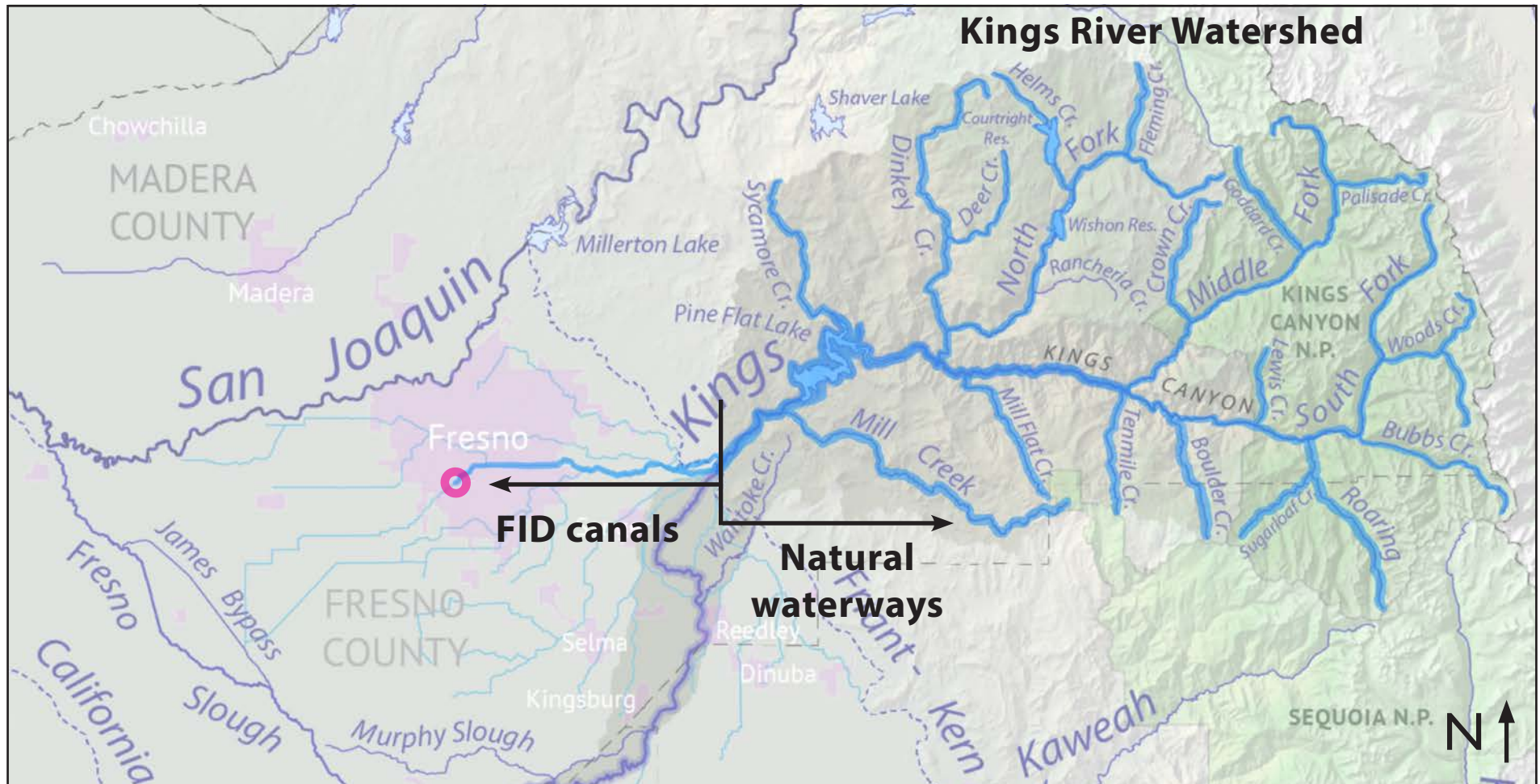
## Post-colonial Modified Wetlands of the San Joaquin Valley



These maps represent the natural wetlands of the SJV as they existed before and after agricultural industrialization. According to the fossil record the image of the SJV on the left reflects how it would have looked for the past 20 million years prior to the channelization and redirection of water. The image on the right represents the current state of the Valley. Of note is the former Tulare Lake, which WAS about 800 sq miles or 4x the size of Lake Tahoe. You can see a shadow of the former lake in the image on the right.



# FRESNO IRRIGATION DISTRICT (FID)

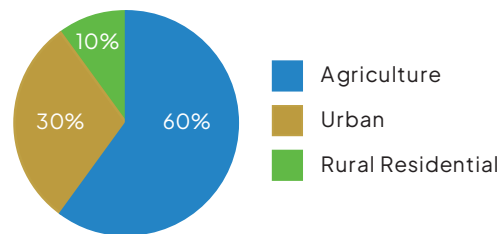


The Fresno Irrigation District (FID) manages the canal system that goes through the project site. FID has extensive water rights on the Kings River, which supplies the canal with water, 60% of which, as you can see in the pie chart, goes towards agriculture.



Total acres within FID boundaries:  
250,000

## Total FID Acreage



## Top Five Crops

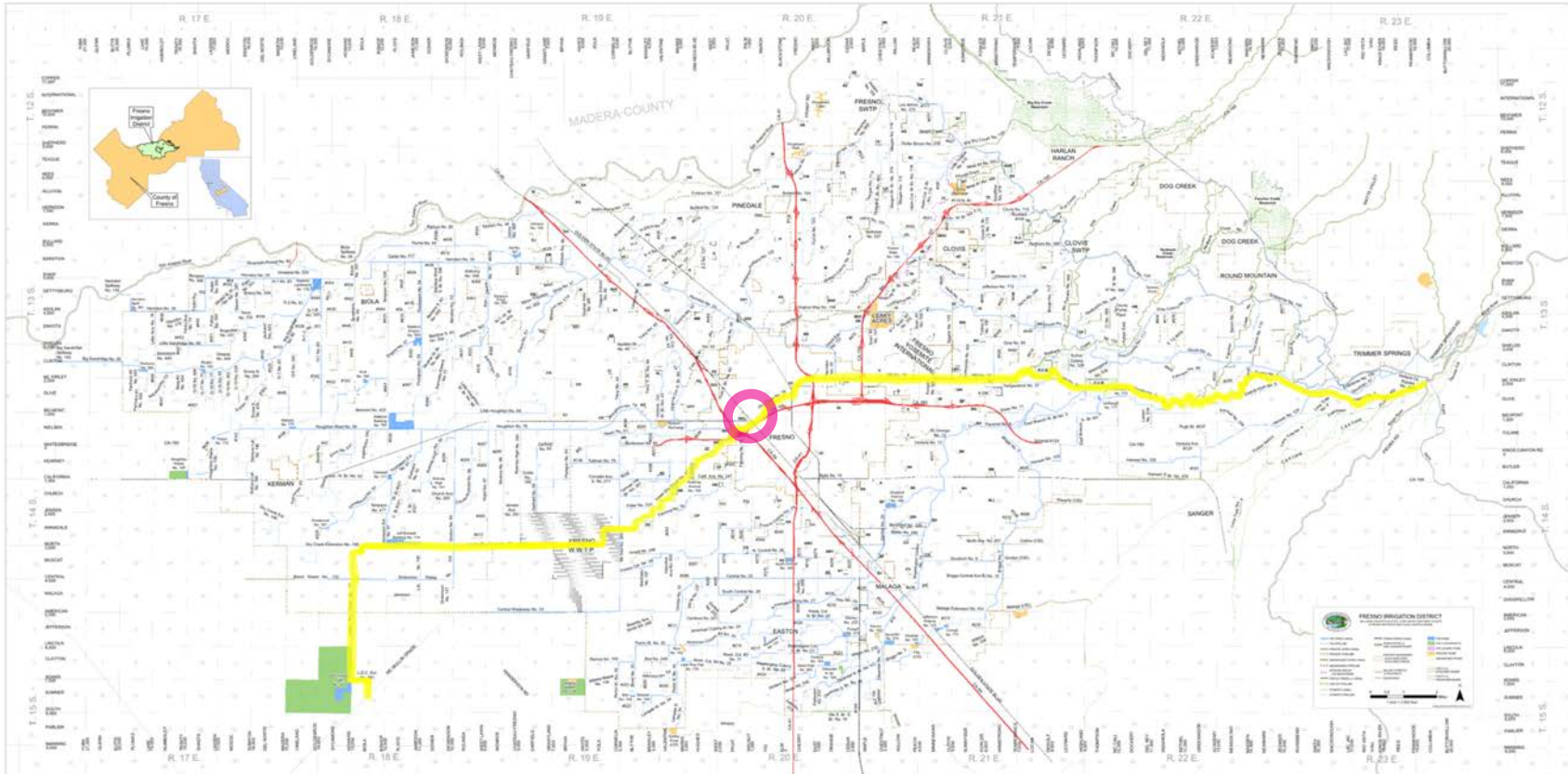


74% of all crops are permanent crops.

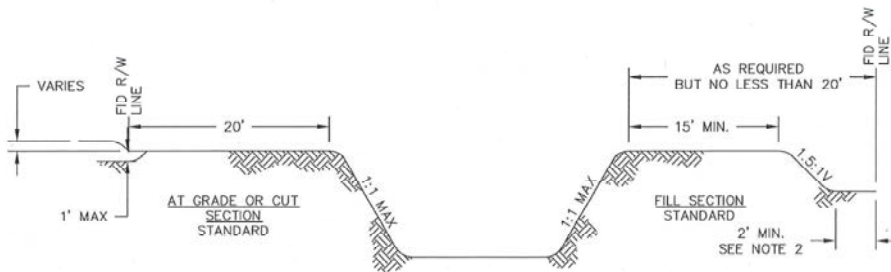


# DRY CREEK CANAL

## FID Full District Map





### Standard Canal Section 50 C.F.S. & UP



- DRY CREEK CANAL MUST RETAIN ITS PRESENT FUNCTION AS AN IRRIGATION CONVEYANCE CHANNEL!
- THE **FLOW RATE OF WATER** IN DRY CREEK CANAL IS TYPICALLY BETWEEN 150-300 C.F.S
- DUE TO THE HIGH RATE OF WATER FLOW, WITHOUT A **CONCRETE LINING** THE CANAL IS SUBJECT TO SCOURING

# RECHARGING THE AQUIFER



## Sustainable Groundwater Management Act (SGMA)

The historic passage of SGMA in 2014 set forth a statewide framework to help protect groundwater resources over the long-term. The goal of SGMA is to halt overdraft and achieve locally defined sustainability goals in California's 94 high and medium priority groundwater basins over a 20-year timeframe.

Groundwater is a critical component of California's water supply, accounting for up to 60 percent of the state's total supply during drought, and 40 percent in average years. California's groundwater basins are the state's largest form of water storage – at least 850 million acre-feet capacity, compared to the 50 million acre-feet that all the major above-ground reservoirs can hold combined. As weather patterns have become more variable and extreme due to the effects of climate change, groundwater management is an essential part of California's water resilience and drought mitigation efforts. SGMA provides the framework for long-term groundwater sustainability.

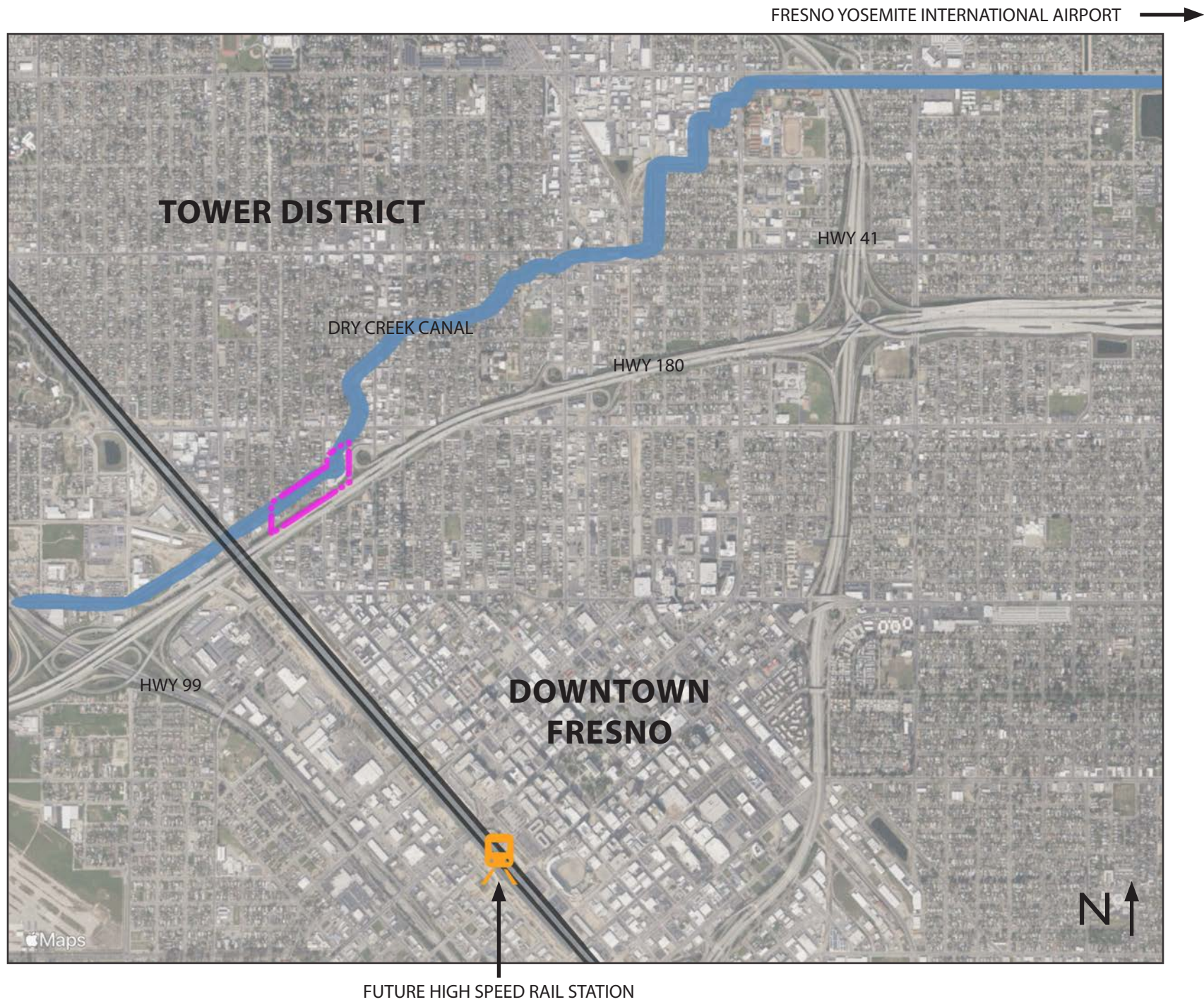
## GROUNDWATER RECHARGE

The passing of the **Sustainable Groundwater Management Act (SGMA)** in 2014 mandates and provides financial assistance for local authorities to fund groundwater recharge efforts. **Groundwater recharge** is a critical component of our state's efforts toward drought tolerance and climate resiliency. Successful groundwater management will help: improve water supply resilience, prevent dry wells, reduce land subsidence that can damage infrastructure, and improve water quality conditions.



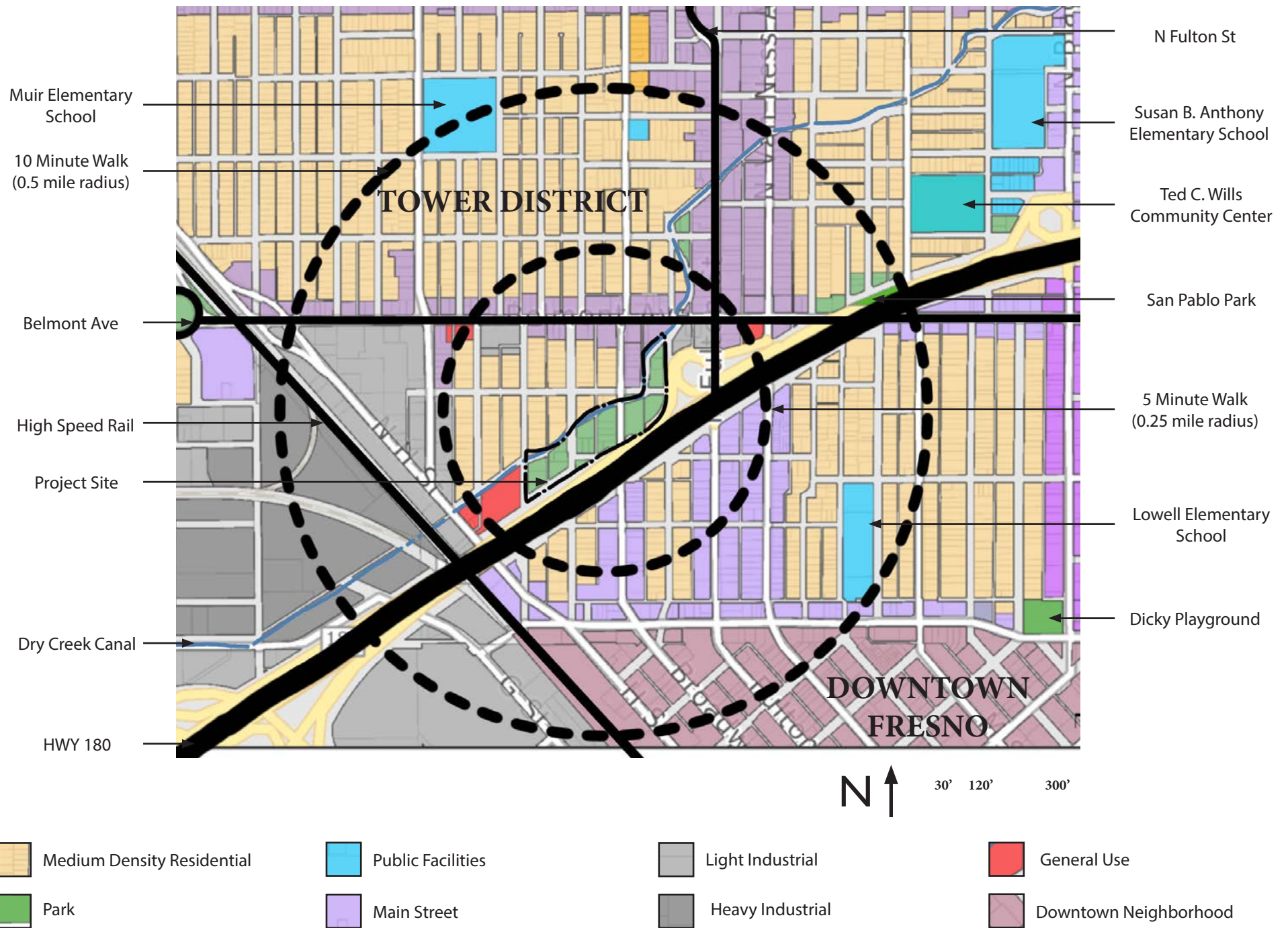


# URBAN CONTEXT





# PEDESTRIAN SHED





# HISTORY OF THE TOWER DISTRICT

“The Tower District is an older, central city neighborhood in Fresno, California. In the 1880’s what is now the Tower District was quite a far piece from downtown Fresno, nearly 45 minutes away by a good horse and buggy and an hour by foot. The district emerged in the early 1900’s as a streetcar suburb of a rapidly growing Fresno. By the 1940’s its namesake (the Tower Theatre) had been built and the district had evolved into a dense, diverse, thriving neighborhood.

Although it struggled at times during the post World War II years, it never declined into complete abandonment and disrepair that many other older neighborhoods experienced during the same period. In the late eighties the Tower District began a bit of a renaissance, spurred mainly by an active citizenry, the draw of unique, pedestrian-friendly neighborhoods, and the lively, pedestrian-oriented atmosphere of the commercial core of the neighborhood along Olive Avenue. This renaissance spawned the creation of the Tower District Specific Plan which was adopted by city ordinance in 1991.

Today the commercial center of the Tower District serves as Fresno’s predominant arts and entertainment district. Unique for its art deco architecture and its pedestrian oriented design, its character is set by entertainment uses and restaurants, including cafes, nightclubs, performing arts facilities, theaters, bakeries, delis, and a wide variety of specialty retail establishments selling used books, designer clothing, gourmet foods, and other goods. Immediately adjacent to the commercial core is a dense arrangement of offices, apartments, and single-family homes.

The Tower District is one of the most diverse neighborhoods in Fresno. The unique mix includes dozens of ethnic groups, families with children, singles, retired persons, students, artists, white-



collar workers, blue-collar workers, and a broader spectrum of household incomes than anywhere else in the city of Fresno.

This diversity is refreshing in a world that is often segregated along ethnic and economic lines. The amenities in the neighborhood draw people with choice who otherwise would live on the suburban fringe. The broad spectrum of housing types—ranging from granny flats, townhouses, and apartments to small bungalows and mansions—make the neighborhood available to all different economic strata and families at all stages of life.”

-Tower District Preservation Association



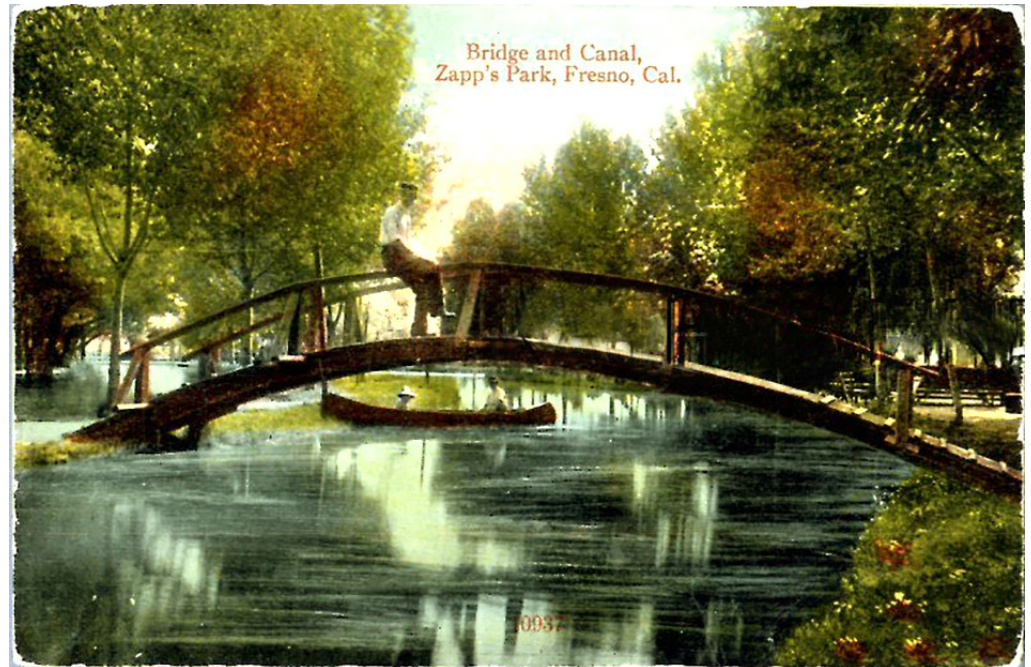
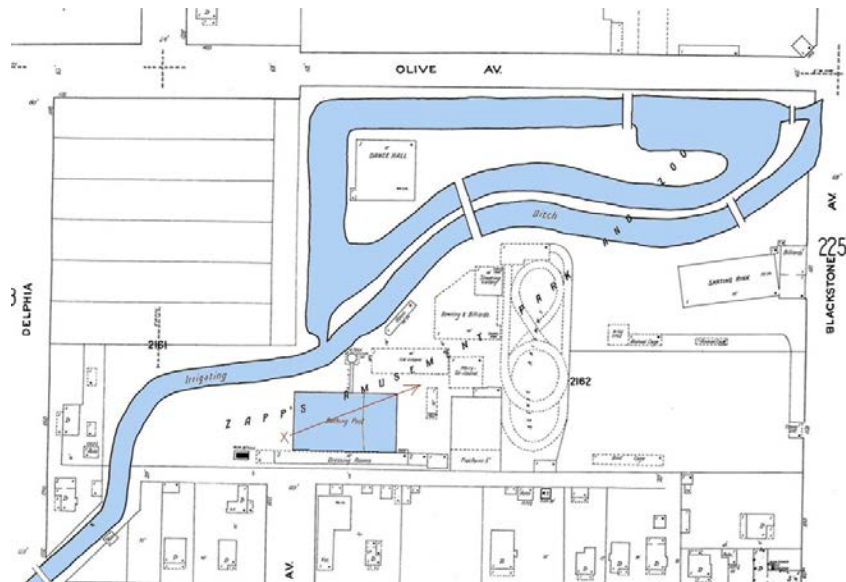
# FRESNO'S HISTORIC ZAPP'S PARK

Zapp's Park (1904-1917)

In 1904, John Zapp began mining sand for builders and brickmakers along Dry Creek canal on his father-in-law's ranch. The sand pits he excavated filled with canal water, forming shallow lakes. Before long, families with children were attracted to the cool waters, seeking relief from the scorching Valley heat. Zapp, himself an orphan, saw an opportunity to do something for Fresno's children, he later told the Fresno Republican.

He dug a long circular channel along Dry Creek, creating an island connected to the "mainland" by arching bridges. Before long, Zapp and his wife, Leota Burnside Zapp, had transformed alfalfa fields into a 17-acres amusement complex. Attractions included a large swimming pool with diving platforms, picnic areas, fishing ponds and a tree-lined boating lagoon which became a magnet for sweethearts, especially on moonlit evenings.

The Zapps' dreams began to fade around 1916 when John fell ill. John asked the city to take over the park, but no action was taken, and it closed in early 1917. The land is now occupied by homes, commercial buildings, and Susan B. Anthony Elementary School (where a mural of Zapp's park is now displayed). The only remnant of the park is the thing that gave it birth: Dry Creek canal, which still courses through the neighborhood.





# STAKEHOLDERS + USERS



## CLIENTS

City of Fresno  
Fresno Irrigation District (FID)

## USERS

Local residents  
Lowell Elementary School  
Muir Elementary School  
Susan B. Anthony Elementary School  
Webster Elementary School  
Tehipite Middle School  
Fulton School  
J.E. Young Academic Center  
Fresno High School  
Fresno Cycling Club

## STAKEHOLDERS

Local, regional, and state government organizations  
Fresno Metropolitan Flood Control District (FMFCD)  
Tree Fresno  
California Native Plant Society (CNPS) Sequoia Chapter  
Kings Water Alliance  
Water Blueprint for the San Joaquin Valley Advocacy Fund  
Water Blueprint for the San Joaquin Valley Education Fund  
Kings River Conservancy  
Tulare Basin Watershed Partnership  
Central California Environmental Justice Network  
The Latino Equity Advocacy and Policy (LEAP) Institute  
Fresno Audubon Society  
Tulare Basin Watershed Partnership  
California Water Alliance  
US Green Building Council Central California Chapter  
Fresno County Bicycle Coalition  
City of Fresno's Bicycle and Pedestrian Advisory Committee (BPAC)

# DEMOGRAPHICS + ENVIRONMENT

## Tower District Neighborhood Data

**Population**  
12,545

**Race**  
64% Hispanic  
20% White  
14% Black

**Age**  
29% 18 & under  
42% 19-64  
13% 65 & older

**Median Age**  
36

**Median Household Income**  
(National average = \$70,961)  
\$50,855

**College Graduates**  
(National average = 34%)  
21%

**Crime Score**  
(National average = 4/10)  
Higher than average = 6/10

**Average Summer High**  
97°F

**Average Winter Low**  
40°F

**Average Rainfall**  
11.5"/year

**Environmental Comfort** | Indicator: Urban Heat Island Severity  
Source: The Trust for Public Land, 2020



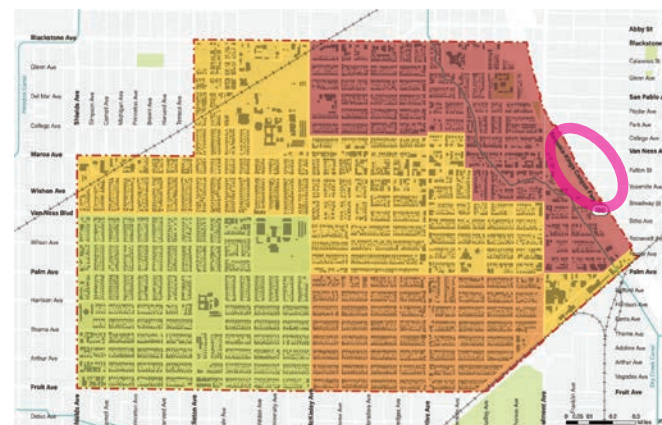
Within cities, areas with more buildings and pavement and fewer trees are especially prone to heat. This is known as the "urban heat island effect."

**Active Lifestyle** | Indicator: Walkability  
Source: Walkscore



"Walkscore" has come to be used as a handy measure of walkability. It takes into account both the number of destinations in an area, and the number of available travel routes.

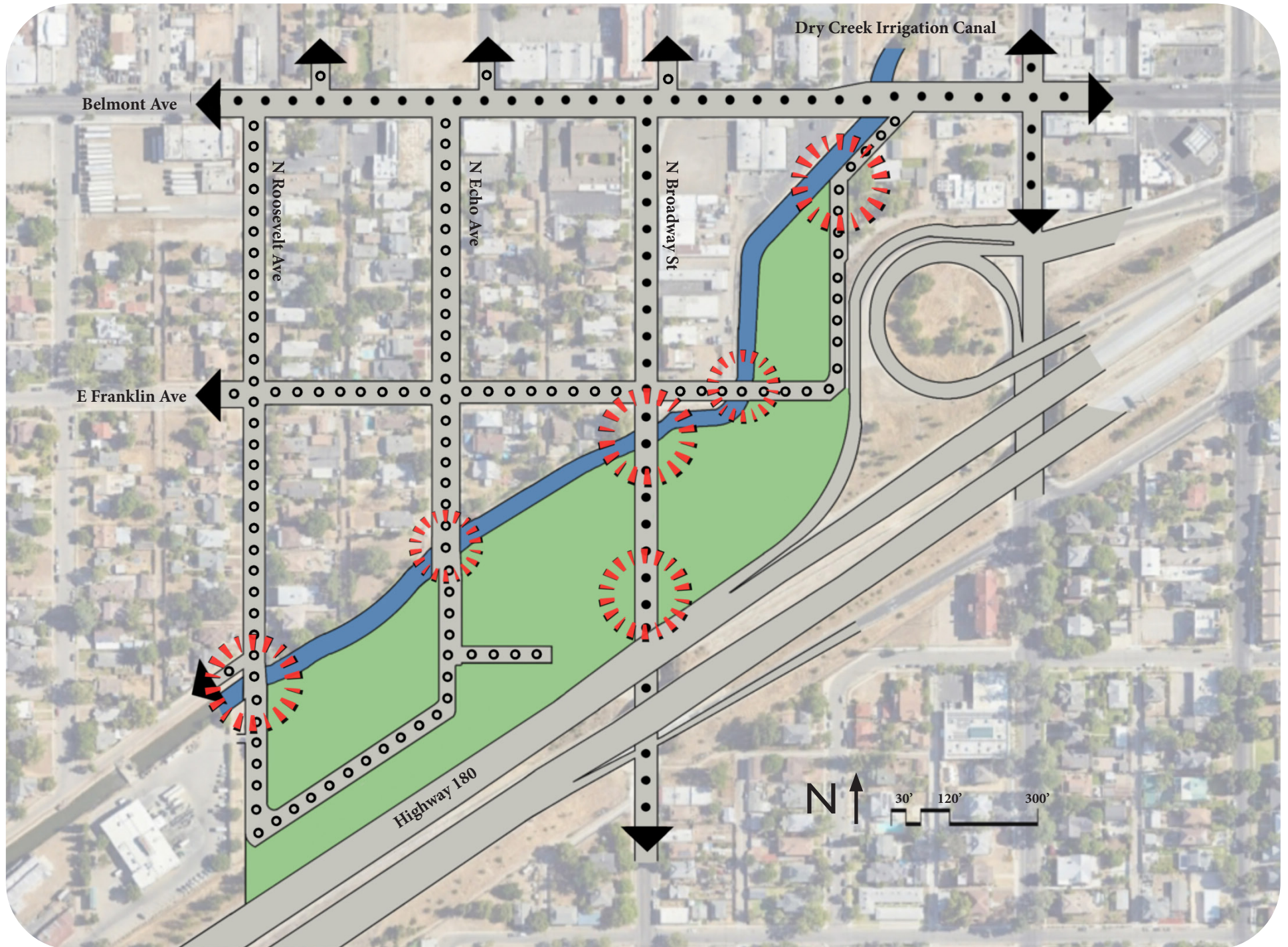
**Air Quality** | Indicator: Diesel Particulate Matter  
Source: CalEnviroScreen 4.0



- Contains many chemicals that are harmful to health.
- Reach deep into the lung, and can contribute to health problems including eye, throat and nose irritation, heart and lung disease, and lung cancer.
- Children and the elderly are the most sensitive.

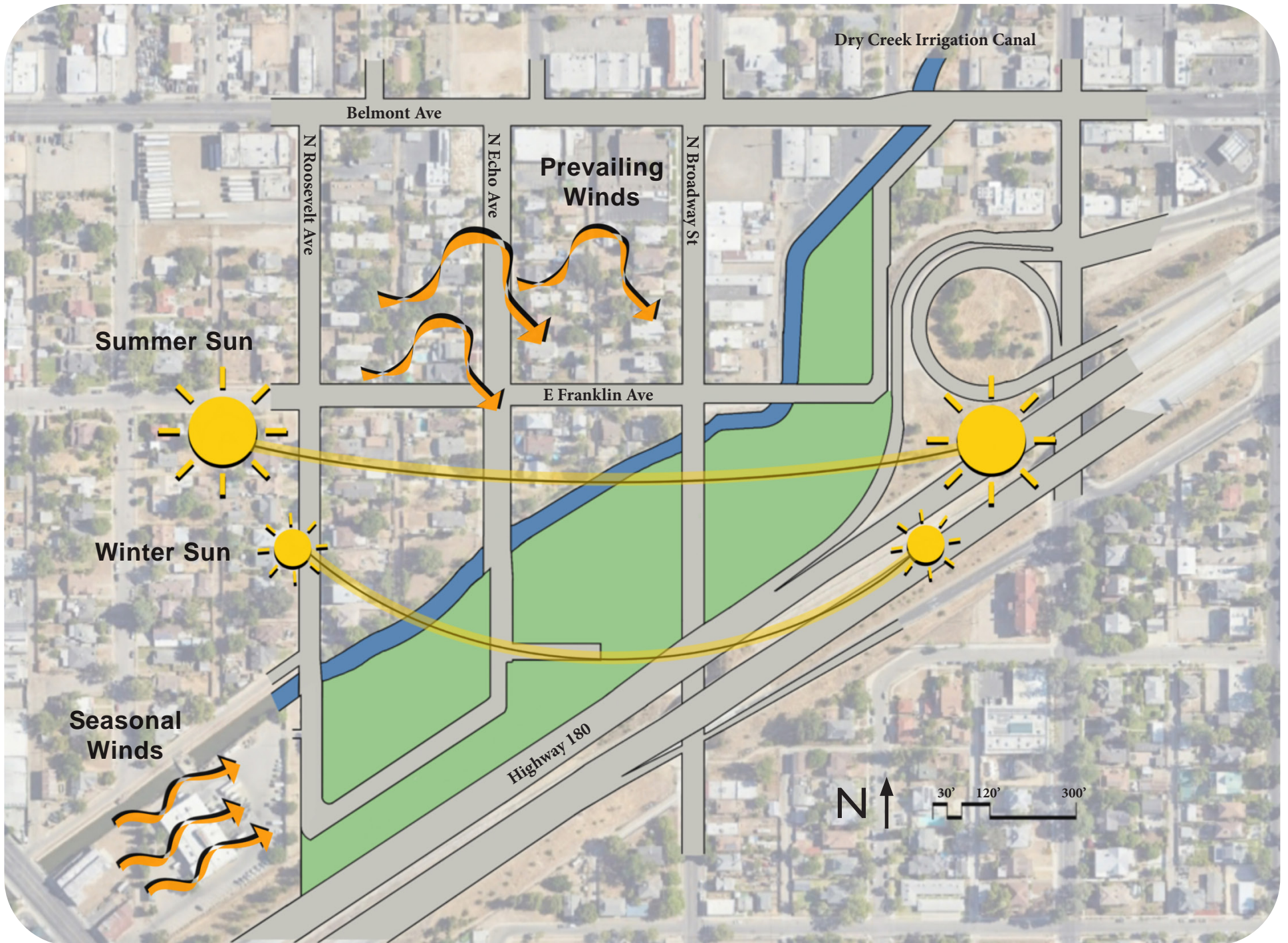


# SITE ANALYSIS: ACCESS + CIRCULATION



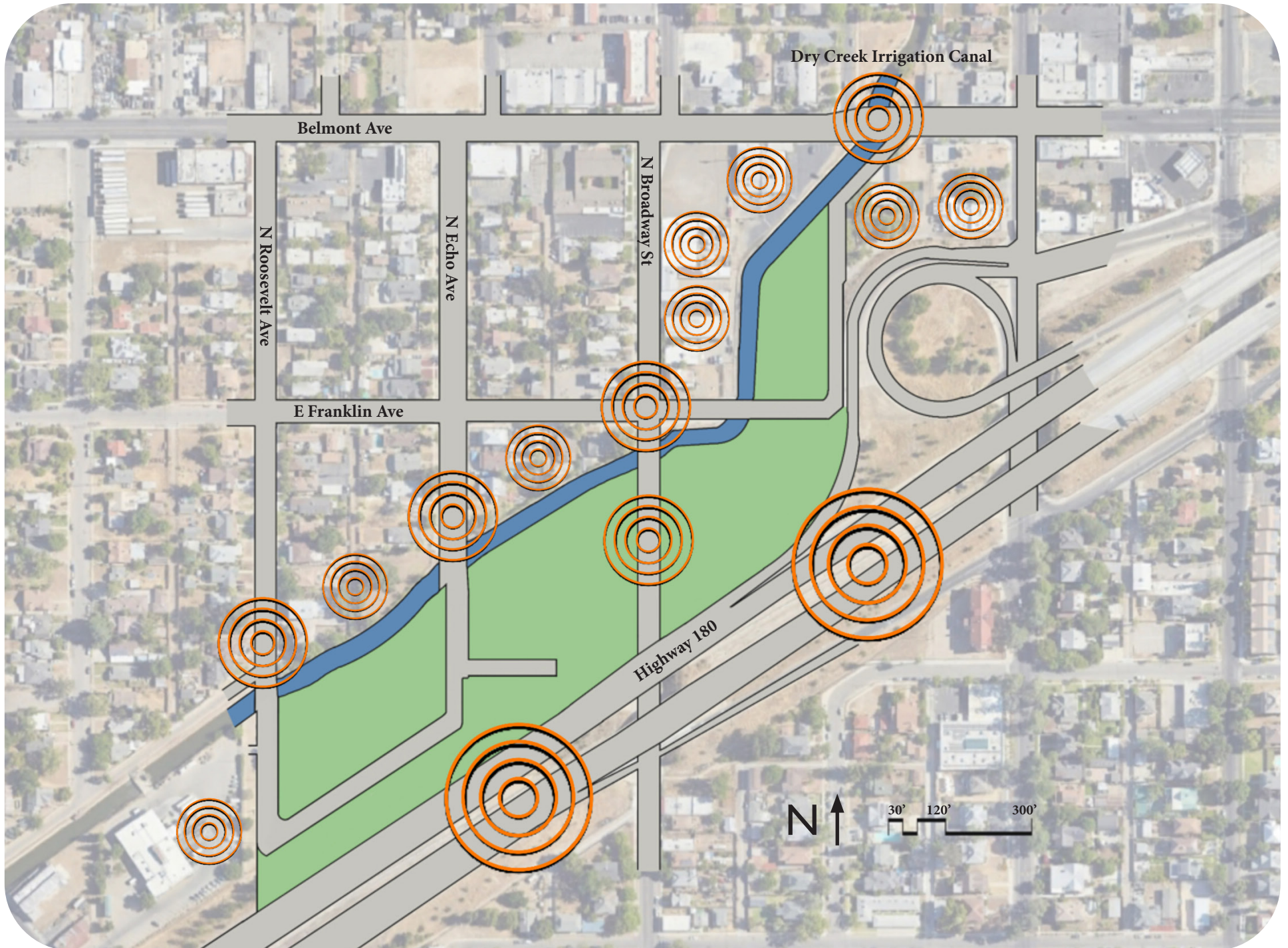


# SITE ANALYSIS: SOLAR + WIND



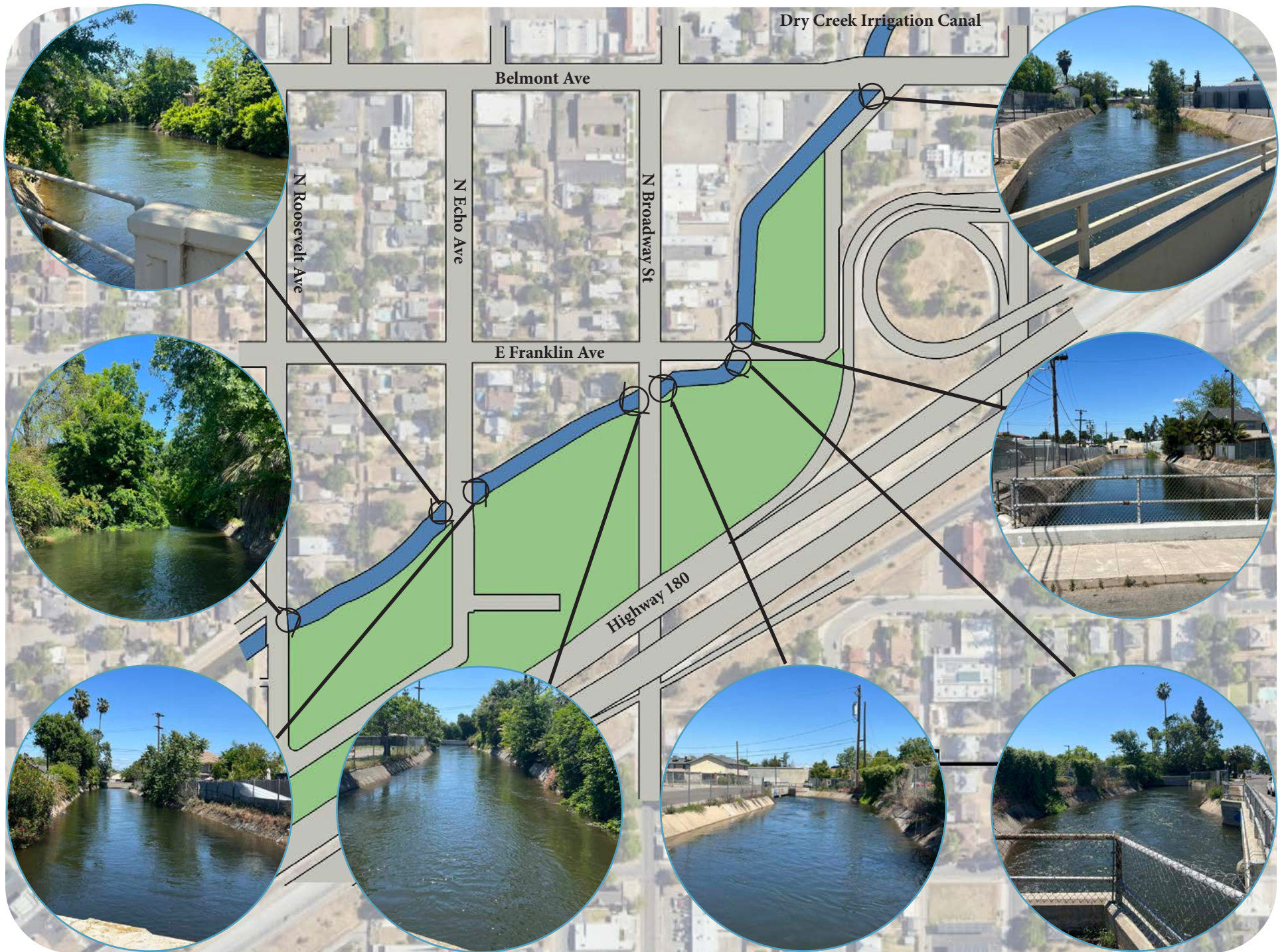


# SITE ANALYSIS: NOISE



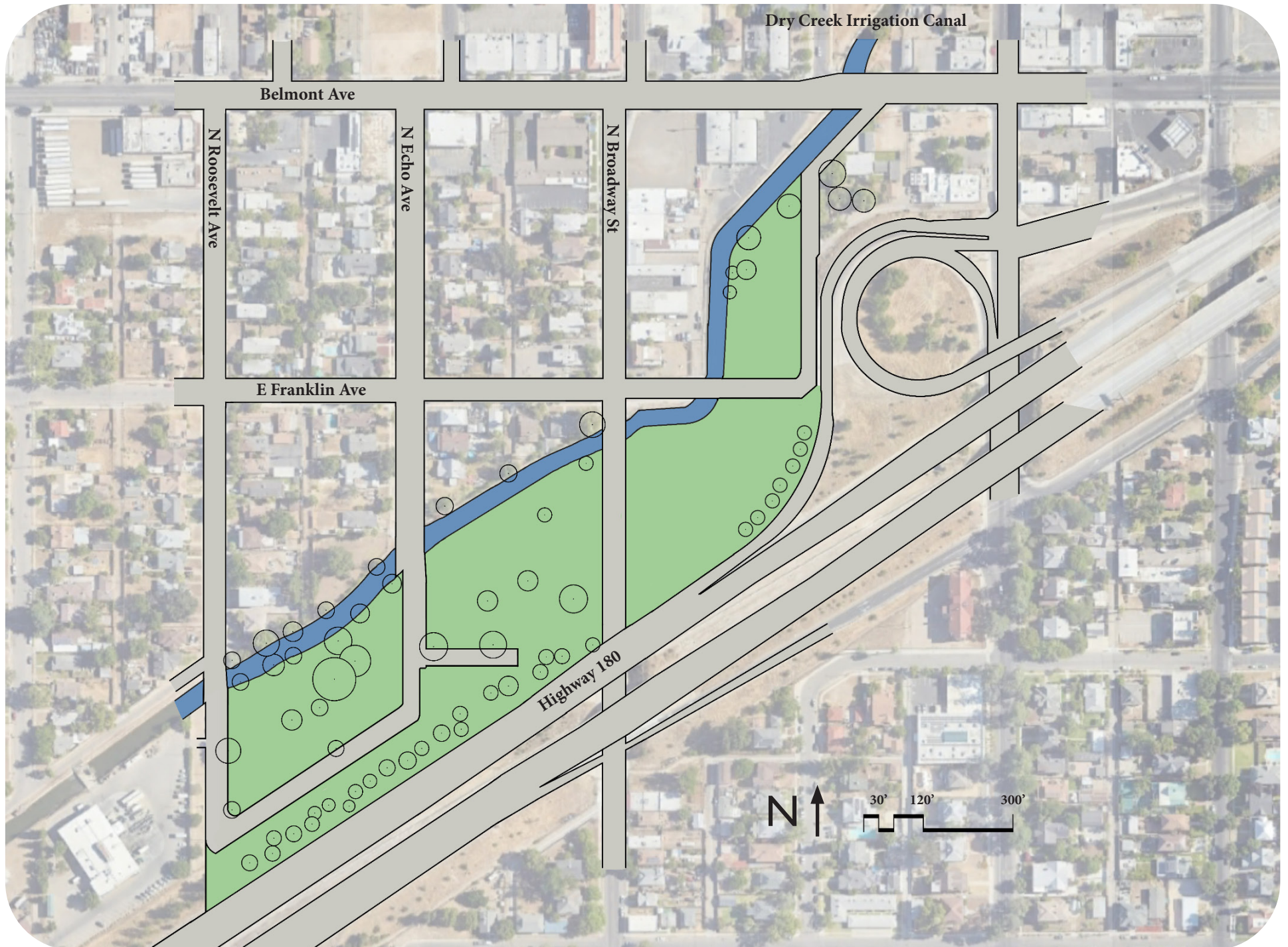


# SITE ANALYSIS: CANAL VIEWS



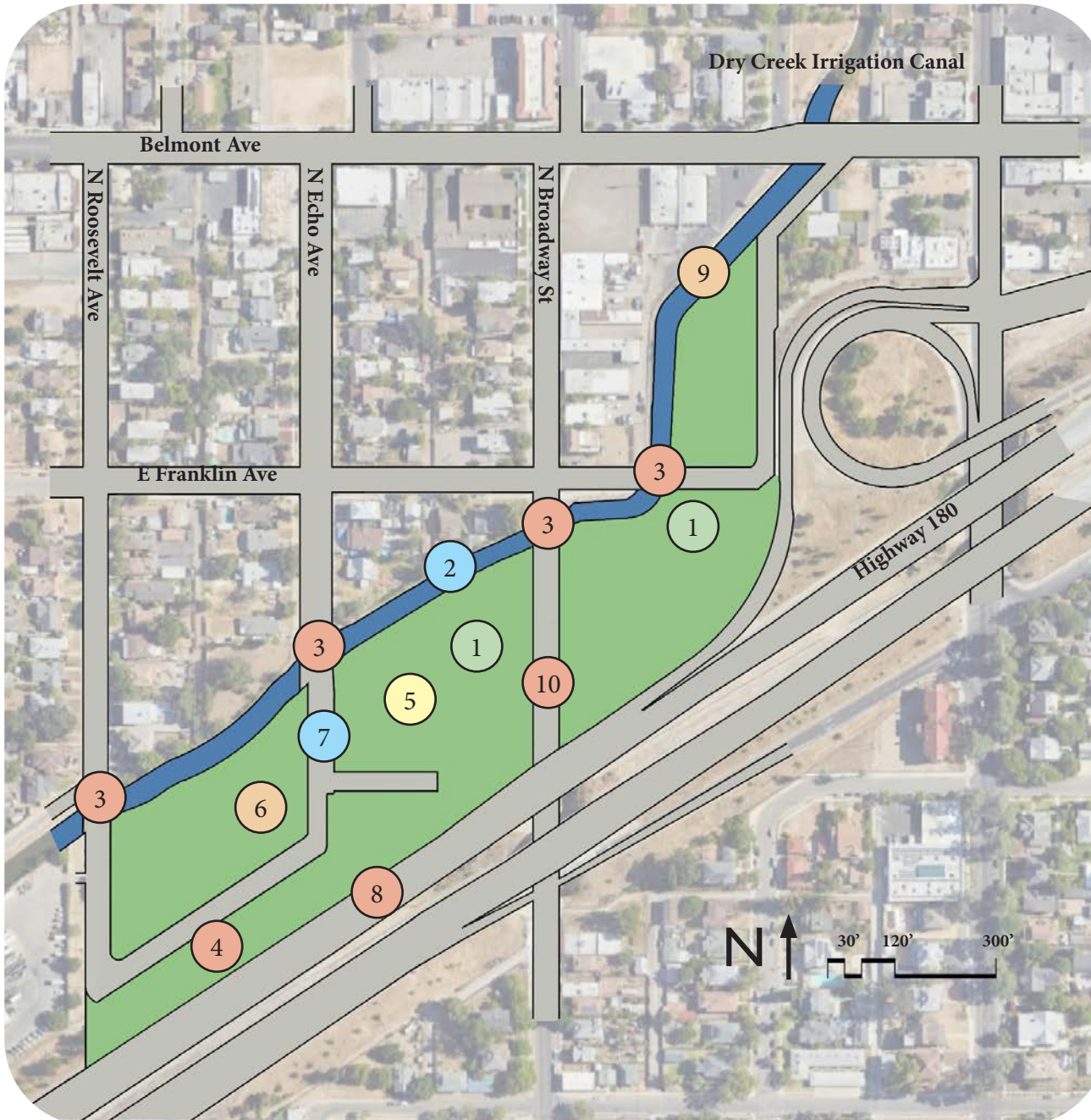


# SITE ANALYSIS: EXISTING TREES TO REMAIN





# OPPORTUNITIES AND CONSTRAINTS



## OPPORTUNITIES

- 1. LACK OF TREES + VEGETATION**  
Opportunity to create a more robust urban tree canopy with native trees and shrubs.
- 2. WATER**  
There is an opportunity to use canal water for irrigation, groundwater recharge, and recreational purposes.
- 3. CANAL OVERPASSES**  
The roads that overpass the canal are opportunities for public access and viewing platforms.
- 4. VEGETATION BUFFER**  
Opportunity to plant large trees and shrubs to create a highway buffer zone on embankment adjacent to highway.
- 5. OPEN SPACE**  
Large area with established trees is an opportunity for open space.
- 6. GROUNDWATER RECHARGE**  
Opportunity for groundwater recharge.
- 7. EXISTING ASPHALT STREETS ON SITE**  
Streets are no longer necessary on the site, there is an opportunity to remove asphalt.

## CONSTRAINTS

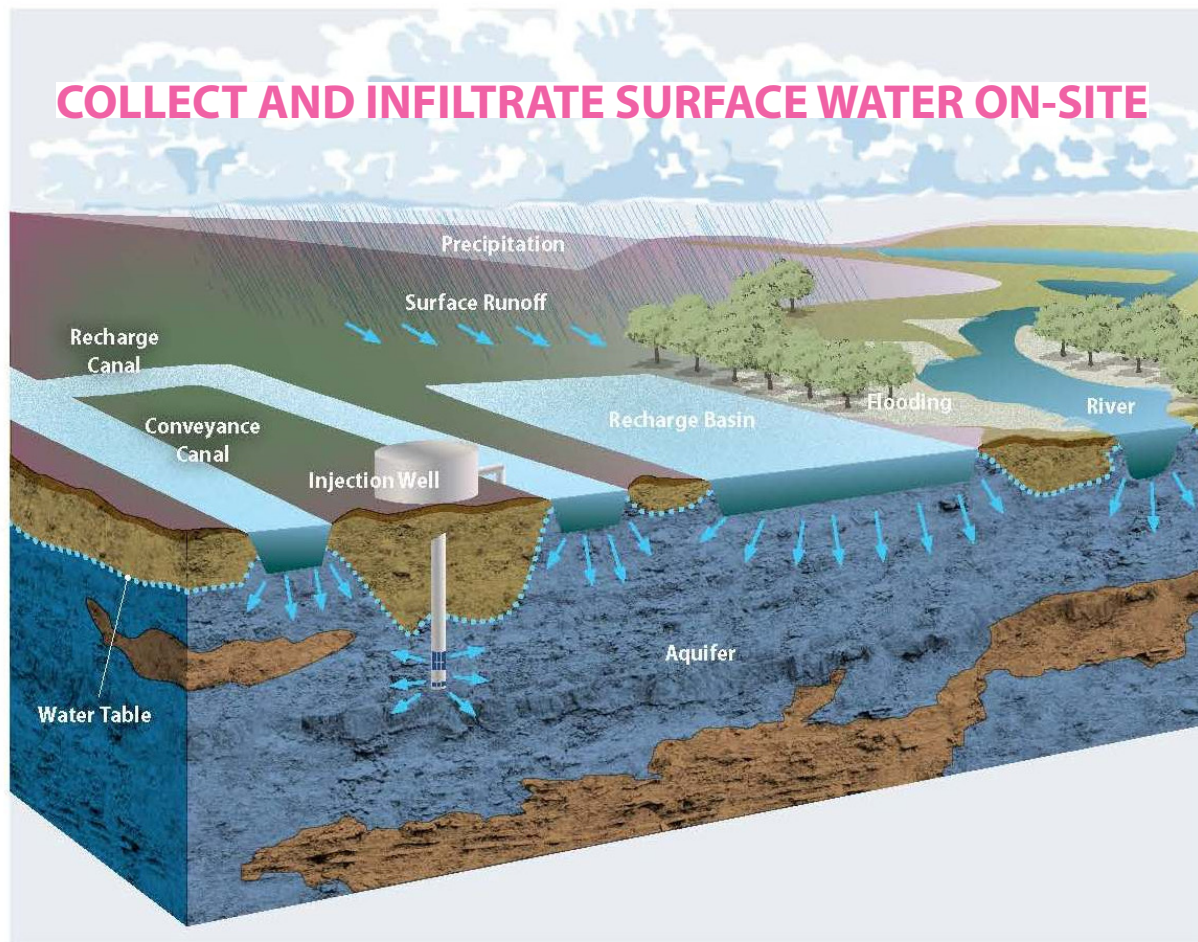
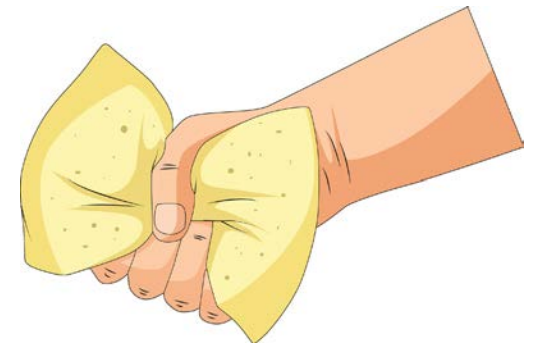
- 8. HIGHWAY**  
The highway adjacent to the site is noisy and pollutes the air. Additionally, the highway prevents pedestrian throughfare directly South of the site.
- 9. CANAL CONVEYANCE**  
The canal must retain its function as a conveyance channel for irrigation water delivery. Concrete jacket must remain.
- 10. N BROADWAY ST**  
N Broadway St bisects the site, preventing flow of trail system.



# DESIGN PHILOSOPHY

## 'SQUEEZING THE SPONGE'

My design philosophy, Squeezing the Sponge, emphasizes collecting and infiltrating surface water on-site. By "Squeezing the Sponge," my project aims to contribute to the effort to restore the aquifer by providing a substantial open space area with groundwater recharging capacity. Redirecting a fraction of water from the canal into a long meandering bioswale, to allow the water the opportunity to slow, spread, and infiltrate, while supporting the native flora and fauna.



### KEY IDEAS

WATER

EBB

FLOW

SPREAD

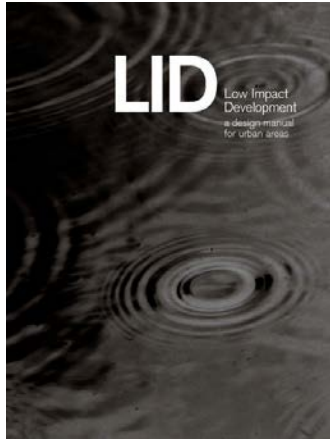
INFILTRATE

HOLD

RELEASE

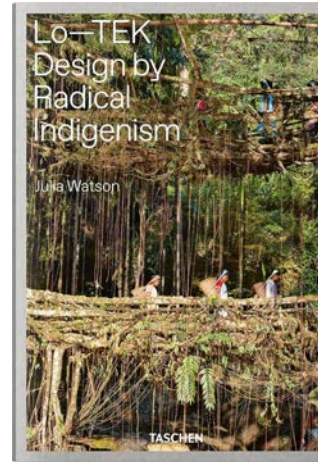
POROSITY

# DESIGN METHODOLOGY



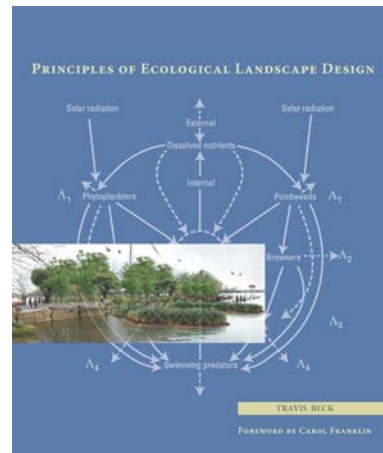
## 1. COOL

Recovering from “urban stream syndrome” and employing the watershed approach to slow, spread, and soak; supporting the vegetation and cooling the city by reducing the urban heat island effect.



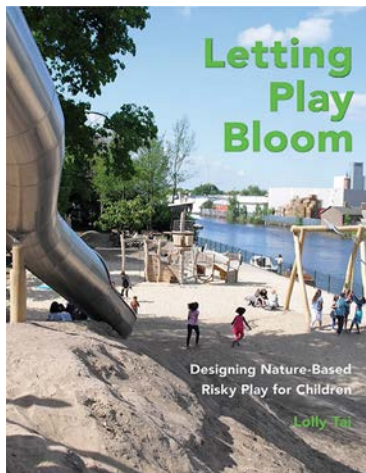
## 2. CONSERVE

Leveraging Traditional Ecological Knowledge (TEK) to solve design problems and conserve natural resources.



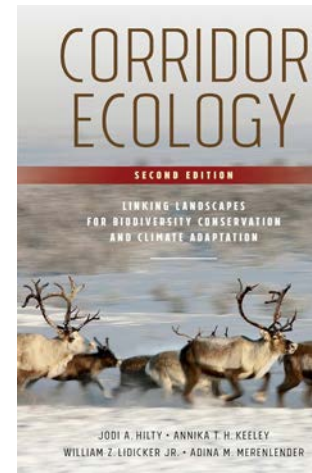
## 3. RESTORE

Developing landscape designs with an understanding of ecological systems to create sustainable, biogeographically appropriate, and highly functional landscapes.



## 4. PLAY

Creating stimulating and challenging nature themed playgrounds and play structures for children.



## 5. CONNECT

Connecting disparate populations through an ecological corridor.



# PROJECT GOALS & OBJECTIVES

## COOL MICROCLIMATE

- Expand the urban tree canopy
- Reduce impermeable surfaces
- Utilize available surface water on site

## CONNECT COMMUNITIES

- Connect adjacent communities
- Create opportunities for inter-community and inter-species connection

## CONSERVE NATURAL RESOURCES

- Low Impact Development (LID)
  - Groundwater recharge
  - Sustainable stormwater management

## ENCOURAGE PLAY

- Create accessible open space for recreation
- Provide nature-based play and a splashpad

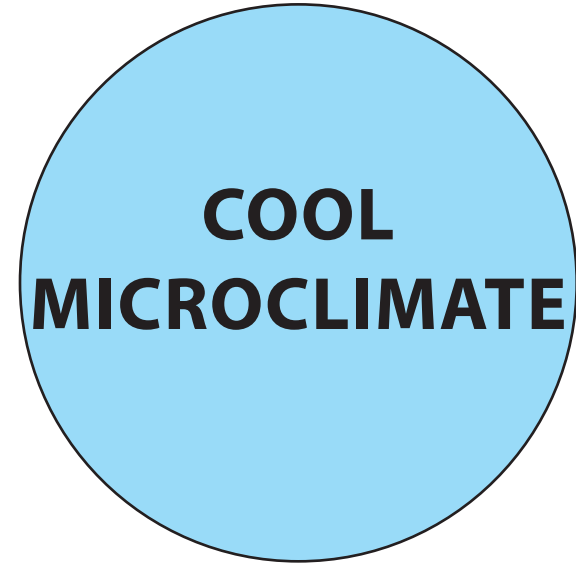
## RESTORE WILDLIFE HABITAT

- Plant California/San Joaquin Valley native flora
- Restore native riparian woodland ecosystem



# PROGRAM ELEMENTS

Reflective White Aggregate on Rooftops



Splash Pad



Shady Lawn





# PROGRAM ELEMENTS

Bioswale



Rain Water Harvesting Shade Pavilion



Permeable surfaces





# PROGRAM ELEMENTS

Expand the tree canopy with native trees



**RESTORE  
WILDLIFE  
HABITAT**

Pollinator meadow/garden





# PROGRAM ELEMENTS

Music/Sound Garden



Natural Play Structures



Hiking and Biking Trail





# PROGRAM ELEMENTS

Fruit-bearing Grove



BBQ + Picnic Area



Informational and Historical Signage





# PROJECT PRECEDENT



## LA Riverfront Greenway Phase II Studio MLA

The Los Angeles Riverfront Park Phase II converted a maintenance-only access road into a verdant, multipurpose linear park. The trail provides much-needed river access and recreational opportunities for the community, treats storm water, improves air quality, increases habitat, and provides a beautiful river edge in what was an unused maintenance corridor.

### CLIENT

City of Los Angeles Department of Recreation & Parks

### SIZE

1.12 miles

### LOCATION

Los Angeles, California

### COMPLETED

2016





# PROJECT PRECEDENT



## Waterline Park Lab D+H Shanghai

The Waterline Park activates the site by creating a variety of interactive water features for public enjoyment.

CLIENT  
Wide Horizons

SIZE  
10 acres

LOCATION  
Chengdu, Sichuan, China

COMPLETED  
In Progress  
(Phase I and II completed)





# PROJECT PRECEDENT

## Tujunga Wash Greenway and Stream Restoration Project Mountains Recreation & Conservation Authority

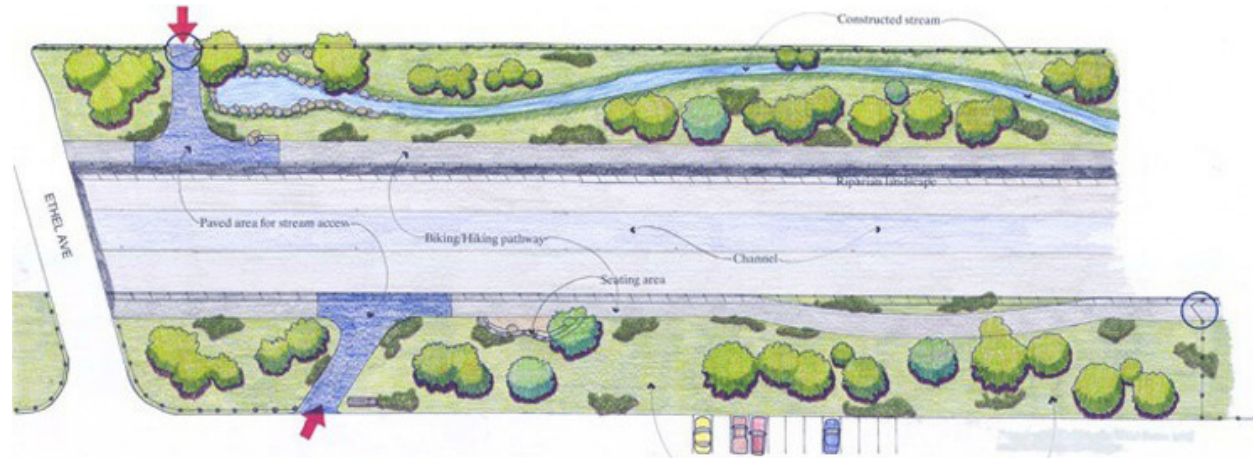
“The Tujunga Wash Greenway and Stream Restoration Project is a prototype to reintroduce riparian habitat throughout the city. A tributary of the Los Angeles river, the Tujunga Wash is a 13-mile urban stream. Prior to channelization of the wash for flood control in the 1950s, the area was an important zone for groundwater recharge. The 1.2-mile Greenway project transformed the once inaccessible right-of-way along the concrete box channel into an ecologically productive greenway and riparian system 10 feet above the channel bottom. A rich palette of native plantings create wildlife habitat along both banks of the concrete wash. This verdant oasis offers a tranquil experience for visitors using the recreational pathways and seating areas, providing a strong contrast from the urban experience in the immediate vicinity.” Landscape Performance Series

CLIENT  
Los Angeles County Flood Control District

SIZE  
1.2 miles (~16 acres)

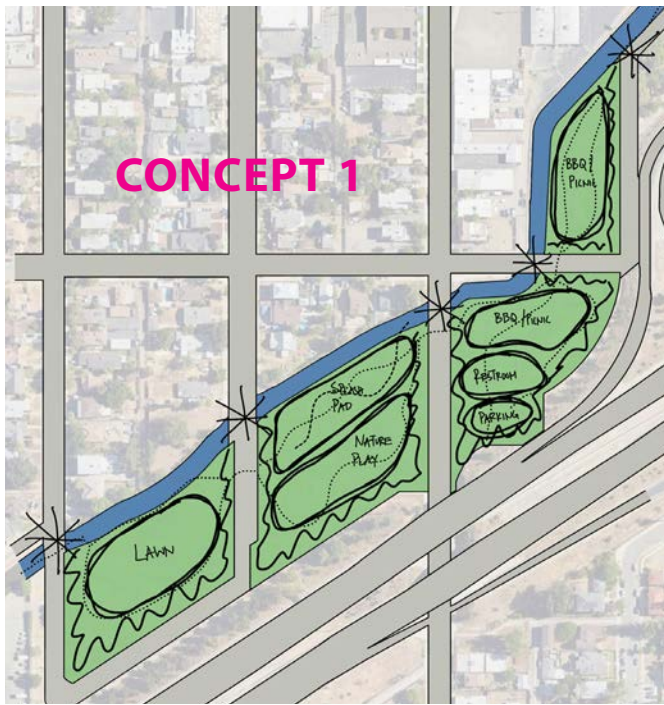
LOCATION  
Los Angeles, California

COMPLETED  
2007





# CONCEPTUAL DESIGN PHASE

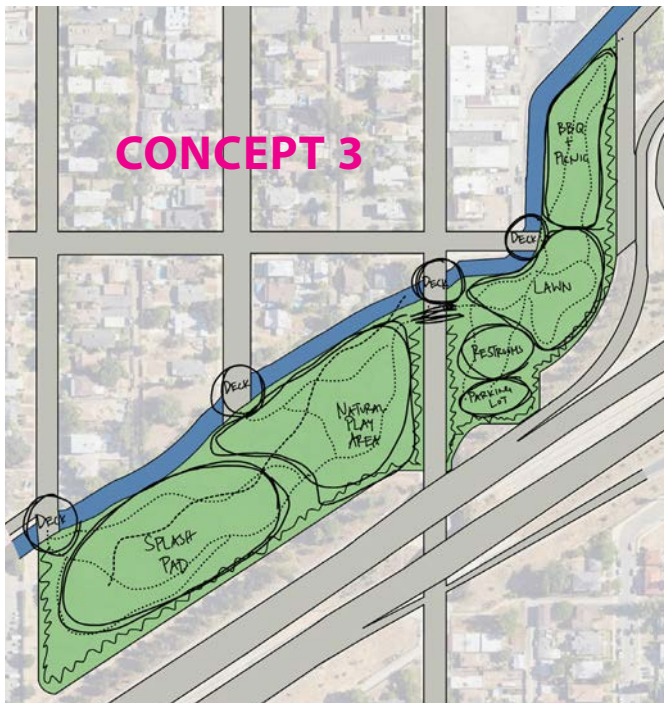


## PROS

- Northern BBQ area not on a main road, quieter more privacy
- Public restroom easily accessible from parking lot and bbq areas
- Active recreation elements grouped in central location with passive recreation areas flanking them

## CONS

- Southern BBQ area on main road
- Retaining the existing roads through the site breaks up the site unnecessarily and retains impermeable asphalt



## PROS

- Semi-secluded trails, garden, and BBQ area
- Public restroom easily accessible from parking lot, bbq, and lawn areas
- Bringing surface water throughout the site better aids in creating a cooler microclimate that supports native wildlife

## CONS

- Splash pad far from restrooms still
- Parking lot too small



## PROS

- Semi-secluded trails and garden area
- Public restroom easily accessible from parking lot, bbq, and lawn areas
- Bringing surface water throughout the site better aids in creating a cooler microclimate that supports native wildlife

## CONS

- BBQ area on main road, exposed to noise and traffic
- Splash pad and nature play are far away from restrooms, not ideal for young children



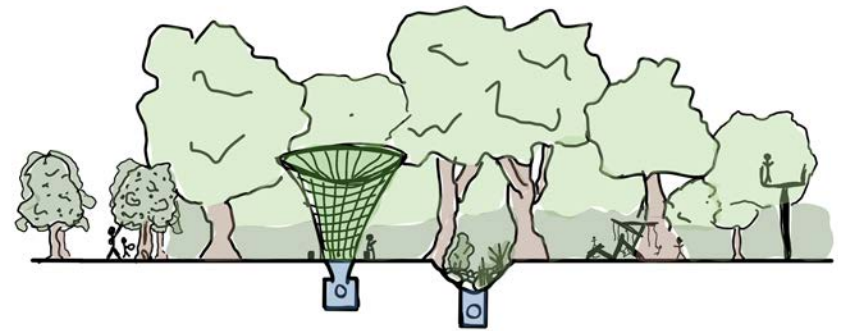
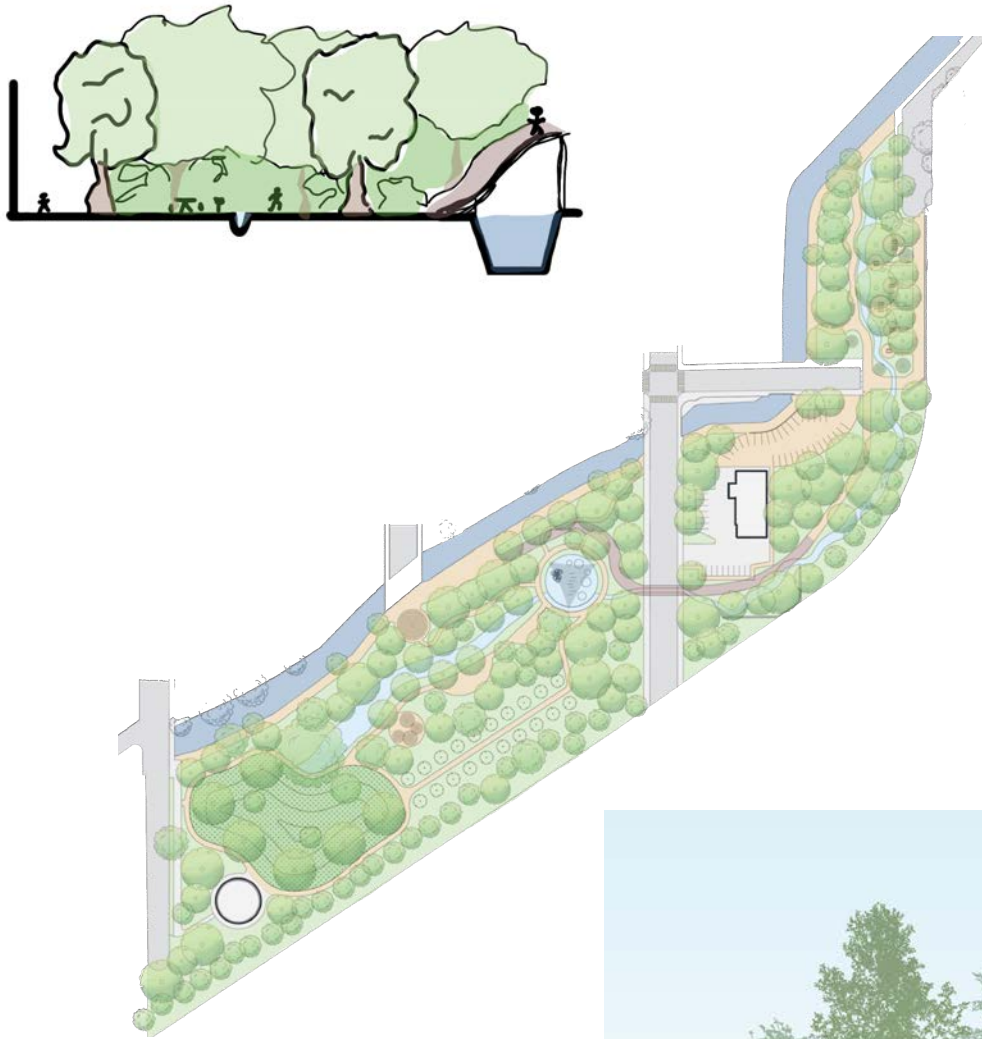
## PROS

- Semi-secluded trails, garden, and BBQ area
- Community Center easily accessible from main parking lot and Broadway St
- Bringing surface water throughout the site in a bioswale that flows into a constructed wetland better aids in creating a cooler microclimate that supports native wildlife

- Providing a neighborhood market + cafe will attract more people to the wetland and provide additional public restrooms



# SCHEMATIC DESIGN PHASE

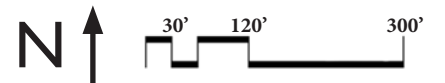




# ILLUSTRATIVE PLAN

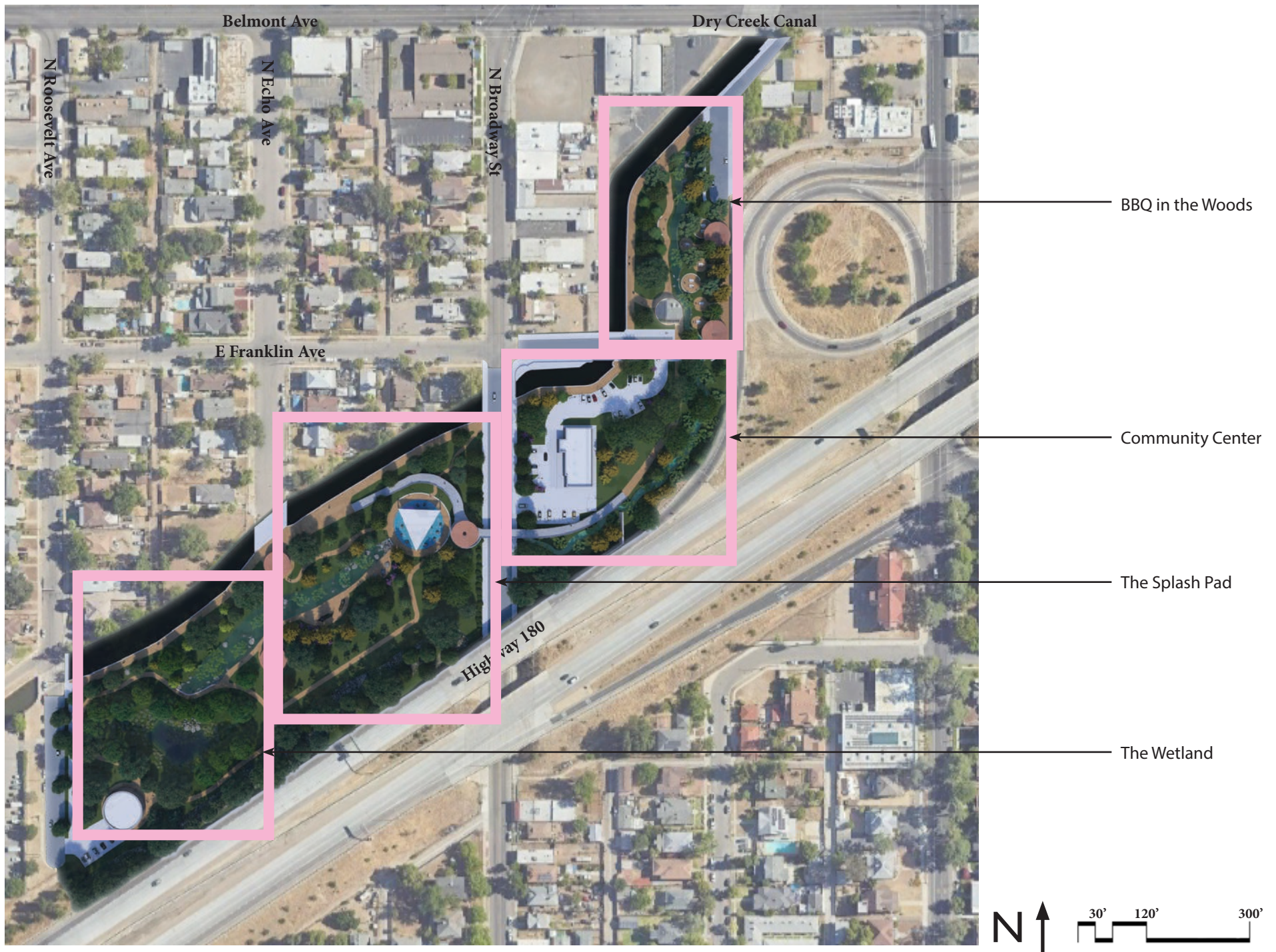


- Dry Creek Canal
- BBQ + Picnic Area
- Rainwater Harvesting Pavilion
- Parking Lot
- Community Center
- Splash Pad
- Pedestrian + Bicycle Bridge
- Bioswale
- Natural Play Areas
- Citrus Grove
- Shady Lawn
- Constructed Wetland
- Grocery Store + Cafe



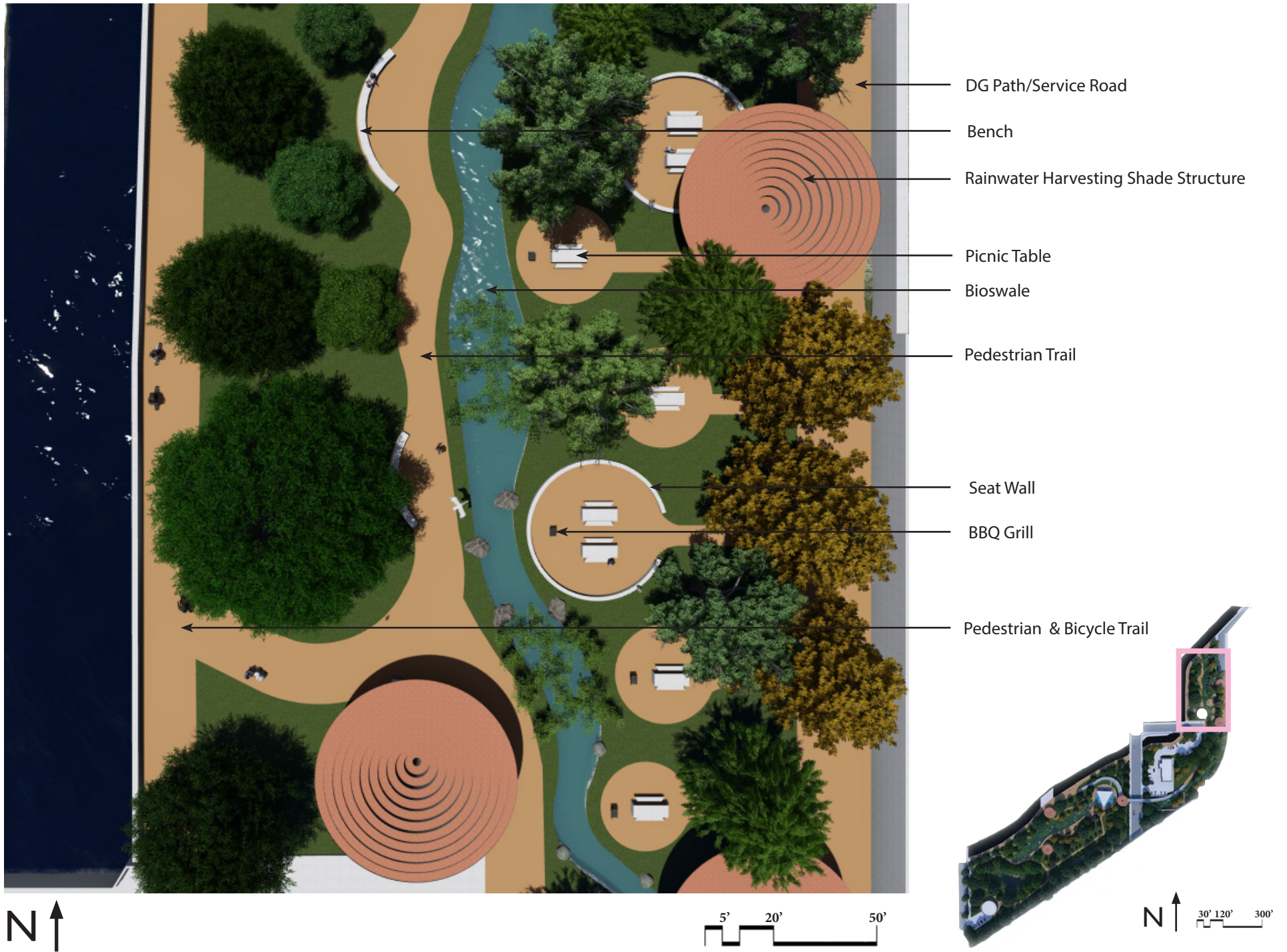


# ILLUSTRATIVE PLAN ENLARGEMENT AREAS



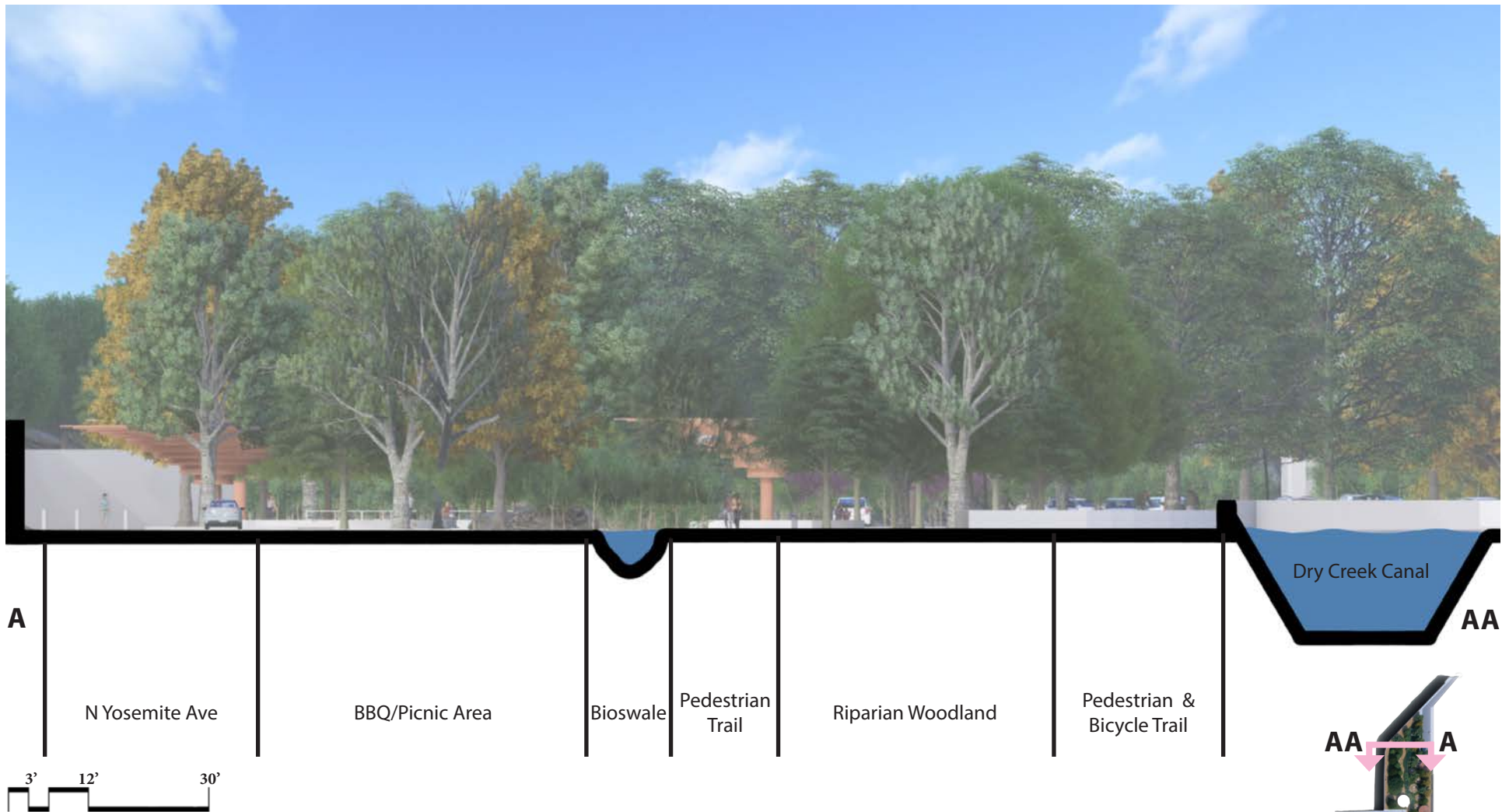


# ENLARGEMENT: BBQ IN THE WOODS

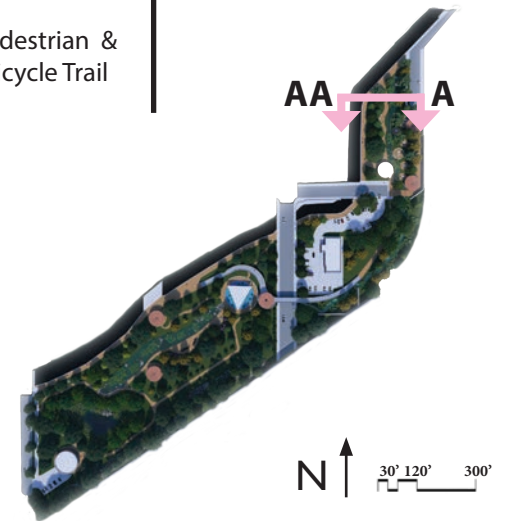




# SECTIONAL ELEVATION: BBQ IN THE WOODS

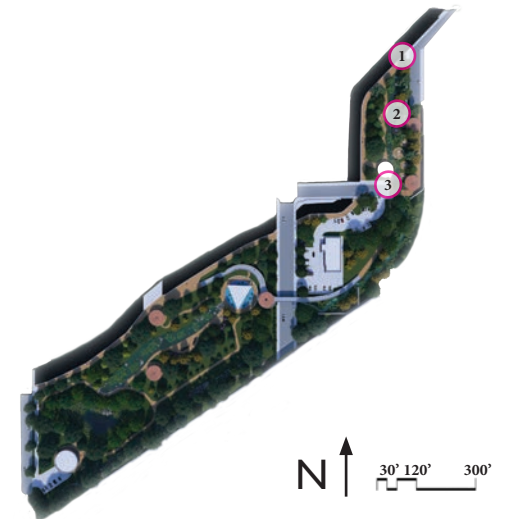


Composed of circular picnic areas set on decomposed granite with concrete picnic tables, rainwater harvesting shade structures made from corten steel, and concrete seating walls amongst lush native trees. This space offers park users a verdant and peaceful setting to gather with friends and family. The natural creek bed is lined with rocks, boulders, and riparian plants including willow trees which will cool the environment while also providing habitat for wildlife.





# PERSPECTIVES: BBQ IN THE WOODS





# PLANT PALETTE: OVERSTORY

*Platanus racemosa*



*Fraxinus latifolia*



*Alnus rhombifolia*



*Quercus lobata*



*Juglans hindsii*



*Salix gooddingii*



*Salix lasiolepis*



*Sambucus mexicana*



*Acer negundo*



*Populus fremontii*



*Cephalanthus occidentalis*



*Cercis occidentalis*



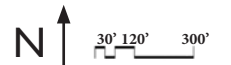
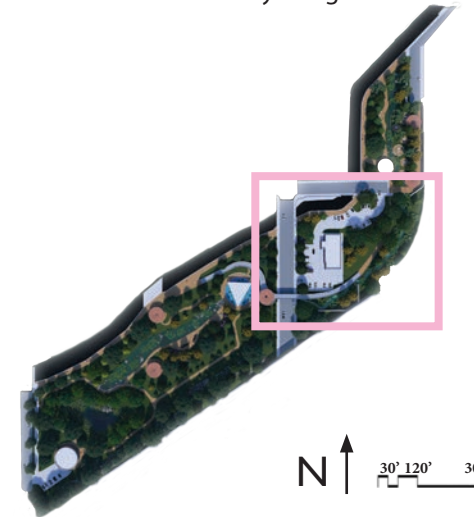


# ENLARGEMENT: COMMUNITY CENTER



- Dry Creek Canal
- DG Path/Service Road
- Bioswale
- Community Center

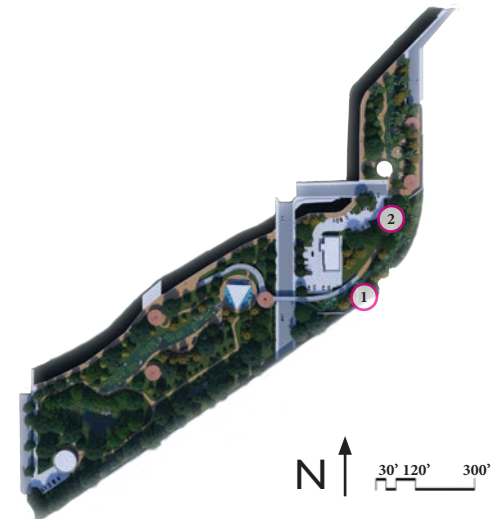
Broadway Bridge





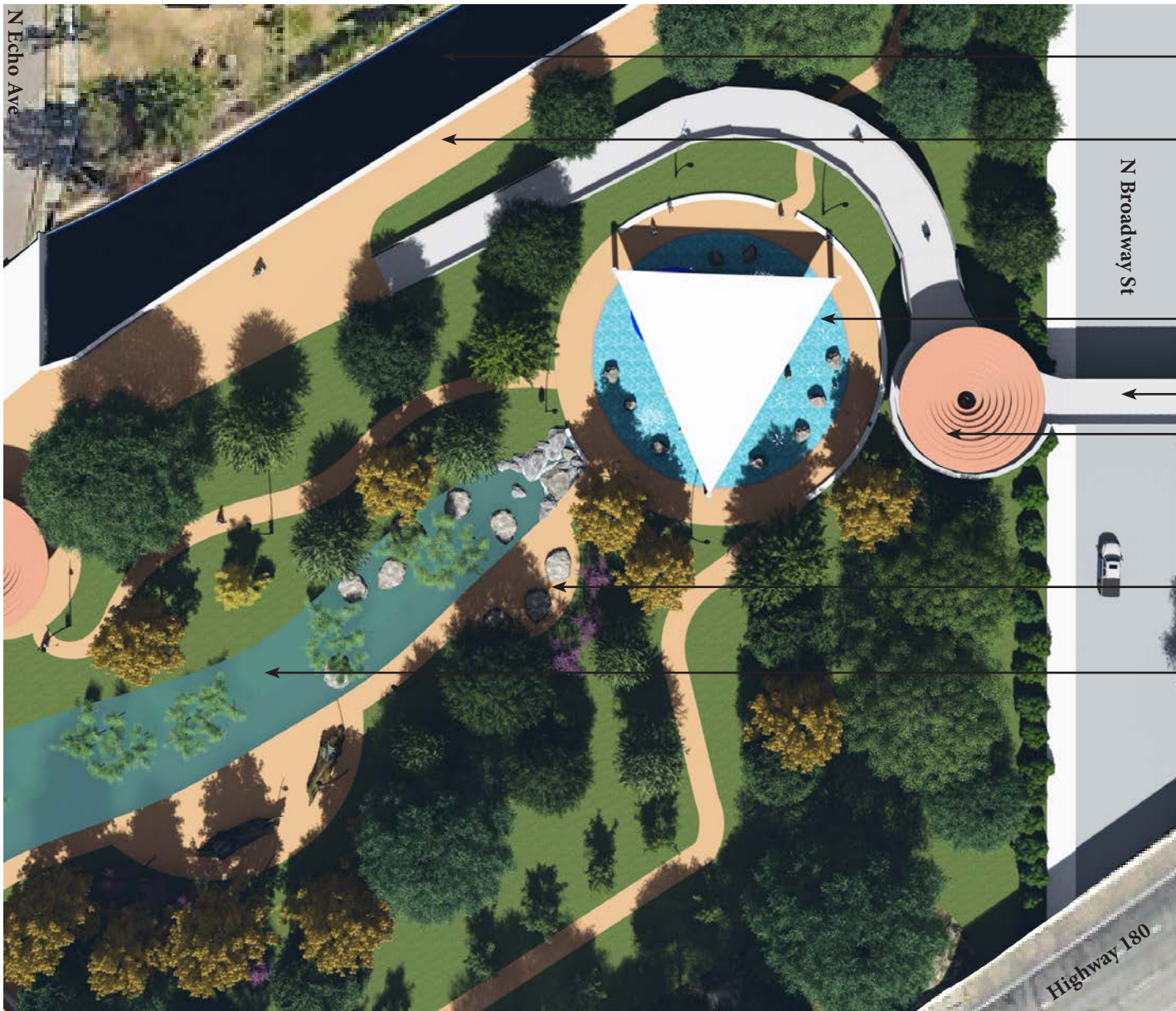
# PERSPECTIVE: COMMUNITY CENTER

The Community Center repurposes a former church into a public center. The creek bed meanders behind the building and under the proposed Broadway bridge, which would support pedestrian and bicycle traffic over Broadway street and into the west side of the park.

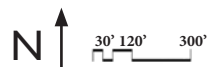
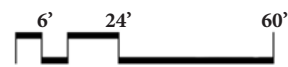




# ENLARGEMENT: SPLASH PAD



- Dry Creek Canal
- Pedestrian + Bicycle Trail
- N Broadway St
- Splash Pad
- Broadway Bridge
- Shade Pavilion
- Nature Play Area
- Bioswale

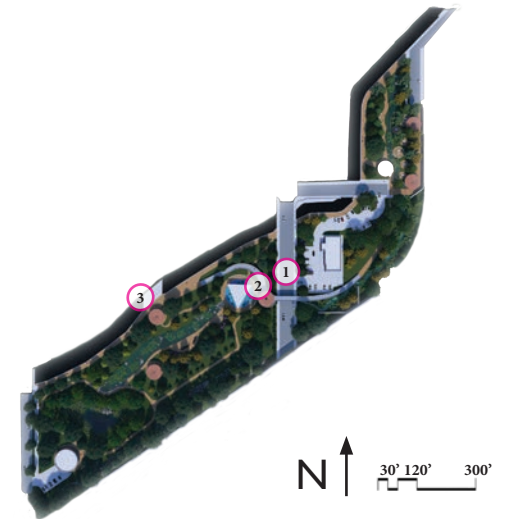




# PERSPECTIVE: SPLASH PAD + ECHO ST ENTRANCE



The oversized Splash Pad, which is adjacent to a bioswale fed from the splash pad runoff combined with bioswale water from the east side of the site carried under the site through a pipe. Adjacent to the site are natural play areas, and to the South a linear citrus orchard.

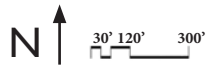
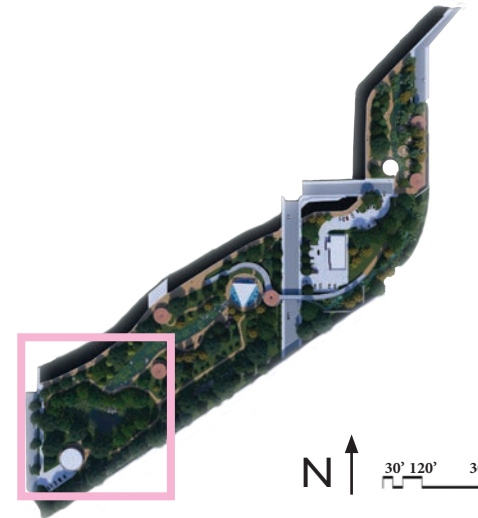
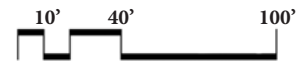




# ENLARGEMENT: THE WETLAND

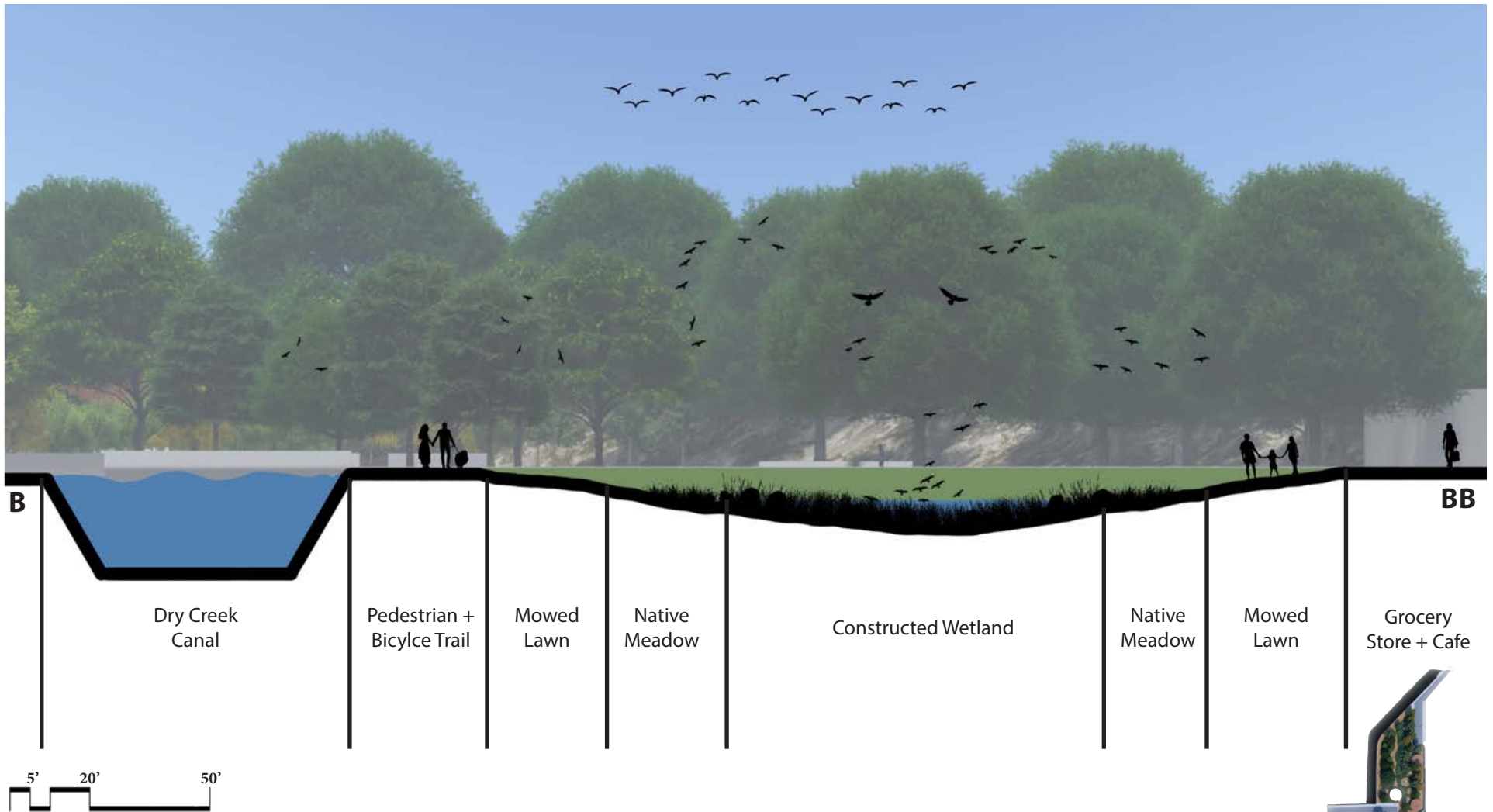


- Pedestrian + Bicycle Trail
- Bioswale
- Rainwater Harvesting Shade Pavilion
- Citrus Grove
- Pedestrian Trails
- Mowed Lawn
- Native Meadow
- Constructed Wetland

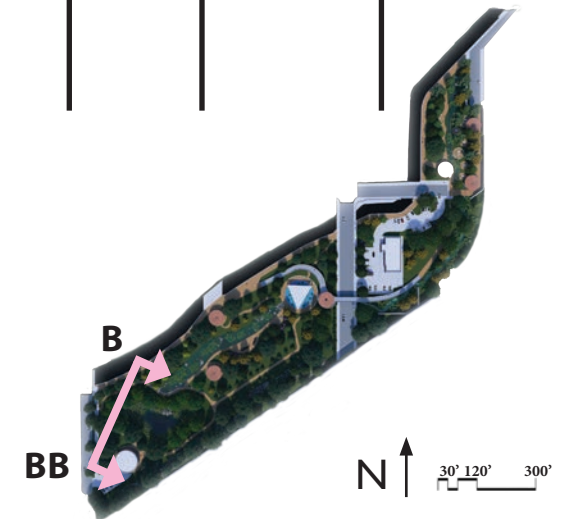




# SECTIONAL ELEVATION: THE WETLAND

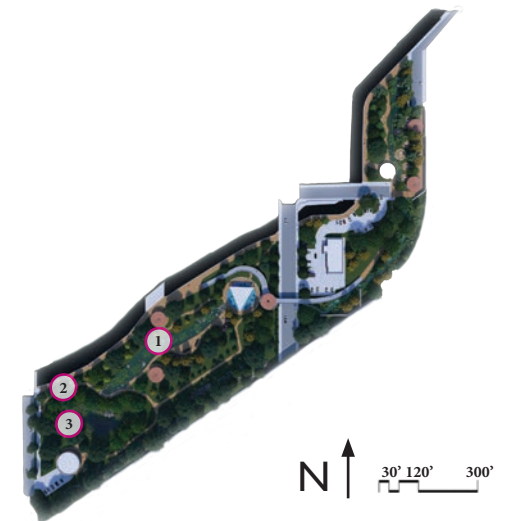
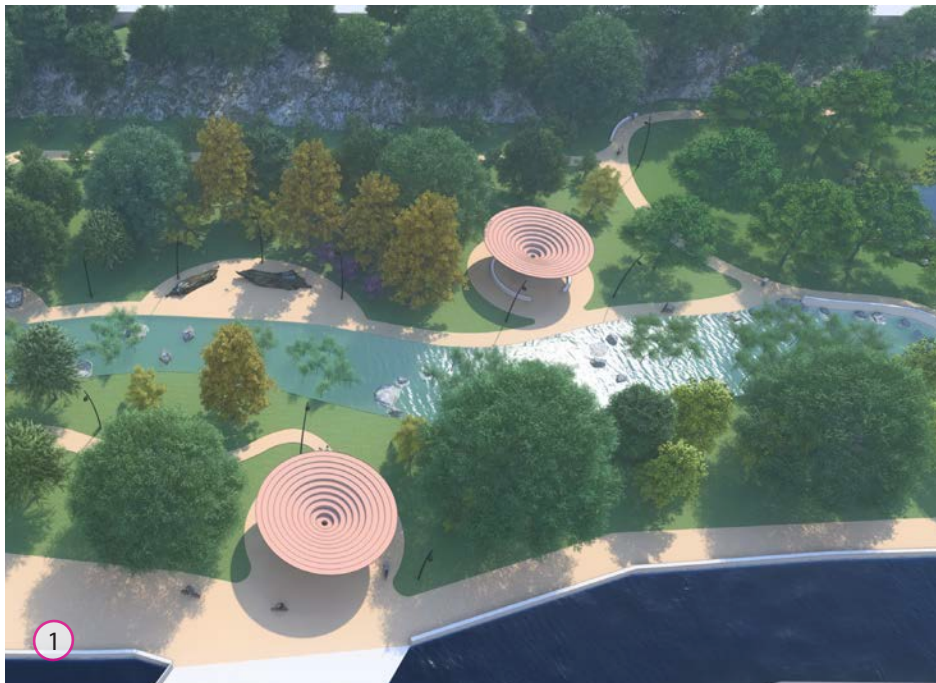


The Wetland features a large, shady lawn surrounding a California native meadow and constructed wetland. Water from the bioswale flows through a culvert and into the constructed wetland. Because this area sits in a food desert, I included a neighborhood market and cafe adjacent to the wetland.





# PERSPECTIVE: THE WETLAND





# PERSPECTIVE: THE WETLAND





# PLANT PALETTE: UNDERSTORY

*Schoenoplectus acutus*



*Elymus triticoides*



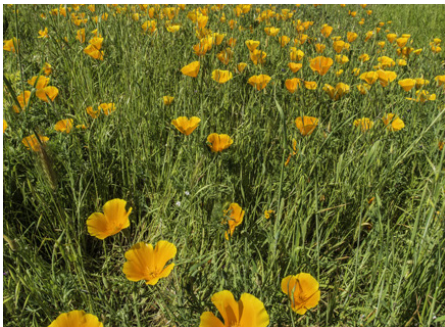
*Bidens laevis*



*Grindelia camporum*



*Eschscholzia californica*



*Achillea millefolium*



*Artemisia douglasiana*



*Clarkia unguiculata*



*Carex barbarae*



*Sporobolus airoides*



*Stipa pulchra*



*Phacelia tanacetifolia*





# CONCLUSION



**This project would create a cooler microclimate, conserve natural resources, create wildlife habitat, encourage play, and connect people by:**

**Replacing ~42,000 sq ft of asphalt with permeable surfaces**

**Adding ~20,000 sq ft of infiltration bioswales and associated native plant material**

**As well as a ~20,000 sq ft constructed wetland surrounded by a California native meadow**

**This project can also serve as a template which can be recreated in various forms along the many irrigation canals that exist throughout California's Central Valley.**



# PERSONAL STATEMENT

I am Daniel (Dani) Morgan a landscape designer, consulting arborist, and future landscape architect dedicated to crafting sustainable environments and restoring native habitat in both urban and wildland-urban interface environments through thoughtful design interventions and a watershed approach. I believe in the transformative power of design to not only enhance aesthetics, but also to promote biodiversity, conserve natural resources, and mitigate the effects of climate change.

Having an educational and professional background in Botany and years of experience as a botanical field technician with details in habitat restoration, it is meaningful to me to be able to continue to contribute to this work in a design capacity.

## Acknowledgements

Thank you to Meg and Steven for your guidance and feedback throughout the entire Capstone process.

Thank you to my classmates for your comraderie, inspiration, and support. Thank you to my partner, friends, and family for your continuous support, encouragement, and love.





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