



# Ladera Heights – W Centinela Green Improvement

Infrastructure Program  
Fiscal Year 2022-2023  
Central Santa Monica Bay  
Los Angeles County Public Works  
Kara Plourde



# Project Overview

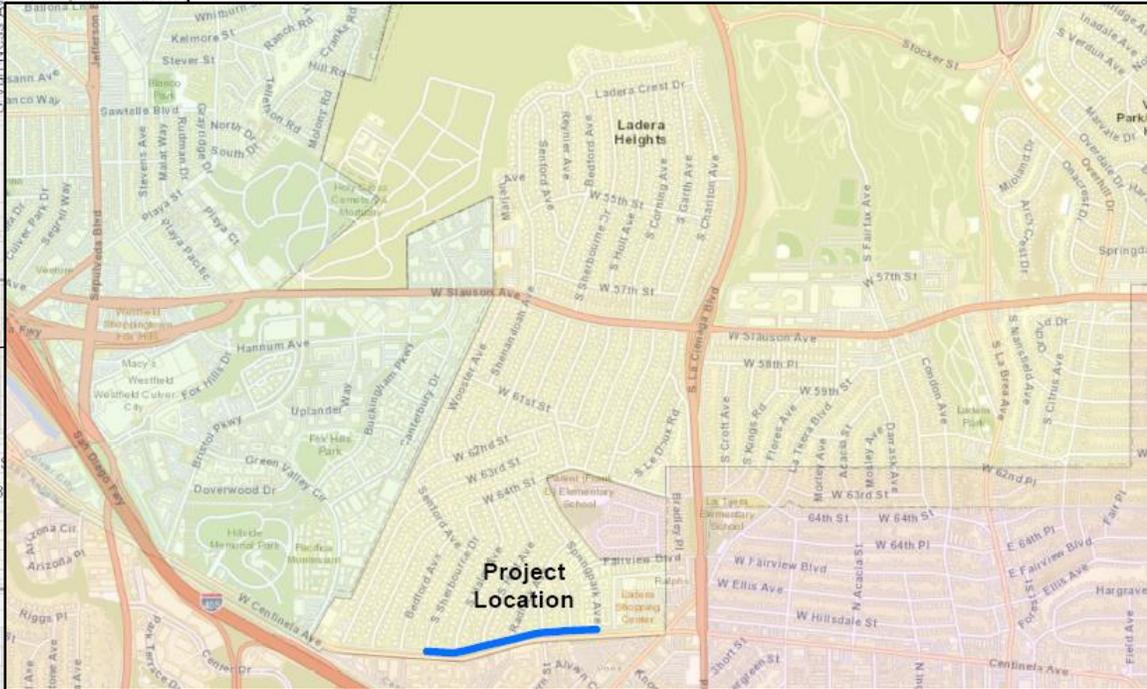
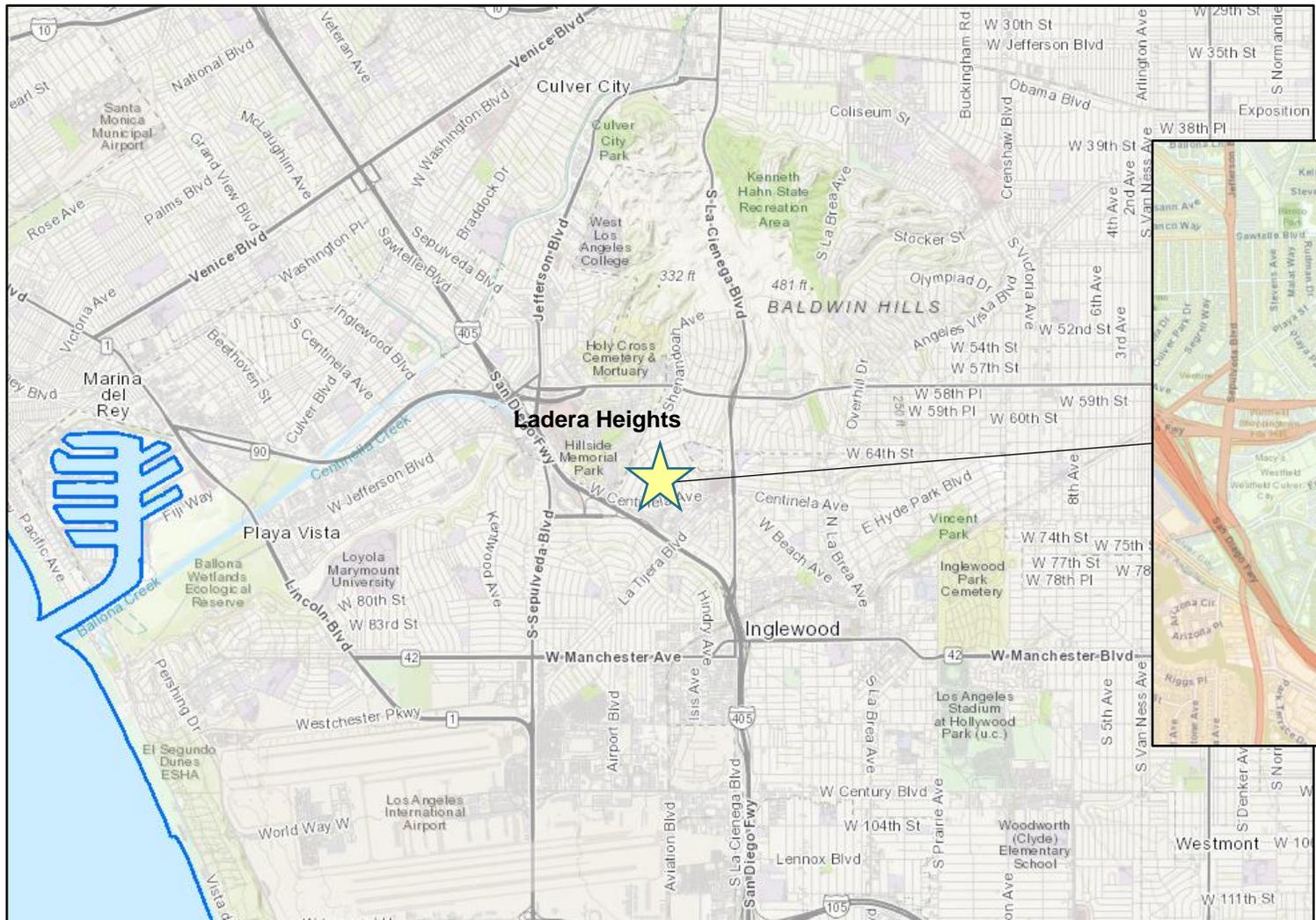
This project will infiltrate stormwater into dry wells along W Centinela Ave in Ladera Heights and install permeable pavement & bioswales.

- **Primary Objective:** Stormwater Quality Improvement
- **Secondary Objectives:** Community Enhancement
- **Project Status:** Planning
- **Phases for which SCW funding is being requested:** Design Phase
- **Total Funding Requested:** \$500,000



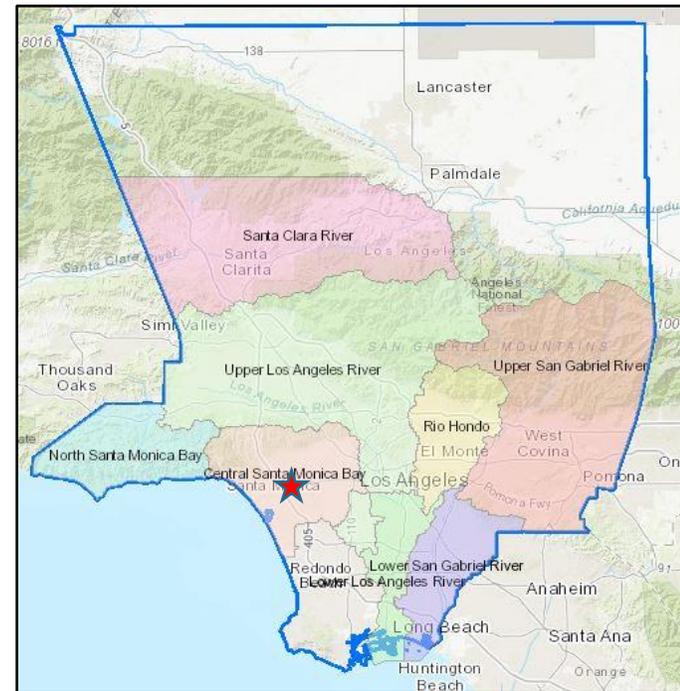
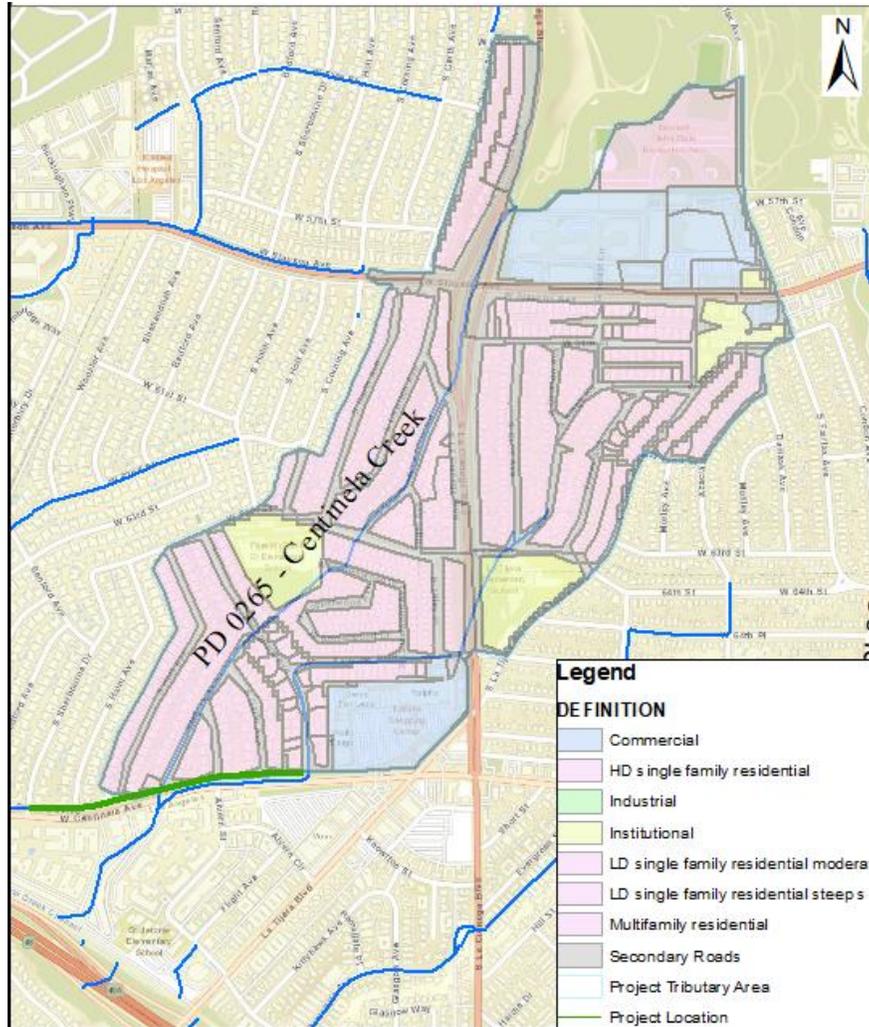
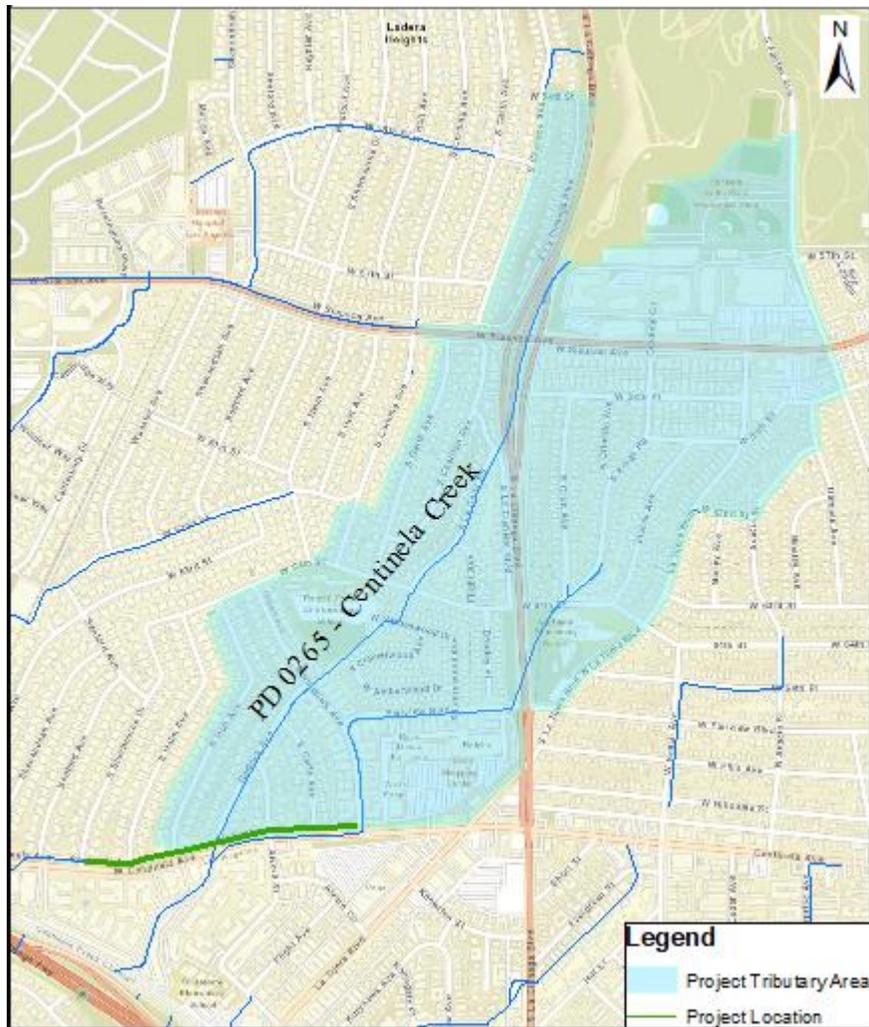


# Project Location





# Project Location



## Project Location

- Centinela Creek
- Unincorporated Community of Ladera Heights
- W Centinela Avenue between Springpark Ave and Sherbourne Dr
- Drainage Area = 307 acres
- Mostly residential and commercial



# Project Background



## Project Background:

- Most downstream for County UA, large tributary area, feasibility
- Ballona Creek Watershed Management Plan (WMP)



# Project Background



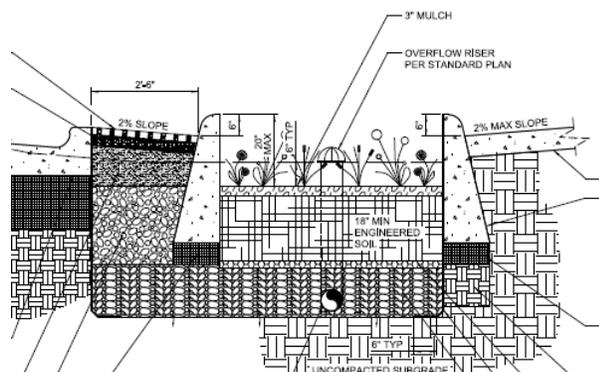
## Benefits:

### Water Quality:

- Removing pollutants from stormwater

### Community Enhancement:

- Increase vegetation
- Reduce heat island effect and increase shade





# Project Details



## Details

- 2 Diversion Points
- 67 drywells
- 13 pretreatment
- Bioswales
- Pervious pavement
- Trees
- Potential to capture 17 AF of runoff

### Legend

|                        |                  |                             |
|------------------------|------------------|-----------------------------|
| Hydrodynamic Separator | Drainage Area    | Parcels                     |
| Drywell                | Maintenance Hole | City Boundaries             |
| Pipe                   | Catch Basin      | <b>Project Boundaries</b>   |
| Diversion Structure    | Gravity Main     | Centinela Lateral           |
| Modular Wetland        | Sewer Manhole    | Centinela Main              |
| Bioretention           | Sewer Pipe       | Unincorporated Area Islands |
| Pervious Surface       | Contours         | West Slauson Avenue         |
|                        |                  | Tree                        |



# Cost & Schedule

| Phase        | Description                                                         | Cost                | Completion Date |
|--------------|---------------------------------------------------------------------|---------------------|-----------------|
| Design       | Preliminary Engineering, PS&E for stormwater components             | \$1,000,000         | Late 2022       |
| Construction | Construction and construction engineering for stormwater components | \$9,500,000         | Late 2024       |
| <b>TOTAL</b> |                                                                     | <b>\$10,500,000</b> |                 |

## Annual Cost Breakdown

|              |         |
|--------------|---------|
| Annual Cost: | \$1.1 M |
|--------------|---------|

- Project Lifespan: 50 years
- Lifecycle Cost: \$38.5 M



# Funding Request

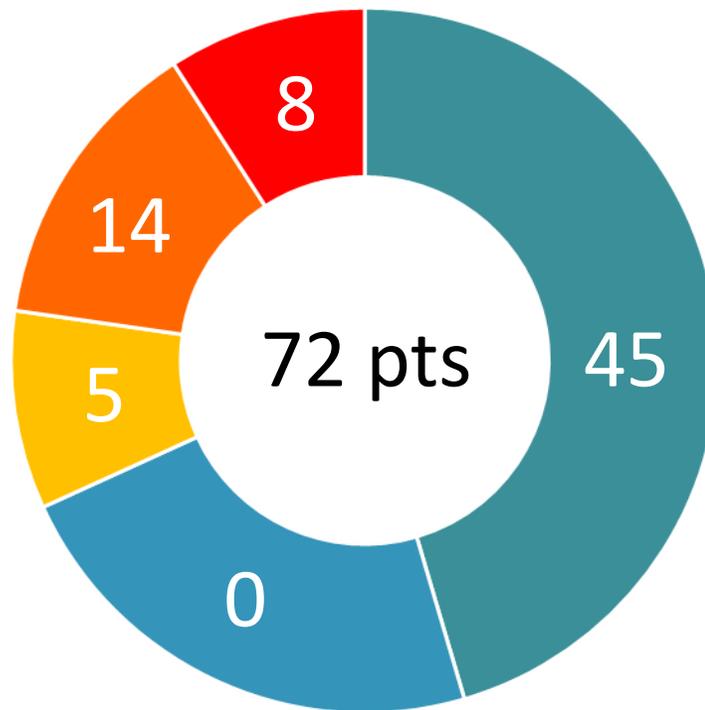
| Year         | SCW Funding Requested | Phase  | Efforts during Phase and Year |
|--------------|-----------------------|--------|-------------------------------|
| 1            | \$500,000.00          | Design | Project Design                |
| <b>TOTAL</b> | <b>\$500,000.00</b>   |        |                               |

- Leveraged Funding: \$500,000 (50%)
- Future SCW Funds: Construction



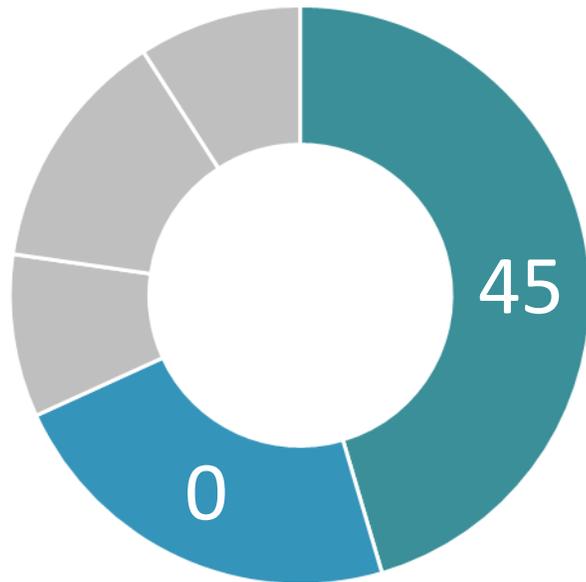
# Preliminary Score

- Water Quality
- Water Supply
- Community Investment Benefits
- Nature Based Solutions
- Leveraged Funds and Community Support





# Water Quality & Water Supply Benefits



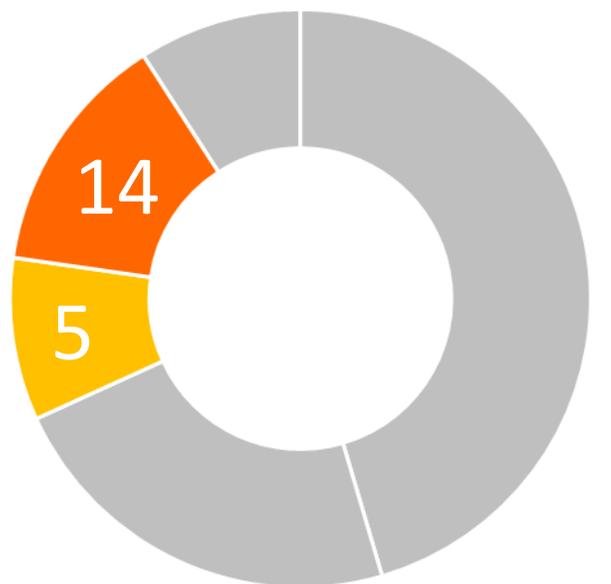
■ Water Quality

■ Water Supply

- **Water Quality Benefits**
  - Project will divert and treat wet weather runoff via:
    - Diversion Structures
    - Pretreatment Devices
    - Bioswales
    - Permeable Pavement
  - Tributary Area = 307 acres
  - Capacity = 17 acre-feet (85<sup>th</sup> percentile, 24-hour storm)
  - Pollutant Reduction (Zinc, Trash, Bacteria, etc)
  - Potential to expand the project to cover an additional 49 acres and treat additional area



# Community Investment Benefits and Nature Based Solutions



■ Community Investment Benefits

■ Nature Based Solutions

- **Community Investment Benefits**

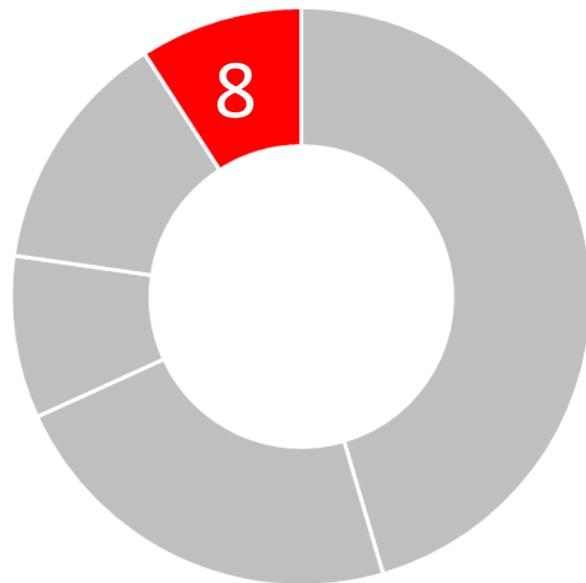
- Improve localized flooding
- Increase vegetation
- Reduce heat island effect and increase shade

- **Nature Based Solutions**

- Nature-based solutions are implemented through:
  - Bioswales with drought tolerant plants
    - Potential planting of new trees
  - Permeable paving strip



# Leveraging Funds and Community Support



■ Leveraged Funds and Community Support

- **Leveraging Funds**

- \$500,000
  - County will supplement and match any Regional Funds with Municipal Funding
- 50% funding matched
- Other Potential Sources:
  - General funds, other grants

- **Community Support**

- Met with Ladera Heights Civic Association, Ladera Heights Community Enhancement Corporation
- Community outreach will be performed prior to commencing design and construction
- Exploring alternative avenues for engagement

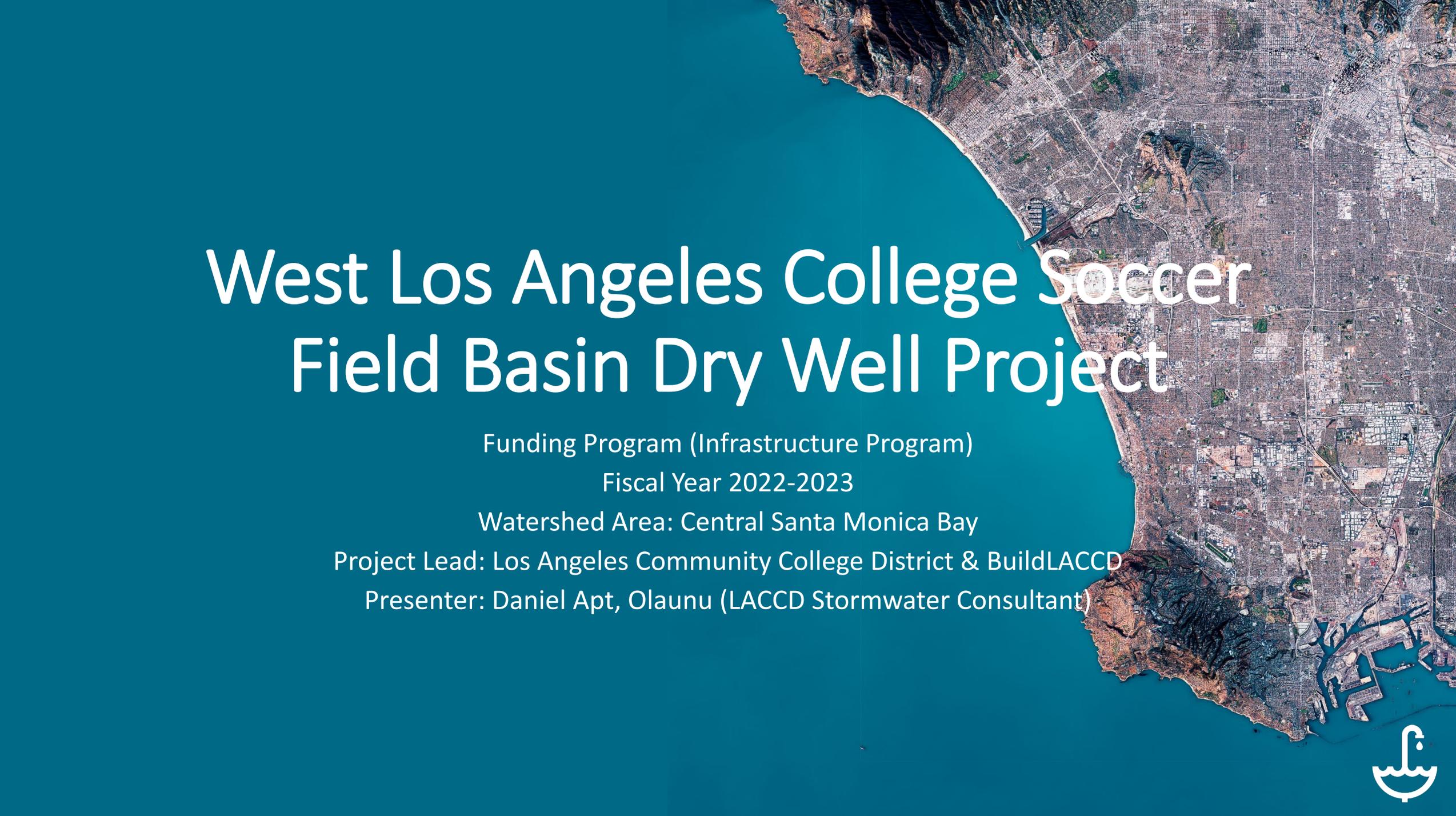


**Questions?**



# Project Location



An aerial photograph of the Los Angeles coastline and city grid, showing the ocean on the left and the city extending inland to the right. The image is partially obscured by a dark teal overlay on the left side where the text is located.

# West Los Angeles College Soccer Field Basin Dry Well Project

Funding Program (Infrastructure Program)

Fiscal Year 2022-2023

Watershed Area: Central Santa Monica Bay

Project Lead: Los Angeles Community College District & BuildLACCD

Presenter: Daniel Apt, Olaunu (LACCD Stormwater Consultant)



# Project Overview

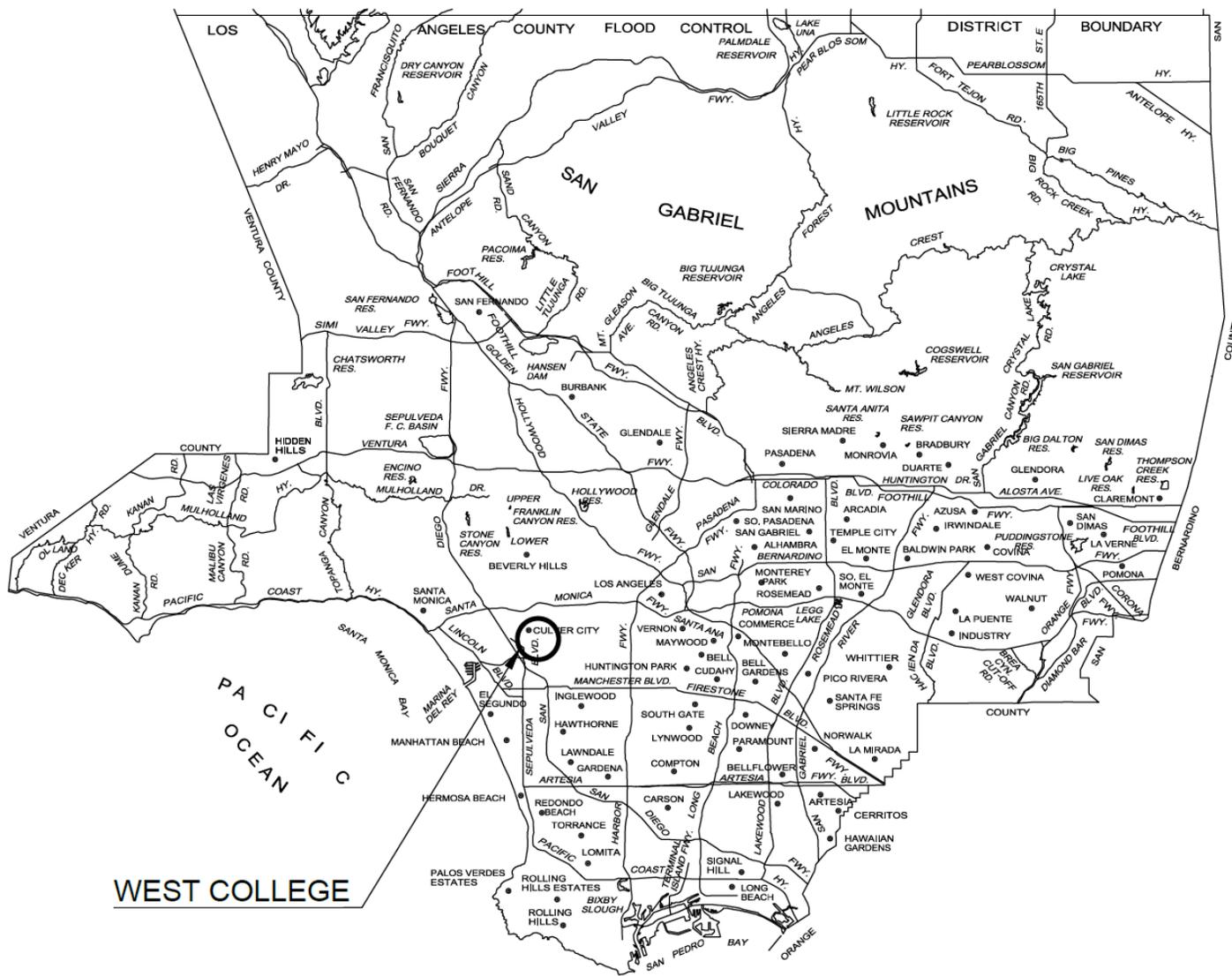
The WLAC Soccer Field Basin Dry Well Project will integrate six (6) dry wells into the existing soccer field/stormwater detention basin.

- Primary Objective: Water Quality: Assist in compliance with the Small MS4 Permit
- Secondary Objectives: Water Quality: Helps to meet compliance with downstream TMDLs
- Project Status: Phases for which SCW funding is being requested:
  - Design & Construction
- Total Funding Requested:
  - \$399,967





# Project Location



- Project Location: West Los Angeles College
- Watershed Area: Central Santa Monica Bay
- Capture Area: 36 acres
- Municipality Benefits
  - Water Quality improvement
  - Helps to meet compliance with downstream TMDLs through capture and infiltration of the 85th percentile storm event for the projects' drainage area.
- Disadvantaged Communities (DAC)
  - 1.25 Miles from WLAC
  - 55.2% of WLAC students received the College California College Promise Grant (low-income qualification)



# Project Background

- Why was the Project Location selected?
  - Existing WLAC soccer field stormwater detention basin captures more than 50% of the WLAC campus.
  - Takes advantage of existing stormwater infrastructure.
- How was the Project developed?
  - LACCD is developing stormwater projects for all of its 9 campuses
  - The West Los Angeles College Soccer Field Basin Dry Well Project has the largest drainage area of 8 WLAC stormwater projects
- Which regional water management plan includes the proposed project?
  - Submitted to the GLAC IRWMP
- Description of benefits to municipality/municipalities
  - Water quality improvement
  - Assistance in meeting downstream TMDLs
  - Recharge of groundwater - Santa Monica Basin (Concurrence from City of Santa Monica)
- Description of how the Feasibility Study or Project Concept will provide Disadvantaged Community (DAC) Benefits
  - Infiltration of the dry weather/stormwater runoff of the 85<sup>th</sup> percentile 24-hour storm event
  - Provides 12-acre feet of annual water supply - recharge of groundwater in the Santa Monica Basin
  - Enhance playing field of an existing soccer field/stormwater detention basin





# Project Details



February 19, 2020  
Project No. 19-1019

BuildLACCD Program Management Office  
1055 Corporate Center Drive  
Monterey Park, CA 91754

Attention: Mr. Don McLarty

**Subject:** Soccer Field Percolation/Storm Water Implementation Project  
West Los Angeles College  
9000 Overland Avenue  
Culver City, CA 90230

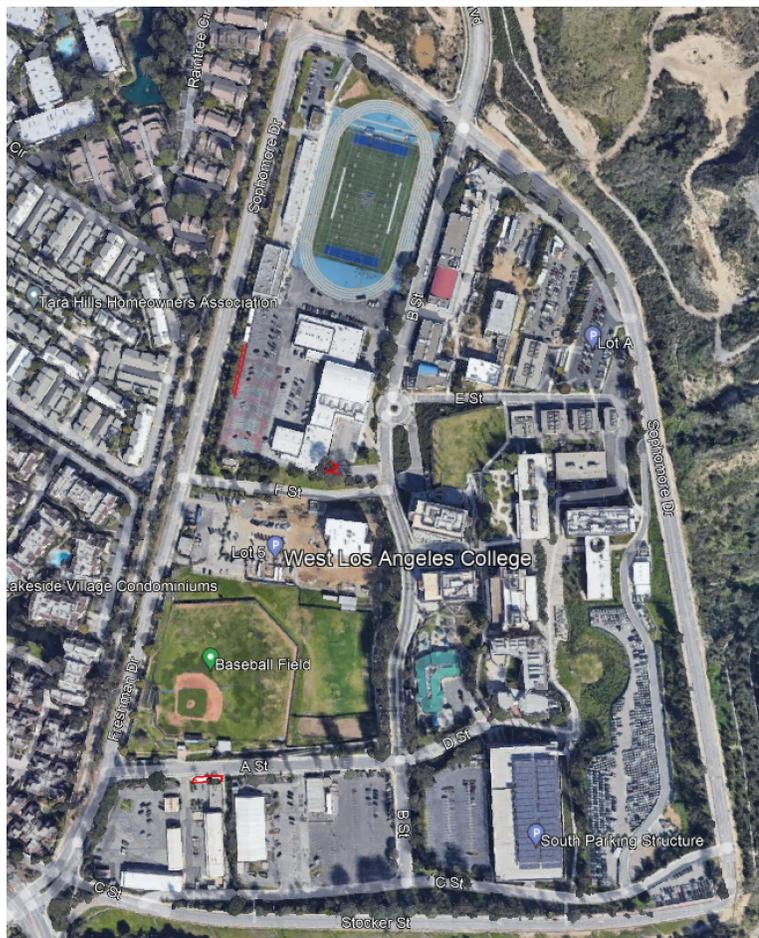
Dear Mr. McLarty:

Presented herein are the results of percolation testing performed by Koury Engineering & Testing, Inc. (Koury) for the proposed soccer field storm water implementation project at the West Los Angeles College located at 9000 Overland Avenue, Culver City, California. (See Figure A-1 for Vicinity Map showing the site with respect to adjacent streets). This study was performed to provide information for BMP stormwater project planning from a geotechnical standpoint.

The recommendations provided within this submittal are based on the results of our field exploration, laboratory testing, engineering analyses, and literature search. Our services were performed in general accordance with our proposal No. 19-1019 dated October 7, 2019.

Our professional services have been performed using the degree of care and skill ordinarily exercised under similar circumstances by reputable geotechnical consultants practicing in this or similar localities. No other warranty, expressed or implied, is made as to the professional advice included in this report. This report has been prepared exclusively for Los Angeles Community College District and their consultants for the subject project. The report has not been prepared for use by other parties, and may not contain sufficient information for the purposes of other parties or other uses.

Koury Engineering & Testing, Inc. (805) 606-6111 [www.kouryengineering.com](http://www.kouryengineering.com) Chino · Gardena · San Diego



## West Los Angeles College Soccer Field Basin Dry Well Project (WLAC Stormwater Project No.8)

Programming Report (Amended)



April 9, 2020  
(Amended July 30, 2021)

Prepared by:



- Current site conditions – Existing soccer field stormwater detention basin
- Completed studies/analysis – Geotechnical report & Concept design/programming report
- Description of any alternatives considered – Evaluated distributed biofiltration



# Cost & Schedule

| Phase        | Description                                                                                      | Cost                | Completion Date |
|--------------|--------------------------------------------------------------------------------------------------|---------------------|-----------------|
| Planning     | Planning and concept design costs associated with the WLAC Soccer Field Basin Dry Well Project   | \$23,334.50         | 04/20           |
| Design       | Design of the 6 dry wells, modifications to the basin outlet, and storm drain connections        | \$85,532.00         | 07/2022         |
| Construction | Construction of the 6 dry wells, modifications to the basin outlet, and storm drain connections. | \$714,406.00        | 02/2023         |
| <b>TOTAL</b> |                                                                                                  | <b>\$823,272.50</b> |                 |

- Description of Annual Costs: Maintenance, operation, and monitoring costs
- Project Lifespan & Lifecycle Cost (Module Generated): \$1,122,208.52



# Funding Request

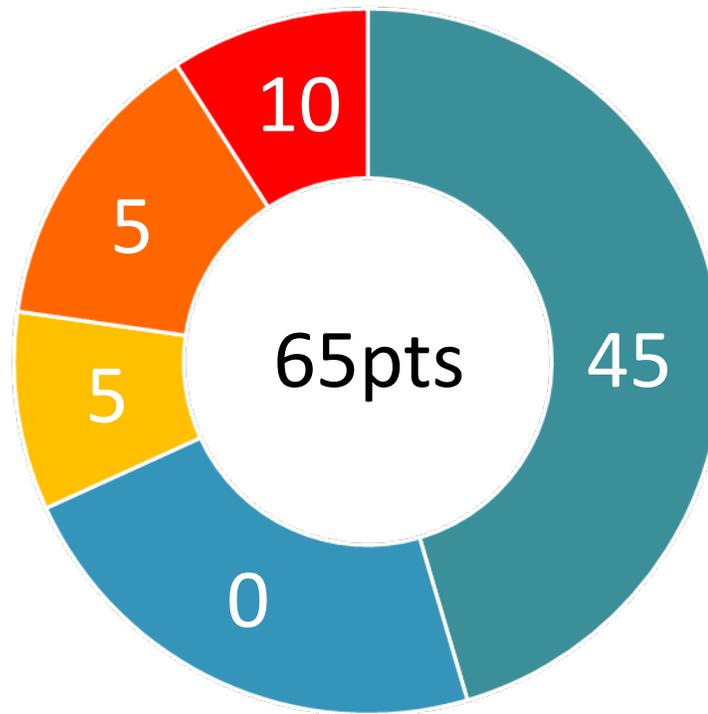
| Year         | SCW Funding Requested | Phase        | Efforts during Phase and Year                                                                    |
|--------------|-----------------------|--------------|--------------------------------------------------------------------------------------------------|
| 1            | \$42,745.00           | Design       | Design of the 6 dry wells, modifications to the basin outlet, and storm drain connections.       |
| 2            | \$357,222.00          | Construction | Construction of the 6 dry wells, modifications to the basin outlet, and storm drain connections. |
| <b>TOTAL</b> | <b>\$399,967.00</b>   |              |                                                                                                  |

- Leveraged Funding amount and percent: \$399,971.00 and 50%
- Description of future potential SCW funding requests, if applicable
  - No further funding requests for the WLAC Soccer Field Basin Dry Well Project



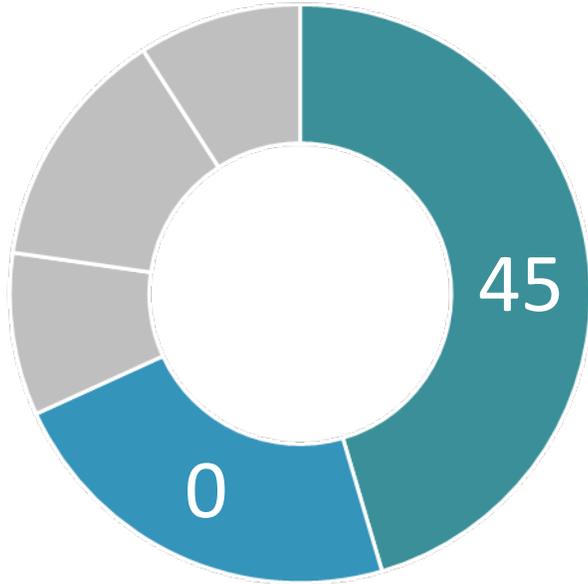
# Preliminary Score

- Water Quality
- Water Supply
- Community Investment Benefits
- Nature Based Solutions
- Leveraged Funds and Community Support





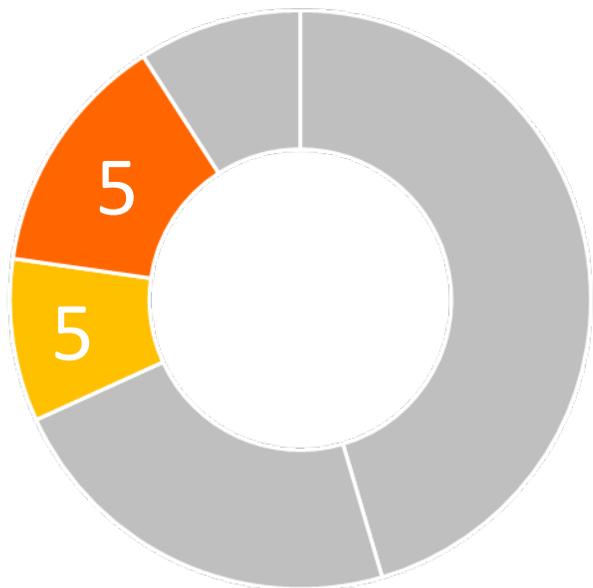
# Water Quality & Water Supply Benefits



- Primary mechanisms that achieve Water Quality and Water Supply Benefits claimed
  - Retention of the design storm volume (DSV), which is based on the 85th percentile 24-hour storm event.
- Wet/Dry runoff captured: 0.0049 cfs average dry weather
- Tributary Area: 36 acres
- Capacity: 3.3379 ac-ft
- Pollutant Reduction: 100.0 %
- Annual Water Supply Volume: 12.033 ac-ft
- Water Supply Use: water supply aquifer
- Water Supply and Water Quality Cost Effectiveness:
  - \$ 4,991.43 per ac-ft



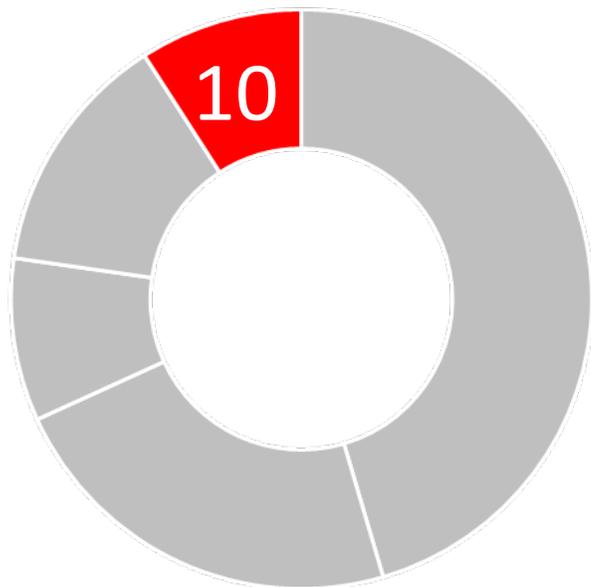
# Community Investment Benefits and Nature Based Solutions



- Community Investment Benefits
  - Reduces stormwater volumes (3.3379 ac-ft) associated with WLAC to the greater Los Angeles storm drain system.
    - Reduced volume and rate of stormwater providing flood management and flood risk mitigation.
  - Enhanced recreational opportunity
    - Eliminates dry weather runoff causing wet grass and muddy conditions in the soccer field
  - Enhanced green space at a school site that can again be used for recreation
    - Eliminates dry weather runoff causing wet grass and muddy conditions in the soccer field
- Nature Based Solutions
  - Project implements natural processes through infiltration of stormwater and mimicking natural hydrology



# Leveraging Funds and Community Support



- Leveraging Funds

- The LACCD sustainable building program is funded mainly through bond measures
- Most recently, Bond Measure CC was approved in 2016 for \$3.3 billion allocated to improvement of facilities throughout the nine LACCD colleges
- Leveraged funding amount: \$399,971
- Leveraged funding status: Commitment Received
- 50% funding matched

- Community Support

- West Los Angeles College Citizens' Oversight Committee
- Planned outreach:
  - Coordination with WLAC faculty and student groups on campus to help develop educational signage for the project
  - Further coordination with the West Los Angeles College Citizens' Oversight Committee for targeted outreach of users of the WLAC soccer field



**Questions?**

An aerial photograph of Los Angeles, California, showing the coastline, the city grid, and the Santa Monica Bay. The image is used as a background for the title and project information.

# Angeles Mesa Green Infrastructure Corridor Project

Funding Program (Infrastructure Program)

Fiscal Year 2022-2023

Central Santa Monica Bay

City of Los Angeles, LA Sanitation and Environment



# Project Overview

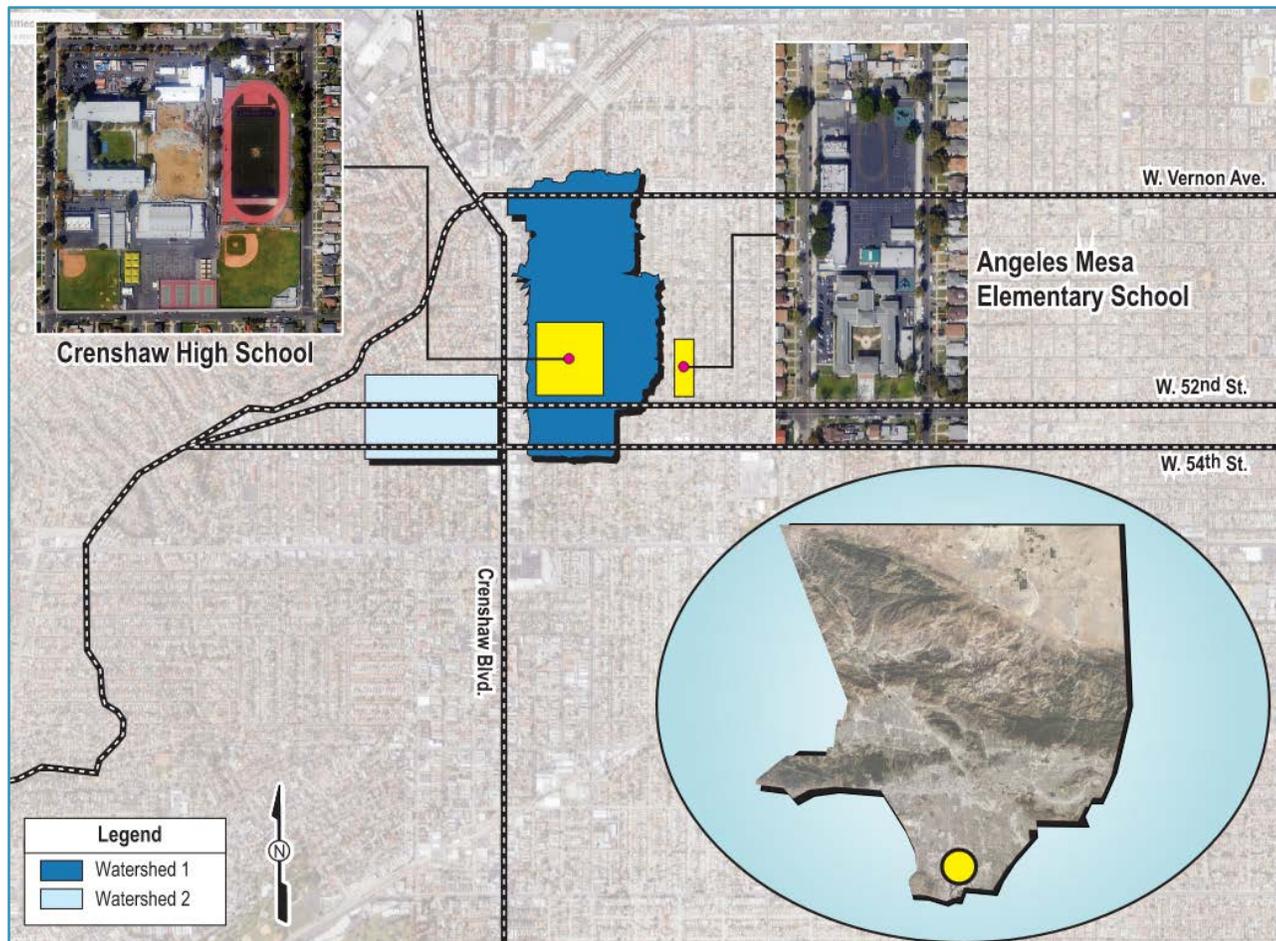
This project aims to improve water quality, mitigate floods, and restore habitat within the Park Mesa Heights neighborhood and the Ballona Creek Watershed.

- Project Objectives:
  - Improve public health and habitat
  - Install several types of stormwater capture and increase permeability
  - Community investment with nature-based solutions
- Project Status: Feasibility Report completed and funding requested
- Funding request for: Planning, Design, Construction, Maintenance
- Total Funding Requested: \$8.4M





# Project Location



Project Location

- Capture Area: 162 Acres
- Land Use: Largely commercial and single-family households
- Watershed: Ballona Creek Watershed
- Council District: 8
- Neighborhood Council: Park Mesa Heights
- Nearby Projects: Destination Crenshaw, METRO Crenshaw Line



# Project Background

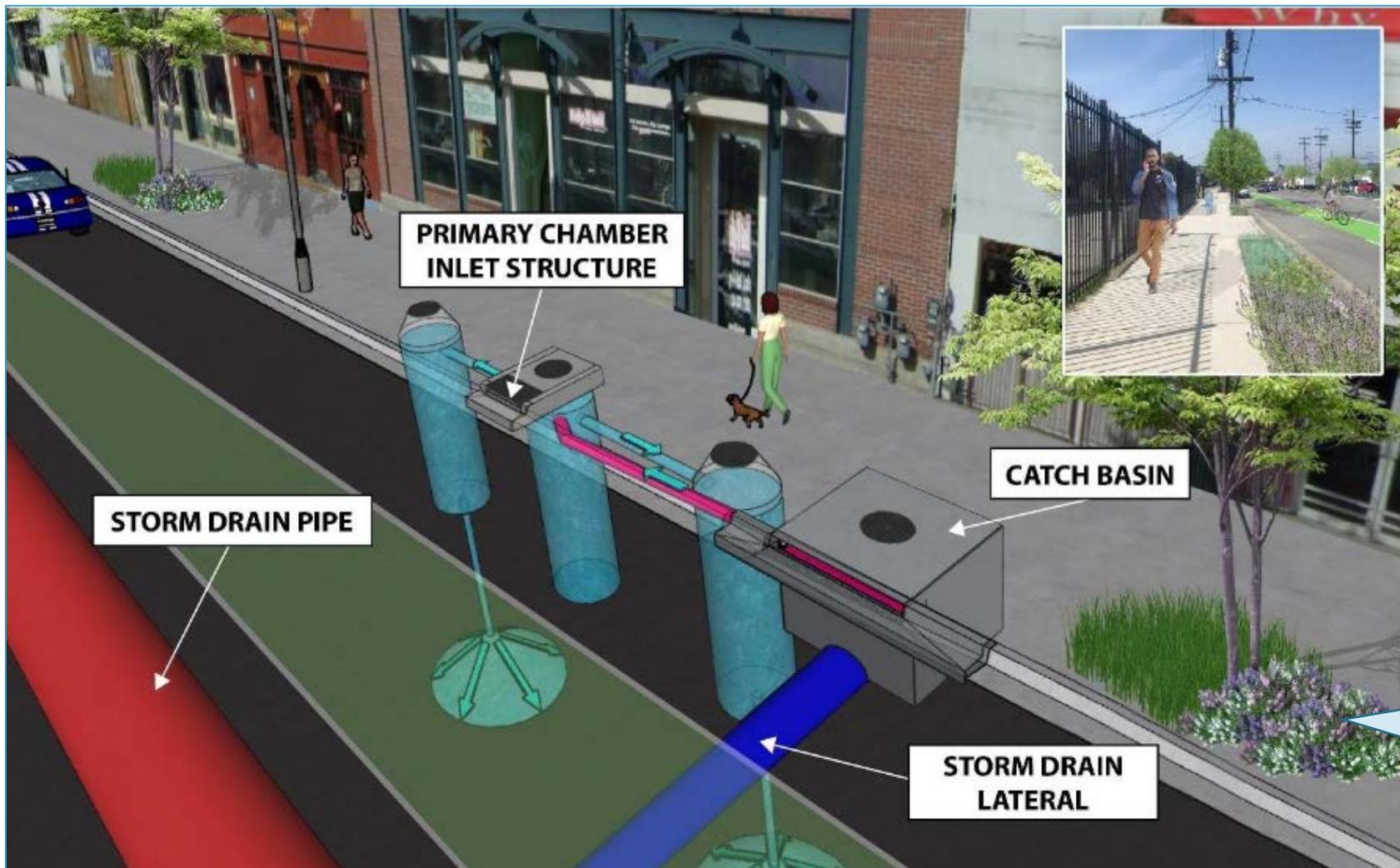
- The Project location was selected because it is located within a disadvantaged community that has High Park Needs and the area currently has minimal existing stormwater and green infrastructure.
- Project has been developed with consideration to the neighboring Destination Crenshaw Project (including improvements along the METRO Crenshaw line).



Rendering of Green Street Elements “Before” and “After” on 11<sup>th</sup> Avenue



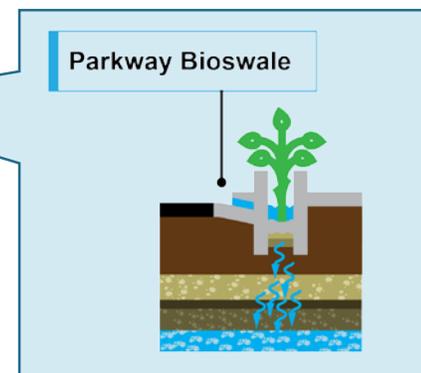
# Project Details



Project Diversion Isometric

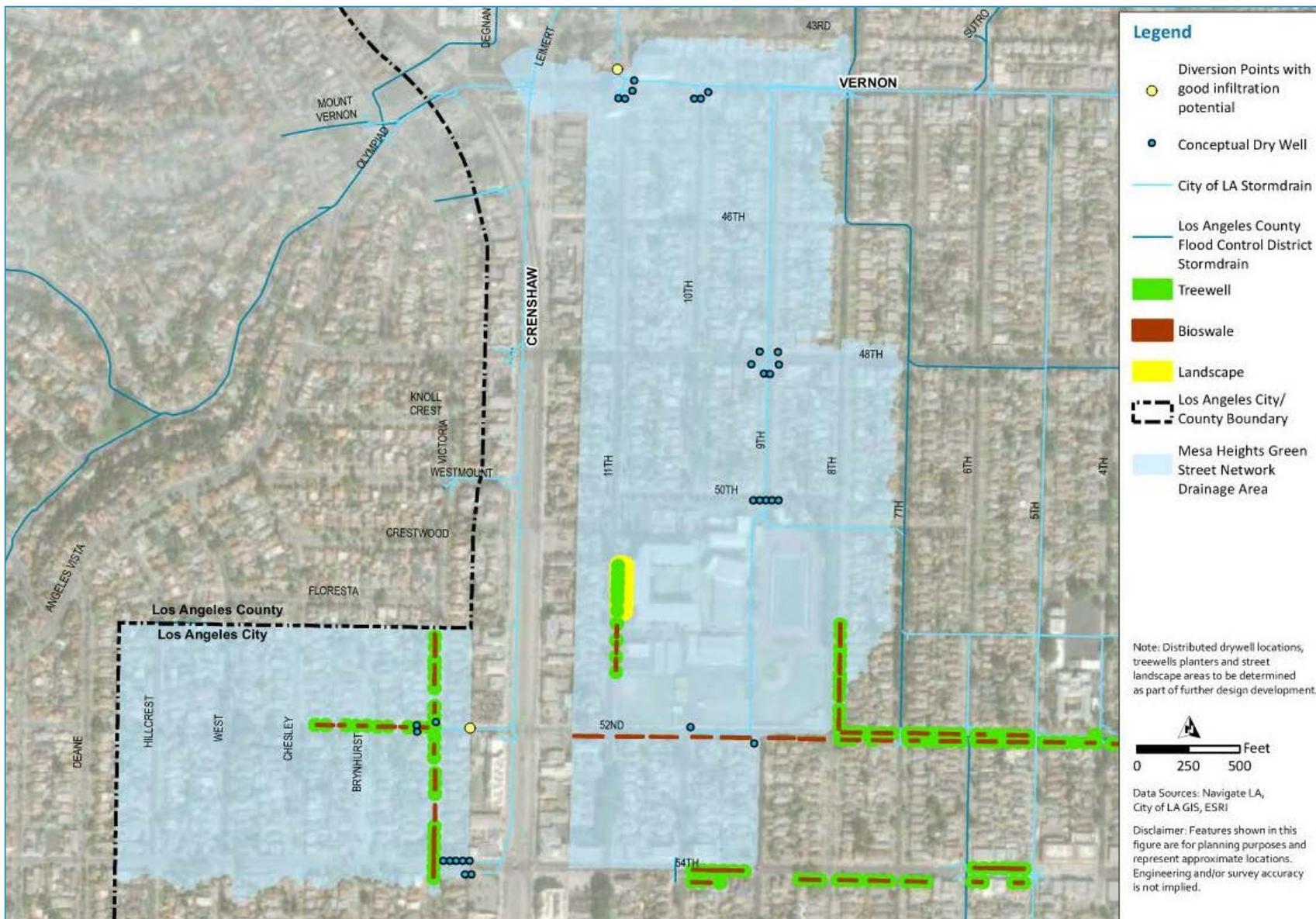
## Project to include:

- 2 diversion structures from City storm drains
- 30 drywells
- 120 new trees
- 3,000 sf of landscaping near Crenshaw High School
- 14,000 sf of bioswales and greenery





# Project Details



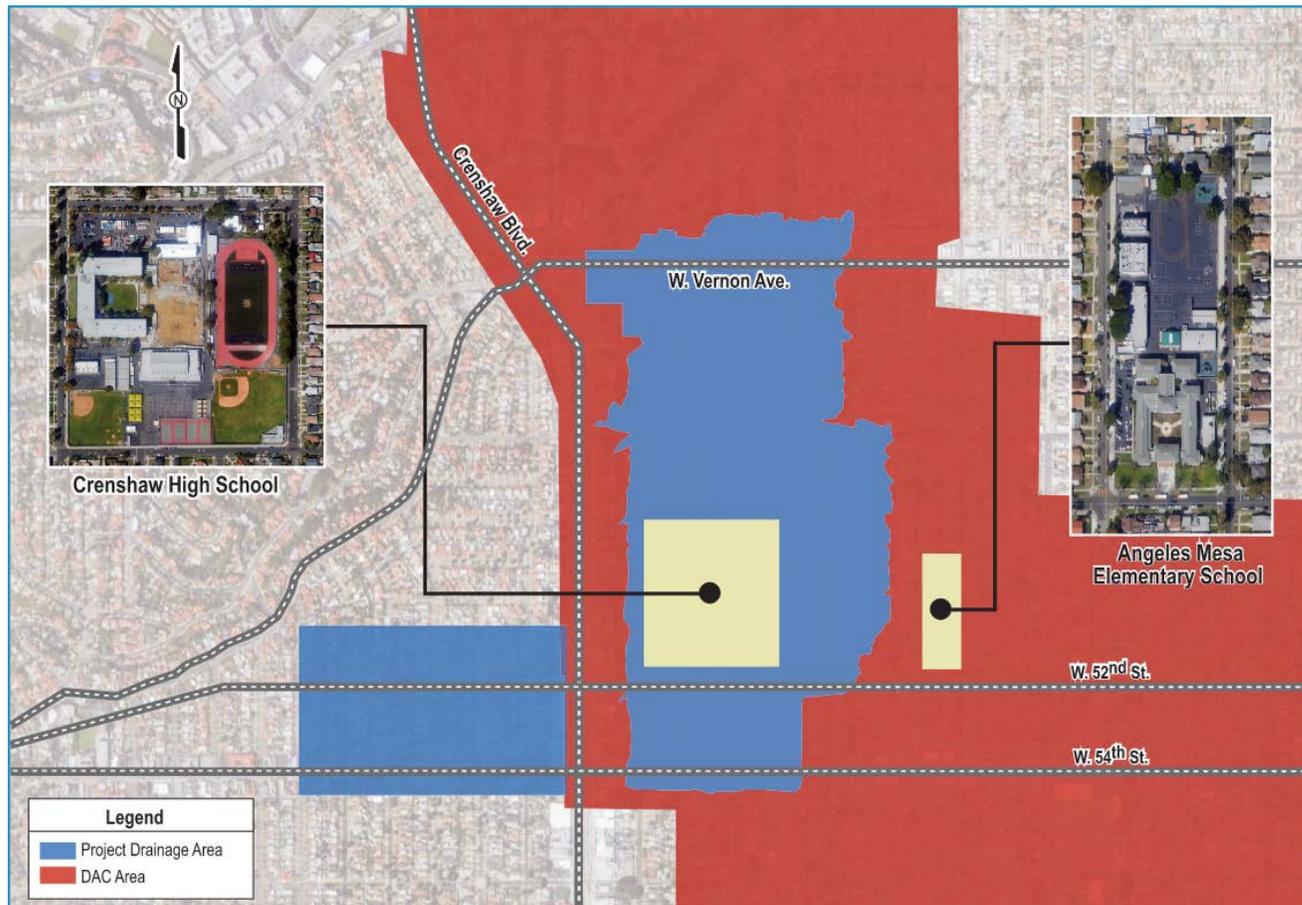
## Regional Benefits:

- Capable of capturing 146 AF of runoff annually (67 AF of wet weather runoff and 79 AF of dry weather runoff).
- Removal of 71.4% of zinc, 84.6% of bacteria, and 100% of trash from captured runoff.
- Increased water infiltration to groundwater aquifers.

Green Infrastructure Corridor Layout and Details



# Project Benefits



DAC Location Map (DAC shown in red)

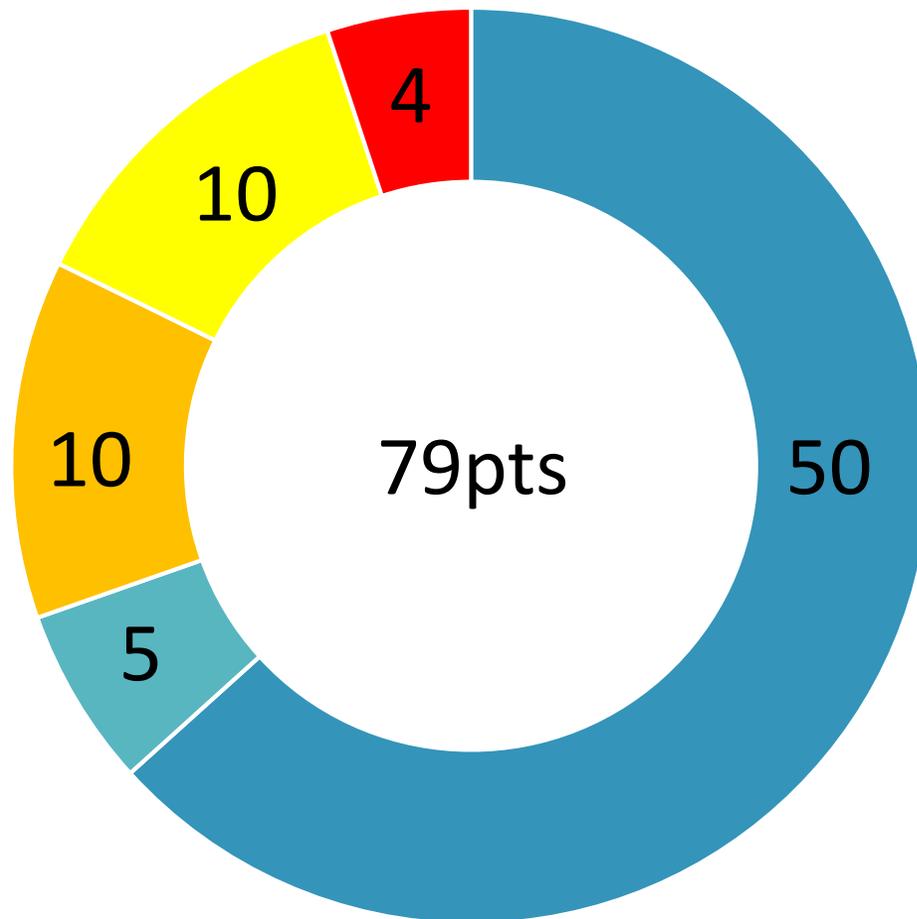
## Benefits to a Disadvantaged Community:

- Improved flood management and flood risk mitigation with use of 30 drywells to capture runoff.
- An additional 120 trees and vegetated medians/landscape boxes to provide:
  - improved air quality,
  - reduction of heat island effect,
  - increased carbon sequestration of about 95 pounds of carbon per tree annually.
- Reduction in pollutants from local runoff (84.6% of bacteria and 100% of trash).
- Increased educational opportunities about stormwater and water resources, including educational signage near schools.
- LAUSD Safe Route 2 School Analysis was considered and incorporated.



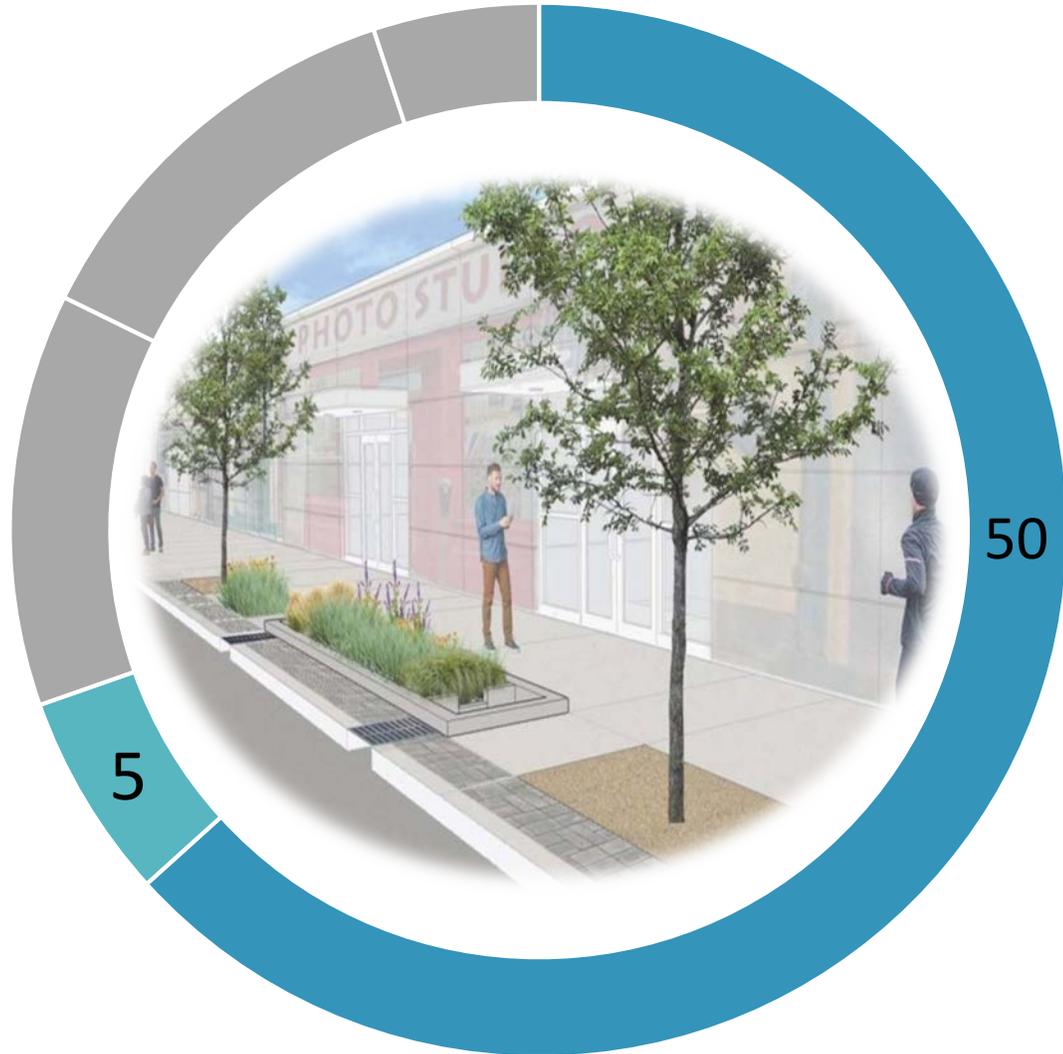
# Preliminary Score

- Water Quality
- Water Supply
- Community Investments
- Nature Based Solutions
- Leveraged Funds and Community Support





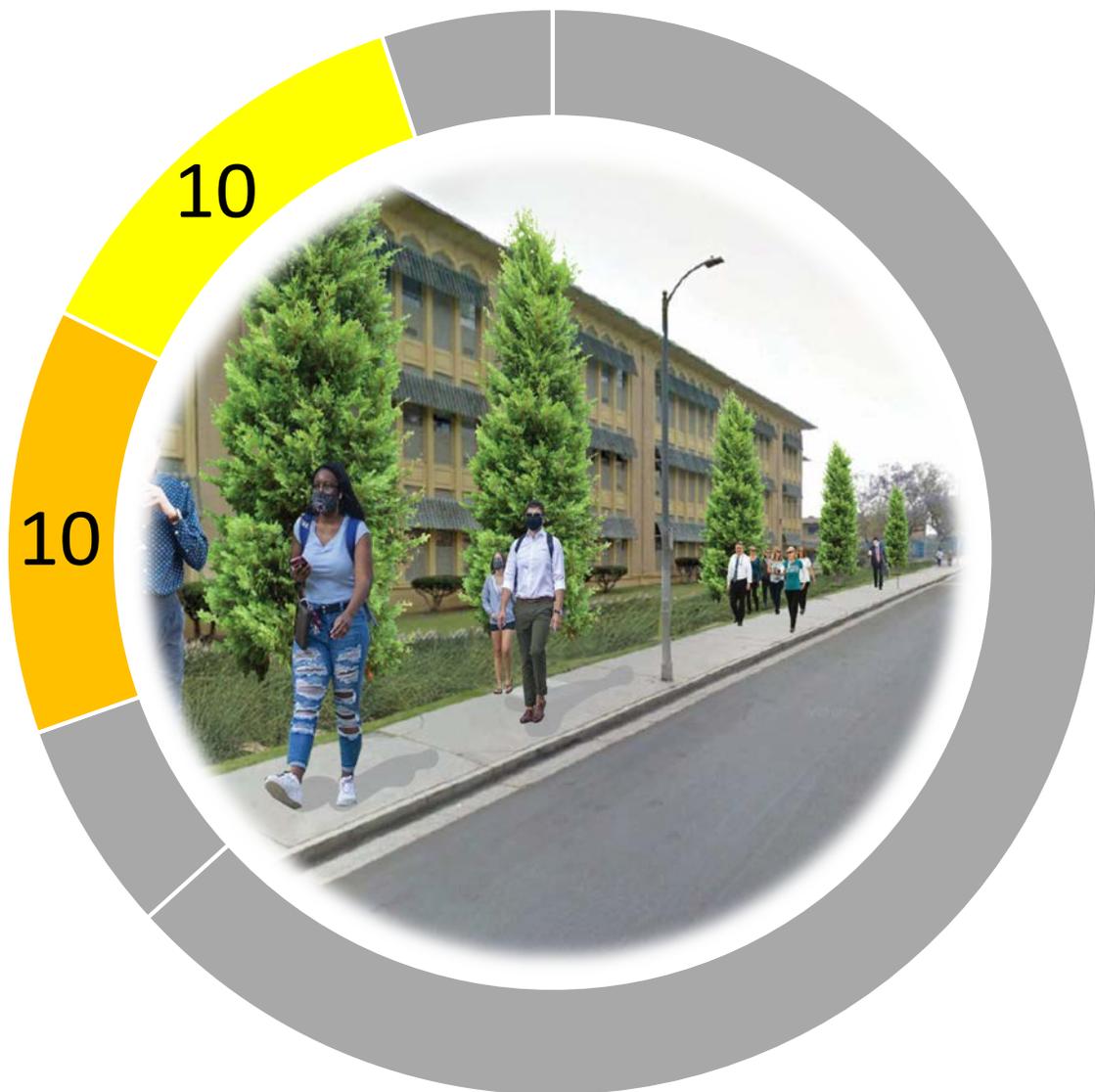
# Water Quality & Water Supply Benefits



- 85<sup>th</sup> percentile storm volume: 8.2 AF
- With project capital cost of \$8.18M, water quality effectiveness results in 1.002 AF/\$-Million
- 84.6% primary pollutant load (bacteria) and 100% secondary pollutant load (trash) reduction
- 146 AF/yr of water capture
- Water supply cost effectiveness of \$3,221/AF



# Community Investment Benefits and Nature Based Solutions



## Community Investment Benefits

- Improved flood mitigation, restoration of parks, enhanced recreational opportunities, increasing shade (approximately 60,000 sf of new canopy), carbon sequestration, and greening at schools

## Nature Based Solutions

- Parkway planters, trees, and other green street elements will be designed following natural processes to slow water and allow infiltration to the aquifer
- Drywells will use the natural process of infiltration of water to the aquifer
- An increase in native vegetation, with vegetated areas incorporating CA-native plants and CA-friendly vegetation



# Leveraging Funds and Community Support



## Leveraging Funds

- At this time, the City has not identified potential funding opportunities outside of the SCW program

## Community Support

- Letters of support have been received from the City of LA's Council District 8 and from Destination Crenshaw
- The City has hosted 3 community outreach webinars (Oct. 25, Nov. 10, Nov.13) and briefed Crenshaw High School
- Project information has been published on the Park Mesa Heights NC website, through Nextdoor campaigns, and LASAN social media



# Cost & Schedule

| Phase        | Description                                       | Cost               | Estimated Completion Date |
|--------------|---------------------------------------------------|--------------------|---------------------------|
| Planning     | Engineering, Legal, & Administrative (ELA)        | \$43,550           | 03/2022                   |
| Design       | ELA                                               | \$1,000,000        | 06/2023                   |
| Construction | Construction of BMPs                              | \$7,137,882        | 10/2026                   |
| Monitoring   | Annual Cost of \$30k for First 4 years            | \$120,000          | 10/2027                   |
| O&M          | First year of annual O&M is requested for FY26/27 | \$100,000          | -                         |
| <b>TOTAL</b> |                                                   | <b>\$8,401,432</b> |                           |

- Project Lifespan of 50 years
- Annualized Life-Cycle Cost of \$274,273/year

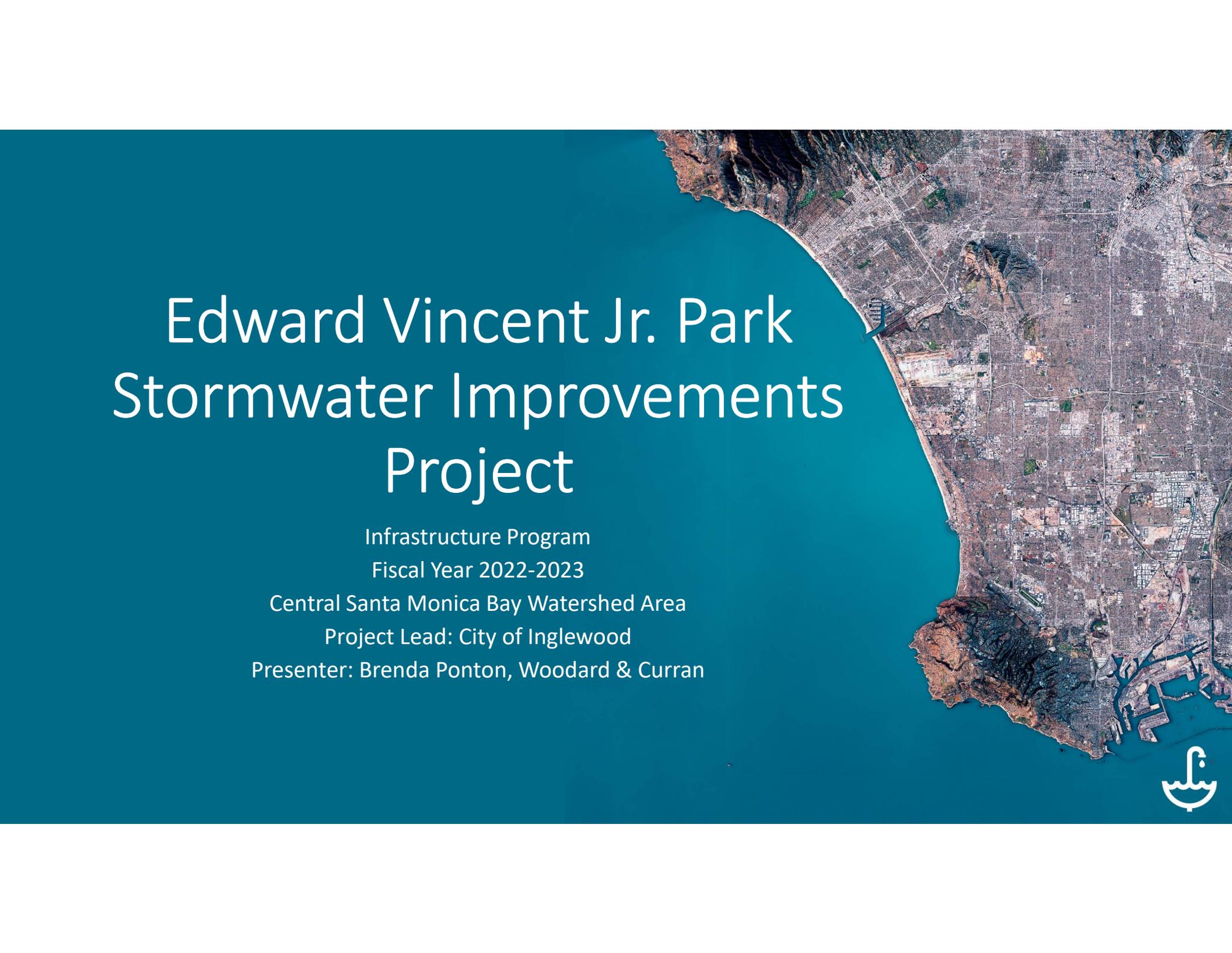


# Funding Request

| Year         | SCW Funding Requested | Phase                            | Efforts during Phase and Year                                                             |
|--------------|-----------------------|----------------------------------|-------------------------------------------------------------------------------------------|
| 1            | \$573,550             | Planning, Design, and Monitoring | Preliminary design and baseline monitoring, YR1-FY22/23                                   |
| 2            | \$530,000             | Design and Monitoring            | Final design and baseline monitoring, YR2-FY23/24                                         |
| 3            | \$3,598,941           | Construction and Monitoring      | Start of construction, continued monitoring, YR3-FY24/25                                  |
| 4            | \$3,598,941           | Construction and Monitoring      | Construction completion, project effectiveness monitoring, and long-term O&M, YR4-FY25/26 |
| 5            | \$100,000             | First year of regular O&M        | Operation and Maintenance, YR5+                                                           |
| <b>TOTAL</b> | <b>\$8,401,432</b>    |                                  |                                                                                           |



Questions?



# Edward Vincent Jr. Park Stormwater Improvements Project

Infrastructure Program

Fiscal Year 2022-2023

Central Santa Monica Bay Watershed Area

Project Lead: City of Inglewood

Presenter: Brenda Ponton, Woodard & Curran



# Project Overview

Multi-benefit stormwater improvements project at Edward Vincent Jr. Park in City of Inglewood using infiltration and bioretention best management practices.

- Primary Objective: Improve water quality
- Secondary Objectives: Provide community investments through enhancing park amenities and providing educational opportunities
- Project Status: Planning complete; Requesting Design Phase funding
- Total Funding Requested: \$4,270,000



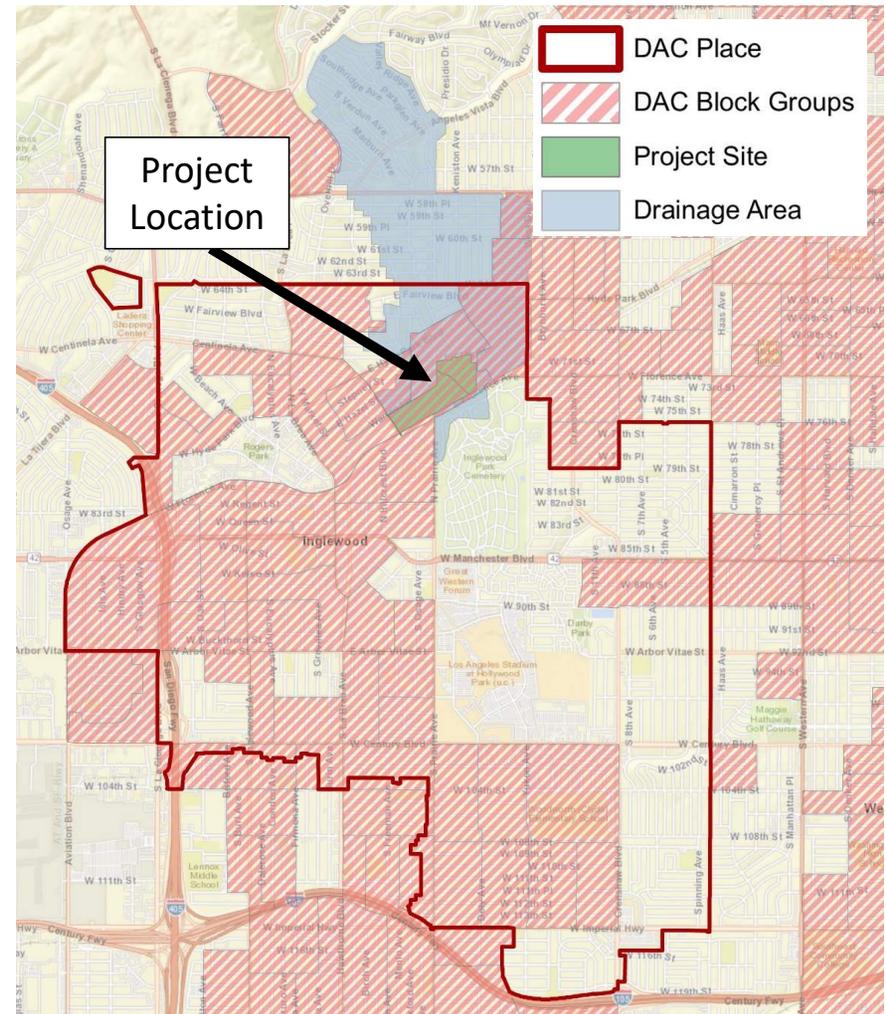
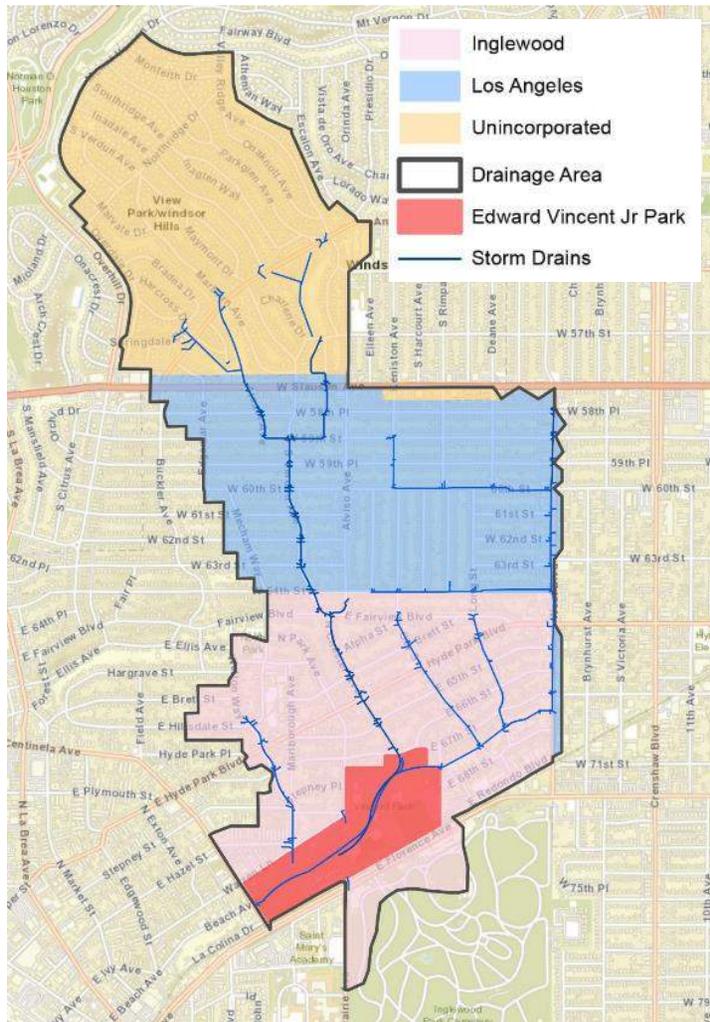


# Project Location





# Project Location





## Project Background

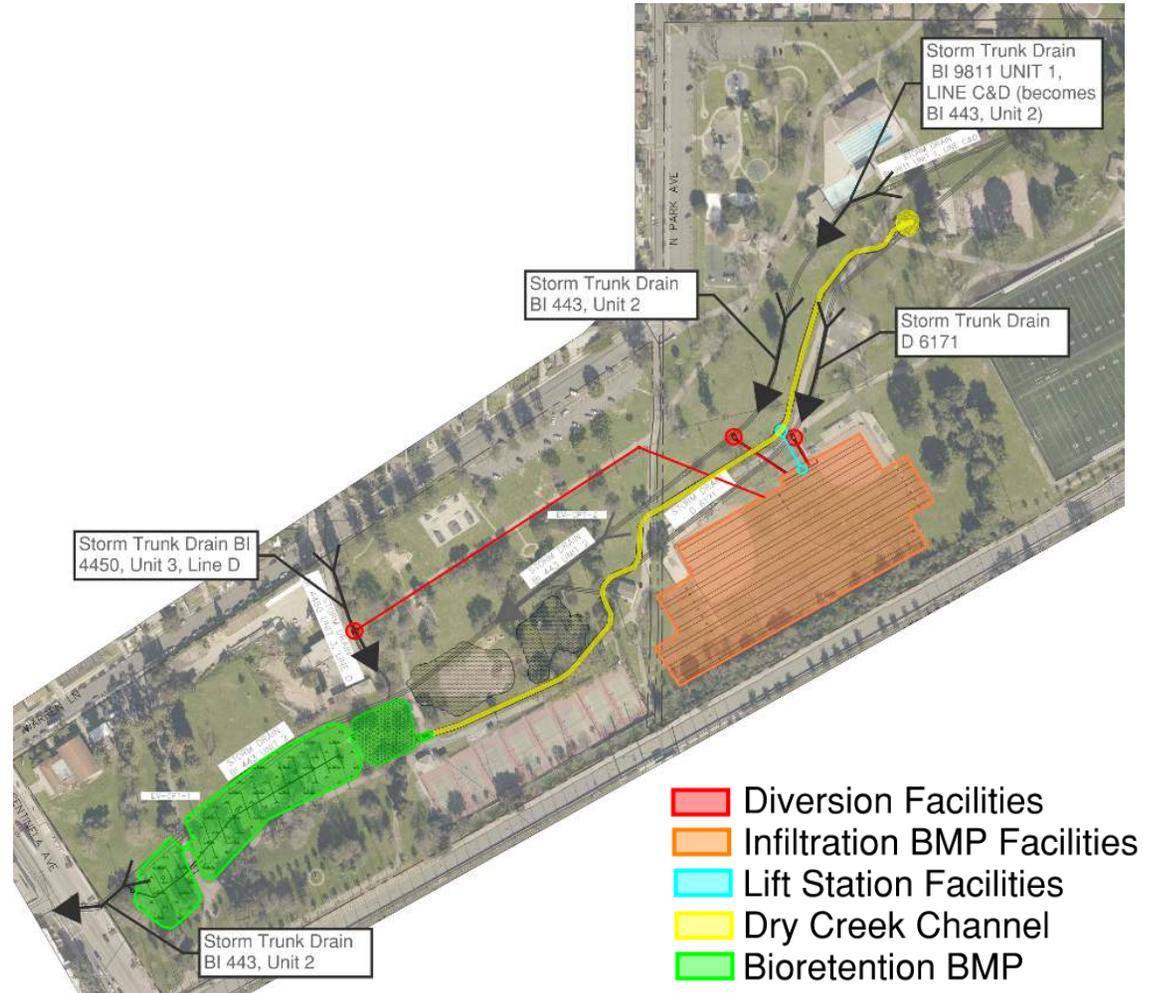
- Project included as signature regional project in Ballona Creek Enhanced Watershed Management Program (EWMP)
- Captures 85<sup>th</sup> percentile, 24-hr storm volume for the 895-acre drainage area
- Water quality benefits:
  - Reduces metals, bacteria, and trash in the Centinela Creek and Ballona Creek Estuary
- Community benefits:
  - Vegetation and shade trees
  - Reintroduction of historical creek feature
  - Enhanced recreational opportunities (e.g., new trails, new field)
  - Public safety through addressing daylighted portion of the storm drain
  - Educational opportunities for local schools and park visitors
- Park improvements will directly benefit the local disadvantaged community





# Project Details

- Concept includes:
  - 3 diversions
  - Infiltration gallery
  - Small lift station
  - Dry creek channel
  - Bioretention area with trash capture and sediment forebay
- Geotechnical investigations completed during the Feasibility Study





## Project Details

- Additional surface improvements:
  - New field
  - Native vegetation
  - Shade trees
  - New trails
  - Boardwalk
  - Seating areas
  - Educational signage





## Cost & Schedule

| Phase        | Description                                                                                                                           | Cost                | Completion Date |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----------------|
| Design       | Agency Project Management, CEQA Documentation, Permitting, Design (30/60/90/100), Pre-Construction Monitoring, Outreach During Design | \$4,270,000         | 06/2025         |
| Construction | Project Management, Construction Management, Engineering Services during Construction, Outreach, Project Construction                 | \$42,424,000        | 03/2028         |
| <b>TOTAL</b> |                                                                                                                                       | <b>\$46,694,000</b> |                 |

- Annual O&M: \$819,920
- Post-Construction Monitoring (3 years): \$329,700
- Project Lifespan: 50 years
- Lifecycle Cost: \$66.5M



# Funding Request

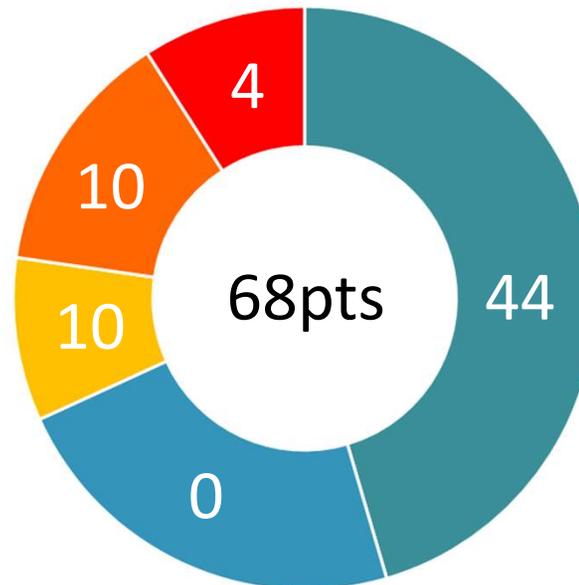
| Year         | SCW Funding Requested | Phase  | Efforts during Phase and Year                                                                                         |
|--------------|-----------------------|--------|-----------------------------------------------------------------------------------------------------------------------|
| 1            | \$1,035,000           | Design | Pre-Construction Monitoring, Outreach During Design, Preliminary (30%) Design, Agency Project Mgmt.                   |
| 2            | \$2,610,000           | Design | Pre-Construction Monitoring, Outreach During Design, CEQA Documentation, 60% Design, 90% Design, Agency Project Mgmt. |
| 3            | \$625,000             | Design | Pre-Construction Monitoring, Outreach During Design, 100% Design, Permitting                                          |
| <b>TOTAL</b> | <b>\$4,270,000</b>    |        |                                                                                                                       |

- Future Safe, Clean Water Program funding request anticipated for Construction Phase



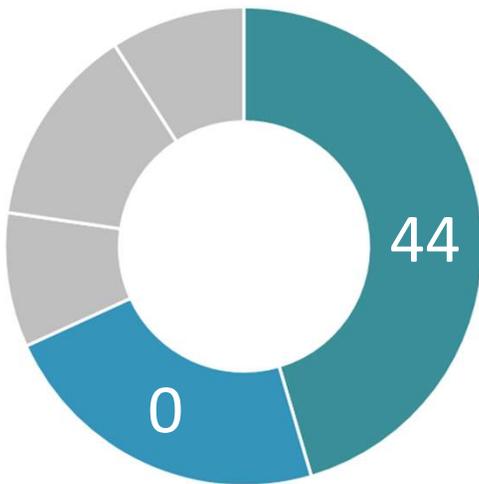
# Preliminary Score

- Water Quality
- Water Supply
- Community Investment Benefits
- Nature Based Solutions
- Leveraged Funds and Community Support





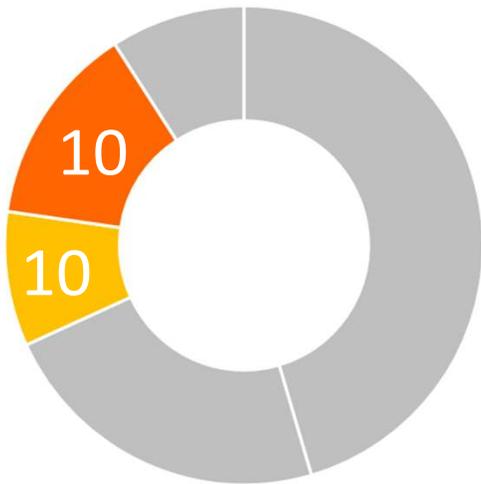
## Water Quality & Water Supply Benefits



- Primary Mechanisms: Infiltration and bioretention
- Wet Weather
- Tributary Area: 895 acres
- 24-hr Capacity: 34.3 acre-feet
- Water Quality Cost Effectiveness: 0.81
- Long-Term Pollutant Reduction:
  - 86.2% load reduction in Zinc (197 lbs)
  - 84.5% load reduction in *E. coli* (1.99e+14)
- Annual Water Supply Volume: N/A



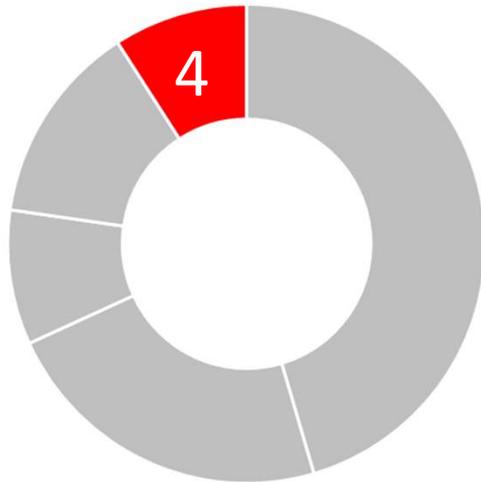
# Community Investment Benefits and Nature Based Solutions



- **Community Investment Benefits**
  - Improves flood management
  - Enhances parks and creates habitat
  - Improves public access to waterways
  - Enhances and creates new recreational opportunities
  - Reduces heat island effect/increases shade
  - Increases trees and native vegetation
- **Nature Based Solutions**
  - Mimics natural processes to slow, detain, capture, and infiltrate water in a manner that protects and enhances habitat and usable open space
  - Utilizes natural materials including soils and native vegetation



# Leveraging Funds and Community Support



- Leveraging Funds
  - No funds leveraged for Design Phase
- Community Support
  - Strong community support demonstrated through support letters
  - Outreach is planned for initial stages of design to engage community on park amenities concepts
  - Outreach and engagement plan includes:
    - Community engagement events
    - Surveys, flyers, and posters
    - Webpage development
    - Social media postings and newsletter updates



**Questions?**