

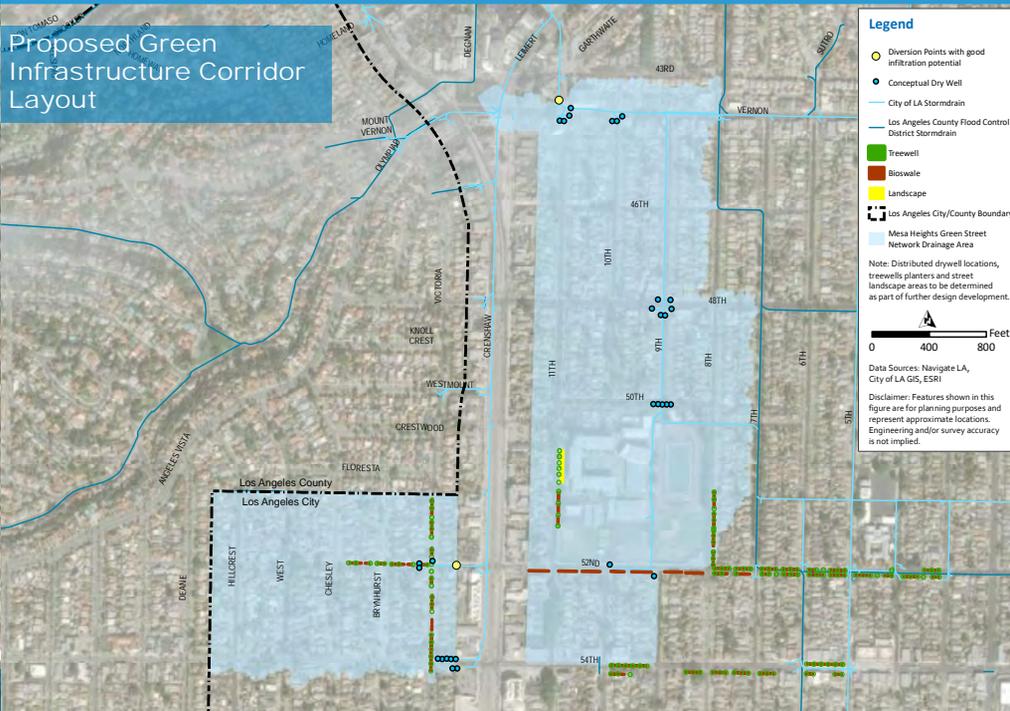
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# Angeles Mesa Green Infrastructure Corridor Project



## Proposed Green Infrastructure Corridor Layout

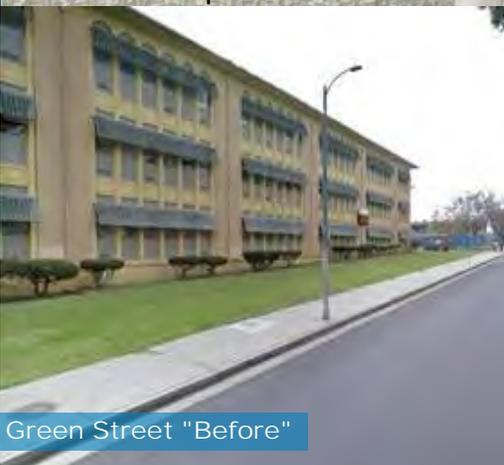


## FACT SHEET

The goal of this project is to improve water quality within the Ballona Creek Watershed of the Central Santa Monica Bay (CSMB) Area. Other improvements include flood mitigation and community benefits. The green street network is where the project really provides direct benefits to the community: several miles of green streets through the Mesa Heights neighborhood will improve air quality and provide aesthetically appealing green spaces for residents to enjoy year round. Additional trees through the neighborhood will provide shade, reducing the heat island effect and cooling the area for pedestrians and people engaged in active recreation.

A key goal of the project is stormwater capture. The project will use dry wells to infiltrate captured stormwater into the aquifer in areas where the soils are appropriate.

Collectively, these improvements will provide new amenities, healthy community and greener start to this neighborhood, all without displacing any residents or businesses.



Green Street "Before"

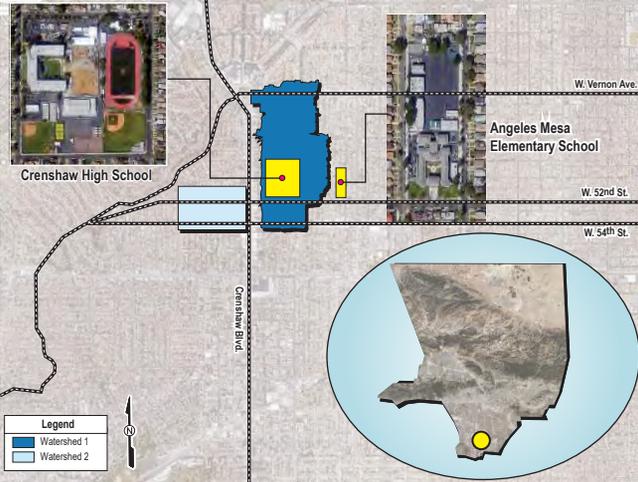


Green Street "After"

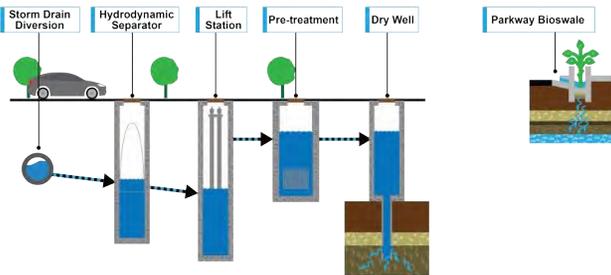


Typical Drywell Configuration with Parkway Biofilters: Water Quality Benefits

MESA HEIGHTS NEIGHBORHOOD LOCATION MAP



PROCESS FLOW DIAGRAM



PRELIMINARY PROJECT COST ESTIMATE

Description	Cost
Construction Cost (Including 40% Contingency)	\$7,137,882
Project Delivery (ELA)	\$1,043,550
<b>Total Project Cost</b>	<b>\$8,181,432</b>
Annual Operation and Maintenance	\$100,000
Annual Project Life Cycle Cost (50-Years):	\$274,273

LOCATION

Angeles Mesa Green Infrastructure Corridor Project  
 City of Los Angeles, Sanitation and Environment  
 Neighborhood Council: Park Mesa  
 Council Districts: 8 (Marqueece Harris-Dawson)

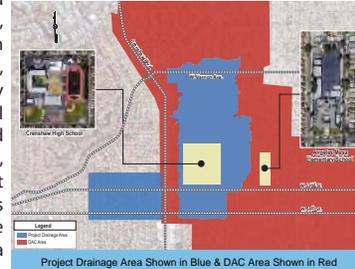
Supervisorial District: 2 (Mark Ridley-Thomas)  
 Assembly District: 54 (Sydney Kamlager-Dove)  
 State Senate District: 30 (Holly Mitchell)  
 Congressional District: 37 (Karen R. Bass)

SCOPE

- Dry wells
- New trees
- Parkway planters
- New vegetated medians
- Diversion structure from storm drain
- Hydrodynamic separators

BRINGING BENEFITS TO DISADVANTAGED COMMUNITIES

Benefits from increased trees and greening will include additional shade, improved air quality and a reduction in the heat island effect. In addition, the project will provide water quality benefits by reducing pollutants in local runoff on streets and parkways and in runoff from the project watershed, which is also largely a DAC. The project will provide water supply benefits through groundwater recharge of the underground aquifer, which is used as a water supply source for the area.



GREEN STREET ELEMENTS

Because the project is located in an urban area and the neighborhood has areas that lack green elements, the project will include a series of green street elements, mainly around schools that will both capture stormwater and functionally extend the existing parks into the neighborhood.



PRELIMINARY PROJECT SCHEDULE | TOTAL DURATION: 59 MONTHS

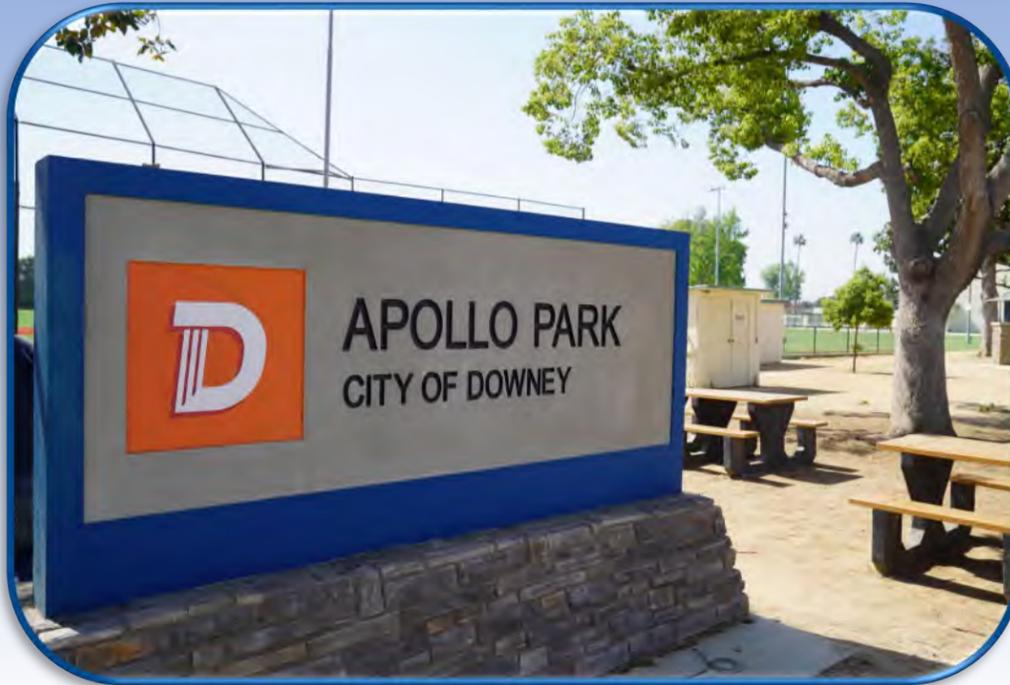
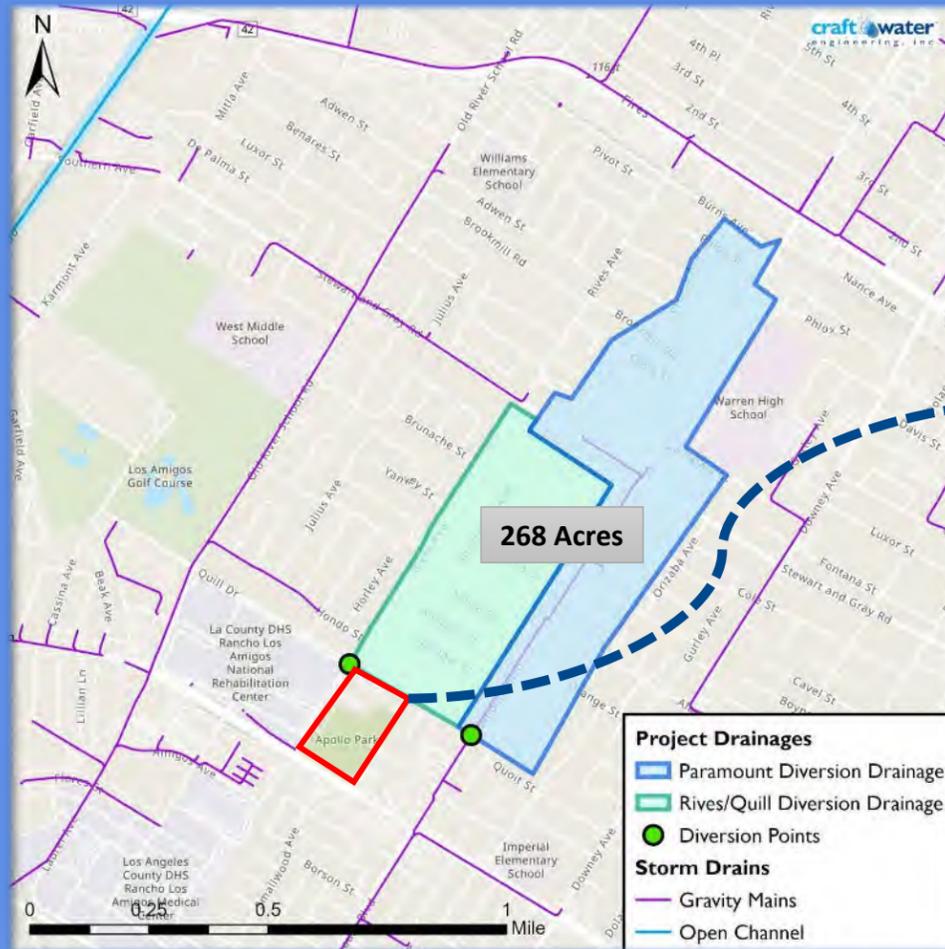
Task Name	TOTAL DURATION: 59 MONTHS																			
	YR1-FY21/22				YR2-FY22/23				YR3-FY23/24				YR4-FY24/25				YR5-FY25/26			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Planning																				
Baseline Monitoring																				
Design																				
Permitting																				
Procurement																				
Construction																				
Optimization																				
Outreach																				

ANTICIPATED SAFE CLEAN WATER PROGRAM SCORE

Section	Score Range	Scoring Standards	Score	Notes
A.1 Water Quality Benefits	50 max	The Project provides water quality benefits		
	20 max	A.1.1: For Wet Weather BMPs Only: Water Quality Cost Effectiveness (Cost Effectiveness) = (24-hour BMP Capacity) / (Capital Cost in \$Millions) <0.4 (acre feet capacity / \$-Million) = 0 points 0.4-0.6 (acre feet capacity / \$-Million) = 7 points 0.6-0.8 (acre feet capacity / \$-Million) = 11 points 0.8-1.0 (acre feet capacity / \$-Million) = 14 points >1.0 (acre feet capacity / \$-Million) = 20 points	20	85th percentile storm volume is 8.2 AF. Capital cost is \$8,181,432. For calculation 8.2 / 8.18 = 1.002
-OR-	30 max	A.1.2: For Wet Weather BMPs Only: Water Quality Benefit -Quantify the pollutant reduction Primary Class of Pollutants >80% = 20 points (Max available) Second or More Classes of Pollutants >80% = 10 points (Max available)	30	84.6% Bacteria load reduction and 100 trash load reduction.
A.2 Dry Weather Water Quality Benefits	20 points	A.2.1: For dry weather BMPs only.		N/A. Wet weather BMP
	20 max	A.2.2: For Dry Weather BMPs Only.		N/A. Wet weather BMP
B. Significant Water Supply Benefits	25 max	The Project provides water supply benefits		
	13 max	B1. Water Supply Cost Effectiveness.	6	\$1,879/ac-ft.
	12 max	B2. Water Supply Benefit Magnitude. The yearly additional water supply volume resulting from the Project is: • 100 - 200 ac-ft/year = 5 points	5	146 AF per year of water capture.
C. Community Investments Benefits	10 max	The Project provides Community Investment Benefits		
	10 points	C1. Project includes: • One of the Community Investment Benefits identified = 2 points • Three distinct Community Investment Benefits identified = 5 points • Six distinct Community Investment Benefits identified = 10 points	10	Can define 6 Community Investment Benefits (improved flood mitigation, restoration of parks, enhanced recreational opportunities, increasing shade, carbon sequestration and greening at schools).
D. Nature-Based Solutions	15 max	The Project implements Nature-Based Solutions		
	15 points	D1. Project: • Implements natural processes or mimics natural processes = 5 points • Utilizes natural materials = 5 points • Removes Impermeable Area from Project (1 point per 20% paved area removed) = 5 points	10	Natural processes include infiltration of stormwater runoff and California-native vegetation is preferred. Negligible reduction in impervious area.
E. Leveraging Funds and Community Support	10 max	The Project achieves one or more of the following:		
	6 max	E1. Cost-Share. Additional Funding has been awarded for the Project.	0	
	4 points	E2. The Project demonstrates strong local support.	0	
<b>Total</b>		<b>Total Points All Sections 110</b>	<b>81</b>	<b>Total points for proposed Project</b>



# APOLLO PARK STORMWATER CAPTURE PROJECT FACT SHEET



## PROJECT DESCRIPTION

**LOCATION:** Apollo Park- 12544 Rives Ave Downey, CA (LAT: 33.926937/ LONG: -118.154241)

**REGIONAL WATER MANAGEMENT PLAN**  
Lower Los Angeles River Watershed Management Program

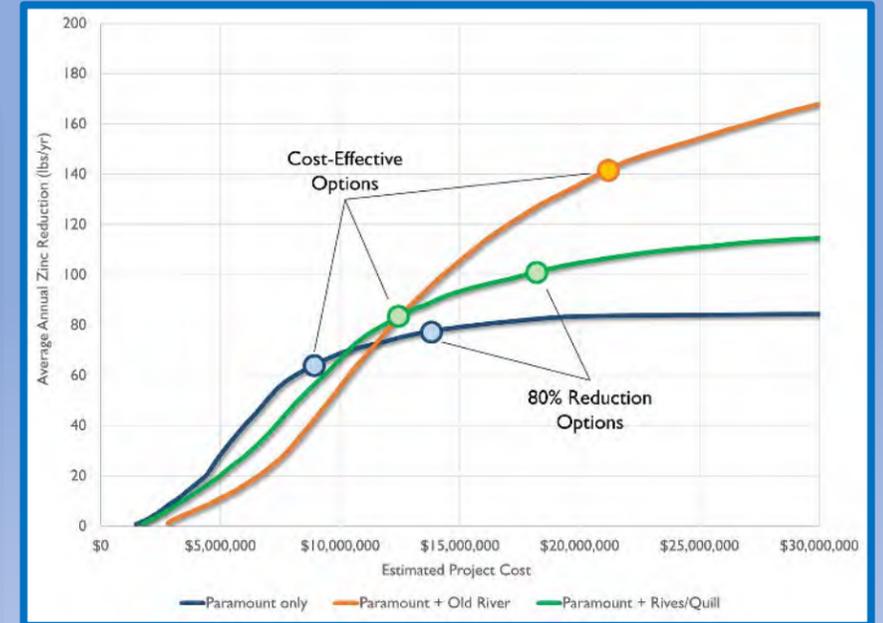
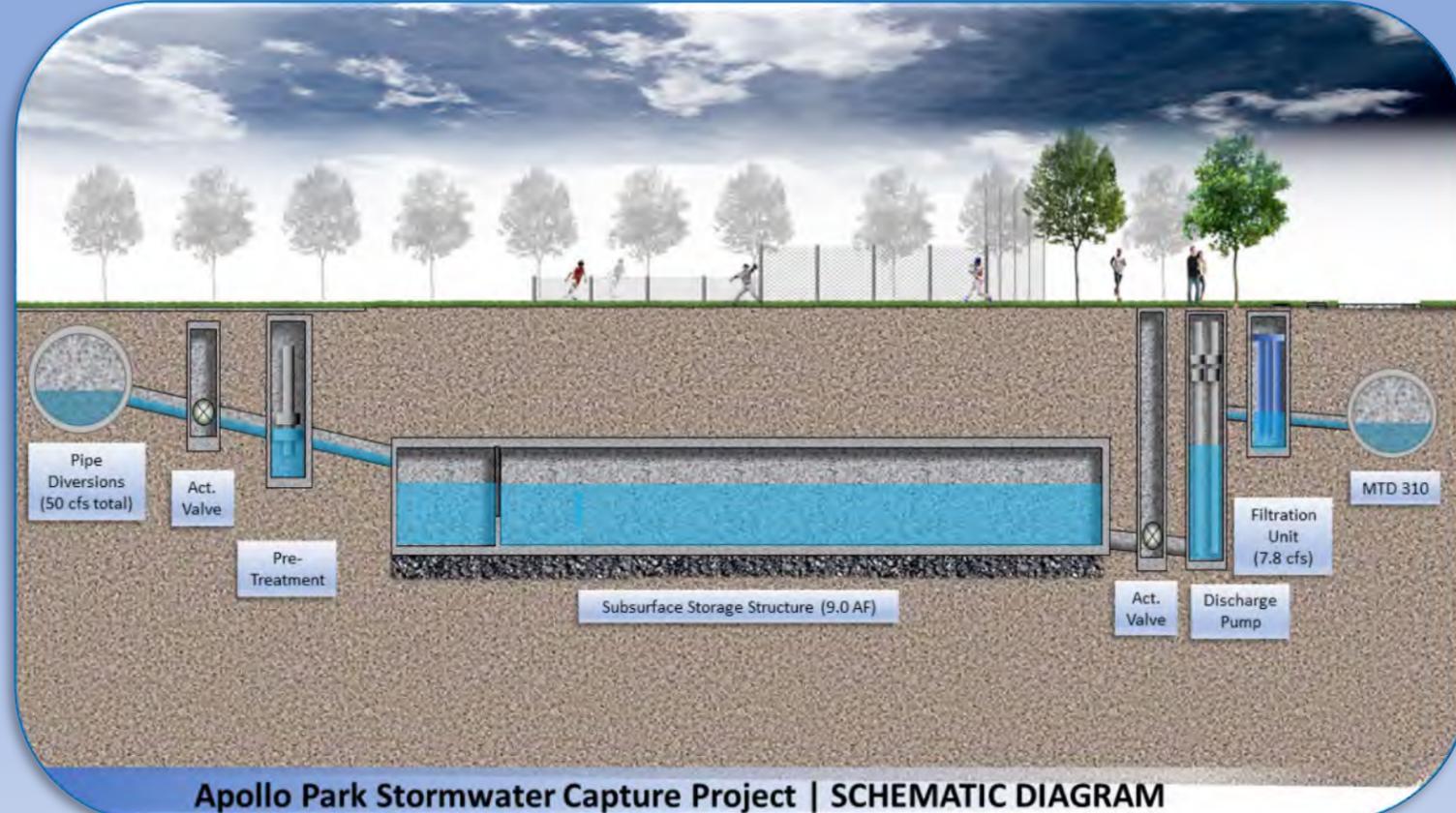
**BRIEF:** The Apollo Park site is owned and operated by the City of Downey and has been identified as a key regional project in the Lower Los Angeles River Watershed Management Program (LLAR WMP). Runoff within this corridor drains to the Hollydale A storm drain system, the Los Angeles River, and ultimately the Pacific Ocean. The project seeks to improve the water quality of stormwater runoff flows conveyed within the Hollydale A system through capture, storage, and filtration before returning flows back to the system via the proposed underground storage unit. The project includes a stormwater drop-inlet diversion from the LACFCD B13102, Line A. There is also a proposed extension of MTD 310, which the project will be diverting from, this extension will provide additional drainage to the intersection of Quill Dr and Rives Ave as the city of Downey has identified flooding issues in this area. Treatment items of the system include, a pretreatment unit, a 9 acre-foot underground subsurface storage and infiltration reservoir, and green street and parking bio-filtration cells. Impervious areas of the park will also be reduced in the redevelopment of the park. The eastern parking lot that is currently not being utilized will be replaced with a turf recreational area. This project has the potential to offer runoff storage and water quality benefits for the city of Downey that can address the additional needs for stormwater management identified to achieve compliance with the LLAR WMP.



# APOLLO PARK STORMWATER CAPTURE PROJECT FACT SHEET



DRAINAGE AREA CHARACTERISTICS	
REGIONAL WATER MANAGEMENT PLAN	Lower Los Angeles River Watershed Management Program Group
TOTAL DRAINAGE AREA	268 Acres Downey (100%)
INFILTRATION RATE	12.5 in/hr - observed 1.53 in/hr - design
APPROX. DEPTH TO GROUNDWATER	52 ft BGS
MODELED AVERAGE ANNUAL RUNOFF VOLUME	198 acre-ft



## WATER QUALITY IMPROVEMENT

<b>Primary Pollutant</b>	
Zinc Reduction Achieved (% Zn reduction)	93.7 lb/yr (80.6%)
<b>Secondary Pollutant</b>	
Copper Reduction Achieved (% Cu reduction)	19.2 lb/yr (80.3%)
<b>Design Diversion Rate</b>	
Paramount Diversion Point	30 cfs
Quill Dr and Rives Ave Diversion Point	20 cfs
<b>Total</b>	<b>50 cfs</b>
Storage Capacity for Subsurface Storage Structure	9.0 ac-ft (2.52 MG)
24-Hour Capacity	13.59 ac-ft
Construction Cost Estimate	\$18,625,814

Apollo Park Existing Ballfield



Apollo Park Eastern Parking Lot



Apollo Park Northeastern Grass Area

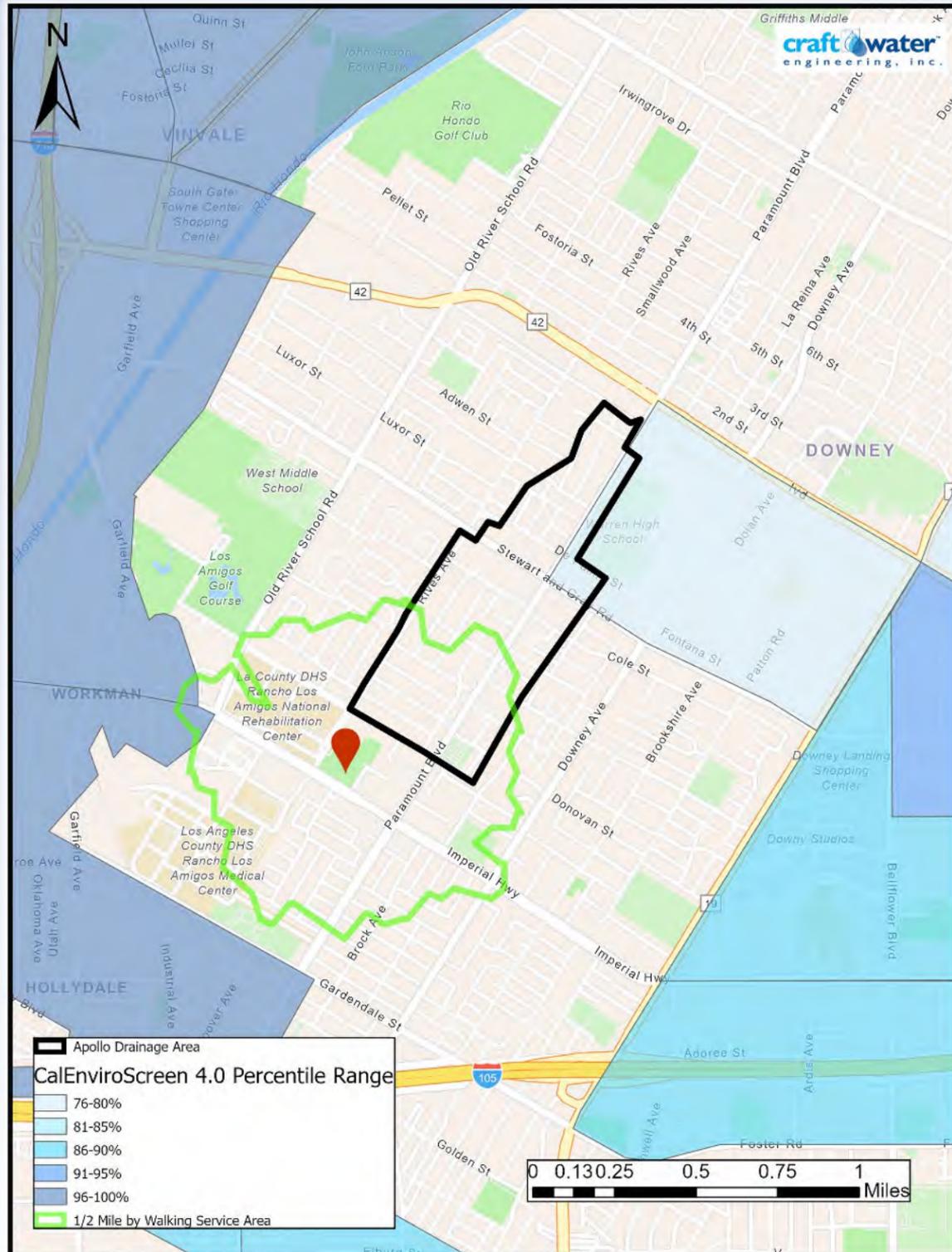




# APOLLO PARK STORMWATER CAPTURE PROJECT FACT SHEET



## DISADVANTAGED COMMUNITY MAP



## COMMUNITY INVESTMENT BENEFITS



## COMMUNITY SUPPORT



## NATURE BASED SOLUTION





# APOLLO PARK STORMWATER CAPTURE PROJECT FACT SHEET

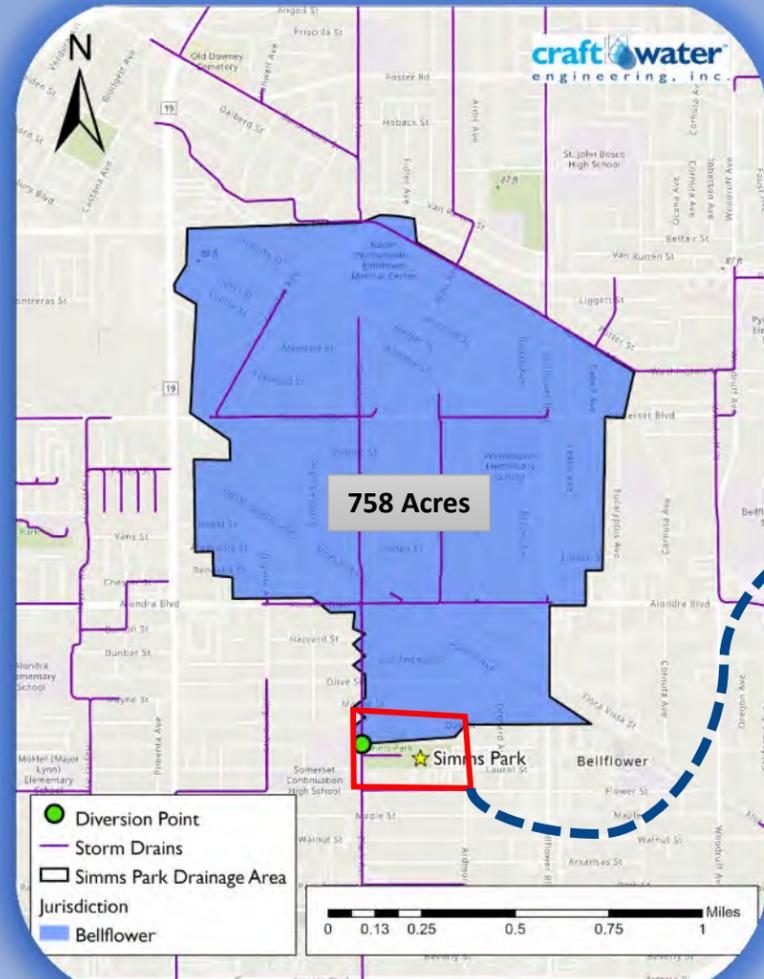


SCHEDULE FUNDING BY YEAR		
Year	SCW funding Request	Project Phase
Year 1	\$2,100,982	Design
Year 2	\$6,230,938	Construction
Year 3	\$6,210,938	Construction
Year 4	\$6,210,938	Construction
Year 5	\$232,000	O&M/Monitoring
<b>Total</b>	<b>\$20,985,795</b>	-

PRELIMINARY SCW SCORING	
SECTION	Score
<b>A.1 Wet Weather Water Quality Benefits</b> <ul style="list-style-type: none"> <li>A.1.1 Water Quality Cost Effectiveness &gt; 1.0 AF/\$Million</li> <li>A.1.2 Pollutant Reduction &gt;50%</li> </ul>	11 30
<b>B. Significant Water Supply Benefits</b> <ul style="list-style-type: none"> <li>B1. Water Supply Cost Effectiveness</li> <li>B2. Water Supply Benefit Magnitude</li> </ul>	0 5
<b>C. Community Investment Benefits</b> <ul style="list-style-type: none"> <li>Improved flood management</li> <li>Creation/enhancement/restoration of parks</li> <li>Reducing local head island effect and increasing shade</li> <li>Enhanced/new recreational opportunities</li> </ul>	5
<b>D. Nature-Based Solutions</b>	14
<b>E. Leveraging Funds and Community Support</b> <ul style="list-style-type: none"> <li>Strong local, community-based support</li> </ul>	4
<b>TOTAL SCORE</b>	<b>69</b>



# SIMMS PARK STORMWATER CAPTURE PROJECT FACT SHEET



## PROJECT DESCRIPTION

**LOCATION:** Simms Park: 16614 Clark Ave, Bellflower, CA (LAT: 33° 53'00.42"N/ LONG: 118° 7'52.97"W)

### REGIONAL WATER MANAGEMENT PLAN

Los Cerritos Channel Watershed Management Program

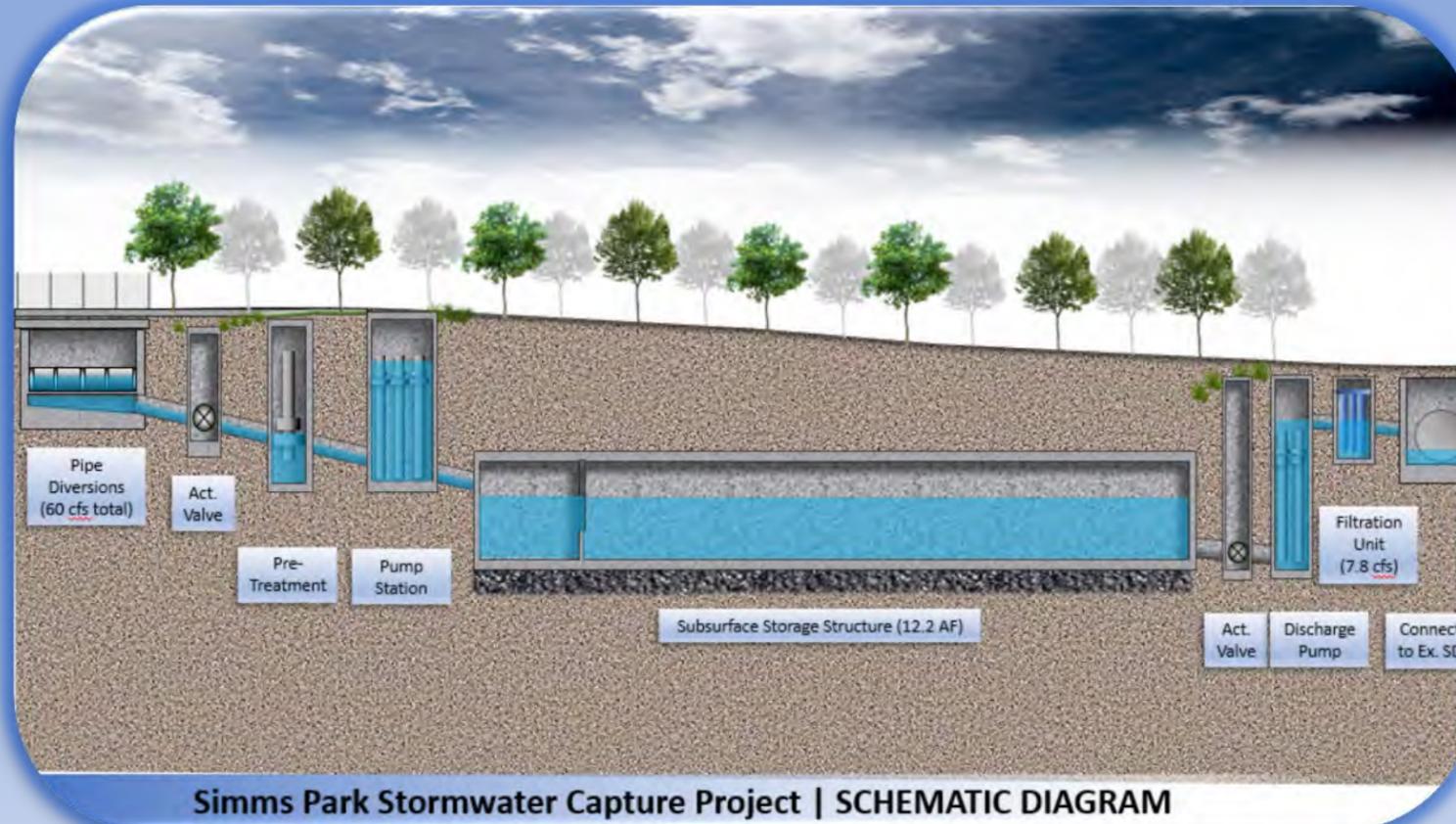
**BRIEF:** The Simms Park site is owned and operated by the City of Bellflower and has been identified as a Tier 1 Priority Project along the Los Cerritos Channel corridor. Runoff within this corridor ultimately drains to the main Los Cerritos Channel and finally the Pacific Ocean. The project seeks to improve water quality discharged to these important water bodies. In addition, portions of the project also propose to reduce the impervious footprint by converting the parking lot into a permeable surface and adding bioretention areas between parking stalls. The project consists of a stormwater diversion from the LACFCD BI0009 Unit 3 Line A, storm drain. The water captured will be filtered by a hydrodynamic separator, stored in a 4.0 MG/12.2 AF underground storage reservoir. Additional features include parking lot enhancements (native landscaping, permeable pavement, and bioswales) and an artificial turn field. The treatment drainage area for the project at 758 acres captures runoff from only the City of Bellflower. This project has the potential to offer runoff storage and water quality benefits for the City that can address the additional needs for stormwater management identified to achieve compliance in the WMP. The project is upstream of the currently under-construction Mayfair Park Stormwater Capture Project in Lakewood and will work in tandem to provide watershed wide benefit.



# SIMMS PARK STORMWATER CAPTURE PROJECT FACT SHEET



DRAINAGE AREA CHARACTERISTICS	
REGIONAL WATER MANAGEMENT PLAN	Los Cerritos Channel Watershed Management Program
TOTAL DRAINAGE AREA	758 Acres Bellflower (100%)
Filtration Rate	7.84 CFS (6.37 inches/hr)
APPROX. DEPTH TO GROUNDWATER	35 ft BGS
MODELED AVERAGE ANNUAL RUNOFF VOLUME	433 acre-ft/year



## BMP Sizing Optimization



## WATER QUALITY IMPROVEMENT

Primary Pollutant Zinc Reduction Achieved (% Zn reduction)	188.1 lb/yr (80.2%)
Secondary Pollutant Copper Reduction Achieved (% Cu reduction)	51.4 lb/yr (78.5%)
Design Diversion Rate Project No. B10009, Unit 3, Line A	60 cfs
Storage Capacity for Subsurface Storage Structure	12.2 ac-ft (4.0 MG)
24-Hour Capacity	27.75 ac-ft
Construction Cost Estimate	\$14,851,529

### Simms Park Walkway



### Clark Avenue Storm Drain



### Simms Park Playground

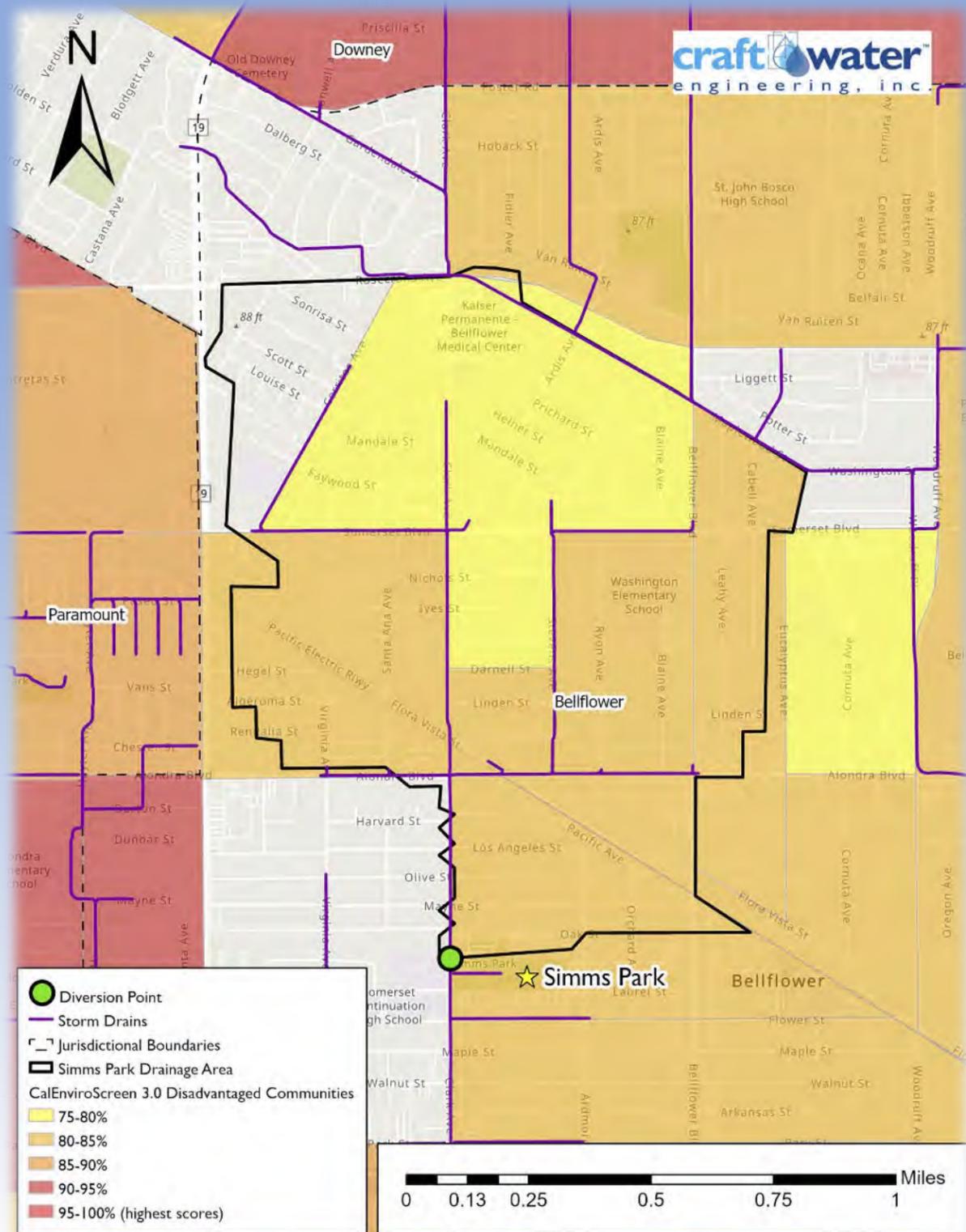




# SIMMS PARK STORMWATER CAPTURE PROJECT FACT SHEET



## DISADVANTAGED COMMUNITY MAP



## COMMUNITY INVESTMENT BENEFITS



## COMMUNITY SUPPORT



## NATURE BASED SOLUTION





# SIMMS PARK STORMWATER CAPTURE PROJECT FACT SHEET



SCHEDULE FUNDING BY YEAR		
Year	SCW funding Request	Project Phase
Year 1	\$2,141,987	Design
Year 2	\$5,222,228	Construction
Year 3	\$5,222,227	Construction
Year 4	\$5,222,227	Construction
Year 5	\$140,000	O&M/Monitoring
<b>Total</b>	<b>\$18,848,669</b>	-
<b>Matched Funds</b>	<b>\$900,000</b>	
<b>TOTAL REQUEST</b>	<b>\$15,666,682</b>	<b>Construction</b>

PRELIMINARY SCW SCORING	
SECTION	Score
<b>A.1 Wet Weather Water Quality Benefits</b> <ul style="list-style-type: none"> <li>A.1.1 Water Quality Cost Effectiveness &gt; 1.0 AF/\$Million</li> <li>A.1.2 Pollutant Reduction &gt;50%</li> </ul>	20 25
<b>B. Significant Water Supply Benefits</b> <ul style="list-style-type: none"> <li>B1. Water Supply Cost Effectiveness</li> <li>B2. Water Supply Benefit Magnitude</li> </ul>	0 2
<b>C. Community Investment Benefits</b> <ul style="list-style-type: none"> <li>Improved flood management</li> <li>Creation/enhancement/restoration of parks</li> <li>Reducing local heat island effect and increasing shade</li> <li>Enhanced/new recreational opportunities</li> </ul>	5
<b>D. Nature-Based Solutions</b>	12
<b>E. Leveraging Funds and Community Support</b> <ul style="list-style-type: none"> <li>Strong local, community-based support</li> </ul>	4
<b>TOTAL SCORE</b>	<b>68</b>

# Downtown Lomita Multi-Benefit Stormwater Project

## City of Lomita | Safe, Clean Water Infrastructure Program – Design Funding Request

### Project Overview

#### Description:

The Project will divert 5.6 acre-feet of stormwater from three LACFCD storm drains in the downtown area of Lomita to an infiltration gallery and a series of drywells. Additional features include bioretention areas, pervious pavement, planting of vegetation with drought tolerant, native plants, 45 new shade trees, 10 benches, and a bike lane along Lomita Boulevard.

- **Total Project Cost: \$6,288,800**
- **Design Cost: \$898,800**
- **Funding Request: \$449,400**

#### Benefits:

- **Mitigates Flood Risk:** large scale subsurface infiltration, bioinfiltration, and porous pavement will reduce local and downstream flooding;
- **Greenscaping and Community Benefits:** Native, drought tolerant vegetation and shade trees will beautify the neighborhood; bike lane will promote a healthy mode of transportation and recreation;
- **Reduced Heat Island Effect:** New vegetation and shade trees will lower temperatures.

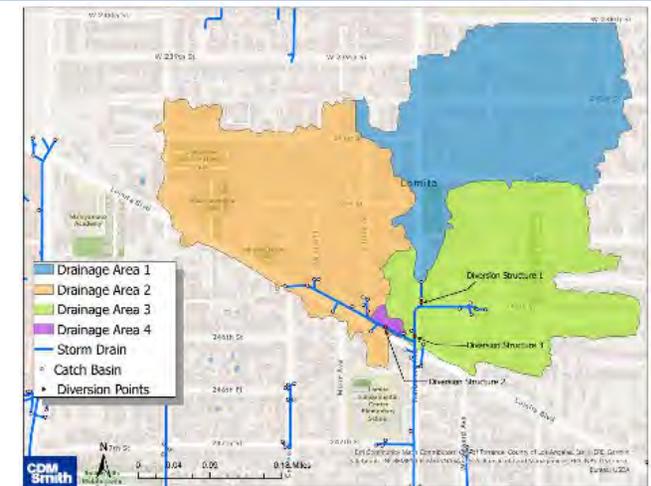
### Project Location

**Location:** Southeast of the intersection of Interstate 110/Sepulveda Boulevard in Downtown Lomita, CA  
**Coordinates:** 33°48'8.9"N, 118°19'11.8"W  
**Stormwater Captured:** 5.6 acre-feet



### Drainage Area

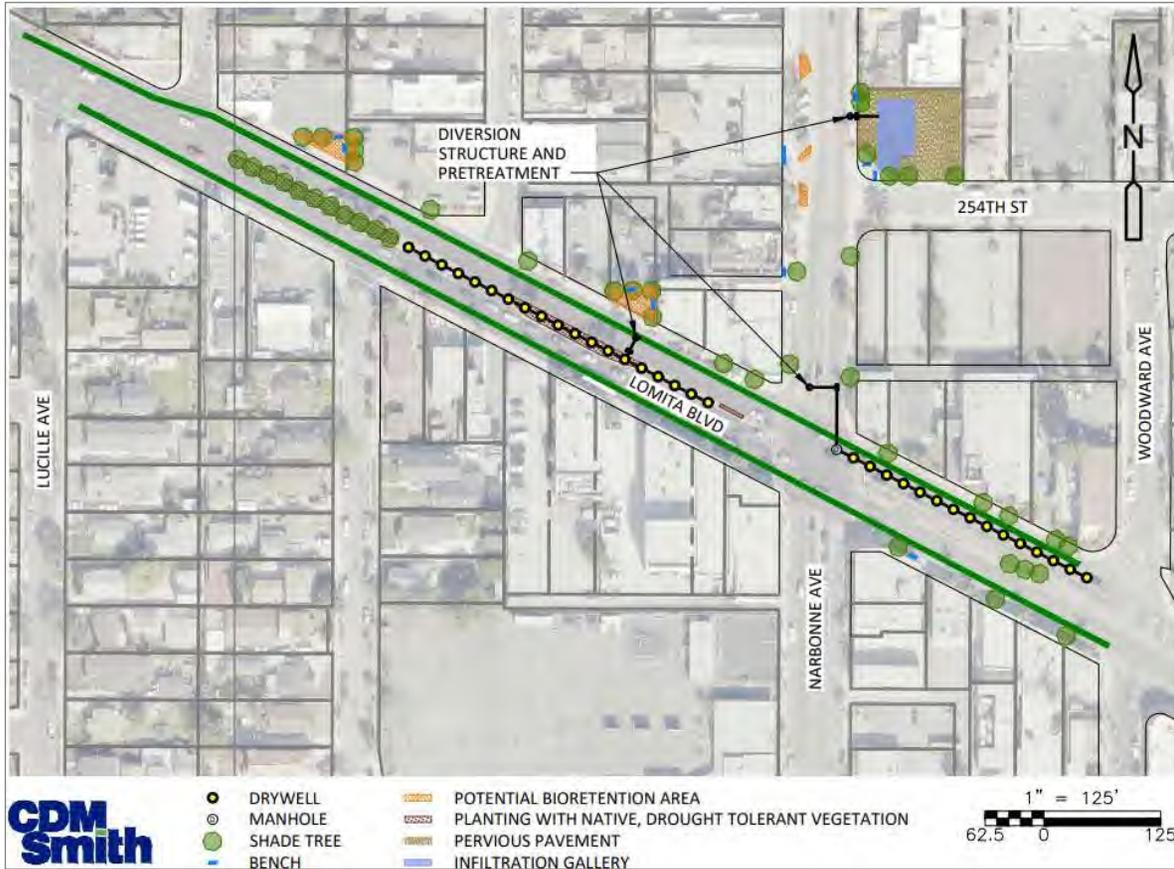
**Total Drainage Area:** 110 acres  
**Watershed:** Wilmington Drain Watershed/Machado Lake Watershed  
**Depth to Groundwater:** 80 ft  
**Infiltration Rate:** 16.9 in/hr  
**Pollutants:** Zinc (primary), Lead (secondary)



### Public Outreach and Engagement

The City has received numerous letters of support from the community. During the design phase, the City will foster a two-way dialogue through stakeholder workshops designed to gain input from the community. The City will listen to the needs of the community with the goal of developing a Project that is collaborative and meets both the water quality goals and community enrichment goals of the City.

## Design Features



### Water Quality Features:

The Project will treat flow from the 85<sup>th</sup> percentile, 24-hour storm from three storm drains, totaling 5.6 ac-ft of stormwater. Each diversion includes a pretreatment debris separating baffle box (DSBB) that will remove debris and sediment before flow continues to a subsurface infiltration gallery on Narbonne Avenue and two series of drywells on Lomita Boulevard totaling 34 drywells.

Surface water quality features include bioinfiltration along Narbonne Avenue and Lomita Boulevard, pervious pavement in the parking lot at the location of the infiltration gallery, and 45 shade trees and native, drought tolerant plants which will reduce the heat island effect.

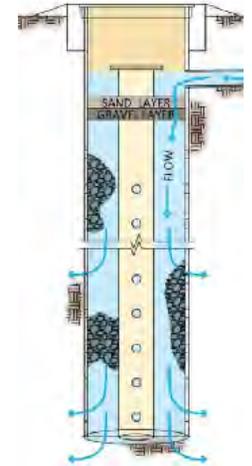
## Nature-Based Solutions

### A Focus on Nature-Based Solutions:

- Infiltration galleries, drywells, pervious pavement, and bioinfiltration provide an effective means of managing stormwater by working with the existing environment in a natural, non-invasive manner.
- Green infrastructure has a smaller carbon footprint than traditional end-of-pipe treatment methods.
- Treatment through vegetation and the addition of trees has the added benefit of reducing the heat island effect that occurs in highly developed areas such as downtown Lomita.



Typical Infiltration Gallery (Source: StormTrap)



Typical Drywell (Source: CA Office of Environmental Health Hazard Assessment)



Typical Bioretention and Tree Well (Source: Philadelphia Green Streets Design Manual)

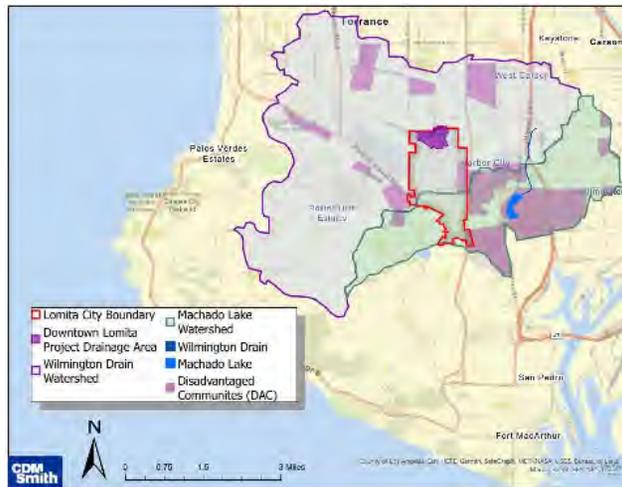
## Community Benefits

### Community Benefits:

- **Recreation:** The bike lane will provide safe space for bicyclists and encourage exercise.
- **Health:** Shade trees will provide refuge from the heat and reduce the heat island effect. Benches placed near shade trees will encourage rest and socialization in the downtown area which will be beneficial to residents' physical and mental well-being.
- **Improved Water Quality:** Polluted stormwater will be diverted for treatment which will create healthier receiving waterbodies which will benefit the community.
- **Nature-Based Solutions:** Natural, non-invasive treatment methods have a smaller carbon footprint which contributes to a sustainable future.



## Disadvantaged Communities



### Disadvantaged Communities:

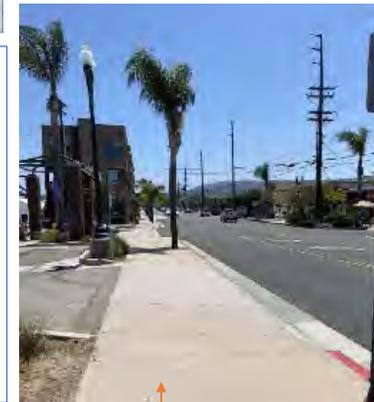
Several areas downstream of the Project are designated as Disadvantaged Communities (DAC), including the area surrounding Machado Lake. These communities will benefit from the Project through improved water quality and mitigated flood risk. Since two of the beneficial uses of Machado Lake include water recreation (REC-1) and non-contact water recreation (REC-2), improving the water quality in the lake will have a direct benefit on the community's ability to utilize this urban lake as it is intended.



## Water Supply Considerations

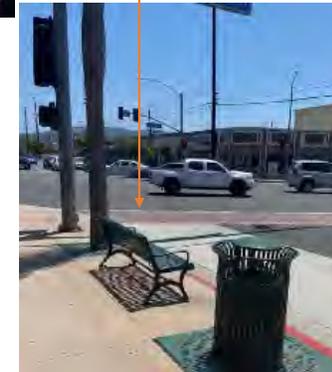
### Water Supply:

- Reducing water demands is an important goal for the region and the Project includes elements that aid in this goal.
- Native, drought tolerant plants will be installed throughout the alignment, which will not require significant watering once they are established (2-3 years).
- During the design phase, the Project team will evaluate the benefits of installing an irrigation system that draws from captured stormwater to irrigate vegetated areas. Since care will be taken in the selection of plants that do not require significant long-term watering, a cost benefit analysis will be conducted to evaluate the benefits.



Shade trees and improvements to bus stops at Lomita Boulevard and Narbonne Avenue

Bioinfiltration and shade trees along Narbonne Avenue



## Echo Park Lake Operation and Maintenance – SCW Funding application summary 2021

The Echo Park Lake O&M Project sustains the goals of the original City of Los Angeles Clean Water Bond (Prop O) Echo Park Lake Rehabilitation Project completed in 2013. The Echo Park Lake Operation and Maintenance Project (O&M Project) will allow the existing facilities to meet the original project's intended goals of providing open space, recreational amenities, flood mitigation, improved water quality and reduced water supply demand, which are also stated objectives of the Safe Clean Water Program (SCWP) goals.



*Echo Park lake and wetland*



*Trash separator upstream of lake*

The O&M Project will sustain the improvements to the existing 13 acres of lake area and 4.4 acres of wetland to meet SCWP goals. The lake serves as a stormwater retention basin for water prior to discharge to the LA River, capturing 131 acre-feet per year of urban runoff from nearly 800 acres of watershed. Pretreatment devices such as trash separators, natural wetlands and physical controls capture pollutants and prevent the discharge of trash and sediment originating from the drainage area from reaching the Los Angeles River. Echo Park Lake is subject to TMDL standards for nutrients, organics and trash, and the O&M Project funding is critical to sustain regulatory compliance and public health.

Project funds will be utilized to keep the lake and wetland ecosystems functioning. Over the past several years LASAN has deferred certain O&M activities due to budget constraints. Critical daily or weekly tasks identified include: trash and debris removal and disposal; weed and algae removal and disposal; apple snail reduction; dead animal and fish removal; care and replacement of aquatic plantings; installation and repair of safety barriers and bird deterrents.

Other periodic tasks identified include: biological treatments for control of algae and cyanobacteria to maintain lake equilibrium, meet TMDL standards, and protect public health; sediment removal from wetlands; sampling and analysis, repair and calibration of in-lake aeration, recirculation, and monitoring systems; lotus bed upkeep to maintain cleanliness and aesthetics; invasive species assessment and control; prevention of conditions causing vector issues; structural components such trash separator, wet-wells, pump station, inlet forebay; and environmental education (for example, DO NOT FEED BIRDS signage) and outreach to the community (website info, public tours), community partnering, and public information to benefit water quality and protect public health. The City is seeking a 5-year funding allocation with an average annual cost estimate of \$480,000 for Echo Park Lake O&M through the Safe Clean Water Program. SCW funding for O&M activities will help to achieve compliance with nutrient and other TMDL targets for the lake, keep the lake and wetland ecosystems functioning and to protect habitat and public health.



*Wetland maintenance activities*

# Echo Park Lake Operation and Maintenance – SCW Funding application summary 2021

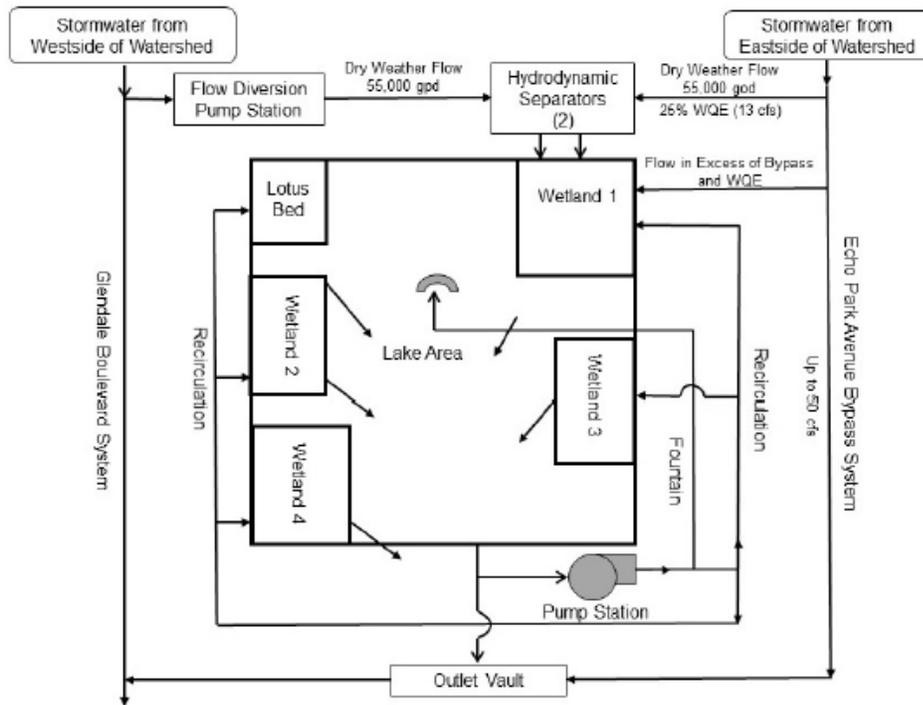
Project location map



Major project elements of lake and wetlands O&M



# Echo Park Lake Operation and Maintenance – SCW Funding application summary 2021



Echo Park Lake Process Flow Diagram

# Edward Vincent Jr. Park Stormwater Improvements | City of Inglewood



**Project Lead Agency:** City of Inglewood Public Works Department

**Project Collaborators:** Los Angeles County Public Works (LACPW); City of Los Angeles Sanitation and Environment (LASAN)

## Project Location

**Edward Vincent Jr. Park**

**700 Warren Lane**

**City of Inglewood, CA 90302**

Project drains to the Centinela Creek in the Ballona Creek Watershed



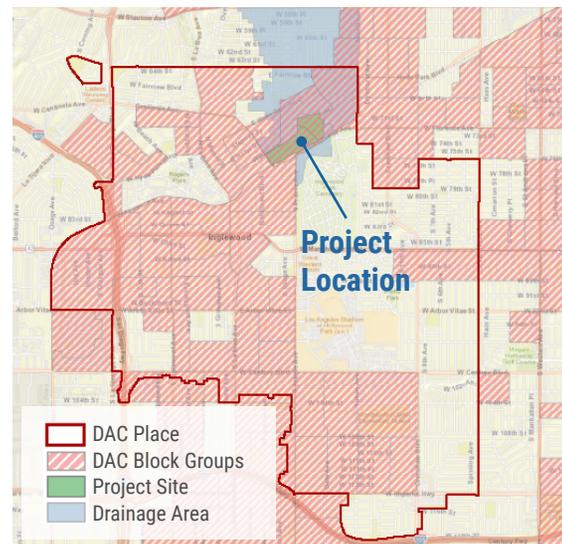
**Watershed Management Plan:** Project included as a signature regional project in the Ballona Creek Enhanced Watershed Management Program (EWMP)

## Existing Park Aerial



## Disadvantaged Community (DAC)

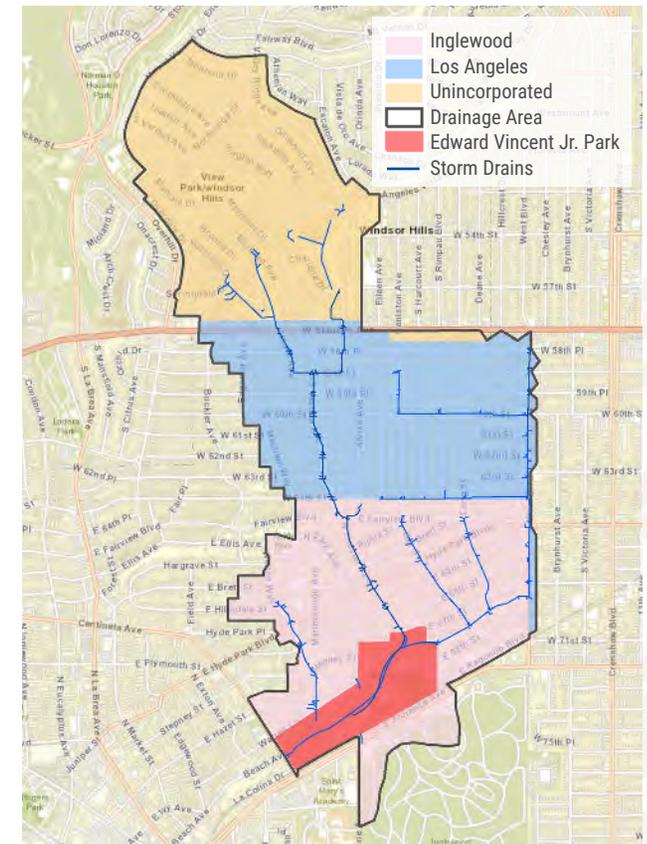
City of Inglewood (DAC Place)  
Project site and communities surrounding the Park (DAC Block Groups)



## Drainage Area Characteristics

- **Size:** 895 acres
- **Jurisdictional breakdown:**
  - City of Inglewood (38%)
  - City of Los Angeles (31%)
  - Los Angeles County (31%)
- **Prominent land use:** Residential

The Project captures, treats, and infiltrates the 85th percentile, 24-hour storm event from an 895-acre drainage area.



## Design Elements

### Key Project Components

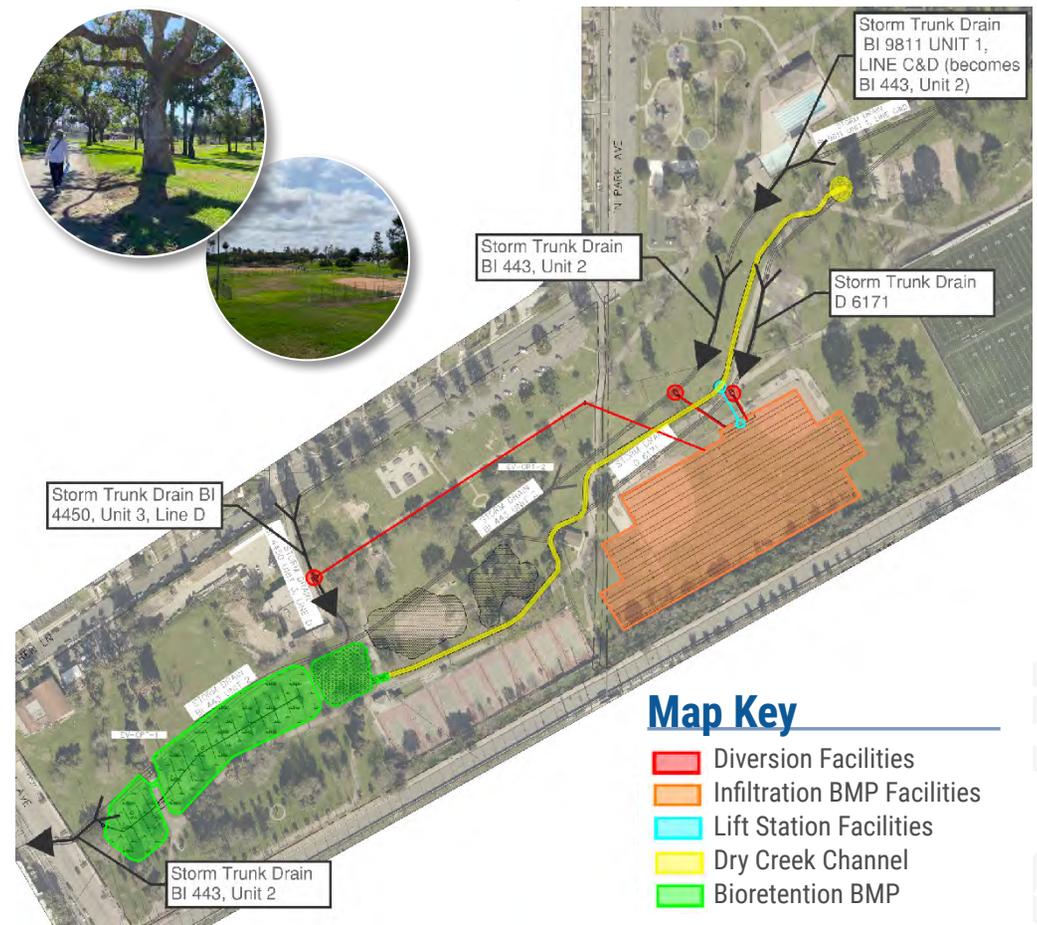
- **3 diversions** (2 from Los Angeles County Flood Control District storm drains and 1 from City of Los Angeles)
- **Infiltration chambers** under the baseball diamonds
- **Dry creek channel** reintroduces historical path of Centinela Creek through the park, connecting the area near the Centinela Springs monument to the bioretention area
- **Small lift station** to provide additional flow to the dry creek channel and increase capacity in the infiltration chambers, as needed
- **Bioretention area** best management practice (BMP) with a sediment forebay and trash capture at the low-lying end of the park for additional nature-based treatment and educational opportunities
- **Secured grate** to cover exposed open storm drain to reduce health and safety concerns

### BMP Capture and Treatment Summary

Parameter	Infiltration Chambers	Bioretention Area	Total Project
Storage Volume	21 AF	1.75 AF	22.75 AF
Effective Footprint Area	2.34 acres	1.25 acres	3.59 acres
Infiltration Rate	1.85 in/hr	0.5 in/hr	1.7* in/hr
24-hour BMP Capacity	31.3 AF	3.0 AF	34.3 AF

\* Weighted average

### Stormwater Improvements Layout



### Above-Ground Park Amenities

- Enhanced ball field area
- Channel-edge seating
- Boardwalk over bioretention area
- Shade trees and native vegetation/habitat
- Walking trails
- Educational signage and additional opportunities

## Project Benefits

### Water Quality Benefits

- ▶ Captures full 85th percentile, 24-hour storm for the 895-acre drainage area
- ▶ Reduces loading of metals, bacteria, trash, and total suspended solids to improve water quality in the Centinela Creek and Ballona Creek Estuary
- ▶ Long-term performance is >80% for pollutants of concern
  - » 86.2% load reduction in zinc (197 pounds)
  - » 84.5% load reduction in *E. coli* (1.99e+14)



### Community Investment Benefits

1. Improves flood management and flood risk mitigation
2. Enhances park space with native vegetation and trees
3. Improves public access to an urban waterway through reintroducing a historical creek feature through the Park
4. Enhances and creates recreational opportunities, including new walking paths, enhanced ball field area, and integrated channel-edge seating
5. Reduces local heat island effect and increases shade with new trees
6. Increases number of trees and native vegetation to sequester carbon and improve air quality

### Above-Ground Project Features



### Nature-Based Solutions

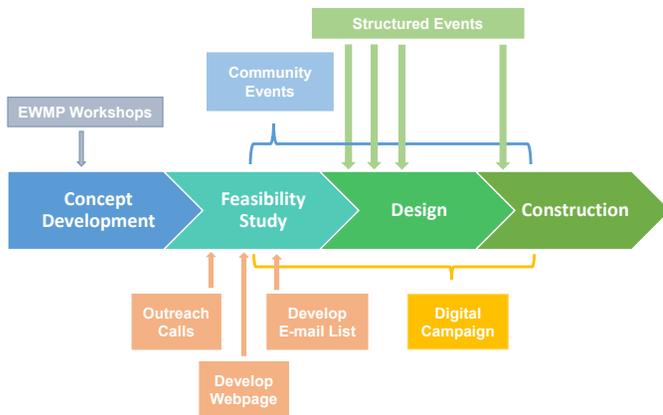
- 🌿 Mimics natural processes through infiltration under the baseball diamonds, creating a dry creek channel for conveyance, and constructing a bioretention area for treatment
- 🌿 Utilizes natural materials including soils, native vegetation, and trees

# Edward Vincent Jr. Park Stormwater Improvements | City of Inglewood



## Outreach

Previous outreach included EWMP workshops and coordination with Project stakeholders. Initial conversations with community-based organizations and community members were conducted during the Feasibility Study development. Community engagement events will occur at the onset of Project design to gather community input and strengthen community ownership of the Project.



## Cost

Phase	Cost
Design	\$4,270,000
Construction	\$42,424,000
<b>Total</b>	<b>\$46,694,000</b>
Annual O&M	\$819,920
Life-cycle Cost (50 years)	\$66,525,295

## Safe, Clean Water Program Scoring

Section	Score	Justification
<b>Wet + Dry Weather Water Quality</b>	14	24-hour BMP Capacity Cost in \$Millions = 34.3 AF/\$42.4 Million = 0.81
	30	Primary Pollutant: 86.2% load reduction in zinc (197 pounds) Secondary Pollutant: 84.5% load reduction in E. coli (1.99e+14)
<b>Water Supply</b>	0	N/A
	0	N/A
<b>Community Investment</b>	10	Addresses 6 community investment benefits: (1) improves flood management; (2) enhances parks and creates habitat; (3) improves public access to waterways; (4) enhances and creates new recreational opportunities; (5) reduces heat island effect/ increases shade; (6) increases trees and native vegetation
<b>Nature-Based Solutions</b>	10	<ul style="list-style-type: none"> <li>➤ Mimics natural processes to slow, detain, capture, and infiltrate water in a manner that protects and enhances habitat and usable open space</li> <li>➤ Utilizes natural materials including soils and native vegetation</li> </ul>
<b>Leveraging Funds and Community Support</b>	0	Cost Share: None
	4	Local Support: Demonstrates strong local, community-based support
<b>Total</b>	<b>68</b>	

## Schedule

- **Design:** 2 years 4 months
- **Construction:** 3 years 3 months
- **Monitoring:** 2 years baseline; 3 years post- construction
- **Operations and Maintenance (O&M):** 50-year project lifespan

Task	FY 2022-23				FY 2023-24				FY 2024-25				FY 2025-26				FY 2026-27				FY 2027-28			
	Jul	Oct	Jan	Apr																				
Funding Secured	█								█															
Consultant Contracting	█																							
CEQA					█																			
Permitting									█															
Preliminary Design (30%)	█																							
Final Design					█																			
Contract Services													█											
Construction													█				█							
Outreach	█				█				█				█				█							
Monitoring					█				█															

# Fulton Playfield Multi-Benefit Infiltration Project

529 Earle Lane, Redondo Beach, CA 90278

Project Lead



Project Collaborators



## Project Overview



The Fulton Playfield Multi-Benefit Infiltration Project proposes to add infiltration elements to the existing Los Angeles County Flood Control District's flood control basin (known as the 'Greenflag Detention Basin') under Fulton Playfield, which is a 1.25-acre open green space in the City of Redondo Beach. The proposed project, located in the South Santa Monica Bay Watershed, is a signature regional project developed for the Beach Cities Enhanced Watershed Management Program. The proposed Project will provide significant water quality benefits while enhancing the flood control capacity of the existing basin



through volume loss via infiltration using drywells. The Project will provide capture of significant dry weather volume and management and controlled release of wet weather flows. The proposed project will construct inlet-outlet control and bypass structures to manage and optimize the storage and infiltration capacity of the project. Park enhancements, including outdoor exercise and playground equipment, are also planned. Adding bioretention features that capture additional downstream runoff from the adjacent school and along and along Rindge and Earle Lanes will provide additional water quality benefits to the community. Public education, including project signage, will be included near an ocean-friendly garden containing native plants and captures runoff from Ripley Avenue. Impervious surface removal will reduce volume of runoff at the site.

## Key Project Benefit

### Water Quality Benefits

45/50

13+ ac-ft 24-hour management capacity

75% bacteria removal & 100% trash capture

\$9M+ construction cost saved by utilizing an existing flood control basin

63

Safe Clean Water Program Score

### Water Supply Benefits

0/25

80 Acre-Feet/ Year\* captured and infiltrated into deep ground to mitigate seawater intrusion

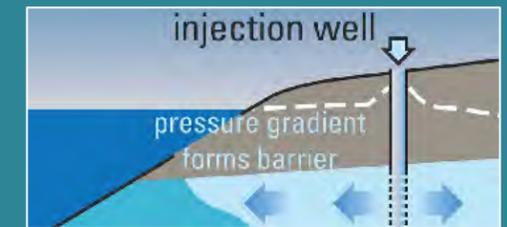


Figure credit: USGS

### Community Investment

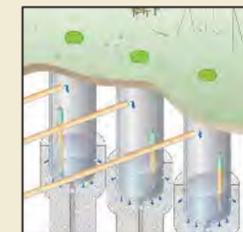
5/10



- ✓ Flood Management
- ✓ Park Enhancement
- ✓ Recreational Opportunities
- ✓ Greening of School\*
- ✓ Heat Island Effect Reduction
- ✓ Vegetation Increase

### Nature-based Solutions

10/15



✓ Mimic natural process



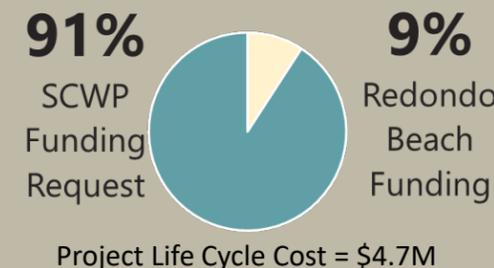
✓ Imper. surface removal\*



✓ Native vegetation

### Funds and Community Support

3/10



### Community Support



\*These auxiliary benefits are not accounted in the final SCWP score

# Fulton Playfield Multi-Benefit Infiltration Project

529 Earle Lane, Redondo Beach, CA 90278

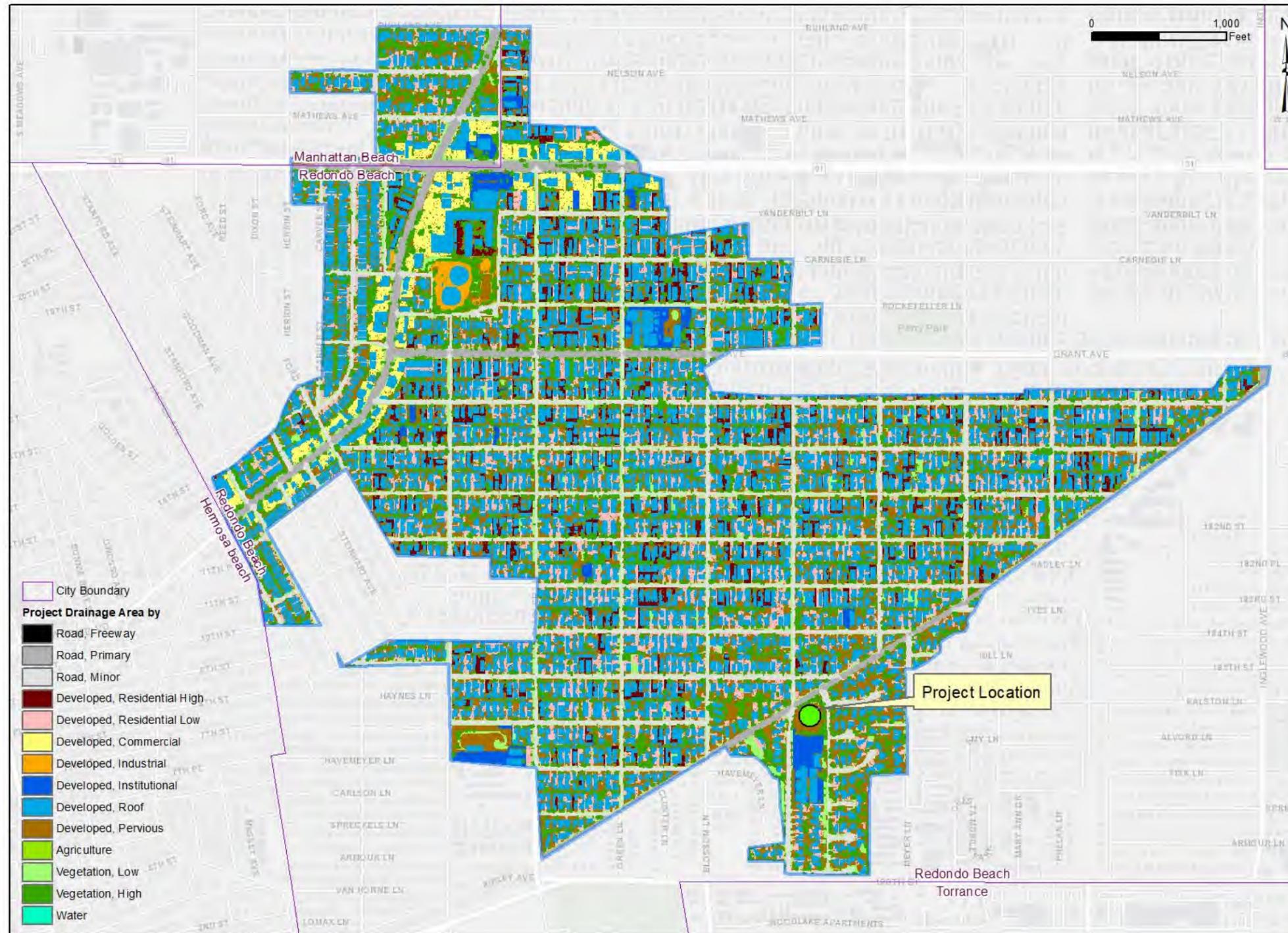
Project Lead



Project Collaborators



## Drainage Area Overview



## Drainage Area Breakdown

Total Capture Area (ac)	464.5
Impervious Area (ac)	201.3
Pervious Area (ac)	263.6

## Impervious Acreage Breakdown

Land Use	Percent of Total Impervious Area	Impervious Area (ac)
Single Family Residential	43.0%	86.5
Multi Family Residential	17.3%	34.9
Commercial	9.7%	19.6
Institutional	5.9%	11.9
Industrial	1.52%	3.1
Secondary Roads and Alleys	21.3%	42.9
Urban Open Space	1.2%	2.5
<b>Total</b>	<b>100%</b>	<b>201.3</b>

# Fulton Playfield Multi-Benefit Infiltration Project

529 Earle Lane, Redondo Beach, CA 90278



## Site Layout - Subsurface



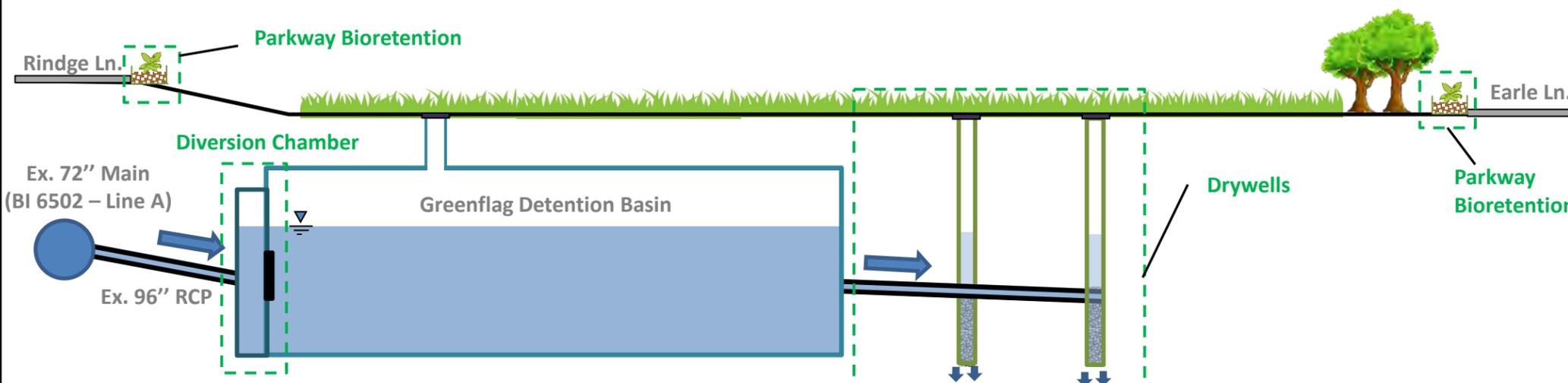
## Site Layout - Surface



## Prelim. Cost Estimate

Planning and Permitting	\$93,000
Engineering Design	\$369,000
Construction	\$3,442,000
2-Year Post-Construction Monitoring	\$62,000
<b>Project Capital Subtotal</b>	<b>\$3,966,000</b>
Annual O&M	\$35,000
<b>30-Year Life Cycle Project Cost</b>	<b>\$4,728,000</b>

## Schematic Layout



- The existing diversion chamber will be modified to direct nearly all stormwater flow from the existing storm drain into the Greenflag Detention Basin.
- Detained stormwater flow is routed to the drywells for infiltration.
- During extreme storm, excess stormwater runoff will overflow into the diversion chamber and continue flow downstream via the existing storm drain.
- Parkway bioretention and ocean friendly gardens intercept and treat surface runoff that may not be captured by the subsurface BMPs.

# Fulton Playfield Multi-Benefit Infiltration Project

529 Earle Lane, Redondo Beach, CA 90278

Project Lead



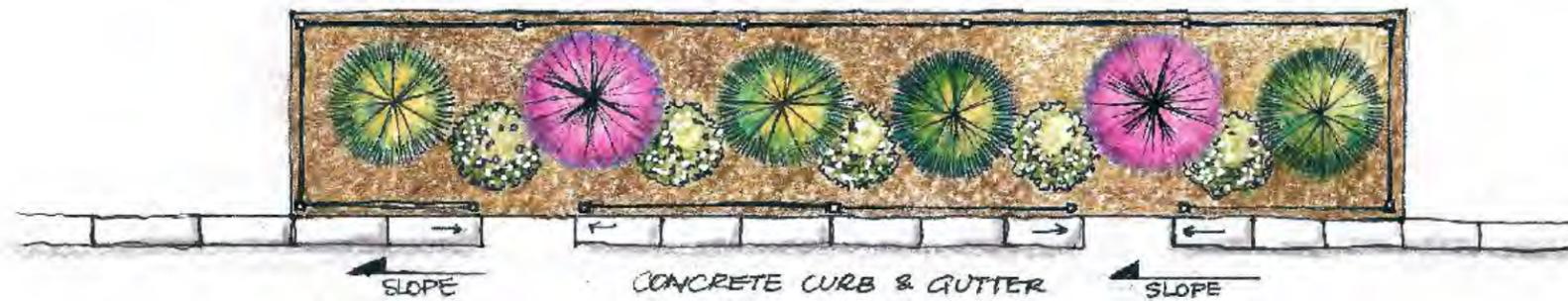
Project Collaborators



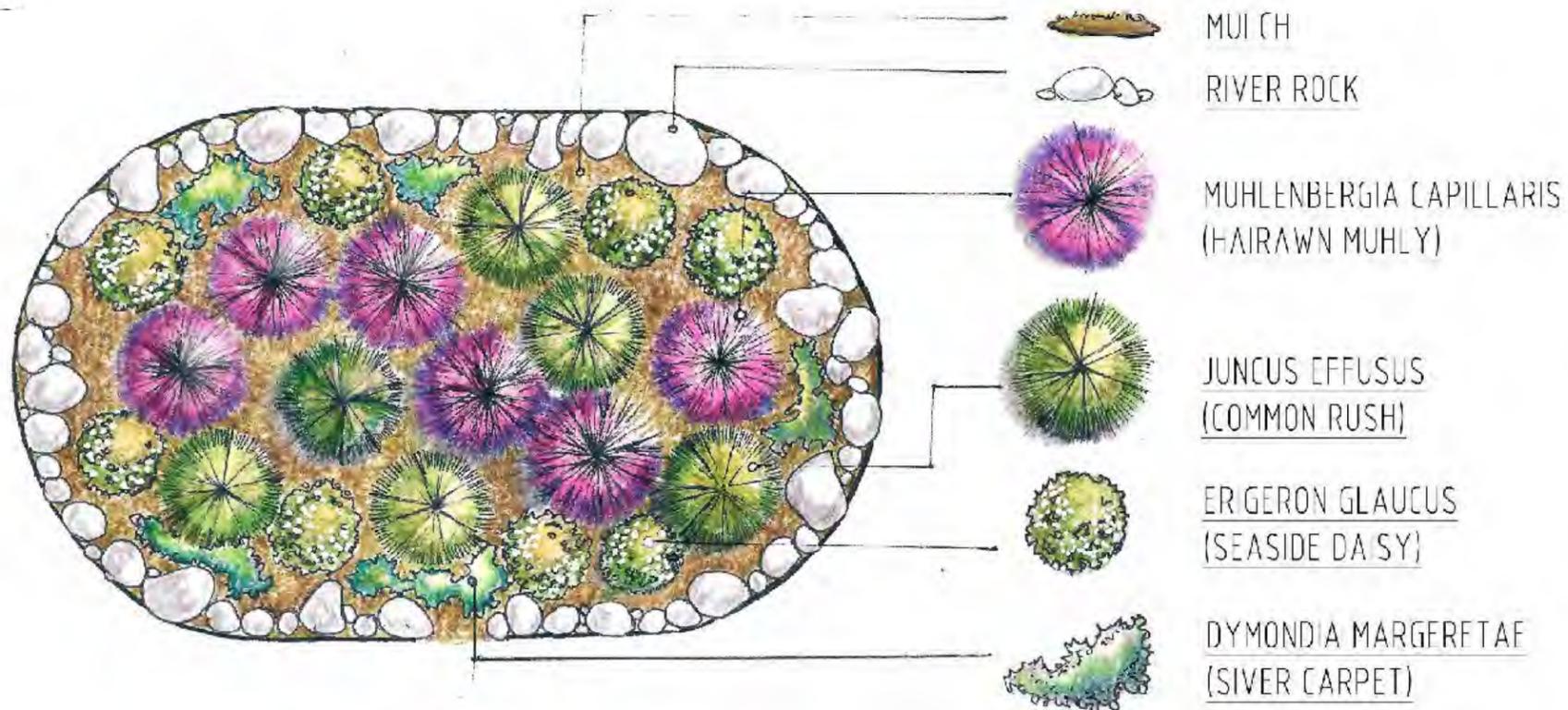
## Design Concept

### Surface BMPs

#### Parkway Bioretention



#### Ocean-Friendly Garden



### Subsurface BMPs



# Glendora Avenue Green Streets Project

UPPER SAN GABRIEL RIVER WATERSHED GROUP, CITY OF GLENDORA



The **goal** of this project is to provide area-wide **pollution reduction** from the capture and treatment/**infiltration** of wet and dry weather runoff. The analysis performed as part of this document aimed to maximize the water quality and water supply benefit, while providing additional benefits to the local community.

## LOCATION

The project area is located primarily within and adjacent to the **Downtown Glendora**, bounded by **Meda Avenue** in the North to **Ada Avenue** in the South.



**DOWNTOWN GLENDORA**  
140 Glendora Avenue, Glendora, CA 91741  
LAT: 34.135681 • LONG: -117.865500

## DRAINAGE CHARACTERISTICS



## UPPER SAN GABRIEL RIVER WATERSHED

### REGIONAL WATER MANAGEMENT PLAN

**395** acres

Glendora (100%)

### TOTAL DRAINAGE AREA



## Proposed Improvements

The project includes the following proposed improvements:



- Diversion, treatment and infiltration from the Pandora Drain
- Three (3) distributed systems to capture, treat and infiltrate surface runoff
- 30 tree wells along Meda, Glendora, and Ada.
- Bioretention curb extension planters along Glendora Blvd. South of Foothill to Ada
- Permeable paving along Ada and Meda Streets.



## Project Benefits

### PRIMARY BENEFITS

<b>Water Quality Benefits</b>	Improve the water quality within area by capturing and treating stormwater and dry-weather runoff
<b>Water Supply Benefits</b>	Infiltrating captured and treated stormwater to provide a water supply benefits to local and downstream groundwater users
<b>Nature Based Solution Benefits</b>	Project elements include nature based treatment through the use of biofiltration planters, tree wells and infiltration galleries.
<b>Provide Multi-Benefit Solutions</b>	<ul style="list-style-type: none"> <li>• This project will align with improvements planned for the new Gold Line Station and the Los Angeles Metro's "First Last Mile" Strategic Plan.</li> <li>• This project also aligns with City's plans to provide more pedestrian access and outdoor dining spaces within the downtown area.</li> </ul>

### SECONDARY BENEFITS

#### Community Investment Benefits, including

- Beautification
- Road improvements
- Safe and pleasant pedestrian and bike access between the Downtown area and mass transit

**Green House Gas Reduction** via increasing the amount of trees and other vegetation.

**Heat Island reduction** via increasing the amount of trees and other vegetation in this urban landscape

**Educate the public** on the local water supply and demands

**Provide an example for the region of the multi-benefit** use of Green Streets for community improvements.

**0.55** (assumed) **in/hour**

Range from 0.55 in/hr to 1.5 in/hr (testing ongoing)



### INFILTRATION RATE

**>101.5** ft BGS

### APPROX. DEPTH TO GROUNDWATER

**287** ac-ft **per year**

### MODELED AVERAGE ANNUAL RUNOFF VOLUME

# Glendora Green Streets Project Details



Preliminary SCW Scoring



Project Characteristics



Project Schedule

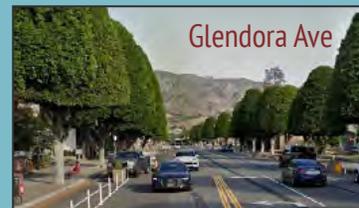
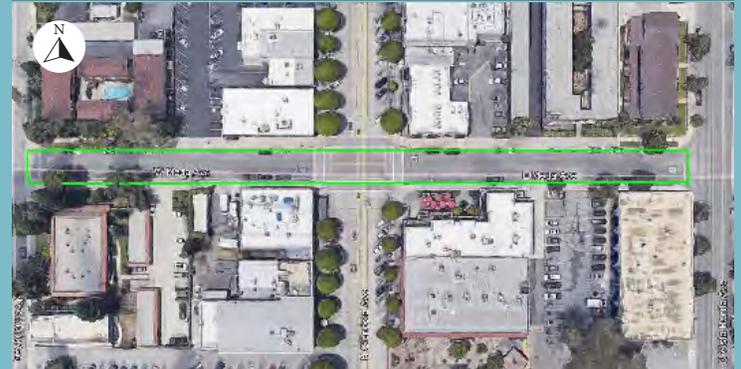
## Preliminary SCW Scoring

SECTION	SCORE
<b>A. Wet Weather Water Quality Benefits</b>	
A.1. Water Quality Cost Effectiveness > 1.0 AF/\$Million	20
A.2. Pollutant Reduction >80%	25
<b>B. Significant Water Supply Benefits</b>	
B1. Water Supply Cost Effectiveness	3
B2. Water Supply Benefit Magnitude	5
<b>C. Community Investment Benefits</b>	
• Improved flood management	5
• Creation/enhancement/restoration of parks	
• Improved public access to waterways	
• Enhanced/new recreational opportunities	
<b>D. Nature-Based Solutions</b>	11
<b>E. Leveraging Funds and Community Support</b>	
E.1. Municipal match = 25%	3
E.2. Strong local, community-based support	4
<b>Total Score</b>	<b>76</b>

### EXISTING SITE CONDITIONS - GLENDORA AVE



### EXISTING SITE CONDITIONS - MEDA AVE



## Project Schedule

- **July 31, 2021** - Complete Feasibility Study
- **December, 2022** - Environment (CEQA)
- **February, 2023** - Final Design Completion
- **September, 2024** - Construction Completion

## PROJECT CHARACTERISTICS

**95 lb/year** (82.2%)

PRIMARY POLLUTANT  
**ZINC REDUCTION ACHIEVED** (%  
Zn reduction)



**24 lb/year** (78%)

SECONDARY POLLUTANT  
**COPPER REDUCTION ACHIEVED**  
**Page 27** (% Cu reduction)

**30 cfs**

DESIGN DIVERSION RATE



**8.25 ac-ft**

24-HOUR CAPACITY



**5.46 ac-ft**

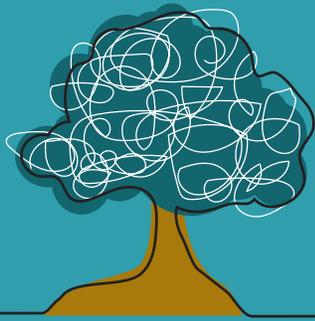
STORAGE CAPACITY FOR  
SUBSURFACE STORAGE  
STRUCTURE



**\$7,234,400**

CONSTRUCTION COST  
ESTIMATE

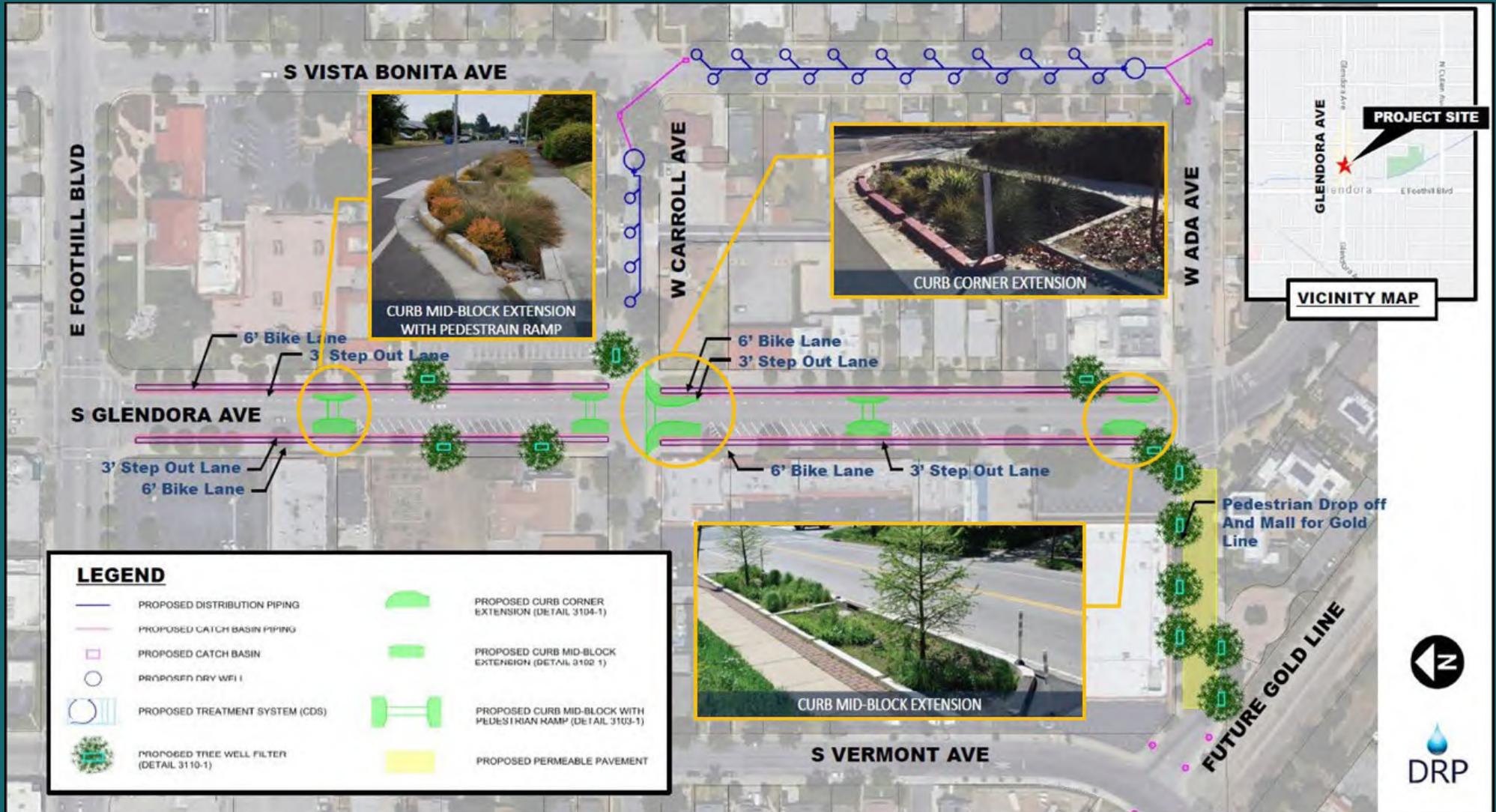


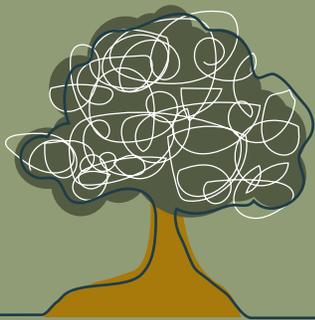


Upper San Gabriel River Watershed Group, City of Glendora

## GLENDORA AVENUE GREEN STREET PROJECT

# PROPOSED CONCEPTUAL SITE LAYOUT - GLENDORA AVE

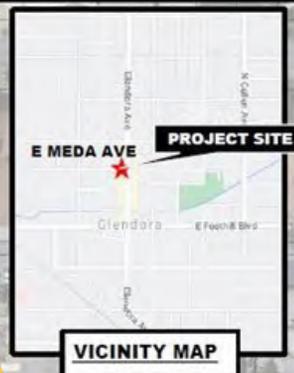
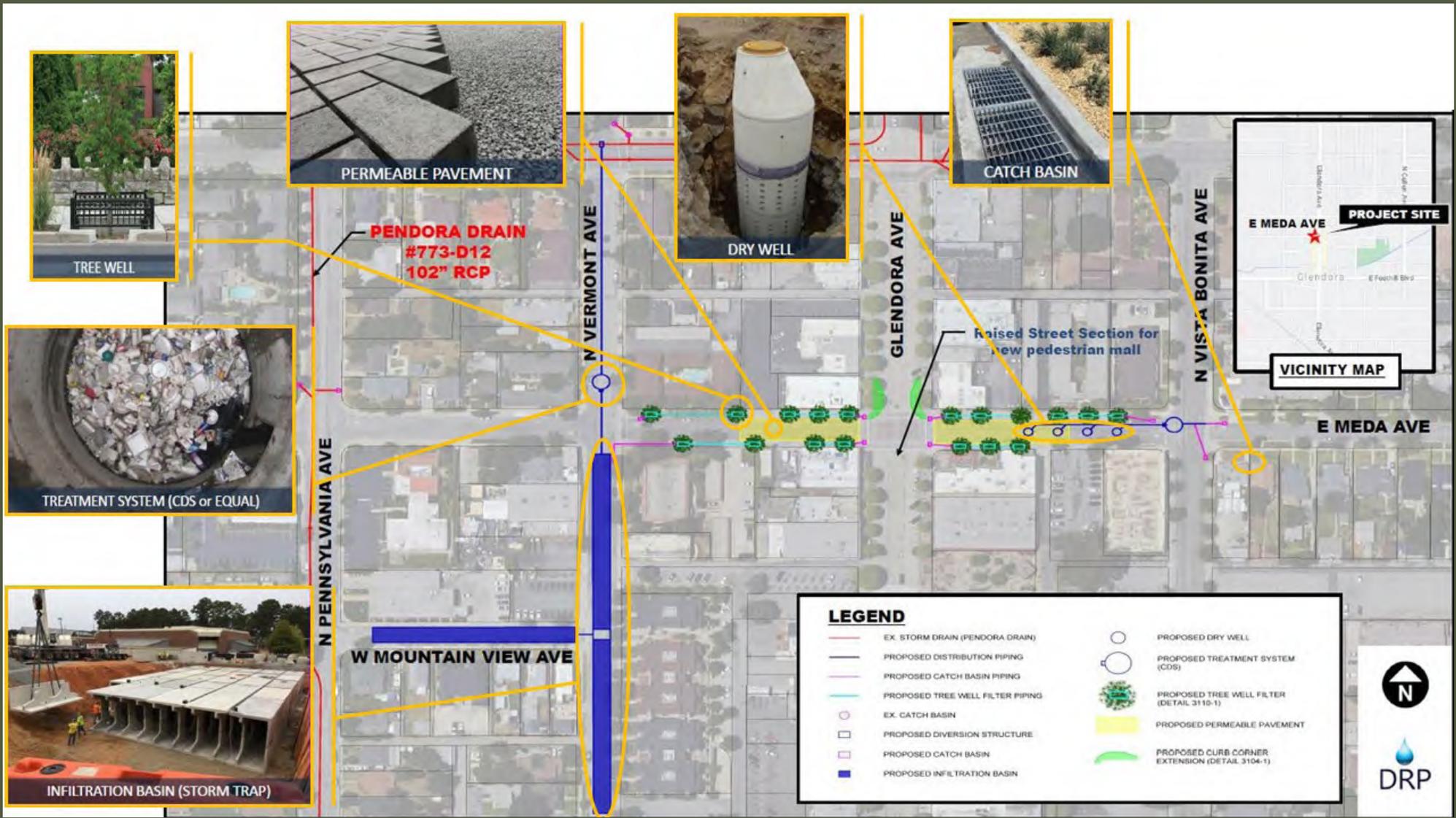




Upper San Gabriel River Watershed Group, City of Glendora

## GLENDORA AVENUE GREEN STREET PROJECT

### PROPOSED CONCEPTUAL SITE LAYOUT - MEDA AVE



LEGEND			
	EX. STORM DRAIN (PENDORA DRAIN)		PROPOSED DRY WELL
	PROPOSED DISTRIBUTION PIPING		PROPOSED TREATMENT SYSTEM (CDS)
	PROPOSED CATCH BASIN PIPING		PROPOSED TREE WELL FILTER (DETAIL 3110-1)
	PROPOSED TREE WELL FILTER PIPING		PROPOSED PERMEABLE PAVEMENT
	EX. CATCH BASIN		PROPOSED CURB CORNER EXTENSION (DETAIL 3104-1)
	PROPOSED DIVERSION STRUCTURE		
	PROPOSED CATCH BASIN		
	PROPOSED INFILTRATION BASIN		



# Hermosa Beach Multi-Benefit Parking Lot Greening Project (Lot D)

City of Hermosa Beach | Regional Project Program



## Location



**Coordinates:** (33.863694, -118.39965)

### Current Site Conditions:

- Lot D is about 750 ft from the beach
- **High Soil Infiltration Rate:** 53 to 66 inches per hour
- **Groundwater:** groundwater was not encountered in the borings of 16.5 ft below grade.
- The parking lot is currently all impermeable pavement. There were public health complaints regarding the unvegetated slope adjacent to the upper portion of the lot. Insufficient lighting at Lot D also creates security concerns.

## Overview

**Project Description:** Demonstration project at Downtown Hermosa Beach Parking Lot D to include: a permeable paver system, native vegetation bioswales, and community multi-use benefits.

**Total Project Cost:** \$1,040,600.00 (\$160,000 for Design and \$880,600.00 for Construction)

**SCW Funding Requested:** \$423,950 for Construction

**Cost Share:** City intends to commit a total of \$616,650 in matching funds (\$433,650 from the Coastal Conservancy grant and \$183,000 from the City General Fund)

### Project Benefits:

- **Water quality:** capture and infiltrate stormwater via permeable pavers and a vegetated bioswale. Project will address bacteria as the primary pollutant and toxicity as the secondary pollutant.
- **Community benefits:** project will improve the accessibility, safety, and green space of Parking Lot D. The project includes: native trees and vegetation, ADA upgrades, increased parking spaces, solar panels, charging stations for full size electric vehicles and neighborhood electric vehicles, a bike corral, CPTED safety lighting levels & distribution, and pedestrian seating.
- **Nature-based solutions:** a vegetated bioswale and permeable pavement will be added to the parking lot. Landscape plans include a total of six drought tolerant native trees and 184 drought tolerant native plants.

## Local Watershed and Community



**Total Drainage Area:** 0.21 ac

**Watershed:** Santa Monica Bay Watershed

**Site Users:** Lot D is heavily used by the local community and tourists to access outdoor coastal activities. Surveys have shown that many visitors come from a surrounding radius of 5-10 miles, about 500,000 residents living in DACs including the City of Lawndale and the City of Hawthorne. Parking Lot D is also 500 meters from public bus stops.

The project will improve the water quality of stormwater runoff to Santa Monica Bay through on-site infiltration and enhance the experience of visitors to the beach or Downtown Hermosa Beach by providing improved facilities for both drivers and pedestrians.



## Project Design:

- **Permeable Pavers**
- **Vegetated bioswale**
- **Community benefit additions** to the project site include: ADA upgrades, increased parking spaces, solar panels, charging stations for full size electric vehicles and neighborhood electric vehicles, a bike corral, CPTED safety lighting levels & distribution, and pedestrian seating.
- **Landscape plans** include: a total of six (6) trees consisting of: three (3) Newport Flowering Plum along Manhattan Avenue, and three (3) Pink Melaleuca along 14th Street. A host of drought-tolerant native plants will be installed within the project site and along the streetscape totaling more than 184 individual plants including: Variegated Agave, Octopus Agave, Coral Aloe, Santa Barbara Sedge, Dianella, Coastal Stative, Scarlet Monkey Flower, Blue Eyed Grass, and Blue Chalk fingers, and Canary Island Ivy.

## Extensive outreach and engagement program:

- Organized a community workshop on August 22, 2018 to present the parking lot project vision and constraints, and garner community input and involvement.
- City held a community education and outreach event to educate residents, and businesses regarding the multiple benefits of the project and to receive feedback.
- Community outreach tools included on-site meetings, mailers, a dedicated project page on the City's website, information booths at City events, notices and articles in local newspapers, updates at City Council meetings and through social media platforms.

## Community stakeholders involved:

- The Gabrieleno Band of Mission Indians-Kizh Nation provided input through a government-to-government consultation on mitigation guidelines for Tribal cultural resources.
- Access Hermosa, a local stakeholder group addressed ADA accessibility issues through the City, along with the South Bay Bicycle Coalition provided input on preferred bicycle options.
- The Surfrider Foundation provided input on the stormwater elements.
- The Police Department and Downtown Subcommittee, comprised of elected official and City staff, provided input on lighting and site amenities.
- The Chamber of Commerce assisted in informing and educating businesses regarding the project.

## Continued public outreach and engagement:

- The City will continue outreach through meetings, mailers, the City's website, info booths at City events, notices and articles in local newspapers, updates at City Council meetings and social media platforms.
- The City will explore the opportunity to employ disadvantaged youth in the propagation and installation of native and drought tolerant plants and trees through collaboration with the LA Conservation Corps.

# Jackson Elementary School Campus Greening and Stormwater Quality Improvement Project

## FACT SHEET

### Project Overview

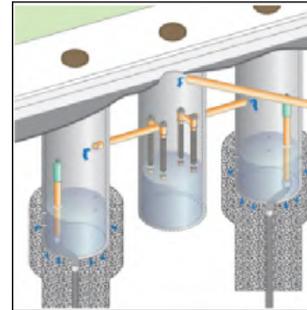
The proposed Jackson Elementary School Campus Greening and Stormwater Quality Improvement Project is a multi-benefit project that improves drainage, optimizes stormwater capture and infiltration, increases vector control and maximizes the mental health, academic performance, and physical fitness benefits of sustainable greening for students. This project will integrate critical natural infrastructure amenities into the school campuses, transforming and deconstructing the “Asphalt Quilt” of these school sites into greener, forest-based discovery areas for the benefit of students, families, and community members. It will also address nuisance flooding around the perimeter of the campus and improve stormwater quality by treating 100% of the runoff from the 85th percentile, 24-hour storm event.

The project replaces over 60% of the existing asphalt within the campus with a combination of permeable concrete, planters, rain gardens and bioswales, and permeable path surfaces which will improve internal drainage and minimize runoff volume. Drainage improvements to the area surrounding the campus include installation of drywell infiltration systems at 6 locations and 1,000 square feet of permeable pavers at the front of the school to address nuisance flooding along Woodbury Avenue. Each drywell location is a stand-alone system and includes a new catch basin with grated inlet to capture runoff from the adjacent neighborhood and, depending on the size of the watershed, either a single or double drywell unit. Both single and double drywell units include a pretreatment chamber designed to remove trash, sediment, and debris prior to entering the main drywell chamber(s).

### Project Summary

- In total, the Project proposes to capture 100% of the 85<sup>th</sup> percentile, 24-hr storm from a 40-acre capture area.
- Infiltrate approximately 20 ac-ft per year on average.
- Remove over 40% impervious surfaces, plant 32 trees and 800 shrubs.
- Funding request for the project is \$3.02 million.
- Project preliminarily achieves 70 points in Safe Clean Water Program scoring.

### Stormwater Quality Components



Drywell System



Curb Inlet

### Campus Greening Components



Nature-based Play elements



Bioswales



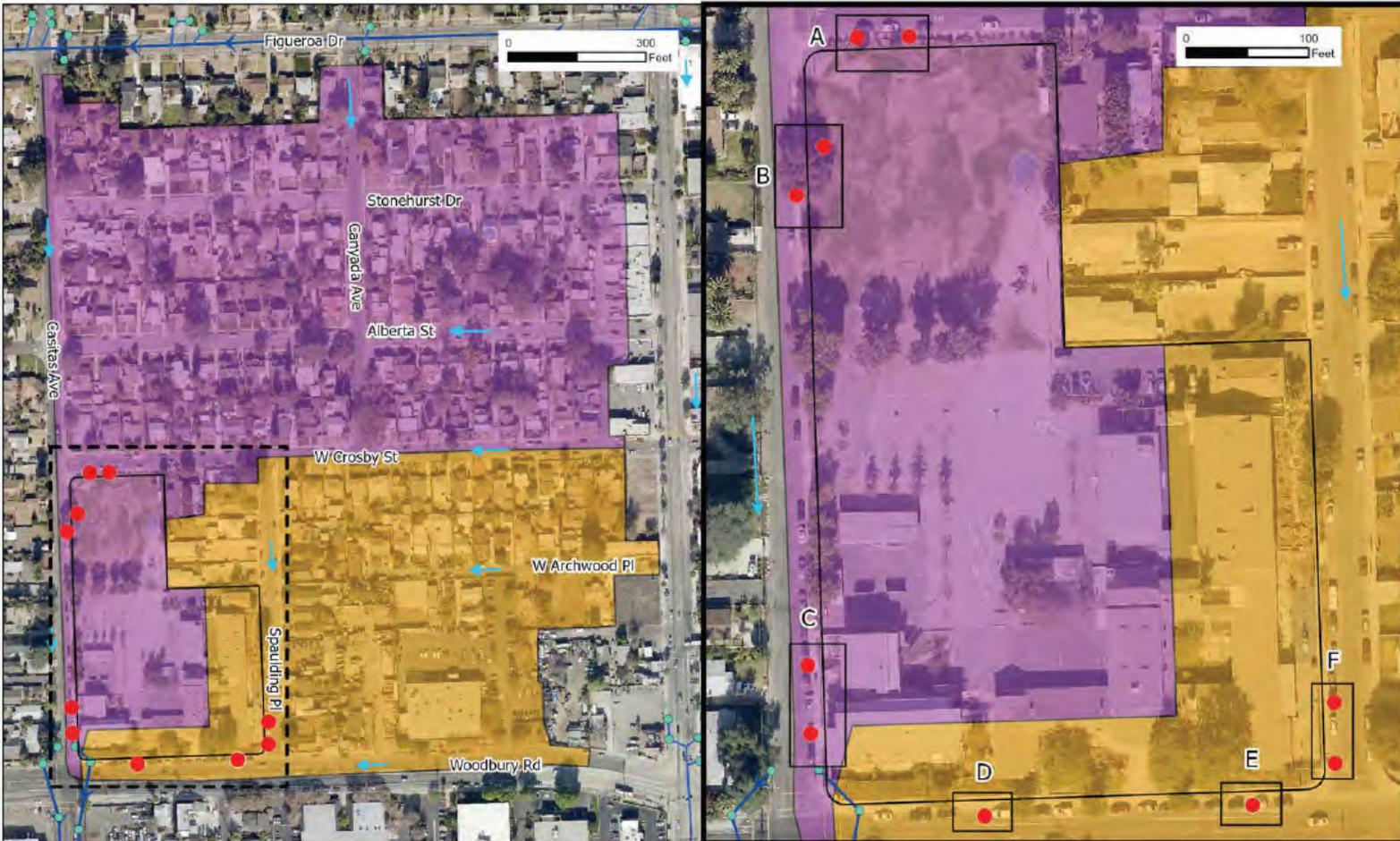
Porous Paving



Rain Gardens

# Jackson Elementary School Campus Greening and Stormwater Quality Improvement Project

**FACT SHEET**



**Legend**

- Catch Basin
- Surface Flow Direction
- Storm Drain Lateral
- Storm Drain Gravity Main
- A Drywell BMP Site Identification
- Parcel Boundary
- Drainage Area #1 (26 acres)
- Drainage Area #2 (14 acres)
- Drywells

**DRAFT**



**Drainage Area and Drywell Locations  
Jackson Elementary School Green Campus and  
Neighborhood Stormwater Improvement Project**

593 W Woodbury Road  
Altadena, CA 91001

**Geosyntec**  
consultants

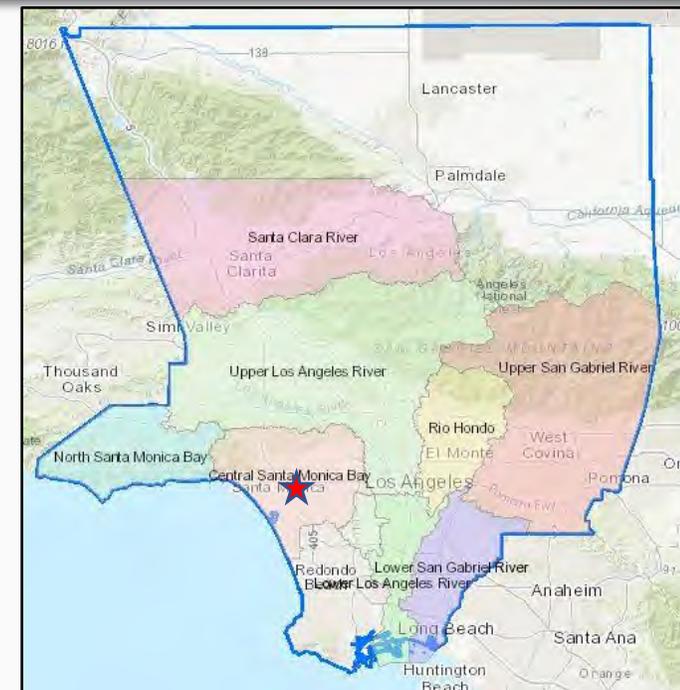
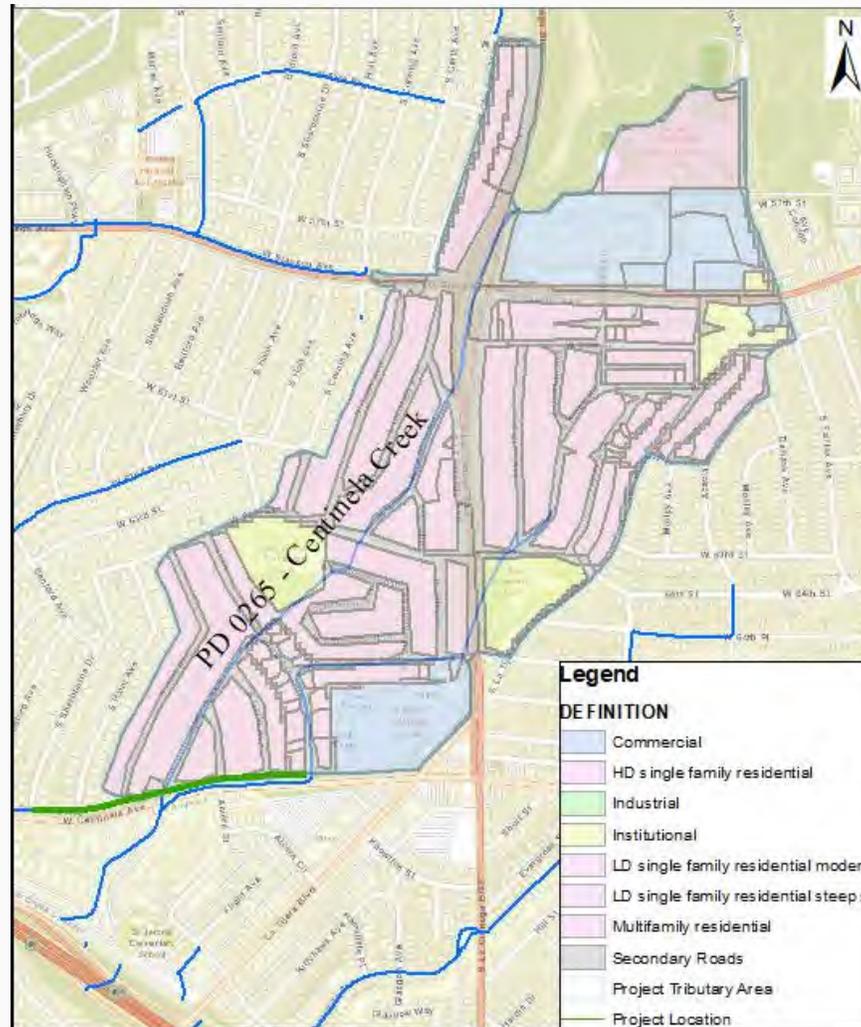
**Figure**

**2**

CWR0657

July 2021

# Ladera Heights – W Centinela Ave Green Improvement Project Location



# Ladera Heights – W Centinela Ave Green Improvement Project Design Elements/Benefits

## Project Design Elements

- ❖ 2 Diversion Points (from main storm drain line)
- ❖ Pretreatment Devices: Debris Separating Baffle Boxes
- ❖ 67 Drywells for infiltration
- ❖ 750 square feet of bioswales
- ❖ 14,890 square feet of pervious pavement

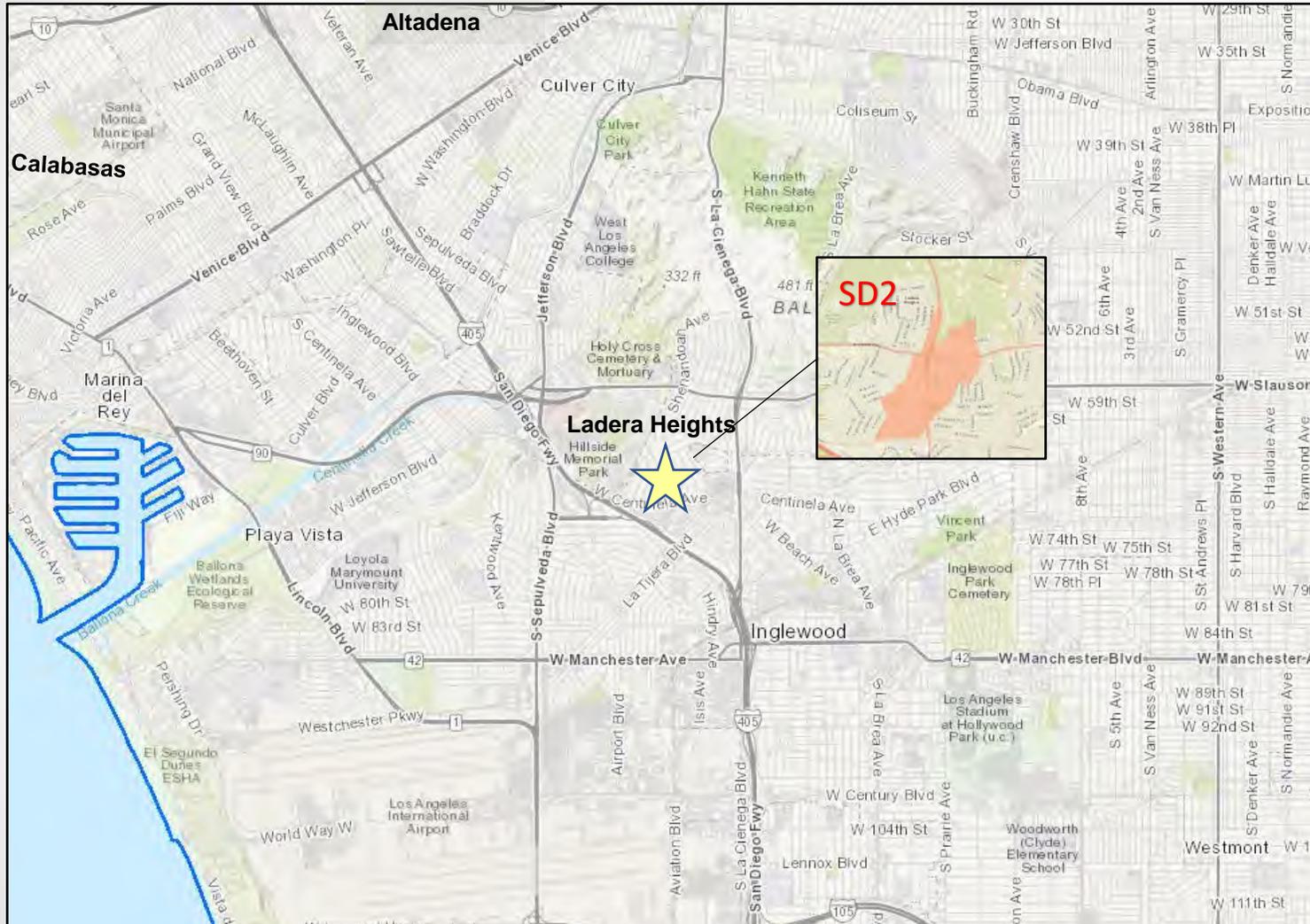
24-hour BMP Capacity > 16.99 acre-feet

## Project Benefits

- ❖ **Water Quality:** removing pollutants from stormwater before entering Centinela Creek and Ballona Creek
  - Primary Pollutant: Total Zinc = 77% reduction
  - Secondary Pollutant: Trash = 100% reduction
- ❖ **Community Enhancement:**
  - Improve localized flooding
  - Increase vegetation and create new habitat
  - Reduce heat island effect and increase shade
  - Planting of 6 new trees



# Ladera Heights – W Centinela Ave Green Improvement Project Outreach



## Community Outreach To Date:

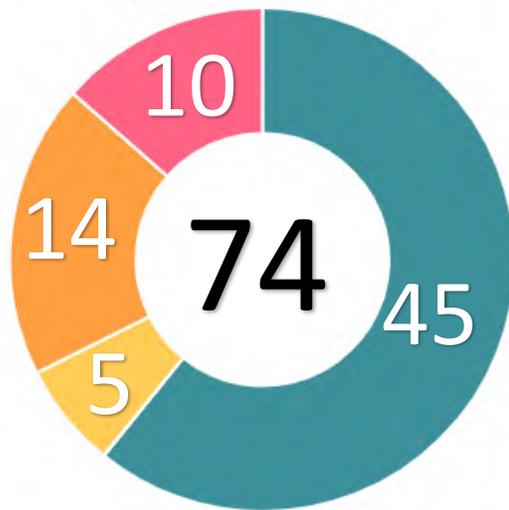
- ❖ Met with members of the Ladera Heights Civic Association and Ladera Heights Community Enhancement Corporation to introduce the Project and solicit feedback

## Future Public Outreach

- ❖ **Community Meetings** will be held during the design phase of the project to receive feedback from the residents to incorporate in final plans
- ❖ **COVID Implications:** due to the recent pandemic, community meetings will be held virtually unless State orders change.

# Ladera Heights – W Centinela Ave Green Improvement Project Scoring

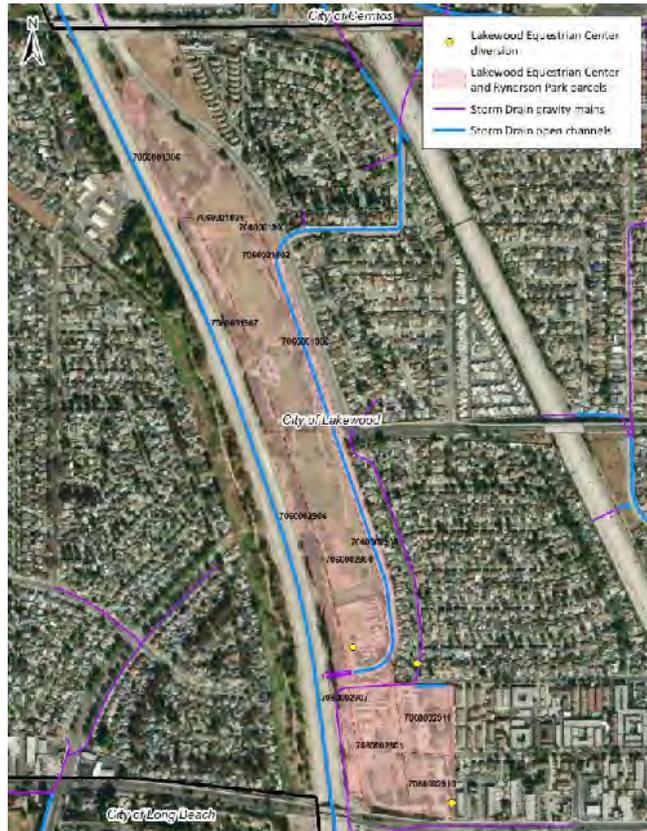
■ Water Quality  
 ■ Water Supply  
 ■ Community Investment  
 ■ Nature-Based Solutions  
 ■ Funds & Community



Scoring Section	Score	Score Calculation
Water Quality Wet + Dry Weather Part 1	20	$16.99 \text{ AF}/\$9.5\text{M} = 1.8 \text{ AF capacity}/\$-\text{M} > 1.0 \text{ AF}/\$-\text{Million} = 20 \text{ pts}$
Water Quality Wet + Dry Weather Part 2	25	Primary Pollutant (Zinc) = $77\% > 50\% = 15 \text{ pts}$ Secondary Pollutant (Trash) = $100\% > 80\% = 10 \text{ pts}$
Water Supply Part 1	0	
Water Supply Part 2	0	
Community Investment (CI)	5	Project improves flood management (1), creates new habitat and wetlands (2), reduces heat local island effect (3), and increase trees (4). 4 CI Benefits = 5 pts
Nature-Based Solutions	14	Project implements natural processes (5 pts), utilizes natural materials (5 pts), and removes 54% of impermeable area (2 pts).
Leveraging Funds Part 1	6	>50% Funding Matched = 6 pts
Leveraging Funds Part 2	4	Project has local support from local CBOs
<b>Totals</b>	<b>74</b>	

### Project Location

- Lakewood Equestrian Center, a public equestrian facility located in the City of Lakewood
- Tributary to the San Gabriel River
- Immediately south of Rynerson Park
- Identified as an optimal regional project location in the updated 2021 Lower San Gabriel River Watershed Management Program (LSGR WMP)



### Conceptual Layout

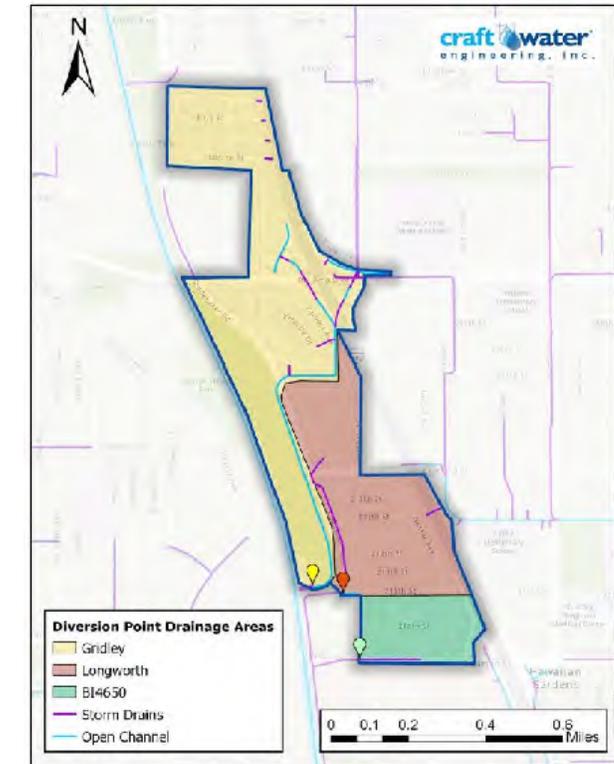


#### Key Elements:

- Three distinct diversions: Gridley Drain and Longworth Drain to the north, and the BI4650 Storm Drain to the south
- Dual best management practice (BMP) systems:
  - Flow from the northerly diversions will be directed to an underground storage unit before being conveyed to a biofiltration cell and potentially used for irrigation at Rynerson Park
  - Flow from the southerly diversion will be directed to an underground storage unit before being conveyed to a biofiltration cell
- ADA-compliant improvements to the Lakewood Equestrian Center facilities, including the pony ride and petting zoo

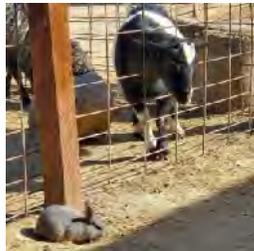
### Water Quality & Supply

- The underground storage units will have a total capacity of 5.8 acre-feet (5.0 acre-feet for the northerly one, 0.8 acre-feet for the southerly one); this will manage all dry weather flows and the 85<sup>th</sup> percentile storm
- The biofiltration cells will capitalize on the site's high infiltration rates and provide water supply benefits
- Captured flows in the northerly underground storage unit have potential to be used for irrigation at Rynerson Park
- Altogether, the project has a capture area of over 290 acres encompassing portions of the Cities of Lakewood and Cerritos



### Community Benefits & Nature-Based Solutions

- The Lakewood Equestrian Center & Surrounding Open Space Master Plan (Master Plan) is nearing completion and is intended to serve as a dynamic, long-term planning document to guide future growth and improvement
- The Master Plan was funded through the Rivers and Mountains Conservancy Prop 68 Grant Program, and extensive outreach to solicit community input was conducted as part of its development; this included multiple community meetings, focus groups, and a survey that generated over 1,000 responses (see image to the right for a summary)
- Community input and needs were assessed and considered during the conceptual phase of the project; community benefits of the project will include:
  - Improved facilities at the Lakewood Equestrian Center, such as the existing pony ride and petting zoo
  - Greater opportunities for programming and education
  - Improved accessibility (ADA compliance), connectivity to nearby recreational opportunities (such as Rynerson Park and the San Gabriel River trail system), safety, and security
  - Increased vegetation and reduced local heat island effect



### Community Support

- The project has received letters of support from the following community organizations:
  - Camp Fire Angeles
  - Lakewood Neighborhood Watch
  - Boy Scouts of America, Troop 134
  - SJ Equestrian
- \$50,000 for additional outreach has been included in the design phase budget



### Estimated Score

- Total Score: 77
  - Water Quality: 45
  - Water Supply: 5
  - Community Investment: 10
  - Nature-Based Solutions: 10
  - Funds & Community: 7

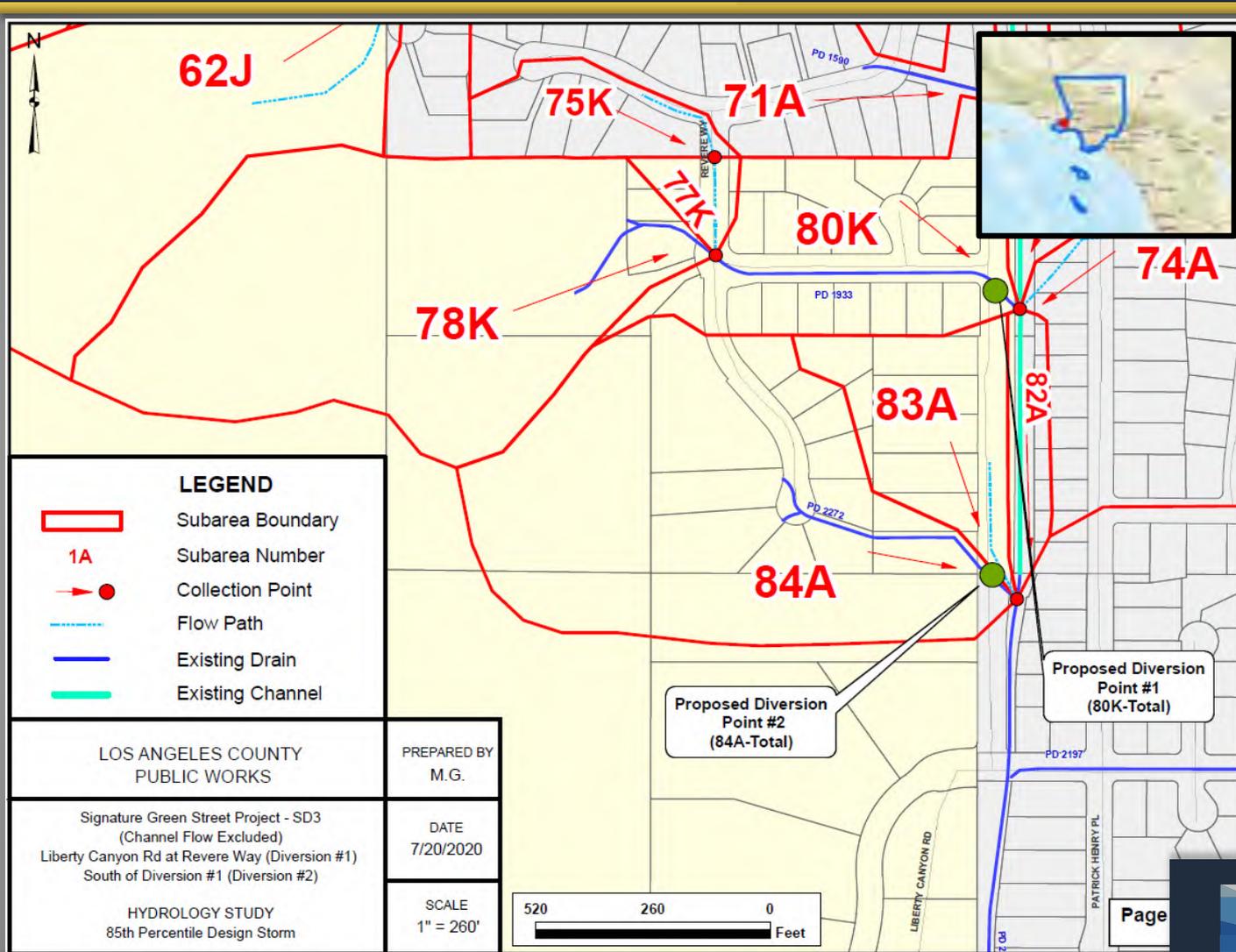




# Liberty Canyon Road Green Improvement Project

Supervisorial District 3

# Liberty Canyon Road Green Improvement Project

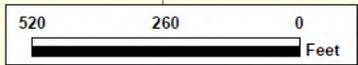


## Diversion Structures

- Two diversion points
- Between Revere Way and Park Vista Road
- PD1933 and PD2272

LEGEND	
	Subarea Boundary
	Subarea Number
	Collection Point
	Flow Path
	Existing Drain
	Existing Channel

LOS ANGELES COUNTY PUBLIC WORKS	PREPARED BY M.G.
Signature Green Street Project - SD3 (Channel Flow Excluded) Liberty Canyon Rd at Revere Way (Diversion #1) South of Diversion #1 (Diversion #2)	DATE 7/20/2020
HYDROLOGY STUDY 85th Percentile Design Storm	SCALE 1" = 260'



Page

# Liberty Canyon Road Green Improvement Project

## Key Design Elements

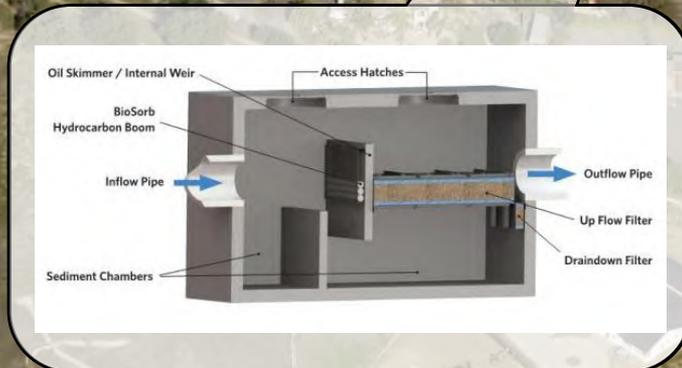
- Capacity – 0.895 af (85<sup>th</sup> percentile)
- Drainage Area – Approx. 41.8 ac

## Benefits

- Water Quality – Water Polishers (or similar BMP)
- Target Pollutants – Bacteria, Nutrients, Sediment, Trash
- Community Enhancements – Vegetation, Trees, Passive Recreation

## Outreach Plan

- Community Meeting July 15, 2021
- Future Outreach TBD



 Diversion Structure  
 Green Street Improvement

# Liberty Canyon Road Green Improvement Project

## Estimated Project Scoring

### Water Quality – 39 points

- 0.8-1.0 (acre feet capacity / \$-Million)
- >50% (Total Phosphorous Load Reduction)
- >80% (Toxics)

### Community Investment – 5 points

- Creates habitat
- Creates new recreational opportunities
- Increase shade
- Increase number of trees

### Nature-Based Solutions – 10 points

- Implements natural processes
- Utilize natural materials

### Funds & Community – 7 points

- <50% Funding matched
- Community Outreach July 15, 2021

