

Safe, Clean Water Program

Fiscal Year 2021-2022

WASC Review Sheet



Project Name	
Project Lead	
Total SCW Funding Requested	
Phases for which SCW Funding is being requested	

Question	Yes/No	Notes
Does this project assist in achieving compliance with MS4 permit? If Yes, explain how.		
Does the project provide DAC benefits (refer to the ordinance for definition)? If Yes, explain how.		
Does the project provide benefits to the municipality? If Yes, explain how.		
Does the project prioritize nature-based solutions? If Yes, explain how.		
Does this meet the goals of the program stated in the ordinance (refer to Section 18.04)		
Does the project/scientific study have a nexus to stormwater and urban runoff capture and pollution reduction? If yes, explain how.		

Safe, Clean Water Program

Fiscal Year 2021-2022

WASC Review Sheet



Question	Yes/No	Notes
What is the plan for community engagement and what efforts have been made to date?		
What is the anticipated CEQA and permitting needs and how is this incorporated in the cost and schedule?		
Why is this the best location for this type of project?		
Were other alternatives considered? Why is this the best solution?		
How was the Project developed? (ie IRWMP/EWMP process, community engagement, etc...)		
If awarded partial funding by the WASCs, could the project fulfill their stated scope and benefits? If not funded, would the WASC lose the opportunity to fund this project at future rounds?		
General Notes (and follow up questions regarding any topic in the feasibility study/project submittal)		
Public Comments		

Heartwell Park at Palo Verde Channel Stormwater Capture Project

Safe, Clean Water Infrastructure Program Project
Fiscal Year 2021-22 Call for Projects

Project Lead: City of Long Beach
Project Proponent: Los Cerritos Channel Watershed Group
Presenters: Richard Watson, Richard Watson & Associates
Oliver Galang, Craftwater Engineering

Project Overview

Regional stormwater capture and filtration/sewer diversion facility located at Heartwell Park beneath the open space of the existing park.

- **Phase used from SCW Funding:** Design
- **Total SCW Funding Requested:** \$1,539,676

Project Objectives

PRIMARY OBJECTIVES

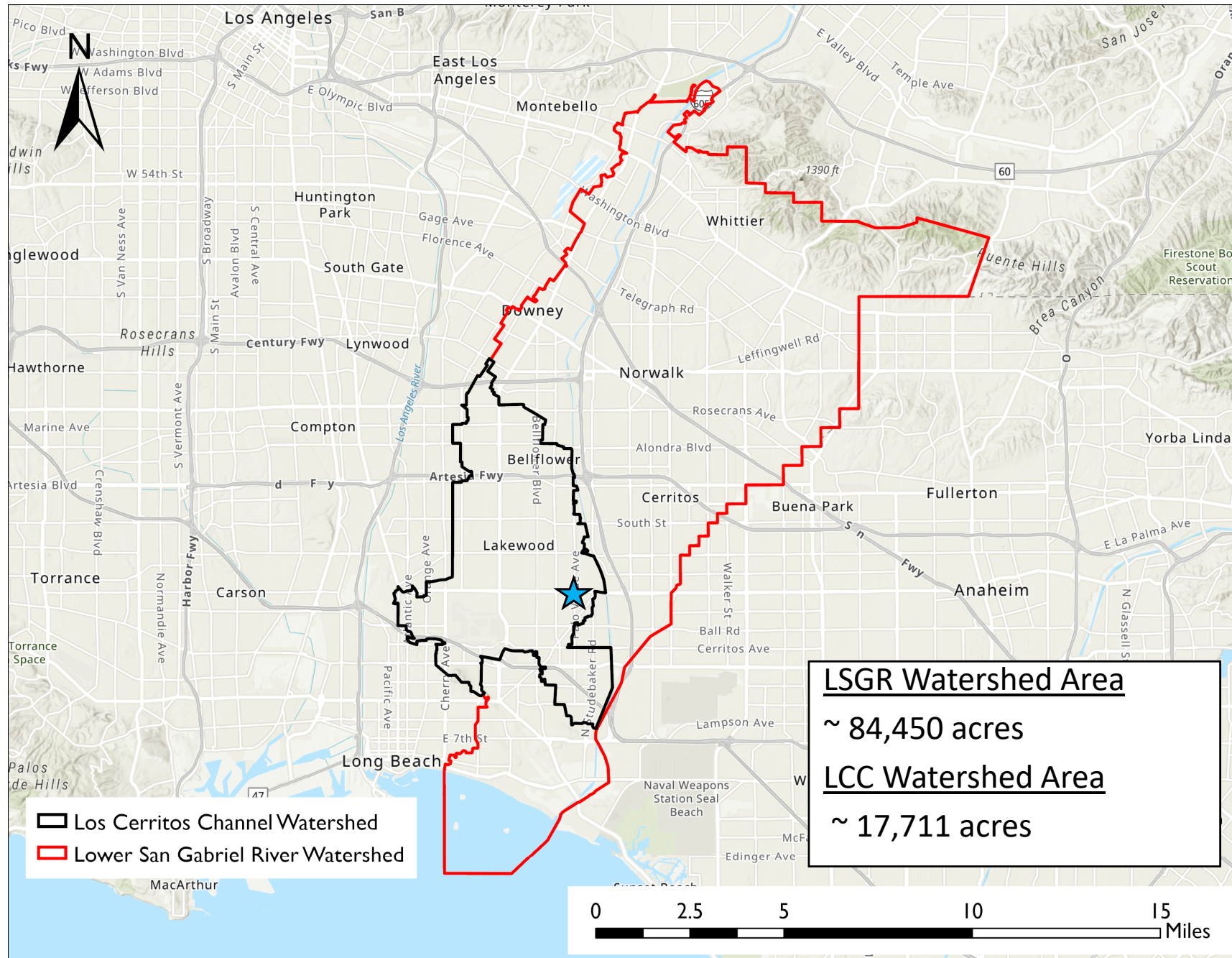
- Improve the water quality within the Los Cerritos Channel
- Restore/rehabilitate park facilities & install nature-based stormwater management solutions on the project site

SECONDARY OBJECTIVES

- Offset potable water supply through connection to the sanitary sewer for use as recycled water
- Educate the public on the local water supply and demands
- Supplement the use of reclaimed water for irrigation

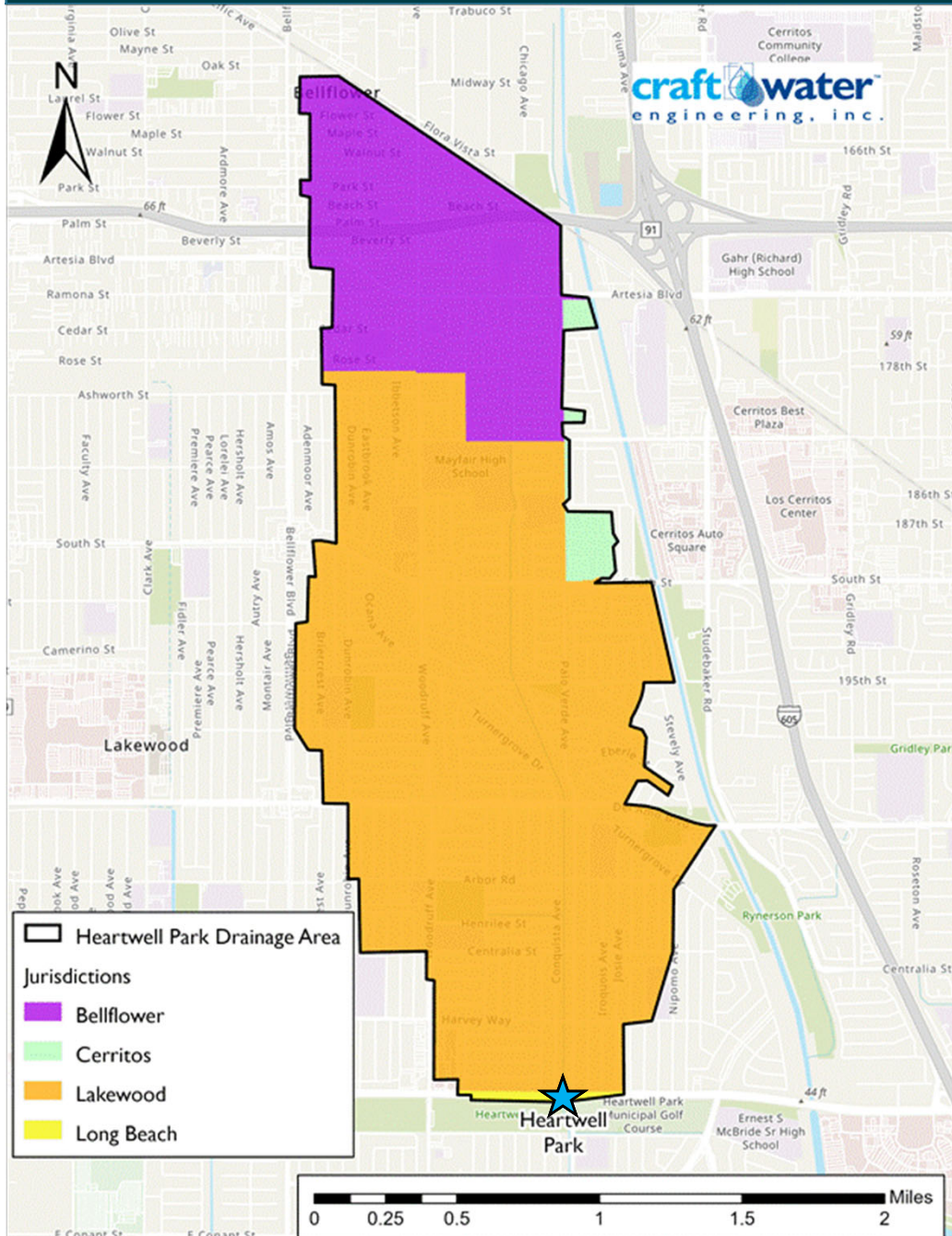


Project Location – Watershed Map





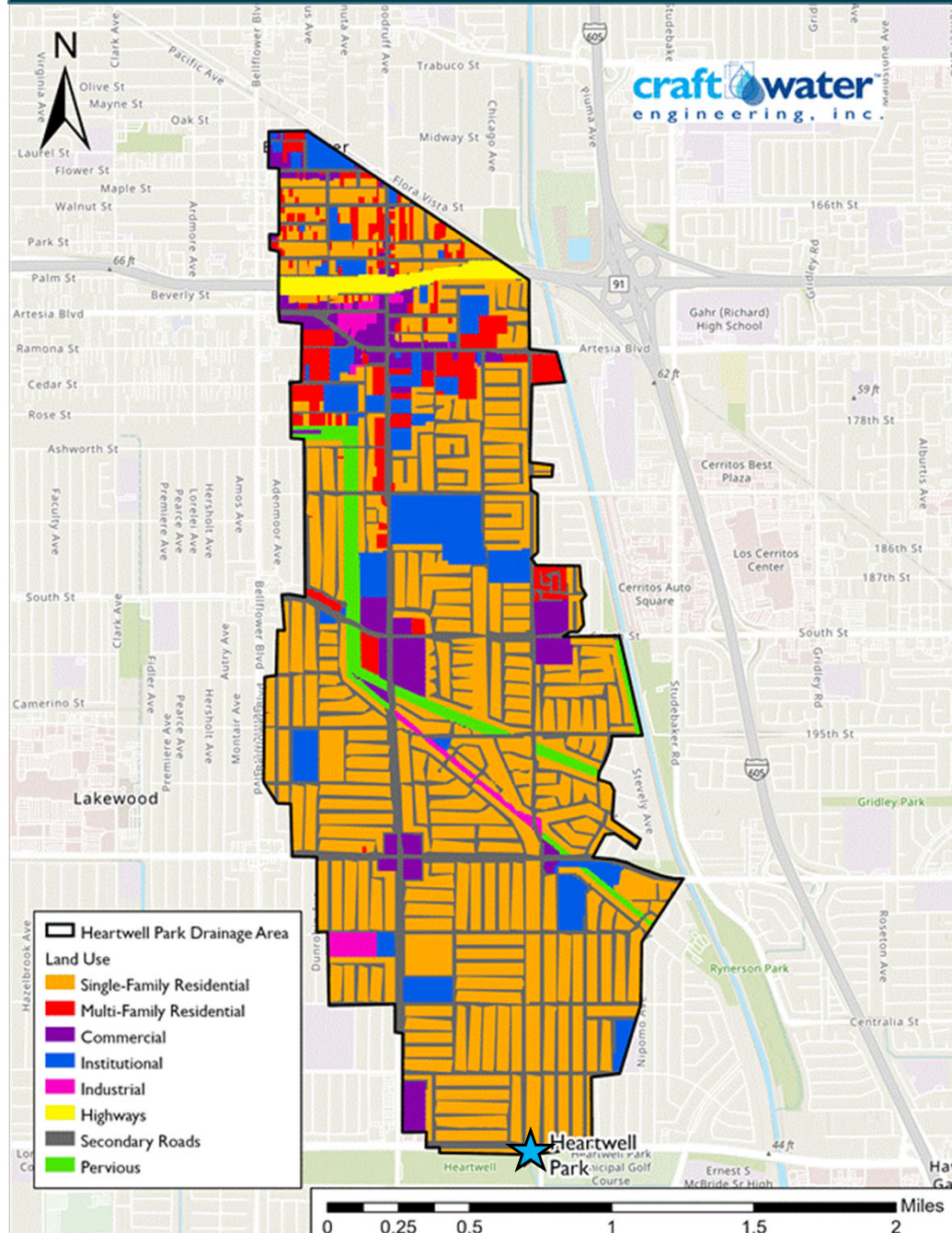
Project Location - Total Capture Area



Jurisdiction	Area (acres)	% Watershed
Lakewood	1,552	73.9%
Bellflower	498	23.8%
Cerritos	38	1.8%
Long Beach	11	0.5%
TOTAL	2,099	100%



Project Location – Land Use



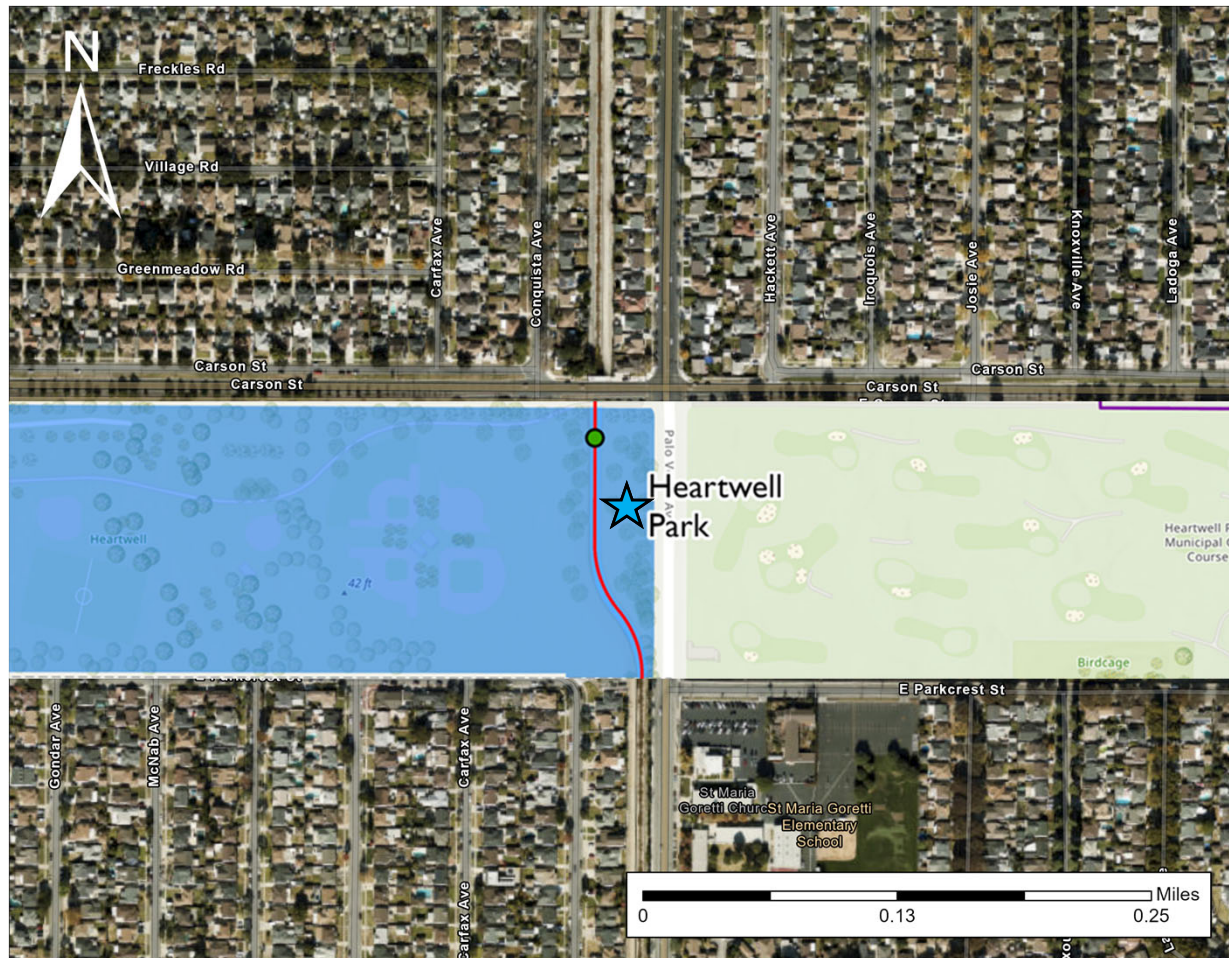
• Drainage Area

- Impervious: 1,269 acres
- Pervious: 830 acres

Land-use	Area (acres)	% of Impervious
Single Family Residential	632	49.8%
Multi-Family Residential	82	6.5%
Commercial	90	7.1%
Institutional	104	8.2%
Industrial	18	1.4%
Highway & Interstates	22	1.7%
Secondary Roads & Alleys	321	25.3%
TOTAL	1,269	100%



Project Location and Background



- Site was identified in the Los Cerritos Channel (LCC) Watershed Management Program (WMP)
- Project Selected due to
 - Large drainage area size (2,099 acres)
 - Proximity to Palo Verde Channel
 - Opportunity to revitalize and enhance public spaces in Heartwell Park
 - Pollutant treatment capacity



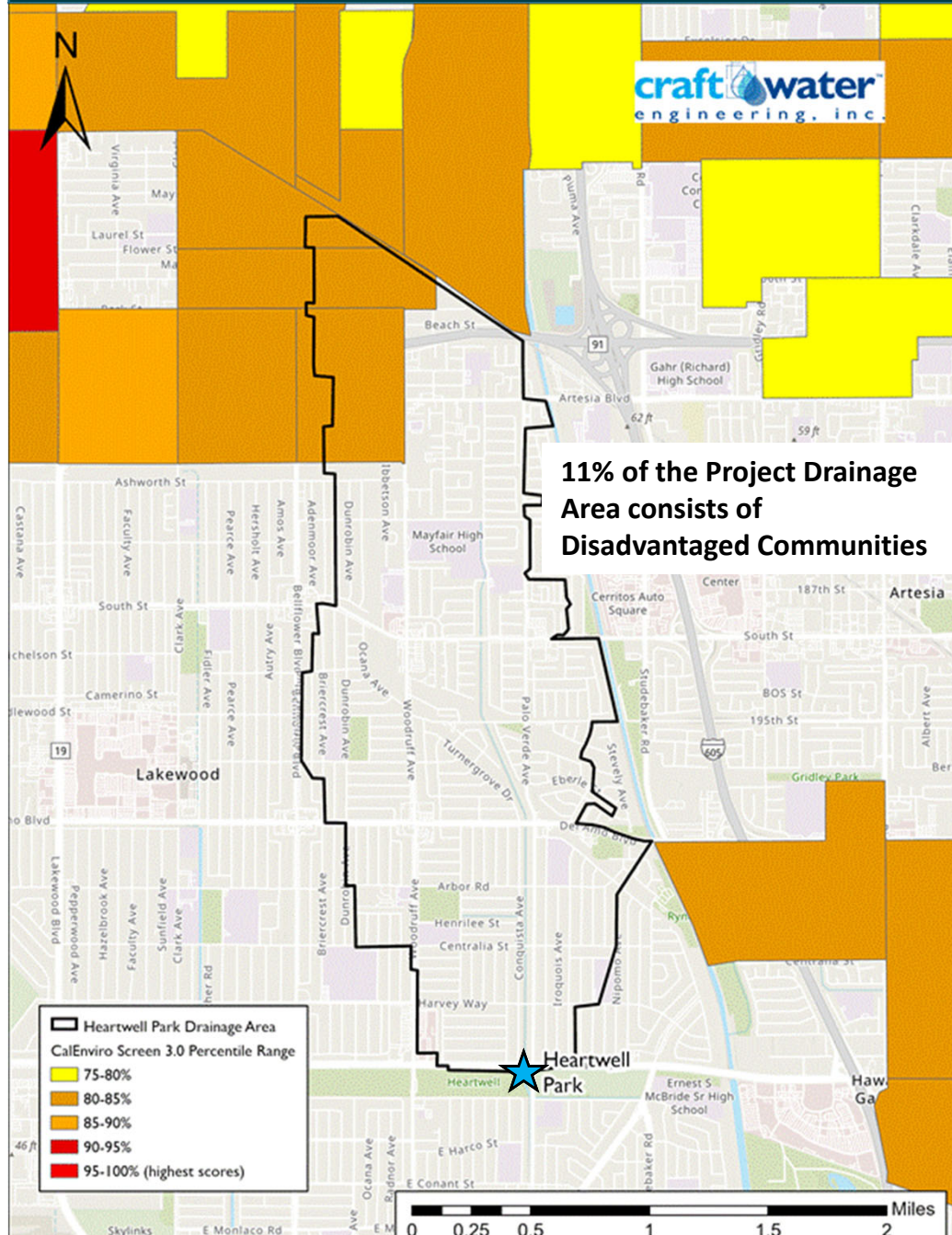
Project Benefits



- **Water Quality** Improvement in the Palo Verde Channel and the Los Cerritos Channel by removing trash, metals, bacteria, and nutrients in stormwater and urban runoff
- **Nature-Based** biofiltration basin with sustainable native landscaping
- **Park Recreational Enhancements** with a biofiltration/habitat area and continuous irrigation water supply
- **Public Access to Waterways** with the extension of the sidewalk to provide access to Carson Street with the development of the pedestrian pathways along the Palo Verde Channel



Project Benefits – DAC

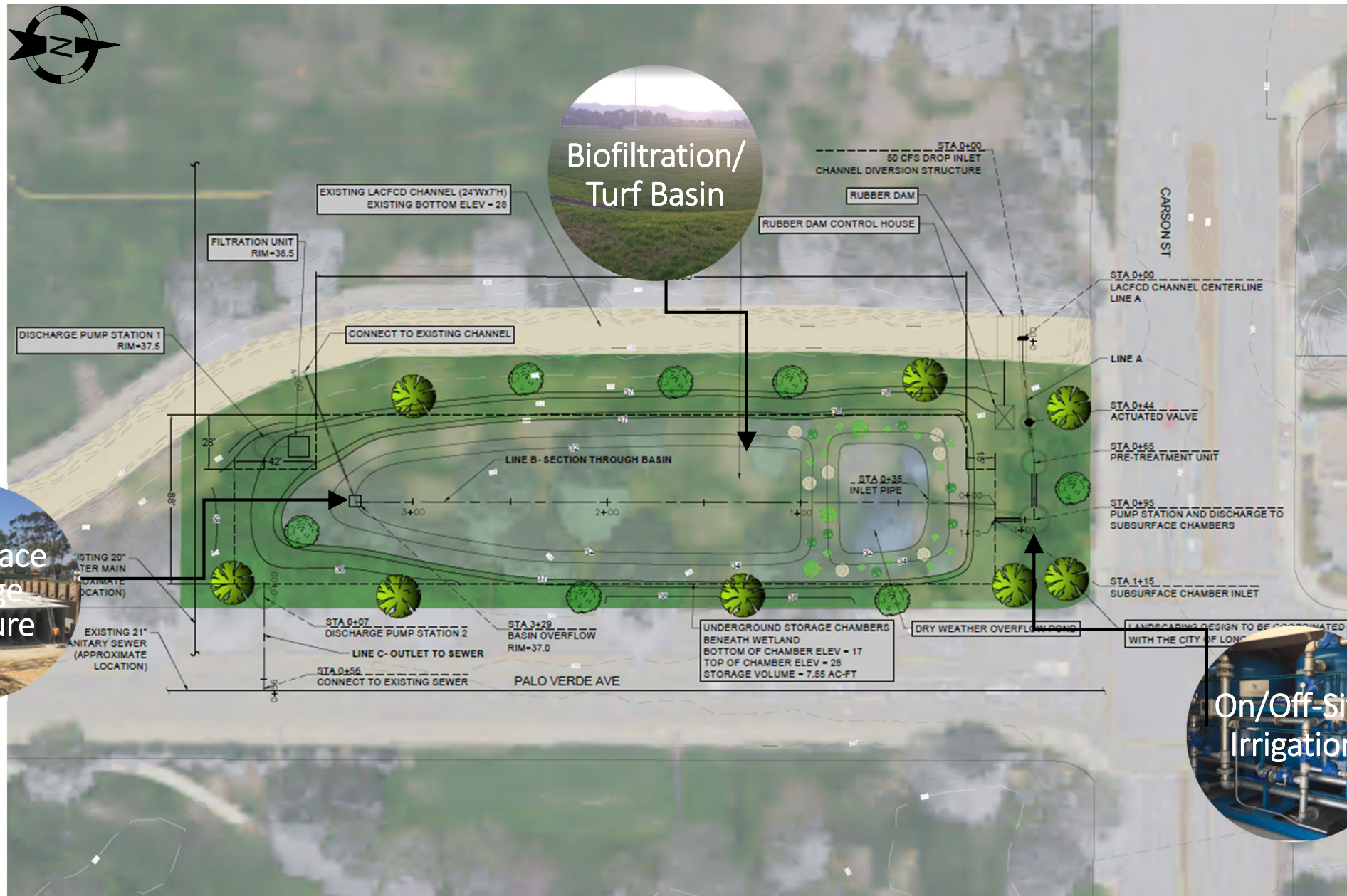


• Benefits to DAC:

- Improved park facilities for the use by all residents of Long Beach and adjacent cities
- Enhanced public access to open space and rest areas through extension of sidewalk to provide access to Carson Street



Project Details - Site Plans



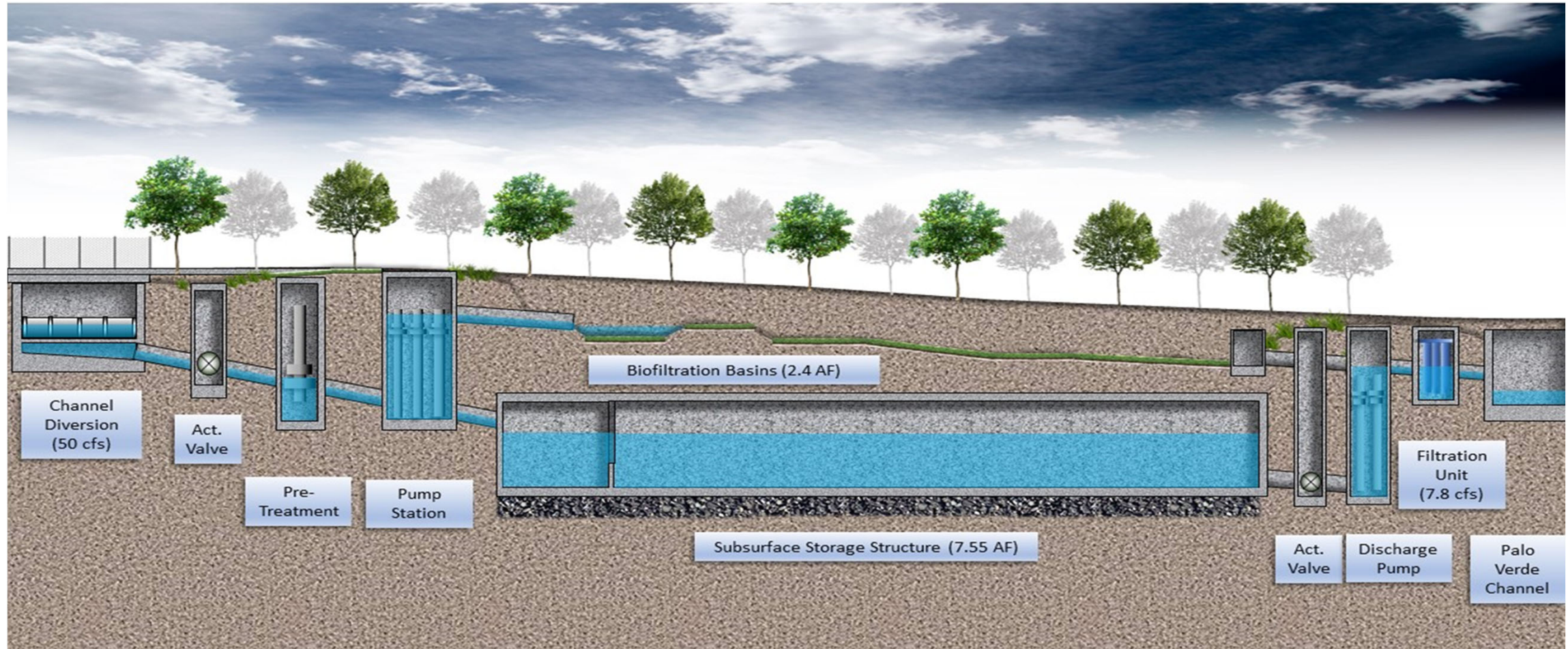
Subsurface Storage Structure



On/Off-Site Irrigation



Project Details – Profile



Diversion Rate	Storage Capacity	Filtration Unit	24-Hour Capacity	Primary Pollutant Reduction (Zinc)	Secondary Pollutant Reduction (Copper)
50 cfs	9.88 ac-ft (3.2 MG)	7.88 cfs	25.5 ac-ft	51.8% (133 lbs)	55.6% (15 lbs)



Project Details – Existing Conditions



Existing Conditions

- Infiltration Rate: 0.1 in/hr
- Groundwater Depth: 29 ft BGS
- Current Use: Park Space
- Owner: City of Long Beach

*Feasibility and stormwater capture studies done

*Alternative footprint sizes, treatment methods and diversion rates examined



Project Details – Watershed Compliance

	Estimated Annual Water Capture	Critical Year Runoff Capture
WMP Recommendation – Los Cerritos Watershed Group	288 ac-ft	2,143 ac-ft
Project Contribution – Heartwell Park at Palo Verde	3.46%	15.56%
Unaddressed by Project	96.54%	84.44%

Water Quality Modeling

- Potential for meeting a significant portion of WMP compliance in the LCC Watershed
- Based on modeling and assumptions from the Reasonable Assurance Analysis (RAA)



Cost & Schedule

Phase	Description	Cost	Completion Date
Design	Final Design (30/60/90/100)	\$1,238,213	09/2022
Design	Public Outreach during Design	\$50,000	09/2022
Design	Environmental Planning (CEQA) and Permitting	\$165,095	09/2022
Design	Agency Management (Design)	\$86,369	09/2022
Construction	Construction Cost	\$8,254,751	09/2024
Construction	Construction Administration and Design Support	\$825,475	09/2024
Construction	Construction Survey	\$20,000	09/2024
Construction	Agency Management (Construction)	\$120,000	09/2024
TOTAL		\$10,759,903	

Annual Costs

Maintenance Cost:	\$133,000
Operation Cost:	\$50,000
Monitoring Cost:	\$25,000
Project Life Span:	50

Life-Cycle Costs

Life-Cycle Cost for Project:	\$15,750,634.35
Annualized Cost for Project:	\$656,443.26



Funding Request

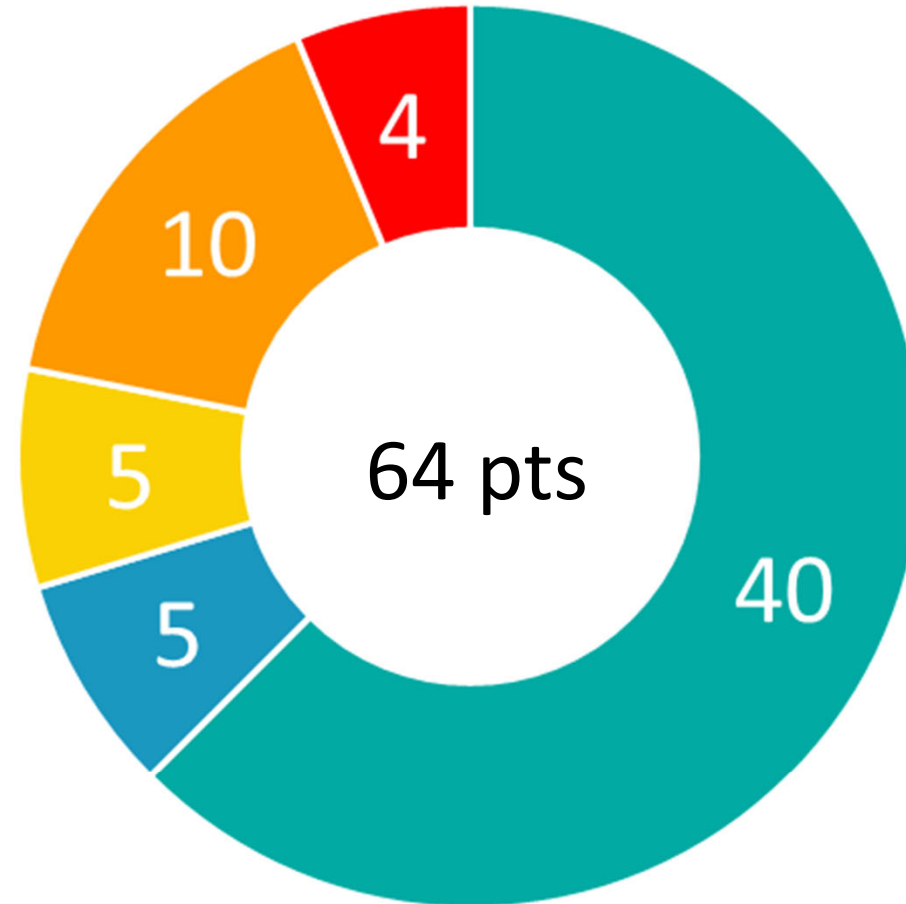
Year	SCW Funding Requested	Phase	Description
1	\$1,539,676	Design	Environmental Planning (CEQA) and Permitting, Professional Design Services, Community Outreach, Agency Project Management
Total	\$1,539,676		

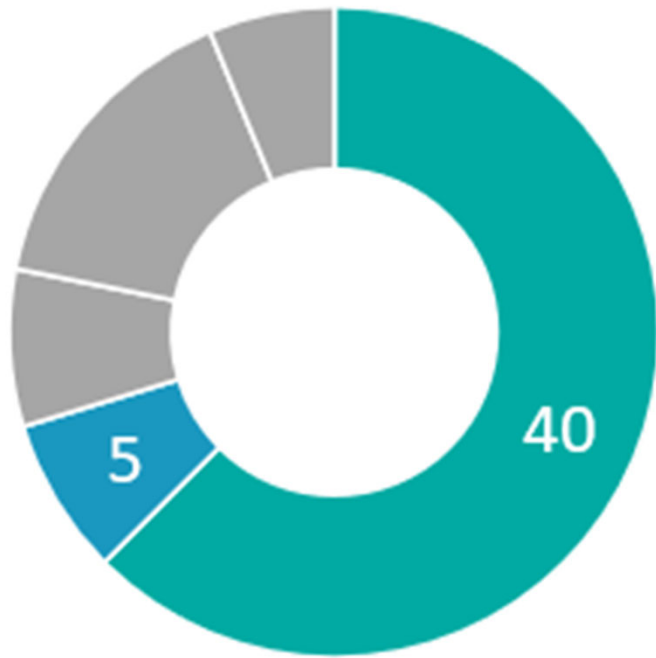
- No matching funds available yet
- Future funding requests
 - \$3,086,742 for Construction (Year 2)
 - \$3,066,742 for Construction (Year 3)
 - \$3,066,742 for Construction (Year 4)
 - \$208,000 for O&M and Monitoring (Year 5 and beyond)



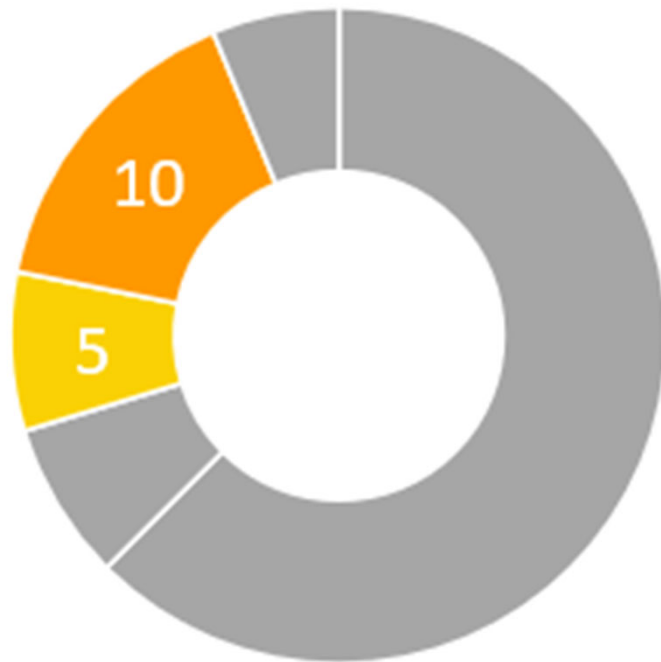
Preliminary Score

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





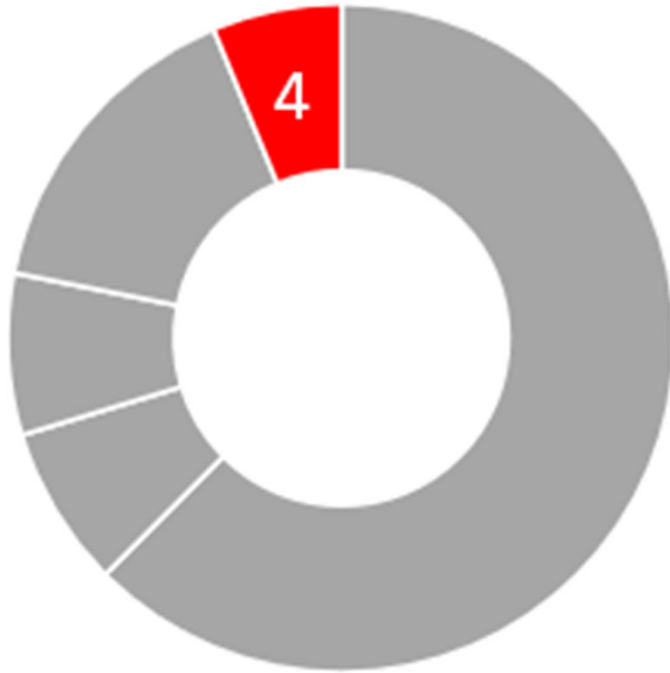
- **Primary Mechanisms**
 - Runoff/pollutant capture
 - Filtration
 - Connection to the park and/or golf course irrigation system
 - Connection to sanitary sewer
- **Wet weather project type**
- Tributary Area: **2,099 acres**
- 24 Hour Capacity: **25.5 ac-ft**
- Pollutant Load Reduction
 - Primary Pollutant (Zinc) – **51.8% (133 lbs-annual avg)**
 - Secondary Pollutant (Copper) – **55.6% (15 lbs-annual avg)**
- Average Annual Capture for Water Supply: **102 ac-ft**
- Water Supply Use
 - **Onsite Irrigation Use** Potential in Heartwell Golf Course
 - **Water Recycling** through Sewer Diversion
- Water Supply Cost Effectiveness : **\$6,436/ac-ft**



- Community Investment Benefits
 - Improves flood management, flood conveyance, or flood risk mitigation
 - Creates parks, habitat or wetland
 - Improves public access to waterways
 - Creates or enhances new recreational opportunities
- Nature Based Solutions
 - Project implements natural processes and utilizes natural materials
 - Installation of a surface biofiltration/turf basin, permeable walkways, and bioretention planters
 - Post-construction landscaping includes native trees, shrubs, and grasses



- Leveraging Funds
 - No cost share available as of yet



- Community Support
 - City of Long Beach will conduct an active Public Outreach effort
 - Strong local, community-based support from
 - Conservation Corp of Long Beach
 - Los Cerritos Wetlands Authority

Questions?

Bellflower Simms Park Stormwater Capture Project

Safe, Clean Water Infrastructure Program Project
Fiscal Year 2021-2022 Call for Projects

Project Lead: City of Bellflower
Project Proponent: Los Cerritos Channel Watershed Group
Presenters: Richard Watson, Richard Watson & Associates
Oliver Galang, Craftwater Engineering

Project Overview

Regional stormwater capture and filtration facility located beneath the sports fields of John S. Simms Park in Bellflower, CA

- **Phase used from SCW funding:** Design
- **Total Funding Requested:** \$2,141,987

Project Objectives

PRIMARY OBJECTIVES

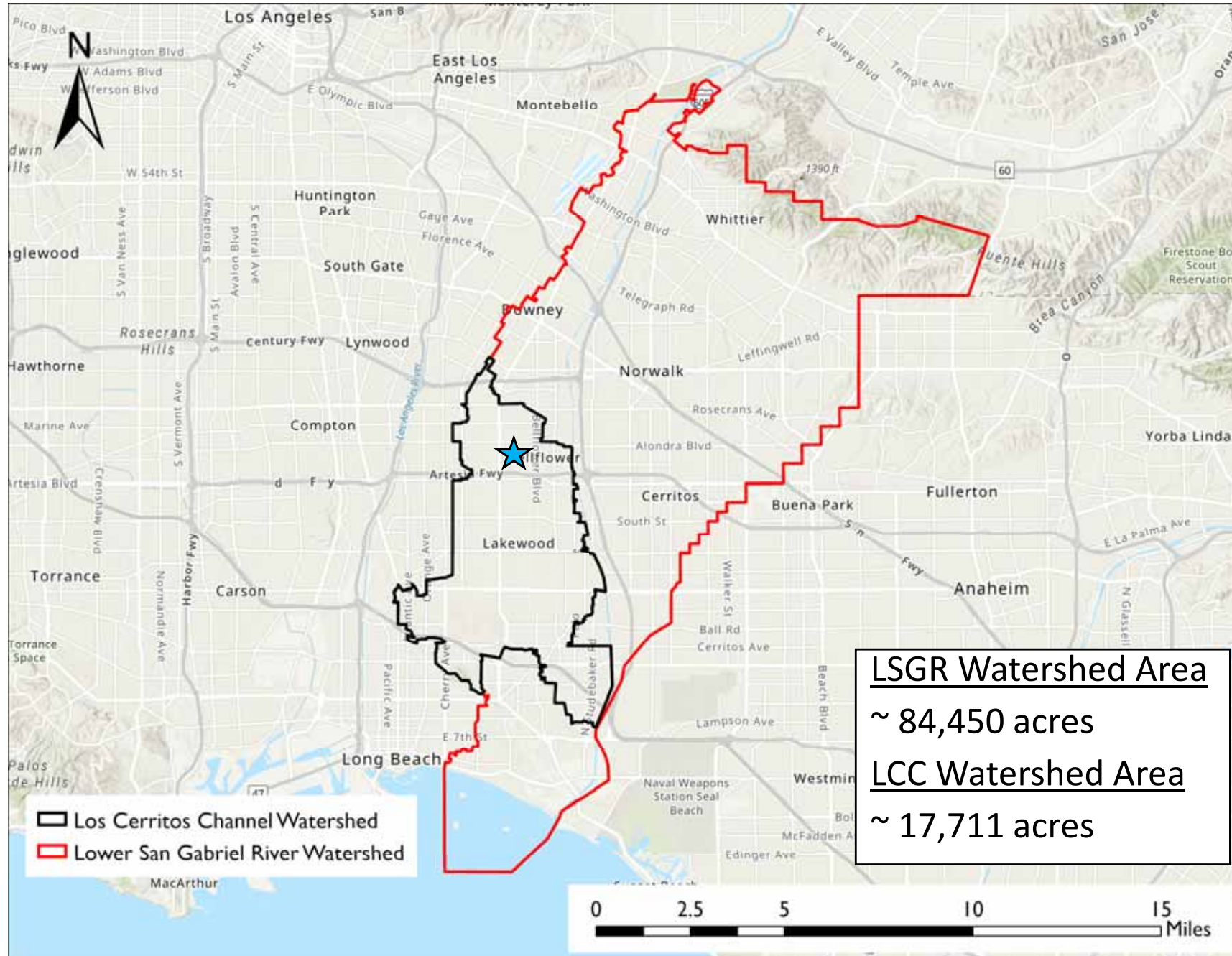
- Improve the water quality within the Los Cerritos Channel
- Reduce potable water demand at park for irrigation
- Improve public recreation area
- Increase pervious area and LID features within the parking lot area

SECONDARY OBJECTIVES

- Restore/Rehabilitate park facilities and irrigation systems
- Educate the public on integrated systems and sustainable resources practices through public outreach

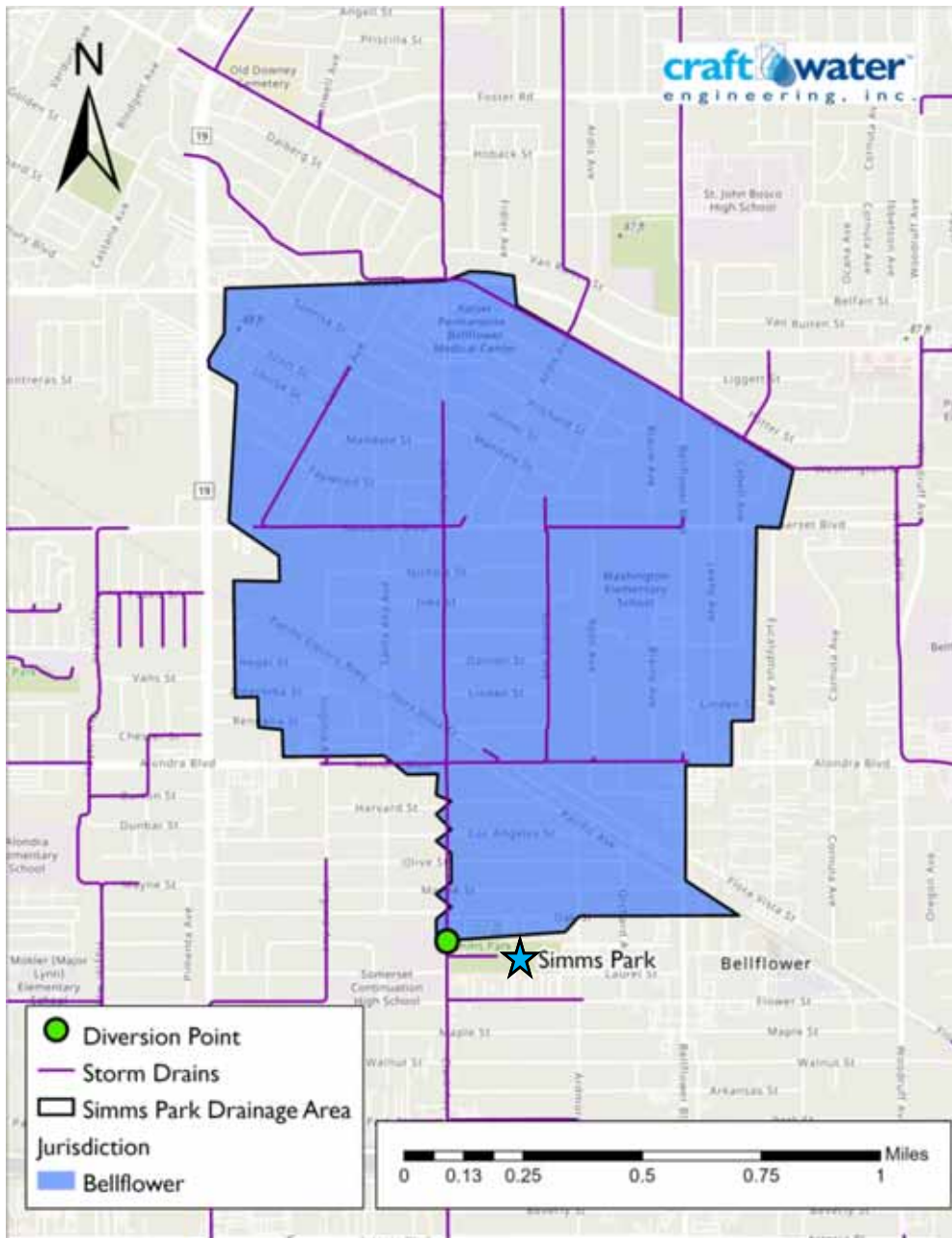


Project Location-Watershed map





Project Location-Total Capture Area



- Capture area jurisdiction:
 - City of Bellflower
- Watershed Capture Area:
 - 758 acres

Land-use	Area (acres)	% of Impervious
Single Family Residential	174	34.36%
Multi-Family Residential	107	21.25%
Commercial	51	10.06%
Institutional	35	7.02%
Industrial	26	5.18%
Highway & Interstates	4	0.79%
Secondary Roads & Alleys	108	21.34%
TOTAL	505	100%



Project Background



- Site was identified in the Los Cerritos Channel (LCC) Watershed Management Program (2015)
- **Project Selected due to:**
 - Significant drainage area size (758 acres)
 - Location to adjacent storm drain channel
 - Large open area for construction of a subsurface storage reservoir



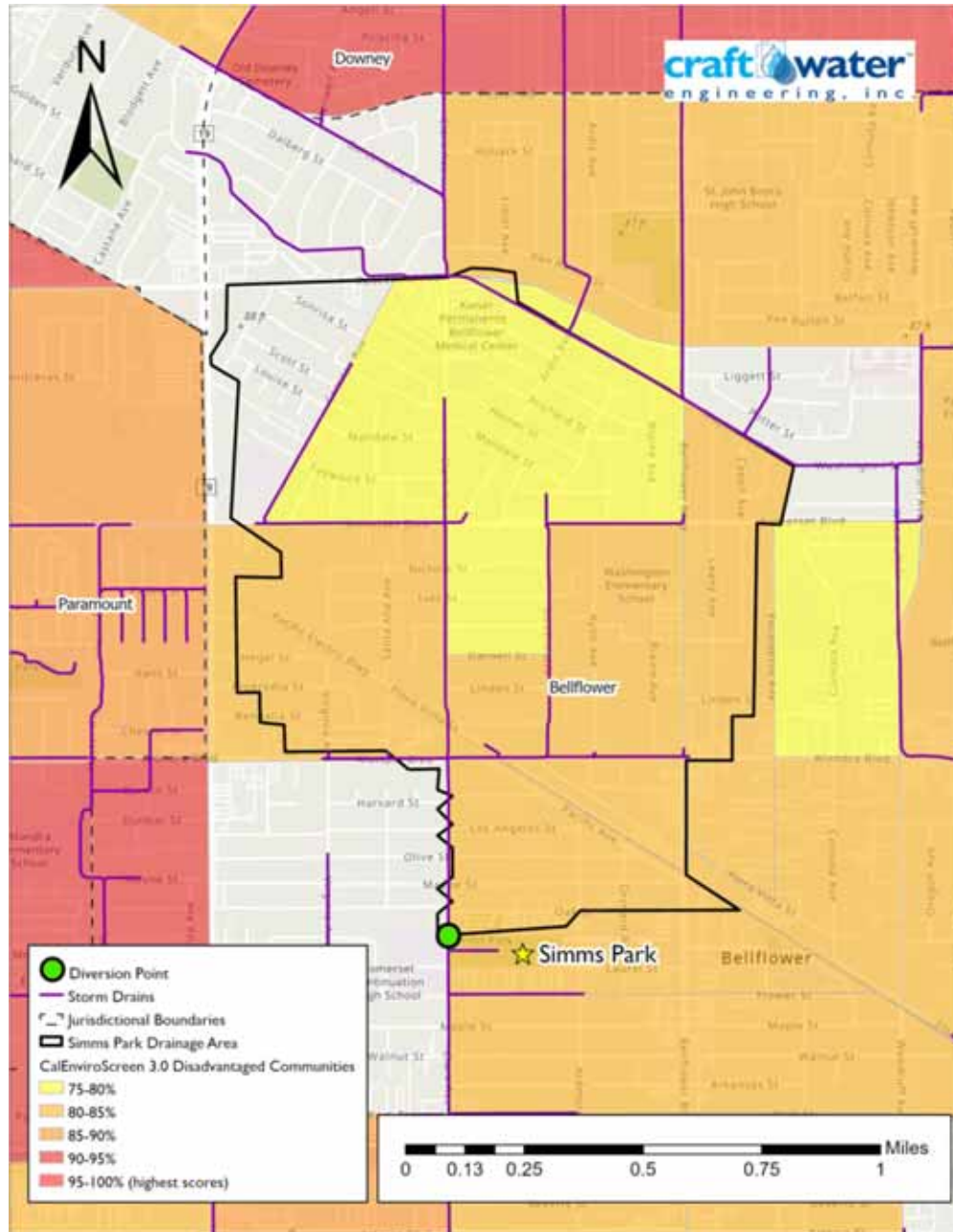
Project Benefits



- **Water Quality** improvement in the Los Cerritos Channel by treating stormwater and urban runoff
- **Nature-Based** parking lot enhancements and bioretention with sustainable native landscaping and permeable pavement
- **Park Recreational Enhancements** with a restoration of recreational turf field and habitat area
- **Reduced Heat Island** with the incorporation of permeable pavements and new trees throughout the parking lot.



Project Benefits, DAC



• Benefits to DAC:

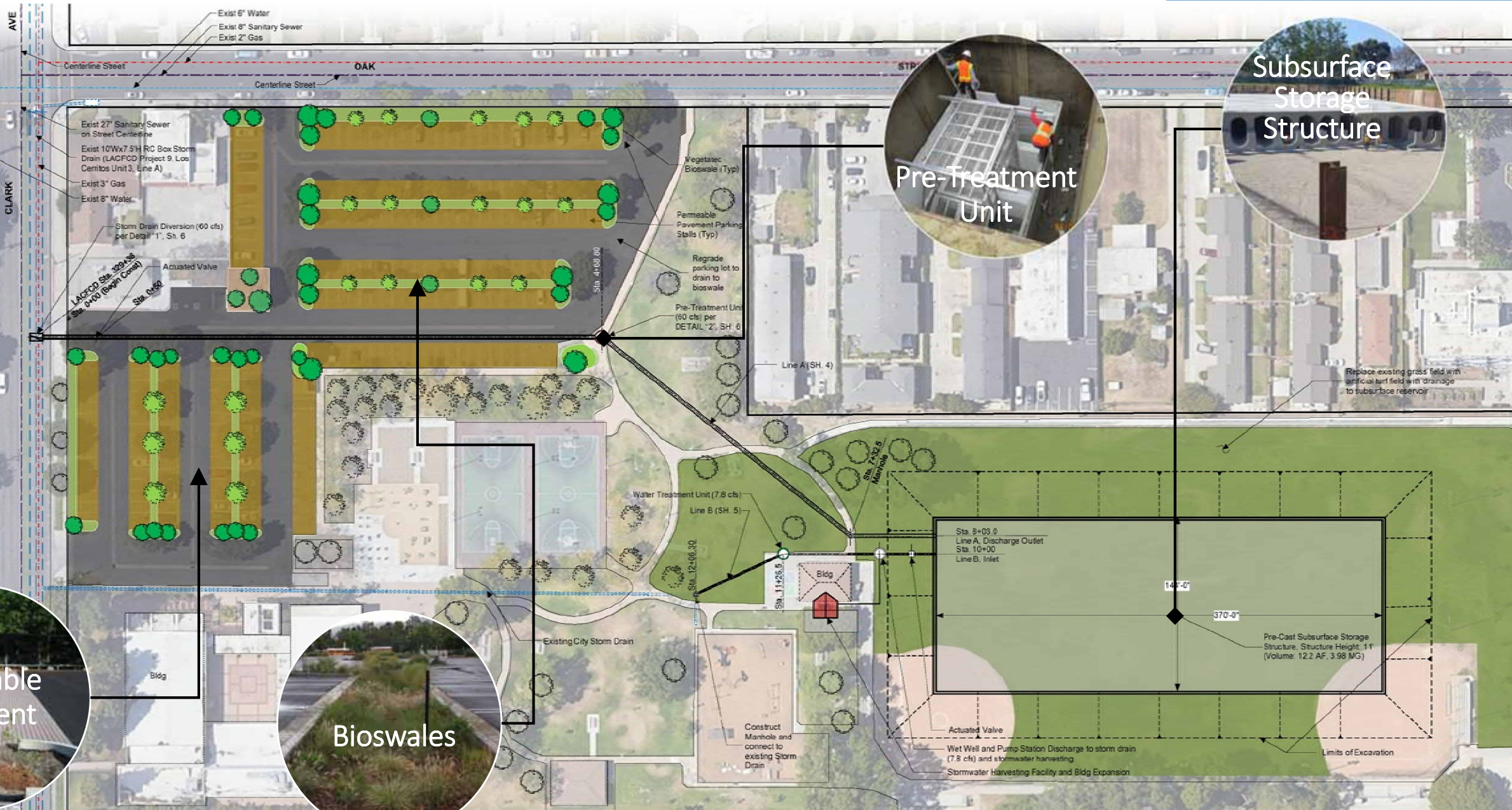
• Improved park facilities

- Turf replacement
- New trees/vegetation

• Improved water quality runoff from **690 acres (91%)** from the DAC areas by reducing floatables, sediments, metals, bacteria and trash loads

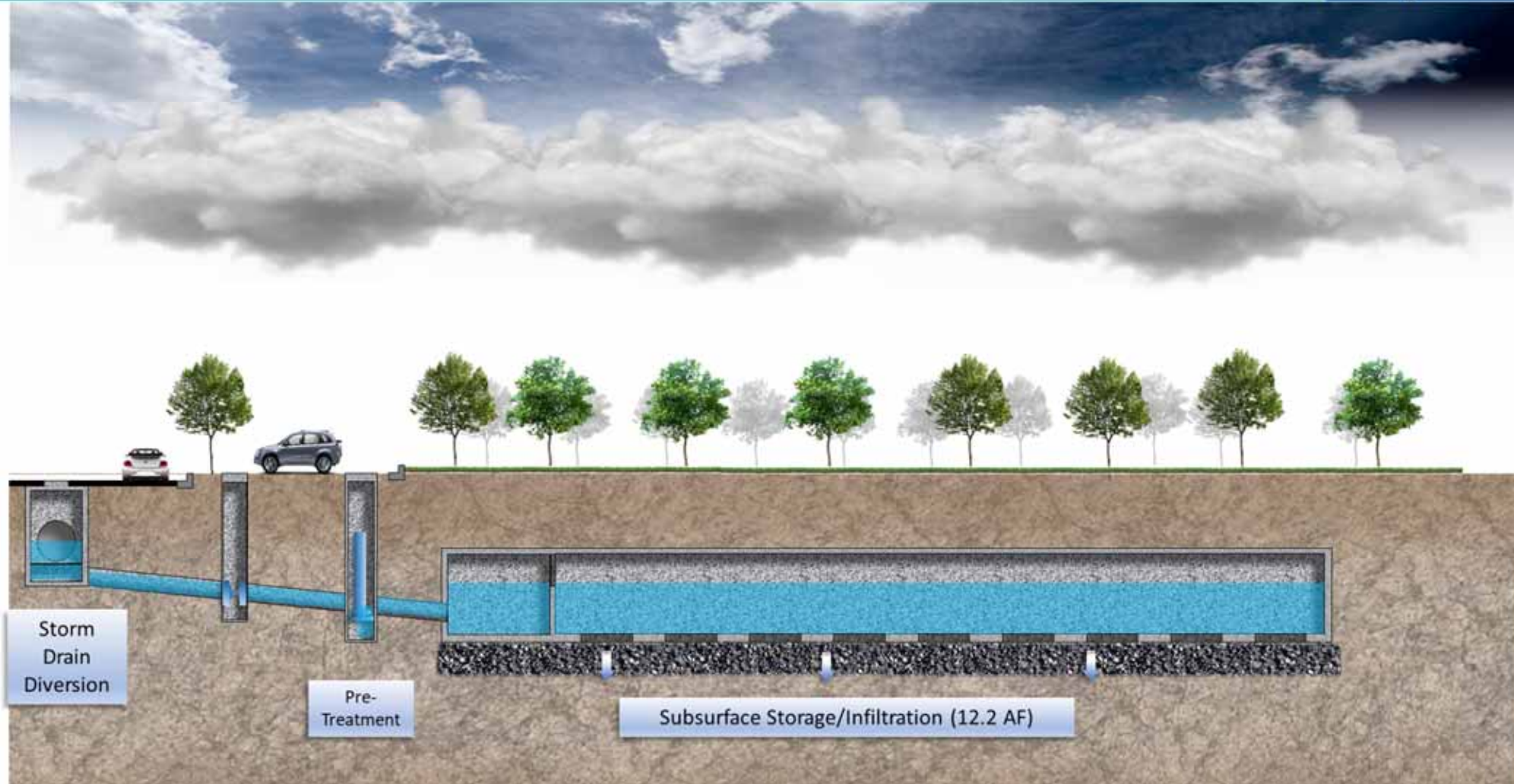


Project Details- Site Plan





Project Details – Schematic Diagram



Diversion Rate	Storage Capacity	24-Hour Capacity	Primary Pollutant Reduction (Zinc)	Secondary Pollutant Reduction (Copper)
60 cfs	12.2 ac-ft (4.0 MG)	27.75 ac-ft	80.2% (188.1 lbs)	78.5% (51.4 lbs)



Project Details- Existing Conditions



Existing Conditions

- Low Infiltration Rates
- Approximate Depth to Groundwater: 35 ft BGS
- Current Use: Public Space (Park)
- Owner: City of Bellflower

*Feasibility, Stormwater Capture,
Geotechnical/infiltration (5/19/20) review done
*Alternative footprint sizes and diversion rates
examined



Project Details- Watershed Compliance

Long-Term BMP Performance Summary (10-Year Averages)			
Pollutant	Baseline Load	Load Diverted To BMP	Load Discharged From BMP
Zinc (lbs)	286.22	234.86	46.53
Copper (lbs)	80.31	65.49	14.10

Pollutant	Reduction Method Used	Justification for Use	Reduction* (%)
Primary – Zinc	Percent Load Reduction	Limiting pollutant – LCC WMP	80.2%
Secondary - Copper	Percent Load Reduction	Category 1 pollutant – LCC WMP	78.5%

Water Quality Modeling

- Potential for meeting a significant portion of WMP compliance in the LCC Watershed
- Based on modeling and assumptions from the Reasonable Assurance Analysis (RAA)



Cost & Schedule

Phase	Description	Cost	Completion Date
Design	Final Design (30/60/90/100)	\$1,782,184	09/2022
Design	Community Outreach during Design	\$50,000	09/2022
Design	Environmental Planning (CEQA) and Permitting	\$148,515	09/2022
Design	Agency Management (Design)	\$161,288	09/2022
Construction	Construction Cost	\$14,851,529	09/2024
Construction	Construction Administration and Design Support	\$1,485,153	09/2024
Construction	Construction Survey	\$20,000	09/2024
Construction	Agency Management (Construction)	\$210,000	09/2024

Annualized Costs

Maintenance Cost:	\$100,000
Operation Cost:	\$25,000
Monitoring Cost:	\$15,000
Project Life Span:	50

Life-Cycle Costs

Life-Cycle Cost for Project:	\$22,067,815.10
Annualized Cost for Project:	\$919,726.03



Funding Request

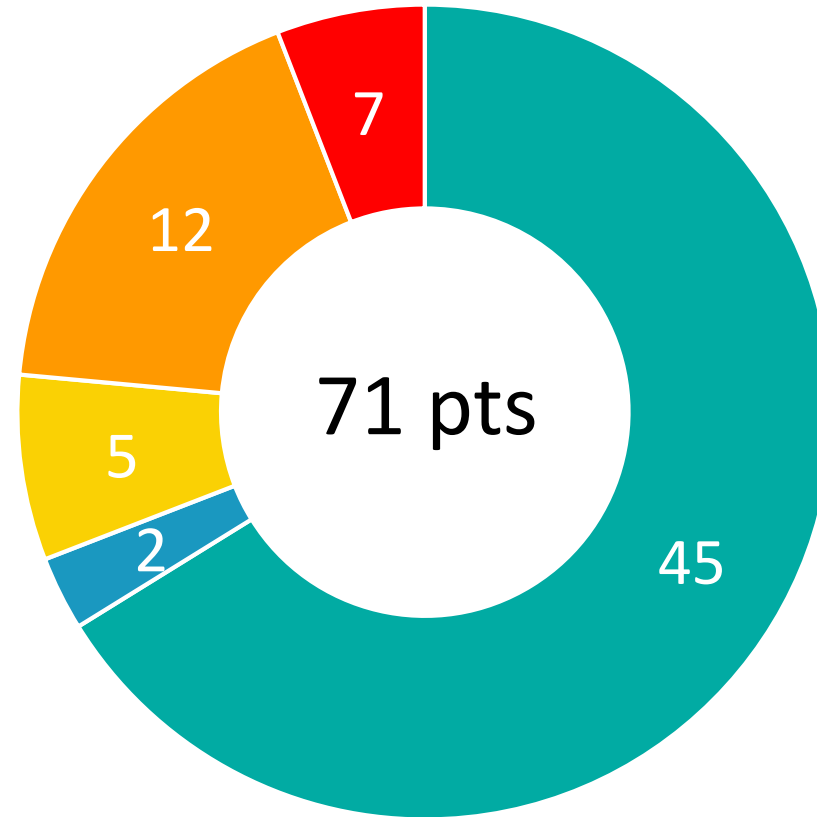
Year	SCW Funding Requested	Phase	Efforts during Phase and Year
1	\$2,141,987	Design	Environmental Planning (CEQA) and Permitting, Community Outreach during Design, Professional Design Services, and Agency Project Management (Design Phase)
TOTAL	\$2,141,987		

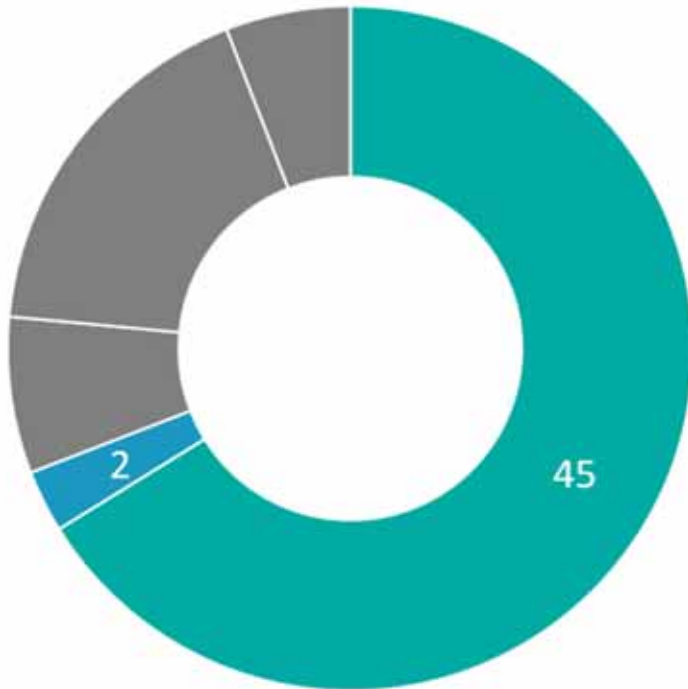
- No matched funds available yet – Round 4 Application for Prop 68 funds
- Future funding requests
 - \$5,535,561 for Construction – Year 2
 - \$5,515,561 for Construction – Year 3
 - \$5,515,561 for Construction – Year 4
 - \$140,000 for O&M/Monitoring – Year 5 and beyond



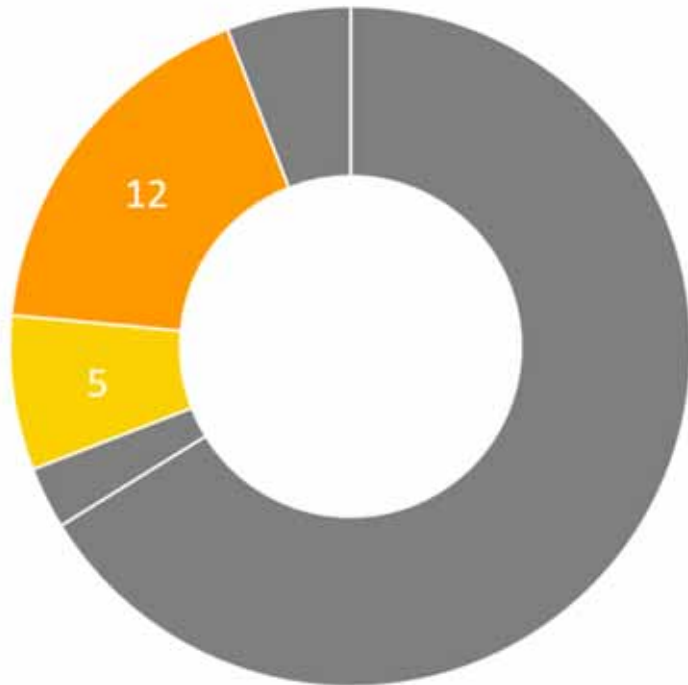
Preliminary Score

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





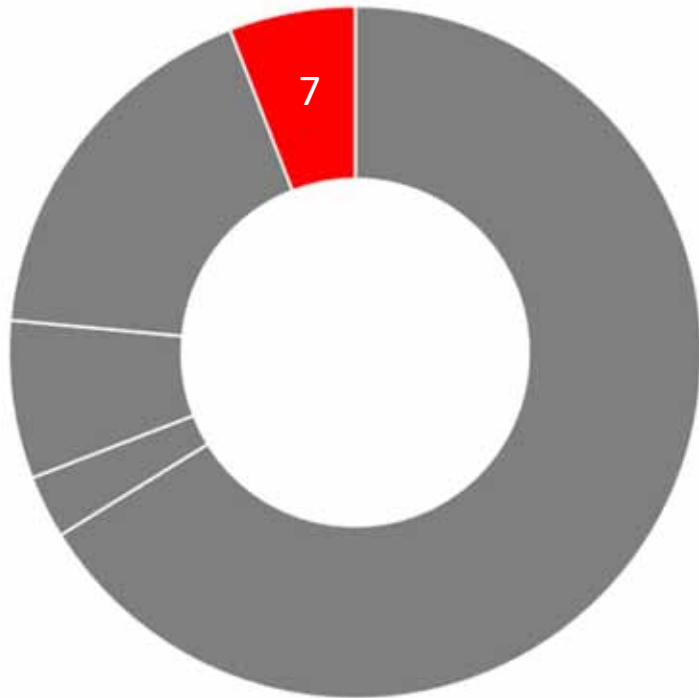
- **Primary Mechanisms**
 - Runoff/pollutant capture
 - Filtration
 - Infiltration (if possible)
 - Stormwater use and release after treatment
- **Wet weather project**
- Tributary Area: **758 acres**
- 24 Hours Capacity: **27.75 ac-ft**
- Pollutant Load Reduction
 - Primary Pollutant (Zinc) – **80.2% (188.33 lbs-annual avg)**
 - Secondary Pollutant (Copper) – **78.5% (51.39 lbs-annual avg)**
- Average Annual Capture for Water supply: **33 ac-ft**
- Water Supply Use :
 - **Onsite Irrigation use** for Simms and Mayfield Park.
 - **Irrigation savings** from turf removal
- Water Supply Cost Effectiveness: **\$27,870/ ac-ft**



- Community Investment Benefits
 - Improve flood management, flood conveyance, or flood risk management
 - Enhancement and restoration of parks
 - Enhanced recreational opportunities
 - Increase the number of trees and vegetation at the site location
- Nature Based Solutions
 - Project refurbishes parking lot and parking stalls will be replaced with permeable pavement materials
 - Introduce bioswales between rows of parking stall
 - Post impervious reduction: **1.04 acres**
 - Post construction plans include additional native trees, shrubs, decomposed granite, native compacted soil, and grasses



Leveraging Funds and Community Support



- Leveraging Funds
 - **Planning:** LCC Watershed Management Group provided funding for Feasibility Study and preliminary geotechnical testing
 - **Design Phase:** City of Bellflower will evaluate some of the Municipal Share of the Safe Clean Water Program to provide their cost share of the Design costs
 - **Construction Phase:** City of Bellflower is actively pursuing a **\$5.6M** grant from **Prop 68** to help with construction of the park.
- Community Support
 - City of Bellflower to lead an active community outreach effort
 - Prior Outreach Conducted – (City of Bellflower)
 - Simms Park Farmers Market
 - Bellflower Summer Streetfest Event
 - Strong, local, community-Based Support
 - Greater Bellflower Little League
 - Los Cerritos Wetlands Authority



Questions?



Artesia Park

Stormwater Capture Project

Infrastructure Program

City of Artesia

Presented by Okina Dor & John Hunter



Project Overview

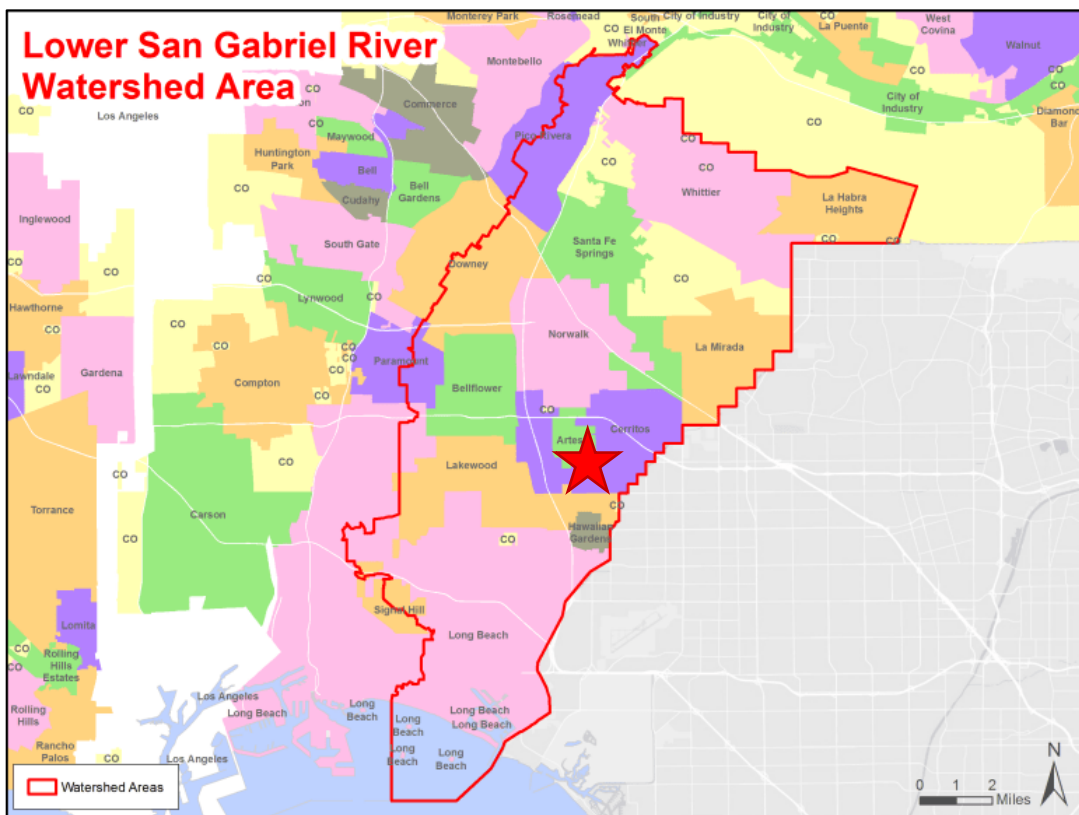
Regional stormwater capture facility located at Artesia Park beneath the open space of the existing park surface

- Primary and Secondary Objectives:
 - Improve water quality within the Coyote Creek and San Gabriel River Watersheds and achieve compliance with the Lower San Gabriel River Watershed Management Program (LSGR WMP)
 - Offset potable water supply (potentially through capture and use or water recycling)
 - Invest in community by enhancing an existing park, including a new field surface and nature-based solutions
 - Benefit nearby and downstream disadvantaged communities
- Project Status: Design
- Funding Requested: \$1,250,502

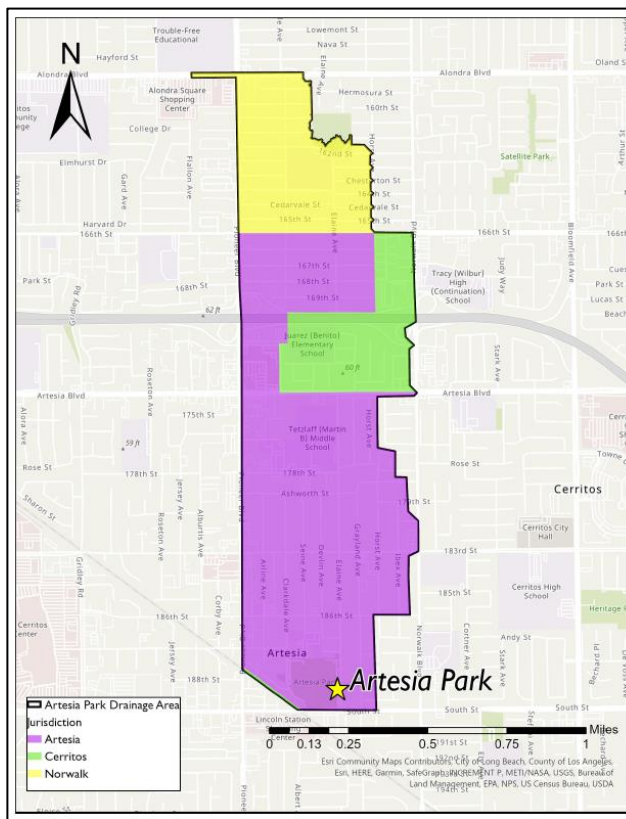




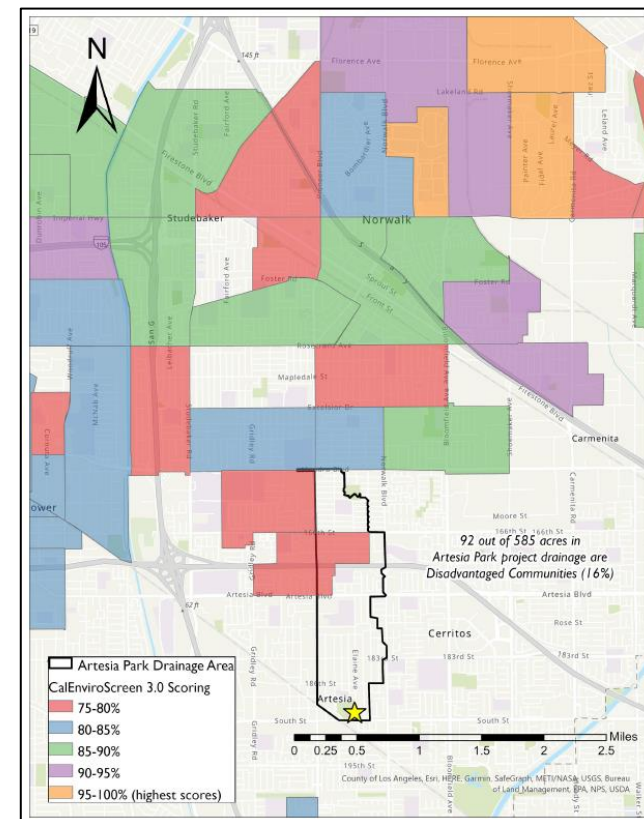
Location



The project is located in the City of Artesia, within the Lower San Gabriel River Watershed Area



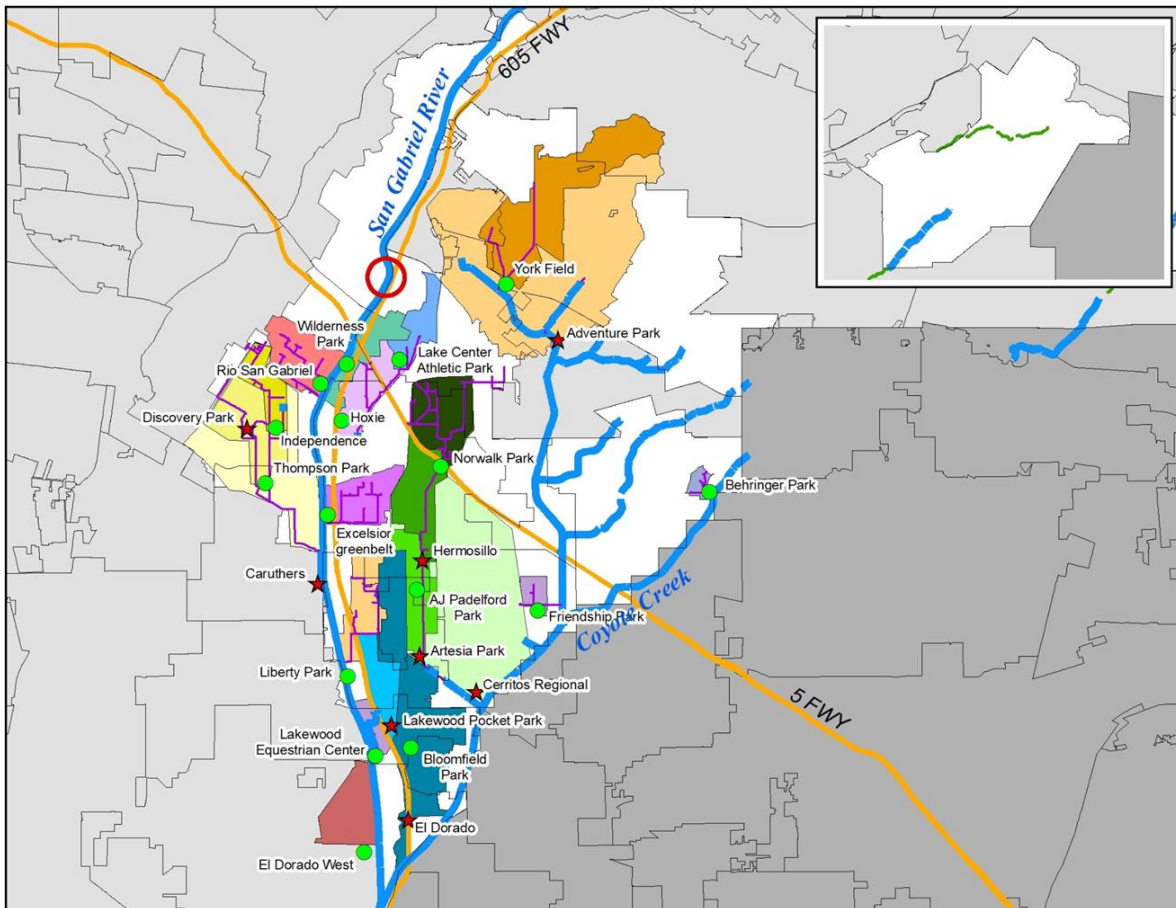
The project has a drainage area of 585 acres, including portions of Artesia (388 acres), Cerritos (86 acres), and Norwalk (111 acres)



The project is located less than half a mile south of a DAC; additionally, downstream DACs will benefit from improved water quality



Background



- The site was identified in the LSGR WMP (approved in 2015) and has high potential due to the significant drainage area, location of the adjacent storm drains, and available development space
- The project was uploaded to the Opti database for inclusion in the GLAC IRWMP
- The LSGR Watershed Management Group funded percolation testing and the development of a Feasibility Study (including 10% design plans) in the first half of 2020
- The project will therefore implement the LSGR WMP and represent progress toward compliance with the MS4 Permit and applicable TMDL milestones
- The project is part of the overall Stormwater Corridor approach being taken by the LSGR Watershed Management Group



Existing Site Conditions



- Left: southern park boundary and anticipated location of the proposed ephemeral stream with bioswale overflow
- Center: existing basketball courts and anticipated location of a portion of the subsurface storage structure (currently prone to flooding during rain events)
- Right: existing baseball fields and anticipated location of a portion of the subsurface storage structure



Details

- Per the preliminary concept plan, the scope of the project will include:
 - Diversion and pre-treatment system
 - Underground storage reservoir (5.0 acre-feet)
 - Filter and discharge system
 - Ephemeral biofiltration creek and bioretention garden
 - Low impact development (LID) BMPs in the parking lots and pathways
 - Surface improvements (e.g. replacement/creation of fields, vegetation)
- Preliminary hydrological analyses and a utility review have been conducted
- Stormwater capture optimization methods were used when considering project alternatives





Cost & Schedule

Phase Costs			
Phase	Description	Cost	Completion Date
Design	Final Design (30/60/90/100)	\$ 931,381.00	09/2022
Design	Environmental Planning (CEQA) and Permitting	\$ 186,276.00	09/2022
Design	Agency Management (Design)	\$ 82,845.00	09/2022
Design	Public Outreach Campaign	\$ 50,000.00	09/2022
Construction	Construction Cost	\$ 9,313,806.00	09/2024
Construction	Construction Administration and Design Support	\$ 931,381.00	09/2024
Construction	Construction Survey	\$ 20,000.00	09/2024
Construction	Agency Management (Construction)	\$ 150,000.00	09/2024
Total Funding:		\$ 11,665,689.00	

Annual Cost Breakdown	
Annual Maintenance Cost:	\$ 103,000.00
Annual Operation Cost:	\$ 25,000.00
Annual Monitoring Cost:	\$ 15,000.00
Project Life Span:	50 years



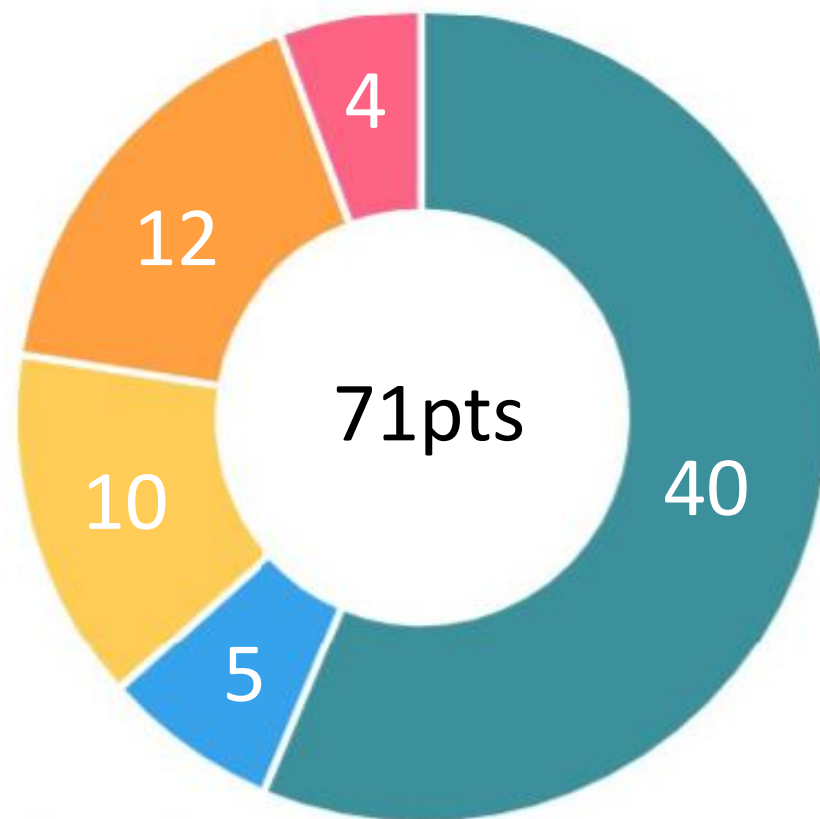
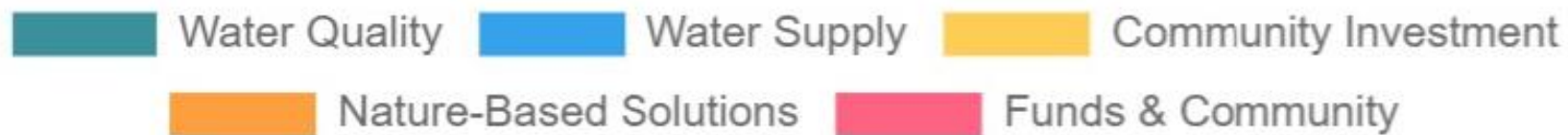
Funding Request

Funding Requested by Year & Phase			
Year	SCW Funding Requested	Phase	Efforts during Phase and Year
Year 1	\$ 186,276.00	Design	Environmental Planning (CEQA) and Permitting
Year 1	\$ 931,381.00	Design	Professional Design Services (30/60/90/100)
Year 1	\$ 82,845.00	Design	Agency Project Management (Design Phase)
Year 1	\$ 50,000.00	Design	Public Outreach Campaign
Total Year 1	\$ 1,250,502.00		
Total Funding:	\$ 1,250,502.00		

Upon completion of final design, future SCWP funding requests will be submitted for project construction, operations and maintenance, and monitoring

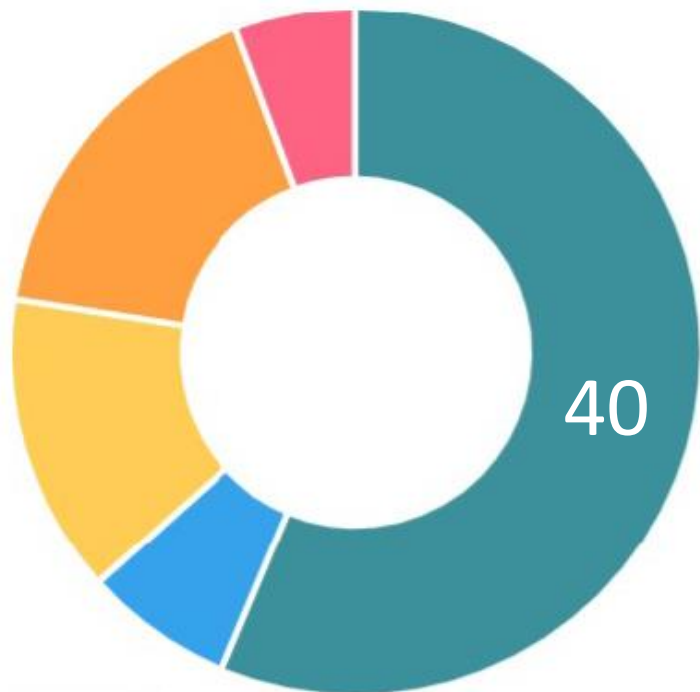


Preliminary Score





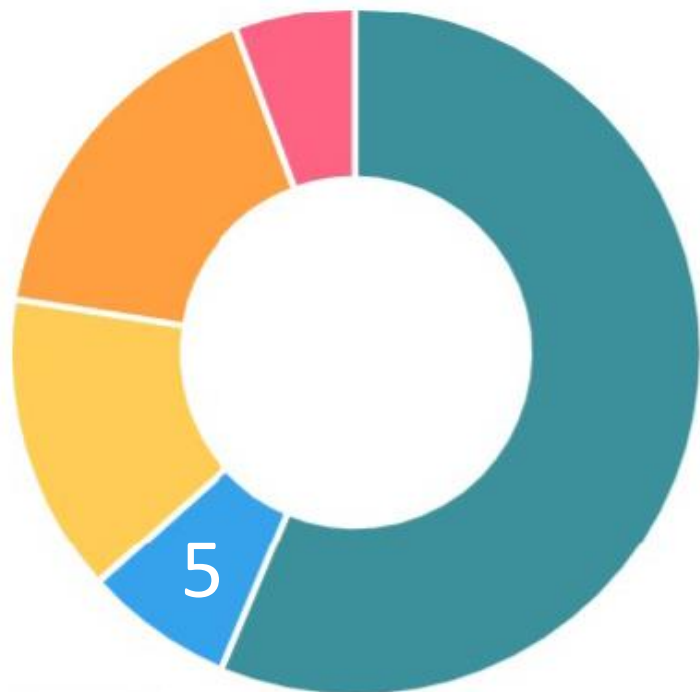
Water Quality Benefits



- The project:
 - Will achieve its water quality objectives through runoff/pollutant capture, filtration, and release
 - Typically has adequate available storage in the BMP during dry conditions to capture all dry weather flows
 - Has a drainage area of 585 acres, encompassing portions of the Cities of Artesia (388 acres), Cerritos (86 acres), and Norwalk (111 acres)
 - Will address zinc and bacteria (the primary and secondary limiting pollutants identified in the LSGR WMP, respectively) in addition to other pollutants
- The proposed storage reservoir has a capacity of 5.0 acre-feet
- Low impact development (LID) components such as permeable pavements and bioretention areas will be installed in the parking lots and pathways to treat the local runoff



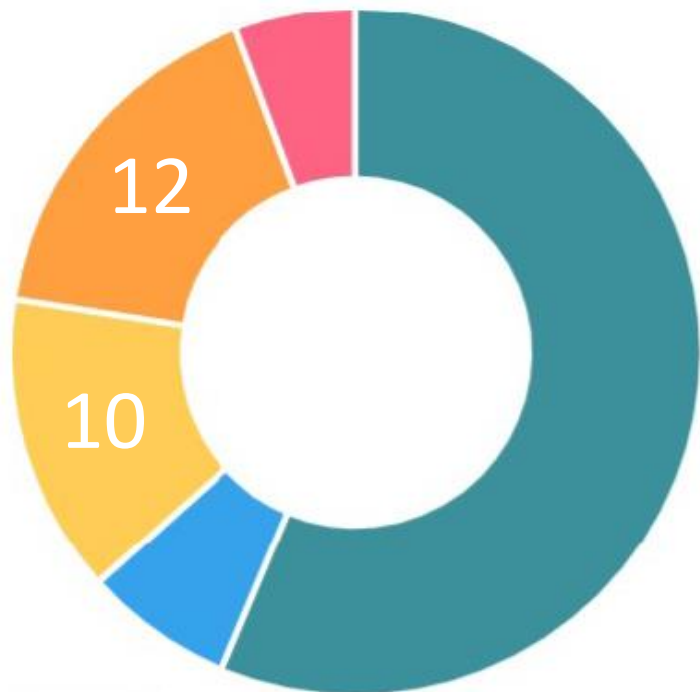
Water Supply Benefits



- The project has potential to provide multiple benefits at the nexus of water supply and stormwater including:
 - On-site irrigation use: the design process will explore the possibility of utilizing captured flows to offset onsite irrigation needs (dry weather flows require additional studies)
 - Water recycling: there are sanitary sewer lines in the vicinity of the project, but further capacity study would be required to determine if discharges to these would be feasible
- LID BMPs such as permeable pavement in the parking lots will treat local runoff



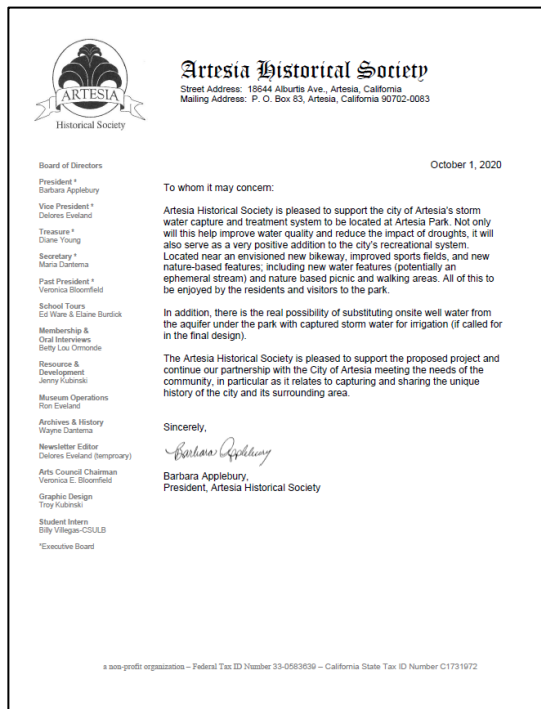
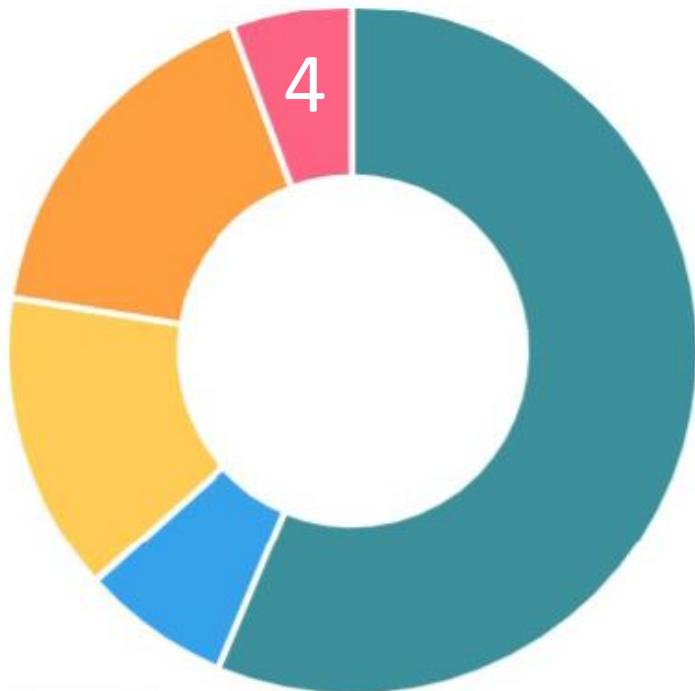
Community Investment Benefits & Nature-Based Solutions



- Flood management:
 - The system's detention capabilities could improve the flood retention capabilities of the whole storm drain system
 - A new catch basin will be installed to mitigate flooding issues that have impacted Clarkdale Avenue on the west side of the park (including City Hall)
- Enhanced park space and recreational opportunities:
 - The park surface (including the baseball/softball outfields) will be replaced as the storage structure is installed
 - The ephemeral bioretention stream will culminate in a bird and butterfly garden
- Reduced heat island effect and increased shade: landscape plans post construction include additional native trees, shrubs, and grasses to be installed
- Additional nature-based solutions: permeable pavements and bioretention planters will be installed in the parking lots



Community Support



- The project has received letters of support from the Artesia Historical Society and Friends of the Artesia Library
- The funding request includes \$50,000 for public outreach efforts, which will include community development meetings and informational signage



Leveraging Funds

- The LSGR Watershed Management Group provided funding for the Feasibility Study (including 10% design plans) and the preliminary geotechnical testing for the project
- The City will utilize its municipal allocation of the Safe Clean Water Program to provide its cost share of the design costs for the project
- The City will continue to pursue additional funding sources to support the construction costs of the project; already, the City has applied for an Urban Flood Protection grant through the California Natural Resource Agency (outcome pending)



Questions?