

Safe, Clean Water Program

Upper Los Angeles River Watershed Area Steering Committee (WASC)



Meeting Minutes:

Thursday, February 18, 2021
2:00pm - 5:00pm
WebEx Meeting

Attendees

Committee Members Present:

Paul Lui (LA Dept. of Water and Power)	Yazdan Emrani (Glendale)
Alfredo Magallanes (Los Angeles - Sanitation)	Genevieve Osmena (Los Angeles County Flood Control District)
Art Castro* (LA Dept of Water and Power)	John Luker (Santa Susana Mountain Park Association)
Veronica Padilla-Campos (Pacoima Beautiful)	Max Podemski (Los Angeles)
Teresa Villegas* (Los Angeles)	Kris Markarian (Pasadena)
Patrick DeChellis (La Canada Flintridge)	Paul Alva (Los Angeles)
Miguel Luna (Urban Semilla DakeLuna Consultants)	Rafael Prieto (Los Angeles)
Cathie Santo Domingo (LA Recreation & Parks)	
Ernesto Pantoja (Laborers Local 300)	

Committee Members Not Present:

None.

*Committee Member Alternate

See attached sign-in sheet for full list of attendees

1. Welcome and Introductions

David Nahai announced that he has stepped down as Chair from the Upper Los Angeles River (ULAR) WASC due to his appointment to the Los Angeles Regional Water Quality Control Board. He thanked all the Committee Members and District staff and wished them well. Committee Members expressed their admiration and thanked David Nahai for his leadership and commitment to the WASC. David Nahai turned over the floor to Max Podemski, Vice-Chair of the Committee and retired from the meeting.

The Committee will agendize the vote of a new Chair and Vice Chair of the Upper Los Angeles River (ULAR) WASC.

CJ Caluag (District) facilitated the roll call of Committee Members. All committee members made self-introductions and a quorum was established.

2. Approval of Meeting Minutes from February 3, 2021

The District provided a copy of the meeting minutes from the previous meeting. Max Podemski asked the committee members for comments or revisions, there were none.

Teresa Villegas motioned to approve the minutes. Miguel Luna seconded the motion. The Committee voted to approve the meeting minutes. (Approved, see vote tracking sheet).

3. Committee Member and District Updates

CJ Caluag (District) provided the District updates, noting: Each WASC is moving forward with their first choice for Watershed Coordinators (WC). The WC are submitting their Letters of Intent and insurance requirement as well as working with the District's contract division. The WC onboarding is tentative for

Safe, Clean Water Program

Upper Los Angeles River

Watershed Area Steering Committee (WASC)



March or April. The Safe, Clean Water Program's (SCWP) reporting module is scheduled for an April 2021 release. The first quarterly reports will be due on May 15, 2021. The Annual Plans submitted and approved are available on the SCW Program website for review. Regarding Transfer Agreements (TA), cities that have not returned their executed TAs, Annual Plans, Authorizations and Resolutions the District requested that these be returned as soon as possible. For Regional TAs; Scopes of Work, Authorizations and Resolutions need to be received by the District prior to fund disbursements.

Finally, the District will work with the Southern California Coastal Water Research Project (SCCWRP) to provide an independent scientific analysis and review of every Scientific Study submission in year 2. SCCWRP will prepare standard scientific summaries that they expect to distribute to each WASC by April 2021. The SCCWRP study is paid for by the District. SCCWRP is a joint powers agency.

4. Ex Parte Communications

Alfredo Magallanes noted that a staff member will be presenting the Lincoln Park Neighborhood Project and that he was briefed on the Broadway-Manchester Multi-Model Green Streets Project.

Cathie Santo Domingo noted that Projects in item 6 have been reviewed by LA Recreation and Parks.

Teresa Villegas noted to have been briefed on the Lincoln Park Neighborhood Project.

Paul Lui noted that he has been briefed on Project listed in item 6.

5. Public Comment Period

A member of the public commented in support of Arroyo Seco-San Rafael Treatment Wetlands.

Jose Rodriguez representing Los Angeles City Council Member Gil Cedillo commented in favor of the Lincoln Park Neighborhood Green Street Network Project.

6. Discussion Items

a) Infrastructure Program (IP) Presentations (ULAR Scoring Rubric):

i) David M. Gonzales Recreation Center Stormwater Capture Project

Presented by Peter Tonthat, Associate Civil Engineer for Los Angeles Department of Water and Power (LADWP) and Merrill Taylor, P.E. for Craftwater Engineering. This project captures 342 AF per year, improve water quality, enhance the DAC, and mitigate flooding. 50% cost match with strong community support.

ii) North Hollywood Park Stormwater Capture Project

Presented by Peter Tonthat, Associate Civil Engineer for (LADWP) and Oliver Galang, P.E. for Craftwater Engineering. This project captures 2,040 AF per year, improve water quality, enhance the DAC, and mitigate flooding. 50% cost match with strong community support.

iii) Valley Plaza Park Stormwater Capture Project

Presented by Peter Tonthat, Associate Civil Engineer for (LADWP) and Merrill Taylor, P.E. for Craftwater Engineering. This project captures 590 AF per year, improve water quality, enhance the DAC, and mitigate flooding. 50% cost match with strong community support.

Items 6a) (i-iii) were presented together by LADWP. Committee members asked whether LADWP considered asking for design funds first in order to have a better understanding of construction costs. Peter Tonthat replied that the full capital cost must be committed for the project to be considered by their implementation board and there would be phases to the construction. Committee members asked how to

Safe, Clean Water Program

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Watershed Area Steering Committee (WASC)



handle requests for funding that would extend past the 5-year Stormwater Improvement Plan. The District noted that there is a catchall column but that funding for future years outside of the funds need to be distributed in a certain time frame among multiple projects. LADWP replied that some costs are passed on to rate payers and later reimbursed.

Veronica Padilla-Campos commented in support of the Project on behalf Pacoima Beautiful.

Max Podemski asked about the reduction of localized funding around these Projects. Oliver Galang and Merrill Taylor commented that it reduces localized funding by allowing greater capacity downstream.

iv) Lincoln Park Neighborhood Green Street Network

Presented by Carmen Andrade, Civil Engineering Associate for the City of Los Angeles Sanitation and Environment. This project will implement a regional multi-benefit stormwater project in Lincoln Park and the adjacent neighborhood.

Paul Alva asked if the City was providing matching fund for the Project. Carmen Andrade indicated that it was not the case.

v) Broadway-Manchester Multi-Model Green Streets Project

Presented by Ana Tabuena-Ruddy, Landscape Architect II for the City of Los Angeles Department of Public Works. This project captures the 85th percentile storm runoff in public right-of-way storage distributed over 2.8 miles and uses the water for landscape irrigation.

Ernesto Pantoja asked if this Project falls under the Los Angeles Public Works PLA and Local Hire requirements. Ana Tabuena-Ruddy replied that they will be using LACC for local community outreach.

vi) Arroyo Seco-San Rafael Treatment Wetlands

Presented by Brent Maue, Civil Engineering Associate for the City of Pasadena Department of Water and Power and Oliver Galang, P.E. for Craftwater Engineering. This project will improve the water quality within the Arroyo Seco Channel, enhance the existing sites, and rehabilitate the San Rafael Creek.

Ernesto Pantoja asked if this Project would fall under a PLA or would there be local hiring. Oliver Galang and Brent Maue replied that the Project falls under a PLA and Pasadena encourages local hiring.

Genevieve Osmena asked if there were more opportunities to partner with tributary jurisdictions that drain to the project and if the wetlands were owned by the City. Oliver Galang replied that the Project is within Pasadena and South Pasadena and that the San Raphael Channel was built by LA County Flood Control.

7. Public Comment Period

Roberto Perez from Los Angeles Council District 8, Rogelio Sanchez from Alliance Judy Ive Burton Technology, and Carlos Leon from Community Coalition commented in support of the Broadway-Manchester Multi-Model Green Streets Project. Comment cards will be memorialized with minutes.

8. Voting Items

- a) None

9. Items for Next Agenda

- a) Infrastructure Program Presentations
- b) Voting for Chair and Vice Chair ULAR WASC Position

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Watershed Area Steering Committee (WASC)



10. Adjournment

Max Podemski thanked WASC members and the public and adjourned the meeting.

**Next Meeting: Wednesday, March 3, 2021
2:00PM – 4:00PM**

**Upper Los Angeles River
February 18, 2021**

Upper Los Angeles River February 18, 2021					
	Quorum Present				Voting Items
Member Type	Member	Voting?	Alternate	Voting?	Meeting Minutes
Agency	Genevieve Osmena	x	Carolina Hernandez		y
Agency	Delon Kwan		Art Castro	x	A
Agency	Paul Liu	x	Rafael Villegas		y
Agency	Alfredo Magallanes	x	Michael Scaduto		y
Agency	Cathie Santo Domingo	x	Javier Solis		y
Community Stakeholder	Ernesto Pantoja	x	Sergio Rascon		y
Community Stakeholder	Miguel Luna	x	Yvette Lopez-Ledesma		y
Community Stakeholder	John Luker	x	Wendi Gladstone		y
Community Stakeholder	David Nahai		Jacob Lipa		
Community Stakeholder	Veronica Padilla-Campos	x	Felipe Escobar		y
Municipal Members	Yazdan Emrani	x			y
Municipal Members	Patrick DeChellis	x			y
Municipal Members	Barbara Romero		Teresa Villegas	x	y
Municipal Members	Max Podemski	x	Ackley Padilla		y
Municipal Members	Rafael Prieto	x			y
Municipal Members	Paul Alva	x	TJ Moon		y
Municipal Members	Kris Markarian	x			y
Total Non-Vacant Seats	17			Yay (Y)	15
Total Voting Members Present	16			Nay (N)	0
Agency	5			Abstain (A)	1
Community Stakeholder	4			Total	16
Municipal Members	7				Approved

Attendees

Upper Los Angeles River WASC Meeting - February 18, 2020

Alfredo Magallanes	Gus Orozco	Nayiri Vartanian	Wendy Dinh
Alvin Cruz - LACFCD	ilene Ramirez	Oliver Galang (Craftwater)	Yazdan Emrani
Alynn Sun	Jason Casanova	Patrick DeChellis	Yvana Hrovat
Alysha Chan	Jessica Quach	Paul Alva	
Ana Tabuena-Ruddy	Jim Rasmus	Paul Glenn (GHD)	
Anthony Nercessian	Joe Venzon - LA County	Paul Liu	
Art Castro	Johanna Chang	Peter Tonthat	
Blake Whittington	John Luker	phuoc le	
Brent Maue	Jonathan Guerrero	Rafael Prieto	
brett perry	Jose Rodriguez	Raveena Jhaj	
Bryan Powell	Joyce Amaro	robert bruce	
Carlos Leon	Justin - LACFCD	Roberto Perez	
Carmen Andrade	katie m	Rogelio Sanchez	
carrie sutkin	Kevin Chang	Ryan A	
Cathie Santo Domingo	Kirk Allen - SCWP	Safe Clean Water LA	
Christine McLeod	Kris Markarian	Sarai Bhaga	
CJ CALUAG - LACFCD	Lauro Alvarado	Seth Carr	
Clarasophia Gust	Lorena Matos	Shahid Abbas	
Conor Mossavi	Mara Luevano	shahram Kharaghani	
Courtney Semlow	Marisol Ibarra	Shahriar Eftekhazadeh	
D Ready	Maritsa DRA Inc.	Sheila Brice	
Darin Seegmiller	max Podemski	Susie Santilena	
david nahai	Mayra Cabrera	Teresa Villegas	
Dawn Petschauer	Merrill Taylor (Craftwater)	Thuan Nguyen	
Dustin Bambic	Michael Gagan	TJ Moon	
Ernesto Pantoja	Miguel Luna	Tracey Chavira	
Fiona McHenry-Crutchfield	Mike Antos	Veronica Padilla	
Genevieve Osmena	Mike Rudd	Vik Bapna	
Gregor Patsch - Torrent Reources	N le	Wendi Gladstone	

Stormwater Capture Parks Program

David M. Gonzales Recreation Center

North Hollywood Park

Valley Plaza Park

Funding Program: Infrastructure Program

Los Angeles Department of Water and Power (LADWP)

Presenter: Peter Tonthat, PE (LADWP)





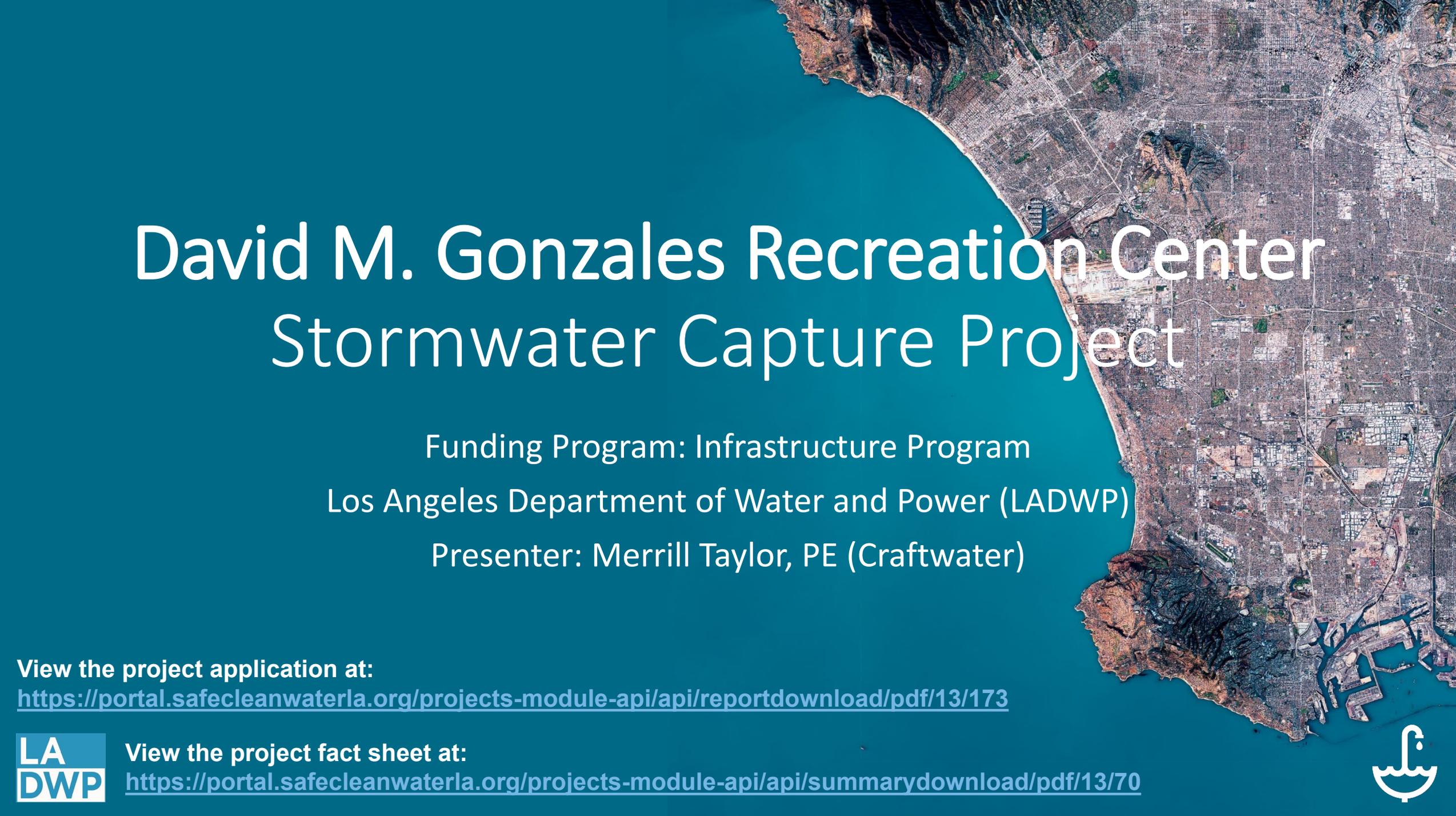
LADWP's Round 2 (FY 21-22) Projects

David M. Gonzales Park

Valley Plaza Park

North Hollywood Park

- Top 3 scoring projects in SCW Program
- Approx. 3,000 ac-ft/yr infiltrated
- Over 50% in matching funds
- Disadvantaged communities
- High park need areas
- Shared goals with SCW Program

An aerial photograph of Los Angeles, California, showing the coastline, the city grid, and some green spaces. The image is partially obscured by a teal overlay on the left side where the text is located.

David M. Gonzales Recreation Center Stormwater Capture Project

Funding Program: Infrastructure Program

Los Angeles Department of Water and Power (LADWP)

Presenter: Merrill Taylor, PE (Craftwater)

View the project application at:

<https://portal.safecleanwaterla.org/projects-module-api/api/reportdownload/pdf/13/173>



View the project fact sheet at:

<https://portal.safecleanwaterla.org/projects-module-api/api/summarydownload/pdf/13/70>



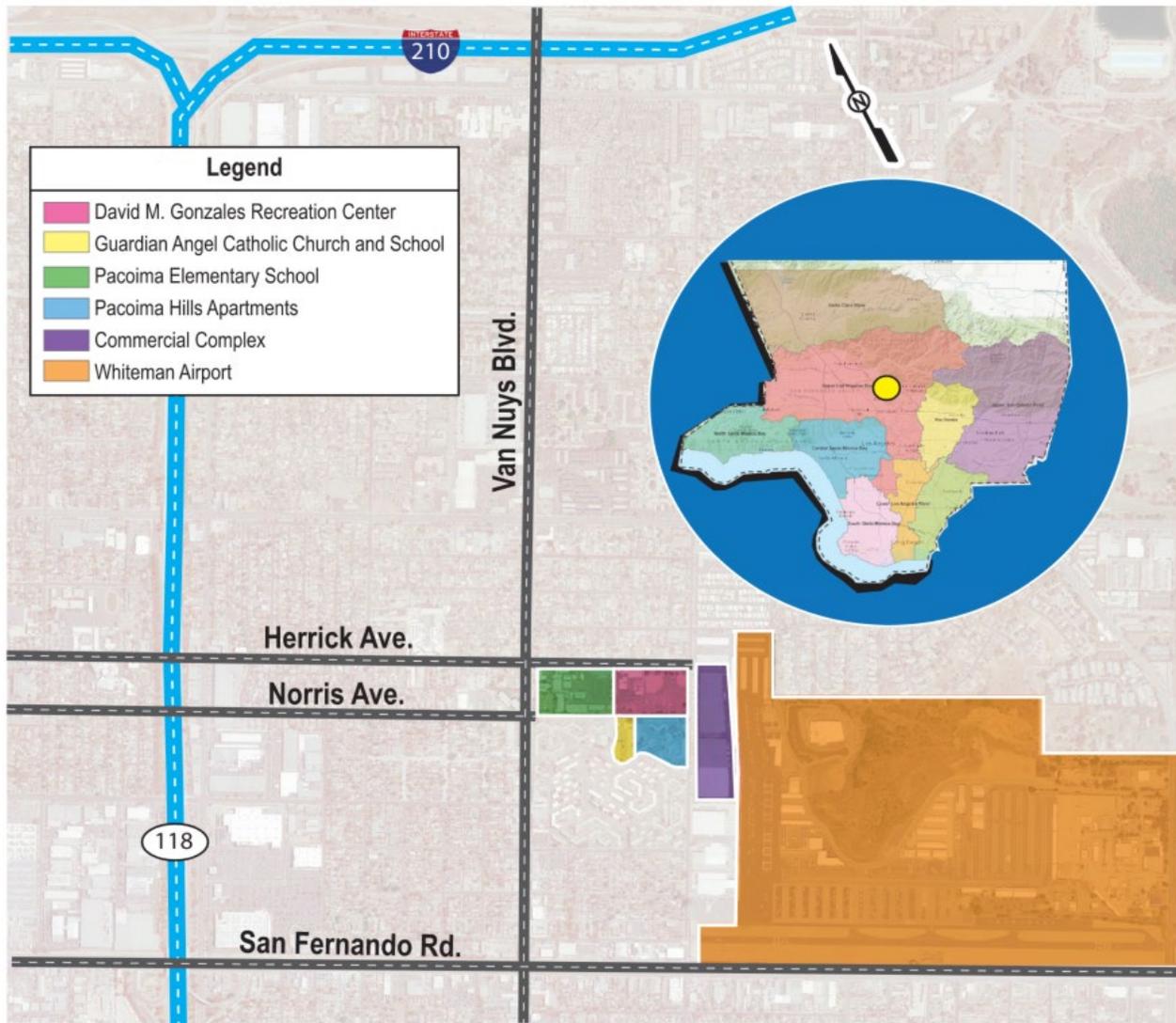
Project Overview

The David M. Gonzales Recreation Center Project will capture 342 AF per year of stormwater, improve water quality, enhance the disadvantaged community, and mitigate flooding. 50% cost match with strong community support.

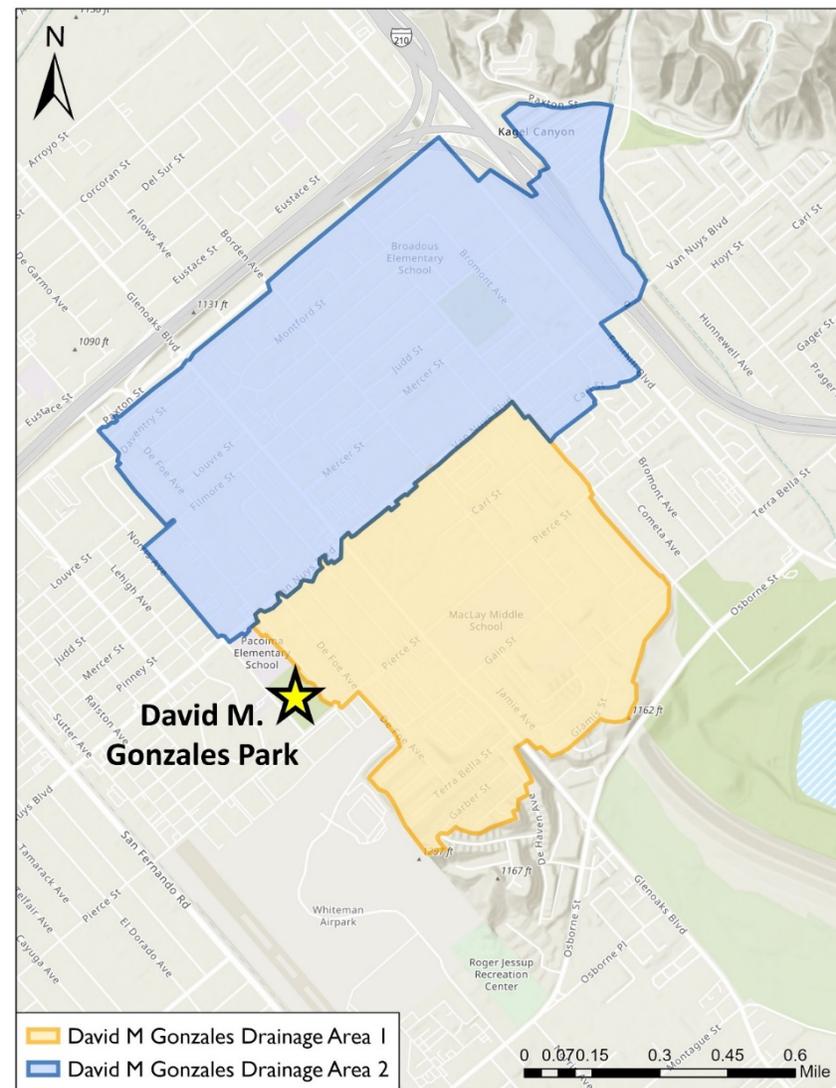
- Objectives are stormwater infiltration and community enhancement
- Project Status – Design, Construction
- FY 21-22 Funding Request: \$388,000
- Total Funding Requested: \$19,363,000



Project Location



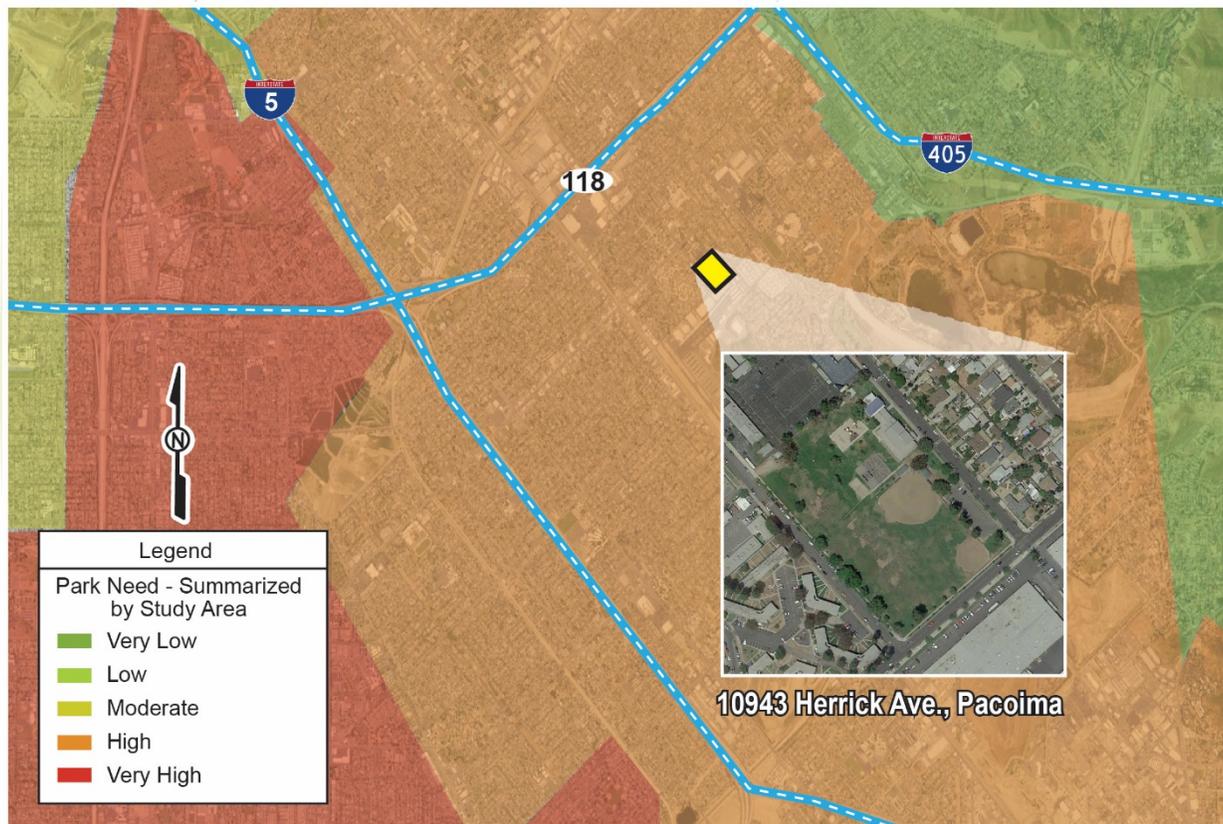
Location Map



Project Tributary Areas – 760 acres



Project Location



High Park Needs Surrounding David M. Gonzales Recreation Center



Disadvantaged Communities (Pink) in the Vicinity of David M. Gonzales Recreation Center



Project Background

- The proposed multi-benefit project is identified in the ULAR EWMP and IRWMP
- Benefits to San Fernando Valley:
 - Increase local water supply by recharging the groundwater basin
 - Alleviate localized flooding & increase flood control capacity
 - Improve regional water quality
 - Provide community enhancements through park improvements and new amenities
- Disadvantaged Community Issues: Localized flooding, high park needs, poor air quality due to proximity to major highways, and historic underinvestment
- Disadvantaged Community Benefits: Improved flood mitigation, restoration of park, enhanced recreational opportunities, increased shade, carbon sequestration, and greening at school



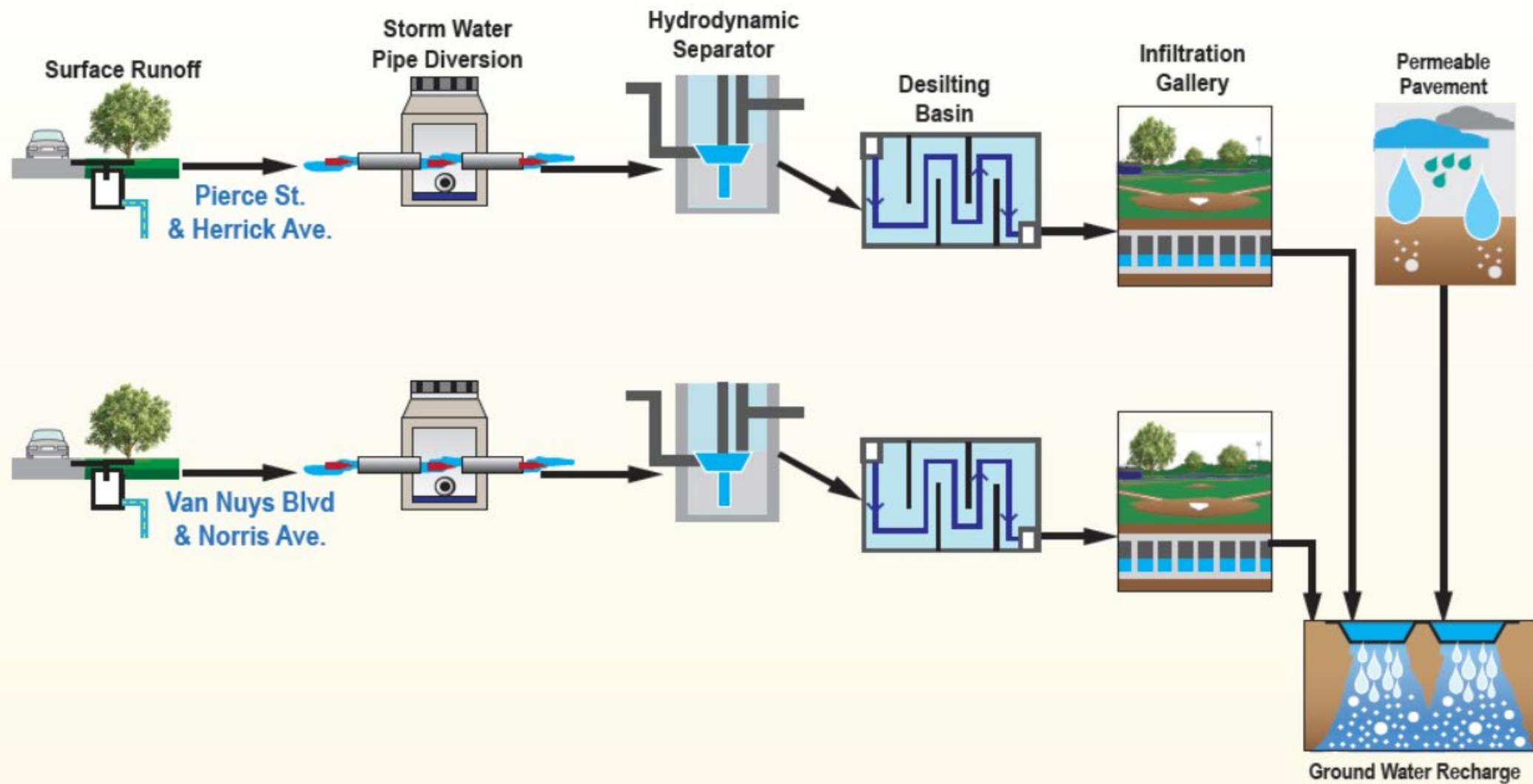
Project Details – Stormwater Capture Project Features



- Storage Volume: **36.7 ac-ft**
- Infiltration Footprint Area: **2.6 ac**
- Infiltration Rate: **2.5 in/hr**

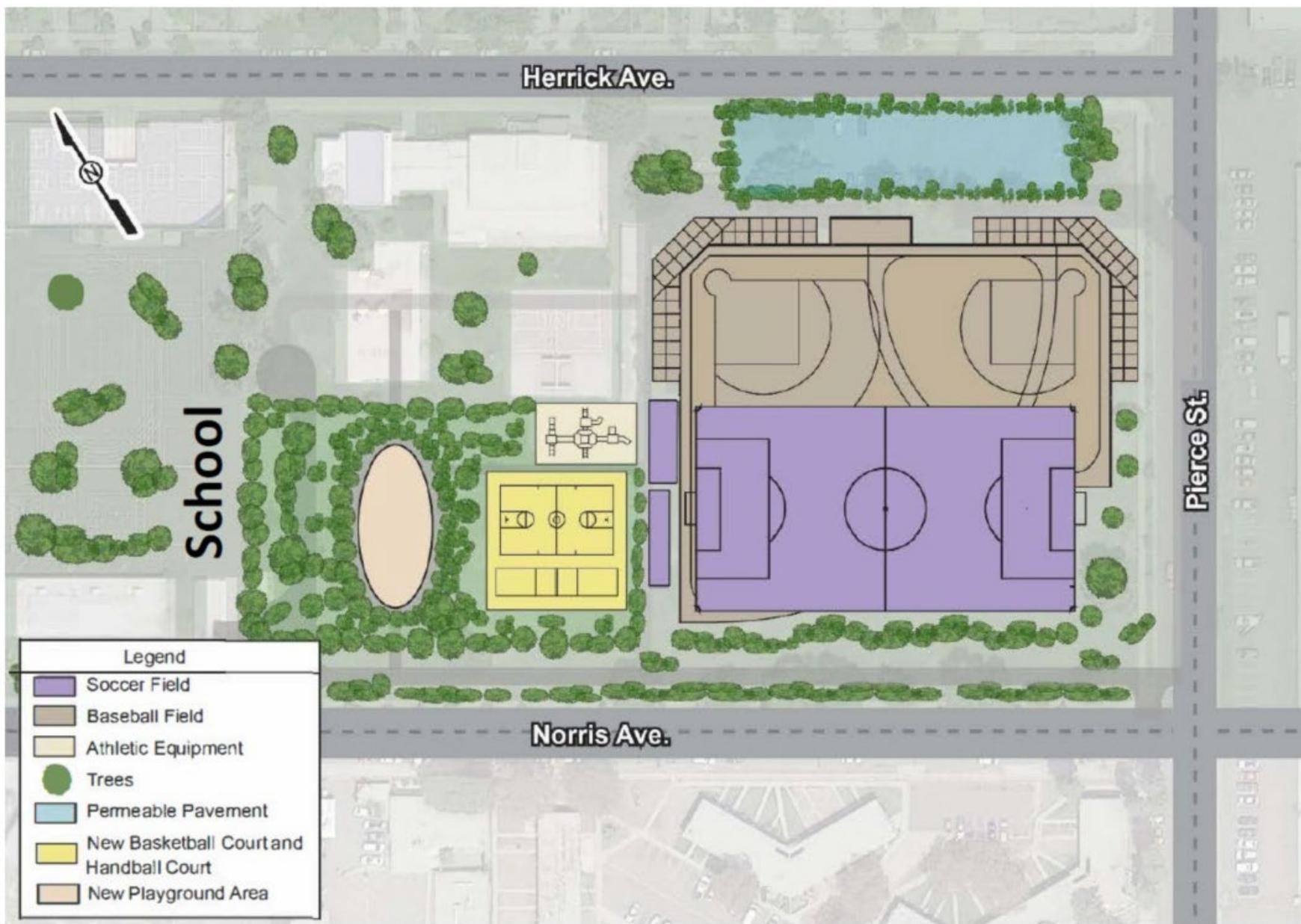


Project Details





Project Details



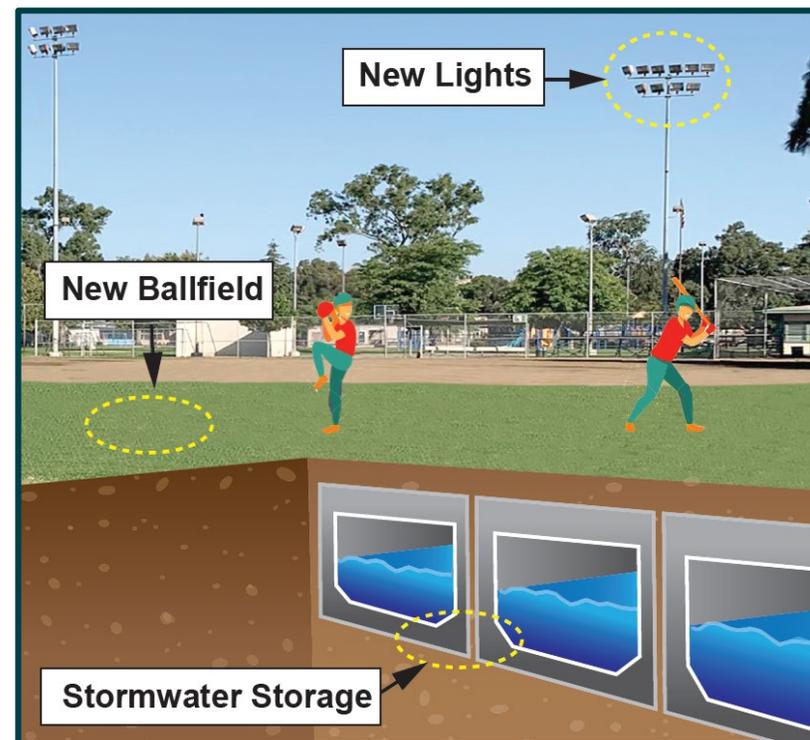
- Incorporates almost all SCW Program community benefits
- Adds several new amenities for the community



Project Details

Project Features Include:

- 40 to 95 new trees
- New playground
- New basketball court
- New handball court
- New natural multipurpose soccer field
- Upgraded ball fields
- Integral shade structures
- Upgraded athletic equipment
- Educational signage
- New LED sports lighting system





Cost & Schedule

Phase	Description	Cost	Completion Date
Design	Pre-design, design, geotechnical, environmental, outreach, permitting, grant applications, grant reporting	\$6,168,000	November 2021
Construction	Bid & award, construction, construction management, outreach, grant reporting	\$32,951,000	August 2023
TOTAL		\$39,119,000	

- Annual Costs:
 - O&M/Monitoring: \$373,545
- 40-year life-cycle cost: \$47.3 million (assumed 3.375% annual discount rate)



Funding Request

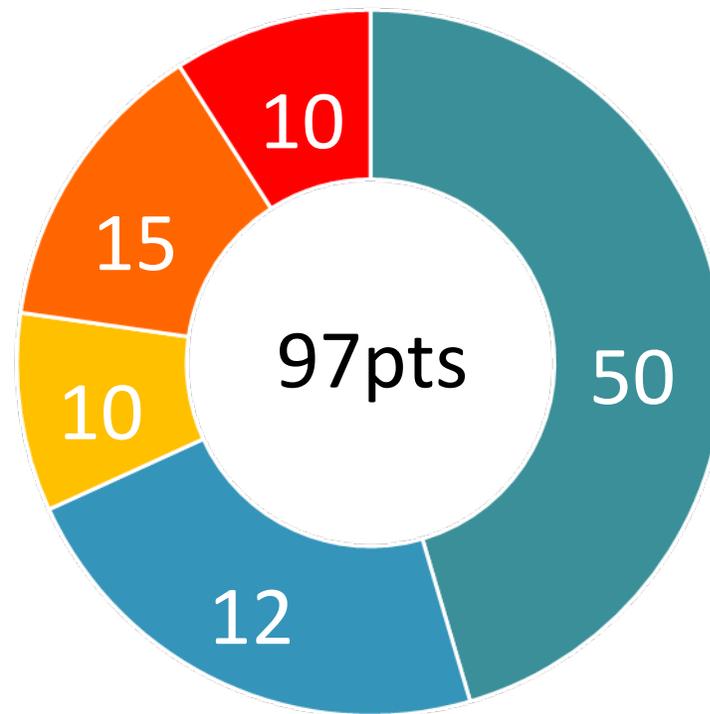
Year	SCW Funding Requested	Phase	Efforts during Phase and Year
1	\$388,000	Design	Pre-design, design, geotechnical, environmental, outreach, permitting, grant applications, grant reporting
2	\$581,000	Design	Design, geotechnical, environmental, outreach, permitting, grant applications, grant reporting
3	\$1,550,000	Design, Construction	Design, environmental, outreach, permitting, grant applications, grant reporting, bid & award, construction
4	\$2,130,000	Construction	Construction, construction management
5	\$3,099,000	Construction	Construction, construction management
Funding requested beyond 5 years	\$11,615,000	Construction	Construction, construction management, post-construction management, grant reporting
Total	\$19,363,000		

- LADWP has committed to match 50% of the total capital cost of the project



Final Score

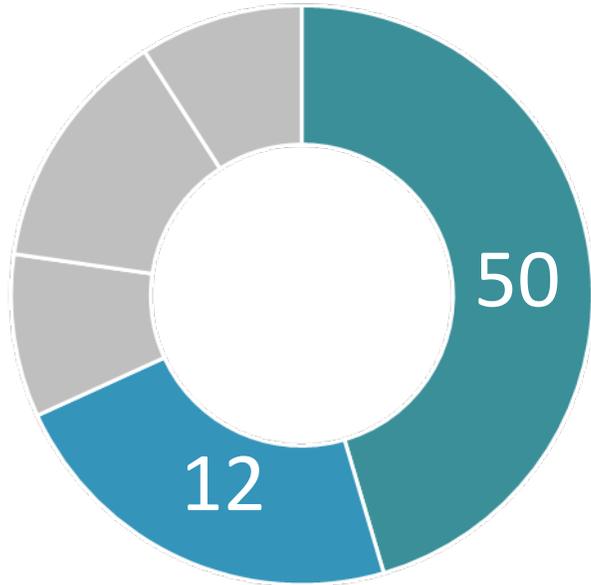
- Water Quality
- Water Supply
- Community Investment Benefits
- Nature Based Solutions
- Leveraged Funds and Community Support



#1 Highest Scoring Project Among All Round 2 Regional Projects



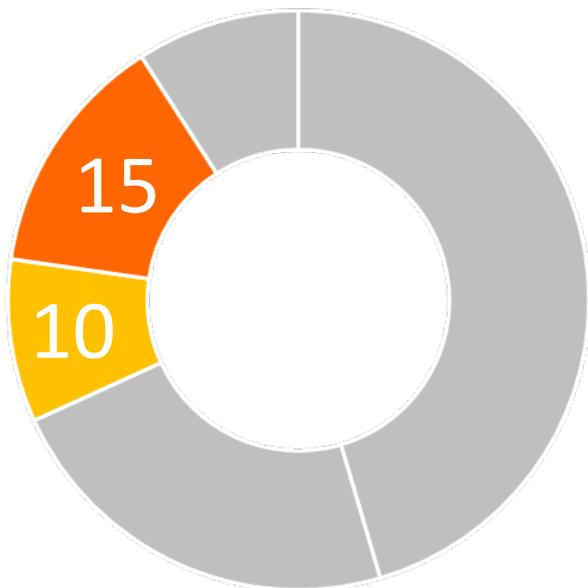
Water Quality & Water Supply Benefits



- Primary Mechanism: Capture and Infiltration
- Captures **dry** and **wet** weather flows
- 24 Hour Capacity: **49.79 ac-ft**
- Pollutant Load Reduction
 - Primary Pollutant (Zinc) – **96.6% (199 lbs)**
 - Secondary Pollutant (Bacteria) – **88.5% (3.34×10^{14} MPN)**
- Average Annual Capture for Water Supply: **342 ac-ft**
- Water Supply Use: **Aquifer Recharge**
- Water Supply Cost Effectiveness : **\$6,337/ac-ft**



Community Investment Benefits and Nature Based Solutions



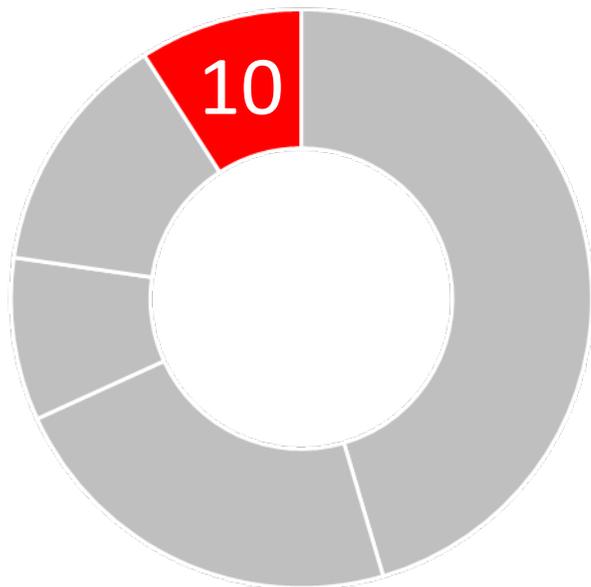
- Community Investment Benefits
 - Improved flood mitigation
 - Creation, enhancement, & restoration of parks
 - Enhanced recreational opportunities
 - Greening of schools
 - Reducing heat island effect & increasing shade
 - Increased trees & vegetation, carbon sequestration, improved air quality
- Nature Based Solutions
 - Incorporates natural processes (infiltration, carbon sequestration)
 - Utilizes natural materials
 - Removes impermeable area from the project





Leveraging Funds and Community Support

- Leveraging Funds
 - \$19,756,000
 - LADWP committed to 50% cost share



- Community Support
 - 4 outreach/engagement events have been held to date to inform project design and implementation
 - Letters of support from the community:



North Hollywood Park Stormwater Capture Project

Funding Program: Infrastructure Program

Los Angeles Department of Water and Power (LADWP)

Presenter: Oliver Galang, PE (Craftwater)

View the project application at:

<https://portal.safecleanwaterla.org/projects-module-api/api/reportdownload/pdf/13/187>



View the project fact sheet at:

<https://portal.safecleanwaterla.org/projects-module-api/api/summarydownload/pdf/13/71>



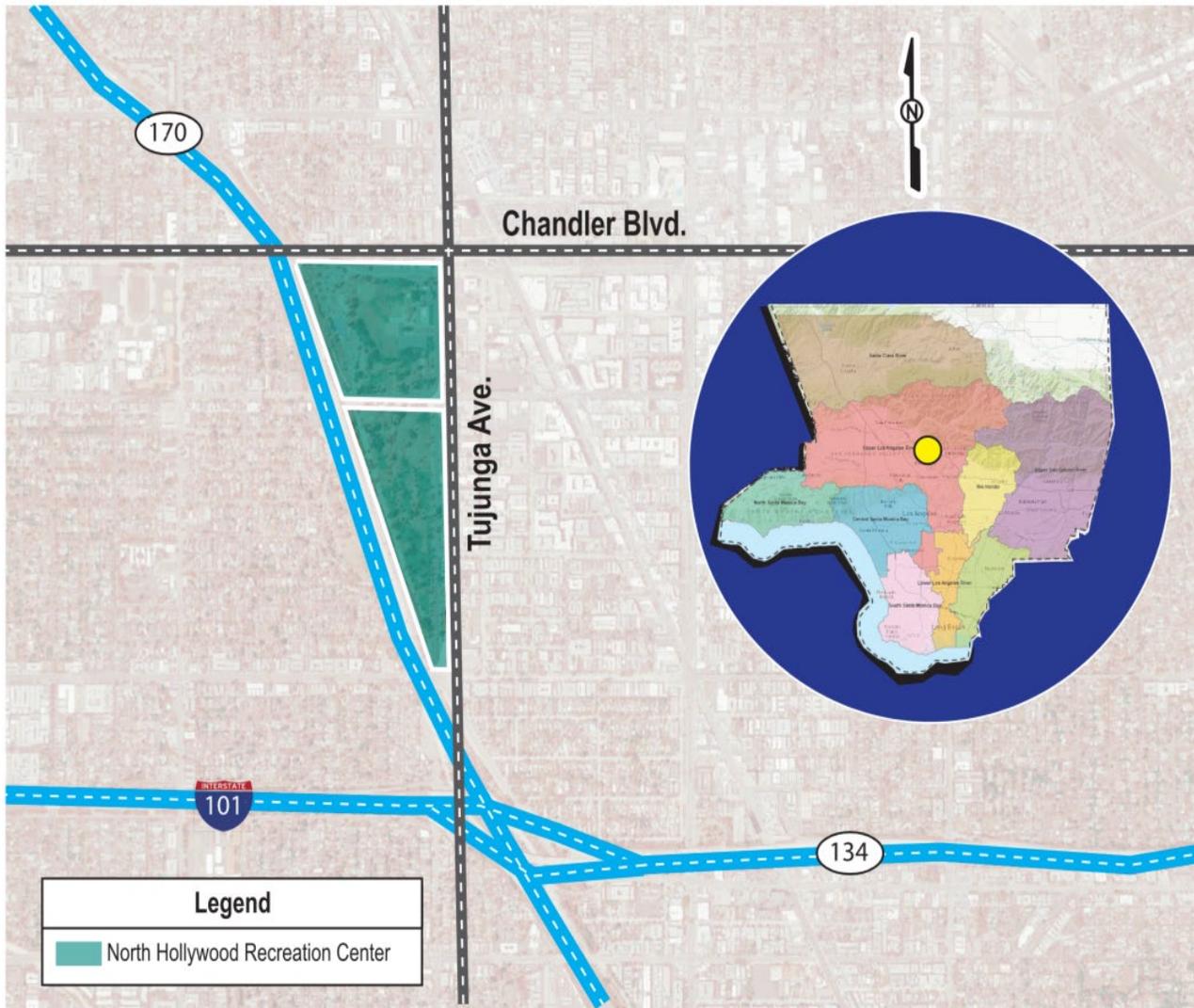
Project Overview

The North Hollywood Park Project will capture 2,040 AF per year, improve water quality, enhance the disadvantaged community, and mitigate flooding. 50% cost match with strong community support.

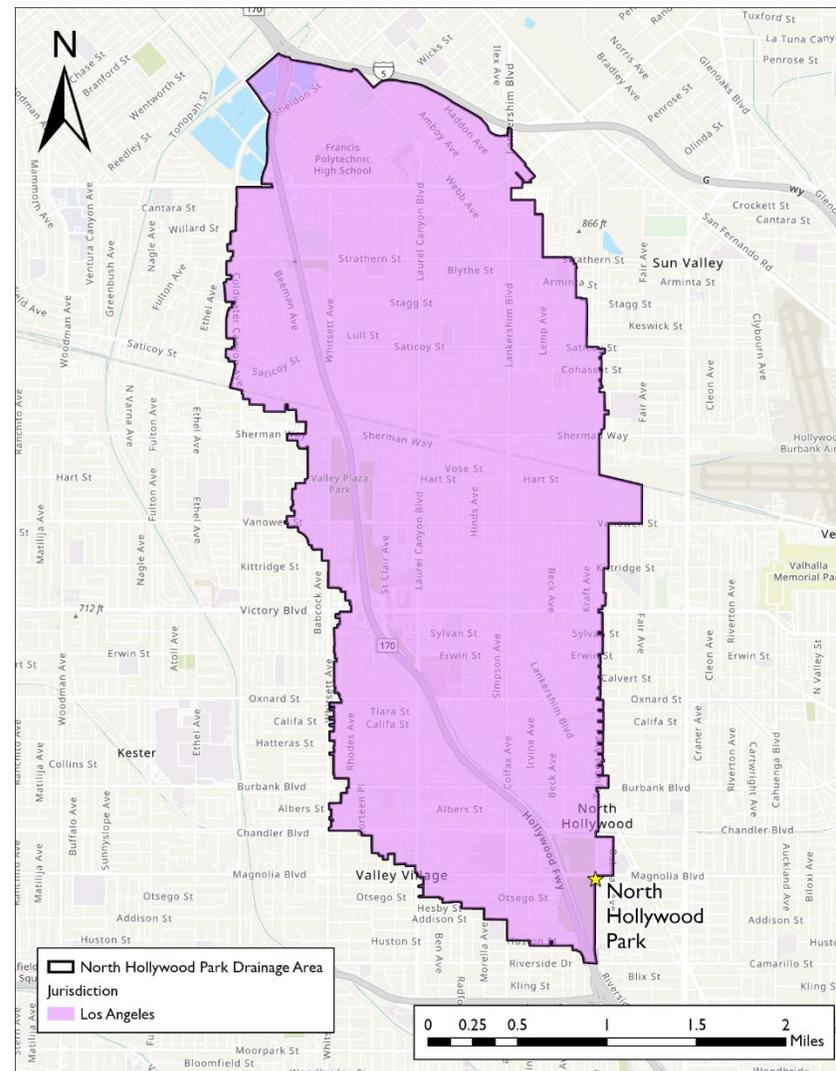
- Objectives include stormwater capture and community enhancement
- Project Status – Design, Construction
- FY 21-22 Funding Request: \$1,848,000
- Total Funding Request: \$92,394,000



Project Location



Location Map

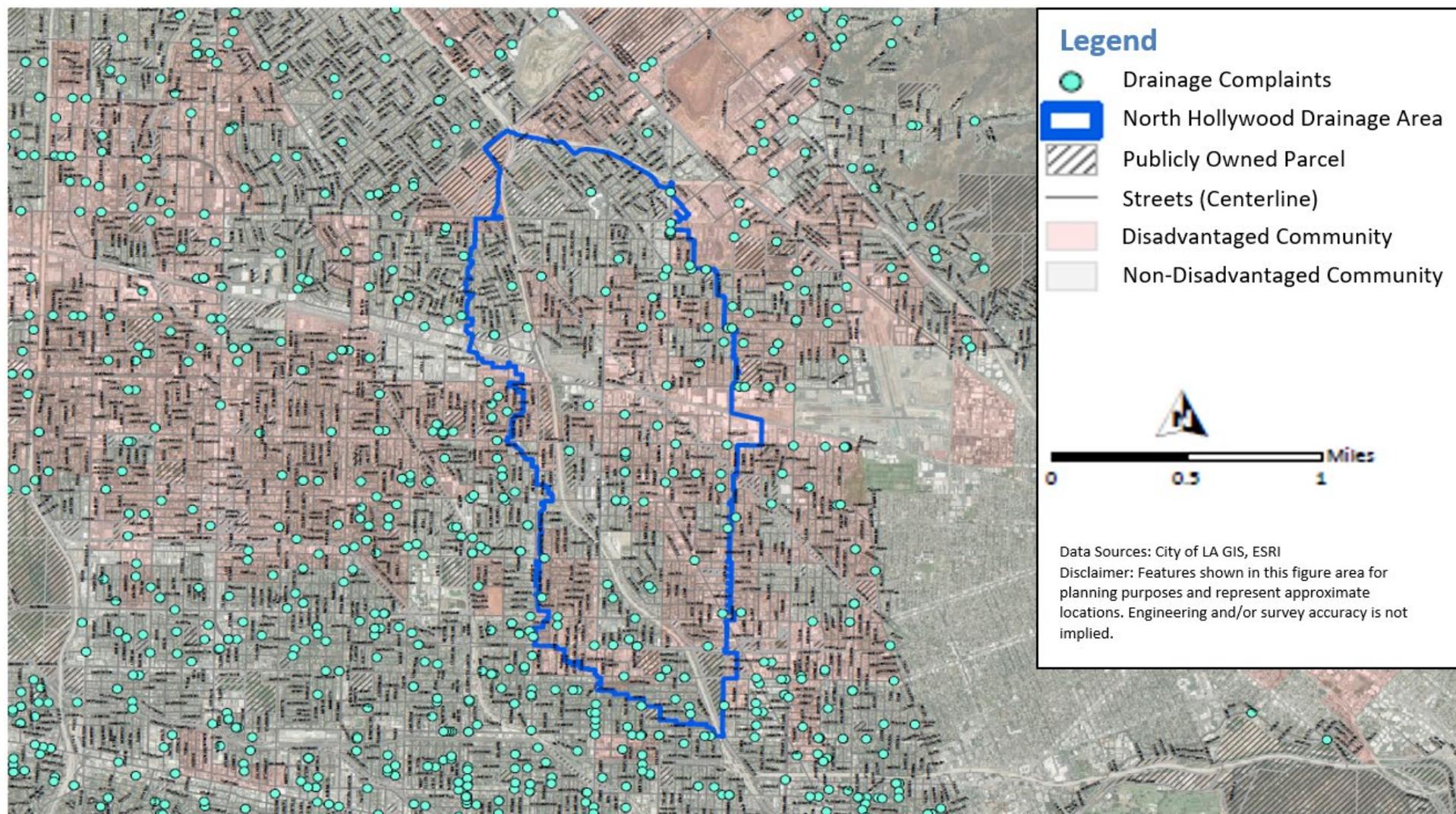


Project Drainage Area – 4,866 acres





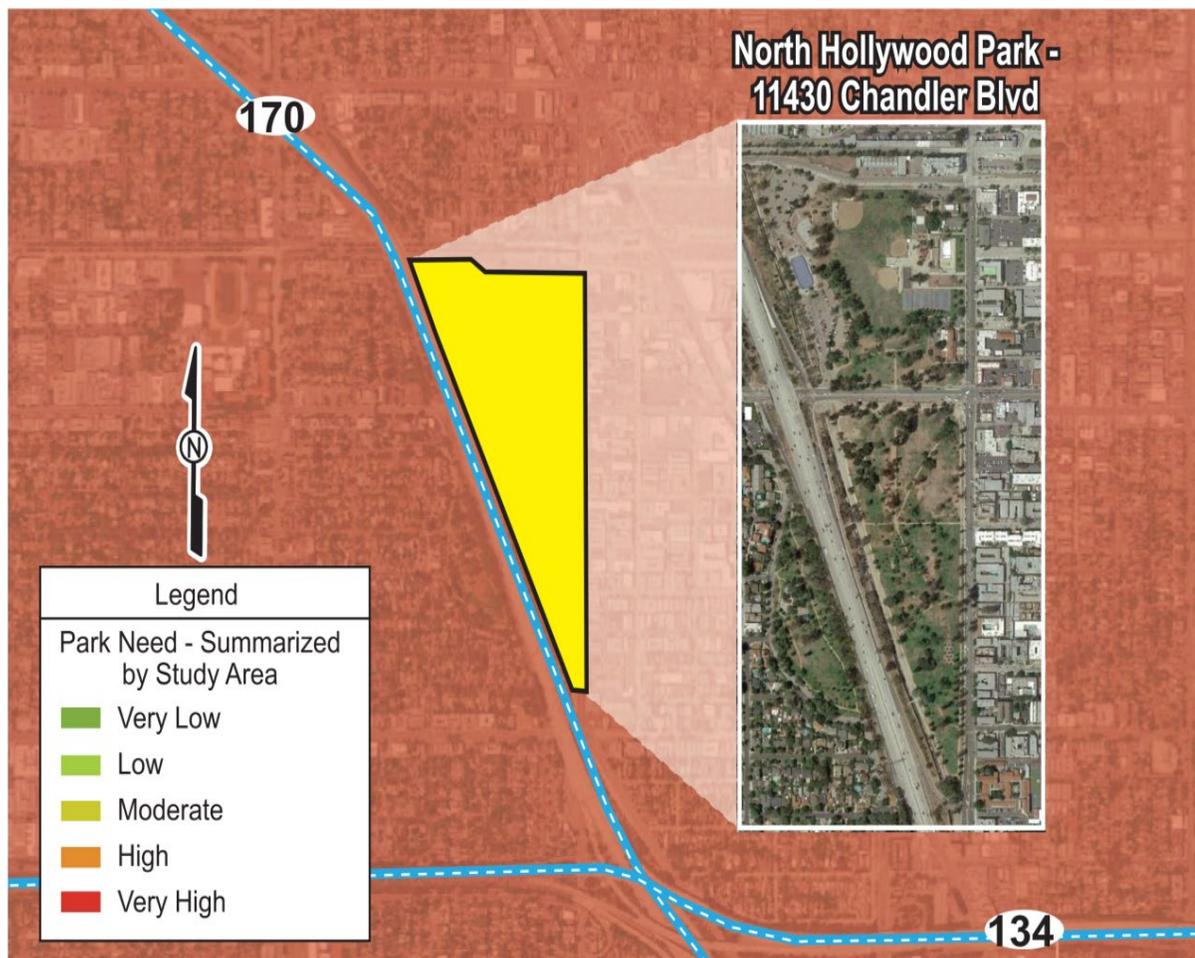
Project Location – Flooding Issues



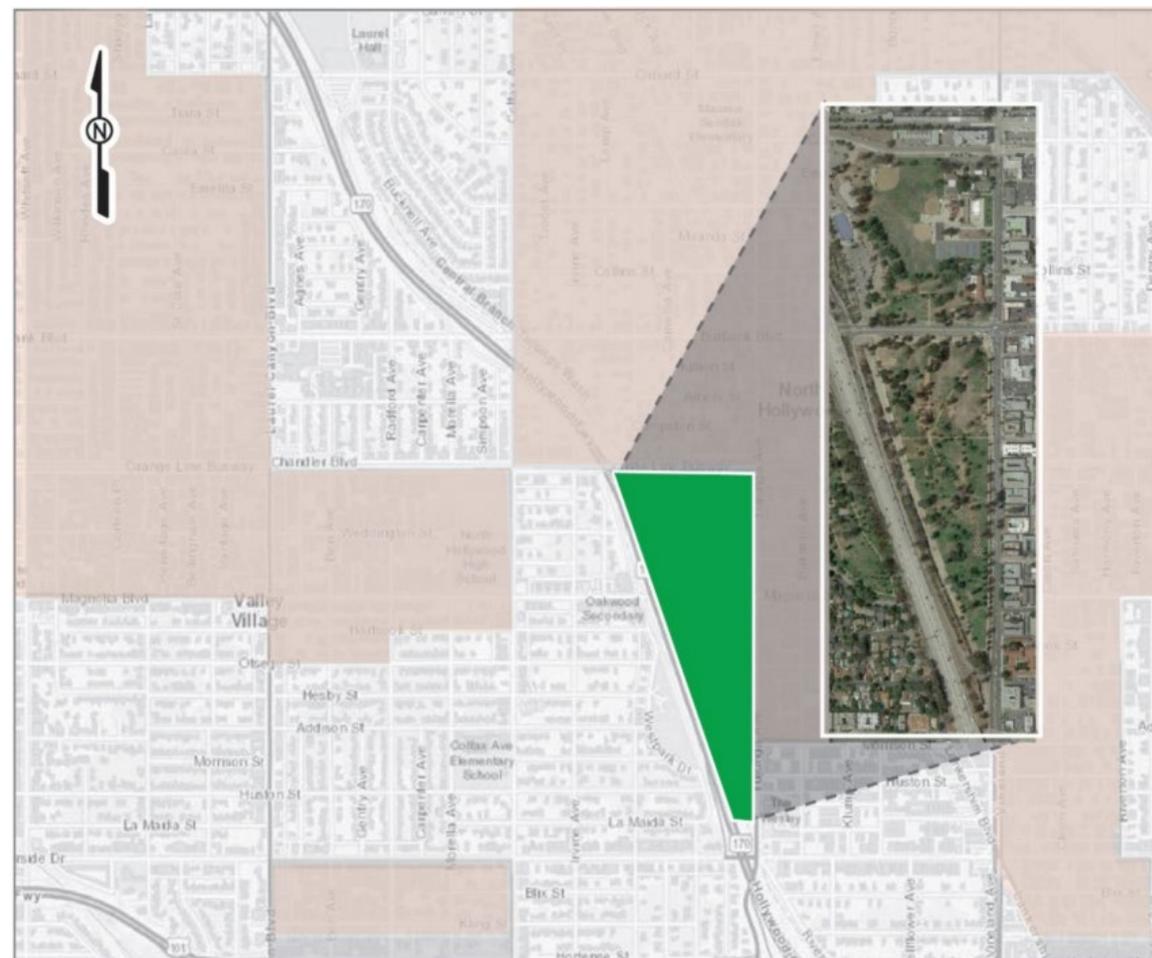
Significant Number of Flooding Complaints Reported within the Project Drainage Area



Project Location



Very High Park Needs Surrounding North Hollywood Park



Disadvantaged Communities (Pink) in the Vicinity of North Hollywood Park

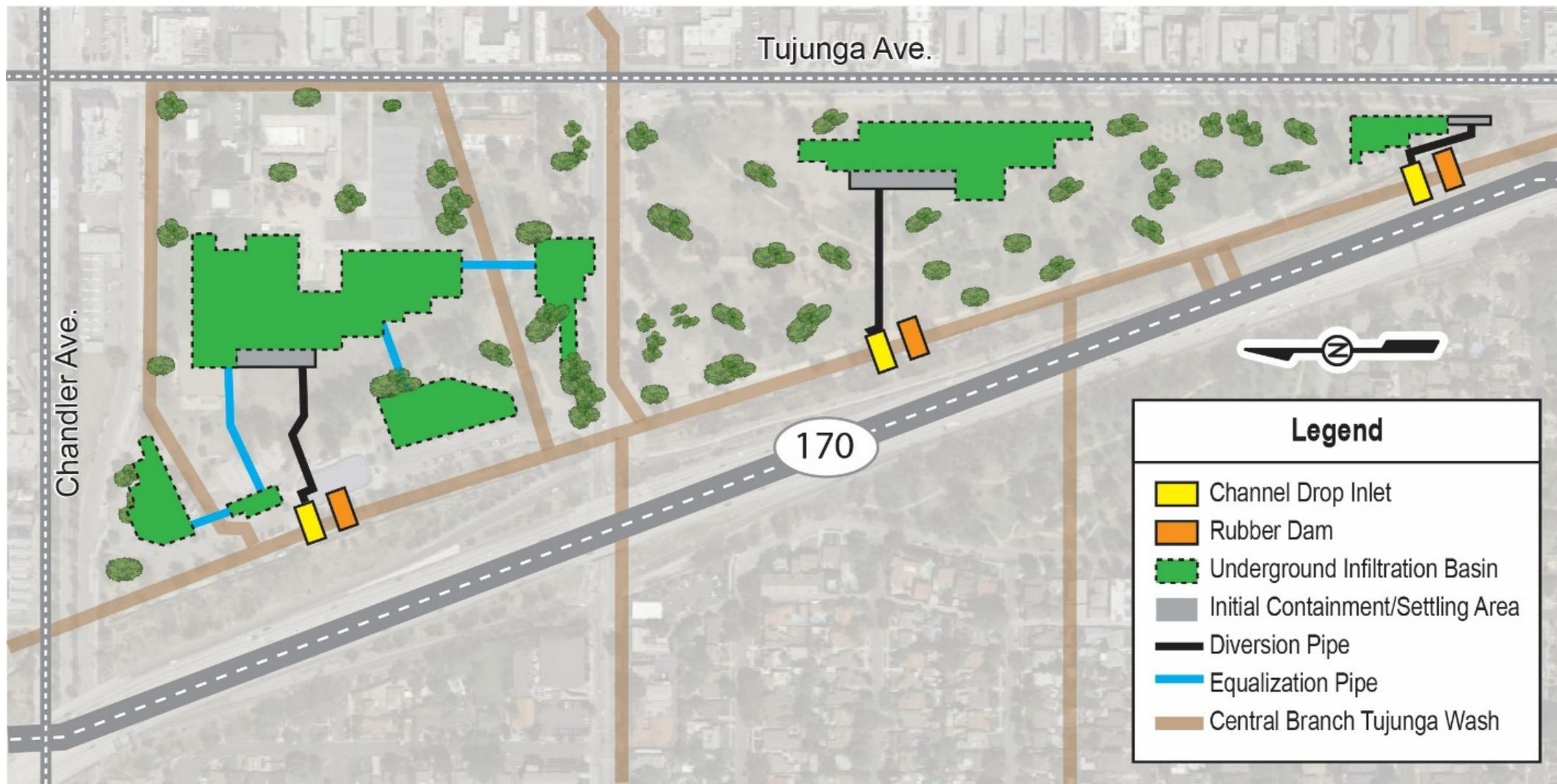


Project Background

- The proposed multi-benefit project is identified in the ULAR EWMP and the IRWMP
- Benefits to San Fernando Valley:
 - Increase local water supply by recharging the groundwater basin
 - Decrease localized flooding & increase flood control capacity
 - Improve regional water quality
 - Address climate change adaptability
 - Provide community enhancements through park improvements and new amenities
- Disadvantaged Community Issues: Localized flooding, very high park needs, poor air quality due to proximity to major highways, and historic underinvestment
- Disadvantaged Community Benefits: Improved flood mitigation, restoration of park, enhanced recreational opportunities, increased shade, carbon sequestration, and greening at school



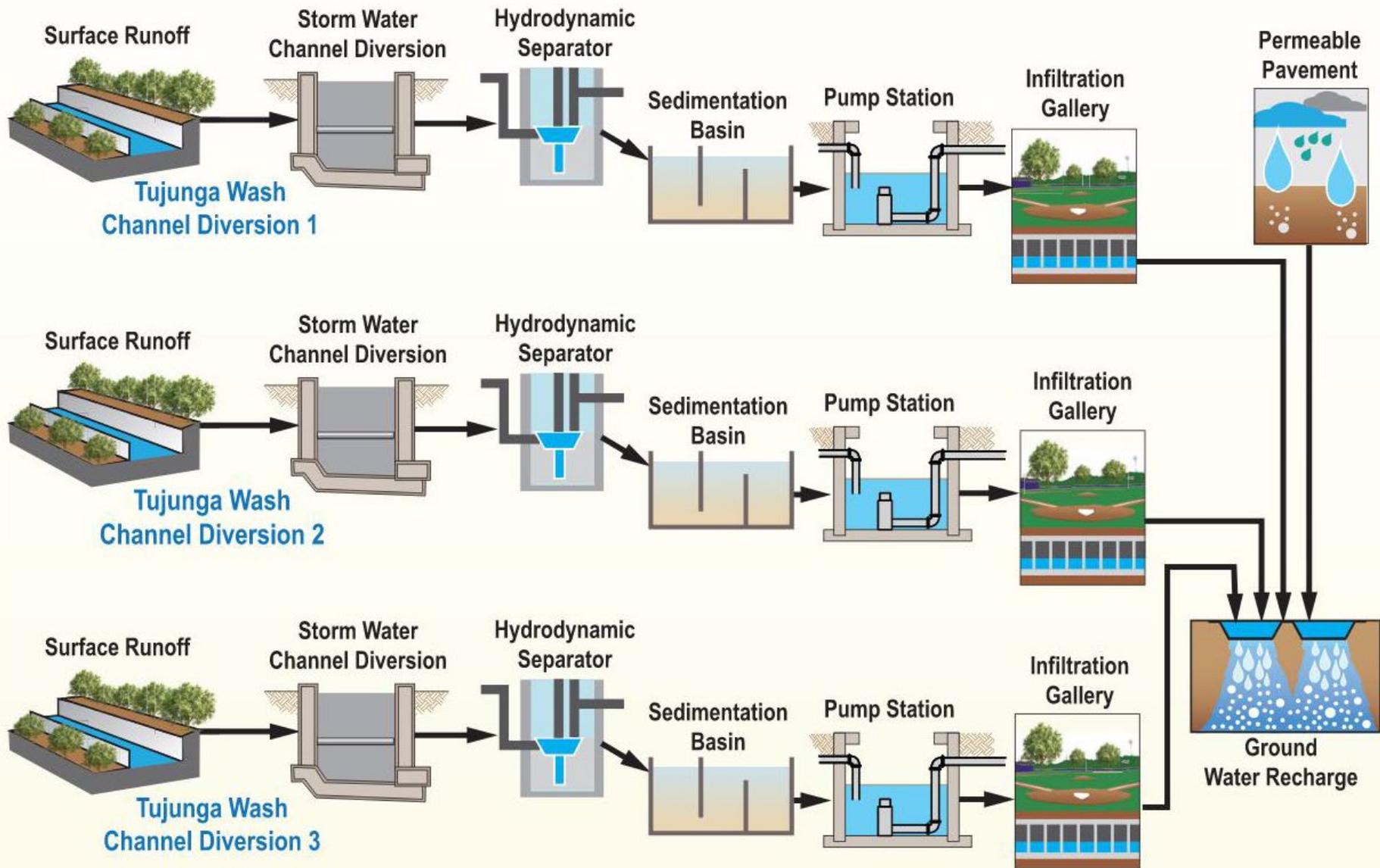
Project Details - Stormwater Capture Project Features



- Storage Volume: **122 ac-ft**
- Infiltration Footprint Area: **11.1 ac**
- Avg. Infiltration Rate: **2.9 in/hr**



Project Details





Project Details



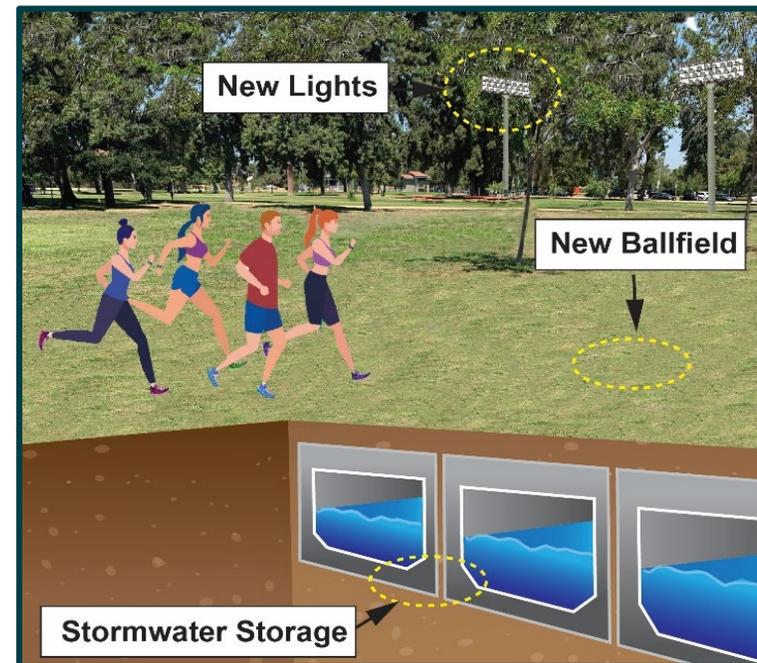
- The project incorporates all 7 SCW Program community benefits and more



Project Details

Project Features Include:

- At least 293 new trees
- 3 new natural multipurpose soccer fields
- 3 upgraded ball fields
- New LED sports lighting system
- Integral shade structures
- Proposed trails along the waterway
- Hydration stations
- Educational signage





Cost & Schedule

Phase	Description	Cost	Completion Date
Design	Pre-design, design, geotechnical, environmental, outreach, permitting, grant applications, grant reporting	\$29,431,000	December 2021
Construction	Bid & award, construction, construction management, post-construction management, outreach, grant reporting	\$157,224,000	October 2026
TOTAL		\$186,655,000	

- Annual Costs:
 - O&M: \$157,350
- 40-year life-cycle cost: \$210.4M (assuming a 3.375% annual discount rate)



Funding Request

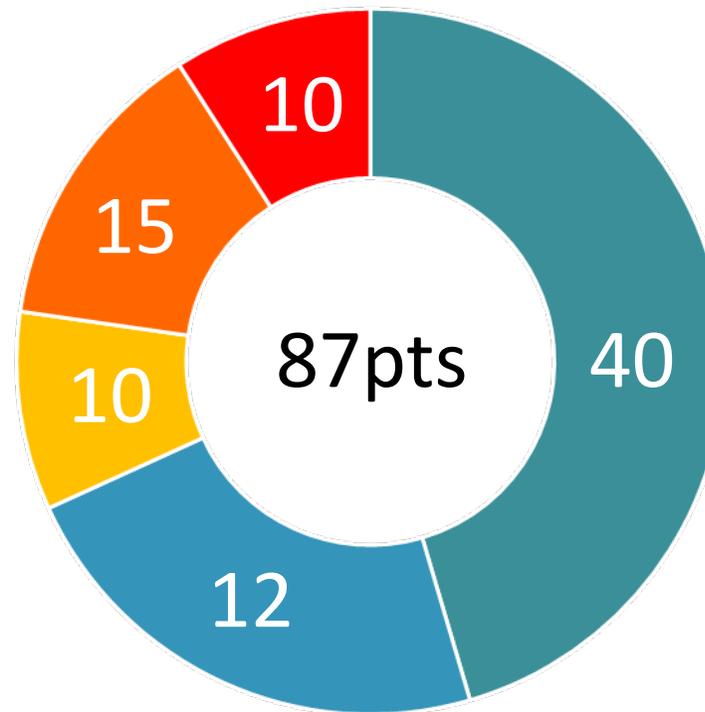
Year	SCW Funding Requested	Phase	Efforts during Phase and Year
1	\$1,848,000	Design	Pre-design, design, geotechnical, environmental, outreach, permitting, grant applications, grant reporting
2	\$2,772,000	Design	Design, geotechnical, environmental, outreach, permitting, grant applications, grant reporting
3	\$7,392,000	Design, Construction	Design, geotechnical, environmental, outreach, permitting, grant applications, grant reporting, bid & award, construction
4	\$10,164,000	Construction	Construction, construction management
5	\$14,784,000	Construction	Construction, construction management
Funding requested beyond 5 years	\$55,434,000	Construction	Construction, construction management, post-construction management, grant reporting
Total	\$92,394,000		

- LADWP has committed to match 50% of the total capital cost of the project



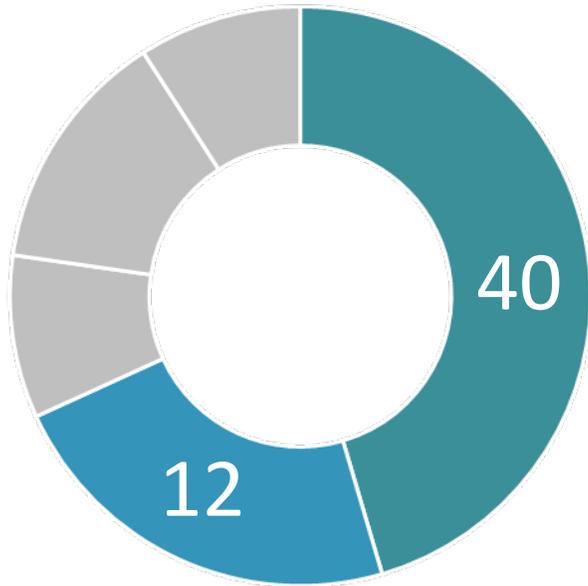
Final Score

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





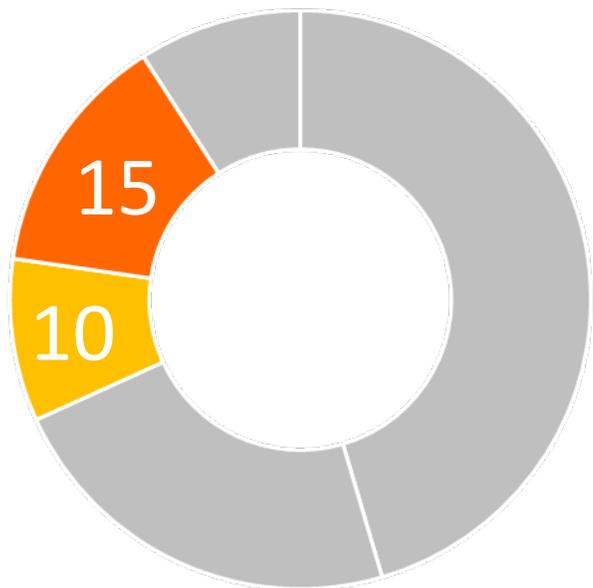
Water Quality & Water Supply Benefits



- Primary Mechanism: Capture and Infiltration
- Applied as **dry** weather but captures dry and wet weather flows
- Supports water quality targets for metals and bacteria
- Average Dry-Weather Flow: 0.97 cfs
- Average Annual Capture for Water Supply: **2,041 ac-ft**
- Water Supply Use: **Aquifer Recharge**
- Water Supply Cost Effectiveness : **\$4,733/ac-ft**



Community Investment Benefits and Nature Based Solutions



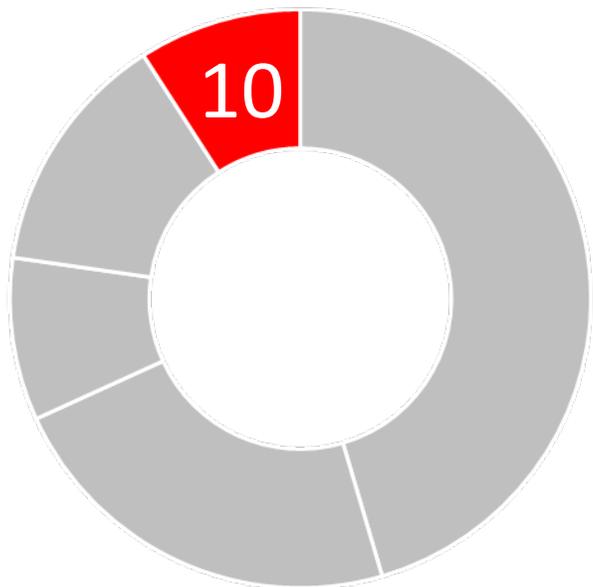
- Community Investment Benefits
 - Improved flood mitigation
 - Creation, enhancement, & restoration of parks
 - Improved public access to waterways
 - Enhanced recreational opportunities
 - Greening of schools
 - Reducing heat island effect & increasing shade
 - Increased trees & vegetation, carbon sequestration, improved air quality
- Nature Based Solutions
 - Incorporates natural processes (infiltration, carbon sequestration)
 - Utilizes natural materials
 - Removes impermeable area from the project





Leveraging Funds and Community Support

- Leveraging Funds
 - \$94,261,000
 - LADWP committed to 50% cost share



- Community Support
 - 4 outreach/engagement events have been held to date to inform project design and implementation
 - Letters of support from the community:



Mountains Recreation & Conservation Authority



An aerial photograph of the Los Angeles coastline and city grid, showing the ocean on the left and the city extending inland to the right. The image is used as a background for the title and introductory text.

Valley Plaza Park Stormwater Capture Project

Funding Program: Infrastructure Program

Los Angeles Department of Water and Power (LADWP)

Presenter: Merrill Taylor, PE (Craftwater)

View the project application at:

<https://portal.safecleanwaterla.org/projects-module-api/api/reportdownload/pdf/13/179>



View the project fact sheet at:

<https://portal.safecleanwaterla.org/projects-module-api/api/summarydownload/pdf/13/95>



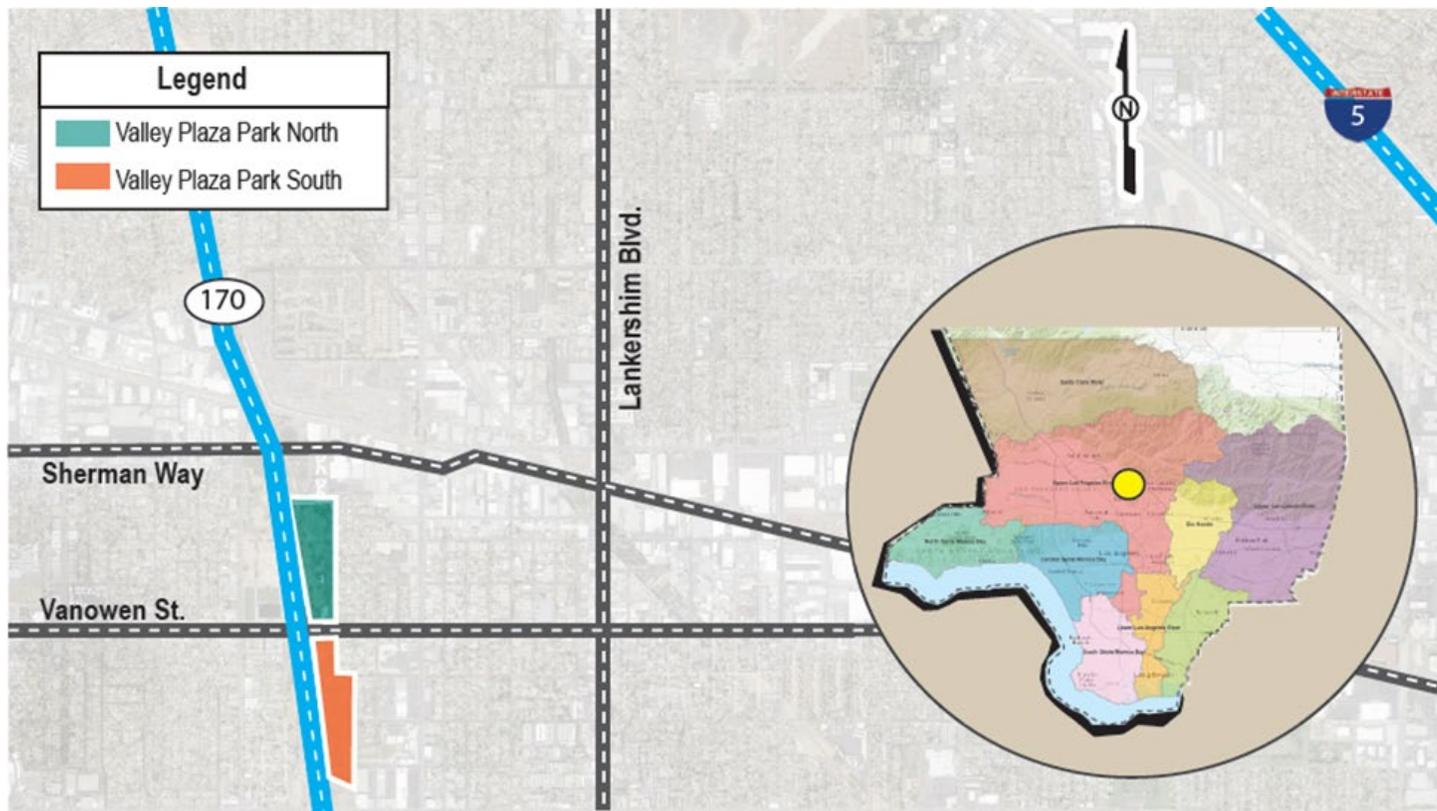
Project Overview

The Valley Plaza Park Project will capture 590 AF per year, improve water quality, enhance the disadvantaged community, and mitigate flooding. 50% cost match with strong community support.

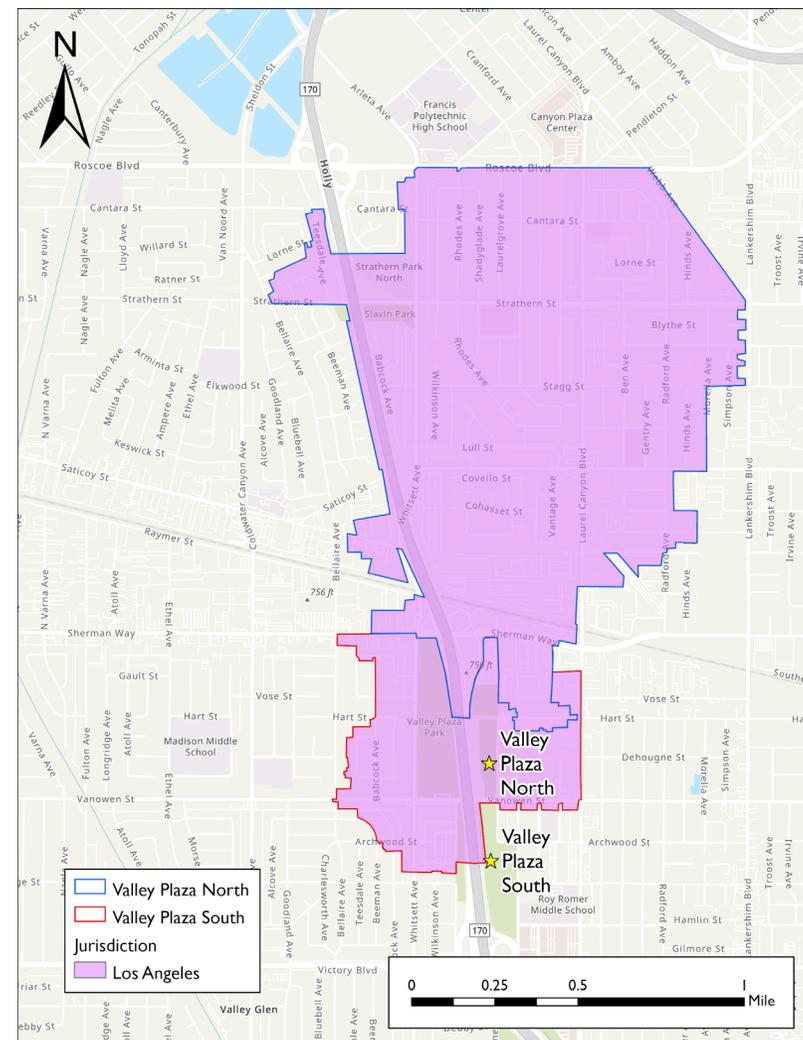
- Objectives are stormwater infiltration and community enhancement
- Project Status – Design, Construction
- FY 21-22 Funding Request: \$529,000
- Total Funding Requested: \$26,447,000



Project Location



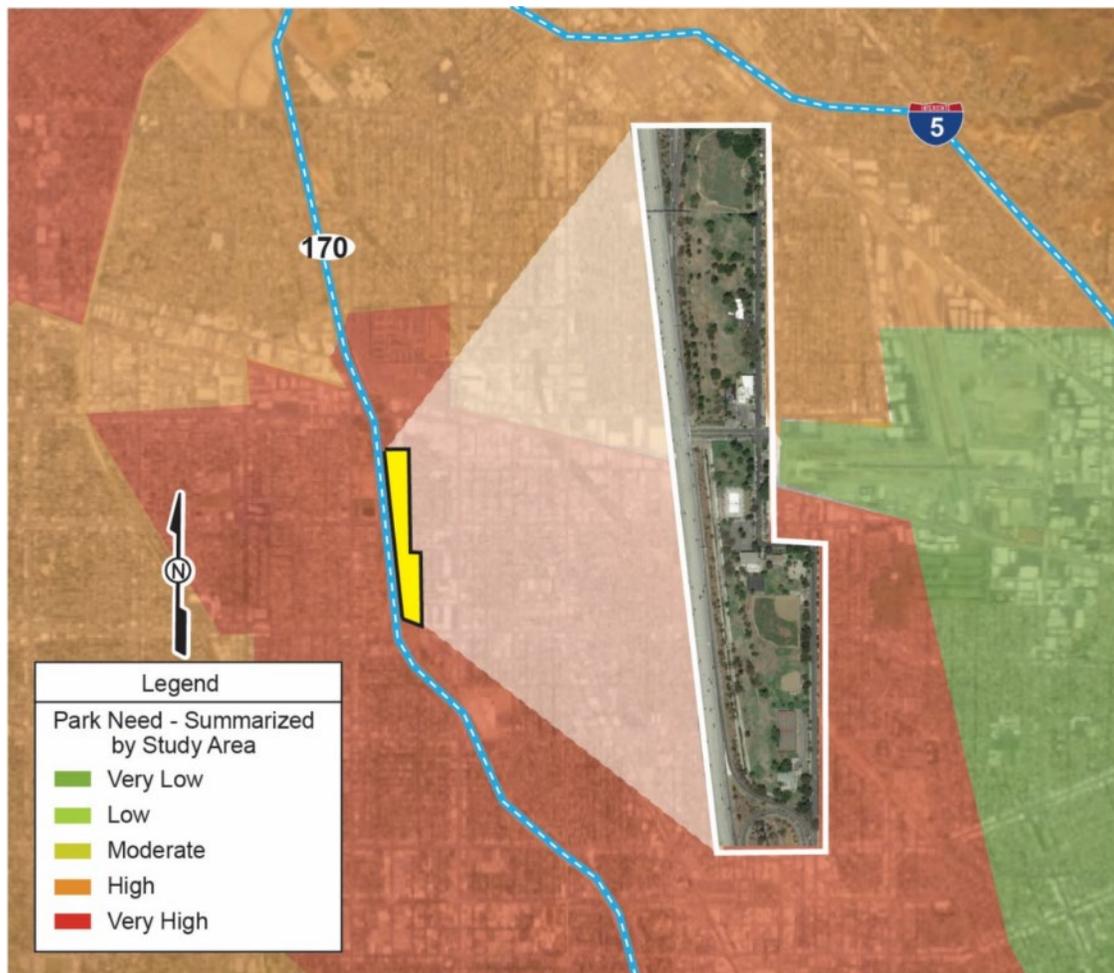
Location Map



Project Tributary Areas – 1,133 acres



Project Location



Very High Park Needs Surrounding Valley Plaza Park



Disadvantaged Communities (Pink) in the Vicinity of Valley Plaza Park

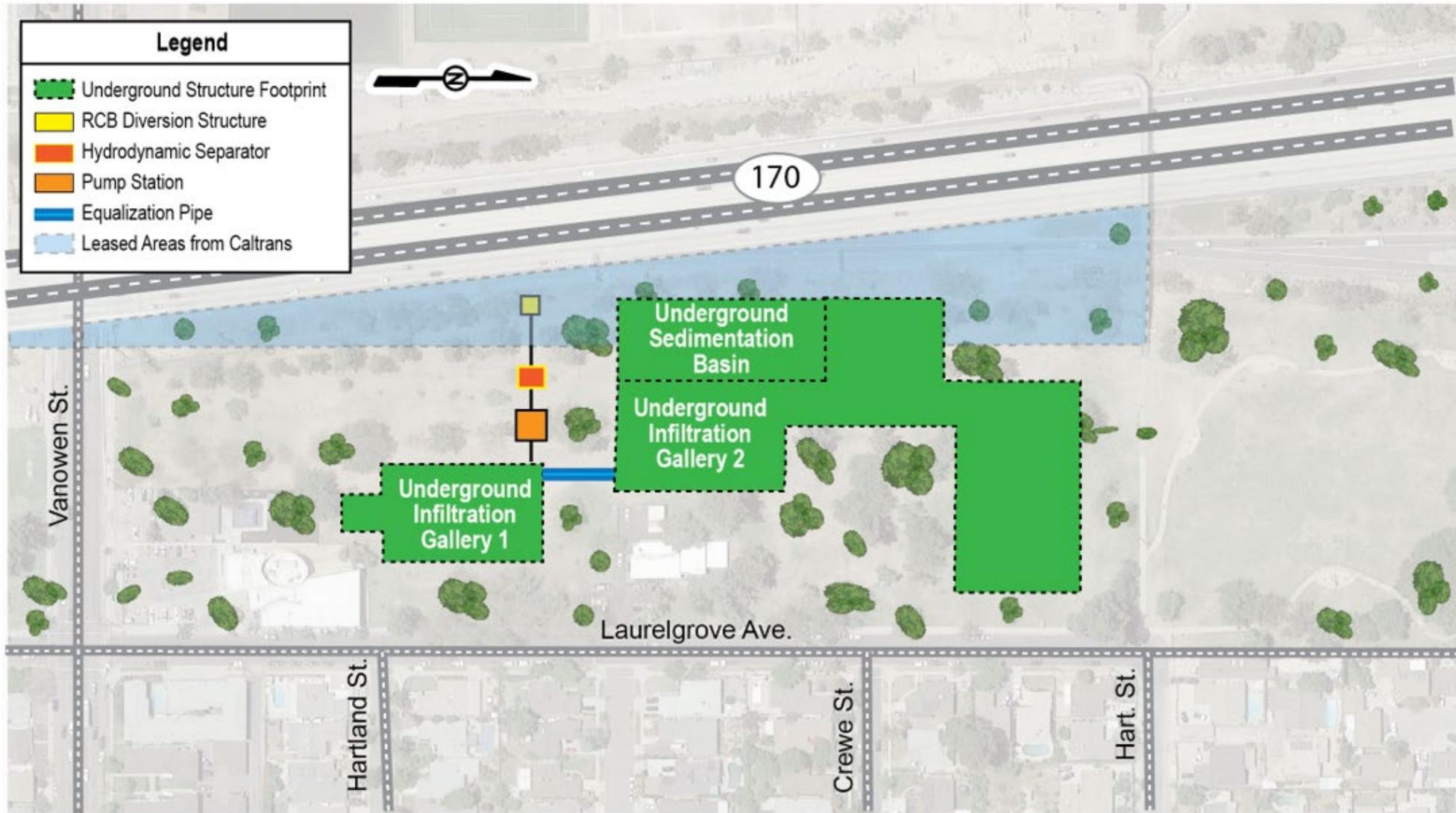


Project Background

- The proposed multi-benefit project is identified in the ULAR EWMP and the IRWMP
- Benefits to San Fernando Valley:
 - Increase local water supply by recharging the groundwater basin
 - Alleviate localized flooding & increase flood control capacity
 - Improve regional water quality
 - Provide community enhancements through park improvements and new amenities
- Disadvantaged Community Issues: Localized flooding, very high park needs, poor air quality due to proximity to major highways, and historic underinvestment
- Disadvantaged Community Benefits: Improved flood mitigation, restoration of parks, enhanced recreational opportunities, increased shade, carbon sequestration, and greening at a school



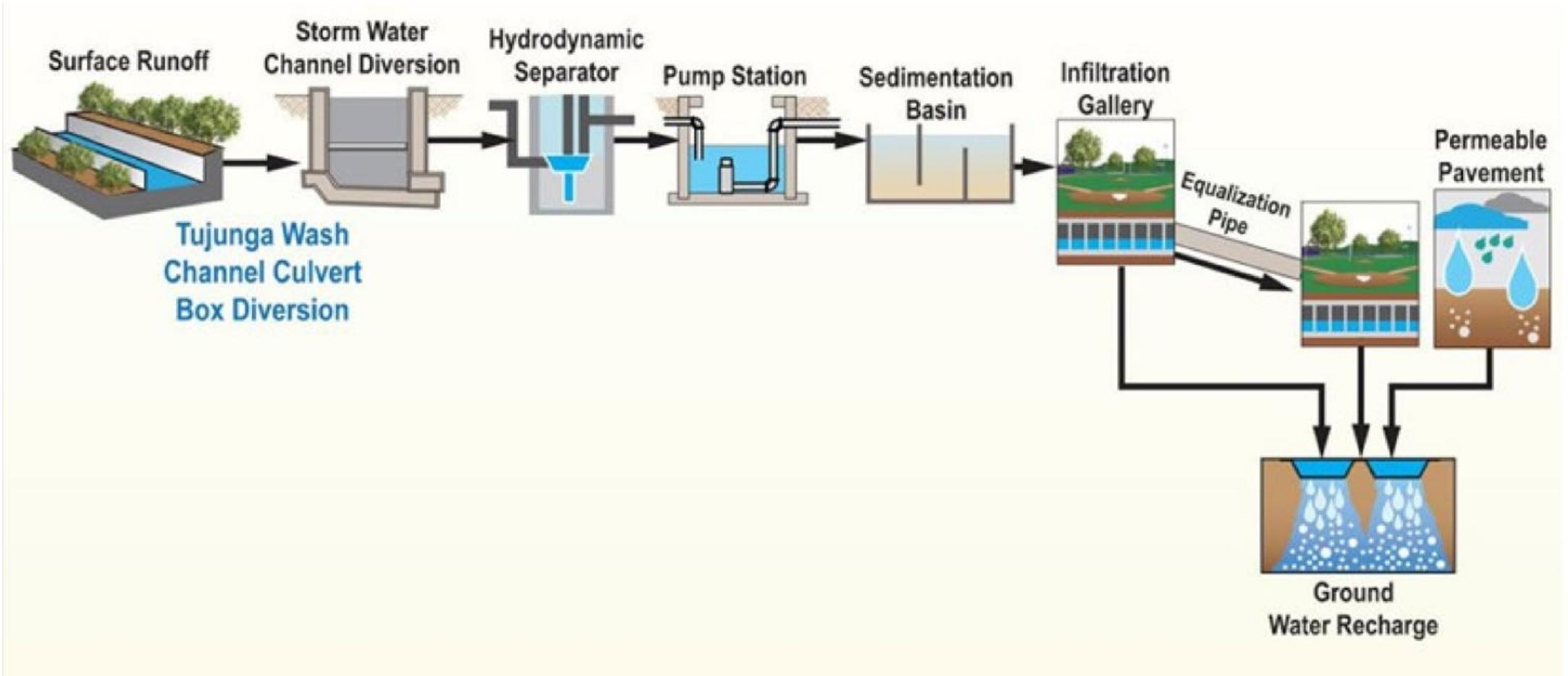
Project Details - Valley Plaza Park North



North Side: • Storage Volume: **22 ac-ft** • Infiltration Footprint Area: **2.2 ac** • Infiltration Rate: **2.3 in/hr**



Project Details - Valley Plaza Park North





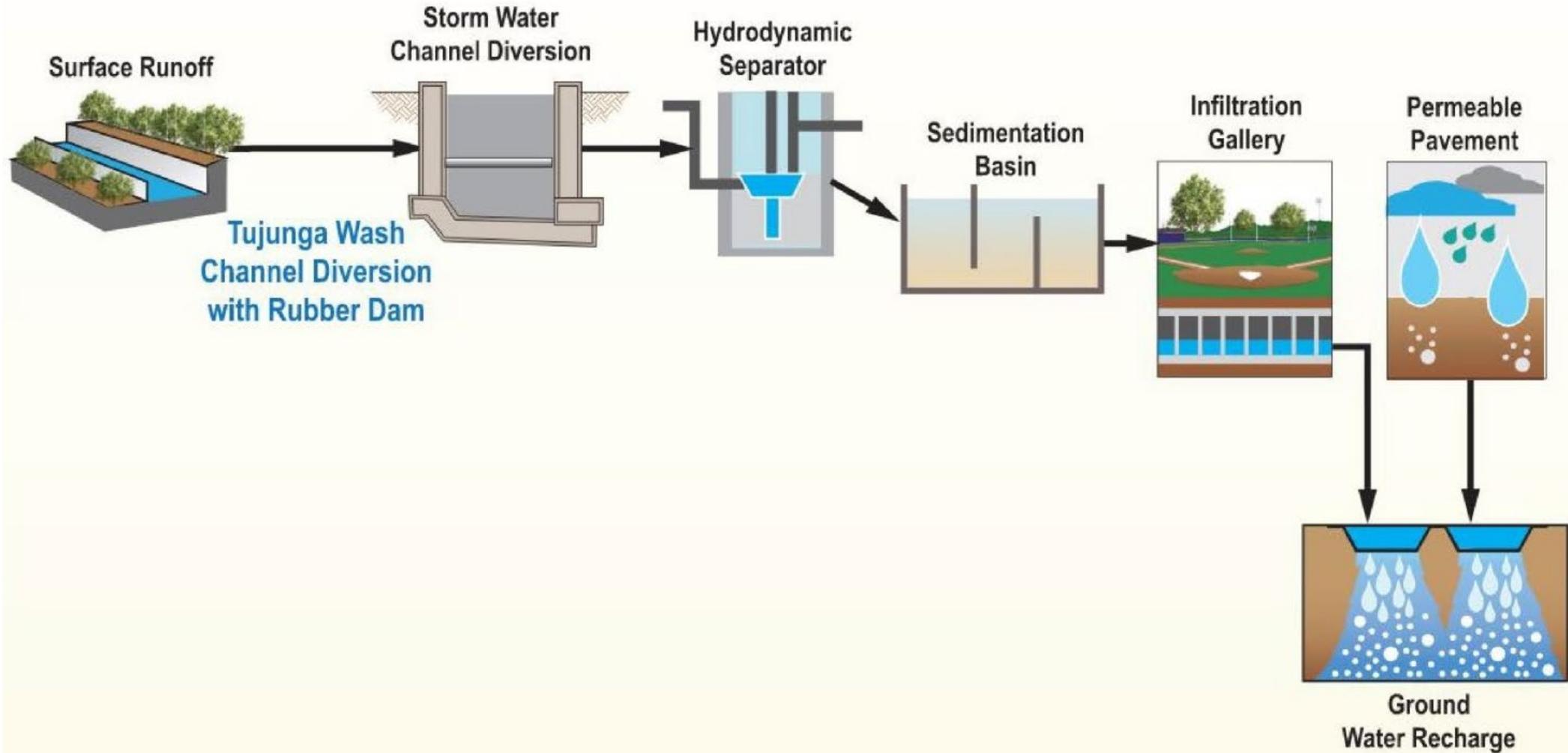
Project Details - Valley Plaza Park South



- South Side:**
 - Storage Volume: **11 ac-ft**
 - Infiltration Footprint Area: **1.1 ac**
 - Infiltration Rate: **3.7 in/hr**
- Combined:**
 - Storage Volume: **33 ac-ft**
 - Infiltration Footprint Area: **3.3 ac**
 - Avg. Infiltration Rate: **3 in/hr**

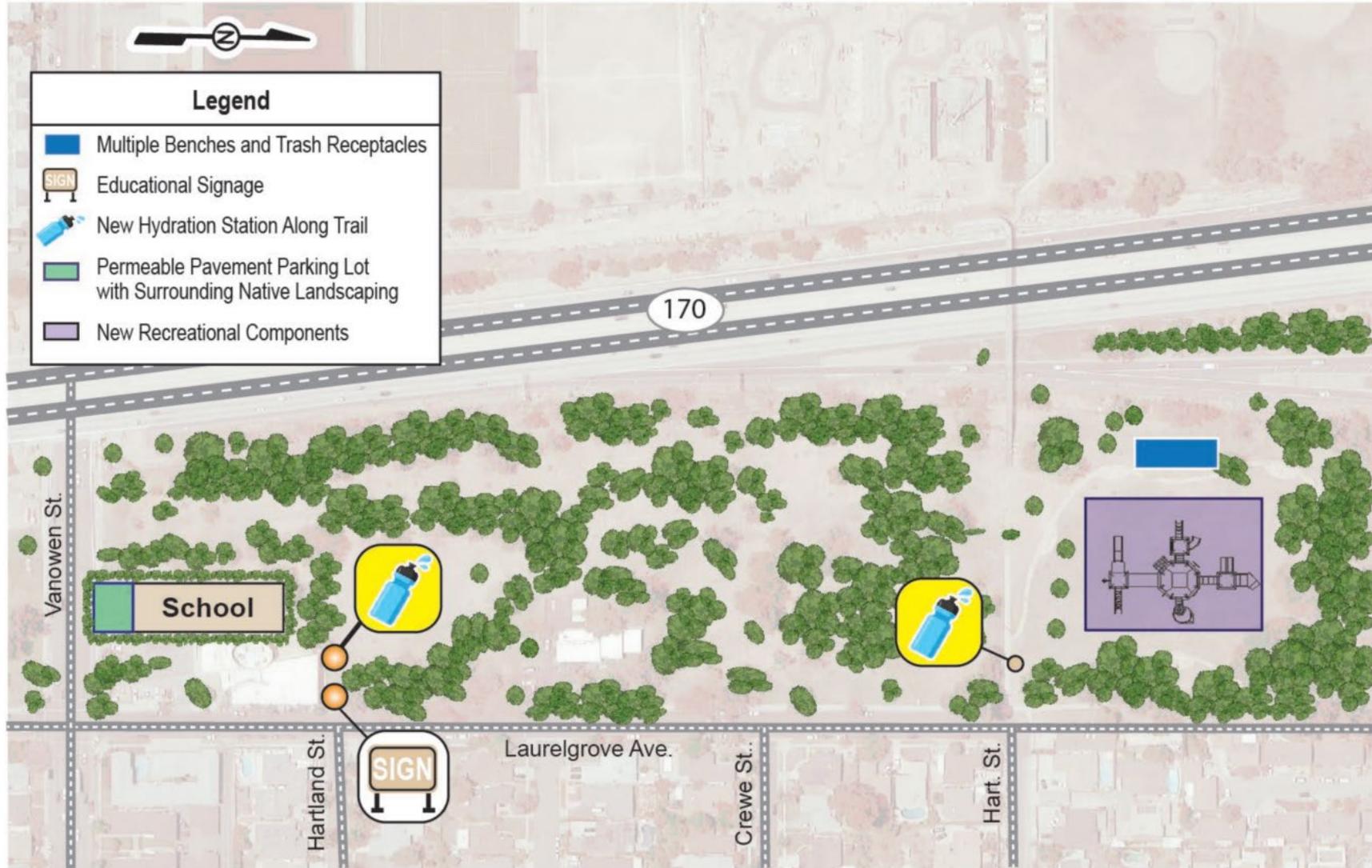


Project Details - Valley Plaza Park South





Project Details - Valley Plaza Park North



- The project incorporates all 7 SCW Program community benefits and more



Project Details - Valley Plaza Park South



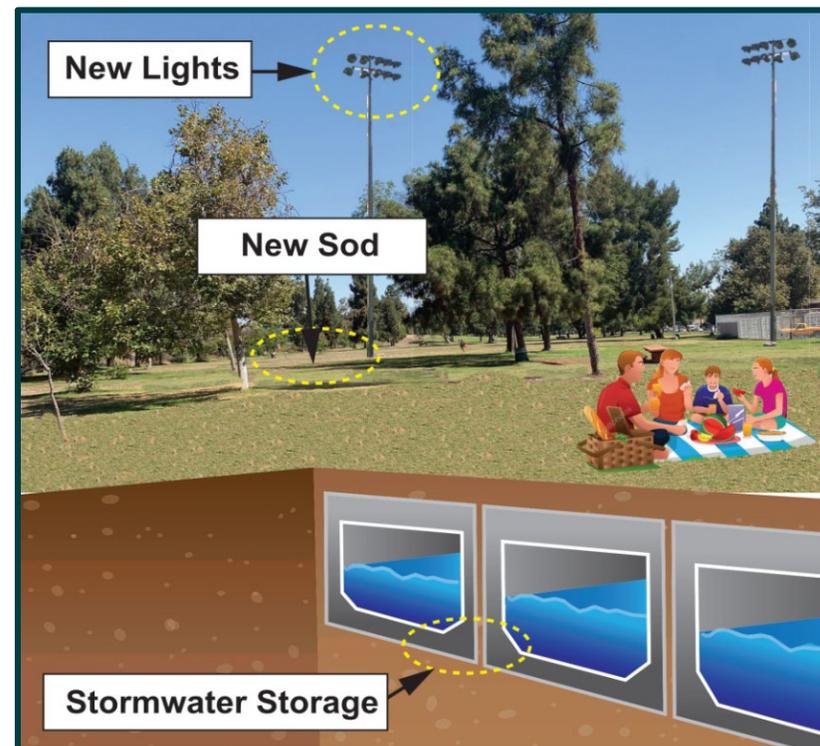
- The project incorporates all 7 SCW Program community benefits and more



Project Details - Valley Plaza Park North & South

Project Features Include:

- At least 181 new trees
- Upgraded athletic equipment
- Proposed trail along the waterway
- New park benches
- New hydration stations
- New educational signage
- New lighting
- New permeable pavement





Cost & Schedule

Phase	Description	Cost	Completion Date
Design	Pre-design, design, geotechnical, environmental, outreach, permitting, grant applications, grant reporting	\$8,425,000	December 2021
Construction	Bid & award, construction, construction management, post-construction management, outreach, grant reporting	\$45,005,000	October 2026
TOTAL		\$53,430,000	

- Annual Costs:
 - O&M/Monitoring: \$391,000
- 40-year life-cycle cost: \$61.9 million (assuming a 3.375% annual discount rate)



Funding Request

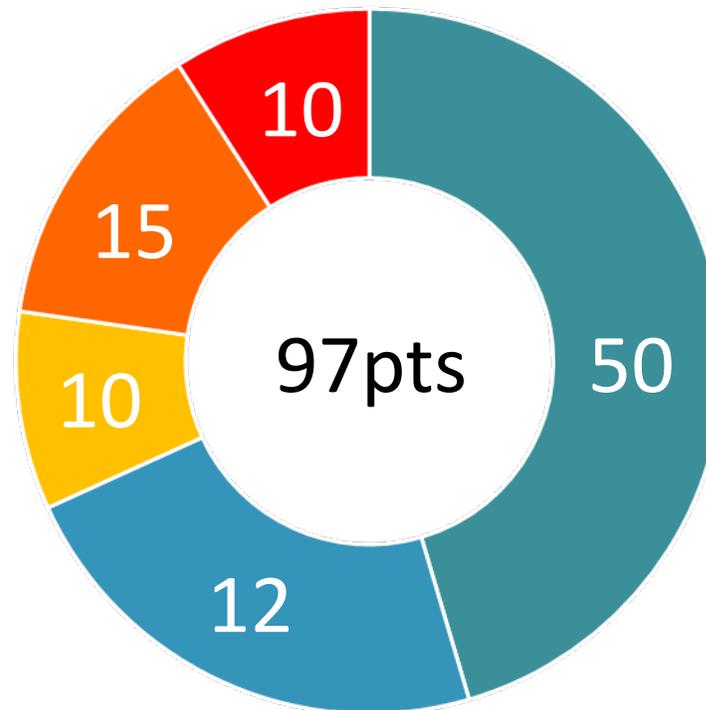
Year	SCW Funding Requested	Phase	Efforts during Phase and Year
1	\$529,000	Design	Pre-design, design, geotechnical, environmental, outreach, permitting, grant applications, grant reporting
2	\$794,000	Design	Design, geotechnical, environmental, outreach, permitting, grant applications, grant reporting
3	\$2,116,000	Design, Construction	Design, environmental, outreach, permitting, grant applications, grant reporting, bid & award, construction
4	\$2,910,000	Construction	Construction, construction management
5	\$4,232,000	Construction	Construction, construction management
Funding requested beyond 5 years	\$15,866,000	Construction	Construction, construction management, post-construction management, grant reporting
Total	\$26,447,000		

- LADWP has committed to match 50% of the total capital cost of the project



Final Score

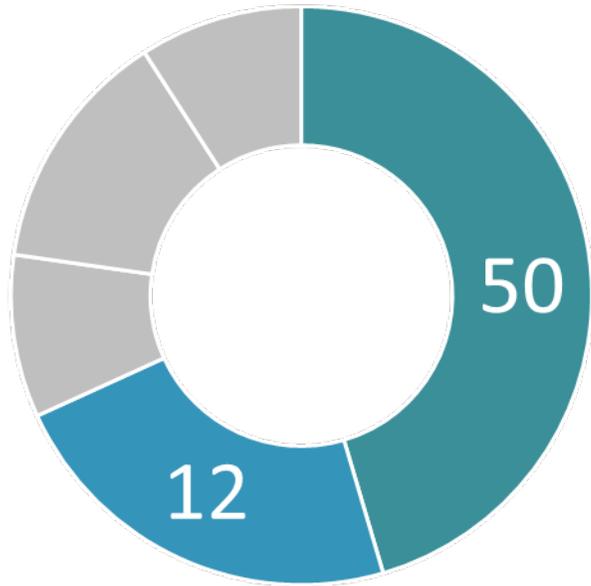
- Water Quality
- Water Supply
- Community Investment Benefits
- Nature Based Solutions
- Leveraged Funds and Community Support



#1 Highest Scoring Project Among All Round 2 Regional Projects



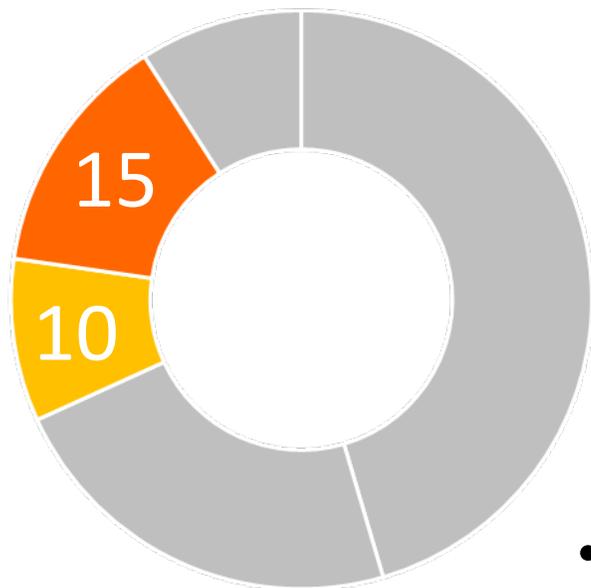
Water Quality & Water Supply Benefits



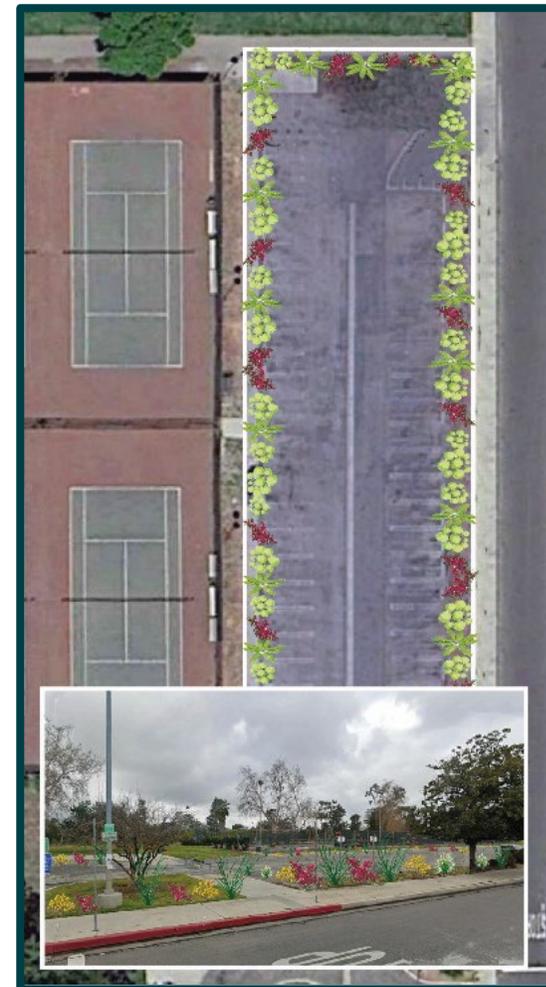
- Primary Mechanism: Capture and Infiltration
- Captures **dry** and **wet** weather flows
- 24 Hour Capacity: **52.81 ac-ft**
- Pollutant Load Reduction
 - Primary Pollutant (Zinc) – **92.9% (359.6 lbs)**
 - Secondary Pollutant (Bacteria) – **80.3% (3.94x10¹⁴ MPN)**
- Average Annual Capture for Water Supply: **589.9 ac-ft**
- Water Supply Use: **Aquifer Recharge**
- Water Supply Cost Effectiveness : **\$4,822/ac-ft**



Community Investment Benefits and Nature Based Solutions



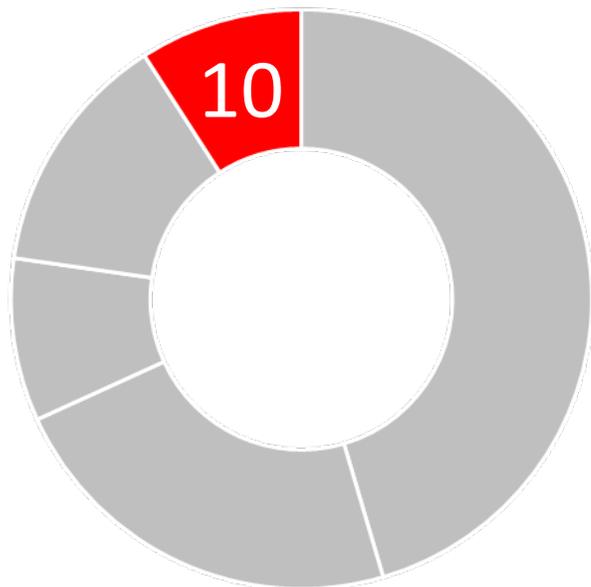
- **Community Investment Benefits**
 - Improved flood mitigation
 - Creation, enhancement, & restoration of parks
 - Improved public access to waterways
 - Enhanced recreational opportunities
 - Greening of schools
 - Reducing heat island effect & increasing shade
 - Increased trees & vegetation, carbon sequestration, improved air quality
- **Nature Based Solutions**
 - Incorporates natural processes (infiltration, carbon sequestration)
 - Utilizes natural materials
 - Removes impermeable area from the project





Leveraging Funds and Community Support

- Leveraging Funds
 - \$26,983,000
 - LADWP committed to 50% cost share



- Community Support
 - 4 outreach/engagement events have been held to date to inform project design and implementation
 - Letters of support from the community:



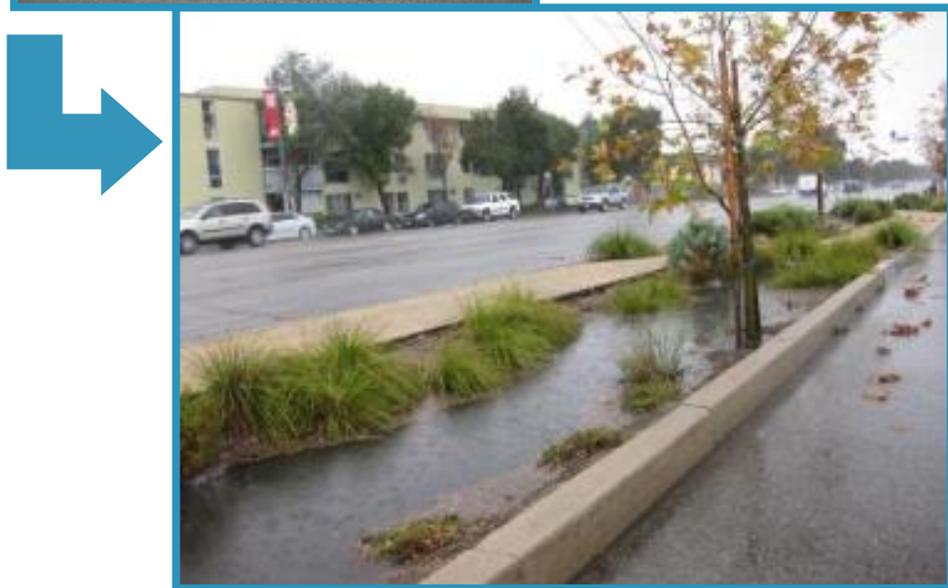


Recent Projects



Laurel Canyon & Woodman Ave. Green Streets

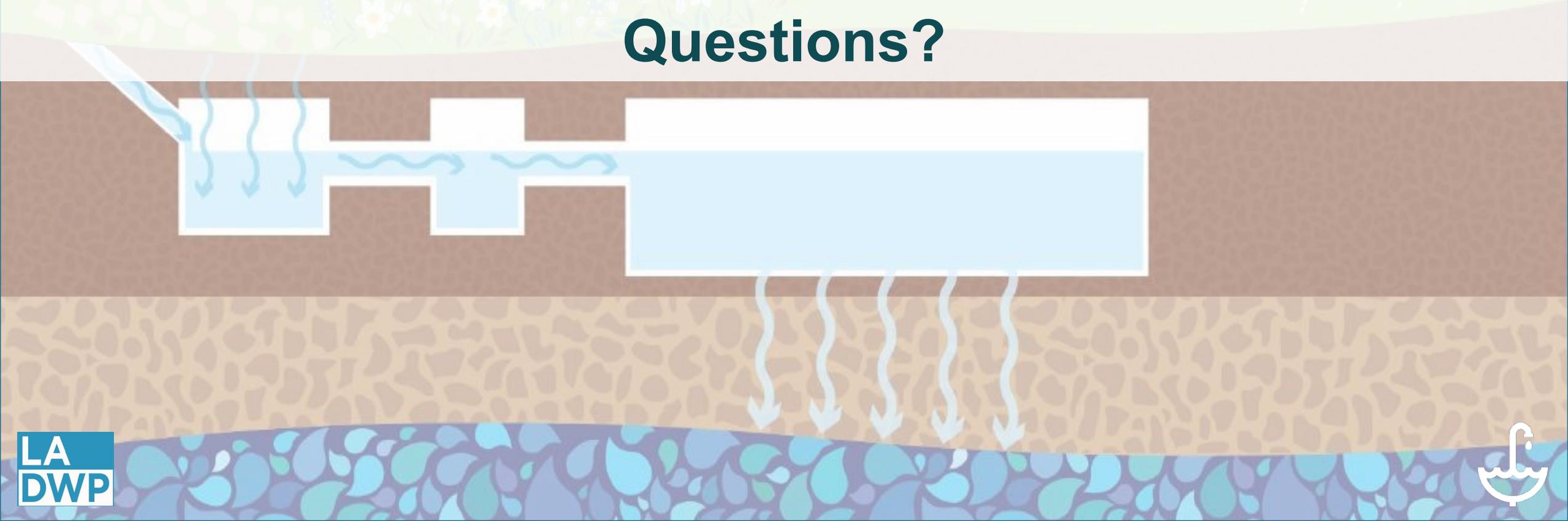
Tujunga Spreading Grounds Enhancement Project



Albion Riverside Park Project



Questions?



An aerial photograph of a coastal city, likely Los Angeles, showing a dense grid of streets and buildings. The city is situated on a peninsula or coastline, with a large body of water (the ocean) to the left. The image is partially obscured by a dark teal overlay on the left side, which contains the title and other text.

Lincoln Park Neighborhood Green Street Network

Funding Program - Infrastructure Program

Los Angeles Sanitation and Environment

Carmen Andrade, P.E.



Project Overview

The Project is led by the City of Los Angeles Sanitation and Environment (LASAN) in partnership with the City of Los Angeles Department of Recreation and Parks (R&P) to implement a regional multi-benefit stormwater project in the Lincoln Heights neighborhood and Lincoln Park Lake.

Objectives

- Improve water quality
- Reduce the risk of flooding
- Community enhancement through the addition of nature based solutions

Project Status – Feasibility Report Completed

Phases for which SCW funding is being requested

- Planning, Design, Construction

Total Funding Requested: **\$18.6 M**

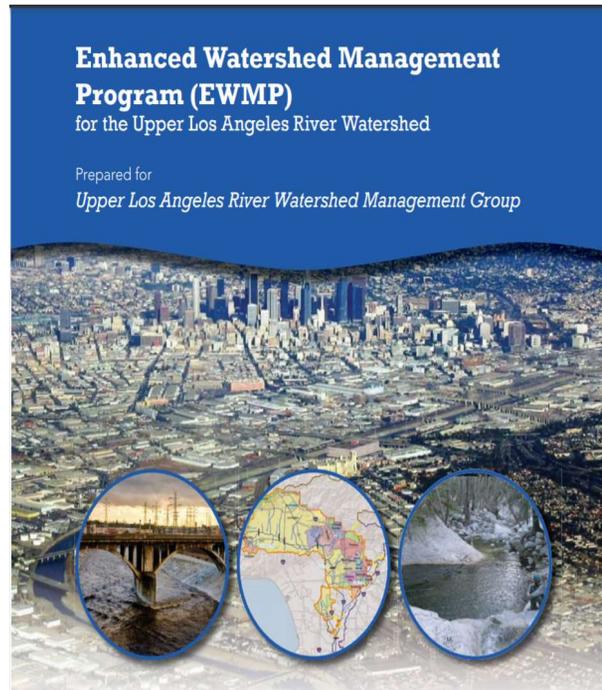




Project Background



- Area identified in the ULAR EWMP (subwatershed 639449)
- Requires 74% load reduction and 31 AF/YR capture (EWMP)
- Lincoln Park Lake listed as an impaired waterbody (EPA 2012)



U.S. Environmental Protection Agency
Region IX

**Los Angeles Area Lakes
Total Maximum Daily Loads
for Nitrogen, Phosphorus, Mercury, Trash,
Organochlorine Pesticides and PCBs**

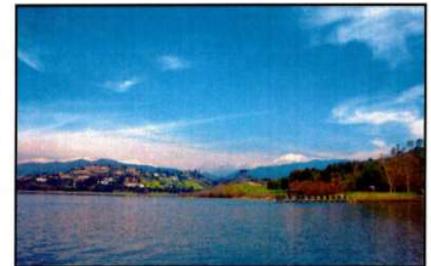
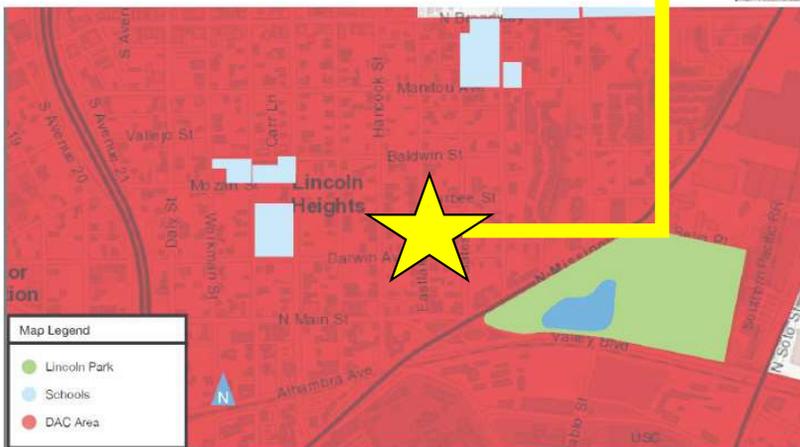
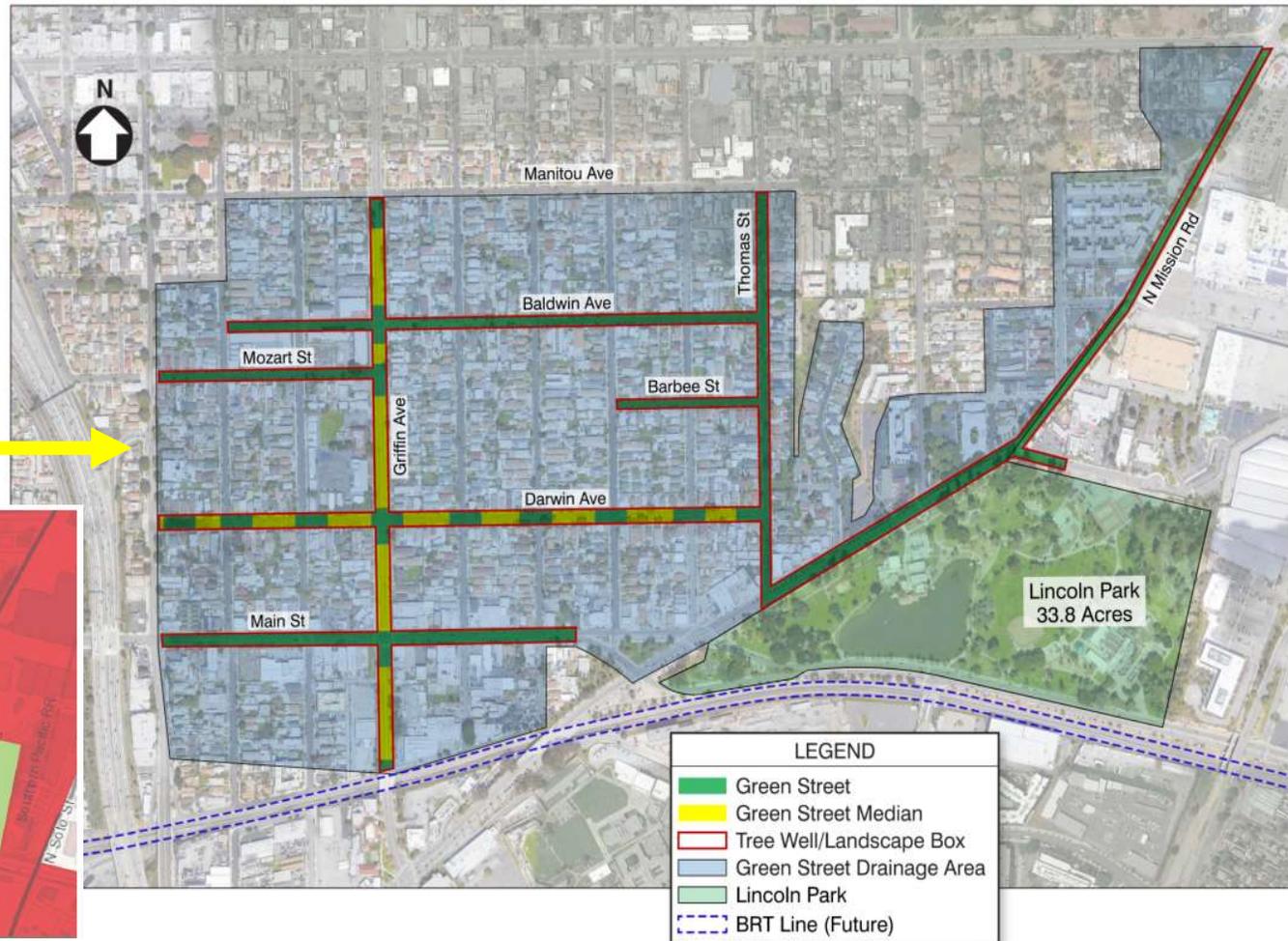


Photo: Puddingstone Reservoir



Project Location

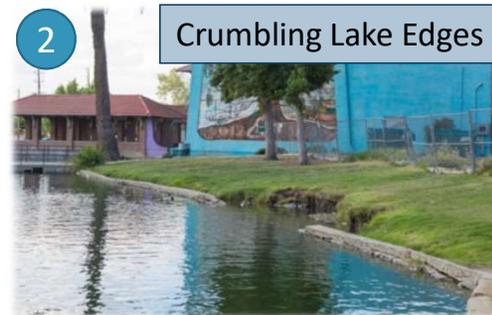
- City of Los Angeles, Lincoln Heights
- Office of Councilmember, Gilbert Cedillo (Council District 1)
- Within a critical Disadvantage Community





Project Details

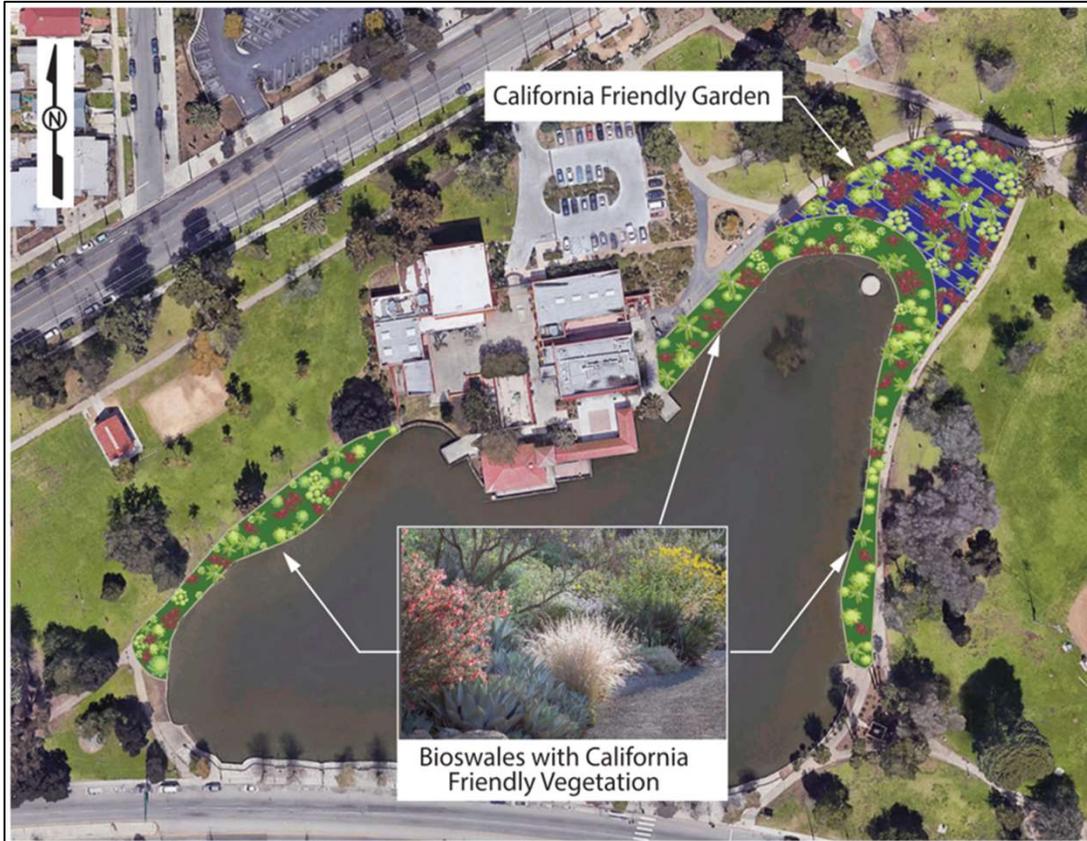
Lincoln Park Lake – Existing Conditions





Project Details

Lincoln Park Lake – Proposed Improvements



Park Elements:

- New California Friendly Garden
- Bioswales connected from East, North and West sides of the Lake
- Porous Pavement Sidewalk

In Lake Elements:

- Dredging
- Shoreline repair
- Recirculation system, aeration system, and repair fountain





Project Details

Existing Tree Inventory by Neighborhood



4,684

LINCOLN HEIGHTS

9,520

GREATER VALLEY GLEN

10,567

WILMINGTON

10,023

BOYLE HEIGHTS



Project Details Lincoln Park Neighborhood – Proposed Improvements

Green Street Elements

- Parkway Planters
- Vegetated Medians
- Street Trees
- Drywells and Catch Basin System

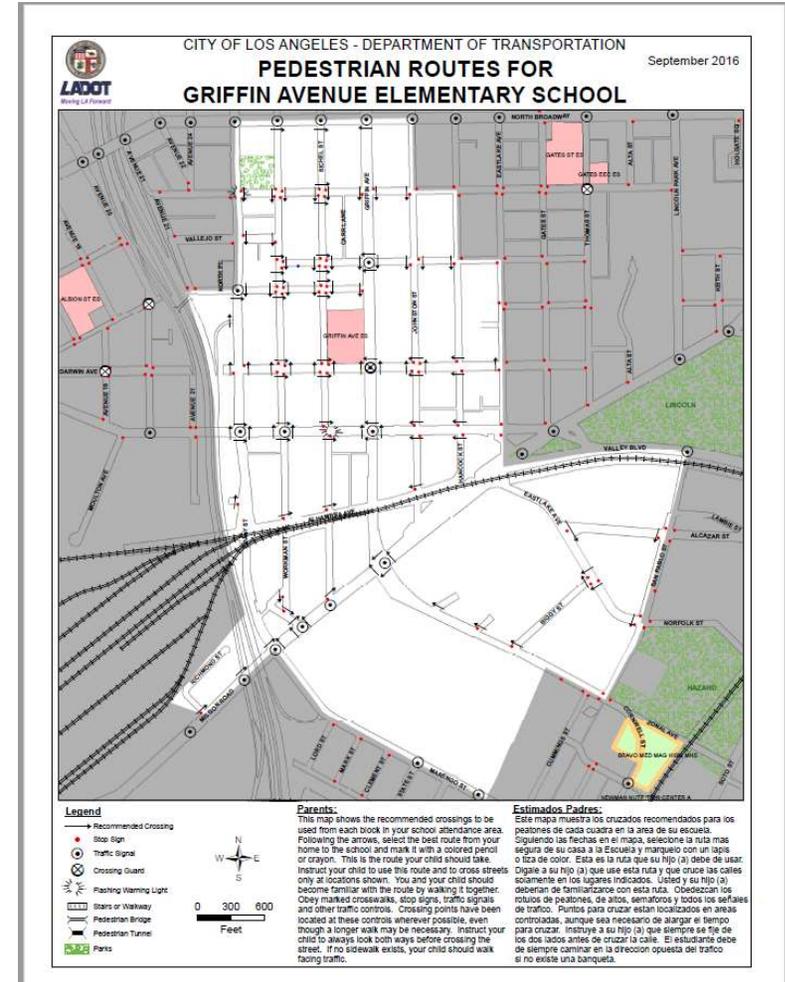
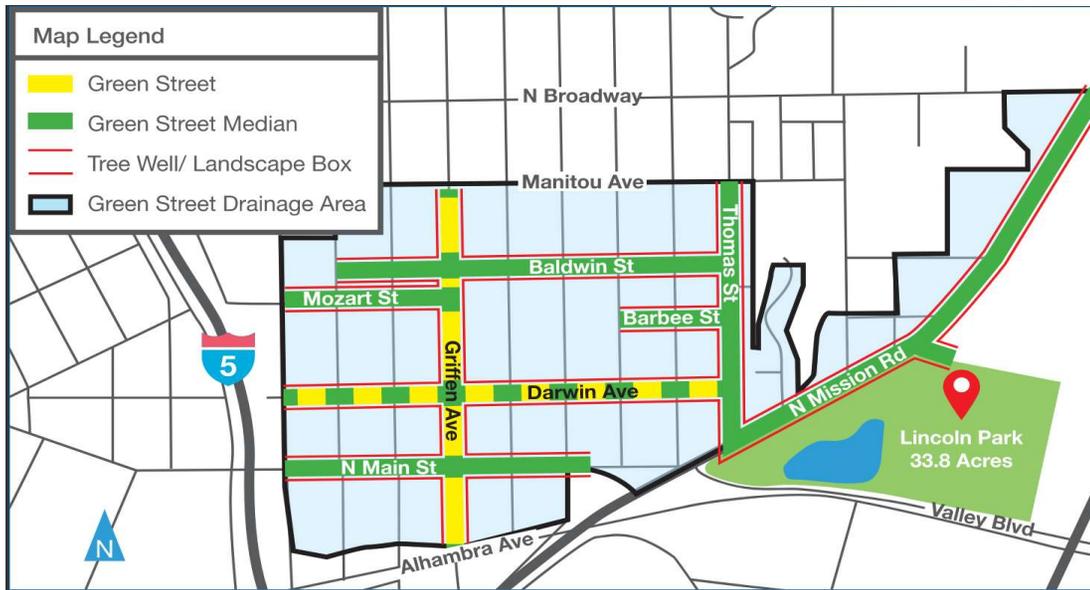




Project Details Green Street Network connecting the community to the Park

Green Street Elements, cont.

The streets selected for the Green Street improvements are in direct alignment with Metro's and LAUSD's Safe Route 2 School Maps.





Project Scope Green Street Network connecting the community to the Park



500

NEW street trees
to reduce the heat
island effect

16 **NEW** vegetated medians

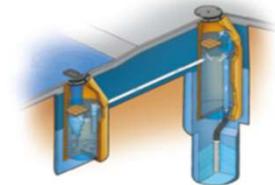


1100

NEW parkway planters
for added green space



46 **NEW** drywells for
stormwater infiltration



More than **3 miles** of **NEW** greenspace



Cost & Schedule

Phase	Description	Cost	Completion Date
Planning	Pre-Design (includes cost to obtain permits, environmental compliance, or impact studies)	\$ 655,751.00	March 2022
Design	Design	\$ 1,530,112.00	December 2022
Construction	Construction	\$ 16,448,704.00	March 2025
TOTAL		\$ 18,634,577.00	

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

Description of Annual Costs: Annual Maintenance Cost: \$180,000

Annual Operation Cost: \$75,000

Annual Monitoring Cost: \$50,000

Project Lifespan & Lifecycle Cost: 50 years, \$25.9 million



Funding Request

Year	SCW Funding Requested	Phase	Efforts during Phase and Year
1	\$3,726,916	Planning	Pre-Design and Baseline Monitoring
2	\$3,726,916	Design	Bid and Award and Design
3	\$3,726,916	Construction	Construction
4	\$3,726,916	Construction	Construction
5	\$3,726,916	Operation and Maintenance	Monitoring and Optimization
TOTAL	\$ 18,634,580.00		

- Funding is requested to be distributed equally throughout the next 5 fiscal years
- Funding for Operation and Maintenance will be requested at future funding round



Summary of Benefits



COUNTY SCORE
Safe Clean Water (SCW) Program

= **72**
points

Water Quality Benefits Score:

50/50

100% 
Trash Removal



86% 
Zinc Removal

Water Supply Benefit Score:

2/25

 **76.84** AF/YR
Captured



46 
Dry Wells



Community Investments Benefit

Score: **10/10**

6 Identified Community Benefits

- Improved flood mitigation
- Restoration of parks
- Enhanced recreational opportunities
- Increasing shade
- Carbon sequestration
- Greening at schools



Nature Based Solutions Score:

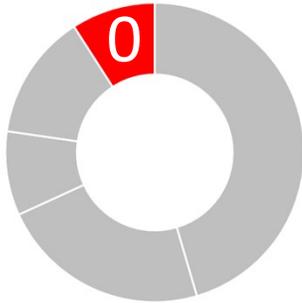
10/10

Trees to
Add Shade and
Reduce the Heat
Island Effect by Using
More Than

 **500** 
Trees and Native Plants



Leveraging Funds and Community Support



Questions?



An aerial photograph of Los Angeles, California, showing the coastline, the city grid, and the surrounding hills. The image is partially obscured by a dark teal overlay on the left side where the text is located.

Broadway-Manchester Multi-Modal Green Streets Project

Funding Program (IP/TRP)

StreetsLA, City of Los Angeles

Ana Tabuena-Ruddy, StreetsLA and SEITec



Project Overview

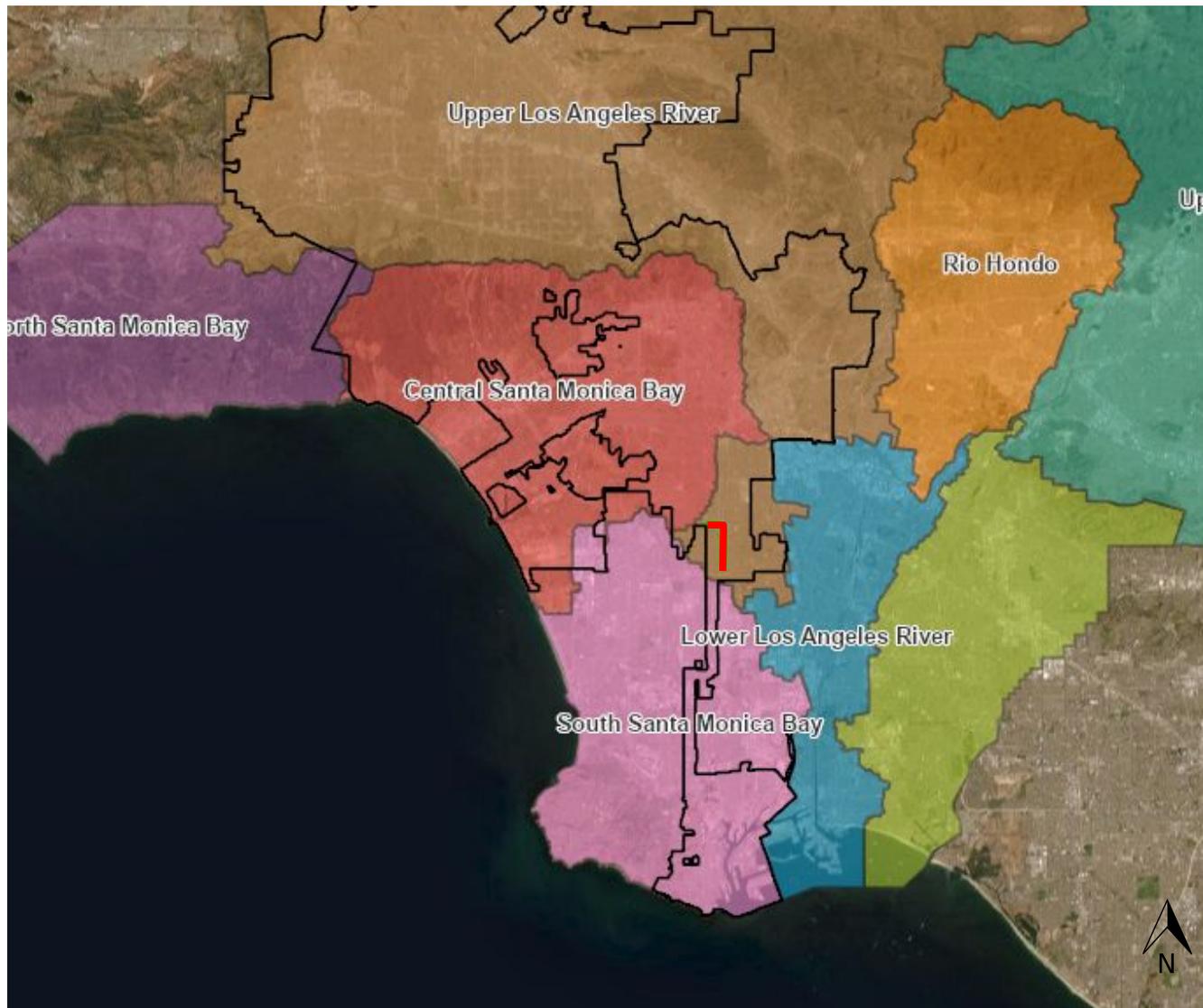
The project captures the 85th percentile storm runoff in public right-of-way storage distributed over 2.8 miles and uses the water for landscape irrigation.

- Primary Objectives: Meet water quality limits and utilize captured stormwater for onsite irrigation to maximize community benefits
- Secondary Objectives: Integrate stormwater management into active transportation opportunities
- Funding Request: Design and Construction
- Total Funding Requested: \$ 11,719,000.00





Project Location



- Watershed:
 - Upper Los Angeles River (ULAR)
 - Subwatershed: Compton Creek
- Municipality:
 - Los Angeles, Council District 8



Project Location



LEGEND

- ★ Project Location
- █ Project Area
- ▭ Project Drainage Area
- LA City Streets
- LA County Roads
- ▬ Caltrans Right-of-Way
- ▭ City of Los Angeles
- ▨ Los Angeles County
- ★ Schools

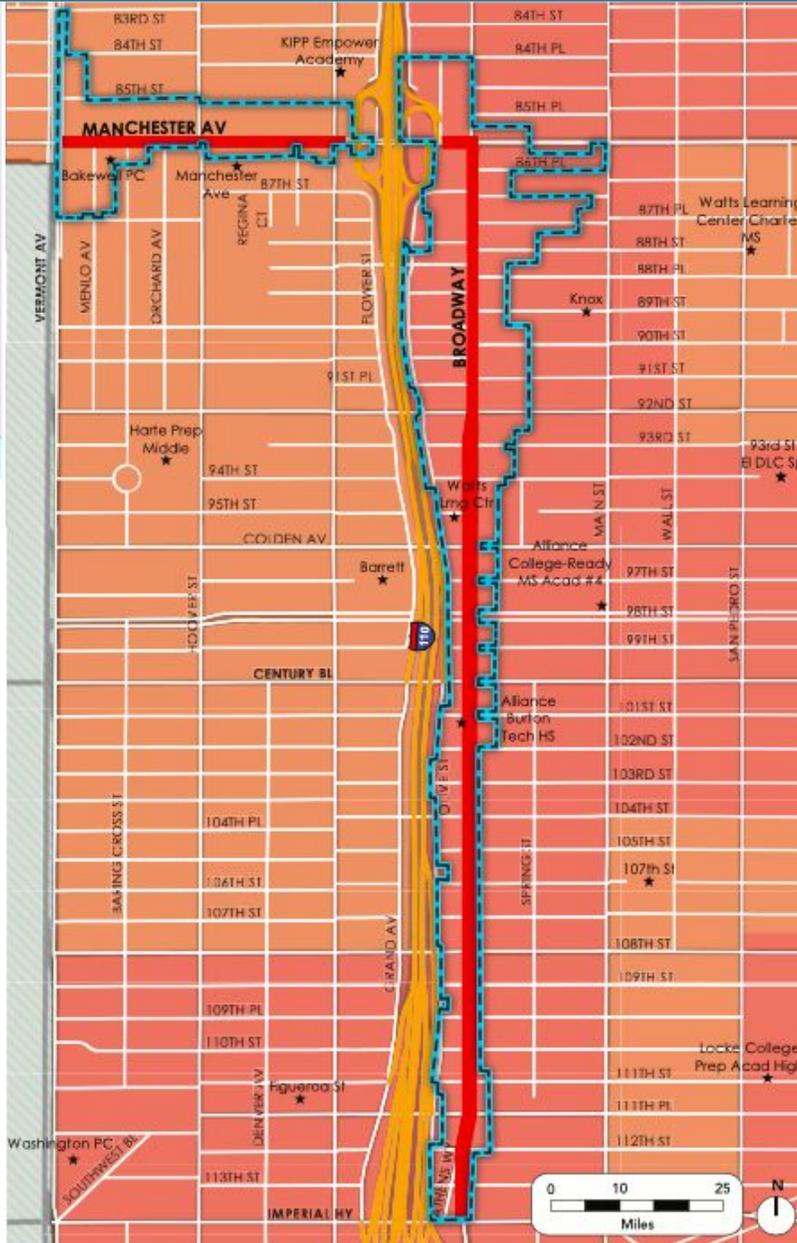
***NOTE:**
Entire project limits and right-of-way are within the City of Los Angeles Bureau of Street Services' (StreetsLA) complete purview.



- Project Location and Capture Area:
 - 2.8 mile corridor from Manchester Avenue (from Vermont Avenue to S. Broadway) and S. Broadway (from Manchester Avenue to Imperial Hwy.)



Project Location



LEGEND

- ★ Project Location
- Project Area
- Project Drainage Area
- LA City Streets
- LA County Roads
- Caltrans Right-of-Way
- City of Los Angeles
- Los Angeles County
- ★ Schools

CalEnviroScreen 3.0

- 91-100% (Highest Scores)
- 81-90%
- 71-80%

- Disadvantaged Communities (DAC)



Project Location

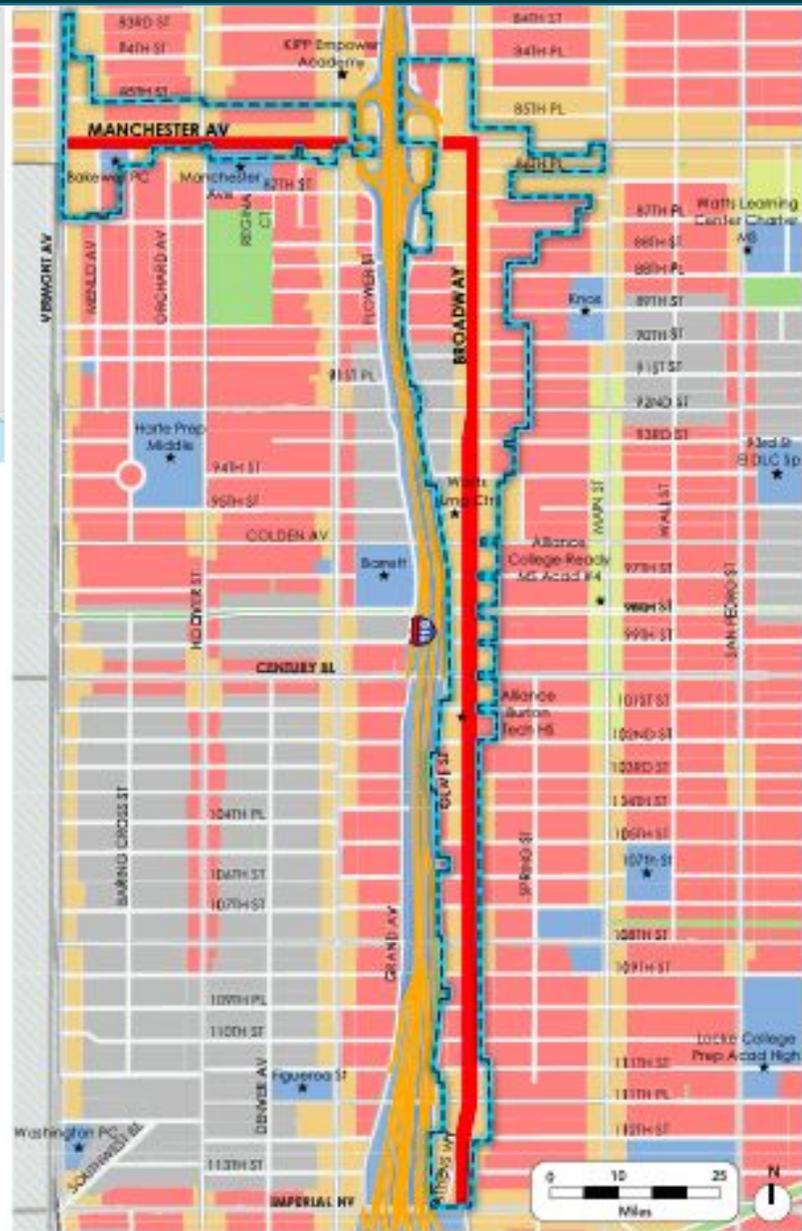


LEGEND

- Project Location
- Project Area
- Project Drainage Area
- LA City Streets
- LA County Roads
- Caltrans Right-of-Way
- City of Los Angeles
- Los Angeles County
- Schools

Land Use

- Single Family
- Multiple Family
- Commercial
- Industrial
- Open Space
- Public Facilities



• Municipality Benefits

- Stormwater capture for project irrigation
- Water quality improvements
- Flood mitigation
- Green space including new bioswales and 843 trees
- Recreational opportunities
- Multi-benefit transportation and water quality improvements

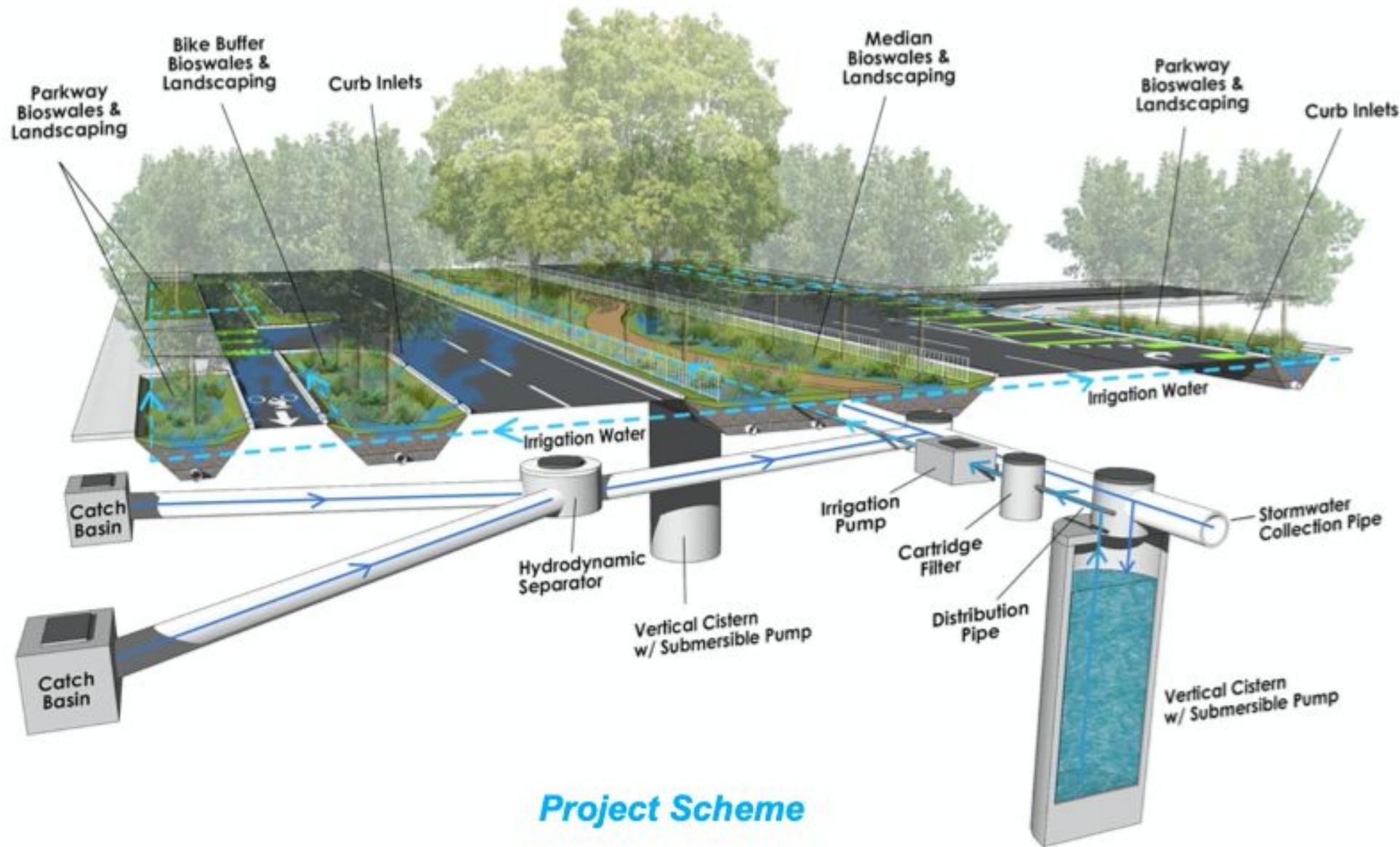


Project Background

- The project is the result of a collaborative process that started in 2015 among community members, City Departments, and consultants that envisioned holistic improvements along the two corridors.
- The 2.8 mile corridor was chosen because it serves many residents, schools and businesses and has several complimenting developments in progress including affordable housing, local business enhancements, and projects intended to improve safety, access and multimodal transit options.
- It is part of the Enhanced Watershed Management Program for ULAR Watershed Management Area Group.
- The project is located in the historically underserved community of South LA, a DAC. Benefits include new and enhanced green space with bioswales, trees and native landscaping that uses captured stormwater for irrigation and new community assets that provide nature-based stormwater solutions, recreational opportunities, air quality improvements, and urban cooling.



Project Details



Project Scheme



Project Details

Existing Conditions

- There are existing catch basins and storm drains along the project corridor.
- The project consists of 53% impervious area. Existing parkway and median space has water-intensive non-native landscaping and lawns.
- A feasibility study was completed to explore stormwater capture, treatment and storage. Community engagement has been completed to develop a streetscape plan that includes sustainable landscaping and bioswales.

Alternatives

- Several alternatives for stormwater storage were explored. Consideration was given to storage footprint, construction impact, and geotechnical constraints including liquefaction potential, historically high groundwater table, and low permeability clay soils.



Cost & Schedule

Phase	Description	Cost	Completion Date
Design	Prepare Plans and Specification	\$ 886,000.00	06/2022
Construction	Construct Project	\$14,760,000.00	10/2024
TOTAL		\$ 15,646,000.00*	

*Including 25% cost share

- Annual Costs
 - Maintenance: \$400,000
 - Operation: \$80,000
 - Monitoring: \$20,000
- Project Lifespan: 50 years
- Lifecycle Cost: \$ 27,642,950.36



Funding Request

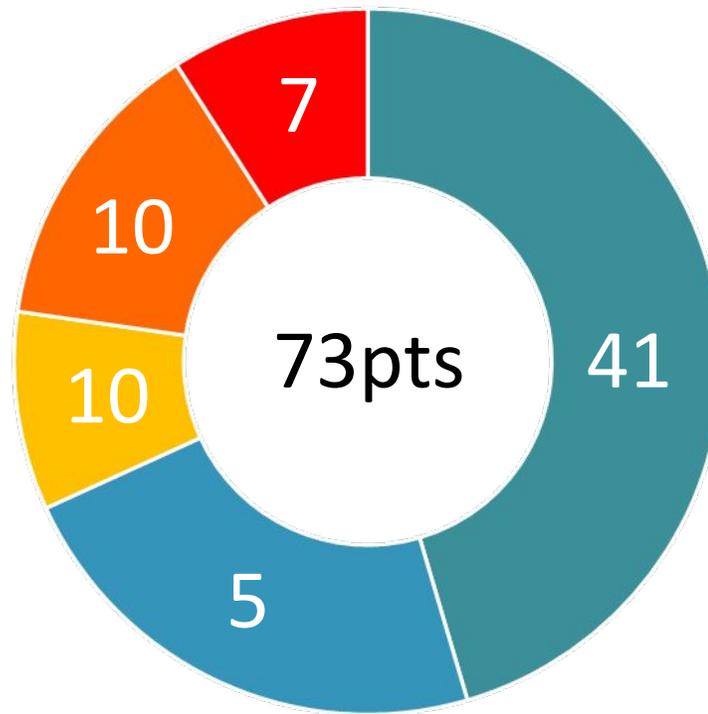
Year	SCW Funding Requested	Phase	Efforts during Phase and Year
1	\$ 886,000.00	Design	Prepare Plans and specifications
2	\$ 4,000,000.00	Construction	Construct stormwater capture and storage systems
3	\$ 4,000,000.00	Construction	Construct bioswales, landscaping, and irrigation systems
4	\$ 2,833,000.00	Construction	Complete project construction
TOTAL	\$11,719,000.00		

- Leveraged Funding: \$ 3,927,000.00 (25% cost share)
- Potential future SCW funding requests for operations and maintenance activities



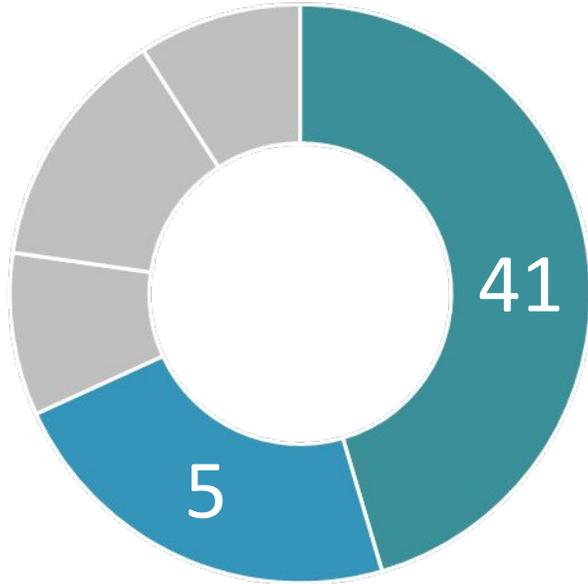
Preliminary Score

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





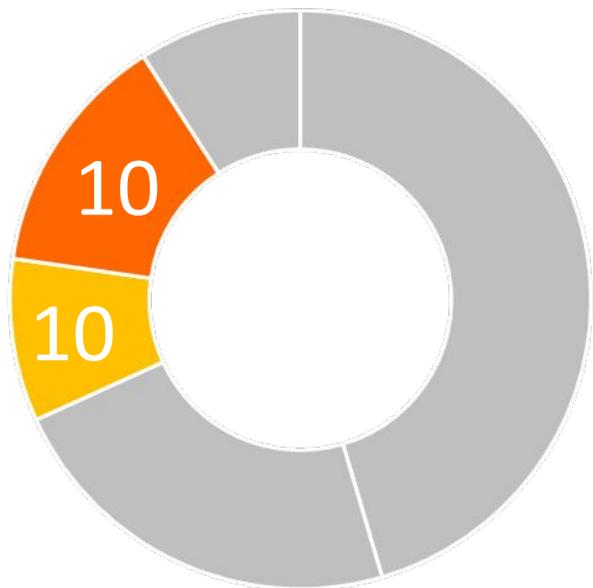
Water Quality & Water Supply Benefits



- Primary mechanisms: parkway bioswales for first flush, surface diversion, pretreatment and retention in storage for capture of runoff up to the 85th percentile 24-hour storm, and treatment of the stored water for landscape irrigation
- Project Weather Type: Wet
- Drainage Area: 205.1 acres
- Storage Volume: 9.4 ac-ft
- 24-hr Capacity: 10.14 ac-ft
- Pollutant Reduction: 81%
- Annual Water Supply Volume: 100.1 ac-ft/yr
- Water Supply Use: 28.8 ac-ft/yr for irrigation and 71.3 ac-ft/yr for water recycling
- Water Supply Cost Effectiveness: \$11,509.31/ac-ft



Community Investment Benefits and Nature Based Solutions



- Community Investment Benefits

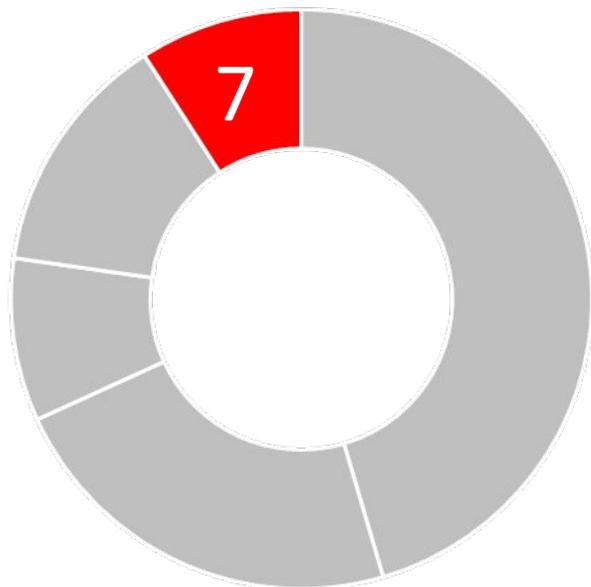
- The project improves flood risk mitigation, restores 19 acres of green space, creates new recreational opportunities, enhances green spaces at schools, reduces the local heat island effect, and increases shade with new trees

- Nature Based Solutions

- 2.8 miles of green streets with approximately 14.6 acres of bioswales in parkways, planted medians, planted curb extensions, and planted bicycle buffers as well as planting 843 trees
- Creates 6 acres of new green space and reduces impermeable area by 5.96%
- Uses California native plants and drought tolerant landscaping



Leveraging Funds and Community Support



- Leveraging Funds
 - \$3,927,000 leverage funding from the Caltrans Active Transportation Program Cycle 4 (commitment received)
 - 25% funding matched
- Community Support
 - Strong community support as a result of engagement and community-driven design process
 - The project is a culmination of several City-led outreach and engagement efforts for the Broadway-Manchester corridor starting in 2015 and continues today
 - Engagement will continue through the design and construction of the project



Questions?

Arroyo Seco – San Rafael Treatment Wetlands

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

Project Lead: City of Pasadena and South Pasadena

Presenters: Brent Maue, City of Pasadena

Oliver Galang, Craftwater Engineering

Project Overview

Two regional stormwater capture and treatment facilities located in open space areas near the Arroyo Seco Channel in Pasadena and South Pasadena

- **Phases used from SCW Funding:** Design & Construction
- **Total SCW Funding Requested:** \$4,771,357

Project Objectives

PRIMARY OBJECTIVES

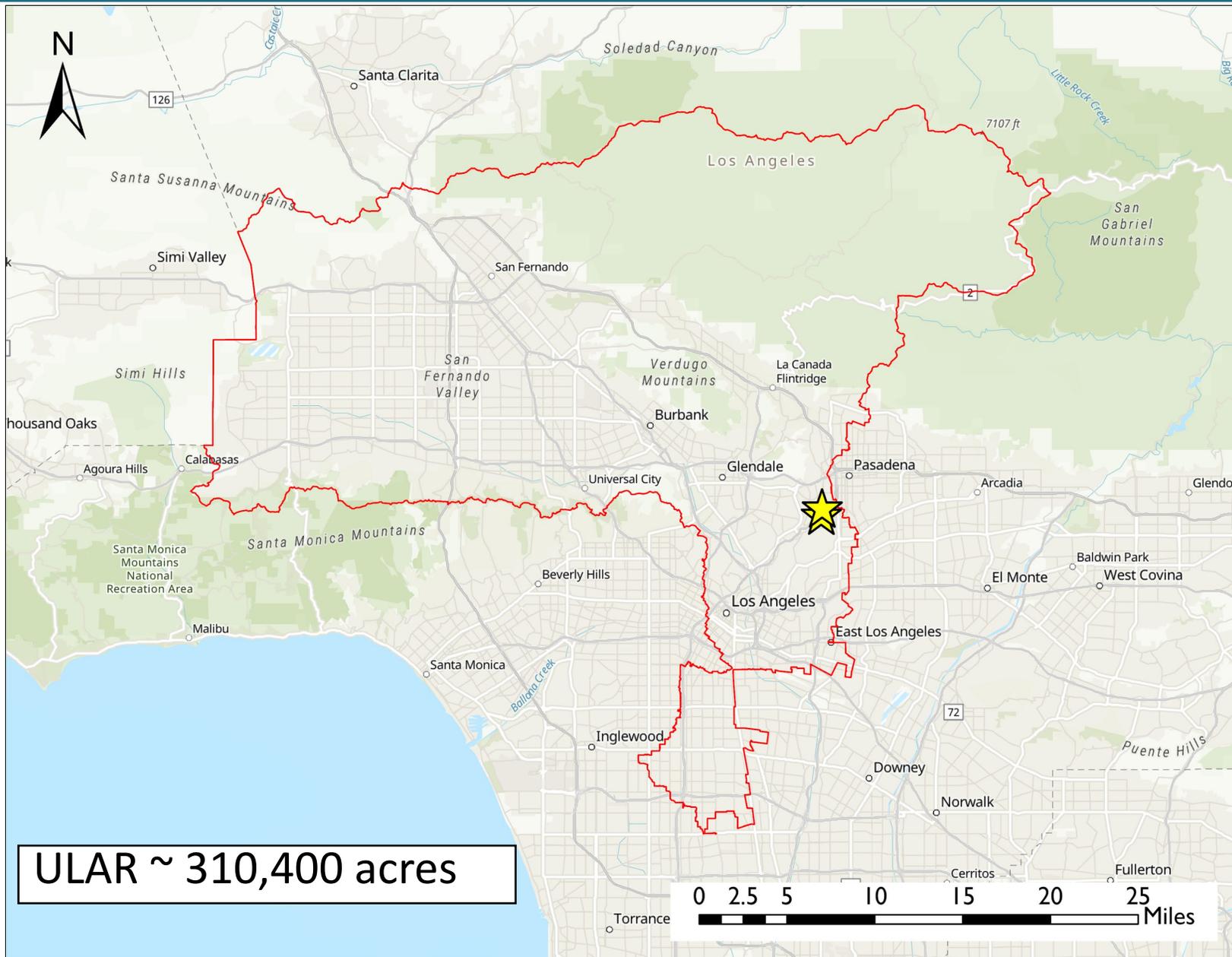
- **Improve the water quality** within Arroyo Seco Channel as outlined in the EWMP and LRS
- **Enhance the existing sites** by installing nature based, natural treatment wetland and groundwater recharge basins
- **Rehabilitate San Rafael Creek** by providing a natural creek bed for low flow events.

SECONDARY OBJECTIVES

- **Provide treated stormwater** to offset the potable water demand required to irrigate nearby Arroyo Park and Golf Course
- **Provide habitat, educational opportunities, and diverse vegetation** to the existing space
- **Educate the public** on integrated systems and sustainable resources practices
- **Improve public access** and use

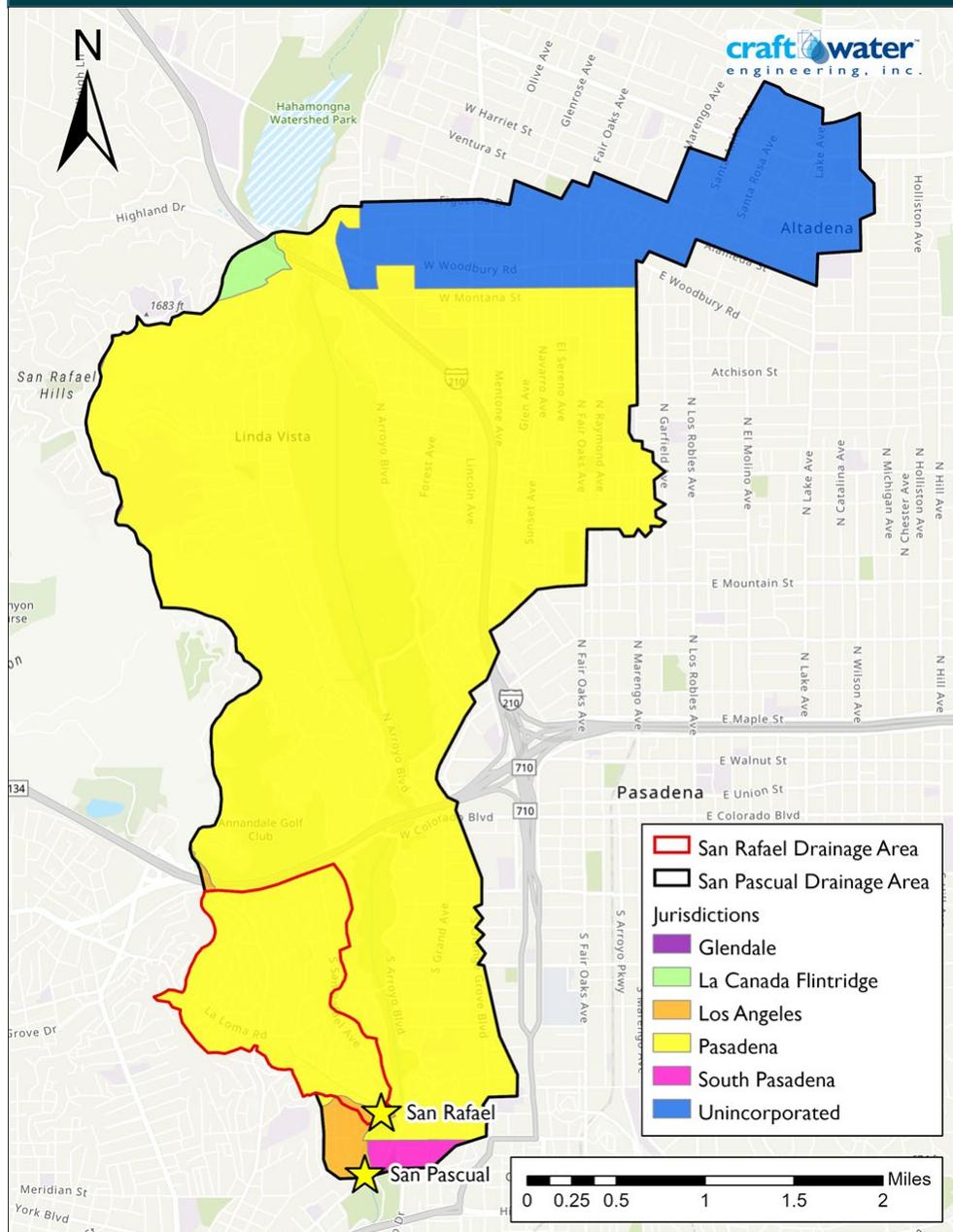


Project Location – Watershed Map





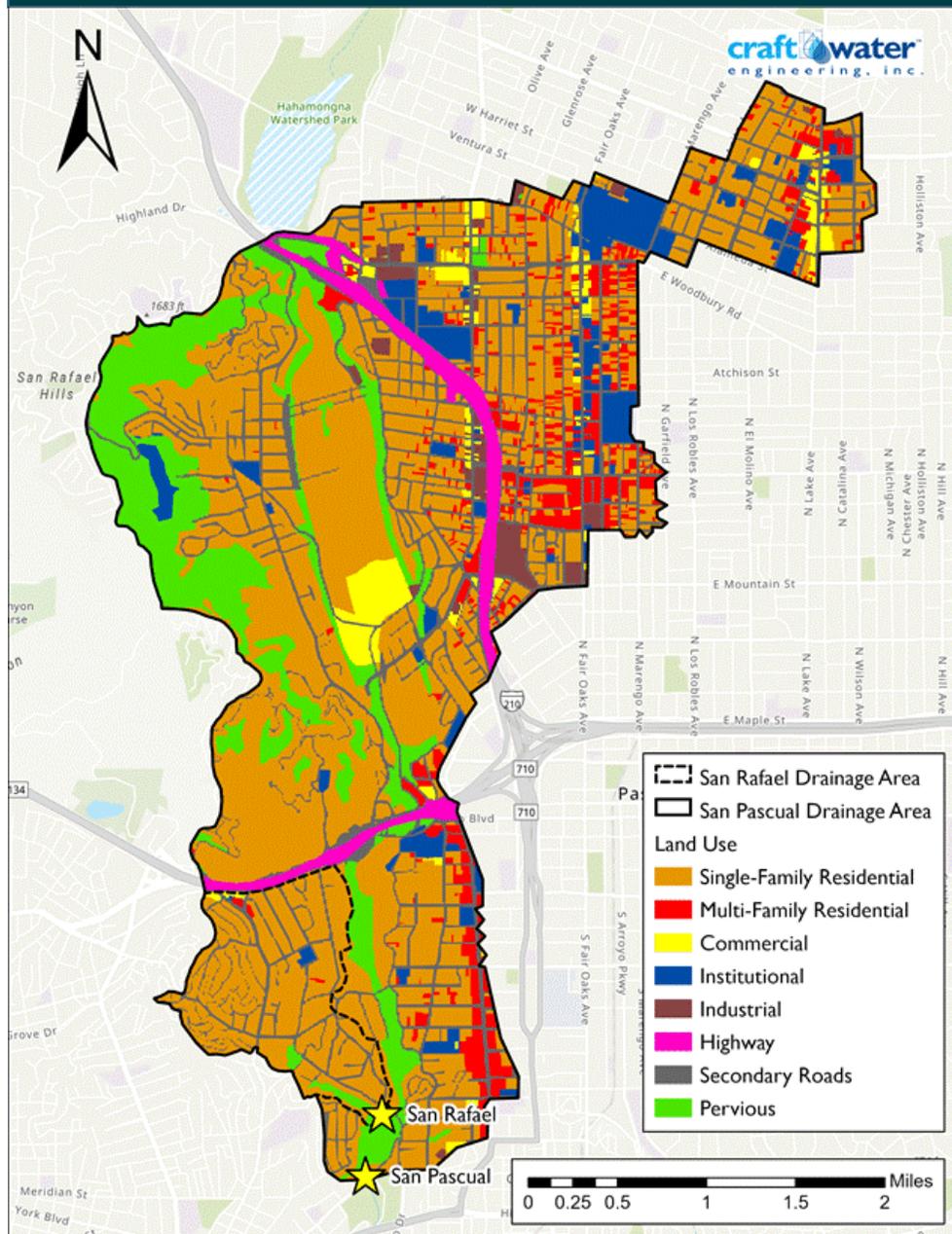
Project Location - Total Capture Area



Jurisdiction	Area (acres)	% Watershed
Pasadena	4123.0	82.4%
Unincorporated LA County	758.3	15.1%
City of LA	55.3	1.1%
La Canada Flintridge	34.3	0.7%
South Pasadena	32.2	0.6%
Glendale	2.5	0.1%
TOTAL	5,005.6	100%



Project Location – Land Use

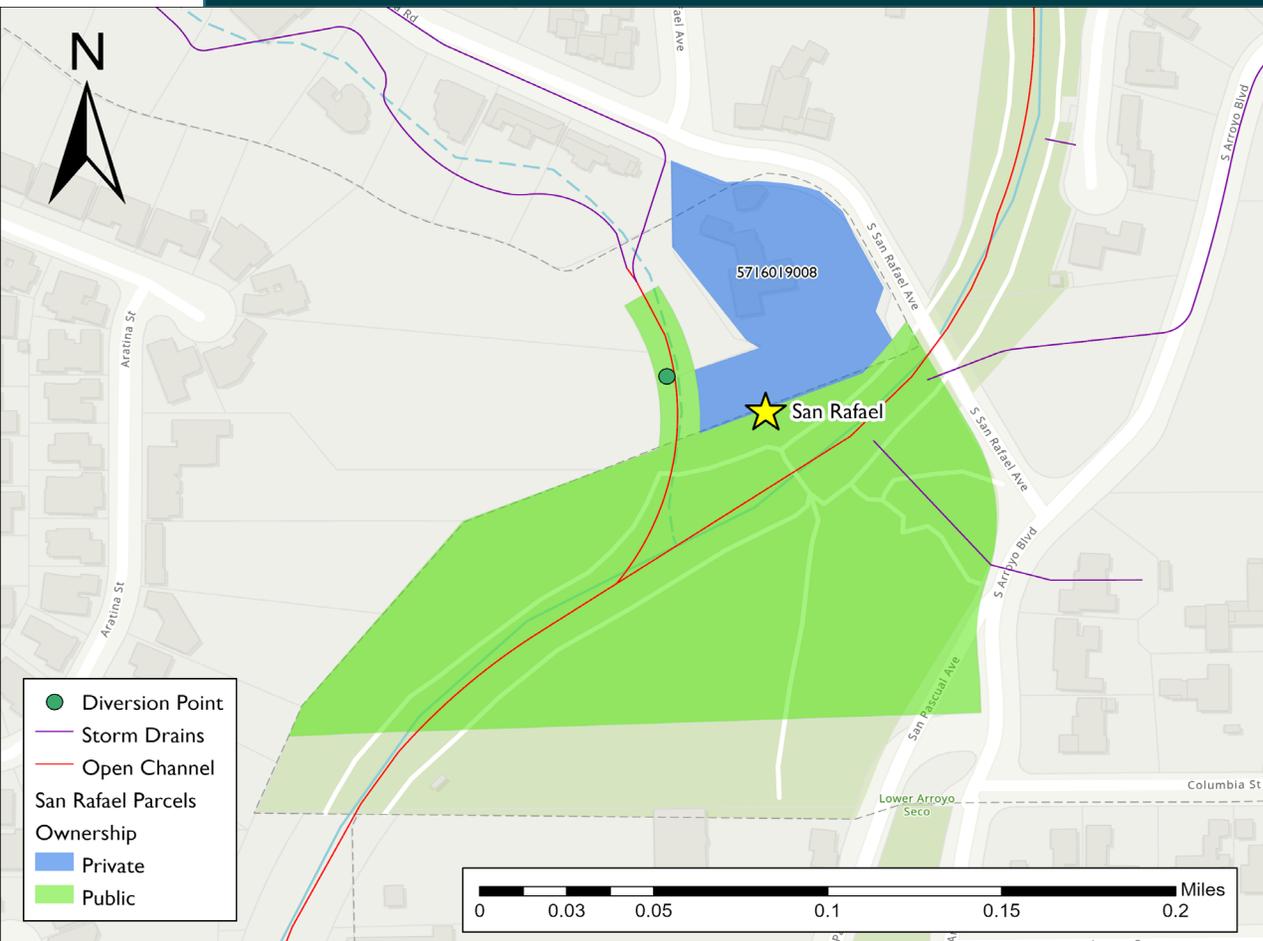


- **Drainage Area**
 - Impervious: 1,200 acres
 - Pervious: 3,805 acres

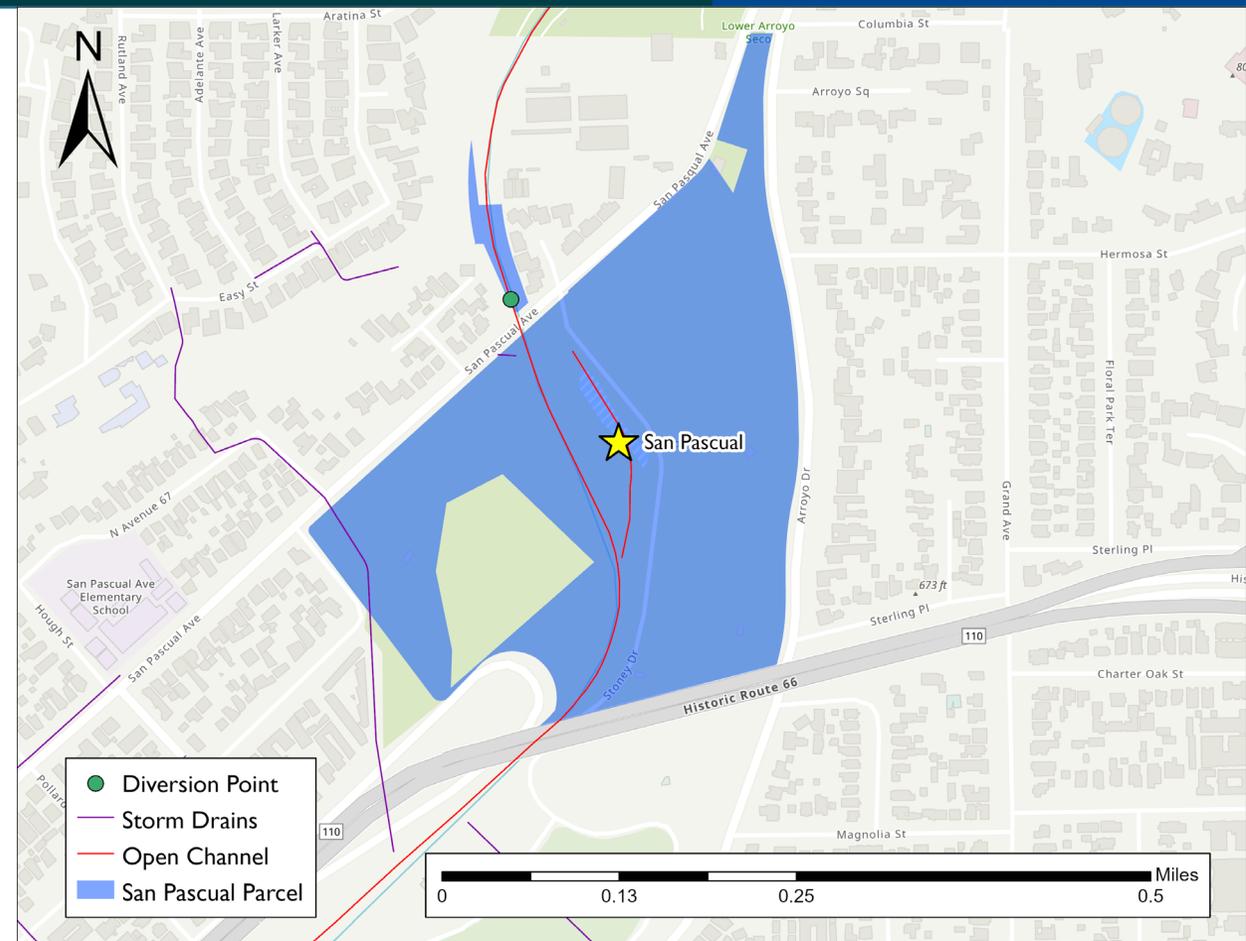
Land-use	Area (acres)	% of Impervious
Single Family Residential	526.0	43.8%
Multi-Family Residential	129.5	10.8%
Commercial	79.9	6.7%
Institutional	87.7	7.3%
Industrial	51.1	4.3%
Highway & Interstates	78.3	6.5%
Secondary Roads & Alleys	247.8	20.6%
TOTAL	1,200.3	100%



Project Location - Parcel Maps



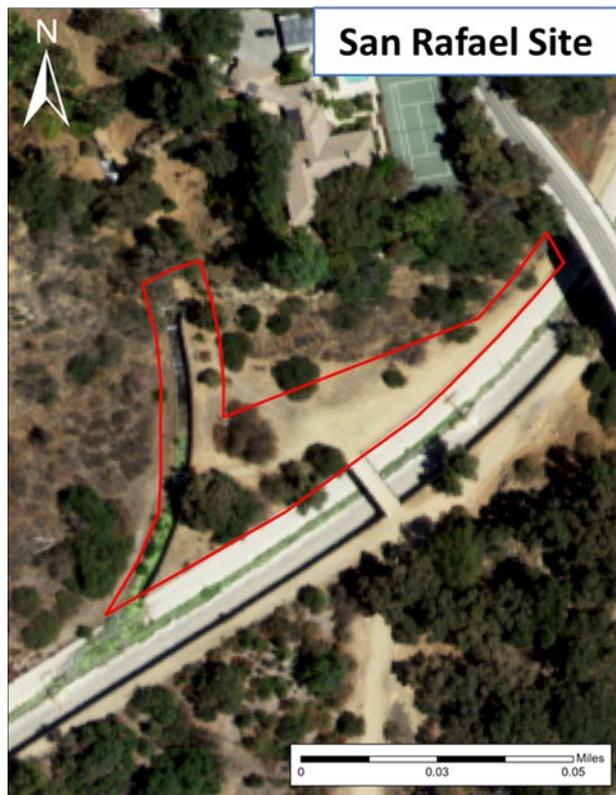
The **San Rafael** site is at the confluence of the San Rafael Creek and the Arroyo Seco channel in Pasadena.



The **San Pascual** site is located further downstream adjacent to the Arroyo Seco channel, south of San Pascual Ave.



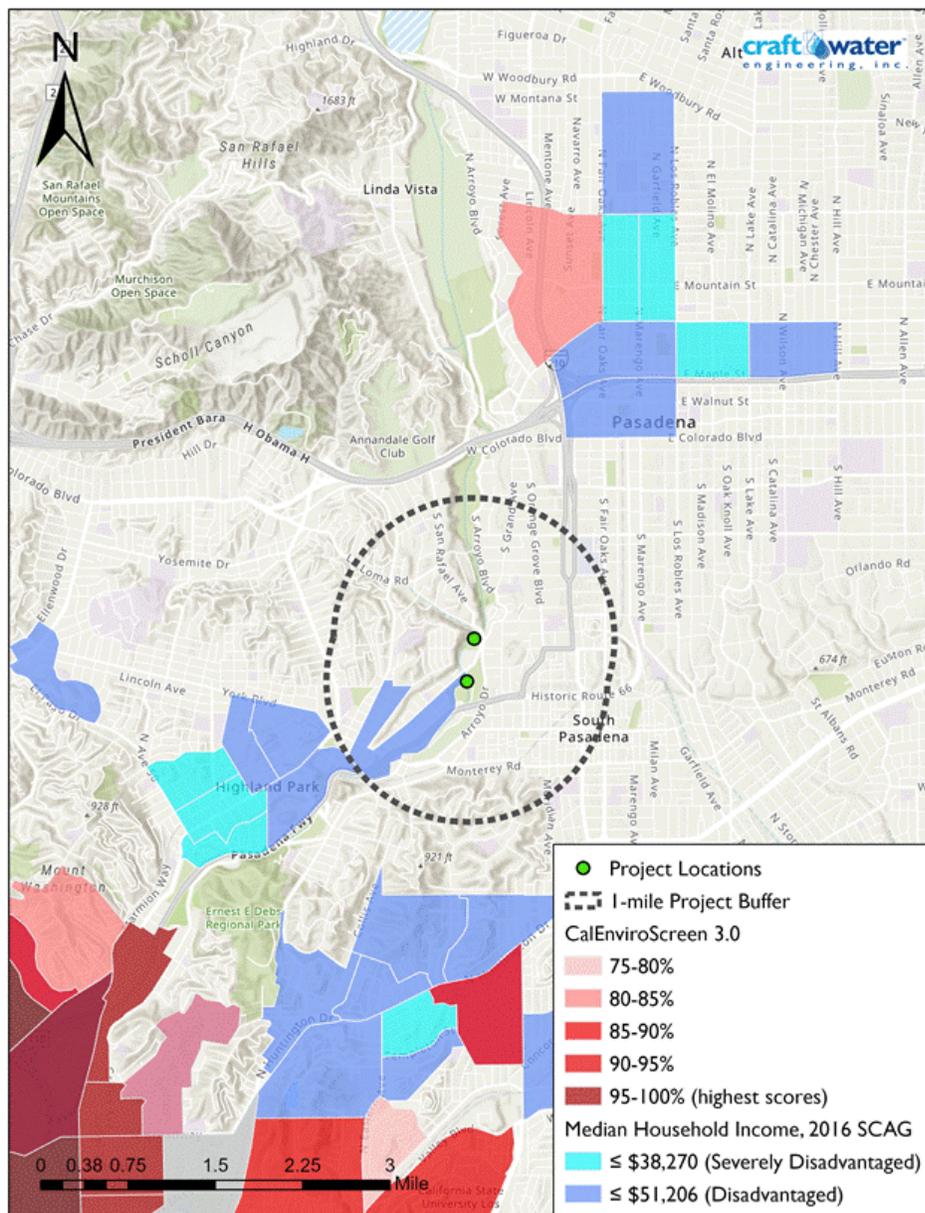
- **San Rafael** site supports the goals described in the Upper LA River EWMP and LRS for the Upper LA River
- **San Pascual** site was included in the Adaptive Management Section, ULAR EWMP Group's Annual Report
- **Project Selected due to:**
 - Large drainage area size (5,005 acres)
 - Proximity to San Rafael Creek and Arroyo Seco Channel
 - Opportunity to revitalize and introduce new public spaces along Arroyo Seco Trail
 - Pollutant treatment capacity



- **Water Quality** Improvement in the San Rafael Creek and the Arroyo Seco Channel by removing trash, metals, and nutrients in stormwater and urban runoff
- **Nature-Based** infiltration recharge basins with sustainable native landscaping and storage
- **Park Recreational Enhancements** with a wetland/habitat area and continuous irrigation water supply
- **Public Access to Waterways** with improved public access to natural treatment wetlands and pedestrian pathways



Project Benefits – DAC



• Benefits to DAC

- Improved park space immediately adjacent to Arroyo Seco Channel
- Rehabilitation of the existing trail along the Arroyo Seco
- New gathering spaces and rest areas
- Enhancement and restoration of the existing unused areas along the channel

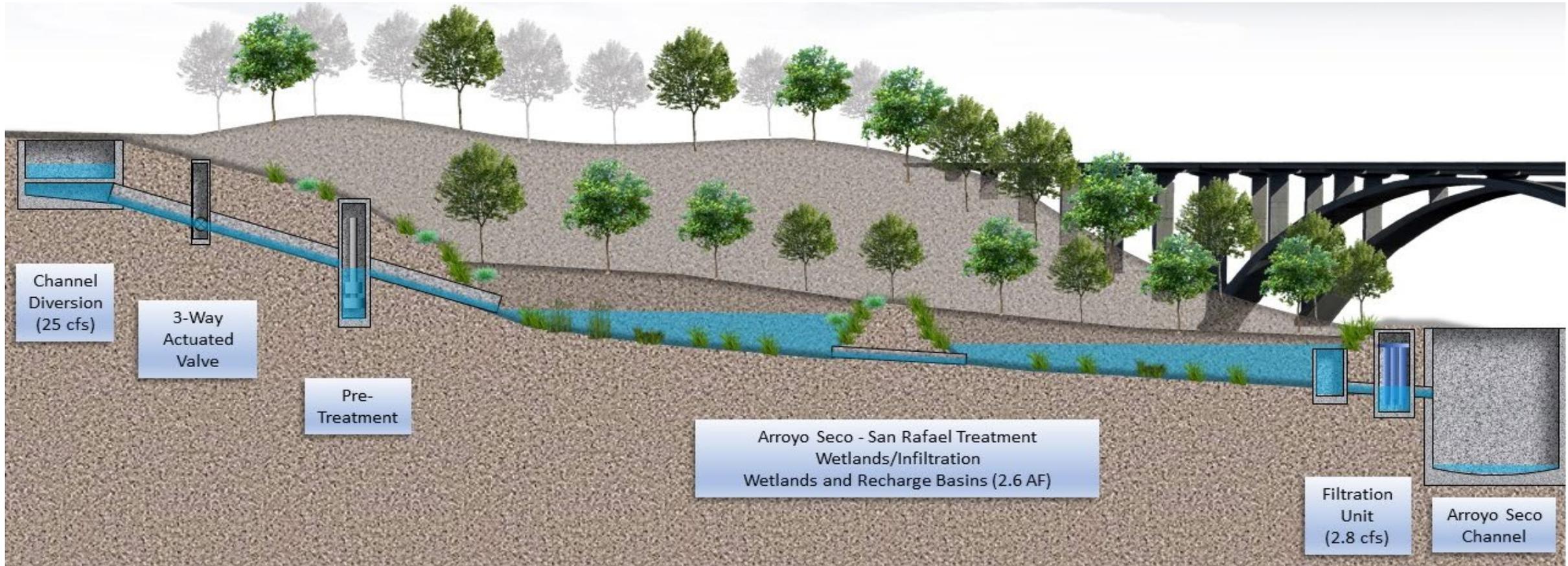


San Rafael Project Details – Site Plan





San Rafael Projects Detail – Site Plan



Diversion Rate	Storage Capacity	Filtration Unit
25 cfs	2.6 ac-ft (0.88 MG)	2.88 cfs



Existing Conditions

- Infiltration Rate: 0.89 in/hr (Based on geotechnical studies at the San Pascual Stables across Arroyo Seco)
- Approximate Depth to Groundwater: 91 ft BGS
- Current Use: Public Land along the Arroyo Seco Trail
- Owner: City of Pasadena

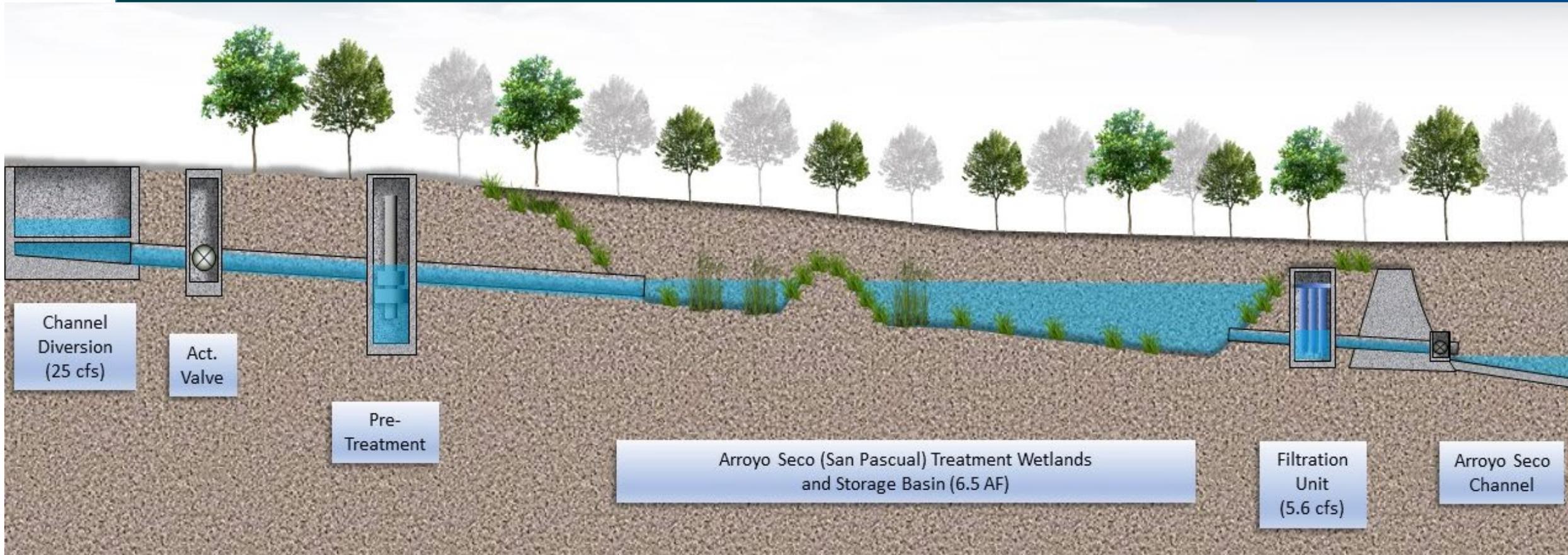


San Pascual Project Details – Site Plan





San Pascual Project Details – Site Plan



Diversion Rate	Storage Capacity	Filtration Unit
25	6.5 ac-ft (2.1 MG)	5.76 cfs

Total Project Performance		
24-Hour Capacity	Primary Pollutant Reduction (Zinc)	Secondary Pollutant Reduction (Copper)
27.9 ac-ft	67.7% (873 lb/yr)	68.2% (235 lb/yr)



Existing Conditions

- Infiltration Rate: 0.3 in/hr (assumed for modeling)
- Approximate Depth to Groundwater: 91 ft BGS
- Current Use: Public Land along the Arroyo Seco Trail
- Owner: City of South Pasadena

*Feasibility and stormwater capture studies done for both sites

*Alternative footprint sizes and diversion rates examined for both sites

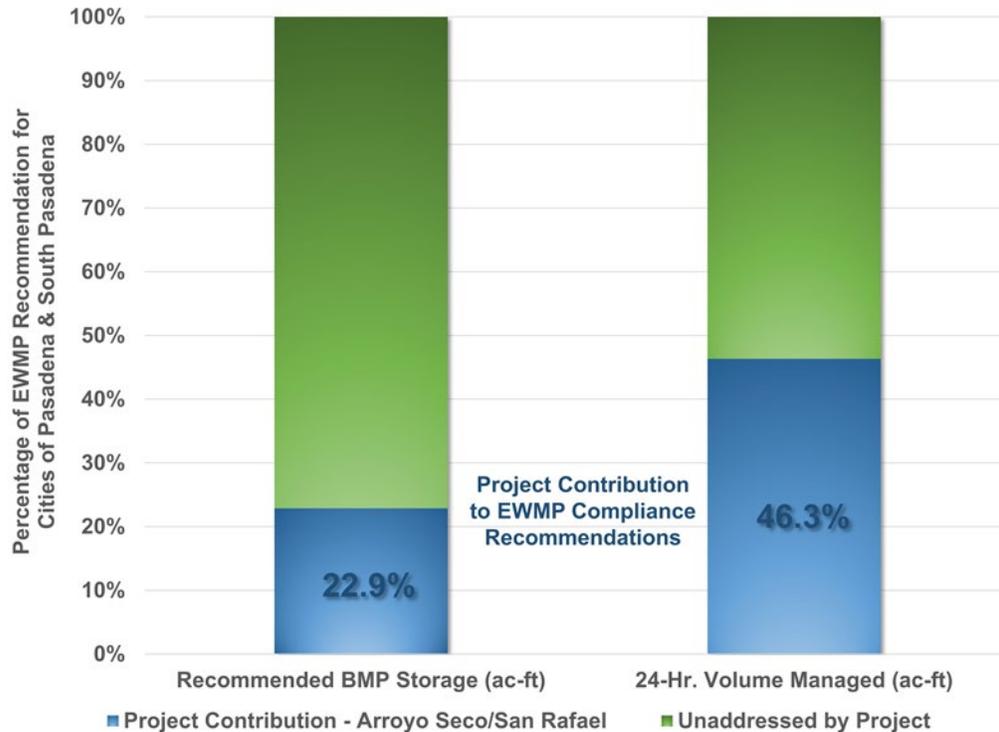


Project Details – Watershed Compliance

	Recommended BMP Storage	24-Hr Volume Managed
EWMP Recommendation – Pasadena/South Pasadena	39.8 ac-ft	60.3 ac-ft
Project Contribution – Arroyo Seco/San Rafael Treatment Wetlands	22.9%	46.3%
Remaining Requirement - ULAR EWMP	30.7 ac-ft	32.4 ac-ft

• Water Quality Modeling

- Potential for significant portion of EWMP compliance target
- 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)	\$949,964	12/2021
Design	Environmental Planning (CEQA) and Permitting	\$126,662	01/2022
Design	Community Outreach during Design	\$50,000	01/2022
Design	Agency Management (Design)	\$68,327	01/2022
Construction	Construction Cost	\$6,333,095	09/2023
Construction	Construction Administration and Design Support	\$633,309	09/2023
Construction	Construction Survey	\$20,000	01/2022
Construction	Agency Management (Construction)	\$90,000	09/2023
TOTAL		\$8,271,357	

Annual Costs

Maintenance Cost:	\$218,000
Operation Cost:	\$25,000
Monitoring Cost:	\$15,000
Project Life Span:	50

Life-Cycle Costs

Life-Cycle Cost for Project:	\$14,461,783.38
Annualized Cost for Project:	\$602,727.48



Funding Request

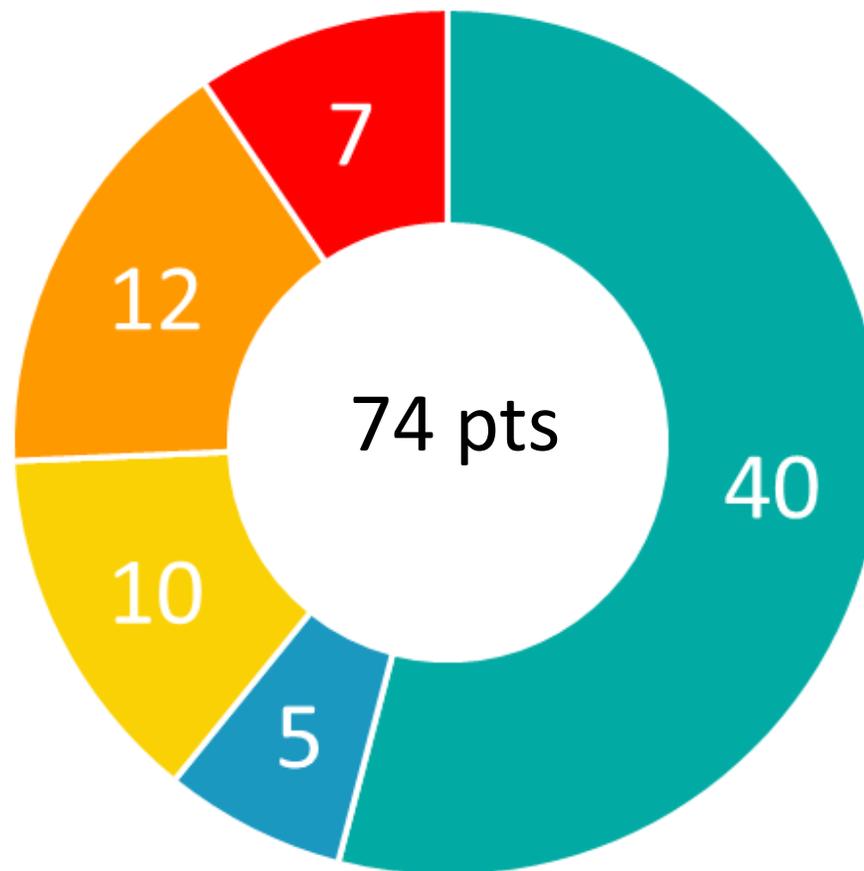
Year	SCW Funding Requested	Phase	Description
1 (FY 2021-22)	\$1,194,953	Design	Environmental Planning (CEQA) and Permitting, Professional Design Services, Community Outreach, Agency Project Management
2 (FY 2022-21)	\$1,205,468	Construction	Construction Contract, Agency Project Management, Construction Administration, Construction Survey and Staking
3 (FY 2022-23)	\$1,185,468	Construction	Construction Contract, Agency Project Management, Construction Administration
4 (FY 2023-24)	\$1,185,468	Construction	Construction Contract, Agency Project Management, Construction Administration
Total	\$4,771,357		

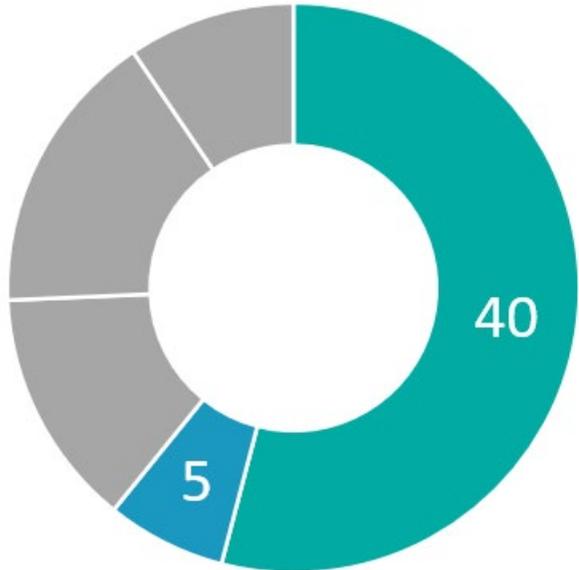
- \$3.5 million matched funds from Prop 68 Urban Counties Per Capita
- Future funding request of \$258,000 for O&M and Monitoring in Year 5



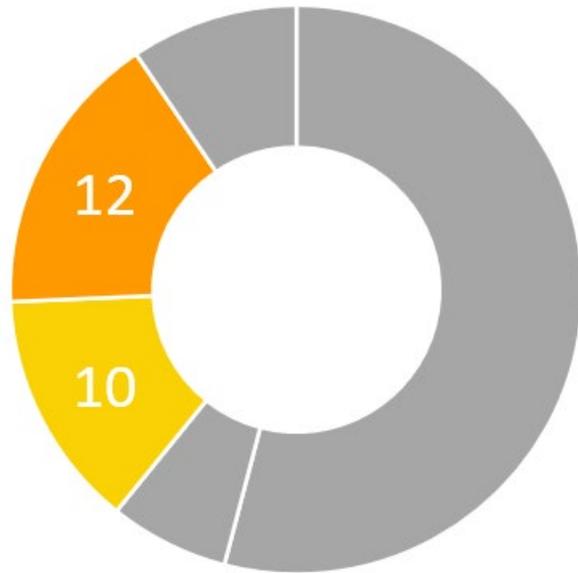
Preliminary Score

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





- **Primary Mechanisms**
 - Diversion
 - Runoff/pollutant capture
 - Filtration
 - Recharge
 - Release
- **Wet** weather project type
- 24 Hour Capacity: **27.94 ac-ft**
- Tributary Area: **5,005 acres**
- Pollutant Load Reduction
 - Primary Pollutant (Zinc) – **67.7% (375 lbs – annual avg)**
 - Secondary Pollutant (Copper) – **68.2% (116 lbs – annual avg)**
- Average Annual Capture for Water Supply: **134 ac-ft**
- Water Supply Use
 - **Onsite Irrigation Use** in Arroyo Park & Arroyo Seco Golf Course
 - **Aquifer Recharge** to the Raymond Groundwater Basin
- Water Supply Cost Effectiveness : **\$4,498/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
- Reduces heat island effect
- Increases shade and tree counts

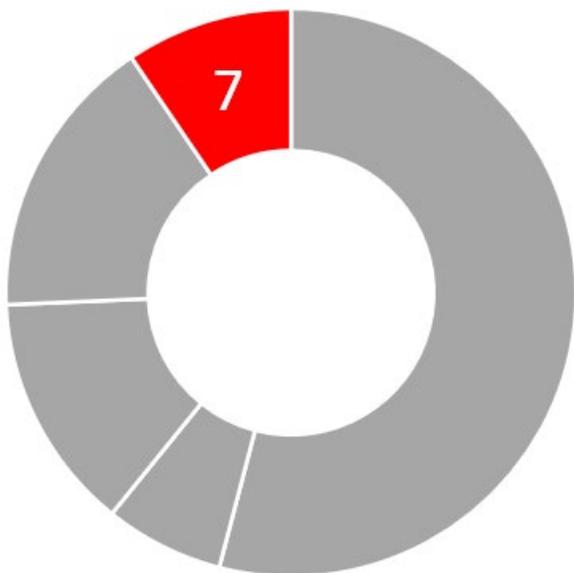
- **Nature Based Solutions**

- Project implements natural processes and utilizes natural materials
 - Installation of a naturally vegetated wetland and infiltration BMP with a naturally lined stream
 - Post-construction landscaping includes native trees, shrubs, decomposed granite, native compacted soil, and grasses



- Leveraging Funds

- The Cities of Pasadena and South Pasadena were awarded **\$3.5 Million from Prop 68 Urban Counties Per Capita Program**
- Provides **>25%** funding matched



- Community Support

- Cities of Pasadena and South Pasadena will conduct an active Public Outreach effort
- Arroyo Seco Foundation will lead outreach efforts
- Strong local, community-based support from
 - Arroyo Seco Foundation
 - ULAR Watershed Management Group
 - West Pasadena Residents Association
 - Sierra Club Pasadena Group
 - San Pascual Stables

Questions?