

# Safe, Clean Water Program

Lower Los Angeles River

Watershed Area Steering Committee (WASC)



## **Meeting Minutes:**

Tuesday, February 25, 2020

1:00pm – 3:00pm

Long Beach City Hall, Beach Conference Room, 2nd Floor

411 West Ocean Blvd, Long Beach, CA 90802

## **Attendees**

### Committee Members

Dan Sharp (District)

Lyndsey Bloxom\* (Water Replenishment District)

Kristen Ruffell (LA County – Sanitation)

Stephen Scott (Long Beach Parks & Recreation)

Kendrin Hopkins\* (Conservation Corps of Long Beach)

Marybeth Vergara\* (Rivers Mountains Conservancy)

James Vernon (Port of Long Beach)

Gladis Deras (South Gate)

Carlos Moran\* (TreePeople)

Erica Maceda\* (River in Action)

Dan Mueller (Downey)

Melissa You (Long Beach)

Chau Vu\* (Bell Gardens)

Sarah Ho\* (Paramount)

Cecil Looney (Signal Hill)

### Committee Members Not Present:

Kevin Wattier (Central Basin)

Laura Ochoa (Lynwood)

\*Committee Member Alternate

See attached sign-in sheet for full list of attendees

## **1. Welcome and Introductions**

Mr. James Vernon, the Chair of the Lower Los Angeles River WASC, called the meeting to order.

All committee members made self-introductions and quorum was established.

## **2. Approval of Meeting Minutes from February 11, 2020**

The District provided a copy of the meeting minutes from the previous meeting. Mr. Vernon asked the committee members for comments or revisions.

Ms. Gladis Deras believes she was listed as an Alternate and not the Primary WASC member in the meeting minutes. Ms. Lyndsey Bloxom stated that Mr. Kevin Wattier may no longer be employed with Central Basin, and Mr. Dan Sharp stated that the meeting minutes were not voted as approved by the Committee, but were instead approved by the Chair with no objections.

**With these stated comments and revisions, the Chair on behalf of the Committee approved the meeting minutes from February 11, 2020.**

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### 3. Committee Member and District Updates and Disclosures

#### a) Scoring Committee Update

Mr. CJ Caluag (District) referred the Committee to the Steering Committee handout and stated that as of February 18, all projects in this WASC have passed the minimum scoring threshold. Today will be the last day of project presentations, and the SIP implementation will be taking place at the upcoming WASC meetings. Finally, the General Income-Based Tax Reduction forms are now posted on the Safe, Clean Water (SCW) website, or can be mailed to those that do not have internet access with a telephone call to the SCW team.

### 4. Public Comment Period

Jenny Newman, the Assistant Executive Officer of the Los Angeles Regional Water Quality Control Board (Regional Board), encouraged the WASC to choose projects for SCW funding that were included in each group's Watershed Management Program (WMP) or Enhanced WMP.

### 5. Discussion Items

#### a) Ex Parte Communication Disclosure

No discussion or comments.

#### b) Presentations:

##### i) Infrastructure Program (IP)

##### (1) Compton Blvd Et. Al. Project

Presentation by Joe Venzon (Los Angeles County Public Works). The proposed Compton Blvd Et. Al. Project, located in a disadvantaged community in the unincorporated County of East Rancho Dominguez, will improve water quality, incorporate LID features, repair poor road conditions, improve pedestrian facilities, and enhance traffic safety.

Ms. Kristen Ruffell asked how many dry wells the project will have. Mr. Venzon said the number has not been finalized, but between 50 and 90 dry wells will be installed.

Ms. Marybeth Vergara asked the source of the \$5 million already secured for the project. Mr. Venzon stated that LA County general funds and potential through the SCW municipal funds are the source of the secured funding. Ms. Vergara also asked when the outreach was done and how was this project was selected as part of the EWMP. Mr. Venzon stated that the opportunities developed through a collaborative partnership and community outreach, which has occurred over the last two years.

Ms. Bloxom asked about the low score on the water supply and wondering if it was due to the infiltration not making it to the groundwater basin. Mr. Venzon informed her that the low score was due to the volume of water for the water supply benefit was relatively low. Ms. Bloxom also asked how deep the soil testing went, and Mr. Venzon stated that testing went 75 feet deep.

Ms. Ruffell asked for the 90-acre unincorporated area (UA) vs. city watershed area percent breakdown, and Mr. Venzon informed her that this project is 90-percent UA land.

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#### **(2) Furman Park Stormwater Capture and Infiltration Project**

Presentation by John Hunter and Oliver Galang (City consultant and CraftWater). The "Furman Park Stormwater Capture and Infiltration Project is located in the City of Downey, and proposes to construct an underground infiltration vault in a location that geotechnical testing has shown has exceptionally good infiltration. The project receives runoff from both Downey and Pico Rivera.

Ms. Ruffell asked what the flowrate is of the treatment system and if they spoke with the County regarding discharging back into the storm drain. Mr. Galang noted stated that the discharge back into the storm drain is only necessary remove ponding water for maintenance activities.

Ms. Vergara stated that this project is in construction, and then asked would the lack of SCW funding affect this construction. The consultants stated that the other improvements would continue as intended, and the lack of SCW funding would only affect the stormwater improvements proposed. Mr. Dan Mueller clarified the construction occurring now is for different improvements to the park separate from this project.

A committee member asked if this project is similar infiltration project to the nearby sports complex project. Mr. Dan Mueller confirmed yes, project similar to the Discovery Park project..

A committee member asked for the current status of the project, and the consultants stated that the project is currently at the 10-percent design phase.

#### **(3) Rancho Los Cerritos: Looking Back to Advance Forward**

Presentation by Alison Bruesehoff, Travis Taylor and Kirk Keller (Executive Director of Rancho Los Cerritos, Project Manager, and Project Architect). Looking Back to Advance Forward is an innovative stormwater reclamation project that will use a combination of cutting-edge technology and Rancho period water reclamation techniques to capture up to 95% of the rainwater that falls on the property and provides flood mitigation to adjacent properties - in addition to the project itself, there will educational programming that will enhance the experience for all visitors including over 7,000 thousand local school children.

Ms. Bloxom asked if the project design is flexible. The presenters stated that they need to do more work on finalizing the design.

A committee member asked if this project will present job opportunities to the local communities. The presenters stated that they will involve more college students and will expand funding to include more student activities, including internships.

A committee member asked why the parking lot was the focus of the project siting. The presenters stated that as students are arriving in a bus, the parking lot will present optimal exposure as the parking lot is innovative and will collect a large amount of runoff.

Ms. Vergara is concerned with the project location due to seclusion, and asked if the project will add access improvements to the project location. The presenters stated that they plan to increase signage and will ensure the public is aware of visiting times and facility reservations.

A committee member asked for more information about the applicant's affiliation. Ms. Alison Bruesehoff stated that at one time, Rancho Los Cerritos was part of the City of Long

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Beach, but have now split into a private public partnership, with the City still owning the land.

Ms. Bloxom asked for a project breakdown of the \$2 million request for SCW funds. Mr. Caluag noted the package handed out earlier includes breakdown of the requested funds each fiscal year.

Mr. Carlos Moran asked if only The Port of Long Beach are the only secured leverage funding at this time. The presenters affirmed that this is the case, but they are always looking for more sources.. Mr. Moran further asked what percent of schools used are Title I and Ms. Bruesehoff stated 65 percent.

#### ii) Technical Resources Program (TRP)

##### (1) Hollydale Regional Park Green Infrastructure Development

Presentation by Claire Robinson (Amigos de los Rios). The intent of the project concept is to retrofit Hollydale Regional Park to improve the Lower Los Angeles River area's nascent green infrastructure network, and to manage stormwater by increased capture, filtering and infiltration through a natural systems approach focused on community-based design of green infrastructure.

Mr. Sharp alluded to the \$340,000 costs and asked whether the District takes this TRP as is with the focused tasks. Mr. Caluag stated it would be only a \$300,000 allocation from this WASC, and not what was indicated on the slide. The intent of the TRP is for applicants that do not have technical ability or resources to develop a feasibility study to assist with satisfying the 19 requirements necessary for the Infrastructure Program. Depending on the project, some of the tasks requested could be handled by the TRP, and others can be performed in the Infrastructure Project funding.

Mr. James Vernon asked what the acreage is. Ms. Claire Robinson stated that the park itself is 53 acres, with a total capture area of approximately 94 acres.

Ms. Bloxom stated that this project appears to have many park improvement opportunities, and asked if this effort would evaluate all options for consideration. Ms. Robinson stated that her intent is to explore every opportunity possible.

Mr. Moran asked who some of the project partners are, and Ms. Robinson indicated that South Gate Public Works and Parks & Recreation, Paramount Unified, Maywood, and 120 schools ranging from South Gate to Arcadia are all existing partners.

##### (2) Parque Dos Rios Bioswale

Presentation by Martin Kammerer and Debbie Enos (BlueGreen Consulting and Watershed Conservation Authority). The goal of this project is to transform existing impervious concrete v-ditch with earthen slopes prone to erosion into a natural riparian bioswale designed cleanse and infiltrate water drained from I-710 that outflows to the Lower Los Angeles River. The v-ditch is a Caltrans easement on Watershed Conservation Authority owned property known as Parque Dos Rios. The 7-acre parcel, located along the LLAR at the confluence with the Rio Hondo in South Gate. The property is under construction as a trail amenity featuring two overlooks, interpretation, shade, seating, view-scopes and habitat restoration on the upper plateau of the site. This proposed project would be Phase II.

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Mr. Vernon stated that Hollydale Park across the river has a bike stop from the adjacent bike path, and then asked if this project will have a similar bike stop. The presenters affirmed that there will be a bike stop for this project.

Mr. Moran asked if there are any other community spots besides the bike stops. The presenters stated that the feasibility analyses will further evaluate identifying other community spots.

A committee member asked who owns the property, and the presenters stated that it is owned by the Watershed Conservation Authority.

A committee member asked if the catchment area is 60 acres, and the presenters stated that this will be finalized as part of the feasibility analyses.

Ms. Vergara stated that since this is a Caltrans ditch, is Caltrans on board with removing the ditch, and does the \$300,000 cover all feasibility study elements, such as hydrology. The presenters stated that the intent is to look at entire surrounding area, and Caltrans will be involved with permitting any engineering plans and retrofits.

#### **6. Break**

No break was taken by the group.

#### **7. Voting Items**

There were no voting items.

#### **8. Items for the Next Agenda**

The WASC will next focus on the SIP process. Presentations are now complete, so the next meeting will be SIP development, so the WASC members need to think about voting and SIP criteria.

Ms. Ruffell proposed that the group vote at the next meeting on how much (percent allocation) we allocate to implementation projects.

Mr. Caluag stated that this group will want a SIP tool, and highly recommended the group not utilize 100 percent of the allocated funding. At this time, \$12.8 million is the budget allocated for this WASC, but it is just an estimate and this does not include credits, appeals and non-property tax payments. Mr. Vernon suggested voting between 67 and 80 percent. Mr. Caluag asked if the group wants to vote by show of hands, or by closed (paper) balloting.

Ms. Ruffell further proposed that the group be prepared to rank each priority in this WASC, as this will help to prioritize each project in this WASC. Mr. Sharp understood this to mean that all 12 projects (IPs, TRPs, and special studies) be ranked by each WASC member. Mr. Caluag reminded the group to look over the SIP criteria when ranking and voting. Mr. Dan Mueller believes it will be very difficult to rank all projects as combined, and Mr. Vernon agreed with this.

Mr. Moran asked if the LA County SIP tool will help the group rank the projects, and both Mr. Caluag and Ms. Ruffell stated that it will not help rank projects, but it will help the group see what funding remains and whether certain allocations are allowed or not.

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Ms. Chau Vu asked if the group can use 100 percent as the funding allocation, and Ms. Ruffell stated that the group needs to leave funds for the watershed coordinator.

Ms. Melissa You asked when the SIP has to be finalized, and Mr. Caluag stated that by April.

Mr. Moran asked if this WASC ever set priorities. Mr. Vernon stated that the group had a general discussion about priorities which Mr. Moran was a part of, but nothing further. Mr. Moran further stated that he believes the group needs to define its priorities before projects are ranked. The group reminded Mr. Moran that the intent of each WASC member is to vote and prioritize according to the SCW guidelines and SIP criteria.

Mr. Vernon reminded the group that the next WASC meetings in March will be held in Paramount at Progress Park.

#### **9. Adjournment**

Mr. Vernon thanked the committee members and public for their time and participation and adjourned the meeting.

#### **Next Meeting:**

**Tuesday, March 10, 2020, 1:00pm – 3:00pm**  
**Progress Park**  
**1500 Downey Ave, Paramount, CA 90723**

#### **Future Meetings:**

Tuesday, March 24, 2020, 1:00pm – 3:00pm  
Progress Park, 1500 Downey Ave, Paramount, CA 90723

# Lower Los Angeles River

## Watershed Area Steering Committee Meeting

### COMMITTEE MEMBER AND ALTERNATE SIGN-IN



Member Name	Municipality/ Organization	Email Address	Signature
Dan Sharp	FCD	DSHARP@dpw.lacounty.gov	
Carolina Hernandez	FCD	CHERNANDEZ@dpw.lacounty.gov	
Diane Gatza	Water Replenishment District	dgatza@wrtd.org	
Lyndsey Bloxom	Water Replenishment District	lbloxom@wrtd.org	
Stephen Scott	City of Long Beach Parks and Recreation	Stephen.Scott@longbeach.gov	
Meredith Reynolds	City of Long Beach, Parks, Recreation and Marine	Meredith.Reynolds@longbeach.gov	
Kristen Ruffell	Sanitation Districts	kruffell@lacsdsd.org	
Mike Sullivan	Sanitation Districts	msullivan@lacsdsd.org	
Kevin Wattier	Central Basin	kevinw@centralbasin.org	
Nick Jiles	Páó Strategies	nick@paostrategies.org	
Kedrin Hopkins	Conservation Corps of Long Beach	khopkins@cclb-corps.org	
Mark Stanley	Rivers Mountains Conservancy	mstanley@rmc.ca.gov	
Marybeth Vergara	Rivers and Mountains Conservancy	Mvergara@rmc.ca.gov	
James Vernon	Port of Long Beach	james.vernon@polb.com	
Dylan Porter	Port of Long Beach	dylan.porter@polb.com	

Lower Los Angeles River  
 Watershed Area Steering Committee Meeting  
 COMMITTEE MEMBER AND ALTERNATE SIGN-IN



Member Name	Municipality/ Organization	Email Address	Signature
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Carlos Moran	TreePeople	cmoran@treepeople.org	A
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Sarah Ho	Paramount	sho@paramountcity.com	A
Kelli Tunnicliff	Signal Hill	ktunncliff@cityofsignalhill.org	P



Lower Los Angeles River  
 Watershed Area Steering Committee Meeting  
 PUBLIC SIGN-IN



First Name	Last Name	Municipality/Organization	Email Address
JOSEPH	VENZON	LA COUNTY	JVENZON@PW.LACOUNTY.GOV
<del>ALYSE</del>	<del>GLPANG</del>	<del>CITY OF LOS ANGELES</del>	<del>ALYSE@CITYOFLOSANGELES.CA.GOV</del>
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Cecil	LOONEY	CITY OF SIGNAL HILL	CLOONEY@CITYOF SIGNAL HILL.ORG
Halle Simmons		Signal Hill	
Jaime	Sayre	Tetra Tech	jaimesayre@tetratech.com

\*Signing or completing this form is voluntary for members of the public

Lower Los Angeles River

Watershed Area Steering Committee Meeting

PUBLIC SIGN-IN



First Name	Last Name	Municipality/Organization	Email Address
John	Hunter	JLHA	JHunter@JLHA.net
Fred	Gonzalez	LACFP	fgonzal@dpm.lacounty.gov
Alison	Brucehoff	RLC	alisonbrucehoff@brucehoff.org
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Jon	Axelson	StuREC	jonathan.axelson@sturec.com
Jacqueline	McMillen	Alta NVS	jacqueline.mcmillen@altaenviroh.com
Clare	Rubini	Amigos de la R	Clarefamily@delosrivj.com

\*Signing or completing this form is voluntary for members of the public



# Compton Blvd Et. Al. Project

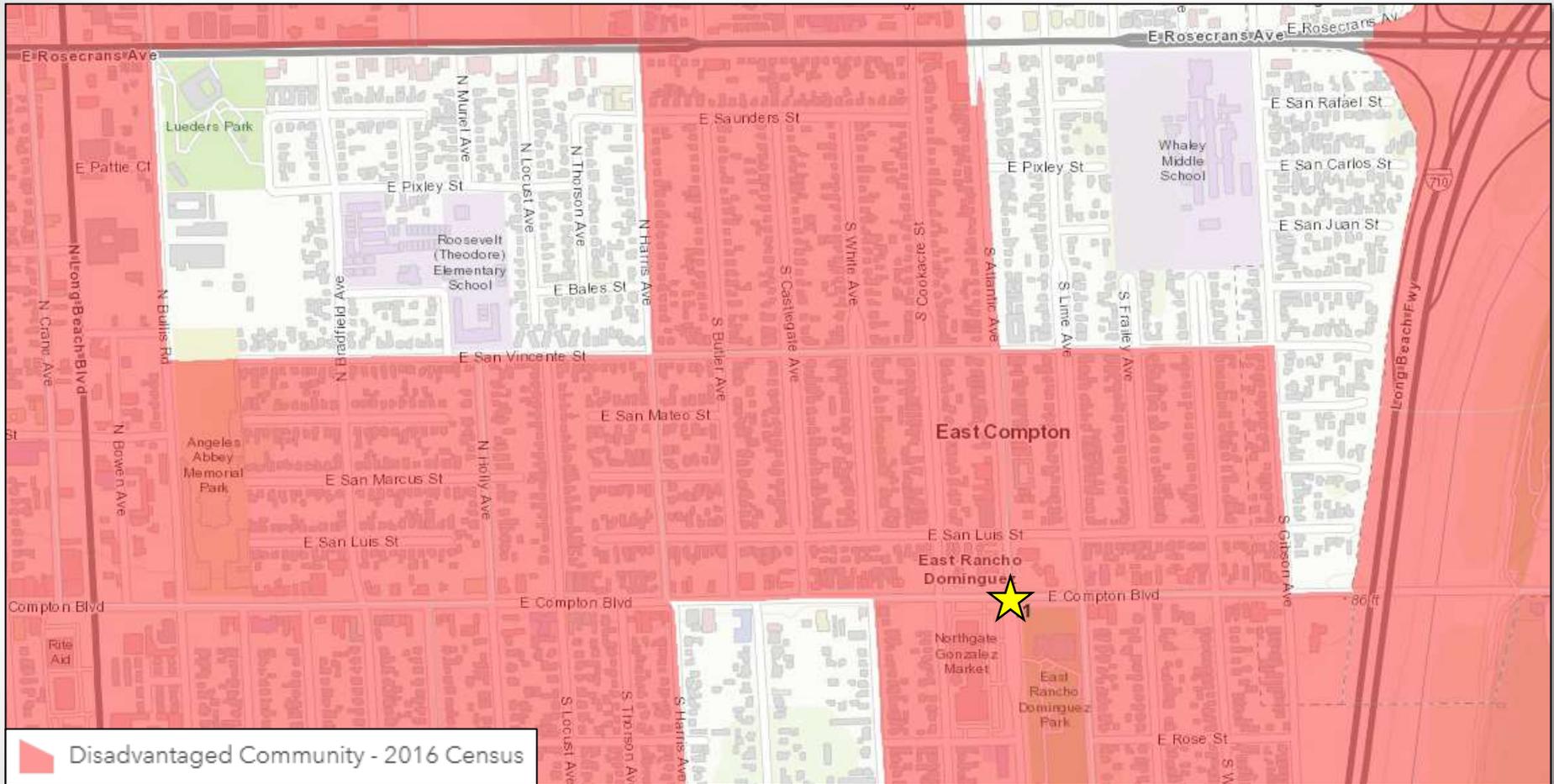
Presented by:

Joe Venzon, P.E.  
LA County Public Works

# Compton Blvd Et. Al. Project



# Compton Blvd Et. Al. Project



Project Location: Unincorporated Community of East Rancho Dominguez



# Compton Blvd Et. Al. Project

## Enhanced Watershed Management Program (EWMP)

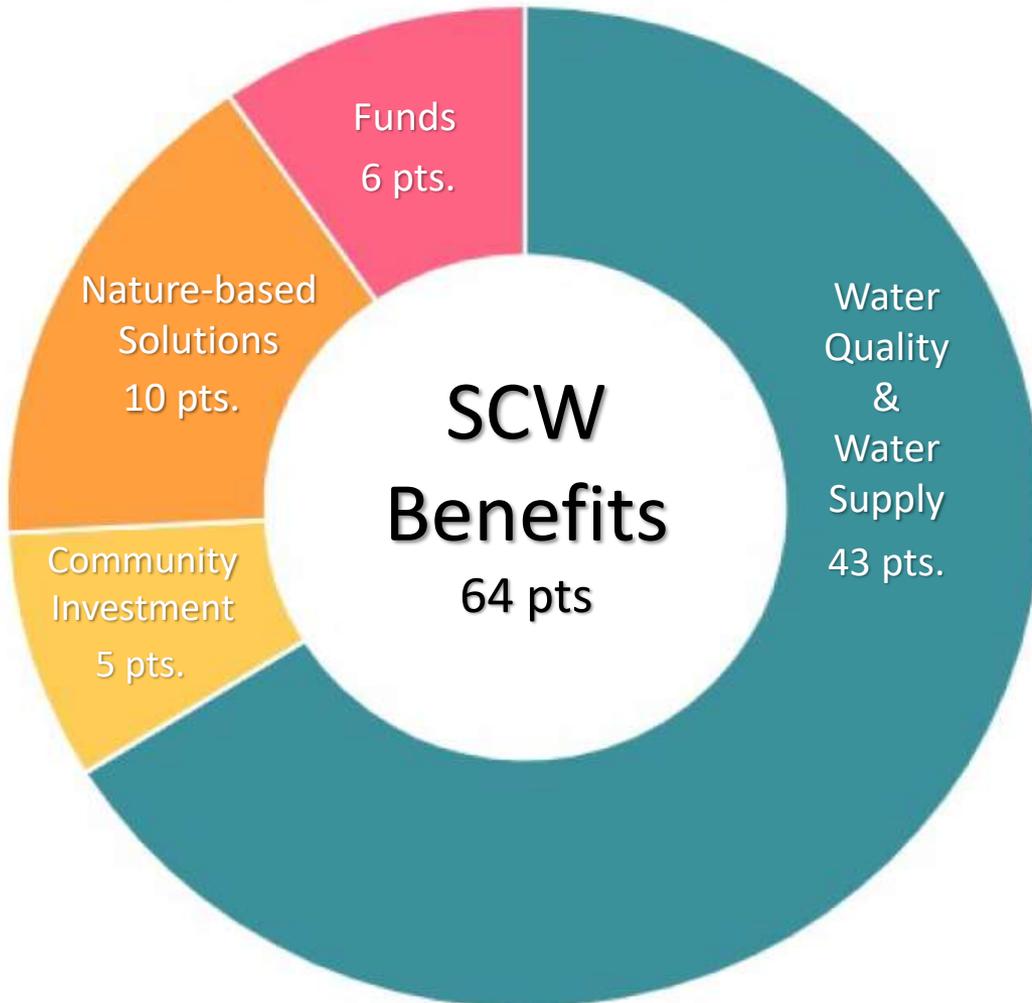
for the Upper Los Angeles River Watershed

Prepared for

*Upper Los Angeles River Watershed Management Group*



# Compton Blvd Et. Al. Project



## Water Quality

Pollutant reduction of metals and bacteria

## Community Investment

Community Enhancements

## Nature-based Solutions

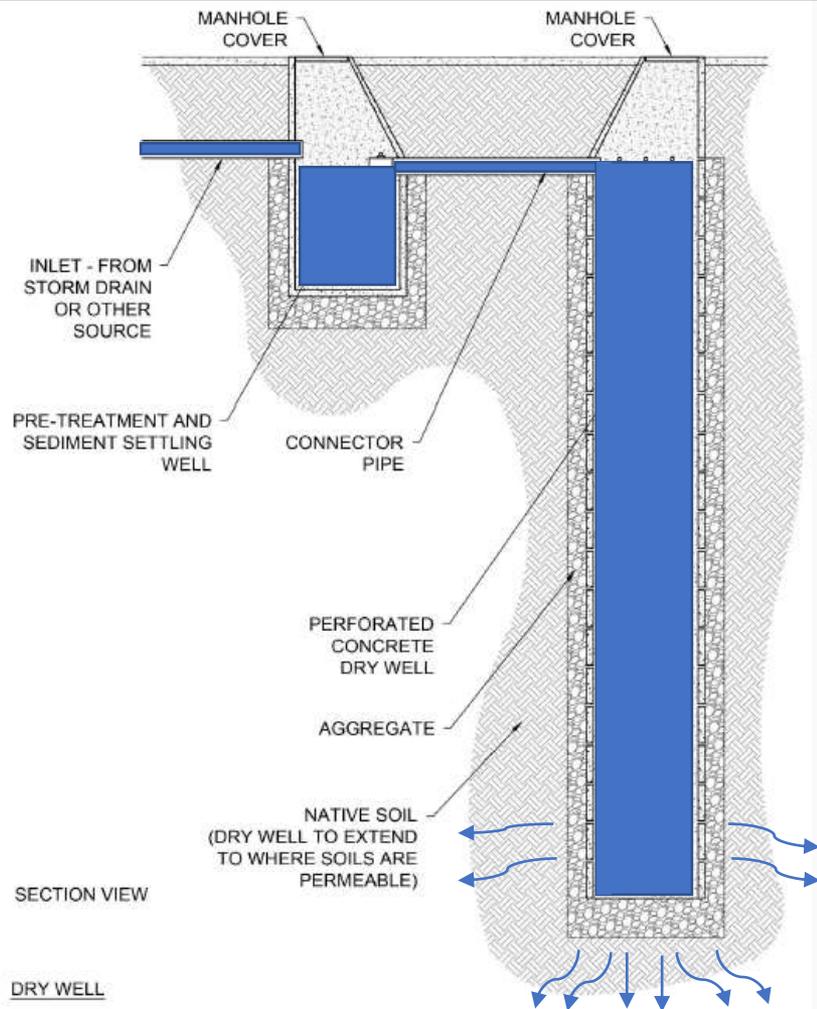
Natural process and materials

## Leveraging Funds

Project partnerships and community outreach



# Compton Blvd Et. Al. Project



## Infiltration System

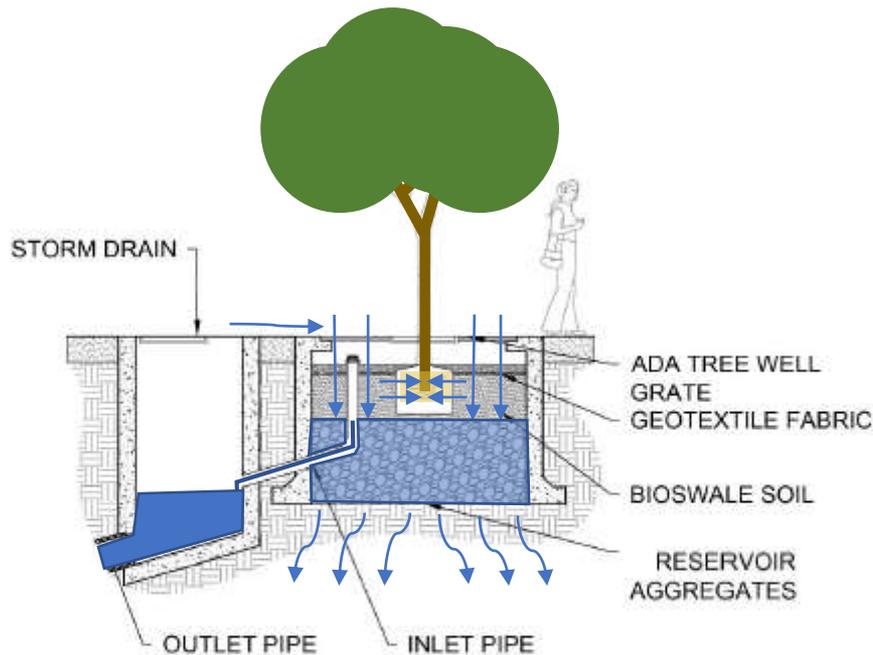
- Diversion from Storm Drain
- Pre-treatment and drywells
- 4 acre-ft capacity (85<sup>th</sup> percentile storm)

# Compton Blvd Et. Al. Project



*Example photos of drywell installation*

# Compton Blvd Et. Al. Project



LONGITUDINAL SECTION VIEW

STORM WATER BIO-FILTRATION SYSTEM

## Surface Treatment

- Tree wells/ bioswales
- Natural materials/Nature-based solutions
- Biofiltration
- Perforated pipe

# Compton Blvd Et. Al. Project



## Road Improvements

- Road re-surfacing and re-construction

## Transportation Enhancements

- Curb ramp upgrades
- Curb extensions
- Sidewalk repairs
- Signal upgrades
- Crosswalk upgrades

## Community Enhancements

- Wayfinding signage
- Vegetation

# Compton Blvd Et. Al. Project



## Community Coordination and Outreach

Supervisory District 2

Gateway Cities Council of Governments

County of Los Angeles Public Library

LA County Department of Parks and Recreation

E. Rancho Dominguez Neighborhood Association

CHP/Sheriff

City of Compton



# Compton Blvd Et. Al. Project

## Preliminary Cost Estimate (Stormwater Features) and Schedule:

Phase	Cost	Completion
Planning & Design	\$ 400,000	Early 2021
Construction	\$ 8,000,000	Mid 2022
<b>Total Estimate</b>	<b>\$ 8,400,000</b>	

Request	FY
\$1.5M	2021-22
\$1.5M	2022-23
<b>\$3M</b>	

Operation and Maintenance: Los Angeles County

# Compton Blvd Et. Al. Project



**Thank You**

**Los Angeles County Public Works**

**Joe Venzon, P.E.**

**[jvenzon@pw.lacounty.gov](mailto:jvenzon@pw.lacounty.gov)**

**(626) 300-2630**



# Furman Park Stormwater Capture and Infiltration Project

(Total Funding Requested: \$14,625,000)

City of Downey | Presented by John Hunter (JLHA) & Oliver Galang (Craft Water)

Lower Los Angeles River Watershed Area Steering Committee

February 25, 2020

# Overview

- Project Lead: City of Downey
- Furman Park is a community park in the City of Downey
- Major project elements include the:
  - Installation of an 8.4 acre-foot capacity storage reservoir and infiltration facility
  - Removal and enhancement of the existing tee-ball field and picnic shelters
  - Refurbishment of the parking lot with a vegetated bioswale or equivalent nature-based LID BMP
- The project has a drainage area of 475 acres



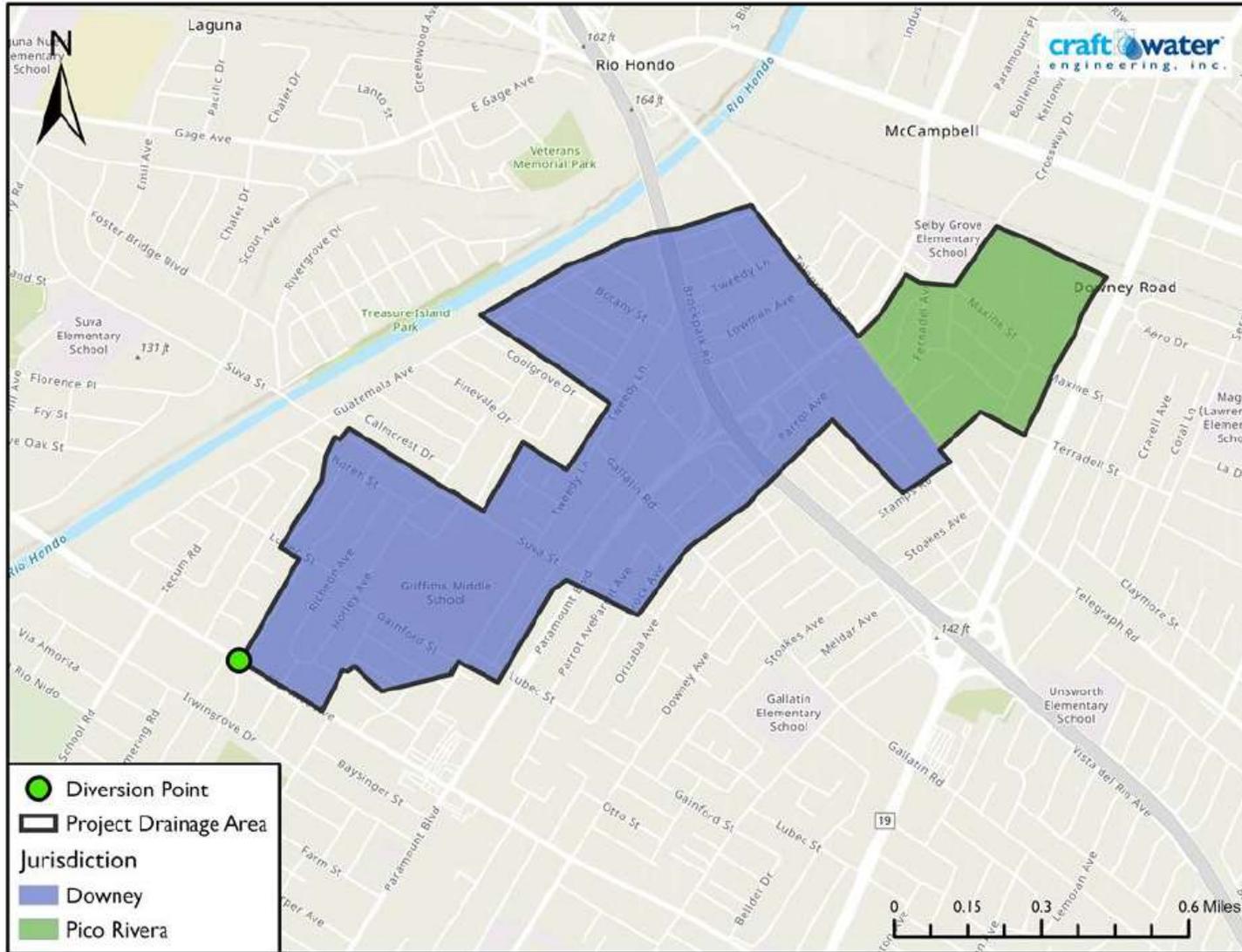
## Infiltration

- Excellent for infiltration:
  - 18 inches per hour at 10 feet
  - 51 inches per hour at 35 feet

# Lower Los Angeles River Watershed Area



Project Area



## Drainage Area

Jurisdiction	Area (acres)
Downey	394
Pico River	81
<b>Total</b>	<b>475</b>



## Lower Los Angeles River Watershed Management Program

*June 12, 2015*  
*1st Adaptive Management*  
*Revision: August 25, 2017*

Prepared For:

**Lower Los Angeles River Watershed Group**

Prepared By:



## Lower Los Angeles River Watershed Management Program (LLAR WMP)

- Conditionally approved on April 28, 2015 and subsequently approved on July 21, 2015
- Consists of the following permittees: Downey, Lakewood, Long Beach, Lynwood, Paramount, Pico Rivera, Signal Hill, South Gate, Los Angeles County Flood Control District
- Outlines the path to achieving compliance with the MS4 Permit
- Listed on the OPTI database

SCWF

Downey Furman Park Stormwater Capture Feasibility Study

# Preliminary Design Report – Downey Furman Park

December 9, 2019

Downey Furman Park

The LLAR Watershed Management Group previously contributed **\$70,000** for the development of 10% design plans and a preliminary design report





FLORENCE AVE

FLORENCE AVE

Existing LACFCD Storm Drain (96" RCP)

Storm Drain Diversion (50 cfs)

Actuated Valve

IRWINGROVE DR

IRWINGROVE DR

OLD RIVER SCHOOL ROAD

Underground Storage Facility (8.4 AF, 2.7 MG)

Pre-Treatment Unit

Nature-based Landscaping

JULIUS AVE

Pump to storm drain or Stormwater Harvesting Unit

WILEY BURKE AVE

FARM ST

Stormwater Harvesting Unit

RIVES AVE

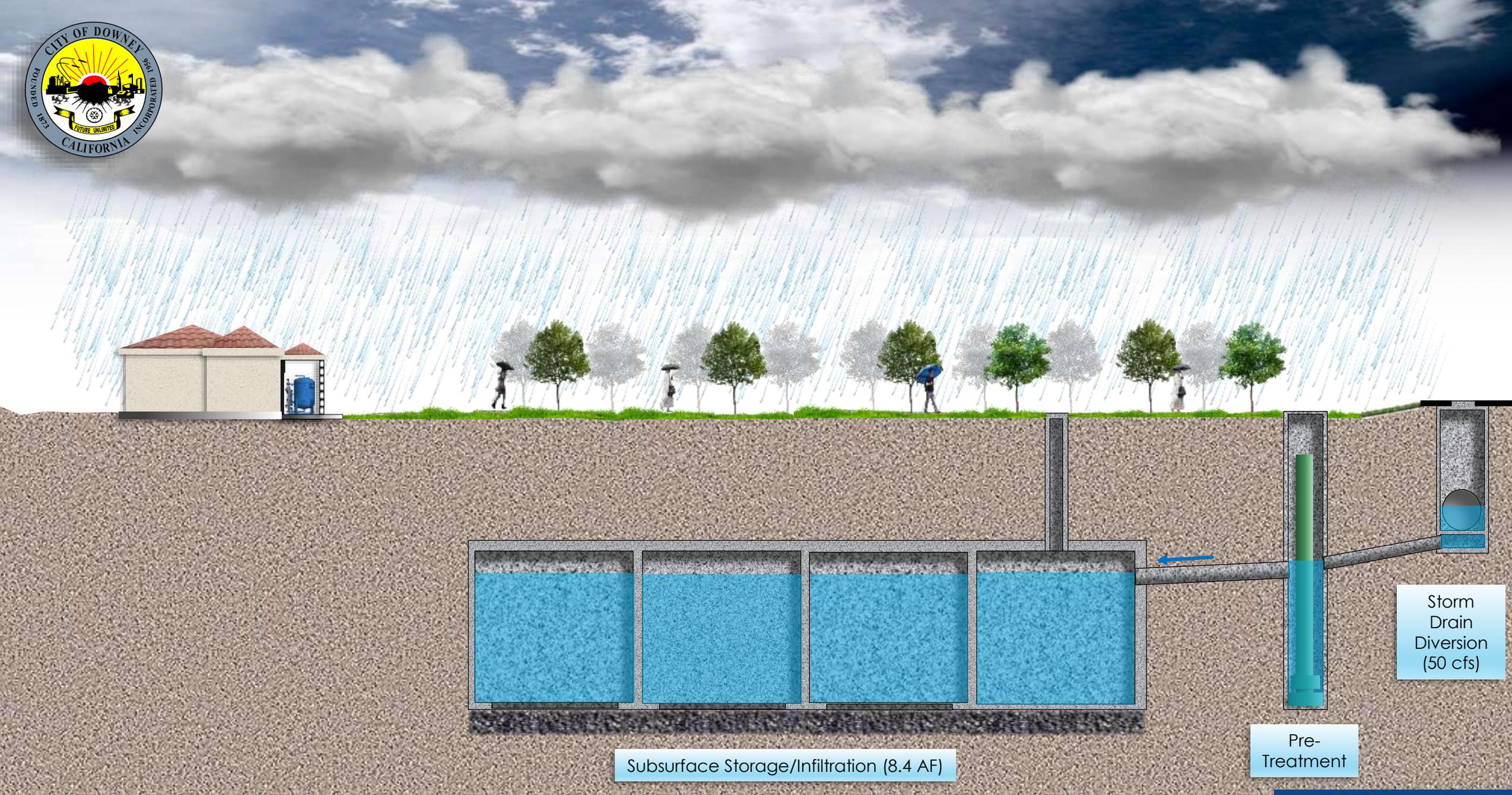
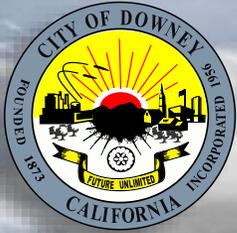
8<sup>TH</sup> ST

QUINN ST

Existing LACFCD Storm Drain (33" RCP)







# Downey Furman Park Stormwater Capture Project | SCHEMATIC DIAGRAM



## Water Quality & Supply Benefits

- The project will entail the construction of a regional stormwater capture and infiltration facility with a **drainage area of 475 acres**
- The project will address **total zinc** as the primary pollutant and **bacteria** as the secondary pollutant (both identified in the LLAR WMP)
- **Pretreatment** will be an integral component of the treatment train strategy to extend the life of the system
- The storage reservoir will have a **capacity of 8.4 acre-feet**, and the infiltration of water into the subsurface and eventual water table will provide final pollutant removal
- The **vegetated bioswale** or equivalent LID BMP near the **parking lot** will promote infiltration of runoff into the subgrade and eventually to the groundwater table

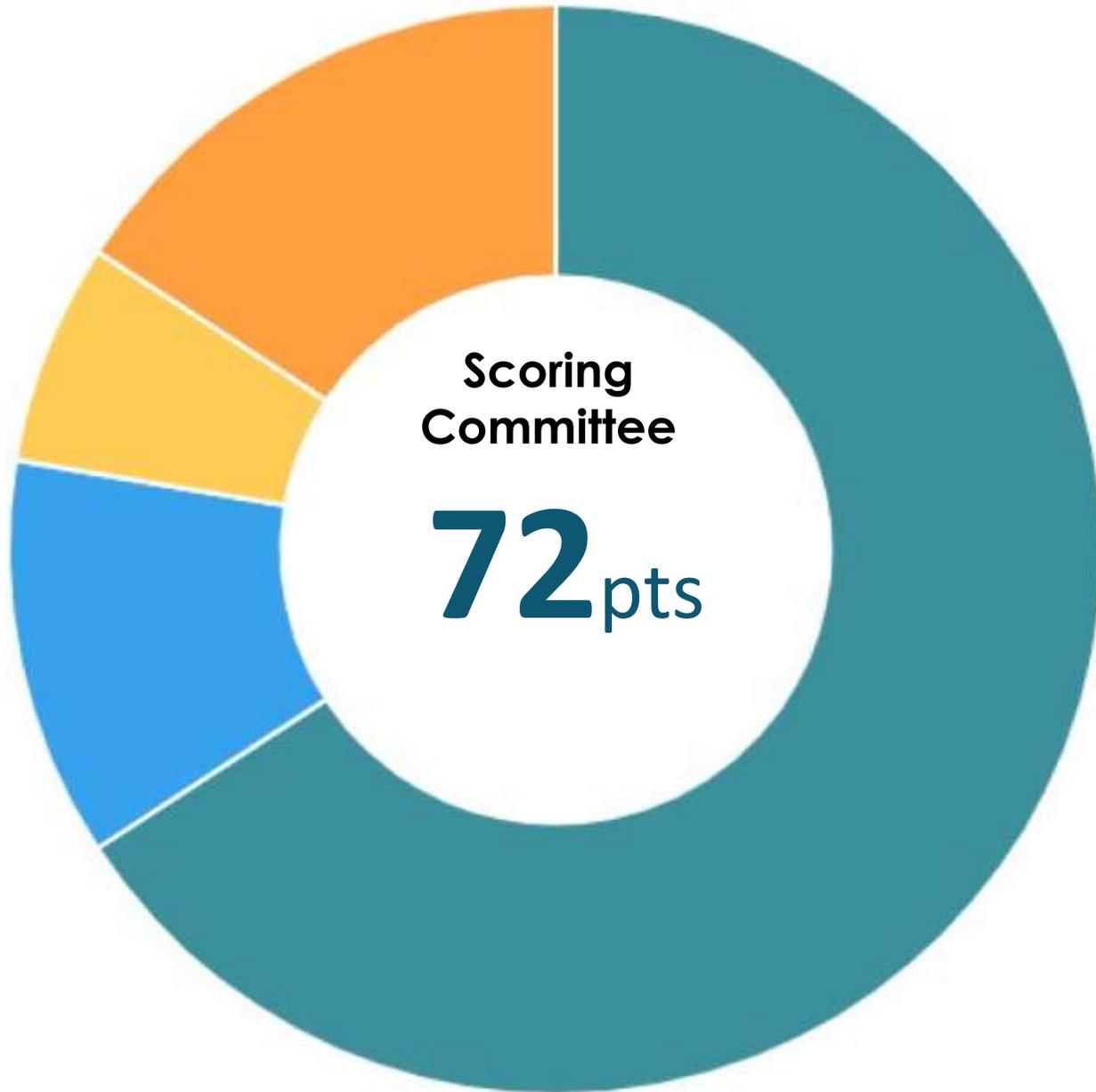
# Funding Requested

- Total SCW Funding Requested: **\$14,625,000**
  - FY 20-21: \$3,800,000 for final design plans, CEQA, permitting, and initial construction
  - FY 21-22: \$7,000,000 for construction
  - FY 22-23: \$5,400,000 for construction and replacement of surface structures
  - FY 23-24: \$50,000 for O&M and monitoring
- The City of Downey intends to commit up to 10% in city matching funds for the project



## Community Investment Benefits & Nature Based Solutions

- **Improved flood risk mitigation/management**
- **Enhanced park space**
- **Improved recreational opportunities** (e.g. new tee-ball field surfaces, modernization of picnic structures)
- **Reduced heat island effect** through the planting of additional native trees, shrubs, and grasses
- **On-site infiltration** through the installation of a vegetated bioswale or equivalent LID BMP near the parking lot



## Scoring Summary

-  Water Quality
-  Water Supply
-  Community Investment
-  Nature-Based Solutions



Questions?

**SAFE, CLEAN WATER PROGRAM**

Watershed Area Steering Committee

# RANCHO LOS CERRITOS

LOOKING BACK TO ADVANCE FORWARD

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**\$2,000,000**

**ALISON BRUESEHOFF**

Rancho Los Cerritos

**TRAVIS TAYLOR**

P2S Inc.

**KIRK KELLER**

Studio One Eleven



## Project **SUMMARY**

Looking Back to Advance Forward is a revolutionary stormwater reclamation project that will use a combination of cutting-edge technology and Rancho period water reclamation techniques to capture up to 95% of the rainwater that falls on the property. In addition to the project itself, there will be educational programming that will enhance the experience for all visitors of all ages.

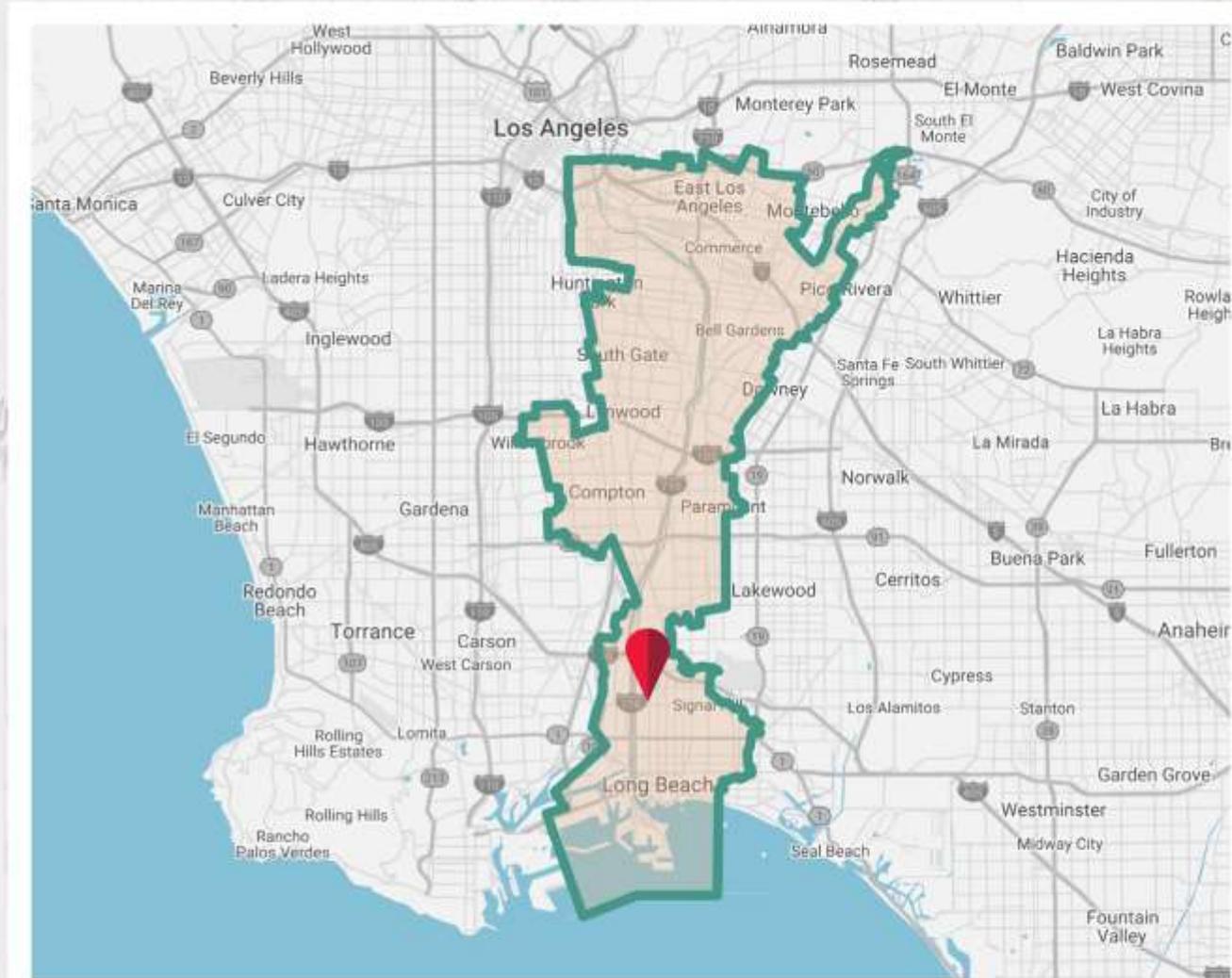


RANCHO LOS CERRITOS

RANCHO LOS CERRITOS

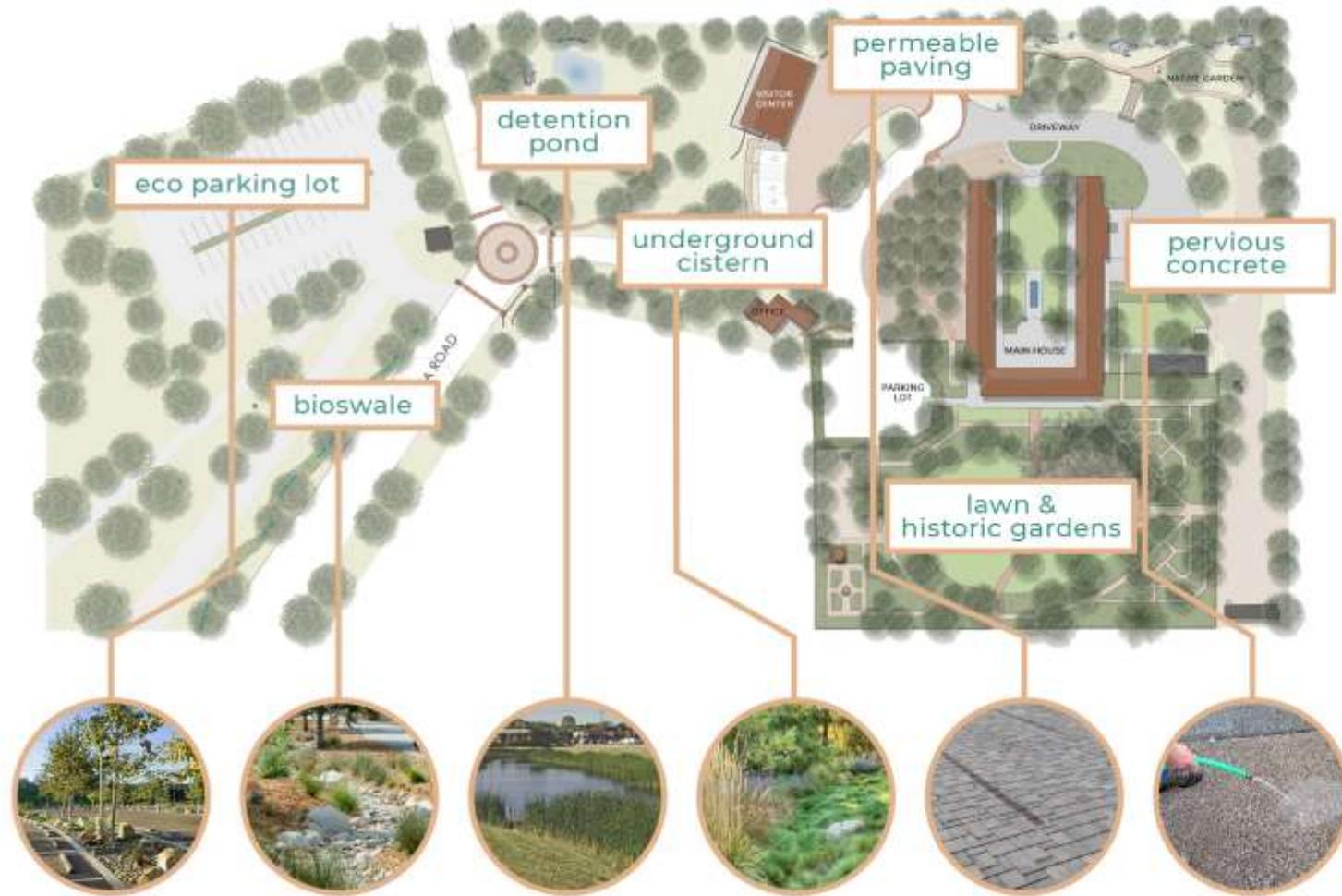
## Project LOCATION

- The site area: 4.7 acres comprised of 143,000 SF of mixed landscaping and historic gardens, 19,000 SF of decomposed granite, 25,000 SF of paved roadway and 16,000 SF of buildings.
- Based on an average rainfall of 12.25" per year, The Rancho receives 276,000 cubic feet of rainfall across the entire site annually.
- The current site can retain roughly 40% of rainfall onsite through purposeful plant selection.

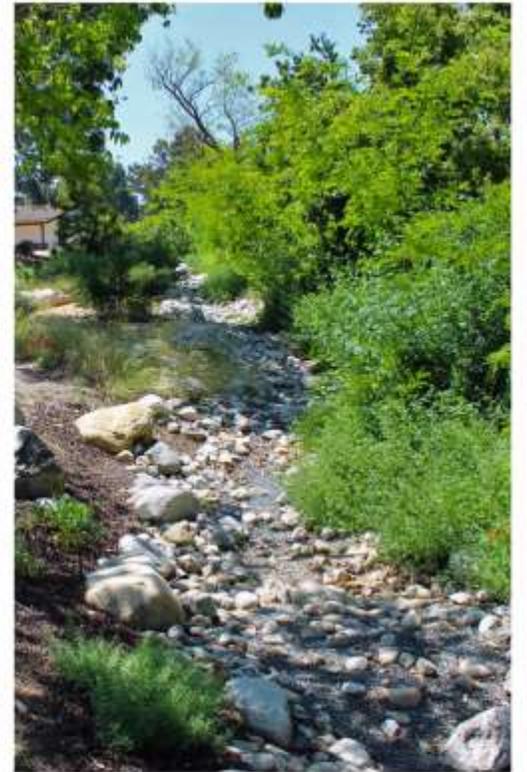


- Lower Los Angeles River Watershed Area
- Receiving Water: San Pedro Bay

# Nature Based SOLUTIONS



Stormwater BMP's



There is no storm drain system



## Community **EDUCATION BENEFITS**

- Our public education programs offer a living classroom setting to visitors from Southern California - and beyond
- Our goal is to link our water conservation efforts to our educational programming. We will develop a water education curriculum designed for various grades, including pre-k through college-level learners and integrate our educational objectives into our public tours.
- We will offer innovative & immersive programs that weave together history, the arts and STEM initiatives.
- Develop partnerships with academic institutions to create a research-based case study.

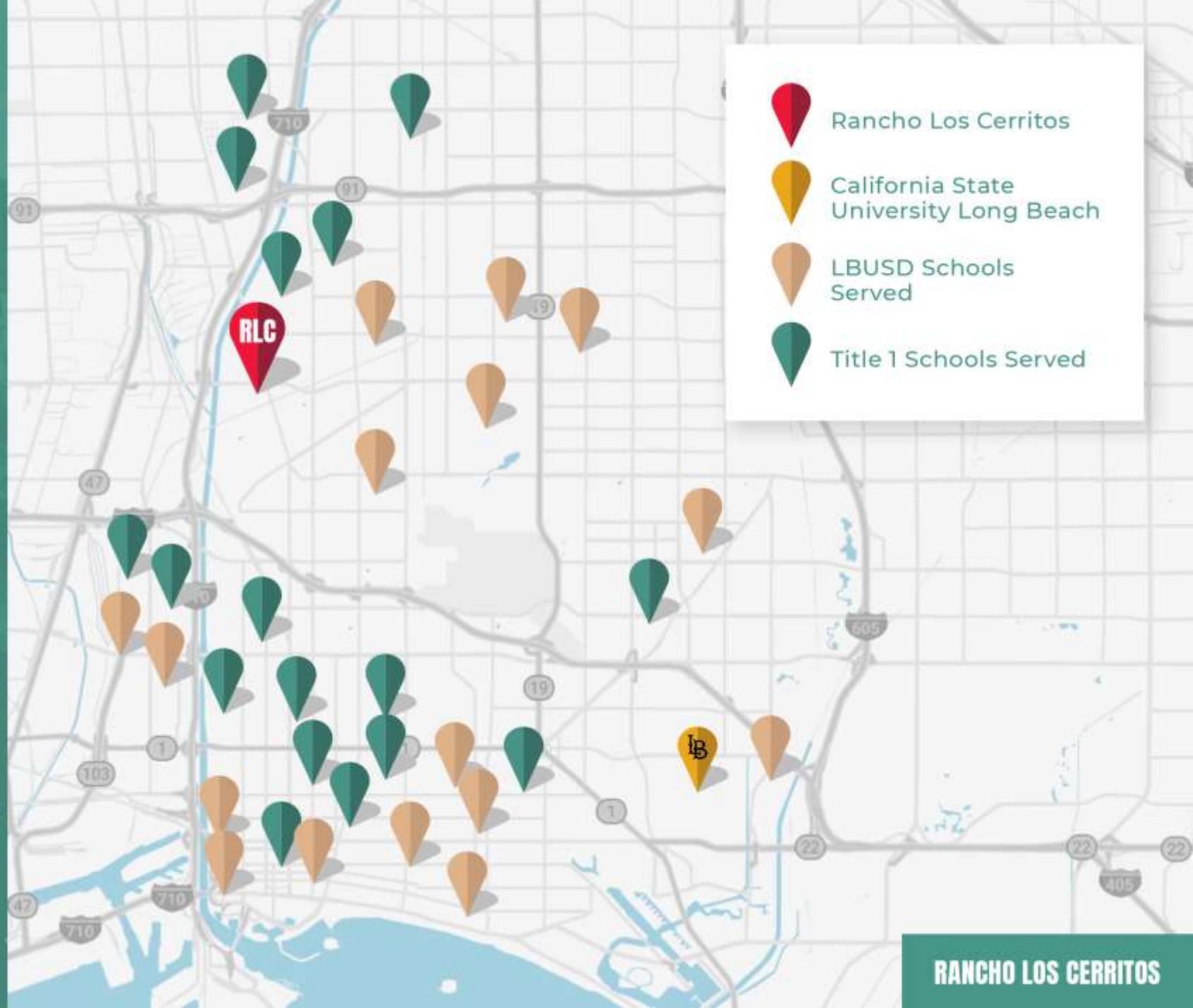


# Community EDUCATION BENEFITS

- 29 LBUSD Afterschool Childcare Programs including WRAP and CDC
- Partnership with CSULB
- A total reach of 7000 schoolchildren

## 17 Districts Served:

Long Beach Unified, Los Angeles Unified, Bellflower, Lakewood, Huntington Beach, Cypress, Orange, Torrance, Garden Grove, Wilmington, Los Alamitos, Compton, Downey, Temple City, El Monte, Paramount, Artesia and the ABC School Districts.



## Environmental **BENEFITS**

- Water Reclamation project will allow RLC to retain 95% of rainwater through capture and infiltration.
- Reduce stormwater run-off and its impact on the immediate neighbors and our historic gardens.
- Run-off captured on Virginia Road will mitigate flooding and reduce pollutant flow.
- The project will help RLC acquire a California Green Business Network Certification - we would be the first museum/attraction to be certified in Los Angeles County, as well as all of Southern California, and would be only the 13th to be certified in the entire state.
- Improve water quality in the San Pedro Bay by nearly eliminating run-off and treating stormwater on-site.



# Pollutant REDUCTION



## Percent Removal by Strategy

	Cistern with Treatment	Permeable Pavement	Vegetated Swale
ZINC	70	>90	85
BACTERIA	60	>90	NA
TSS	90	>90	77

We are proposing to capture and reuse, on-site, all of the first 0.25 inch of a rain event. Reuse on-site equates to 100 percent removal for this 0.25 inch 'first flush'.

## Technology & INNOVATION

- With the use of high-tech visual aids, guests will learn about the methods used to capture and treat stormwater.
- We seek to lead the charge in modernizing our site and making it more accessible with interactive/immersive educational components.
- The City of Long Beach is a leader in innovation - this project reflects credit upon the entire city, not just Rancho Los Cerritos.
- We will be a case study for water use on cultural/community/historic sites, setting the standard and inspiring other cultural sites to implement stormwater capture and wise water usage.





## Diversity, Equity & **INCLUSION**

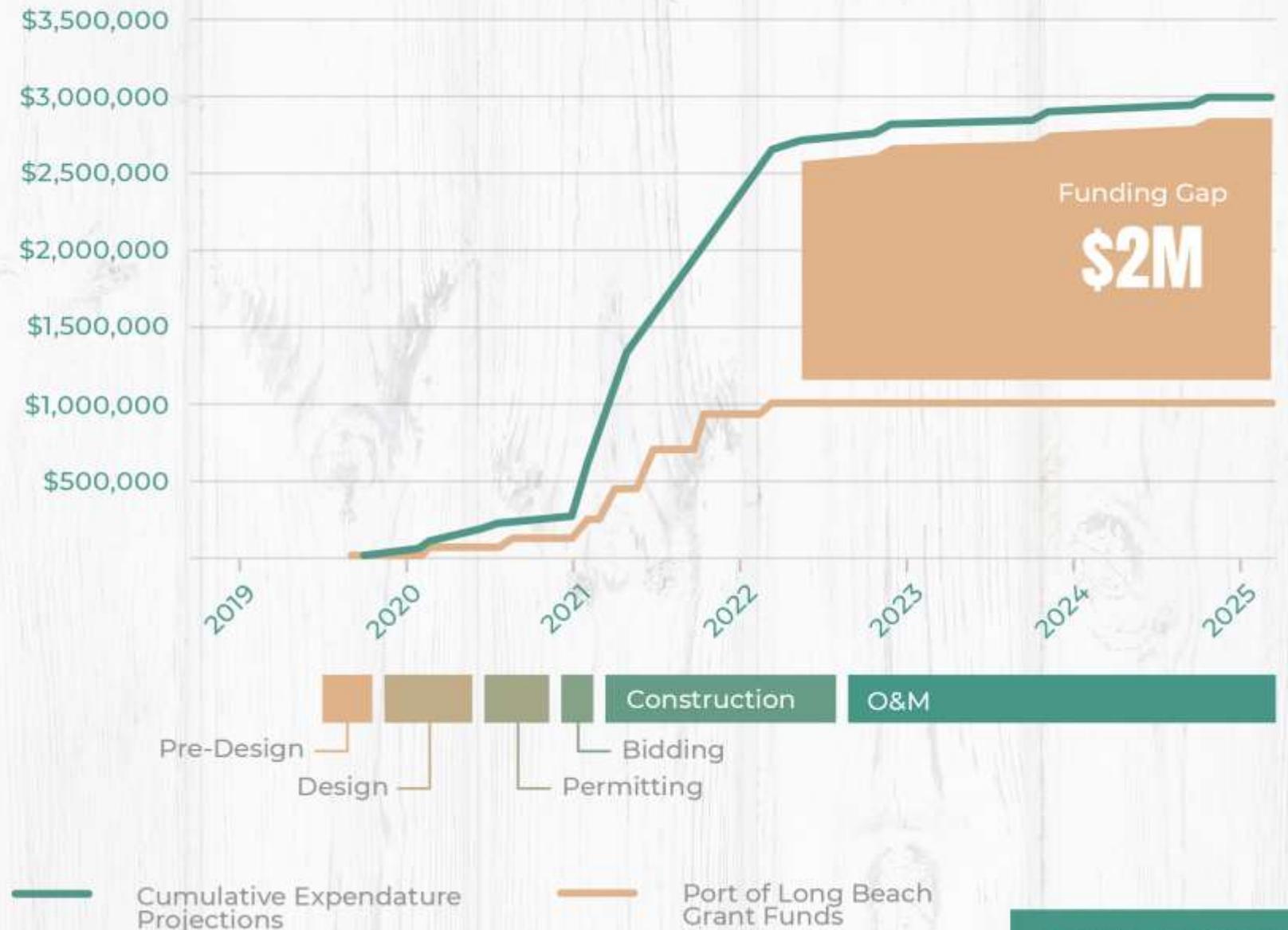
- Rancho Los Cerritos' mission is to view our work and the community we serve through the lens of diversity, equity, inclusion and accessibility.
- Of the 7,000 students we serve, approximately 65% are socioeconomically disadvantaged (DAC).
- We have expanded our community outreach both in person and digitally making our information accessible to our diverse community with a digital reach of 50,000 accounts annually.
- Public tours and educational programs are available in multiple languages for learners of all ages.
- Our site is ADA accessible and we are becoming more accessible to blind and deaf guests, through the use of technology/digital tours.

## 5 Year look Ahead SCHEDULE

The project is included in the following:

- Adaptive Management section of the Lower Los Angeles River (LLAR) Watershed Management Group's (WMG) Watershed Annual Report for Reporting Year 2018-19
- LLAR WMG biennial Adaptive Management Report
- Revised LLAR Watershed Management Plan (WMP) community/historic sites, setting the standard and hopefully inspiring other cultural sites to use the same practices as we do - wise water usage.

## Expenditure Projections



# Local, State & National HISTORICAL LANDMARK

- U.S. National Historical Landmark
- California Historical Landmark
- Long Beach Historical Landmark



The Rancho aspires to become a national model and leader for historic sites with this project and teach responsible stewardship for the environment.

# THANK YOU

Thanks to Our  
**PARTNERS**

CITY OF  
**LONG BEACH**



Part of  
**LONG BEACH**  
The Green Plan



**WRD**  
Water Resource Department  
www.wrdb.com



**20** YEARS OF  
**COASTKEEPER.**



**Historical Societies of Long Beach**



**LONG BEACH**  
SUSTAINABILITY

**rancho**  
100+ PARTNERS. Counting on us for water.  
100% Recycled and 100% Reusable

**p2s** INC

**RANCHO LOS CERRITOS**



SAFE CLEAN WATER L.A.

# Hollydale Regional Park Green Infrastructure Development Project

**Managing Director - Claire Robinson**  
**Amigos de los Rios / Emerald Necklace Group**  
[claire@amigosdelosrios.org](mailto:claire@amigosdelosrios.org)

**Total Funding Requested: \$343,840**

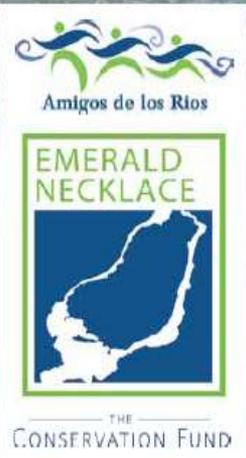
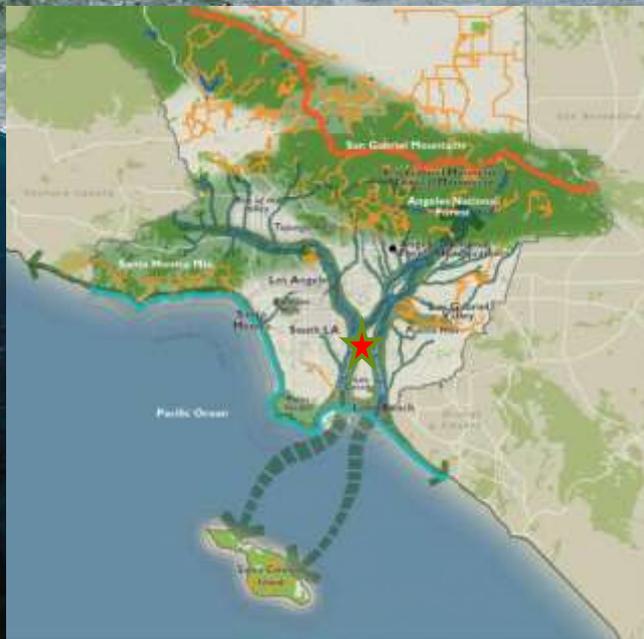


**EMERALD  
NECKLACE**



# EMERALD NECKLACE FOREST TO OCEAN EXPANDED VISION PLAN:

*Towards a Common Vision*



The Emerald Necklace Forest to Ocean Expanded Vision Plan: Towards a Common Vision  
Funded by: The Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal  
Protection Bond Act of 2006 Proposition 84 and the State of California Strategic Growth Council



© 2014 Amigos de los Rios

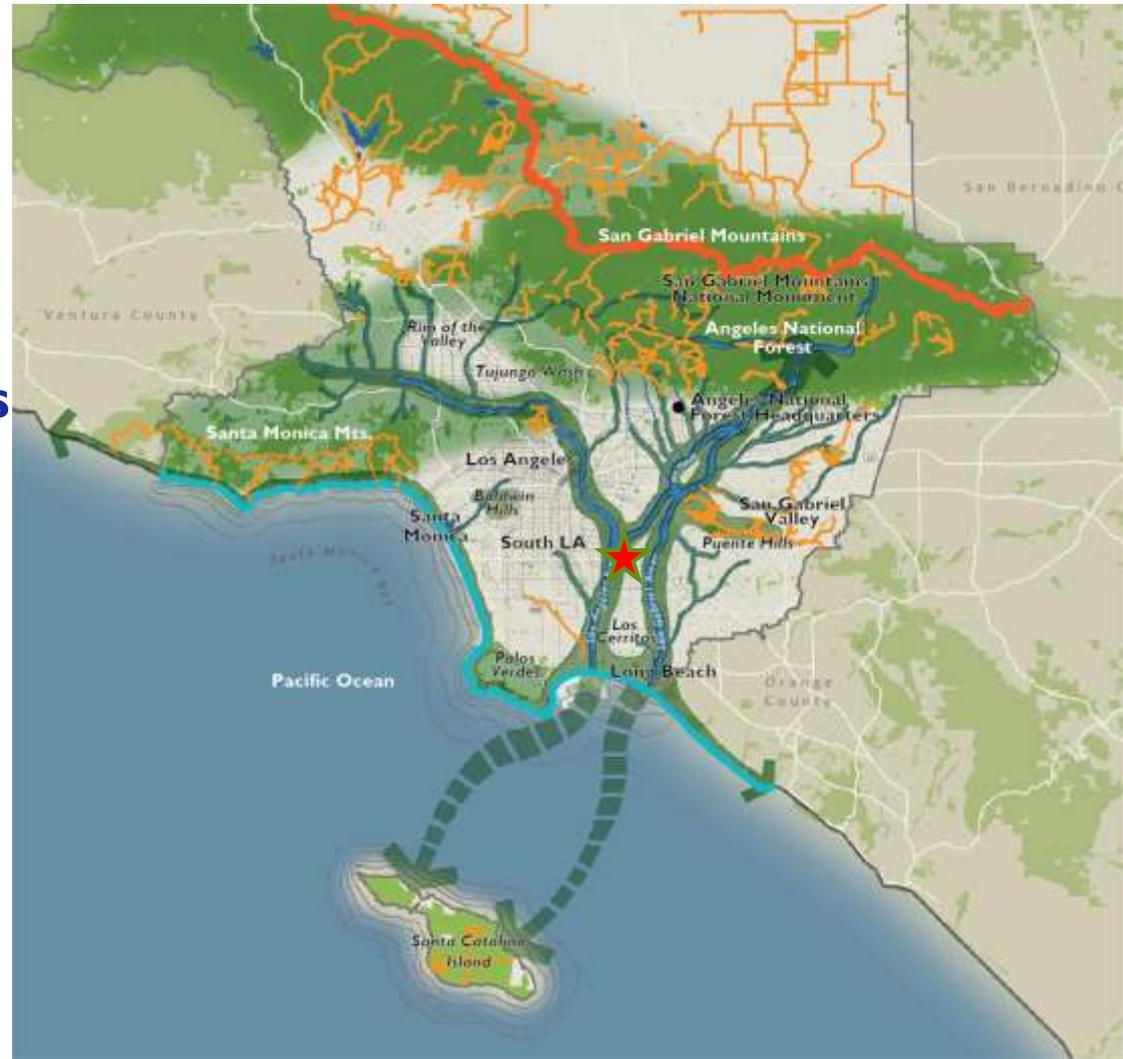


AMIGOS DE LOS RIOS

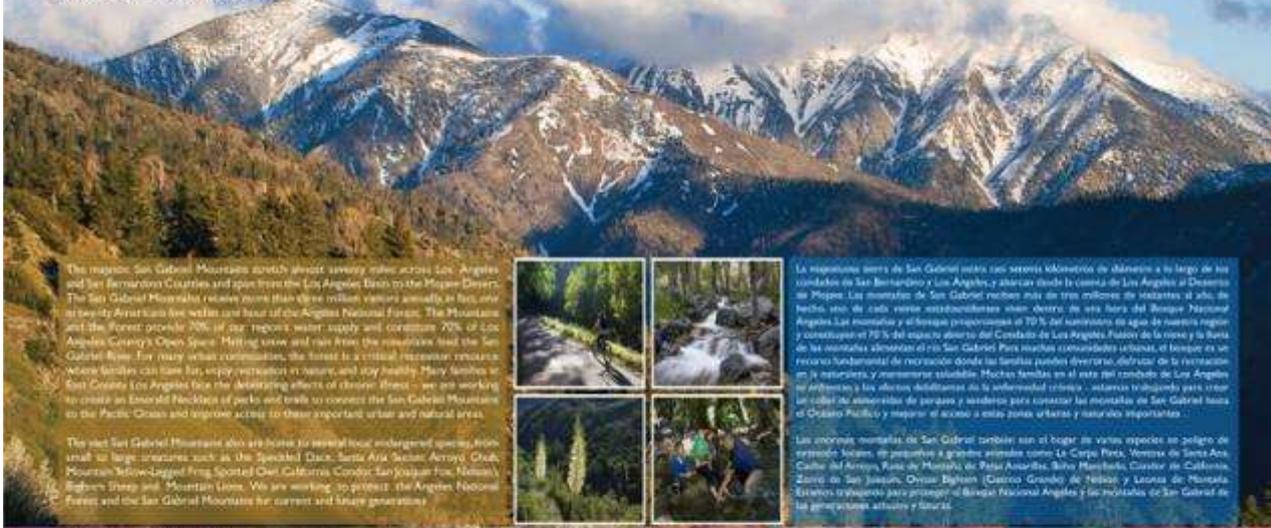
EMERALD  
NECKLACE

## WATERSHED APPROACH Olmsted Bartholomew Plan 1930 Founded 2003

**501(c)3 non-profit organization committed to protecting water resources, restoring open space & natural resources in our urban environments by creating an 'Emerald Necklace' Green Infrastructure network of sustainable parks, trails and schools throughout the Los Angeles Basin from the Mountains to the Sea.**



# Mountains to Sea



The majestic San Gabriel Mountains stretch almost seventy miles across San Angeles and San Bernardino Counties and open from the Los Angeles Basin to the Mojave Desert. The San Gabriel Mountains release more than three million gallons of rain water annually that runs five miles east toward the Angeles National Forest. The Mountains and the forest provide 70% of our region's water supply and contain 70% of Los Angeles County's Open Space. Hiking snow and rain from the mountains to the San Gabriel River. For many what constitutes the forest is a critical resource where families can hike far, enjoy recreation in nature, and stay healthy. Many families in San Gabriel Los Angeles face the debilitating effects of chronic illness - we are working to create an Emerald Necklace of parks and trails to connect the San Gabriel Mountains to the Pacific Ocean and improve access to these important urban and natural areas.

The wet San Gabriel Mountains also are home to several local endangered species that must be kept safe from such as the Spotted Owl, Santa Ana Siskin, Arroyo Owl, Golden Mountain Meadowlark, Song Sparrow, Golden-crowned Kinglet, San Joaquin Fox, Northern Red-tailed Squirrel, and Mountain Lion. We are working to protect the Angeles National Forest and the San Gabriel Mountains for current and future generations.



La majestuosa Sierra de San Gabriel cubre casi setenta kilómetros de diámetro a lo largo de los condados de San Bernardino y Los Angeles y abarca desde la ciudad de Los Angeles al Desierto de Mojave. Las montañas de San Gabriel reciben más de tres millones de galones al año de lluvia, uno de cada veinte estadounidenses vive dentro de una hora del Bosque Nacional Angeles. Las montañas y el bosque proporcionan el 70% del suministro de agua de nuestra región y constituyen el 70% del espacio abierto del Condado de Los Angeles. Fuera de la nieve y la lluvia de las montañas dependen el río San Gabriel. Para muchos constituyentes urbanos, el bosque es un recurso fundamental de recreación donde las familias pueden divertirse, disfrutar de la recreación en la naturaleza, y permanecer saludable. Muchas familias en el este del condado de Los Angeles se enfrentan a los efectos debilitantes de la enfermedad crónica - estamos trabajando para crear un collar de áreas verdes de parques y senderos para conectar las montañas de San Gabriel hasta el Océano Pacífico y mejorar el acceso a estas zonas urbanas y naturales importantes.

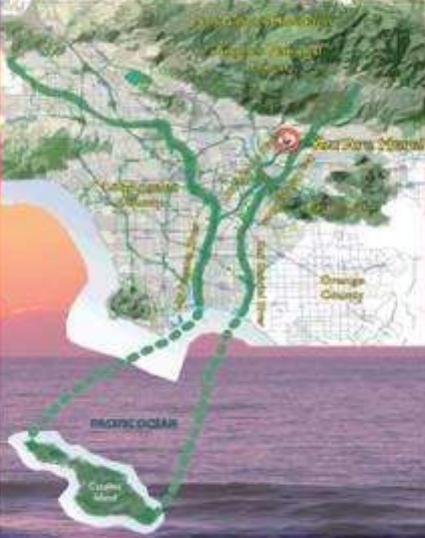
Las montañas húmedas de San Gabriel también son el hogar de varias especies en peligro de extinción locales, de particular a grandes especies como: Le Carpa Pinta, Venado de Santa Ana, Colibrí del Arroyo, Risco de Montaña, Petate Amarillo, Búho Montañés, Condor de California, Zorro de San Joaquin, Oso Negro, Castor Grande de Pellos, y Leona de Montaña. Estamos trabajando para proteger el Bosque Nacional Angeles y las montañas de San Gabriel de las generaciones actuales y futuras.

The map shows indicators where Park Water Conservation Park is located within the Emerald Necklace near the Rio Verde River.

The Emerald Necklace is a regional open space network designed to connect the San Gabriel Mountains to the Pacific Ocean. Please ask your permits to take you to the forest and ocean!

El mapa de arriba indica que el Parque de Conservación del Agua Park está situado en el Collar de Esmeralda, cerca del Rio Verde.

El collar de esmeralda es un red regional de espacio abierto diseñado para conectar las montañas de San Gabriel hasta el Océano Pacífico. Por favor, piden a sus permisos que visiten el bosque y el mar!



### ENDANGERED SPECIES

The San Gabriel Mountains serve as habitat for many threatened and endangered species which include the Mountain Lion, Golden-crowned Kinglet, Santa Ana Siskin, Arroyo Owl, Spotted Owl, San Joaquin Fox, Northern Red-tailed Squirrel, and Mountain Lion. These are also three species of fish that inhabit the San Gabriel River: the Spotted Owl, Santa Ana Siskin, Arroyo Owl. Please visit getting to know these creatures and helping us to create and protect habitats that support sustainable recreation and a sustainable future for our region.

Las montañas de San Gabriel sirven de hábitat para muchas especies amenazadas y en peligro, que incluyen al León de Montaña, Búho Montañés, Condor de California, Zorro de San Joaquin, Oso Negro, Castor Grande de Pellos, y Leona de Montaña. Estas son tres especies de peces que habitan el río San Gabriel: La Carpa Pinta, Venado de Santa Ana, Colibrí del Arroyo. Por favor, visiten de conocer a estas especies y ayudar a crear y proteger los hábitat que apoyen recreación sostenible y un futuro sostenible para nuestra región.



# Emerald Necklace



# First People's Knowledge



## Life along the River TONGVA

Rio Vista Park  
Emerald Necklace  
Rio Hondo/Los Angeles River



The man was hunting water fowl with nets and a boat. The women are gathering duck eggs.

The Tongva/Gabrieleno lived, for thousands of years, in the area that is now covered by Los Angeles County and parts of Orange County. They started each day with a prayer to bring out the sun and bathed in the waters of the river. Food was abundant and men chanted while fishing and hunting, women sang while they gathered plums, seeds, and shell fish, and children laughed while playing in the river. The sound of Shamans chanting in their sacred-house was ever present. If you listen closely, you can still hear the Shamans' chants in the wind and their whispers in the water.



After gathering, the men are pulling down the net and the women are drying the items in gathering baskets.

Tongva/Gabrieleno hunted and fished the sea in great red wood and pine bark canoes called Te-oix and fished along the shore using large tule canoes. They also crossed to the island areas to trade with their fellow Tongva who chose to inhabit the island areas.

They spent the months from spring to fall gathering food and preparing it for the rest of the year. They also gathered reeds and

grass to make the different items they needed for daily life. Their houses were dome shaped, and were made by bending and tying willow branches into the shape needed and river reeds and grasses were then attached as thatching. The domes had one entrance and a "smoke hole" in the ceiling to let out the smoke from the small fire that was used for light and for keeping warm.

Plants and animals could not be collected or hunted unless prayers were made to ask the permission of the plant and animal people. Songs were sung and melodies were hummed to ensure the goodness of the food and to maintain the all important balance and connection in nature.

Tongva/Gabrieleno, through their culture and rituals, have marked an important era in the history of this area and their significance will forever be present.

### Hunting Tools and Artifacts





# OLMSTED BARTHOLOMEW 1930

Comprehensive trail & greenway  
network for LA Basin

ANGELES NATIONAL  
FOREST



## The Olmsted Vision



EXISTING PARKS

PROPOSED GREENWAYS – URBAN RIVER CORRIDORS

BEACHES & COASTAL TRAIL

ANGELES NATIONAL FOREST

SCHOOLS OVER 5 ACRES

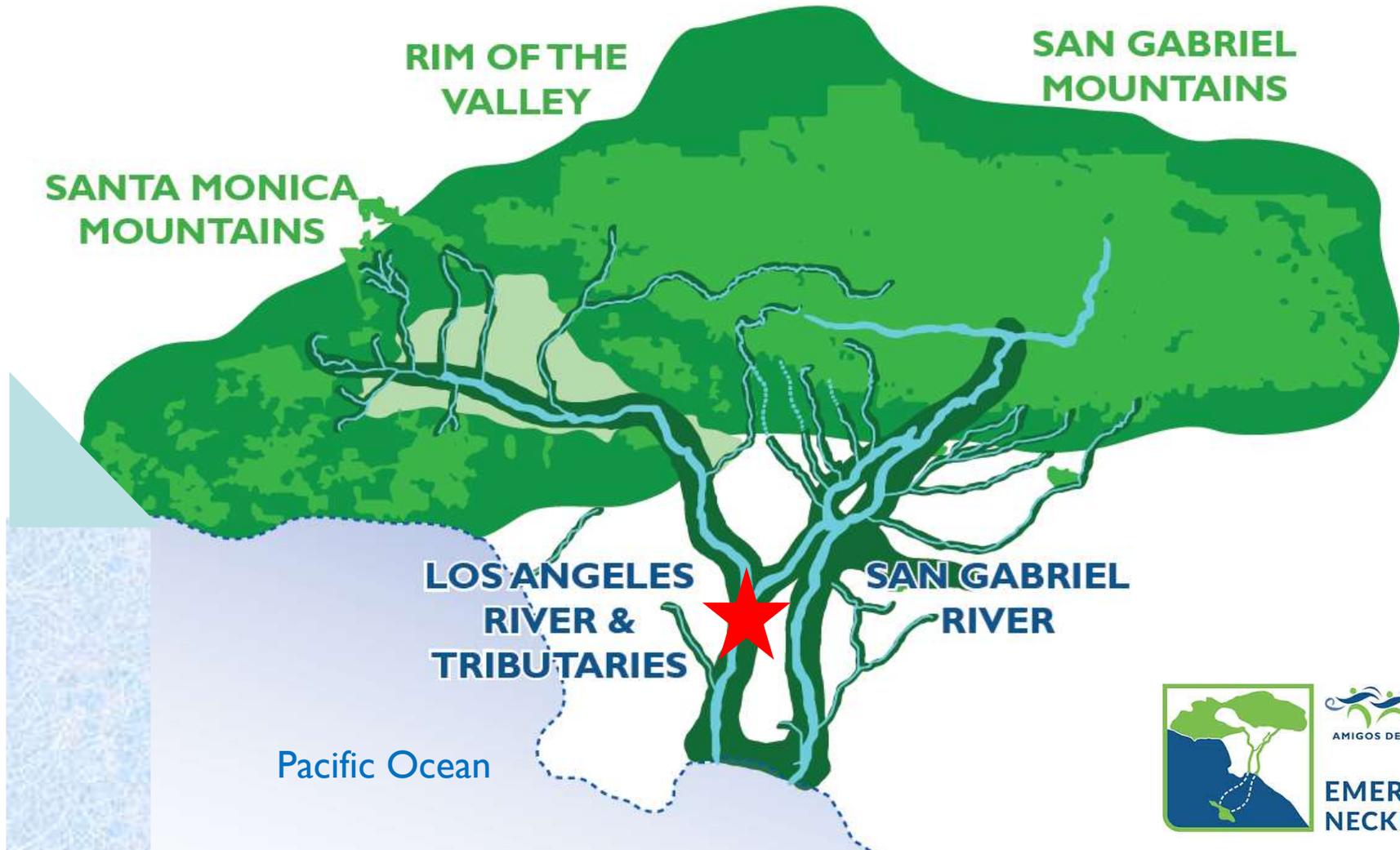


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CC-BY-NC-SA  
The City Project  
www.cityprojectca.org

Map by GreenInfo Network, www.greeninfo.org



# Los Angeles Basin – “BIG PICTURE”



# Green Infrastructure



SAFE CLEAN WATER L.A.



AMIGOS DE LOS RIOS

EMERALD  
NECKLACE

Water Resources  
Stormwater Mgt

Open Space  
Recreation Access

Sustainable  
Transportation

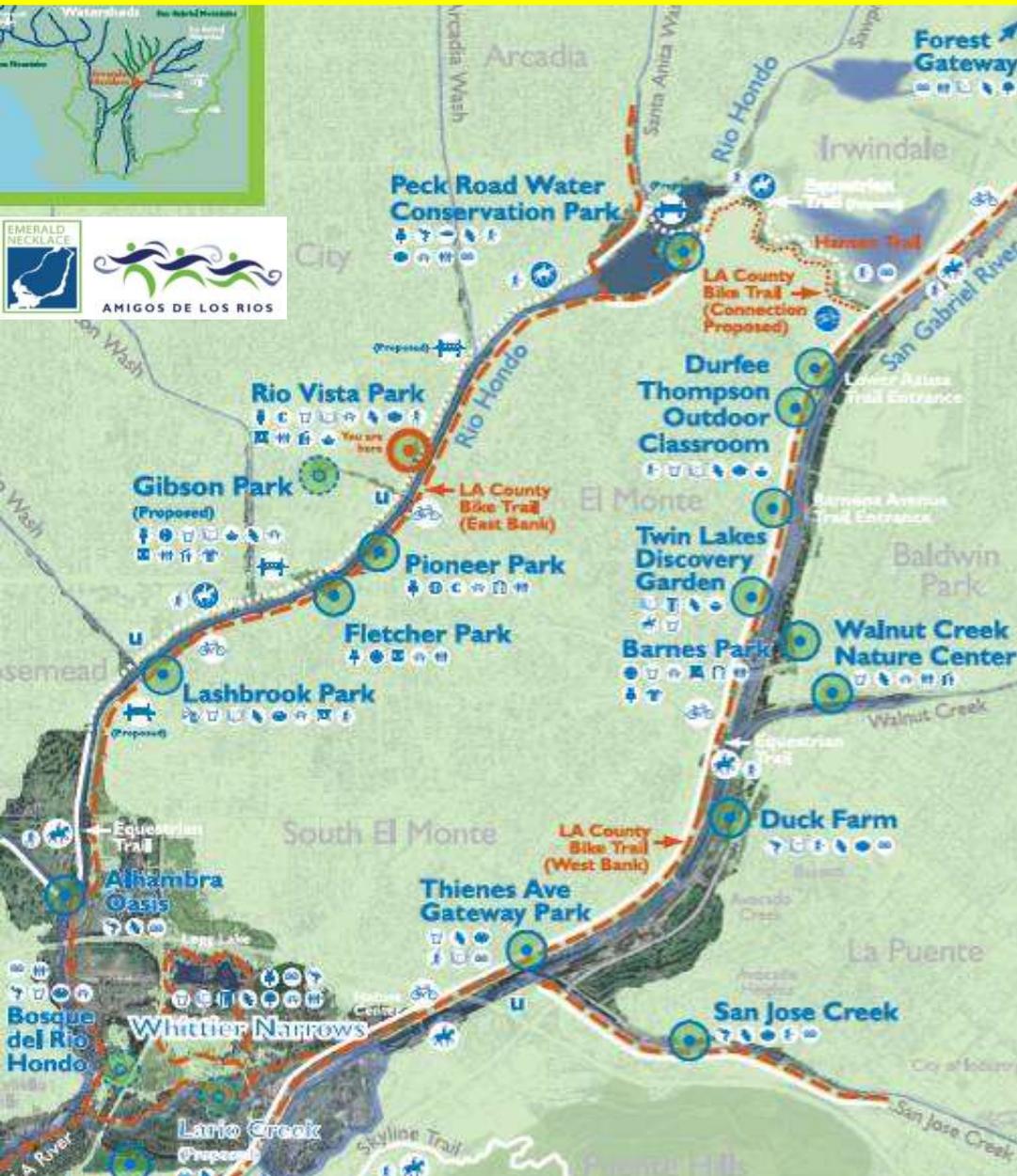
Biodiversity  
Habitat Corridors

Climate Response  
Resilient Communities

Green  
Infrastructure  
& Public  
Health

# CONVERGENT GREEN INFRASTRUCTURE PLANNING

# URBAN RIVER GREENWAYS



**PECK ROAD WATER CONSERVATION PARK**



**VETERANS MEMORIAL PARK**



**RIO VISTA PARK**



**LASHBROOK PARK**



**GIBSON MARIPOSA PARK**



**DURFEE THOMPSON PARK**

# EMERALD NECKLACE

# REGIONAL GOALS

## REGIONAL GOAL

- 1 Promote Active Transportation - Walking, Biking, and Alternative Commute Options
- 2 Create Functional and Multi-Purpose Natural (Green) and Built (Grey) Environment Networks
- 3 Improve Public Health by Expanding Access to Nature and Outdoor Recreation
- 4 Treat Water as a Multi-Benefit Amenity
- 5 Design and Build Communities Resilient to the Current and Projected Impacts of Climate Change
- 6 Enhance Regional Anchors for People and Wildlife
- 7 Support Environmental Awareness and Civil Engagement through Education, Outreach, and Cultural Heritage
- 8 Foster a Green Economy that Creates Jobs and Encourages Investment in Local Multi-Benefit Projects



## COMMON VISION

- 1 An interconnected network of walking and biking trails, from forest to ocean
- 2 Interconnected and complementary green and grey infrastructure networks
- 3 A nature-based network of recreation facilities that promotes public health, social justice and equity
- 4 A water network that infiltrates groundwater, manages wet weather events and provides human enjoyment
- 5 Communities resilient to changing water supplies, climate extremes and sea level rise
- 6 A linked network of open space treasures from the Mountains to the Sea
- 7 A network of culturally aware and civically involved communities that support conservation, restoration and recreation
- 8 A robust and sustainable local economy that produces new economic opportunities around a growing green infrastructure

TOWARDS A COMMON VISION



## Development of NEXT Generation Watershed Stewards



A special thanks to the following California Conservation Corps, Los Angeles Conservation Corps, and San Gabriel Valley Conservation Corps Members who have built Lashbrook Park for the benefit of current and future generations:

- |                     |                   |                    |                   |                |                  |                 |                      |                   |                  |
|---------------------|-------------------|--------------------|-------------------|----------------|------------------|-----------------|----------------------|-------------------|------------------|
| Adrian Dominguez    | Andres Garcia     | Chris Hernandez    | Eric Guerrero     | Hilario Garcia | John Salinas     | Larry Penabaz   | Henry Flores Gomez   | Ricky Trujillo II | Servé Hues       |
| Adrian Avila        | Angel Oyin        | Christian Rivas    | Enika Salazar     | Jamal Davis    | Justine Brown    | Larry Newman    | Nicholas Ray         | Rodney Kib-Ji     | Thomas Padgett   |
| Adriana Gonzalez    | Anthony Delgado   | Christian Pava     | Felisa Salazar    | Jenny Martinez | Juan Duran       | Lisa Pilo       | Nicole Servino       | Ronald Gonzalez   | Thomas Ponce     |
| Albert Dulin        | Anthony Benoit    | Christina Diaz     | Fernando Gonzalez | Jenny Pardo    | Juan Gonzalez    | Luis Aguilar    | Orlando Rios II      | Ruben Castro      | Timothy Dineen   |
| Alfredo Garcia      | Aracely Taylor-Jr | Christopher Zamora | Fernando Ruiz     | Jerry Gallardo | Juan Lopez       | Marcos Duran    | Peter Therasenwright | Salvador Estrada  | Lilias Gallego   |
| Alva Castorena      | Ayla Martinez     | Daniel Gomez       | Gary Snyder       | Jenny Walker   | Juan Druce       | Miguel Chavez   | Philip Zayas         | Tania Cruz        | Wilfredo Serrano |
| Alfredo Gonzalez    | Brendakay Taylor  | Daniel Lopez       | Garry Salazar     | Josiah Jackson | Josiah Garcia    | Norma Araya     | Rachael Martinez     | Torgio Tambo      | William Orozco   |
| Alfredo Juarez      | Brian Perkins     | Daniel Perez       | Gilbert Duarte    | Josiah Vega    | Josiah Garcia Jr | Orlando Jimenez | Rayna Rios           | Silva Magallon    |                  |
| Andre De La Chausse | Camero Green      | Danny Flores       | Gonzalo Diaz      | Juan Zapata    | Juan Velasco     | Matthew Hudson  | Rakene Flores        | Sully Perez       |                  |
| Andres Garcia       | Captain Keast     | David Benito       | Guillermo Loont   | Jerry Pabon    | Juan Flores      | Michael Garcia  | Rana Aguilar         | Tristan Diaz      |                  |
| Andres Arriaga      | Cesar Casas       | Eric Garcia        | Heather Ruiz      | José Torres    | Karenda Arnold   | Michael Sanchez | Ronald Nieves        | Stephanie Holt    |                  |



# THE EMERALD NECKLACE EXPANDED PLAN VISION



Copper Fire  
Restoration

Rim of the  
Valley

Treasured Landscape  
Tahunga

San Gabriel Mountains  
National Monument

Santa Monica  
Mountains Conservancy

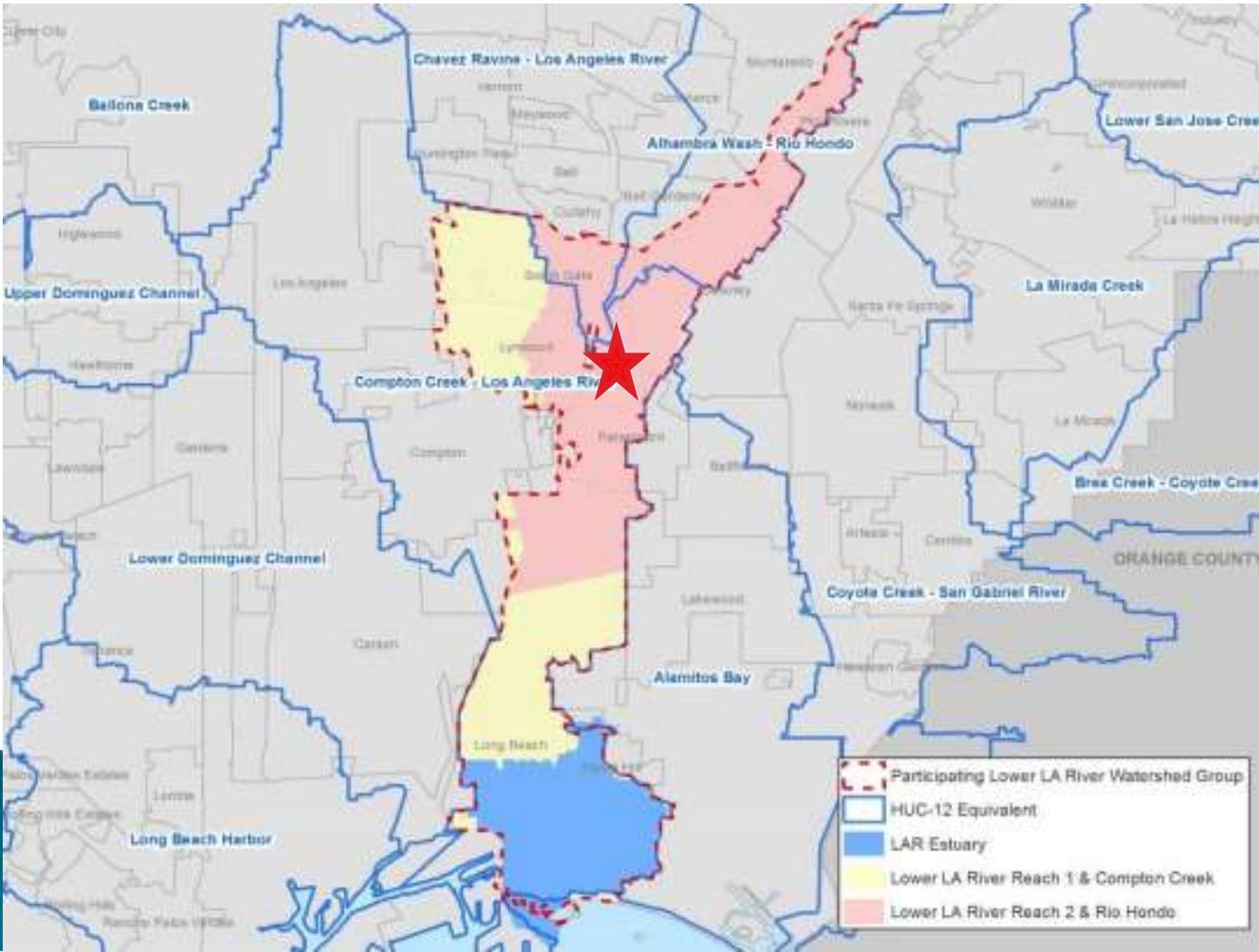
USACE LA River Restoration Area

San Gabriel Emerald  
Necklace

Lower LA RIVER  
REVITALIZATION PLAN



Feasibility study will allow Amigos de los Rios to collect data on stormwater capture, water infiltration and conservation, pollutant filtration, vector mitigation.



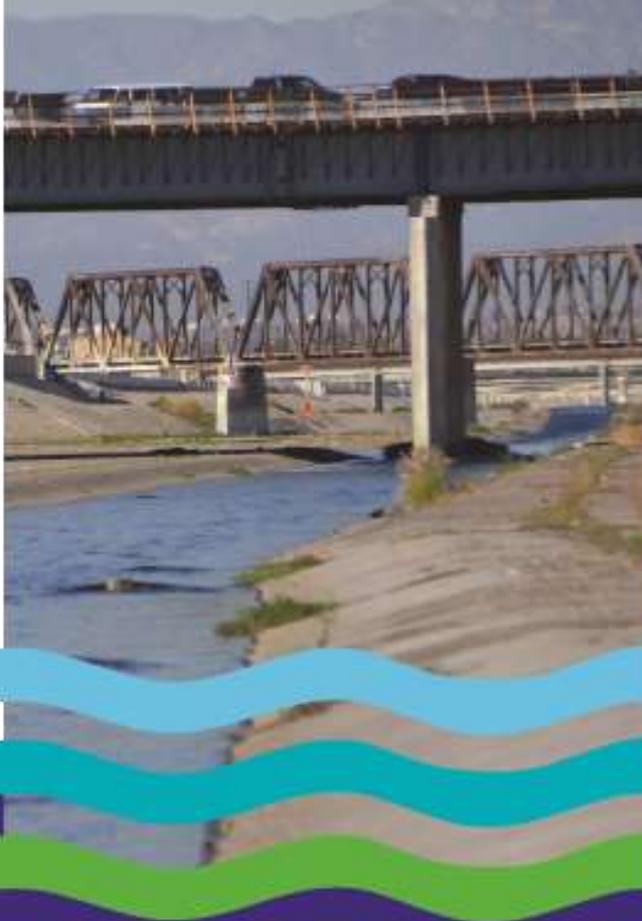


The 19-mile lower section of the LA River is mainly a concrete channel to reduce flood risk for the communities adjacent to the river. But it's much more than that.

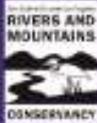
# LEARN MORE

The river can be an outdoor classroom and recreation area for the entire community.

Visit [LOWERLARIVER.ORG](http://LOWERLARIVER.ORG) for ways you can engage and learn about the Lower LA River.



# THE LOWER LOS ANGELES RIVER



# LOWER LOS ANGELES RIVER

## Opportunity Assessment

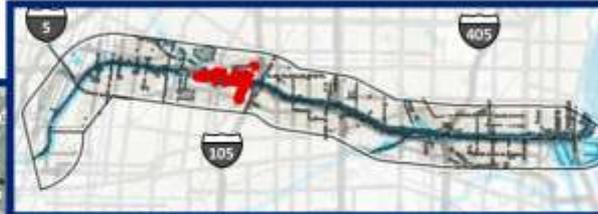
### Opportunity Area

Rio Hondo Confluence Area

**Opportunity ID** 3  
**Opportunity Driver** Open Space Areas, WG Mark-Up

### Opportunity Description

Area available for habitat restoration, water quality features, amphitheater, community center; create educational opportunities, homeless camps; Parque Dos Rios is owned by WCA; A portion of the site is a Tongva cultural site



Lat. -118.17  
 Long. 33.938

0 2,200 Feet

 Featured Opportunity  
 Other Opportunities  
 City Boundary

Plan Element	Objective	Applicable Metrics Advanced (%)
Water and Environment	Conserve, Enhance, and Restore Habitat, Biodiversity, and Floodplain Functions	100
	Enhance Local Water Capture and Use	100
	Improve Environmental Quality	100
	Manage Flood Risk	100
Public Realm	Enhance Connectivity	100
	Improve User Experience and Equitable Access	100
	Enhance and Create Diverse, Vibrant Public Spaces	100
Community Economics, Health, and Equity	Address Homelessness	75
	Increase Community Green Infrastructure	100
	Increase Equitable Community Access to Multi-use Trails, Assets	100
	Prevent Local Gentrification-Induced Displacement	100
	Promote Wellness and Physical Activity	100
	Support and Develop Local Business and Workforce	100

## Opportunity Potential

(Average of Applicable Metrics Advanced)

# 98

# Hollydale Regional Park Green Infrastructure Development Lower Los Angeles River Watershed

**Project Concept will retrofit Hollydale Regional Park and seeks to manage stormwater by increased capture, filtering and infiltration through a natural systems approach focused on community-based design of green infrastructure.**

**Multi Objective Goals: Key Stormwater, Ecosystem & Community Health Benefits:**

Pervious Paving & Permeable Surfaces, Healthy Soil  
Bioswales, Rain Gardens, Landscape Infiltration Planters,  
Urban Forestry, Mulched Native Plant Landscape Areas,  
Watershed Education Program



AMIGOS DE LOS RIOS

EMERALD  
NECKLACE

South Gate

Gabriel Mountains

RIO HONDO

Downey



LOS ANGELES RIVER

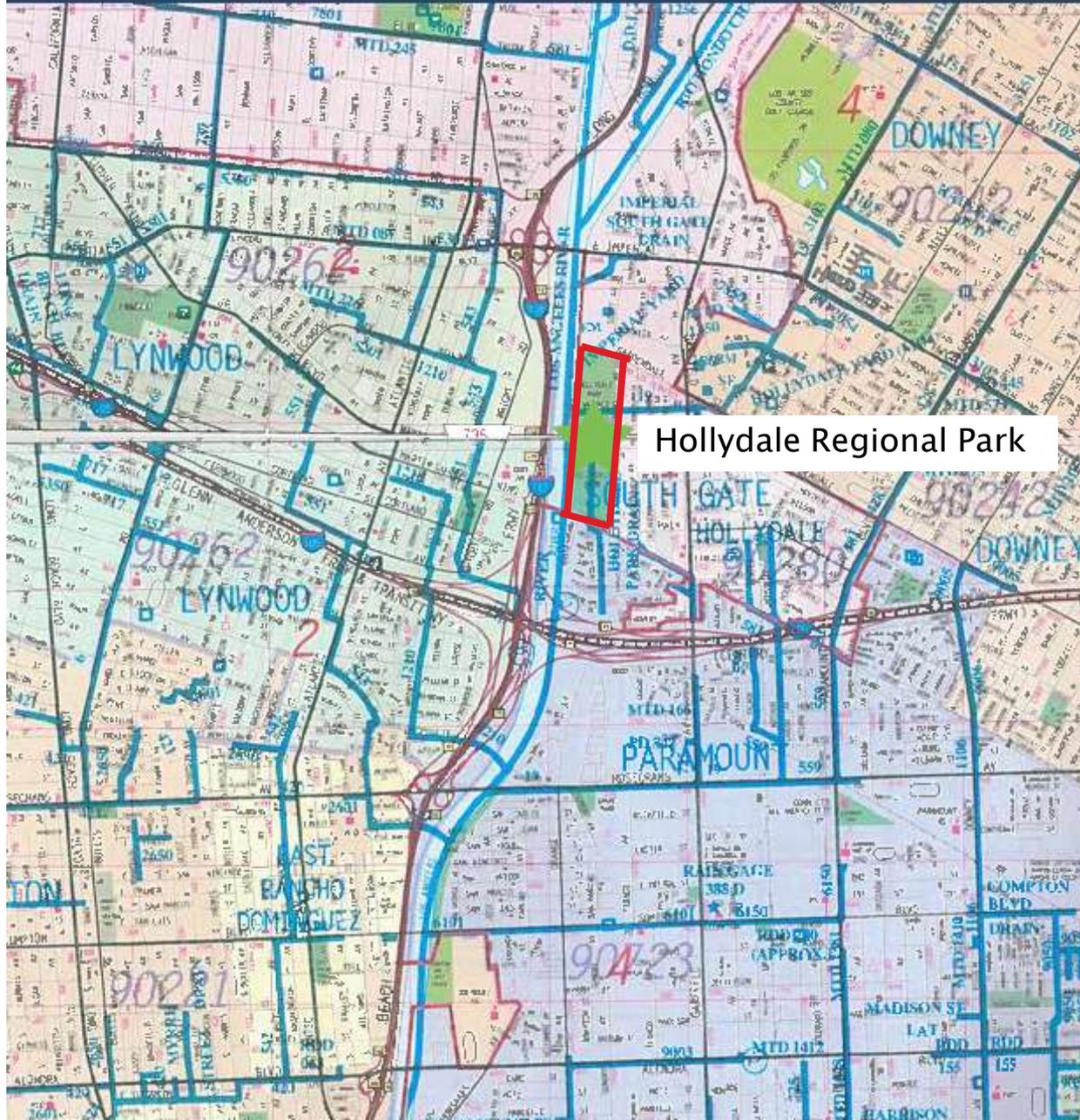
Hollydale Regional Park

Lynwood



To Pacific





Hollydale Regional Park

# The Emerald Necklace Vision

## Natural Infrastructure for the Los Angeles Basin



Emerald Necklace Park Projects



Pack Road Water Conservation Park



El Vado Park



Valencia de Arroyo



Leatherstock Park



Marshall School



Cotton Hill School Park

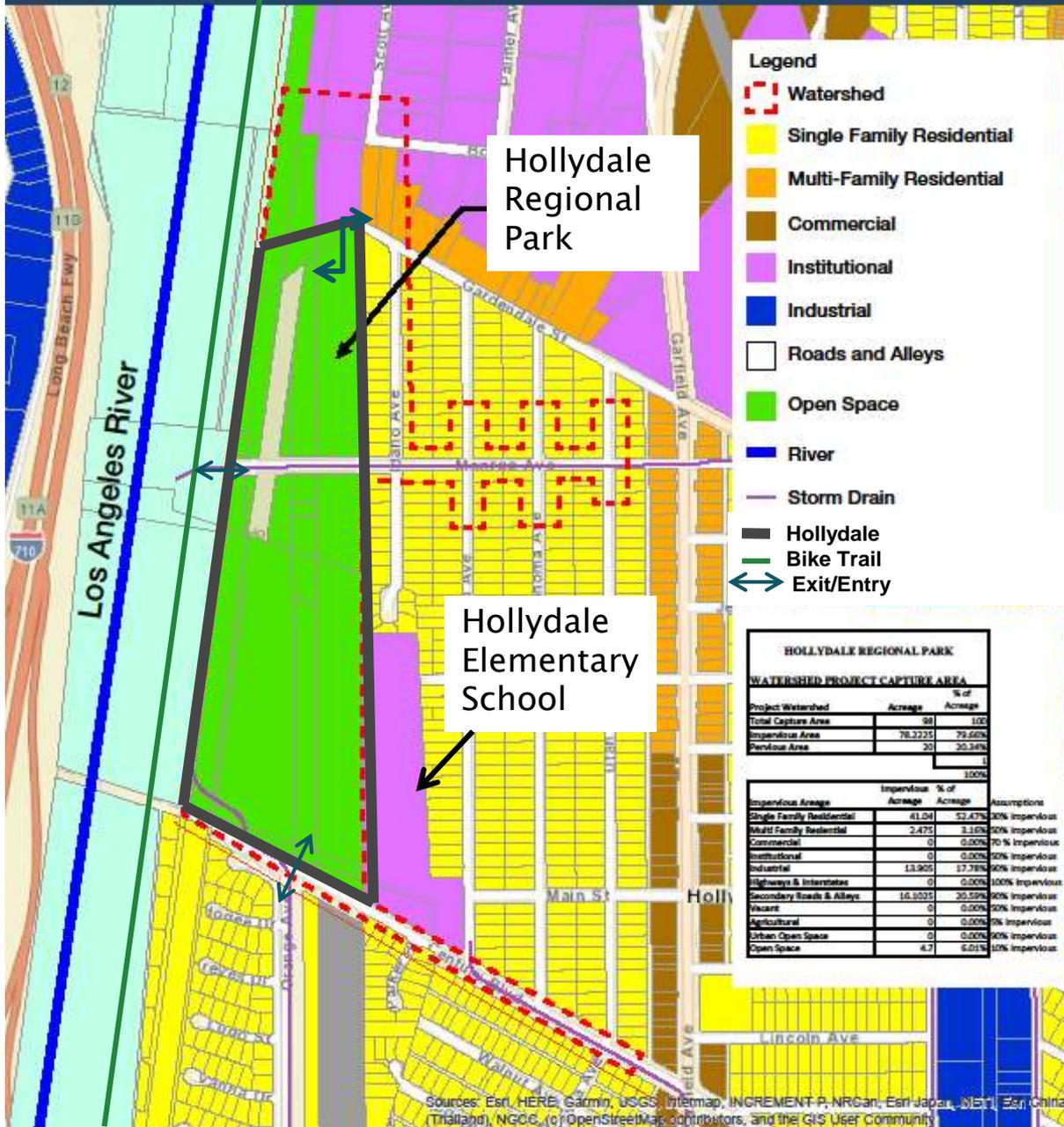


Columbia School



San Gabriel Canyon Gateway





**Legend**

- Watershed
- Single Family Residential
- Multi-Family Residential
- Commercial
- Institutional
- Industrial
- Roads and Alleys
- Open Space
- River
- Storm Drain
- Hollydale Bike Trail
- ↔ Exit/Entry

**HOLLYDALE REGIONAL PARK**

**WATERSHED PROJECT CAPTURE AREA**

Project Watershed	Acres	% of
Total Capture Area	38	100%
Impervious Area	78,225	79.68%
Pervious Area	20	20.34%
		1
		100%

Impervious Area	Acres	% of	Assumptions
Single Family Residential	41.04	52.47%	20% Impervious
Multi Family Residential	2,475	3.16%	50% Impervious
Commercial	0	0.00%	70% Impervious
Institutional	0	0.00%	50% Impervious
Industrial	13,905	17.78%	50% Impervious
Highways & Interstates	0	0.00%	100% Impervious
Secondary Roads & Alleys	16,025	20.59%	50% Impervious
Pavement	0	0.00%	50% Impervious
Agricultural	0	0.00%	5% Impervious
Urban Open Space	0	0.00%	50% Impervious
Open Space	4.7	6.01%	10% Impervious

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, NITEL, Esri China (Taiwan), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

# Hollydale Regional Park



12/14/2019, 4:23:10 PM

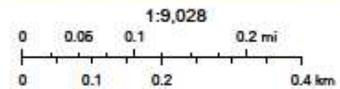
California Counties

Disadvantaged Communities - Places 2016

Data Not Available

Severely Disadvantaged Communities (MHI < \$38,270)

Disadvantaged Communities (\$38,270 >MHI< \$61,026)



U.S. Census Bureau. Contact: [gis@water.ca.gov](mailto:gis@water.ca.gov), U.S. Bureau of Reclamation, California Department of Conservation, California Department of Fish and Game, California Department of Forestry and Fire Protection, National Oceanic and Atmospheric Administration, Sources: Esri, HERE,

Web AppBuilder for ArcGIS

# Lower Los Angeles River WMP

Project is located in the Lower Los Angeles River WMP

Municipal benefits include

- ▶ Realization of Key Element of City of South Gate's Master Plan for Hollydale Park
- ▶ Improvements of Parking Lot/ Creation of Equestrian Plaza
- ▶ Recreational Amenity co-benefits
  - Nature-based storm water capture, filter and infiltration
  - Water Conservation
  - Urban Greening – Tree Canopy and Vegetation
    - Air Quality & Community Sense of Place
  - Vector Control
  - Heat Island Reduction
  - Environmental Education Interpretive Elements
  - Connection to LA RIVER

# Water Resources & Quality Benefits

## ▶ Storm Water Management

- Capture Urban Runoff & Storm Water w/Green Infrastructure Elements
- Recharge groundwater /Reduce waste of Imported Water/RainWater
- Preventing pollutants from entering Storm Drain System & Waterways.
- Trash, nitrogen compounds, ammonia, nitrate, nitrite, algae, copper, cadmium, lead, zinc, aluminum and selenium, bacteria, and pesticides
- Address Drainage Issues, Local Flooding & Vector Control

## ▶ Public Health – Vector Issues

- ▶ West Nile & Zika Virus

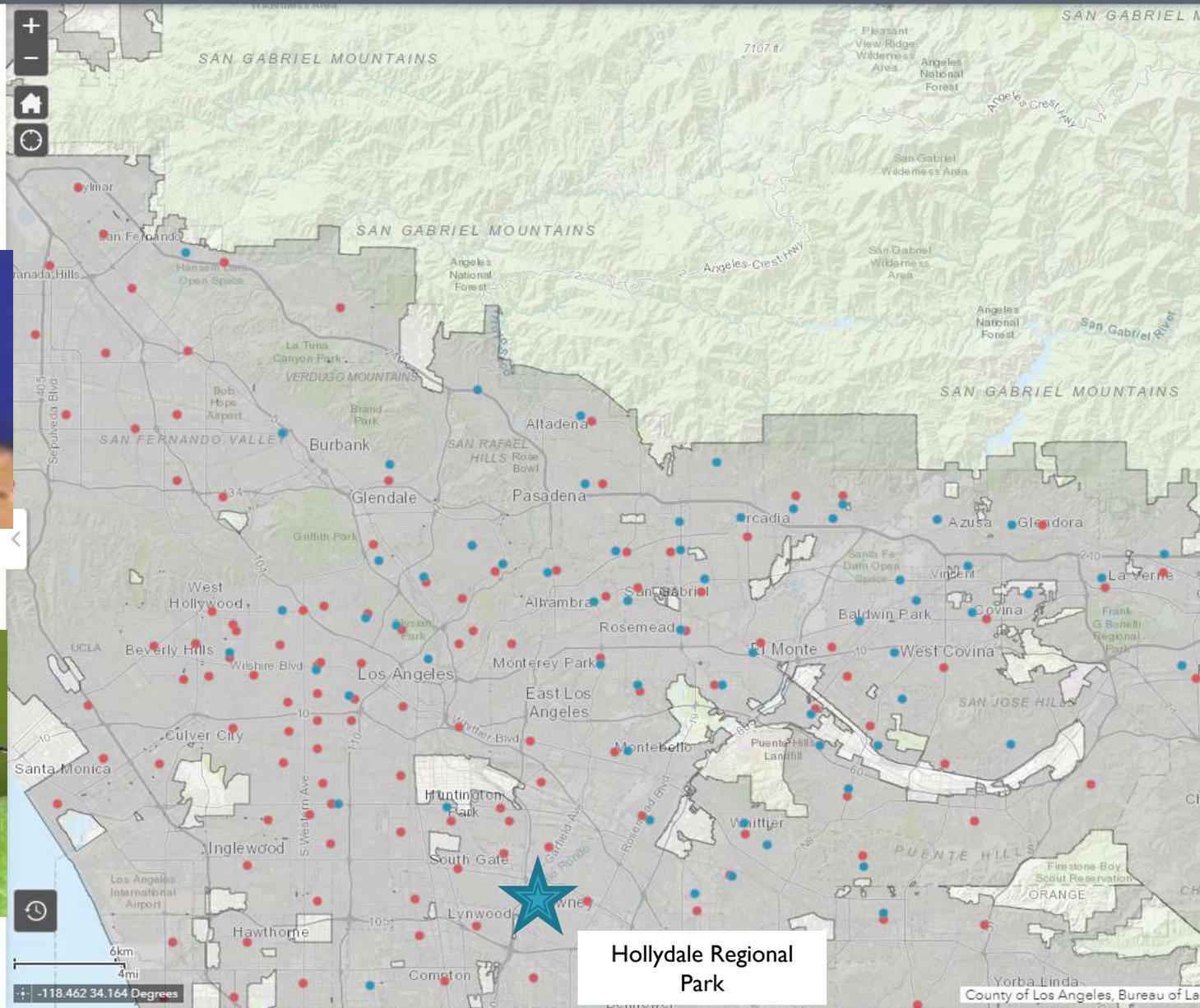
## ▶ Water Conservation – grass removal /Native Plant Landscape/Efficient Irrigation



## Cities with Current Aedes Detections

- Aedes aegypti
- Aedes albopictus

## Approximate Aedes Infestation Area







# Hollydale Park Green Infrastructure Development "Before"



# Examples of Bioswales and Native & Drought-Tolerant Plantings by Amigos de los Rios





AMIGOS DE LOS RIOS

EMERALD NECKLACE







# Hollydale Park Green Infrastructure Development



# Welcome to Hollydale Regional Park

## Century Blvd. Entrance

### Celebrating South Gate

The reconstruction of this park and surrounding for the South Gate community was led by Michael M. by Park (The Emerald Necklace Group), a community design firm, and in partnership with the California Coastal Conservators — with support from the South Gate Department of Parks and Recreation Department. Additional support from South Gate community residents, businesses, local organizations, artists, churches, and Emerald Necklace Watershed Stewards.



**To LA River**

### Legend

-  Butterfly Garden
-  Bioretention
-  Infiltration Structure
-  Pathway
-  Water Discovery Point
-  Permeable Pavement

Central Basin Mounds  
Pump Station

### 'Natural Infrastructure' For Our Urban Community



Hollydale Regional Park's Century Blvd. Entrance is now a public landscape that integrates green infrastructure design elements into the park to help protect our water and air resources, enhance the urban forest, increase native habitat, reduce heat-island impact, manage stormwater, support active transportation, and celebrate local, natural, and cultural history.

#### Natural Infrastructure Design Elements

- High efficiency water-saving irrigator
- Habitat plantings, appropriate to our climate and watershed
- Bioretention to capture rain runoff, replenish our groundwater supply and protect our rivers and ocean
- Permeable surfaces to infiltrate stormwater and promote watershed health
- Trees to bolster the urban forest, create shade, and improve air quality
- Enhanced permeable parking lot entrance to support public access and safety

Century Blvd.

Sustainable Park, Natural Infrastructure Elements and Interpretive Park Signage designed by BIFOG Architects in collaboration with Emerald Necklace Group © 2018.

The project is funded by a California State Coastal Conservators Proposition 1 Grant and supported by the California Government Coastal Program, the City of South Gate Department of Parks and Recreation, and Emerald Necklace Watershed Stewards.

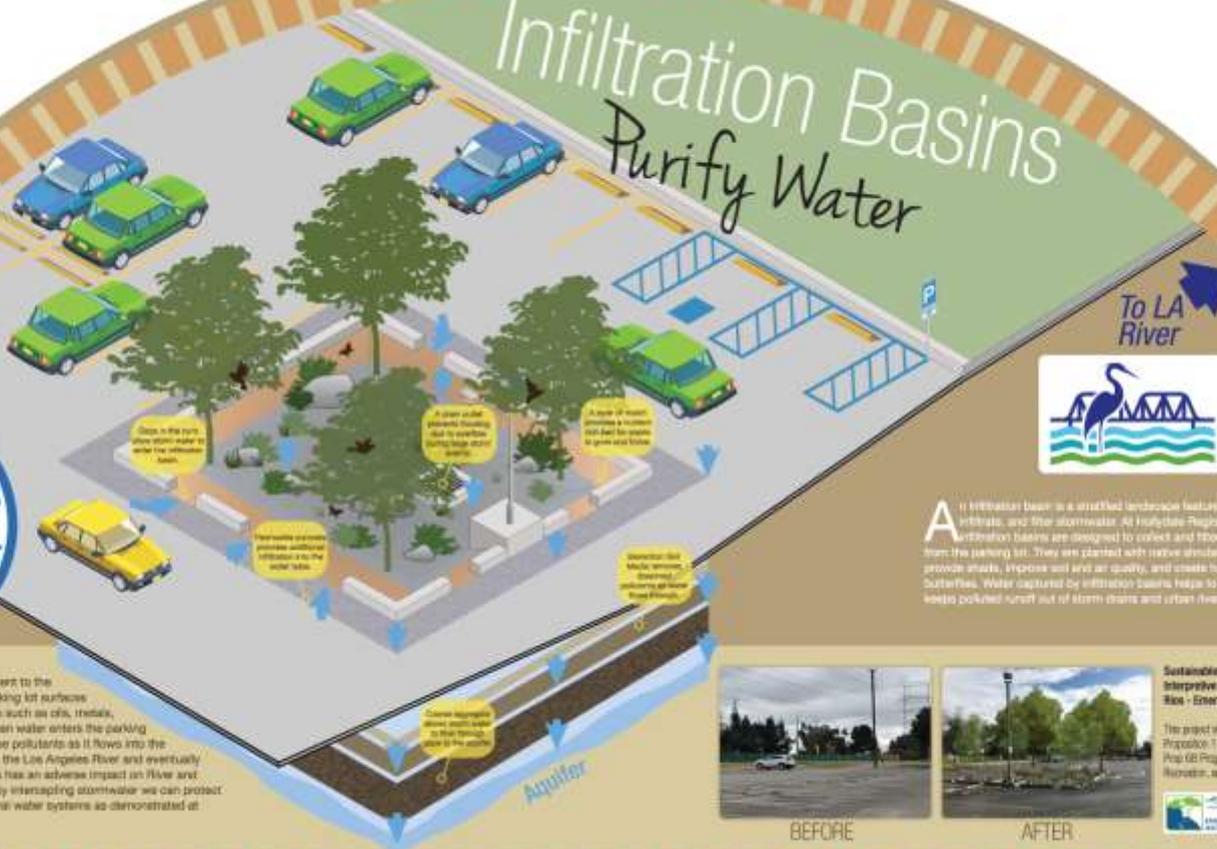


# Infiltration Basins Purify Water



## Water Purification Matters

Hollywood Park is adjacent to the Los Angeles River. Parking lot surfaces collect many pollutants such as oils, metals, trash and bacteria. When water enters the parking lot, it carries with it these pollutants as it flows into the storm drain and enters the Los Angeles River and eventually the Pacific Ocean. This has an adverse impact on River and Ocean Ecosystems – by intercepting stormwater we can protect water quality and natural water systems as demonstrated at Hollywood Park.



An infiltration basin is a stratified landscape feature used to slow, collect, infiltrate, and filter stormwater. At Hollywood Regional Park, these vegetated infiltration basins are designed to collect and filter storm water flowing from the parking lot. They are planted with native shrubs and trees, which provide shade, improve soil and air quality, and create habitat space for birds and butterflies. Water captured by infiltration basins helps to replenish our aquifers and keeps polluted runoff out of storm drains and urban rivers.



BEFORE



AFTER

Sustainable Park, Natural Infrastructure Elements and Interpretive Park Signage designed by 20100 Angeles de los Rios - Emerald Necklace Group © 2014.

This project is funded by a California State Coastal Conservancy Proposition 1 Grant and supported by the California Conservation Corps Prop 6B Program, the City of South Gate Department of Parks and Recreation, and Emerald Necklace Watershed Volunteers.



# Bioswales Capture Water

A bioswale is a sloping landscape feature used to slow, collect, infiltrate, and filter stormwater. At Hollywood Regional Park, these vegetated swales are designed to look like dry stream beds. They are planted with native shrubs and trees, which provide shade, improve air quality, and create habitat for birds and butterflies. Water captured by bioswales helps to replenish our aquifers and helps pollute runoff out of stormdrains and urban rivers.

Trees and shrubs help slow the flow of stormwater and take pollutants from runoff into their roots.

The stones and gravel of bioswales make gaps for water to collect and infiltrate.

As stormwater flows into the bioswale, gravity pulls the water through layers of soil, which naturally clean it on its way to our underground water supply. Bioswales are sloped to direct water and allow it to settle and percolate into the soil.

The people of South Gate receive over 90% of their water from local groundwater wells. Demand for ground water requires that we take care to protect our local aquifers from over extraction and contamination. This project ensures local ground water recharge and protection of the greater Los Angeles River watershed.

In arid regions with annual rainfall such as Southern California, water conservation can go a long way in preserving our available water. We can all use less potable water on landscaping to conserve water, plant with species appropriate to our climate, and capture storm water with natural infrastructure elements—as demonstrated here at Hollywood Regional Park.

Water  
Conservation  
Matters

BEFORE



AFTER



Sustainable Park, Natural Infrastructure Elements and Interpretive Park Signage designed by SO103 Arango de los Rios - Emerald Necklace Group © 2016.

The project is funded by a California State Coastal Conservancies Proposition 1 Grant and supported by the California Conservation Corps Prop. 53 Program, the City of South Gate Department of Parks and Recreation, and Emerald Necklace Watershed Partners.

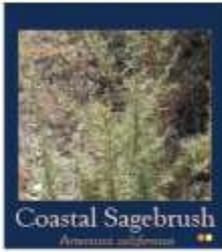


# Native Plants at Hollydale Park

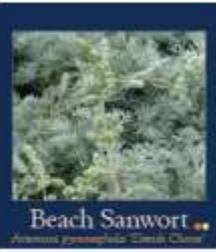


AMIGOS DE LOS RIOS

EMERALD NECKLACE



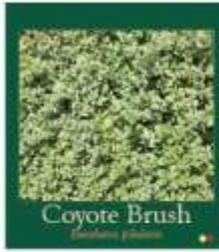
Coastal Sagebrush  
*Artemisia californica*



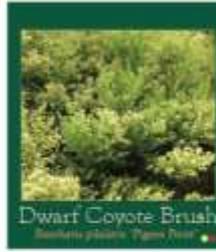
Beach Sanwort  
*Artemisia prostrata* Tilden Claret



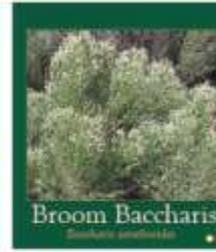
Great Basin Sage Brush  
*Artemisia tridentata*



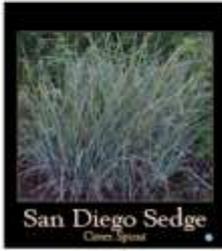
Coyote Brush  
*Baccharis pilularis*



Dwarf Coyote Brush  
*Baccharis pilularis* "Pigmy Plant"



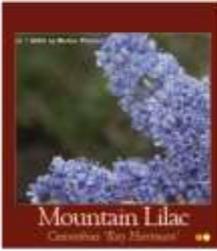
Broom Baccharis  
*Baccharis arborescens*



San Diego Sedge  
*Carex sparganii*



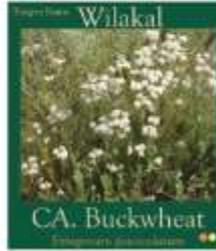
California Mountain Lilac  
*Calceolaria speciosa* "Sweet Pea"



Mountain Lilac  
*Calceolaria "San Bartolome"*



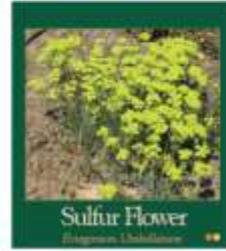
California Engelia  
*Engelmannia californica*



Wilakal  
*Erigeron phillyriaefolius*



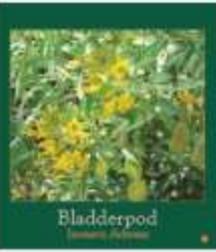
California Dickinson Buckwheat  
*Eragrostis fasciculata* "Great Buckwheat"



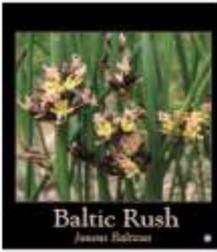
Sulfur Flower  
*Eragrostis Chalkhillensis*



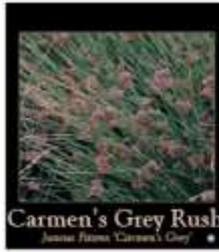
Bush Snapdragon  
*Calceolaria speciosa* "Pompadour"



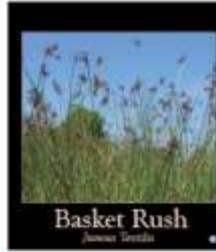
Bladderpod  
*Desmodium illinoense*



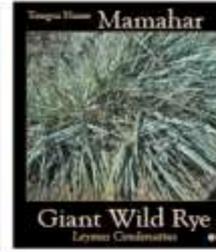
Baltic Rush  
*Juncus Balticus*



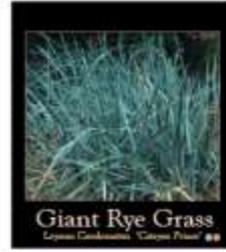
Carmen's Grey Rush  
*Juncus Pauciflorus* "Carmen's Grey"



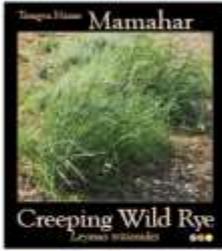
Basket Rush  
*Juncus Torreyi*



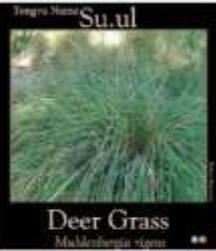
Mamahar  
*Lycopodium Complanatum*



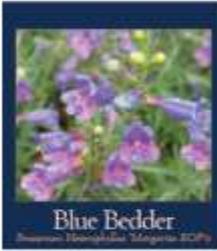
Giant Rye Grass  
*Lycopodium Complanatum* "Carmen's Plant"



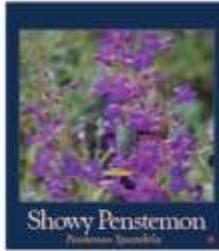
Mamahar  
*Lycopodium Complanatum*



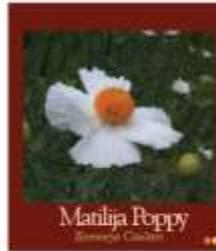
Su.ul  
*Muhlenbergia rigens*



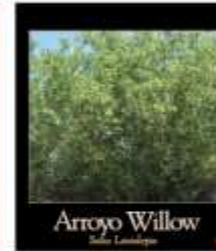
Blue Bedder  
*Margarita Margarita* "ECP's"



Showy Penstemon  
*Penstemon Spicatus*



Matilija Poppy  
*Ranunculus Clacksonii*



Arroyo Willow  
*Salix Lasiolepis*



Allen Chickering Sage  
*Salvia Chickeringii* "Allen Chickering"



Kasili  
*Salvia sparganii*



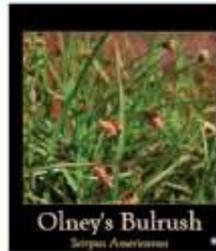
Kasili  
*Salvia chrysanthra*



Black Sage  
*Salvia Melitensis*



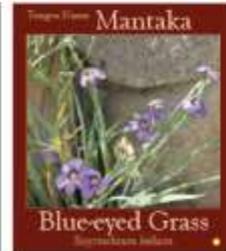
Hummingbird Sage  
*Salvia apiculata*



Olney's Bulrush  
*Sagittaria Americana*



California Bulrush  
*Sagittaria Californica*



Mantaka  
*Sagittaria Indiana*

- Riparian
- Oak Woodland
- Coastal Sage Scrub
- Chaparral
- Desert Wash

- spiritual
- constructional
- dietary
- medicinal

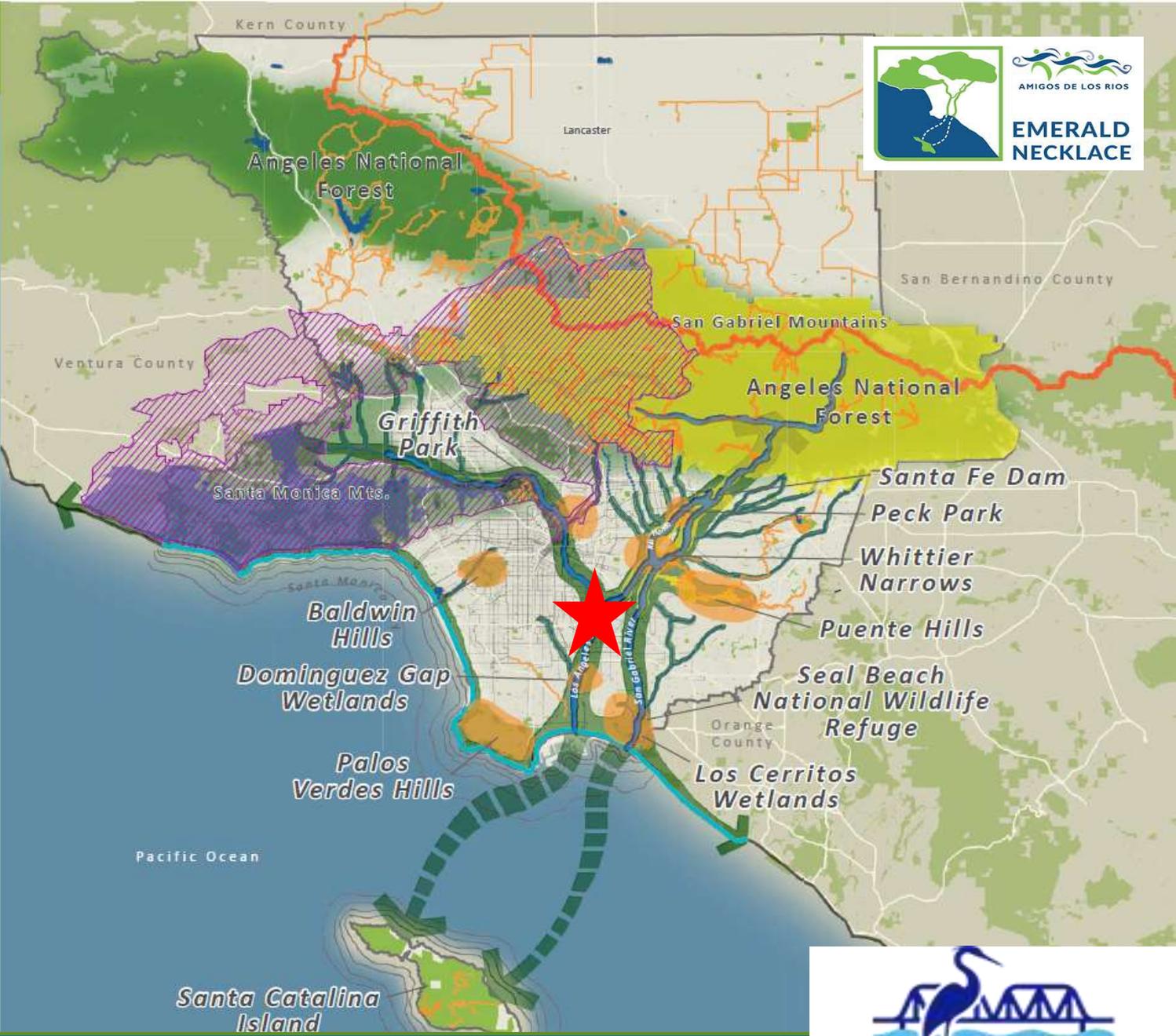
# ENHANCE REGIONAL ANCHORS MAP

This map depicts the existing natural areas within the Expanded Emerald Necklace. These valuable spaces are connected through the river network, which links these open spaces together and allows wildlife habitat connectivity, making these resources invaluable to Los Angeles County.



## LEGEND

- Emerald Necklace
- Greenway along Rivers/Washes/Creeks
- Proposed San Gabriel Watershed & Mountains Permanent Protections
- Proposed Rim of the Valley Corridor
- Santa Monica Mountains National Recreation Area
- Major Regional Anchors
- Beach Trails
- Pacific Crest Trail



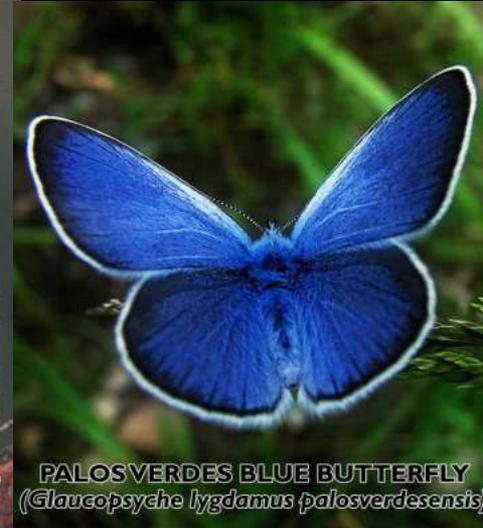
# Los Angeles Basin's Biodiversity – Endangered species



**SAN JOAQUIN KIT FOX**  
(*Vulpes macrotis mutica*)



**NORTHERN SPOTTED OWL**  
(*Strix occidentalis caurina*)



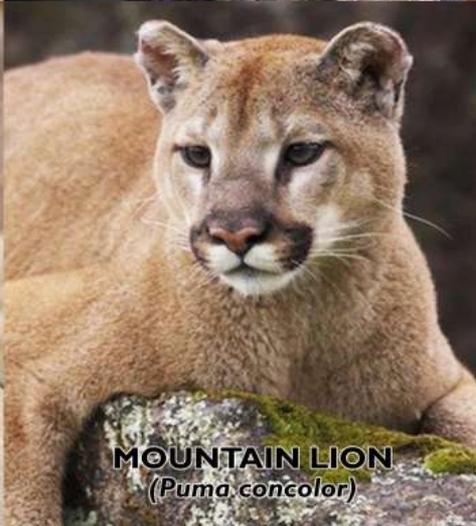
**PALOSVERDES BLUE BUTTERFLY**  
(*Glaucopsyche lygdamus palosverdesensis*)



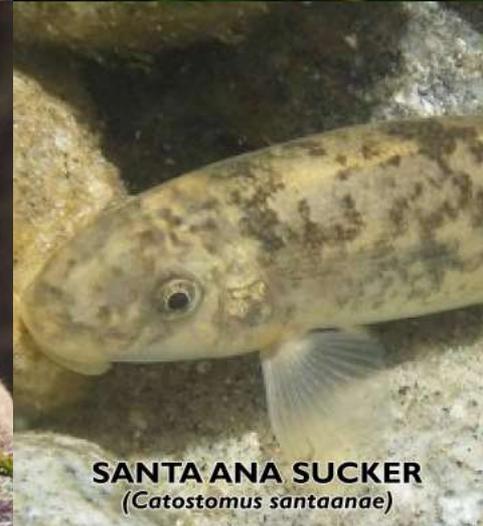
**ARROYO CHUB**  
(*Gila orcuttii*)



**BIGHORN SHEEP**  
(*Ovis canadensis*)



**MOUNTAIN LION**  
(*Puma concolor*)



**SANTA ANA SUCKER**  
(*Catostomus santaanae*)



**Natural Heritage & Diversity in relationship to Cultural Heritage & Diversity**

# Native Plants of Hollydale Regional Park



The use of native plants in public landscapes helps us to conserve water. These drought-tolerant plants are in bloom in our climate. By using these plants we also protect biodiversity and the cultural heritage of our region.

**Plant Communities**

- Shrubland
- Open Woodland
- Coastal Sage Scrub
- Chaparral
- Desert Plant

 Western Redbud	 White Sage	 Purple Sage	 Foothill Penstemon	 Coastal Sagewort	 Blue Eyed Grass	 Narrowleaf Milkweed	 Meadow Sedge	 Yarrow
 Western Yucca	 Common Yarrow	 California Fuchsia	 Scarlet Monkeyflower	 Golden Jubilee Verbena	 Oregon Grape	 White Alder	 Junco	 Apricot Mallow

 Shiny Milkweed	 Deer Grass	 California Buckwheat
---	--	--

## Key Use of Native Plants

The native plants featured at Hollydale Regional Park are culturally significant to the original inhabitants of the Los Angeles Basin, the Kith, San Joaquin and Tulewain tribes. Their knowledge and use of native plants extends from the medicinal and spiritual to construction and dietary. **Spiritual** plants are used for religious ceremonies and rites of passage. **Constructional** plants are used for building houses, raising roofs, baskets, and clothing. **Dietary** plants are key elements of the Kith diet. **Medicinal** plants are used for all types of healing – from colds to wounds.

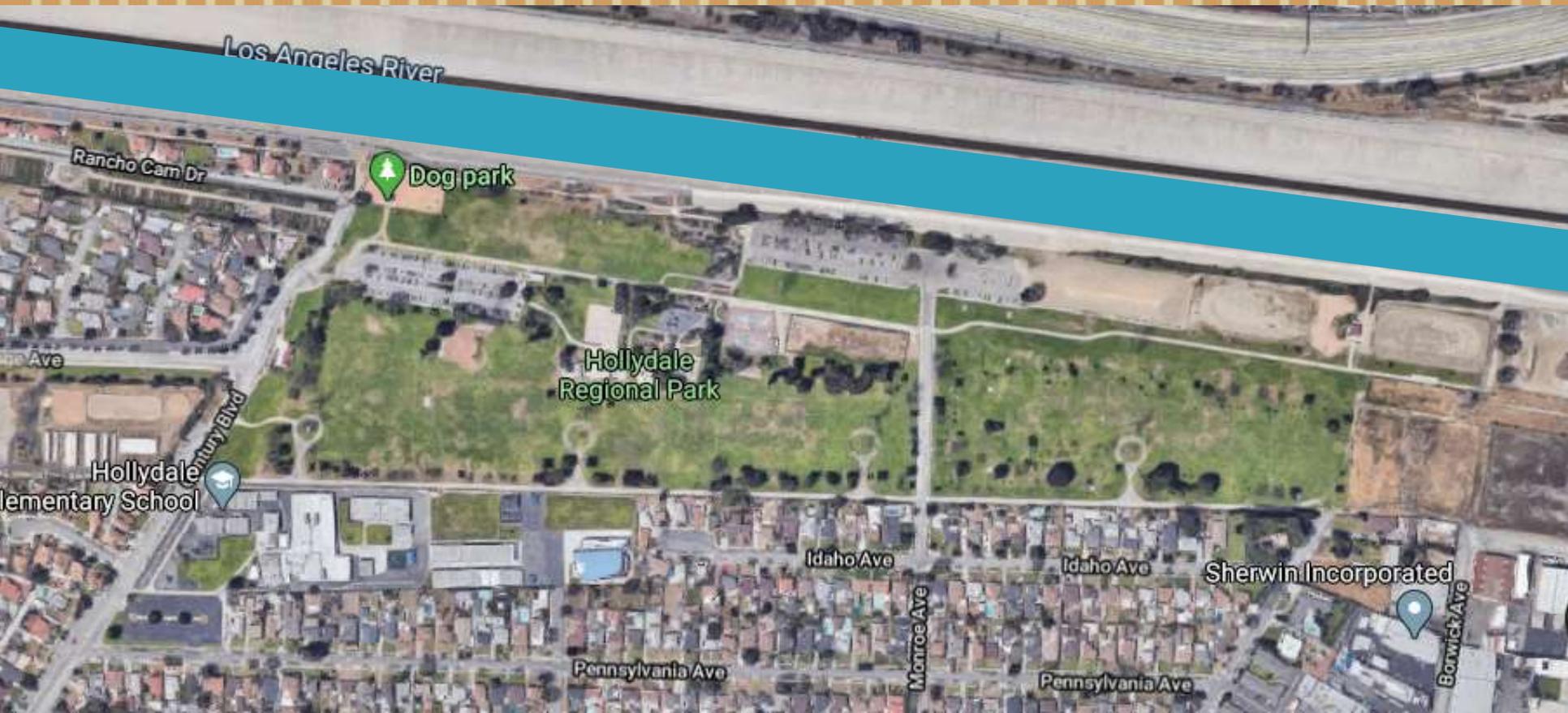
**Usage Legend**

- Spiritual
- Constructional
- Dietary
- Medicinal



A hummingbird feeds on Shiny Milkweed flowers. Shiny Milkweed (Asclepias speciosa) is a California native plant and is a key element of the Kith diet. It is also used for medicinal purposes and for raising roofs, baskets, and other objects.

The project is funded by a California State Coastal Conservations Proposition 1 Grant and supported by the California Conservation Corps Prop 55 Program and the City of South Gate Department of Parks and Recreation.





# Hollydale Regional Park Green Infrastructure Development

## Estimate of Project Costs

Item	Amount
Construction	\$4,723,093
Planning and Design	\$346,000
<b>TOTAL</b>	<b>\$5,096,093</b>

Project Management & Admin	\$ 57,000
Community Based Design/Outreach	\$ 60,000
Civil Engineering/Monitoring Design	\$ 105,000
Landscape Architecture/Arborist	\$ 40,000
Survey Engineer	\$ 45,000
Overhead	\$ 36,840
<b>TECHNICAL ASSISTANCE TOTAL</b>	<b>\$ 343,840</b>

**Technical Assistance Request  
\$343,840**



AMIGOS DE LOS RIOS

EMERALD  
NECKLACE

# SCHEDULE DEADLINES

- ▶ Design: 9/31/2020
- ▶ Permitting: 2/28/2021
- ▶ Construction: 7/30/2021
- ▶ Operate / Establishment of Natural Infrastructure Elements

# Jeff Seymour Family Center Green Infrastructure Campus



# Jeff Seymour Family Center Green Infrastructure Campus







## Green Infrastructure Elements

### A Urban Community Forestry

Habitat • Heat Island reduction  
Stormwater capture • Carbon sequestration



### B Rain Garden

Stormwater capture • Habitat



### C Bioswale

Stormwater capture • Habitat



### D Rain Modules

Stormwater capture



### E Stormwater Basin

Stormwater capture • Rain modules



### F Bike Safety Track

Cool pavement / Heat Island reduction  
Bike training / active transportation  
Stormwater capture • Habitat



### G Community Garden

Food production • Education



### H Bike Park / Skills Track

Bike training / active transportation  
Nature-based play



### I Walking Paths

Physical fitness • Habitat



### J Interpretive Elements

Education • Community Science



● = Location of Green Infrastructure Signage

Campus green infrastructure plan implemented through a community-based process by AMIGOS DE LOS RIOS, a 501(C)3  
We hope you enjoy! • [www.amigosdelosrios.org](http://www.amigosdelosrios.org)



Funding for this project has been provided by the California Greenhouse Gas Reduction Fund through the California Department of Forestry and Fire Protection (CAL FIRE), Urban and Community Forestry Program.



# The Health Benefits of Urban Greening



## Urban Greening Improves Physical Wellness

Urban green spaces encourage exercise and are a more restorative environment than indoor settings.<sup>1</sup>

Green spaces provide necessary places and opportunities for physical activity. Exercise improves cognitive function, learning, and memory.<sup>1,2</sup>

In a study, residents of areas with the highest levels of greenery were three times as likely to be physically active and 40% less likely to be overweight or obese than residents living in the least green settings.<sup>3</sup>

Childhood asthma rates are the highest in parts of the city where tree density is the lowest.<sup>4</sup>



## Urban Greening Improves Mental Wellness

The experience of nature helps to restore the mind from the mental fatigue of work or studies, contributing to improved work performance and satisfaction.<sup>5,6,7</sup>

People who visit green spaces for 30 minutes or more a week have lower rates of depression and high blood pressure.<sup>8</sup>

Even brief glimpses of natural elements improve brain performance by providing a cognitive break from the complex demands of urban life.<sup>9</sup>

Urban nature can provide calming and inspiring environments and encourages learning, inquisitiveness, and alertness.<sup>10,11</sup>



## Urban Greening Improves Academic Performance

Memory performance and attention span improve by 20 percent after spending an hour interacting with nature.<sup>12</sup>

Symptoms of ADD in children can be reduced through activity in green settings, thus "green time" can act as an effective supplement to traditional medicinal and behavioral treatments.<sup>13,14,15</sup>

Nature experiences are important for encouraging imagination and creativity, cognitive and intellectual development, and social relationships.<sup>16,17,18</sup>

College students with more natural views from their dorm windows scored higher on attention tests and rated themselves as able to function more effectively.<sup>19</sup>













LOS ANGELES RIVER

Los Angeles River Bike Path

Sports Fields

Replace Parking Spaces with Infiltration Planter

Stormwater Tree Cut-Outs

Dog Park

Century Blvd

Retrofit new driveway + pervious pavement

Grass Removal & Habitat Plantings

DG Path

Sports Fields

Bioswale

### LEGEND

-  Tree/Shrub plantings
-  Butterfly Habitat
-  Stormwater Infiltration Area
-  Interpretive Elements
-  Pervious Pavement

Hollydale Park—South

# Hollydale Park Butterfly Species



**Smith's Blue Butterfly**  
*Euphonia Euploes Smithi*



**Callippe Butterfly**  
*Speyeria Callippe Callippe*



**Bay Checkerspot Butterfly**  
*Euphydryas Editha Boycei*

Tongva Name **Sorah**



**Yarrow**  
*Achillea millefolium*

Tongva Name **Tohachear**



**Milkweed**  
*Asclepias californica*

Tongva Name **Ishwish**



**California Lilac**  
*Ceanothus sp.*



**Lange's Metalmark Butterfly**  
*Metanideia Marmorata Lange*



**Monarch Butterfly**  
*Danaus Plexippus*



**El Segundo Blue Butterfly**  
*Euphydryas Battusiana Myers*

Tongva Name **Wilakal**



**CA. Buckwheat**  
*Eriogonum fasciculatum*

Tongva Name **Penor Ahongin**



**CA. Fuchsia**  
*Epilobium [Zauschneria] californica*

Tongva Name **Valselku**

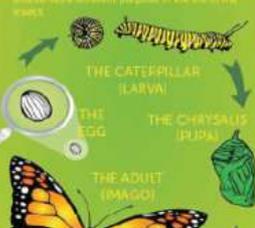


**Bush Monkeyflower**  
*Minuartia longiflora*

## Life Cycle of a Butterfly

### METAMORPHOSIS

As advanced insects, butterflies have a "complete" life cycle. This means that there are four sequential stages, each of which serves completely different and serves a different purpose in the life of the insect.



**THE EGG** → **THE CATERPILLAR (LARVA)** → **THE CHRYSALIS (PUPA)** → **THE ADULT (IMAGO)**

The butterfly undergoes a four-stage life cycle, starting as a microscopic, egg-like creature and ending as a fully formed, winged insect.

## Life Cycle of a Butterfly

### THE EGG

It is a tiny, round, oval or cylindrical object, usually with two rows and other microscopic protrusions. The female attaches the egg to leaves, stems, or other plants, usually on or near the preferred caterpillar food.



Butterfly eggs have a hard outer shell. This protects the tiny inside. The shell is called the chorion. Inside the egg is a small white spot. This keeps the egg from drying out.

## Life Cycle of a Butterfly

### THE CATERPILLAR

It is known as the larva. It is the long, worm-like stage of the butterfly. Immediately after hatching, the caterpillar is so small it can barely be seen. It grows very fast through, feeding on a variety of different leaves.



In just 8 to 14 days it is about 2" long and it starts to crawl. At 2 weeks, it starts to shed. Four or more times in as little as 10 days it is rapidly growing body.

## What Do Butterflies Eat?

### PLANTS

Caterpillars eat mostly plant matter. Although caterpillars love to eat alfalfa!



### NECTAR

Most adult butterflies drink nectar from flowers through their tongues, which function much like straw.



## Attracting Butterflies

### PREFERRED PLANTS

The most successful butterfly habitat includes plants which make the most of butterflies during all four stages of their life cycle: egg, caterpillar, chrysalis and adult.

If you want to host a butterfly garden, it is important that you limit insecticides. Even the most basic methods of chemical control will have a negative impact on butterflies and their larvae.

**Narrow-leaved Milkweed**  
*Asclepias speciosa*

**Coast Goldenrod**  
*Eriogonum californicum*

**Butterflyweeds**  
*Asclepias tuberosa*

**Goldenrod**  
*Solidago canadensis*

**Common Milkweed**  
*Asclepias syriaca*



### PLANT USES LEGEND:

<b>constructional</b>	housing, clothing, and baskets
<b>dietary</b>	edible plants
<b>medicinal</b>	used to heal wounds and sickness

### ECOLOGY - PLANT COMMUNITIES :

- Riparian
- Oak Woodland
- Coastal Sage Scrub
- Chaparral

### BUTTERFLY LEGEND:

<span style="border: 1px solid black; background-color: lightblue; padding: 2px;">threatened</span>	butterfly species
<span style="border: 1px solid black; background-color: red; padding: 2px;">endangered</span>	butterfly species



AMIGOS DE LOS RIOS

**EMERALD NECKLACE**

# Hollydale Park Bird Species

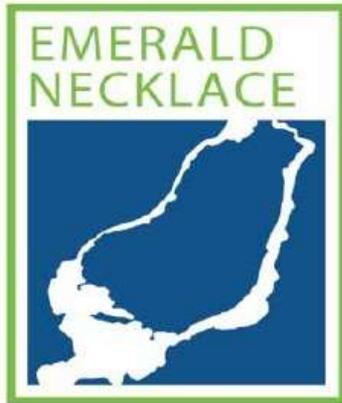


**EMERALD  
NECKLACE**

# Overview: Green Infrastructure

## 38 Agencies Emerald Necklace Coalition – East County

### Coalition Members



#### Coalition Member Agencies

- Azusa
- Baldwin Park
- Duarte
- El Monte
- Irwindale
- Montebello
- South El Monte
- Whittier
- Monrovia
- La Puente
- Bell
- South Gate
- San Gabriel
- Downey

#### Gateway Authority

- Bell Gardens
- Commerce
- Compton
- Cudahy
- Huntington Park
- Long Beach
- Lynwood
- Maywood
- Paramount
- Signal Hill
- Pico Rivera

#### County Agencies

- Los Angeles County Board of Supervisors

#### State Agencies

- State Rivers and Mountains Conservancy

#### Unincorporated Areas

- Hacienda Heights Homeowners Assoc.
- Workman Mills Road Homeowners Assoc.
- Park El Monte Improvement Assoc.

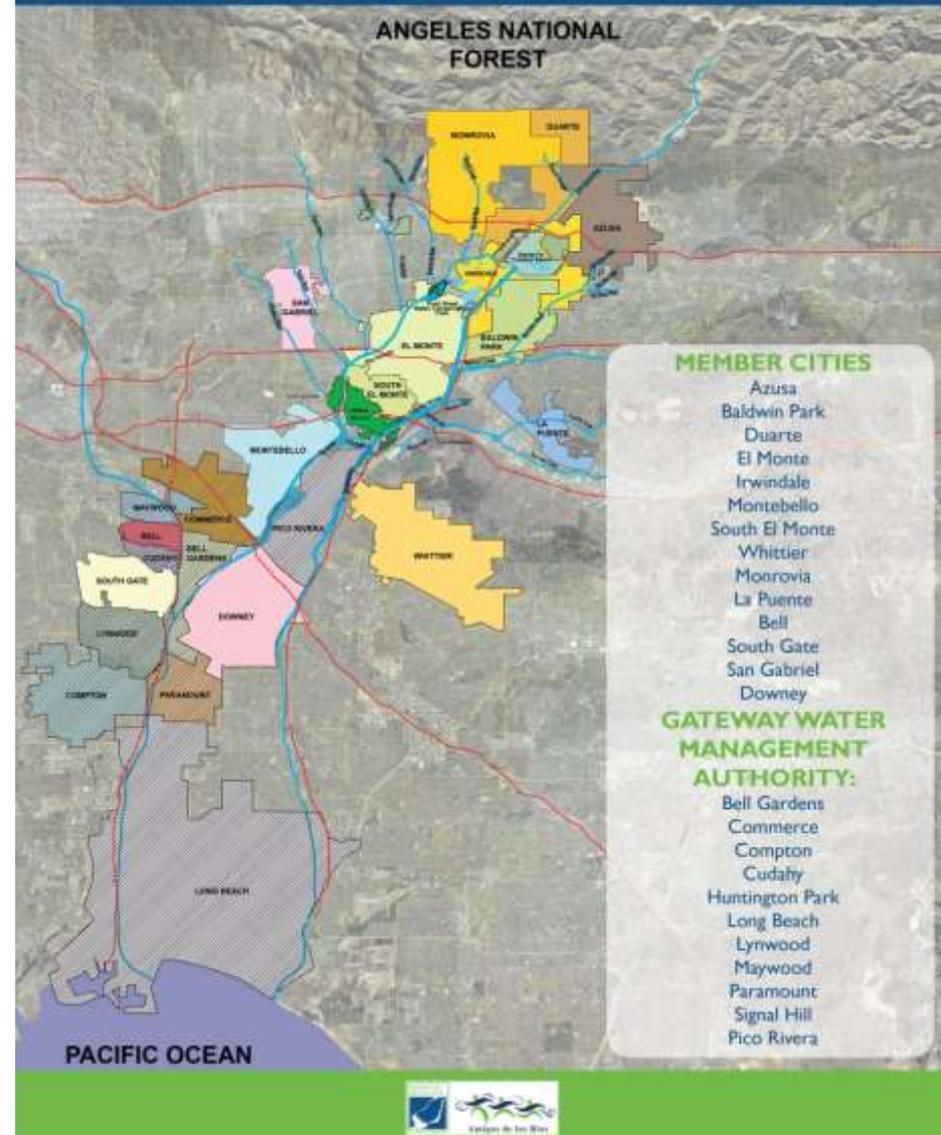
#### Environmental Organizations

- Charro Equestrian Joint Council
- Sierra Club

#### School Districts

- Garvey School District
- El Rancho Unified School District
- Mountain View Unified School District
- El Monte Union School District
- El Monte City School District
- West Covina Unified School District

### EMERALD NECKLACE COALITION MEMBER CITIES







**EMERALD  
NECKLACE**

**LEGEND**

- Industrial Area
- Commercial Area
- School
- Residential
- Equestrian Trail
- Class A Multi-benefit Bike trail
- Proposed Equestrian Trail
- Proposed Multi-benefit Bike trail
- Potential Park Entrance
- Existing Park Entrance
- Lake Edge View Point
- Exercise Station
- Picnic Area
- Sports Field



# AMIGOS DE LOS RIOS - EMERALD NECKLACE GROUP

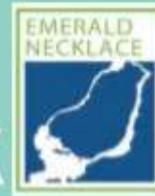
BEFORE



BECK PARK







# PECK RD. WATER CONSERVATION PARK

-QUARRY REDEVELOPED

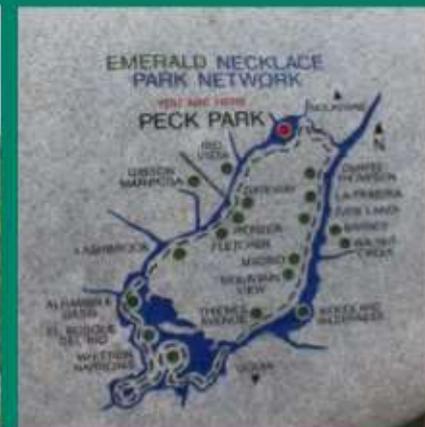


www.amigosdelosrios.org | 908 E Altadena Dr | Altadena, CA 91001 | t:[626] 791.1611 | f:[626] 791.1771



- Created 540 linear foot bioswale
- Created 350 linear foot decomposed granite trail
- Removed subterranean concrete from former quarry
- Total trees planted to date 240
- Total shrubs planted to date 1,611
- Total trees planted to date 8,712

## > phase I completed

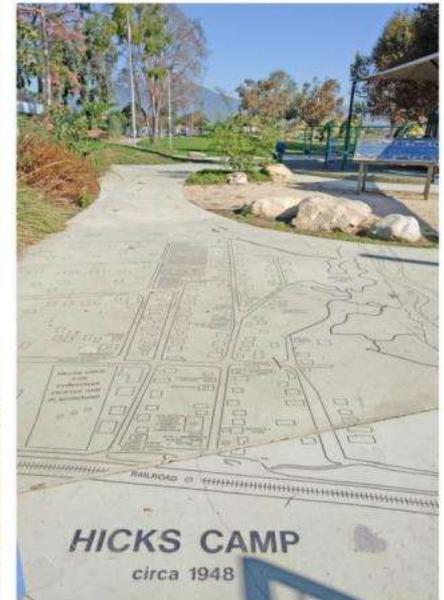


# AMIGOS DE LOS RIOS - EMERALD NECKLACE GROUP

## BEFORE



"We were all there, family and friends and wish those times were still here."  
Richard (Machal) Perez  
former resident of Hicks Camp





**HICKS CAMP**  
circa 1948



# La Historia Society



### Making a difference LEADERS

**Leaugon Men's Classes, 1934 Camp**  
Class 1934

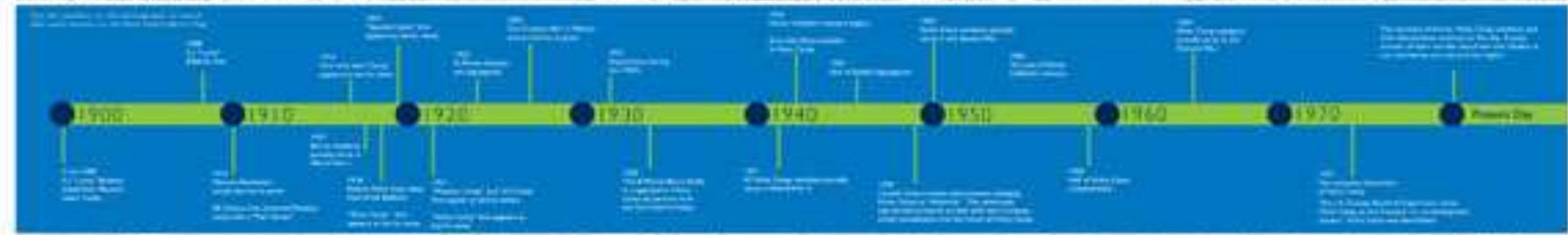
**Leaugon School Classes, 1934 Camp**  
Class 1934

**Rev. Range** - Class 1936

**Rev. Father Calhoun** - Class 1934

The Leaugon School was the first and only school in El Paso up until 1923. At this time, a second school, Columbia, was built to accommodate the increased student population in the city. While students were permitted to attend the new school, white students of Mexican-American and Japanese descent were confined to the old Leaugon school. This was the beginning of school segregation in El Paso. Segregation existed in housing and public places as well. Segregation was rationalized with the arguments of language barriers between the Spanish speaking and English speaking students, although the Mexican and Japanese students spoke English. In 1942, when Reverend Dwight Range and his family moved to El Paso, he joined Father Calhoun of the Hicks Camp Catholic Church in a quest to desegregate the local schools. A large community meeting was held at Columbia School in 1943 in order to address desegregation of the students. Shortly afterwards, El Paso schools were integrated and have been ever since.

## The History of HICKS CAMP





# regional signage system

**The Emerald Necklace of the RIO HONDO**

**Hicks Camp and the 18th Century BERRY STRIKE**

**KICH (Keesh)**

**SHAMAN**

**Life along the River TONGVA**

**Making a difference LEADERS**

"We didn't care for playgrounds...the RIVER was better!"

1. "Our recreation was in the evenings, when all the children played games like hide and seek."

2. "Our playground was the riverbed and all open space around Hicks Camp."

3. "We were all there, family, friends, and I wish those times were still here."

4. "We didn't have much, the roads were dirt, some homes were made of cardboard, but we were all one family."

5. "Every celebration, every funeral, every event, we all knew that it was for everyone."

6. "We went to school barefoot."

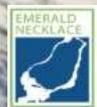
7. "Residents of the barrios were sons and daughters of the Rio Hondo. They played in it and depended on it."

© 2006 Amigos de los Rios. Photo © La Historia Historical Society. For more information on the history of the Rio Hondo, visit [www.lahistoriasociety.com](http://www.lahistoriasociety.com).

Author's Quote:

1, 3, 4, 5, and 6: Richard (Hector) Perez - former resident of Hicks Camp  
 2: Dr. Ben Cabrera - former resident of Hicks Camp  
 7: Sergio Jimenez - historical and grandson of Hicks Camp residents

# CELEBRATE Natural & Cultural HISTORY



The Rio Hondo is a seasonal river and is especially powerful during periods of excessive rain. It is important to know that the Rio Hondo is also quite dangerous even when there is not much water in the channel. The smooth, trapezoidal shape of the channel forces the water to move with great force. As the sides and bottom of the channel are slippery, it is very difficult to escape the strong current of the river. Be cautious - the river has an awesome power at all water levels.

The Rio Hondo did not always look as it does today. Until the river was concreted in the 1950s, the Rio Hondo offered extensive areas to farm, walk, ride horses, play, and swim. The braided streams of the river meandered through the area, enriching the soil with rich sediment from the San Gabriel Mountains. Channeling the river did prevent the area from flooding, but it also took away the valuable recreational space along the river banks. Rio Vista Park gives a piece of the Rio Hondo's original green space back to the communities and people of El Monte.



From top: El Monte youth using the Rio Hondo as a recreational space (© La Historia Historical Society); view of the damage done to the bridge leading to downtown El Monte after the flood of 1914 (© El Monte Historical Society)  
Background image: 1941 aerial of the Rio Hondo's braided streams (© UCLA Geography Archive)

The human body is made out of approximately 55% to 60% water, so make sure you drink plenty of water while on the trail.



# Historic Photo of the Rio Hondo



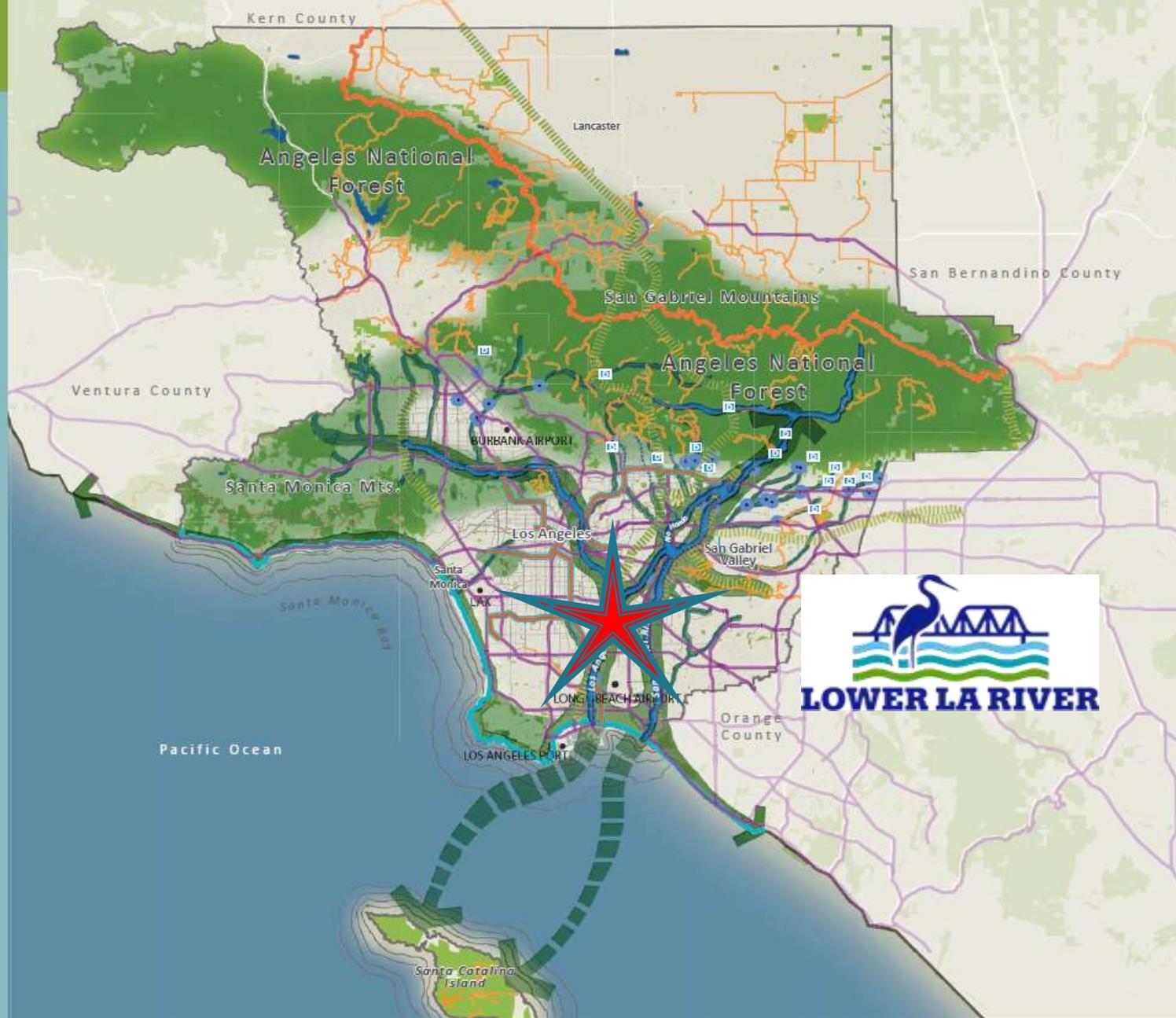


# GREEN AND GREY INFRASTRUCTURE MAP

This map depicts existing grey infrastructure that we propose be greened and utilized. We propose to use the residual spaces underneath the utility lines to create greenways and natural areas. We can also improve the greening surrounding the freeways and public transit lines.

## LEGEND

-  Greenway along Rivers/Washes/Creeks
-  Greenways under utility lines
-  Improved greening within and adjacent to freeways
-  Improved greening along public transit
-  Spreading Basins
-  Dams





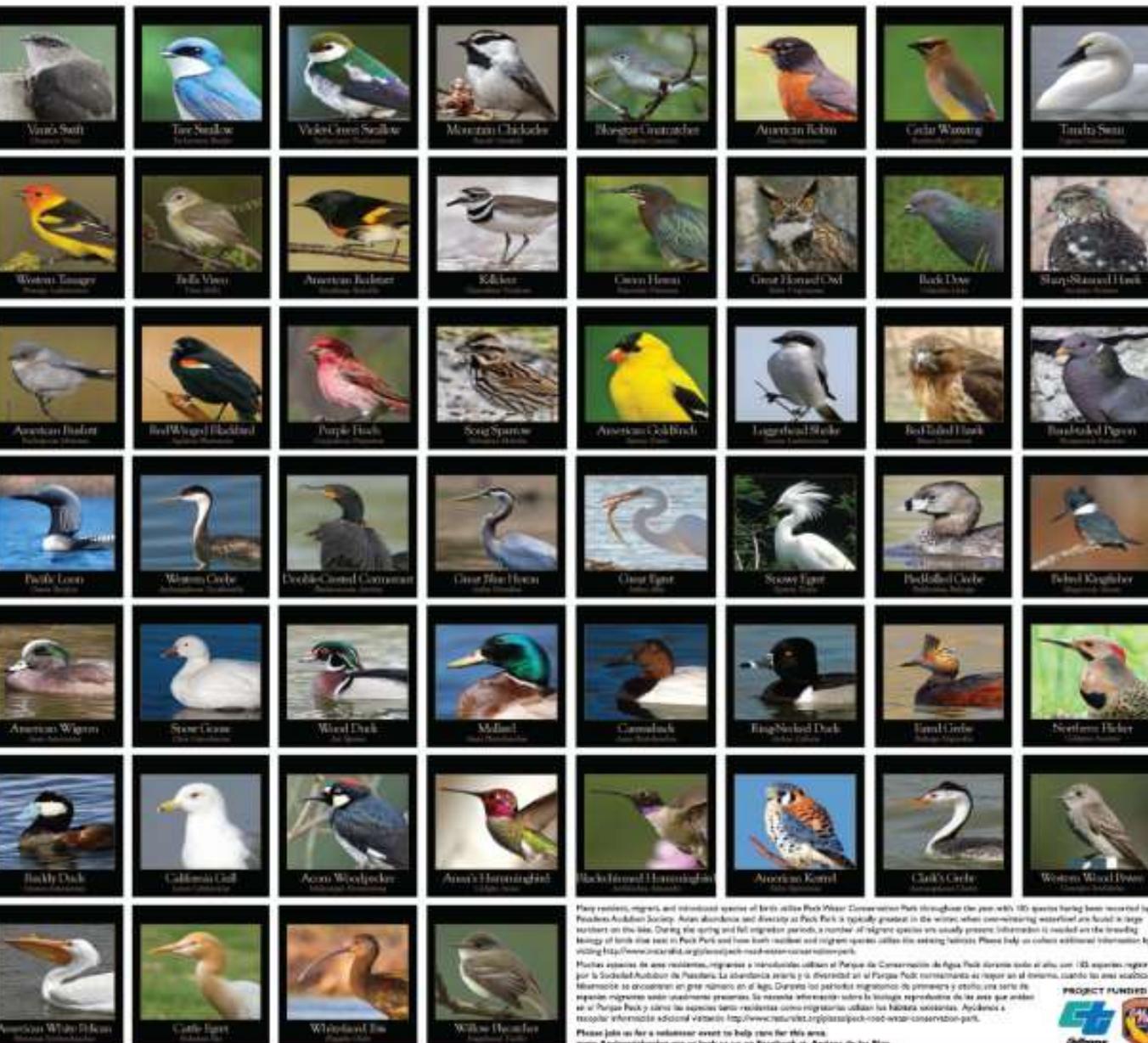
# Development of NEXT Generation Watershed Stewards



**EMERALD  
NECKLACE**

# Inland Empire Parking Lot





They remain, migrate, and introduced species of birds utilize Park West Conservation Park throughout the year with 180 species having been recorded by the Pasadena Audubon Society. Avian abundance and diversity at Park West is typically greatest in the winter when overwintering waterfowl are found in large numbers on the lake. During the spring and fall migration periods, a number of migratory species are usually present. Information is available on the breeding biology of birds that nest in Park West and how both resident and migratory species utilize the existing habitats. Please help us collect additional information by visiting <http://www.audubon.org/fieldresearch/fieldresearcher>.

Muchas especies de aves residentes, migratorias e introducidas utilizan el Parque de Conservación de Agua Park durante todo el año con 180 especies registradas por la Sociedad Audubon de Pasadena. La abundancia aviar y la diversidad en el Parque Park correspondiente al invierno, cuando las aves acuáticas de invierno se encuentran en gran número en el lago. Durante los períodos migratorios de primavera y otoño una serie de especies migratorias usualmente presentes. Se necesita información sobre la biología reproductiva de las aves que anidan en el Parque Park y cómo las especies tanto residentes como migratorias utilizan los hábitats existentes. Ayúdenos a recopilar información adicional visitando <http://www.audubon.org/fieldresearch/fieldresearcher>.

Please join us for a volunteer event to help care for this area. [www.AudubonPasadena.org](http://www.AudubonPasadena.org) or look us up on Facebook at: [Audubon de los Rios](https://www.facebook.com/AudubonDeLosRios).

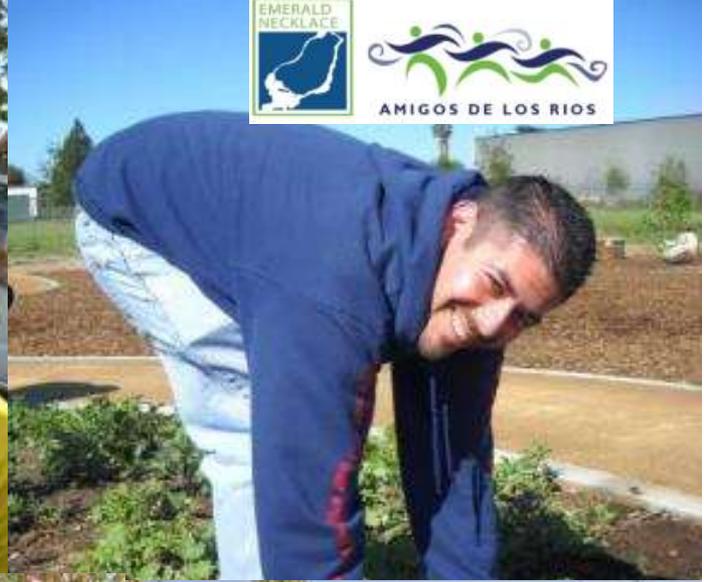


# Emerald Necklace Nature Trail



© 2013 AMIGOS DE LOS RIOS







# Parque Dos Rios Bioswale

## Watershed Conservation Authority

### Safe, Clean Water Program

Lower San Gabriel River

Watershed Area Steering Committee (WASC)

Technical Resources Program (TRP)

Project Applicant

**Debbie Enos**

Deputy Executive Officer

Watershed Conservation Authority

Geomorphologist

**Martin Kammerer, PhD**

Principal

BlueGreen Consulting

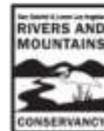


# Project Context

The Watershed Conservation Authority is currently constructing a 7+ acre Parque Dos Rios Bike Rest Area and Habitat Enhancement project located along the Los Angeles River at the confluence with the Rio Hondo just north of Imperial Blvd in the City of South Gate.



Construction Funded by  
**Proposition A**  
Safe Neighborhood Parks Act  
of 1992 and 1996

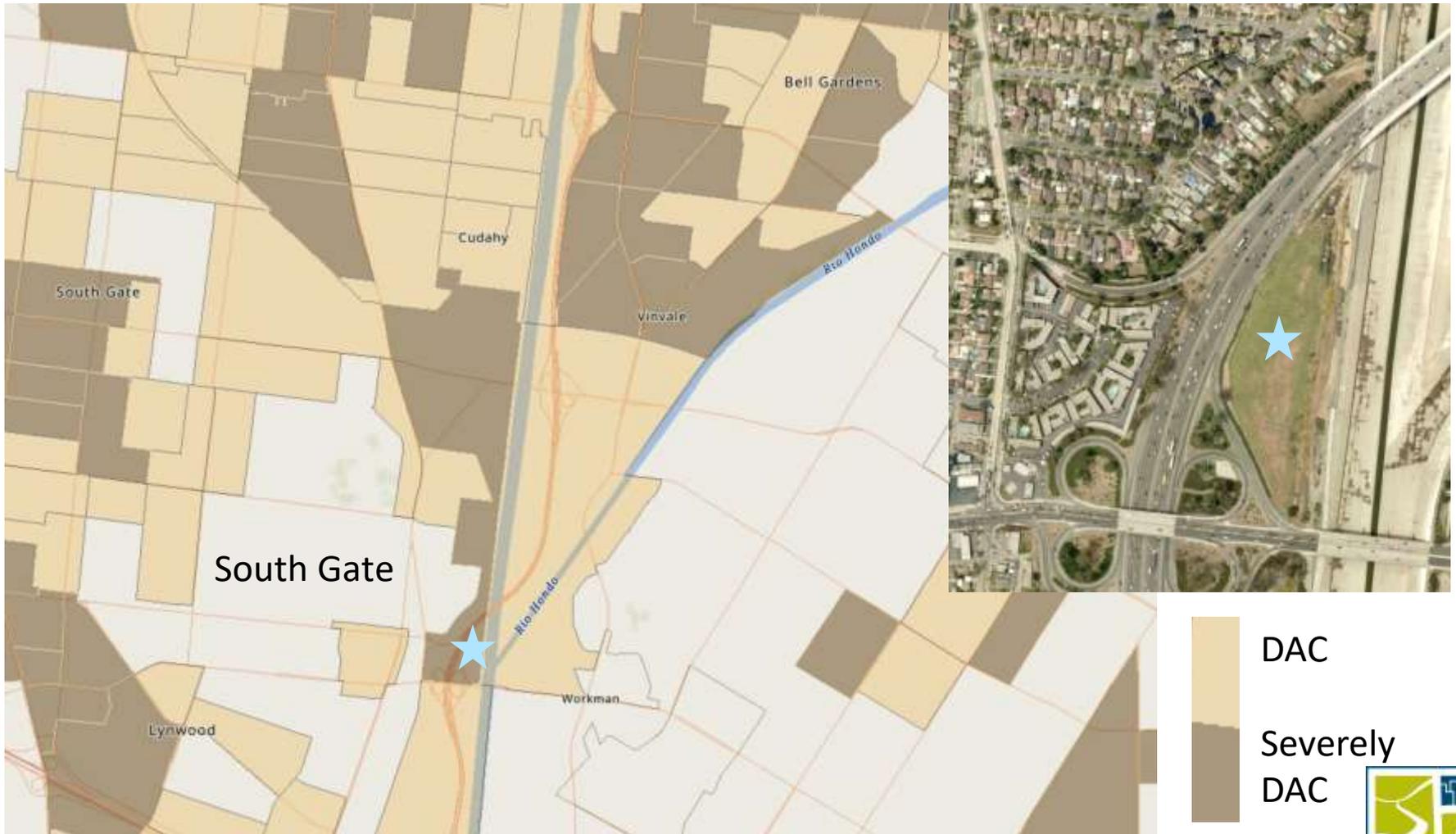


**Edmund G. Brown, JR., Governor**  
John Laird, Secretary for Natural Resources



Acquisition Funded by  
**Proposition 40**  
California Clean Water, Clean Air, Safe Neighborhood  
Parks, and Coastal Protection Act of 2002

# Project Location and DAC Communities



# Parque Dos Rios | Phase I

- Amenities

- Two Trailside Overlooks
- Shade and Seating
- Interpretive Features
- Habitat Restoration
- Decorative Iconic Gates

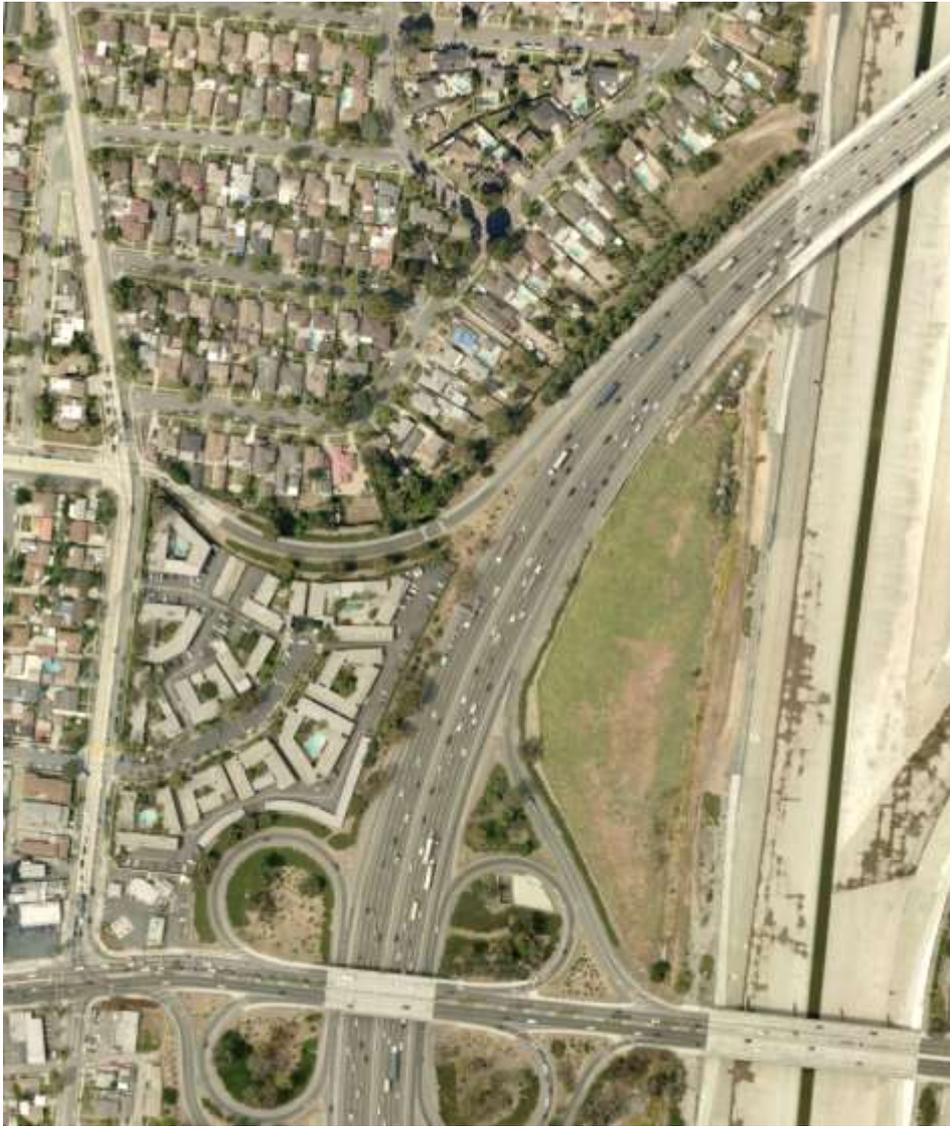


# Parque Dos Rios | Phase II Bioswale

Single Purpose Grey Infrastructure to Green Nature Based Multi-Purpose Solution



# Site Analysis

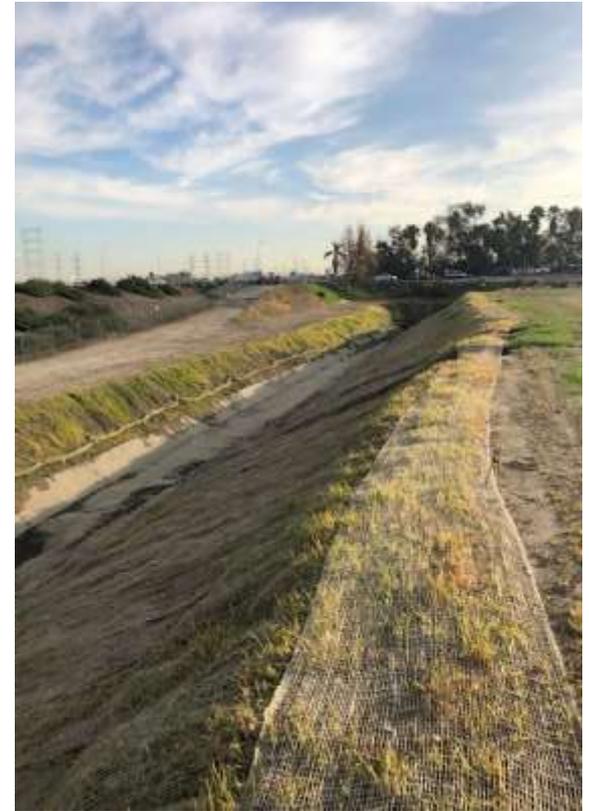


# History of a Dysfunctional Site

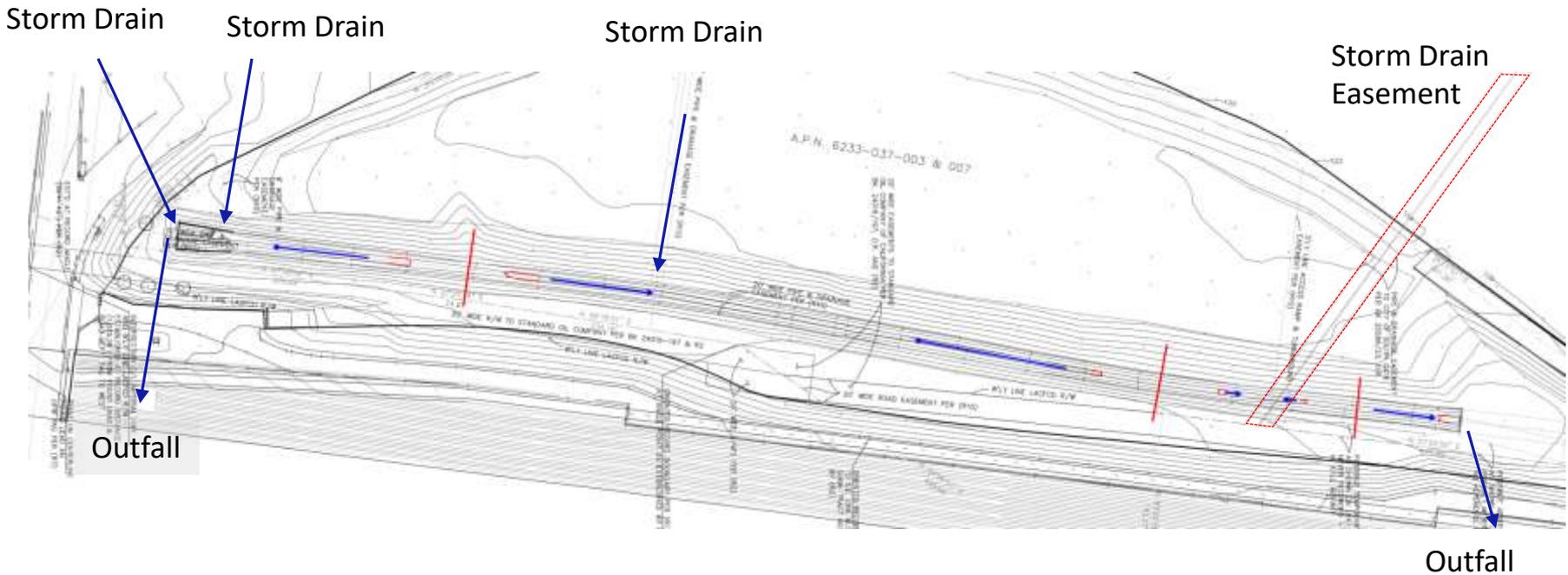


LLAR Trail

# Site Photos

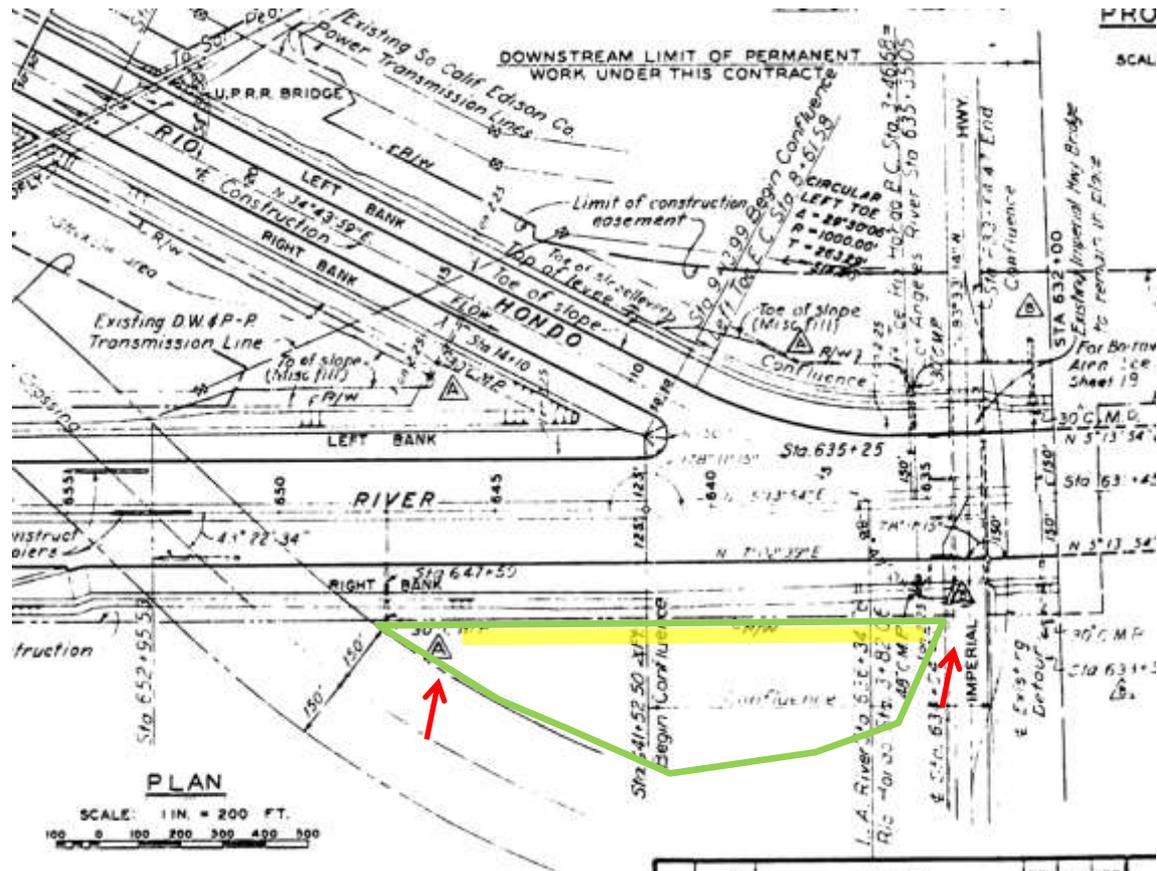


# Site Analysis



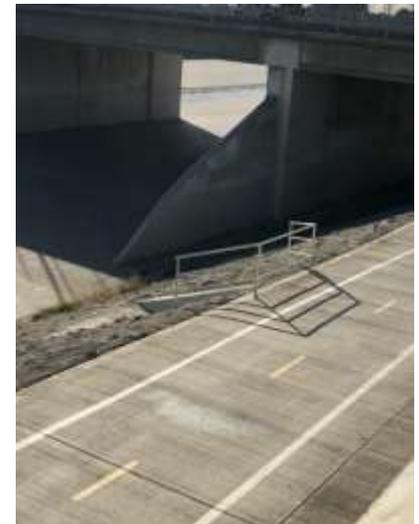
- Three storm drains
- Two outfalls to L.A. River
- One unused easement for City of South Gate
- Channel has no slope

# How did we get here?



USACE channel design and construction first.

Storm drain outlets built before the freeway.



# Site Photos



# Site Photos



# Site Analysis: Source Areas



- South Gate Residential (1)
- Mixed Freeway/Residential (2)
- Freeway Center (3)
- Freeway Embankment (4)

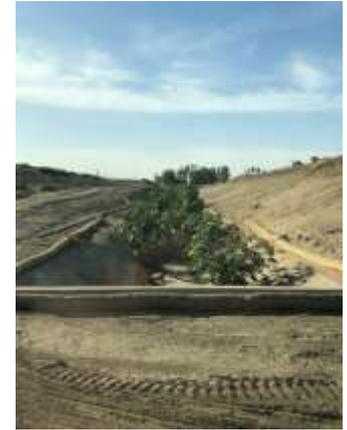
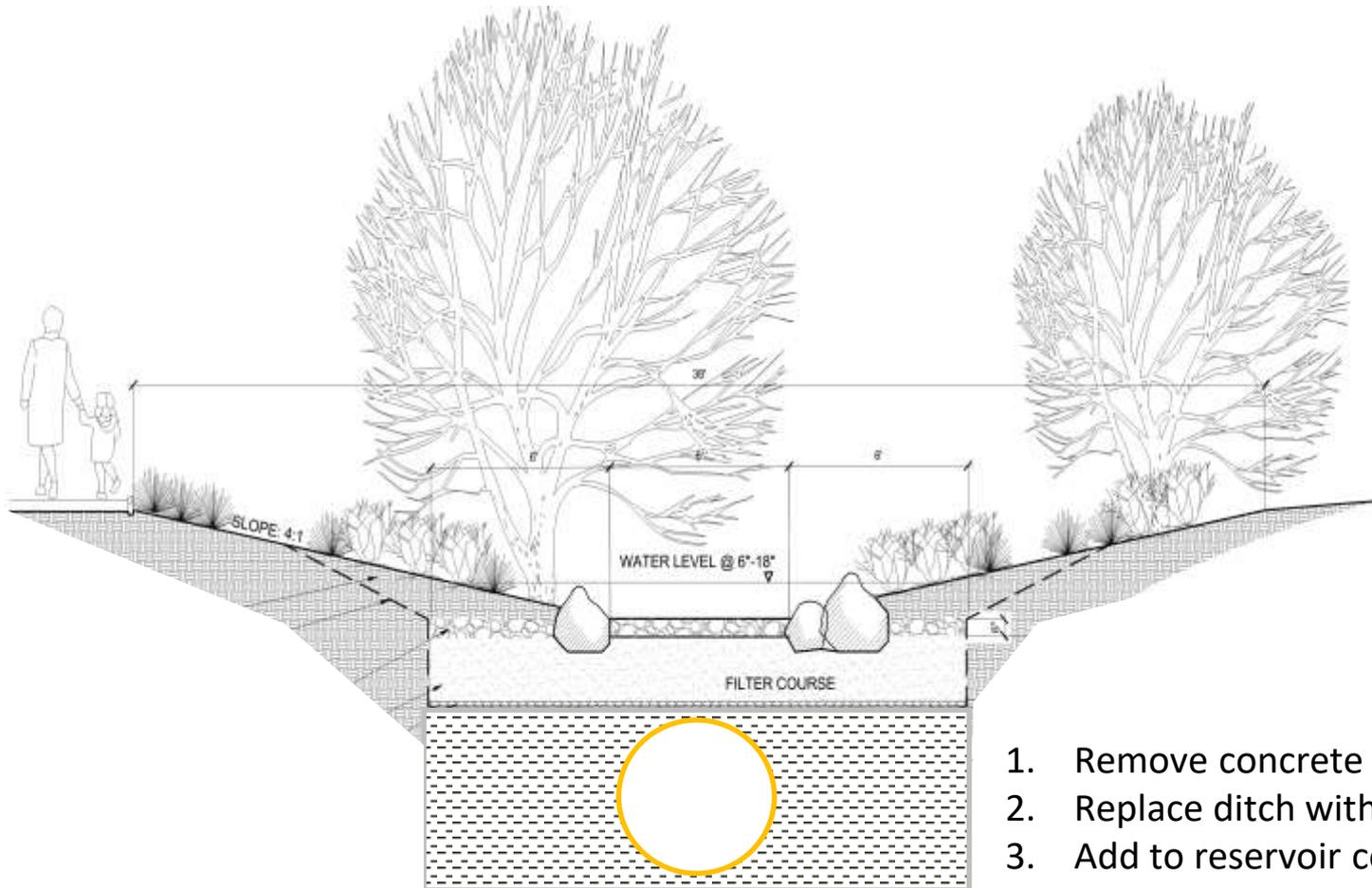
## Area Estimates

- 14 ac. Freeway
- 25-45 ac. Residential

# Project Opportunities

- Capture and treat stormwater from a multi-jurisdictional watershed area
- Up to 60 acres including freeway, commercial and residential land uses
- Intercept dry and wet weather stormwater from an existing Caltrans storm drain with untreated runoff
- Provide a low flow diversion within WCA property
- Keeping but improving the base infrastructure
- Replace an existing concrete stormwater channel
- Construct a naturalized bioswale/wetland

# Project Opportunities



1. Remove concrete
2. Replace ditch with buried pipe
3. Add to reservoir course

# Project Opportunities



# Summary of Benefits

- Water Quality (Dry/Wet)
- Water Supply

Table 6. Average EMCs for SCCWRP storm monitoring data by general land use group

General land use	Average flow (cfs)	TSS (mg/L)	Total Cu (µg/L)	Total Pb (µg/L)	Total Zn (µg/L)	TP (mg/L)	Fecal coliform (#/100 mL)
Agricultural	8.1	354.7	33.2	10.2	112.3	0.01	65,207
Commercial	1.3	164.8	98.2	85.0	665.9	0.98	43,103
Industrial	5.1	149.7	30.0	20.3	691.3	0.02	1,504
LD Residential	0.5	58.3	15.9	4.1	59.6	0.13	19,110
Residential	2.7	152.5	12.8	4.7	91.6	0.20	6,685
ME01	644.9	459.7	106.9	64.0	392.8	1.53	17,042
ME02	1,403.4	733.5	134.6	97.1	556.6	2.08	79,746
ME03	1,259.6	434.7	42.2	36.6	283.3		301
ME04	488.1	226.3	42.4	42.5	245.9		10,025
ME05	1,609.6	264.3	58.7	55.2	367.8	0.13	22,735
ME06	2.5	68.5	10.3	3.6	29.3		6,019
ME07	71.1	566.8	59.8	23.3	239.0	0.38	2,105

EMC = event mean concentration; cfs = cubic feet per second; µg/L = micrograms per liter; mg/L = milligrams per liter



# Summary of Benefits

- Community Investment
- Leveraged Funds
- Community Support

**Table 1-7: DAC Percentage by City**

City	DAC Percentage <sup>1</sup>
Downey	29%
Lakewood	3%
Long Beach	49%
Lynwood*	100%
Paramount*	100%
Pico Rivera	34%
Signal Hill	34%
South Gate*	100%

\* Denotes disadvantaged community as a whole



*Lower Los Angeles River Revitalization Plan: Volume 1 People + Place + Projects*



# Summary of Benefits

- Nature Based Solutions



# Feasibility Study

- Coordination with Caltrans and City of South Gate
- Full hydrology for all contributing areas
- Pollutant Model
- Geotechnical borings to obtain infiltrations rates
- Coupled hydraulic and hydrologic model
- Engineering Coordination for joint design with Caltrans
- Extended review of opportunities

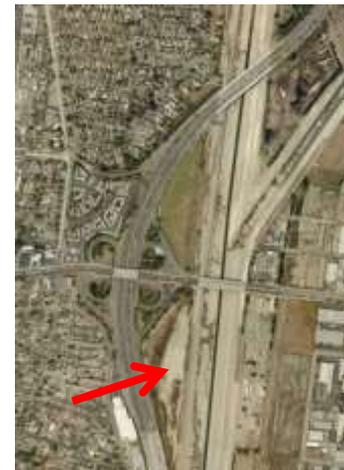


# Extended Opportunities

## Caltrans Projects in Vicinity of Parque Dos Rios

Project Number	EA	Route	Mile Post from	Mile Post to	Project Elements	Anticipated Completion
46	28920	710	15.8	24.4	Stormwater Source Control	5/3/2021
71	29801	710	17.9	18.1	Soundwall	7/7/2023
72	29802	710	12.9	24.9	Soundwall	10/4/2021
140	30830	710	18	18.5	Reconstruction Onramp	9/16/2024
275	33050	710	16.5	23.2	Access, Gates, MVP	12/27/2023
348	34700	710	9.6	32.1T	Drainage System Restoration	3/29/2024

Source: Stormwater Management Program, District 7 Work Plan



# Thank You |

## **Watershed Conservation Authority**

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