

Safe, Clean Water Program

Fiscal Year 2021-2022

WASC Review Sheet



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

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

Safe, Clean Water Program

Fiscal Year 2021-2022

WASC Review Sheet



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



Lynwood City Park

Infrastructure Program

City of Lynwood

Presented by Lorry Hempe & John Hunter



Project Overview

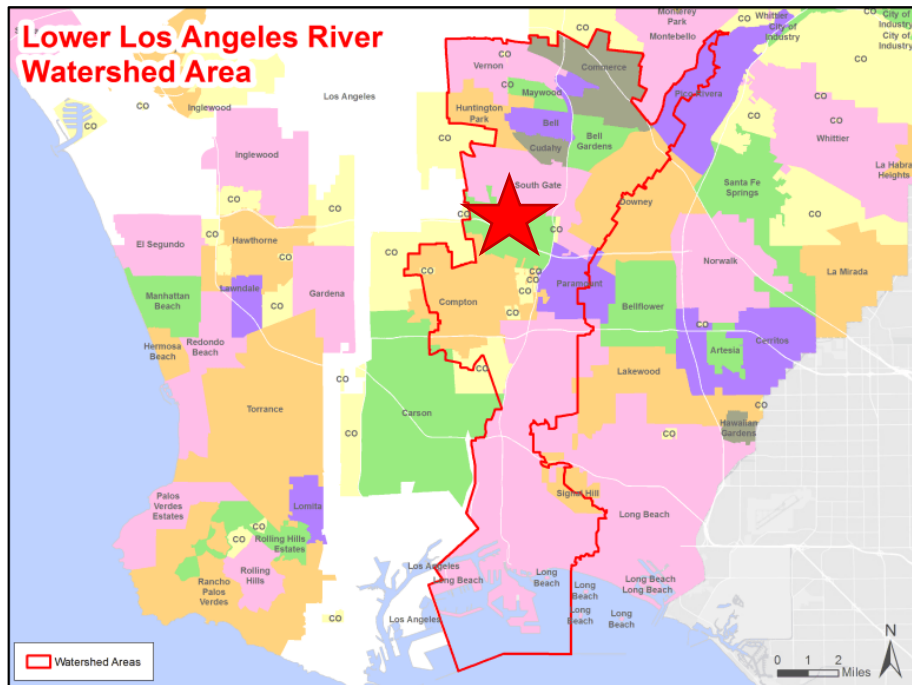
Regional stormwater capture and infiltration system that will also install a new parking lot, soccer field, and ephemeral stream

- Primary and Secondary Objectives:
 - Improve water quality within the Los Angeles River Watershed
 - Potentially increase water supply (e.g. offset irrigation needs, recharge aquifer)
 - Enhance recreational opportunities and rehabilitate park facilities
 - Implement nature-based solutions
- Project Status: Design
- Total Funding Requested: \$1,691,629

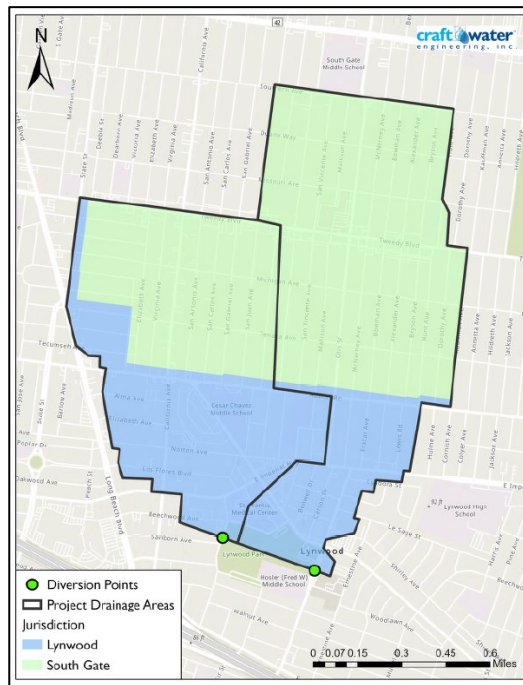




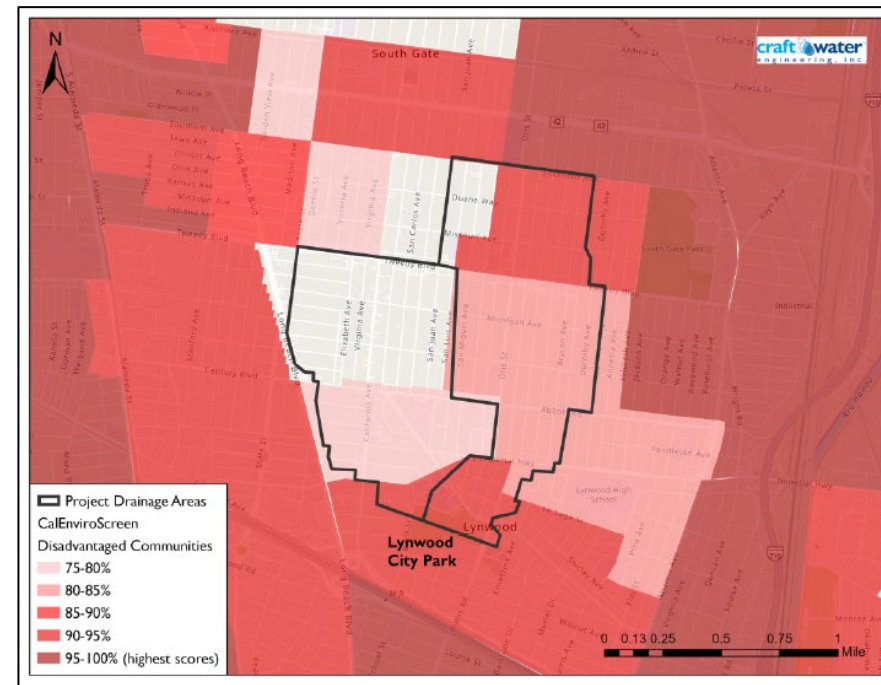
Location



The project is located in the City of Lynwood, within the Lower Los Angeles River Watershed Area



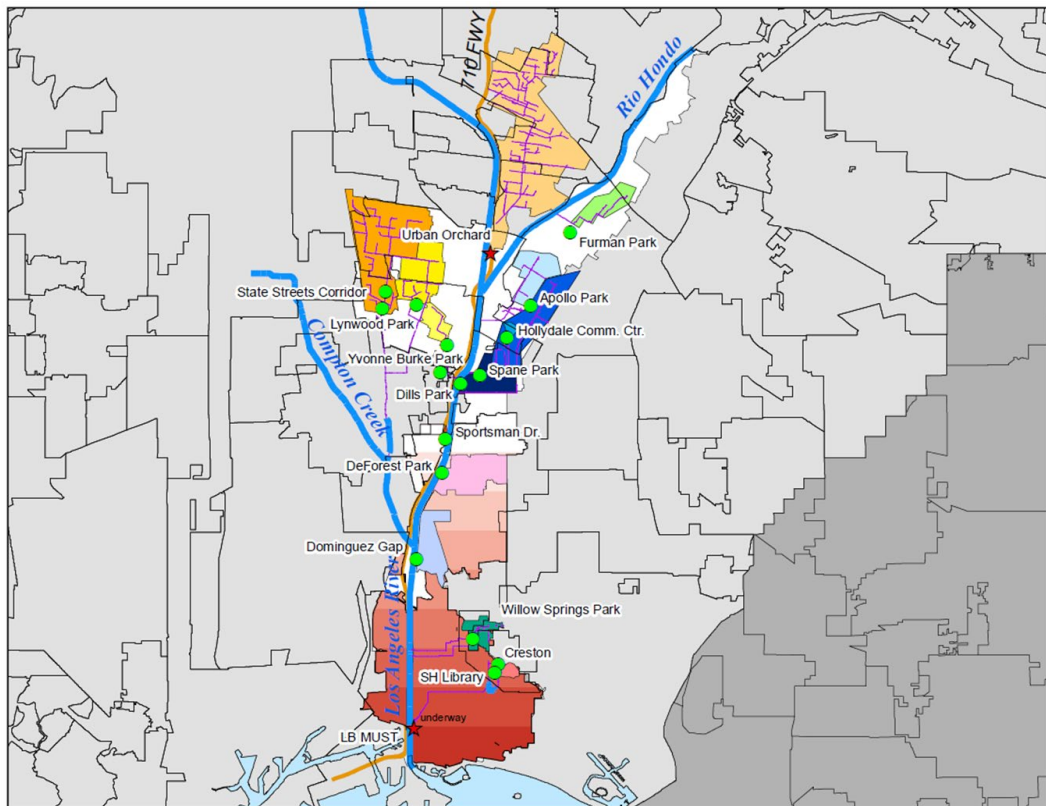
The project has a total drainage area of 955 acres, encompassing portions of Lynwood (~351 acres) and South Gate (~604 acres)



The project contains multiple DACs within its drainage area and is itself located within a DAC



Background



The project is part of the overall Stormwater Corridor approach being taken by the LLAR Watershed Management Group

- The site was identified in the LLAR WMP (approved in 2015) and was subsequently uploaded to the Opti database for inclusion in the GLAC IRWMP
- The LLAR Watershed Management Group funded geotechnical testing in 2016 and the development of a Feasibility Study (including 10% design plans) in the first half of 2020
- The project will therefore implement the LLAR WMP and represent progress toward compliance with the MS4 Permit and applicable TMDL milestones
- Local DACs will benefit from improved park utility and recreational facilities (e.g. soccer field with new turf grass, ephemeral stream with a bird/butterfly garden, native vegetation)
- The City has conducted preliminary community outreach and the design will comply with all LA County anti-displacement avoidance measures



Details

- The site operates as a park with 3 baseball fields, 3 soccer fields, 2 basketball courts, outdoor fitness zone, 2 playgrounds, 5 picnic shelters, a skate park, restrooms, concession stands, 4 tennis courts, the Lynwood Community Center, and the Lynwood Natatorium and is abutted by Hosler Middle School
- Infiltration testing indicated typical rates ranging from 0.83 to 1.03 inches per hour, and borehole logs indicate conditions conducive to acceptable infiltration rates
- Preliminary hydrological analyses and a utility review have been conducted
- Stormwater capture optimization methods were used when considering project alternatives



Parking Lot: Permeable Pavement and Bioswales



Pre-Cast Subsurface Infiltration Facility



Ephemeral Stream to butterfly garden



Cost & Schedule

Phase Costs			
Phase	Description	Cost	Completion Date
Design	Final Design (30/60/90/100)	\$ 1,300,562.00	09/2022
Design	Environmental Planning (CEQA) and Permitting	\$ 260,112.00	09/2022
Design	Public Outreach	\$ 50,000.00	09/2022
Design	Agency Project Management (Design Phase)	\$ 80,955.00	09/2022
Construction	Construction Cost	\$ 13,005,615.00	09/2024
Construction	Construction Survey	\$ 20,000.00	09/2024
Construction	Construction Administration and Design Support	\$ 1,300,562.00	09/2024
Construction	Agency Project Management (Construction Phase)	\$ 244,185.00	09/2024
Total Funding:		\$ 16,261,991.00	

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



Funding Request

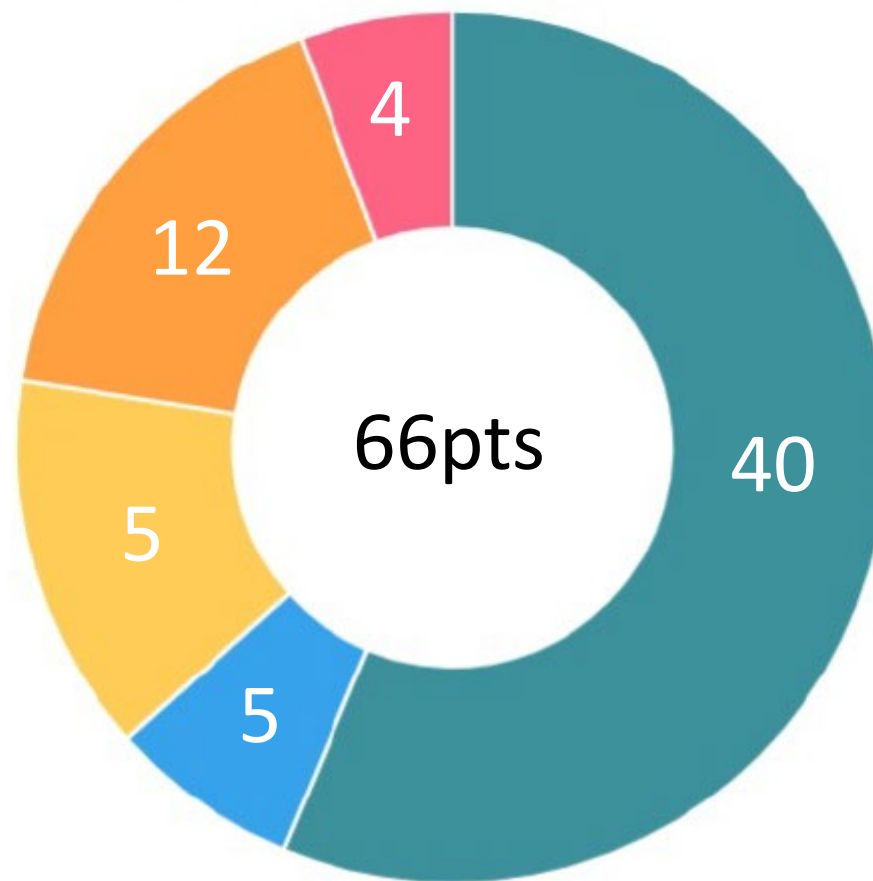
Funding Requested by Year & Phase			
Year	SCW Funding Requested	Phase	Efforts during Phase and Year
Year 1	\$ 260,112.00	Design	Environmental Planning (CEQA) and Permitting
Year 1	\$ 1,300,562.00	Design	Professional Design Services (30/60/90/100)
Year 1	\$ 50,000.00	Design	Public Outreach Campaign
Year 1	\$ 80,955.00	Design	Agency Project Management (Design Phase)
Total Year 1	\$ 1,691,629.00		
Total Funding:	\$ 1,691,629.00		

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



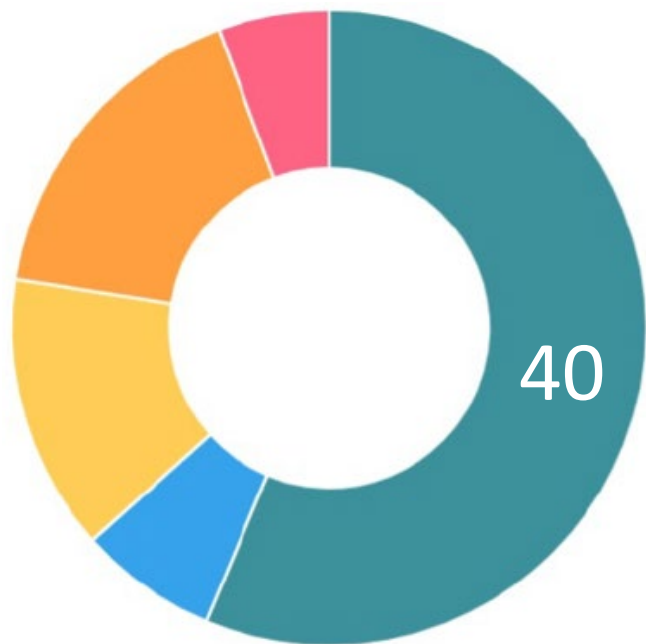
Score (per Scoring Committee)

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





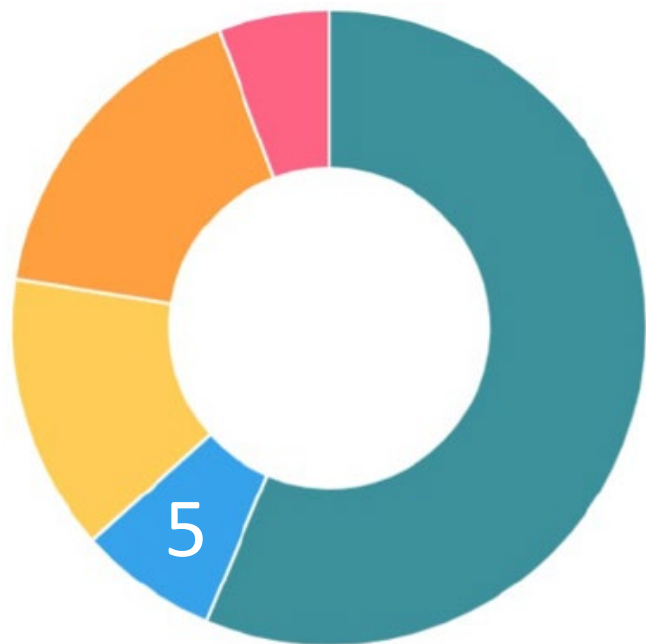
Water Quality Benefits



- Primary mechanisms: runoff/pollutant capture, infiltration, filtration, and release
- A 11.2 ac-ft underground storage reservoir is proposed with a storage depth of 10.0-feet, a freeboard depth of 1-foot, and a footprint of 1.12 acres
- The project proposes to include both an infiltration element and a filtration element
 - Infiltration of water into the subsurface and eventually the water table for pollutant removal
 - Supplementary pump and filter system to provide additional final pollutant removal prior to discharge back into the storm drain channel during larger events; smaller events are anticipated to infiltrate
 - Effluent flows will be used to create an ephemeral biofiltration creek with a bird and butterfly garden that can improve habitat through natural flora and fauna
- The proposed project dimensions will adequately allow capture of all dry weather flows



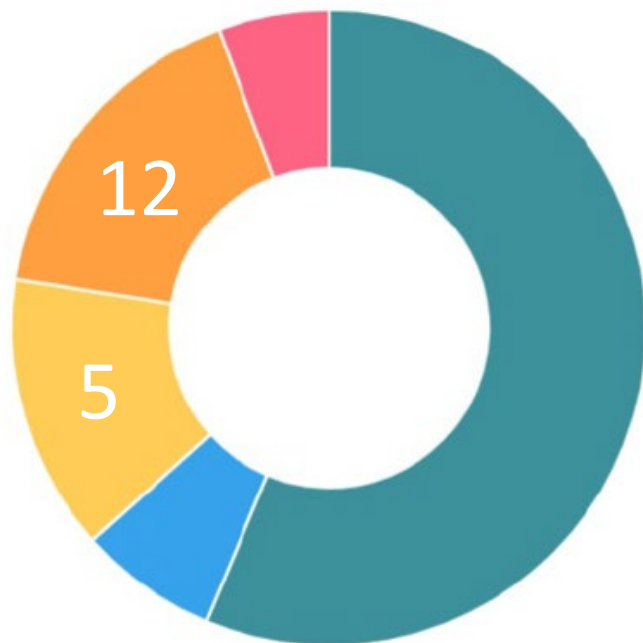
Water Supply Benefits



- Onsite Irrigation Use
 - The project could utilize captured flows to offset onsite irrigation needs
 - Dry weather flows require additional studies during design development
- Water Recycling
 - There are sanitary sewer lines in the vicinity of the project, but further capacity study would be required to determine if discharges to these would be feasible
- Aquifer Recharge
 - The project is connected to a managed water supply aquifer (Central Basin of the Coastal Plain, Los Angeles aquifer)
 - Infiltration rates are modest and will augment groundwater supply by approximately 19 acre-feet on an average annual basis
 - Confirmation that the Central Basin Municipal Water District concurs with this added benefit is still needed



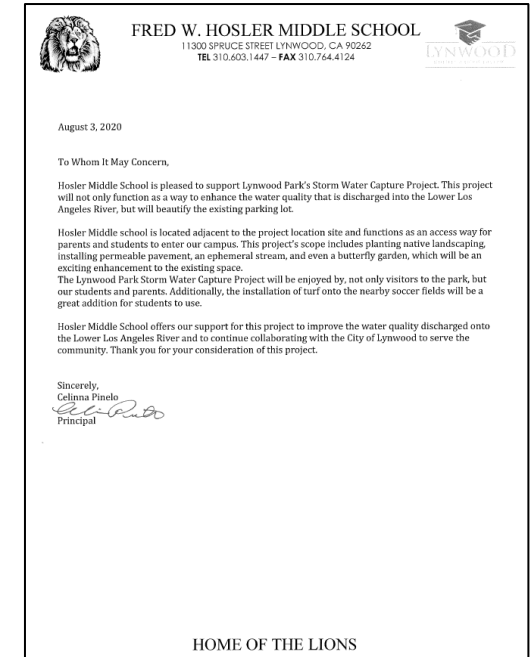
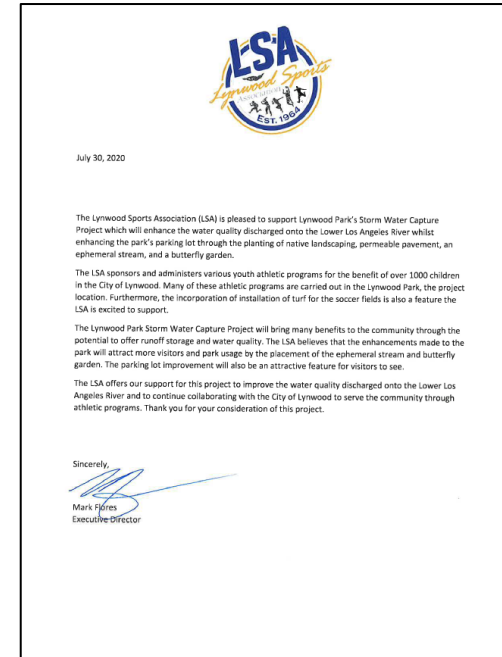
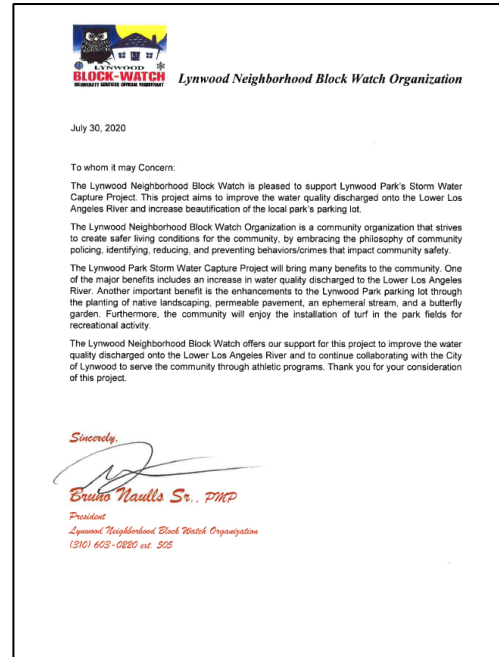
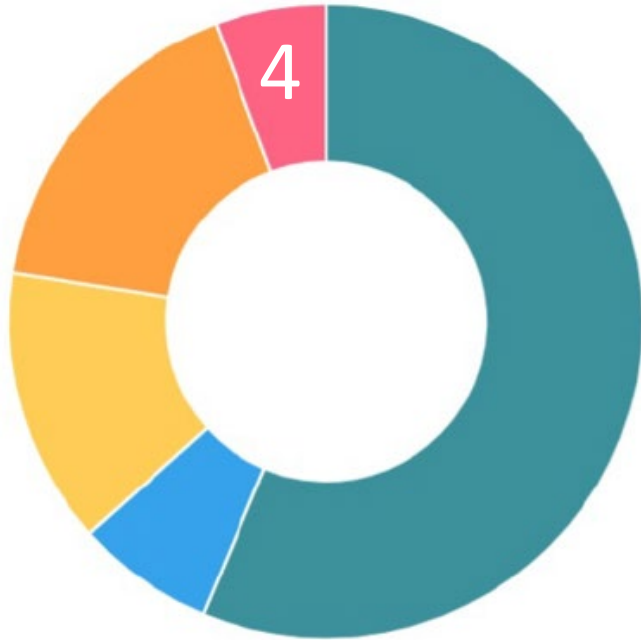
Community Investment Benefits & Nature-Based Solutions



- Flood Management:
 - The project takes diverted stormwater from two storm drains, reducing potential stress on the local storm drain system
- Enhanced Park Space and Recreational Opportunities:
 - Removal and replacement of the park surface (including the soccer field and the parking lot)
 - Installation of a new ephemeral stream
- Reduced Heat Island Effect:
 - Landscape plans post construction include additional native trees, shrubs, and grasses
 - The ephemeral bioretention stream and associated bird and butterfly garden will increase the on-site native vegetation that will provide additional shade and cooling effects



Leveraging Funds & Community Support



- The LLAR Watershed Management Group provided funding for the Feasibility Study (including 10% design plans) and the preliminary geotechnical testing for the project
- The City will utilize its municipal allocation of the Safe Clean Water Program to provide its cost share of the design costs for the project and will continue to pursue additional funding sources to support construction costs
- The project has received letters of support from the Lynwood Neighborhood Block Watch Organization, Lynwood Sports Association (LSA), and Fred W. Hosler Middle School



Questions?



Spane Park

Infrastructure Program

City of Paramount

Presented by Adriana Figueroa & John Hunter



Project Overview

Regional stormwater capture and infiltration facility located at Spane Park beneath the open space of the existing park surface

- Primary and Secondary Objectives:
 - Improve water quality within the Los Angeles River Watershed
 - Offset potable water demand at the park and remove the existing maintenance-demanding man-made pond
 - Restore/rehabilitate park facilities and install a dedicated soccer field in the City
 - Construct a native California landscaping area with ephemeral stream
 - Benefit disadvantaged communities (both within the City and downstream)
- Project Status: Design
- Funding Requested: \$891,984

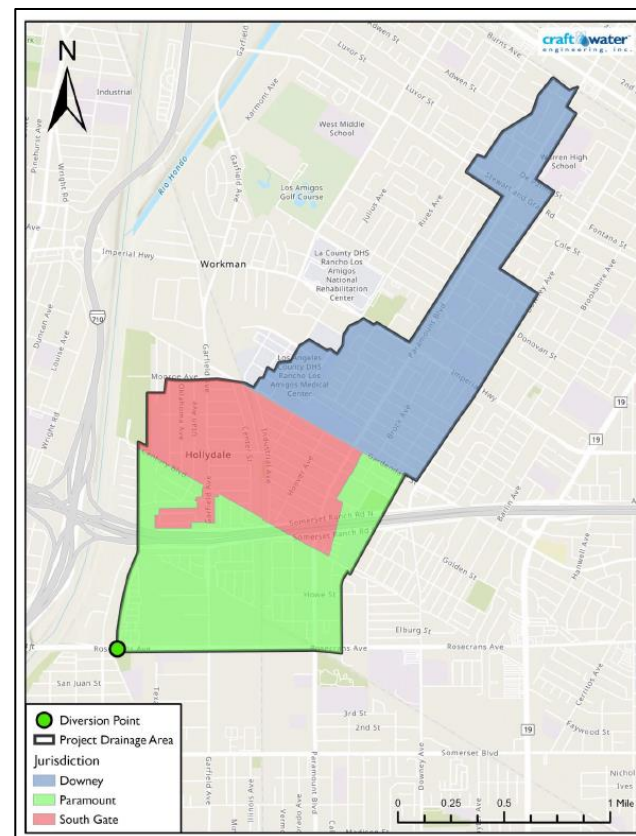




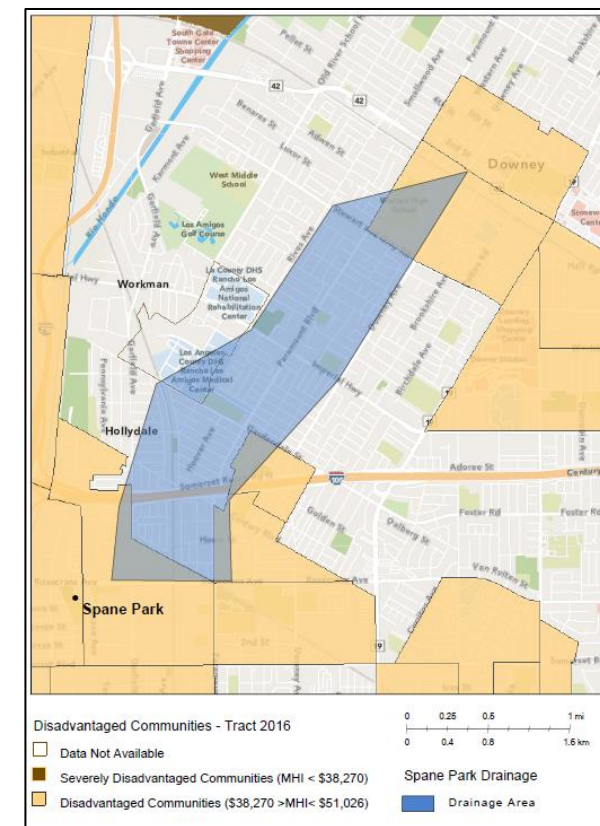
Location



The project is located in the City of Paramount, within the Lower Los Angeles River Watershed Area



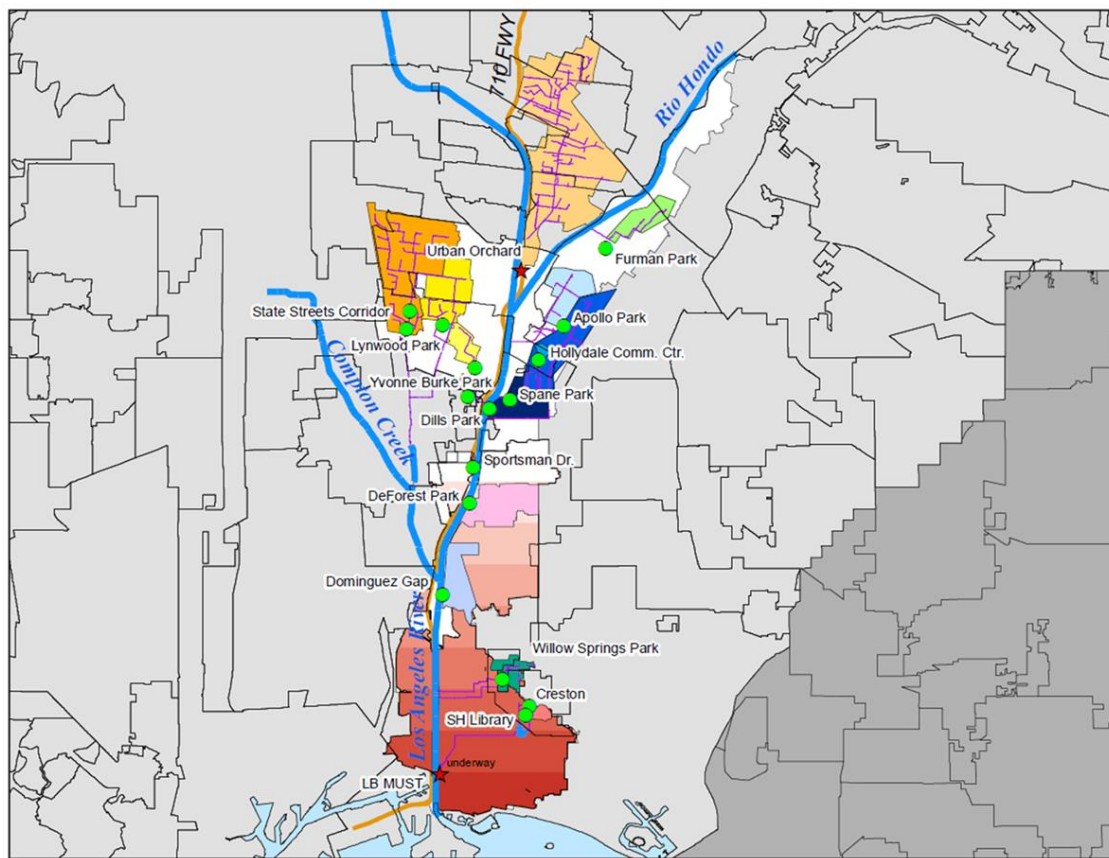
The project has a drainage area of 1,338 acres (483 in Paramount, 528 in Downey, and 327 in South Gate)



The project is located within a DAC; downstream DACs will benefit from improved water quality



Background



The project is part of the overall Stormwater Corridor approach being taken by the LLAR Watershed Management Group

- The site was identified in the LLAR WMP (approved in 2015) and was uploaded to the Opti database for inclusion in the GLAC IRWMP
- The LLAR Watershed Management Group funded percolation testing in 2018 and the development of a Feasibility Study (including 10% design plans) in 2019
- The project will therefore implement the LLAR WMP and represent progress toward compliance with the MS4 Permit and applicable TMDL milestones
- The City has imminent plans to rehabilitate park facilities and install the first public use soccer field in the City; the proposed project will take this opportunity to install a regional stormwater capture and filtration facility
- **If the project is not funded, this opportunity window will close**



Details

- Per the preliminary concept plan, the scope of the project will include:
 - Diversion and pre-treatment system
 - Underground storage reservoir (3.5 acre-feet)
 - Infiltration and filtration elements
 - Nature-based solutions (e.g. bioswale, ephemeral stream, LID BMPs in parking lots)
 - Surface improvements including a new soccer field, picnic shelter, and vegetation
- Preliminary hydrological analyses and a utility review have been conducted
- Stormwater capture optimization methods were used when considering project alternatives





Cost & Schedule

Phase Costs			
Phase	Description	Cost	Completion Date
Design	Pre-Design, Design, and Construction Support	\$ 641,857.00	06/2022
Design	Public and Community Outreach	\$ 100,000.00	06/2022
Design	Environmental Planning and Permitting	\$ 128,371.00	06/2022
Design	Agency Project Management	\$ 21,755.00	06/2022
Construction	Construction Surveying	\$ 20,000.00	08/2025
Construction	Construction Administration	\$ 641,857.00	09/2026
Construction	Construction Costs	\$ 6,418,574.00	09/2026
Construction	Agency Project Management	\$ 160,464.00	09/2026
Total Funding:		\$ 8,132,878.00	

Annual Cost Breakdown	
Annual Maintenance Cost:	\$ 43,000.00
Annual Operation Cost:	\$ 3,600.00
Annual Monitoring Cost:	\$ 15,000.00
Project Life Span:	50 years



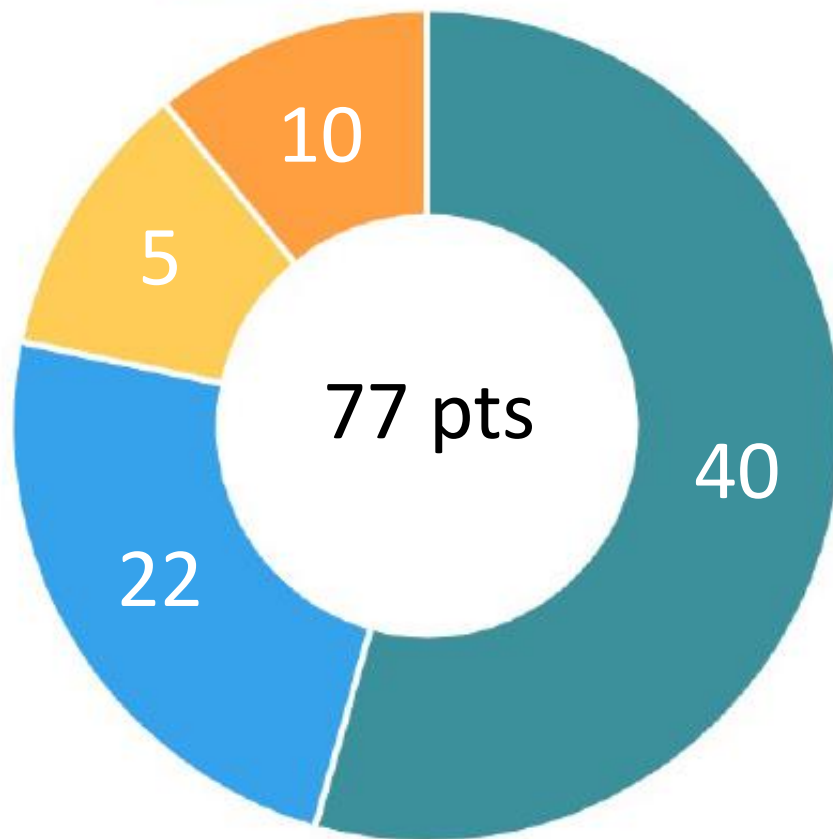
Funding Request

Funding Requested by Year & Phase			
Year	SCW Funding Requested	Phase	Efforts during Phase and Year
Year 1	\$ 891,984.00	Design	Pre-Design, Design, and Construction Support; Public and Community Outreach; Environmental Planning and Permitting; Agency Project Management
Total Year 1	\$ 891,984.00		
Total Funding:	\$ 891,984.00		

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

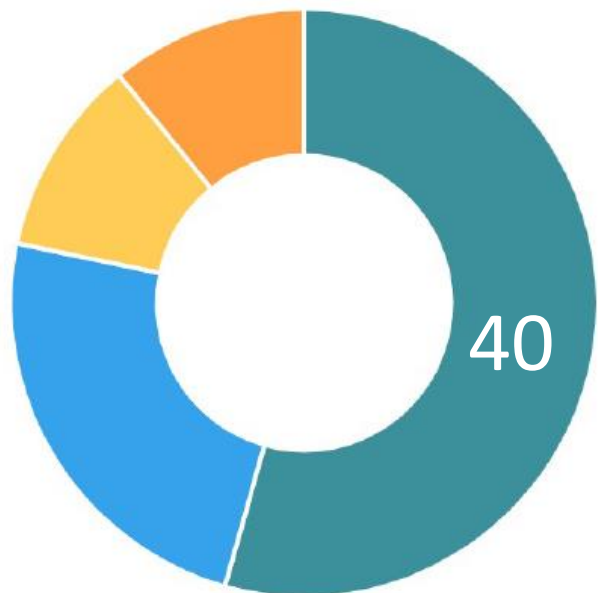


Score (per Scoring Committee)





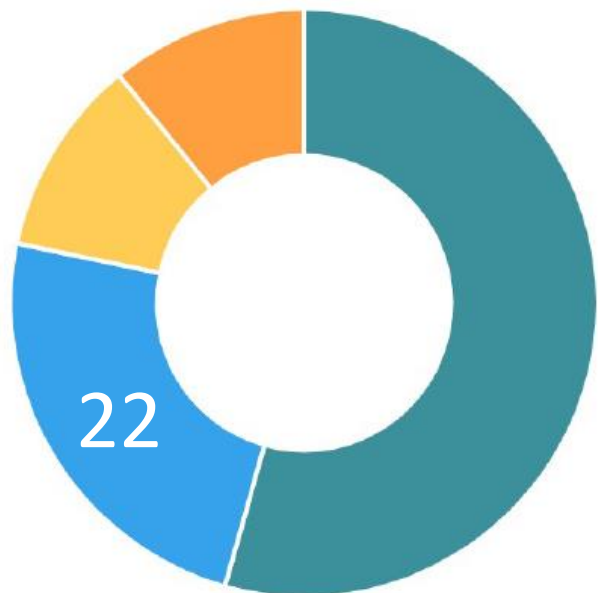
Water Quality Benefits



- The project:
 - Is located within the Los Angeles River Reach 2 Subwatershed
 - Will achieve its water quality objectives through runoff/pollutant capture, infiltration, filtration, use, and release
 - Will address zinc and bacteria (the primary and secondary limiting pollutants identified in the LLAR WMP, respectively) in addition to other pollutants
 - Has a drainage area of 1,338 acres (including portions of the Cities of Paramount, Downey, and South Gate)
- The pump and filter system will provide final pollutant removal prior to discharge back into the storm drain channel during larger events while smaller events are anticipated to infiltrate
- The proposed storage reservoir has a capacity of 3.5 acre-feet
- Low impact development (LID) BMPs such as permeable pavements and bioretention areas within the parking lots and pathways will treat the local runoff



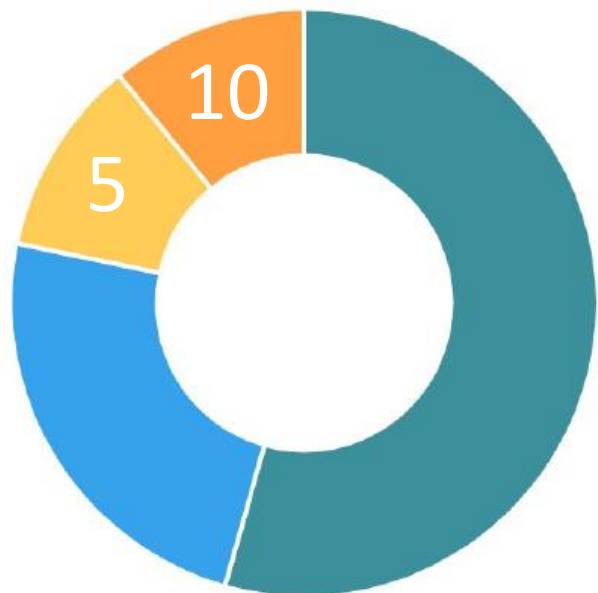
Water Supply Benefits



- The project has potential to provide multiple benefits at the nexus of water supply and stormwater, including:
 - Water Recycling: discharge to nearby sanitary sewer lines will be explored during the design process
 - Aquifer Recharge: the project is connected to a managed water supply aquifer (Central Basin of the Coastal Plain, Los Angeles Aquifer); infiltration rates are high and will augment groundwater supply by approximately 28 acre-feet on an average annual basis
- The Water Replenishment District has expressed general support of “regional projects that infiltrate pre-treated captured runoff and provide a benefit to the overall health of the watershed”



Community Investment Benefits & Nature-Based Solutions



- Flood Management:
 - The project's detention capabilities can contribute toward enhanced flood retention capabilities of the whole storm drain system
- Enhanced Park Space and Recreational Opportunities:
 - The project will replace the park space (including creation of a new soccer field surface)
 - The project will install a new ephemeral stream along the edges of the field that is supplied by the captured stormwater
 - The project is immediately adjacent to Los Cerritos Elementary School, and students may utilize the revitalized park for recreation and educational opportunities
- Reduced Heat Island Effect: landscape plans post construction include additional native trees, shrubs, and grasses to be installed
- Additional Nature-Based Solutions: permeable pavements or equivalent low impact development (LID) components will be installed in the parking lot



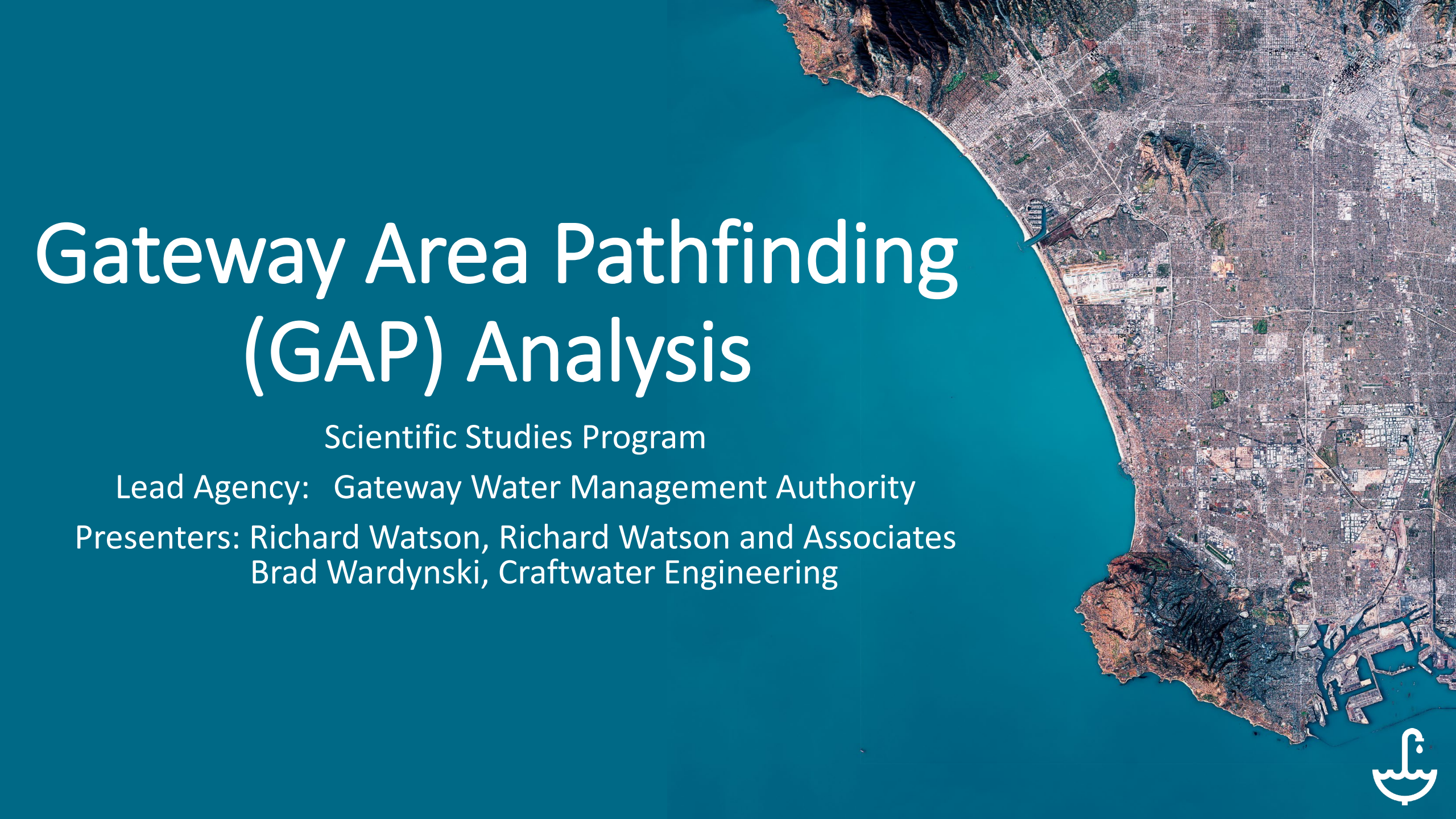
Leveraging Funds & Community Support



- The LLAR Watershed Management Group provided funding for the Feasibility Study (including 10% design plans) and the preliminary geotechnical testing for the project
- The City will utilize its municipal allocation of the Safe Clean Water Program to provide its cost share of the design costs for the project
- The City will continue to pursue additional funding sources to support the construction costs of the project
- The funding request includes \$100,000 for public outreach efforts, which will include community development meetings and informational signage



Questions?



Gateway Area Pathfinding (GAP) Analysis

Scientific Studies Program

Lead Agency: Gateway Water Management Authority

Presenters: Richard Watson, Richard Watson and Associates
Brad Wardynski, Craftwater Engineering



Study Overview

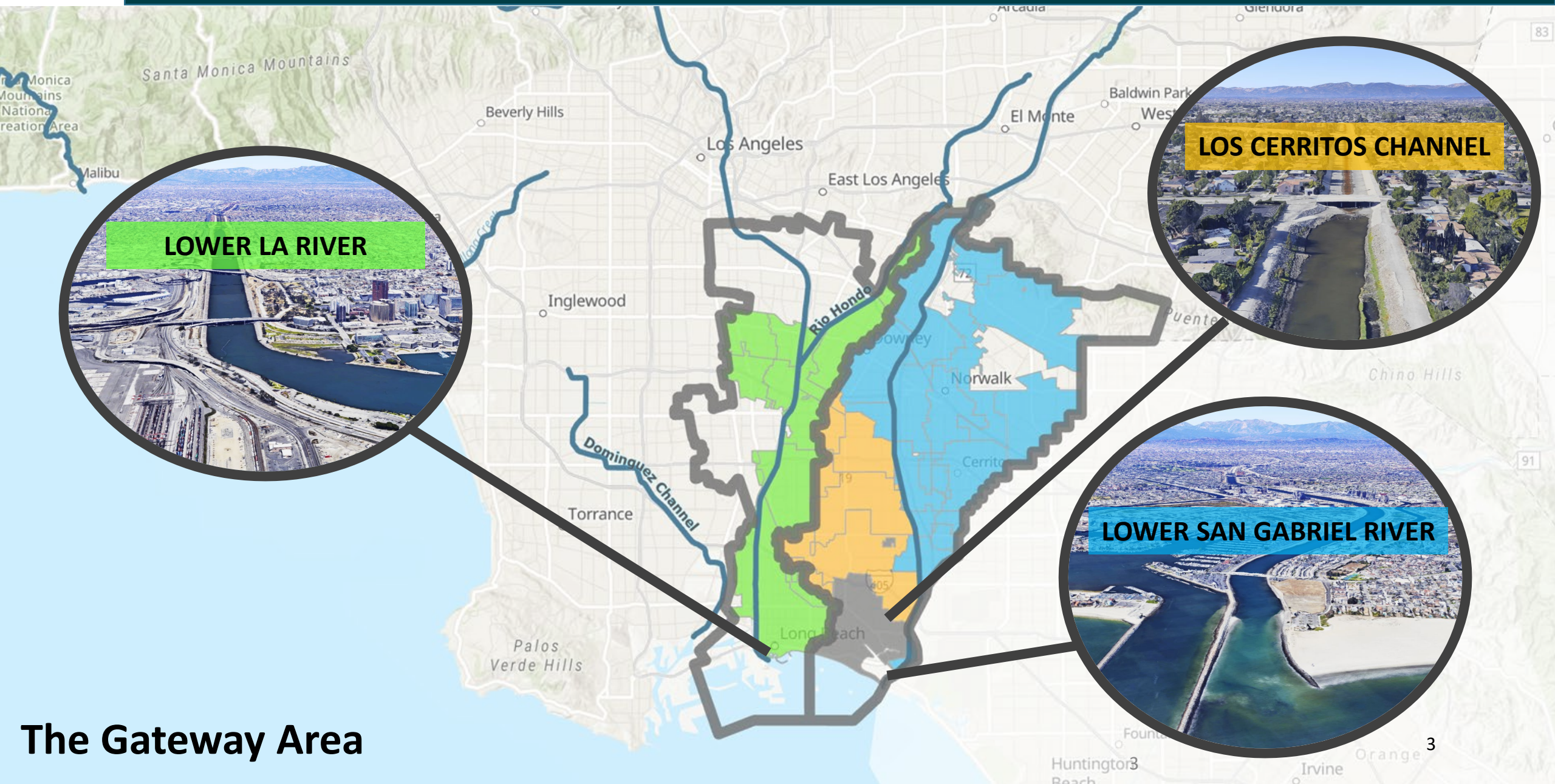
Initiates a locally driven, scientific approach to find and analyze new projects in a watershed context and plot a project-by-project pathway to safe, clean water

Nexus: This study will support the Gateway Groups and other stakeholders in the LLAR and LSGR Watershed Areas by enhancing watershed plans with new, implementation-oriented project recommendations for water quality improvement, water supply augmentation, and community investments





Study Location



The Gateway Area



• Problem Statement

- Groups have made excellent progress implementing Watershed Management Programs (WMPs)
- Now they need more project-by-project details (what to build, where, and in what order)
- As more projects go into the ground, need to understand how overall *system* works together
 - e.g., What if a project is proposed upstream from another? How does that impact performance and SCWP benefits?
- Need to leverage watershed science to better align WMPs and SCWP goals

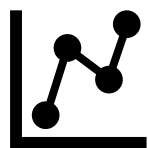


Study Details

- **Objectives, Outcomes, & Methodology**



Identify new, high-impact, multi-benefit projects



Explore how projects interact as a system at the watershed scale



Articulate project-specific roadmap to stormwater quality compliance



Translate findings into Stormwater Investment Plan recommendations



Study Details

• Regional Examples and Collaboration

RIO HONDO/SAN GABRIEL RIVER REVISED WMP

1st

watershed plan to articulate a project-by-project pathway to clean water

- Focused approach improved compliance certainty and stretched stormwater investments
- Upstream from LSGR and LLAR groups

UPPER LA RIVER PRESIP STUDY

73%

potential boost in efficiency, freeing up funding for other watershed and community investments

- Recently funded and initiated
- Closely coordinating with study leads
- Upstream from LLAR group

BUILDING CONSENSUS FOR BALANCED WATERSHED PROJECTS

\$350k

matching funds to analyze cost-effective pathways to achieve multiple SCW goals

- Explores how to balance compliance, nature-based solutions, and community investments
- Closely coordinating with study leads
- Proposed in LLAR and LSGR



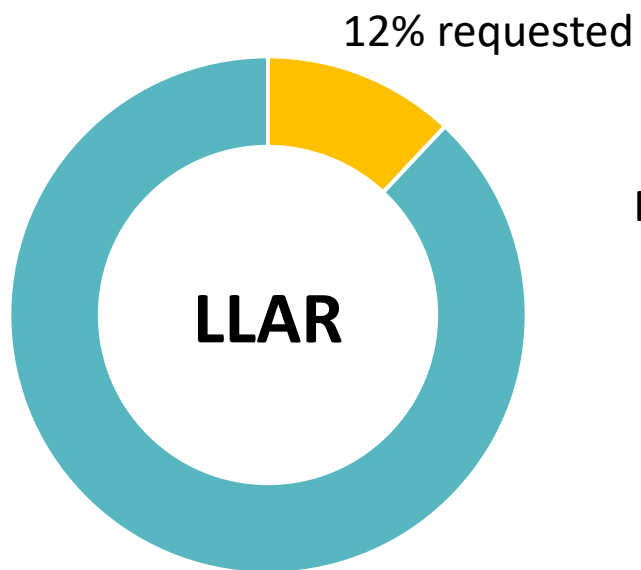
Cost & Schedule

Phase	Description	Cost	Completion Date
1	Identify and Reconcile Watershed-Wide Opportunities	\$63k	Funding Transfer + 6 months (February 2022)
2	Model Watershed-Scale Project Interactions and SCWP Scoring	\$49k	Funding Transfer + 8 months (May 2022)
3	Cross-Reference Projects with Recipes for Compliance and Plot Initial Path to Clean Water	\$24k	Funding Transfer + 10 months (July 2022)
4	Stormwater Investment Plan Recommendations	\$14k	Funding Transfer + 12 months (September 2022)
TOTAL		\$150k	

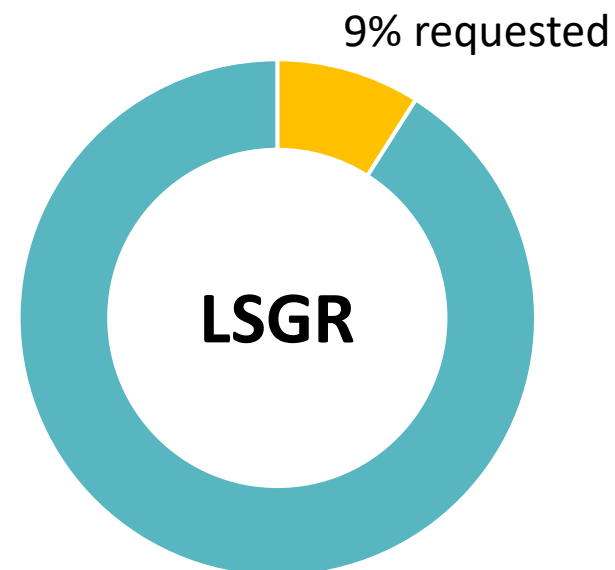


Funding Request

WASC	Year 1	Year 2	Year 3	Year 4	Year 4
LLAR	\$75k	<i>Although future phases are expected, the study applicants are not asking the WASC to earmark additional funds at this time</i>			
LSGR	\$75k				
TOTAL	\$150k				



Requested Funding Compared to Available Annual Scientific Study Funding (5% of Regional Program)





Summary of Benefits

The GAP Analysis will bolster certainty that SCWP investments (i.e., taxpayer dollars) will yield defensible, meaningful, measurable, and achievable improvements to the **environment**, and subsequently, to **local communities and local water supply**.



Questions?

Overview of Pathogen Reduction Study

Presented by Richard Watson, Richard Watson & Associates, Inc. (RWA)

Project Lead: Gateway Water Management Authority

Presentation to the Lower Los Angeles River WASC

27 April 2021

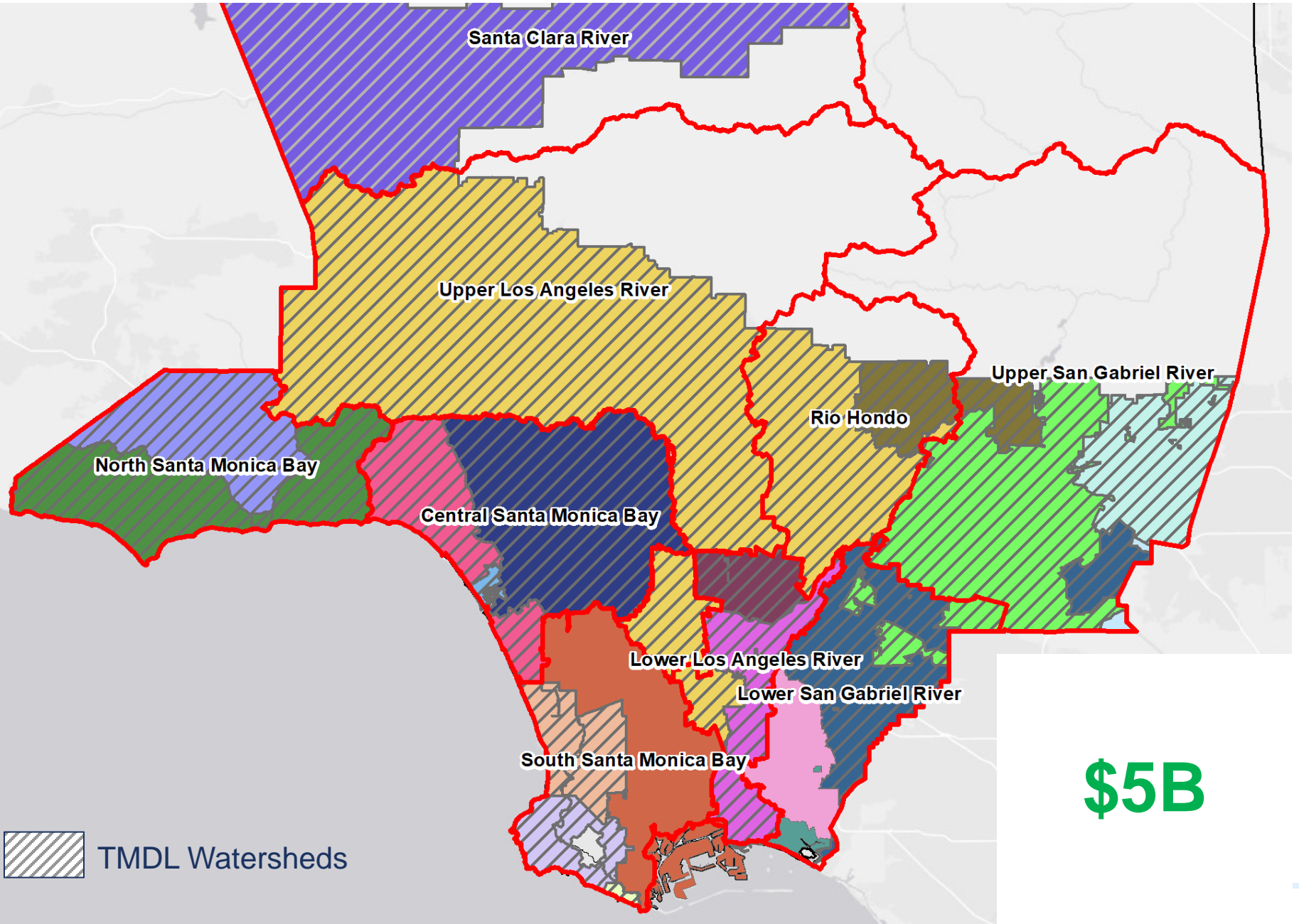
Summary of Study

- This Study aims to use the latest available science to measure water-borne pathogens across watersheds. It will help identify key sources of human health risk, and develop cost-effective protective strategies
- USEPA and academia agree not all sources of bacteria are equally risky, but we do not have the information we need to focus limited resources on the riskiest sources first.
- Objectives of Study
 - Leverage recent USEPA, academic, and stakeholder driven research
 - Produce strategies for incorporation into Program Plans
 - Support informed decisions that help us protect more people sooner

Study Overview

- Nexus to Stormwater and Urban Runoff Capture and Pollution Reduction
 - Study will facilitate improved targeting of pathogen sources and water to capture and/or treat
 - Study could reduce need to capture stormwater for bacteria compliance purposes while improving the protection of human health
 - Study may lead to partnering with various parties, such as wastewater agencies and homeless services agencies, to address human sources of pathogens.

Study Location



Scientific Study Details

Problem Statement:

- Waterborne pathogens represent the most significant potential threat to the health of people recreating in and around the ocean and inland waters of Los Angeles County.

- Current standards are based on FIB (fecal indicator bacteria), which are used as proxies for pathogens.
 - FIB are ubiquitous; a vast network of structural control measures would need to be implemented to provide adequate control – projected cost over \$5 billion.
 - USEPA and academia agree that human sources of pathogens pose the greatest risk
 - Unless high-risk sources are targeted, water capture projects may receive large FIB loads, but miss the highest risk human sources.

(Continued)

Scientific Study Details (Continued)

Expected Outcomes

- Completion of a needed regional study in LA County to identify the sources of pathogens and the most effective BMPs to address them. Studies have been completed elsewhere identifying human sources of pathogens as the highest driver of risk to human health.
- The latest science will be used to support the reduction of human pathogens and protect human health.
- Combined with scientific advancements, the results will provide an opportunity to improve the current bacteria strategy using source-specific indicators, improved viral detection methods, and risk modeling frameworks.
- The study results will facilitate meaningful, appropriate, productive actions by Permittees that will effectively reduce human health risks.

Scientific Study Details (Continued)

Methodology:

- Study work plan will be developed through a stakeholder-led process with the input of technical experts, including academics.
 - Stakeholder engagement is at the forefront of the study to ensure that diverse viewpoints are incorporated.

- Study will collect samples from beaches and waterbodies. Samples will be analyzed for traditional bacterial indicators, viruses, and human markers during wet and dry weather.
 - Identify areas with highest risk to support a focus on those areas
 - Identify the sources causing the highest risk to focus on those sources

- Study will assess control measure effectiveness and efficiency
 - Identify the best BMPs to address the sources
 - Support planning, applying municipal funds, requests for SCWP funding, and actions by other parties

Scientific Study Details (Continued)

- *Regional collaboration efforts:*
 - Small Group Initiated Discussions and built a scope for a Safe, Clean Water Regional Program project
 - Presented Approach to E/WMP Groups
 - Discussed with proponents of watershed-specific studies
 - Discussed with Regional Board staff

- Revised study to address concerns
 - Clearly focused on human pathogens
 - Clarified that study is a component of overall strategy to protect human health
 - Clarified that implementation continues during the study
 - Recognized that we do not need to wait until the end of the study to take action
 - Reduced first year cost of study

Cost & Schedule

Phase	Description	Cost	Schedule
Task 1	Stakeholder Process	\$484,000	7/21 – 6/26
Task 2	Health Risk Assessment	\$5,816,208	7/21 – 9/25
Task 3	Risk Management	\$1,702,100	4/22 – 3/26
Task 4	Application of Study Findings	\$484,000	1/25 – 6/26
TOTAL		\$8,486,308	

Funding Request

WASC	Year 1	Year 2	Year 3	Year 4	Year 5
CSMB	\$45,659	\$333,041	\$322,298	\$319,612	\$53,716
LLAR	\$32,801	\$239,256	\$231,539	\$229,609	\$38,590
LSGR	\$42,810	\$312,259	\$302,186	\$299,668	\$50,364
NSMB	NA	NA	NA	NA	NA
RH	\$29,477	\$215,011	\$208,075	\$206,341	\$34,679
SCR	\$15,378	\$112,168	\$108,550	\$107,645	\$18,092
SSMB	\$47,156	\$343,964	\$332,869	\$330,095	\$55,478
ULAR	\$98,952	\$721,766	\$698,483	\$692,663	\$116,414
USGR	\$48,435	\$353,290	\$341,893	\$339,044	\$56,982
TOTAL	\$360,668	\$2,630,755	\$2,545,893	\$2,524,677	\$424,315

Summary of Benefits

- By developing a better understanding of pathogens present in the region's watersheds, the relative risk to human health they pose, and the effectiveness of various control measures, new or adapted BMPs can be established that improve water quality and reduce human health risks at our beaches and inland waterbodies.
- Short-term: results could be used to protect people from health risks that aren't currently known.
- Long-term: results will enable the targeted placement of BMPs in locations where they can maximize the prevention or treatment of key sources of human pathogens.

Questions and Thank You

Richard Watson
Richard Watson & Associates
rwatson@rwaplanning.com
(949) 394-8495