Measure W – Safe, Clean Water Program
Administrative Oversight Committee (AOC)

Thursday, November 10, 2022

Members Present: Patricia Huber, City Administrative Officer, Chair (CAO)
Matias Farfan, Chief Legislative Analyst (CLA)
Mary Hodge, Office of the Mayor (MO)

Staff Present: Sarai Bhaga, City Administrative Office (CAO)
Jessica Quach, City Administrative Office (CAO)
Rafael Prieto, Chief Legislative Office (CLA)

The meeting was called to order at 11:04 AM.

1. General Public Comment, Multiple Agenda Item Comment

   No comments were made.

2. Approval of the Minutes from prior meeting on May 26, 2022

   Action: Approved

3. Approval of the Minutes from prior meeting on June 23, 2022

   Action: Approved

4. Approval of the Minutes from prior meeting on July 20, 2022

   Action: Approved

5. Approval of the Minutes from prior meeting on August 16, 2022

   Action: Approved

6. Approval of the Minutes from prior meeting on September 14, 2022

   Action: Approved

7. Approval of the Minutes from prior meeting on October 13, 2022

   Action: Approved

8. Discussion and Possible Action: Status Update by Departments

   Staff from the Bureau of Sanitation (LASAN) gave a summary of the Measure W: Safe Clean Water Program as it related to the Round 1 and 2 projects.

   Mr. Farfan (CLA) asked about the Ballona Creek TMDL Project regarding the cost escalation. LASAN responded that the original application used a class C estimate and within two years went to a class A estimate for bid and award. In addition, the Army Corps of Engineers and Regional Board demanded that scope included certain elements. Burden of funding is no completely on Measure W since there is previous General Fund monies and a cost sharing agreement with other agencies.

Mr. Farfan followed up by asking about the class C estimates and looking to past projects to determine scope changes. LASAN responded that moving forward, estimates will be at the mid-point of escalation and to account for the time gap between application and award.

Mrs. Huber (CAO) asked if the County will commit to the funds for the future schedule and the impact of the County using the funds from deferring projects on future projects. LASAN responded that there are enough funds for current projects and none are at risk of stalling. Conversations with the County have indicated that they are committed to funding projects and that the funds will be available. Mrs. Huber commented that this is an issue to continue monitoring.

Mrs. Huber followed up by asking if other jurisdictions are making funding adjustments similar to what the City has done. LASAN responded that the Upper LA River Watershed Area Steering Committee (WASC) is the most proactive for funding and that every jurisdiction is required to submit quarterly scope and schedule reports. LASAN has noticed that other jurisdictions have submitted changes in schedules are requesting for more time or to push the schedule back. Mrs. Huber requested that LASAN report back to the committee about other jurisdictions' schedule changes and if there are any actions being taken by the WASC, such as programmatic changes, to address the issue equitably.

Action: No action.

9. Discussion and Possible Action: Program Signage Policy

   Staff from LASAN presented the proposed signage policy which will apply to projects in construction. Signage is a County of Los Angeles requirement for the program.

   Action: Approved.

10. Discussion and Possible Action: Findings to Continue Teleconference Meetings Pursuant to AB 361

    The Committee determined, in accordance with AB 361, that the committee has reconsidered the circumstances of the state of emergency and that the state of emergency continues to directly impact the members' ability and that of the public to meet safely in person and that state and local officials continue to impose or recommend measures to promote social distancing.

    Action: Approved.

11. Discussion and Possible Action: Other Committee organizational matters, as necessary.

    The next regular meeting on November 23 and will be cancelled. The committee will hold a special meeting in December to meet AB361 requirements.

    Action: No action.

Meeting adjourned at 11:28 AM.

Measure W – Safe, Clean Water Program
Administrative Oversight Committee (AOC)
Meeting Minutes

Thursday, December 8, 2022

Members Present: Patricia J. Huber, City Administrative Officer, Chair (CAO)
Matias Farfan, Chief Legislative Analyst (CLA)
Rebecca Rasmussen, Office of the Mayor (MO)

Staff Present: Jessica Quach, City Administrative Office (CAO)
Rafael Prieto, Chief Legislative Office (CLA)

The meeting was called to order at 11:05 AM.

1. General Public Comment, Multiple Agenda Item Comment

   Public comment held.

2. Discussion and Possible Action: Findings to Continue Teleconference Meetings Pursuant to AB 361

   The Committee determined, in accordance with AB 361, that the committee has reconsidered the circumstances of the state of emergency and that the state of emergency continues to directly impact the members' ability and that of the public to meet safely in person and that state and local officials continue to impose or recommend measures to promote social distancing.

   Action: Approved.

3. Discussion and Possible Action: Other Committee organizational matters

   Staff will advise in advance if meetings will be in person in February pursuant to the local emergency ending January 31.

   Action: No action.

Meeting adjourned at 11:09 AM.

Measure W – Safe, Clean Water Program
Administrative Oversight Committee (AOC)
Meeting Minutes

Thursday, January 5, 2023

Members Present:	Patricia J. Huber, City Administrative Officer, Chair (CAO) Matias Farfan, Chief Legislative Analyst (CLA) Ryan Jackson, Office of the Mayor (MO)
Staff Present:	Jessica Quach, City Administrative Office (CAO) Rafael Prieto, Chief Legislative Office (CLA)

The meeting was called to order at 8:32 AM.

1. General Public Comment, Multiple Agenda Item Comment

   Public comment held.

2. Discussion and Possible Action: Findings to Continue Teleconference Meetings Pursuant to AB 361

   The Committee determined, in accordance with AB 361, that the committee has reconsidered the circumstances of the state of emergency and that the state of emergency continues to directly impact the members' ability and that of the public to meet safely in person and that state and local officials continue to impose or recommend measures to promote social distancing.

   Action: Approved.

3. Discussion and Possible Action: Other Committee organizational matters

   Staff will advise in advance if the regular meeting on January 26 will be needed. If not, a meeting in February will be needed in accordance with AB 361.

   Action: No action.

Meeting adjourned at 8:36 AM.

CITY OF LOS ANGELES
INTERDEPARTMENTAL CORRESPONDENCE

Date March 20, 2023

To: Measure W – Administrative Oversight Committee (AOC)
Matthew W. Szabo, City Administrative Officer
Sharon M. Tso, Chief Legislative Analyst
Ryan Jackson, Office of the Mayor

From: Michael Scaduto, P.E., ENV SP *Michael Scaduto*
Principal Engineer
Safe Clean Water Implementation Division
LA Sanitation and Environment

Subject: Proposed City of Los Angeles FY 22-23 Watershed Investment Strategic Plan (WISP)

RECOMMENDATIONS

1. Approve the proposed City of Los Angeles FY 22-23 Watershed Investment Strategic Plan.

2. Direct LA Sanitation and Environment to publish and implement the City of Los Angeles FY 22-23 Watershed Investment Strategic Plan and distribute the plan to other City of Los Angeles departments implementing Safe, Clean Water Program projects.

BACKGROUND

In November 2018, Los Angeles County voters approved Measure W, which created the Safe Clean Water Program (SCWP) administered by the Los Angeles County Flood Control District (LACFCD). The SCWP was developed in collaboration with public health, environmental groups, cities, business, labor, and community-based organizations to protect water quality and provide new sources of water for the Los Angeles community. The SCWP generates an estimated $285 million annually from a countywide property tax assessment. These funds are utilized by LA Sanitation and Environment (LASAN), as well as other city departments, for the development of regional and municipal stormwater projects and programs.

As directed in the Los Angeles City's Safe, Clean Water Ordinance, LASAN has prepared a Watershed Investment Strategic Plan (WISP) to provide program strategy, policy guidance, and project planning tools to manage the City's SCWP. The WISP represents an organized, methodological, and strategic project management approach that will

enable the City of Los Angeles (City) to meet the County's SCWP program requirements and the City's sustainability, equity, organizational, and other related objectives.

CONSIDERATIONS AND CONCLUSIONS

LASAN's Safe Clean Water Implementation Division (SCWID) is responsible for managing and overseeing the City's Safe, Clean Water Program and project implementation. SCWID is tasked with managing the City's Stormwater CIP that will guide the planning and implementation of the City's water quality, flood protection, and water supply projects utilizing Municipal, Regional and outside leverage funding sources. To help achieve the SCWP requirements and goals, LASAN has developed the FY 22-23 WISP to include:

- The regulatory context for the SCWP, including Los Angeles County's MS4 permit and project identification process for compliance.
- Project evaluation criteria based on the County's SCWP goals and City Specific policy objectives.
- The SCWP project prioritization process, department collaboration, and LASAN's funding commitment.
- A rolling five-year Capital Improvement Program (CIP) for each of the City's watersheds.
- Operation and maintenance (O&M) Plans, Roles, and Responsibilities.
- Recommendation on future policy and program funding for Safe Clean Water SCW Administrative Oversight Committee for consideration and/or approval.

The WISP is a living document and will be updated annually to reflect progress on projects and on meeting regulatory compliance, as well as changes in the SCWP program goals and objectives, requirements, environmental regulations, new technologies, best management practices, and available funding sources. To facilitate an efficient and impactful annual update of the WISP each year, LASAN recommends that the SCWP Administrative Oversight Committee endorse and implement the FY 22-23 WISP. As directed, LA Sanitation and Environment would publish the Watershed Investment Strategic Plan and distribute the document to other City of Los Angeles departments implementing Safe, Clean Water Program projects for further coordination.

Attachment 1: City of Los Angeles FY 22-23 Watershed Investment Strategic Plan
Attachment 2: AOC Presentation Outlining the Watershed Investment Strategic Plan

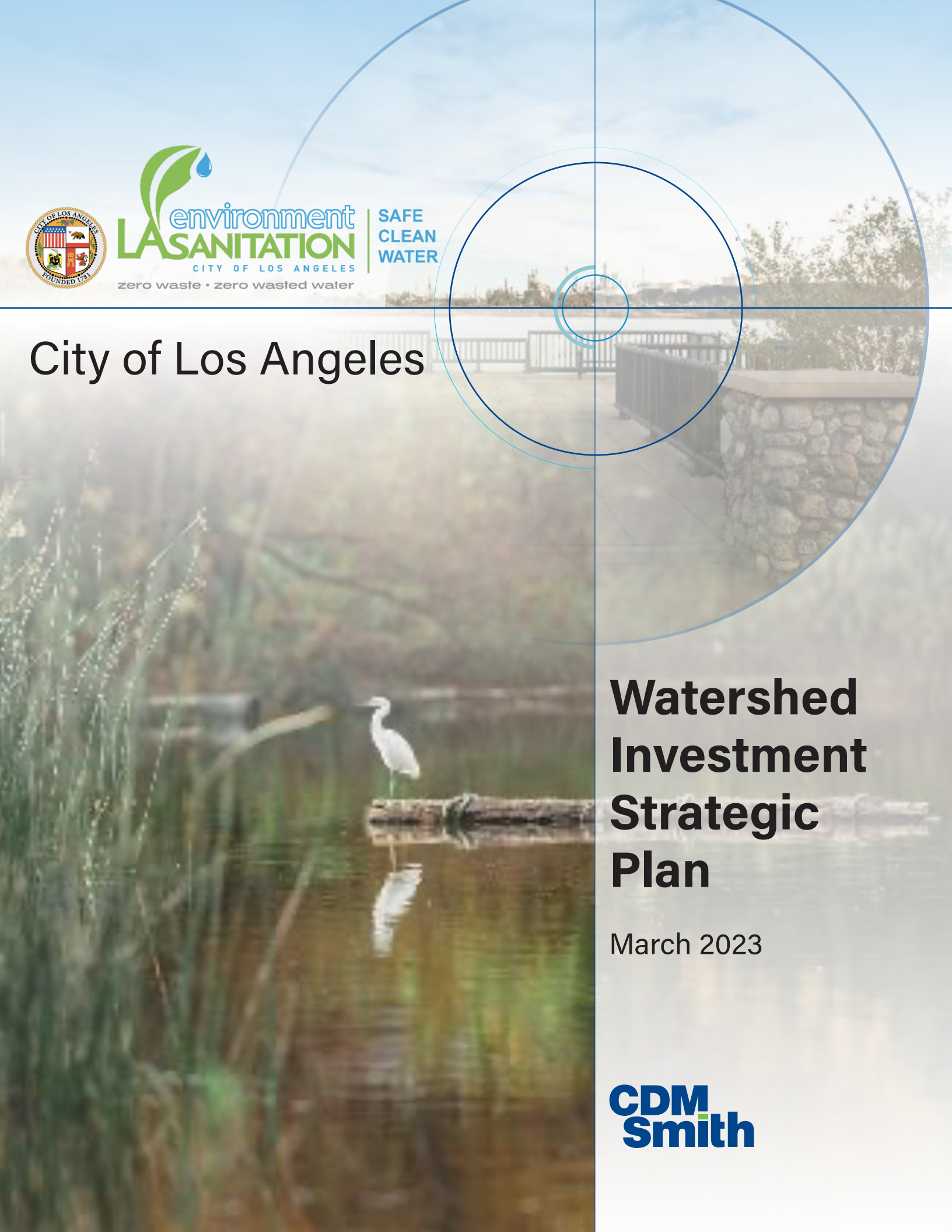
Cc: Jacqueline Wagner, CAO
Jessica Quach, CAO
Janice Yu, CAO
Rafael Prieto, CLA
Barbara Romero, LASAN
Traci Minamide, LASAN

Julie Allen, LASAN
Adena Hopenstand, LASAN
Ted Allen, BOE
Alfred Mata, BOE
Ana Tabuena Ruddy, BSS
Delon Kwan, DWP
Art Castro, DWP

environment LA SANITATION
CITY OF LOS ANGELES
zero waste • zero wasted water

SAFE CLEAN WATER

City of Los Angeles



Watershed Investment Strategic Plan

March 2023

CDM Smith

Table of Contents

Appendices

List of Figures

List of Tables

List of Acronyms

Acronym/Abbreviation	Definition
AF	acre-foot
AOC	Administrative Oversight Committee
B	Billion
BC	Ballona Creek
BMP	best management practice
BOE	Bureau of Engineering
BOS	City of Los Angeles, Bureau of Sanitation, see also LASAN
BSS	Bureau of Street Services
CBO	Community-Based Organization
CIP	Capital Improvement Program
CSMB	Central Santa Monica Bay
DB	design-build
DC	Dominguez Channel
DDT	Dichlorodiphenyltrichloroethane
DAC	Disadvantaged Communities
DWP	Department of Water and Power
EWMP	Enhance Watershed Management Plan
FY	fiscal year
LACFCD	Los Angeles County Flood Control District
LASAN	Los Angeles Sanitation & Environment
LAUSD	Los Angeles Unified School District
M	million
MdR	Marina del Rey
MOU	Memorandum of Understanding
MS4	Municipal Separate Storm Sewer System
NGO	Non-Governmental Organization
NOV	Notice of Violation

Acronym/Abbreviation	Definition
NPDES	National Pollutant Discharge Elimination System
O&M	operation and maintenance
PCB	polychlorinated biphenyl
RAA	Reasonable Assurance Analysis
RAP	Department of Recreation and Parks
Regional Board	Los Angeles Regional Water Quality Control Board
RWL	receiving water limitations
SCAG	Southern California Association of Governments
SCW	Safe Clean Water
SCWID	Safe Clean Water Implementation Division
SCWP	Safe, Clean Water Program
SIP	Stormwater Investment Plan
SiteSAN	Site Selection Analysis
SMB J2/3	Santa Monica Bay Jurisdictions 2 and 3
SMB J7	Santa Monica Bay Jurisdiction 7
SSMB	South Santa Monica Bay
SWRCB	State Water Resources Control Board
TMDL	Total Maximum Daily Load
TRP	Technical Resource Program
ULAR	Upper Los Angeles River
USEPA	United States Environmental Protection Agency
WASC	Watershed Area Steering Committee
WBPC	Waterbody-Pollutant Combination
WISP	Watershed Investment Strategic Plan
WLA	waste load allocation
WMG	Watershed Management Group
WMP	Watershed Management Program
WPD	Watershed Protection Division
WQBEL	water quality-based effluent limit

Executive Summary

Los Angeles Sanitation & Environment (LASAN) is designated as the lead agency for implementing the Los Angeles County (County) Measure W Safe, Clean Water Program (SCWP) within the City of Los Angeles (City). In June 2020, recognizing the differences between Proposition O and the SCWP, City Council reaffirmed and acknowledged LASAN's role as the lead agency in overseeing the City's Municipal Separate Storm Sewer System (MS4) Permit, stormwater infrastructure, watershed management and water quality compliance programs, and designated LASAN as the Program Manager (Fund Administrator) for the City's SCWP and its Special Funds (CF 18-0384-S1)[1]. As directed in the City's Safe, Clean Water Ordinance, LASAN has been tasked to prepare a Watershed Investment Strategic Plan (WISP) to provide program strategy, policy guidance, and project planning tools to manage the City's SCWP.

LASAN developed this fiscal year (FY) 22/23 WISP, which outlines a strategy for the City to achieve Los Angeles County Flood Control District (LACFCD) SCWP goals, as well as sustainability, equity, and organizational objectives, by addressing the following:

- The regulatory context for the SCWP, including MS4 permit and project identification processes for compliance.
- Project evaluation criteria based on the County's SCWP goals, including the following City-specific policy objectives:
    - Balance water supply, resilience, and water quality compliance obligations of the City.
    - Provide equity in terms of Citywide funding and support multi-benefit project approaches.
    - Prevent/mitigate project selection conflicts and/or internal City department competition for funding.
    - Assess the LACFCD Annual Stormwater Investment Plans (SIPs) to determine the available funding for each watershed and strategically plan for the submission of Regional projects each funding round.
- A description of the SCWP project prioritization process, department collaboration, and LASAN's funding commitment.
- A rolling five-year Capital Improvement Program (CIP) for each of the City's watersheds.

---

[1] Council File 18-0384-S1. Ordinance 186612 added Chapters 187 and 188 to Division 5 of the Los Angeles Administrative Code to establish the Measure W Safe, Clean Water **Regional** Projects Special Fund and Measure W Safe, Clean Water - **Municipal** Program Special Fund.

- Address proposed and planned operation and maintenance (O&M) expenditures and designate the department(s) responsible for project implementation and O&M.
- Provide an annual recommendation on future policy and program funding for Safe Clean Water (SCW) Administrative Oversight Committee (AOC) for consideration and/or approval.

Status of the City's Safe, Clean Water Program

As the City is the lead of the SCWP, LASAN is responsible for managing the approximately $36 million (M) Municipal annual return. LASAN's current Municipal CIP has an annual budget of $15M and is comprised of thirteen (13) green infrastructure stormwater infrastructure projects.

LASAN has also been successful in securing an additional $126.2M in Regional funding for the implementation of green stormwater infrastructure, O&M, and special studies throughout the City over the next seven years. In addition, the Bureau of Street Services (BSS) and the Department of Water and Power (DWP) have secured an additional $86.7M in Regional funding for water supply and stormwater infrastructure elements within their respective projects. While the City has been successful in the first three rounds of the Regional program, the program itself remains in its infancy stage and is dynamic. City projects packaged and submitted in the first three rounds were done in the midst of a global pandemic and did not account for the current economic factors (supply chain and inflation) that many of our City capital improvement projects are experiencing today.

The County's SCWP will continue to provide the funding associated with projects as approved and programmed in the County's SIP. Under the terms of the project- specific transfer agreements, each agency is committed to deliver the project with the approved scope of work outlined in the agreement. While many of the projects are experiencing cost increases, the guidelines and process to request additional Regional funding have not yet been established by the County, and are anticipated to be available in July 2023. Until that time, a portion of the $15M funding for the Municipal return will be committed to fill the voids of the unanticipated cost increase for existing Regional projects. As a result, LASAN will utilize these funds for existing partially-funded projects identified in the Municipal CIP to deliver those projects and will program the remaining Municipal annual funds for the Regional projects which are experiencing cost increases. The void may include O&M expenses for new projects whose capital is funded by the Regional Program.

Regulatory Compliance and Project Identification

The Watershed Protection Division (WPD) within LASAN is responsible for implementing the National Pollutant Discharge Elimination System (NPDES) MS4 permit throughout the City. The NPDES MS4 Permit includes provisions for the development and implementation of Watershed Management Programs (WMPs) that allow permittees to achieve compliance by customizing their stormwater programs through a Reasonable Assurance Analysis (RAA). The WMPs also allow MS4 permittees to address water quality issues more effectively through interagency collaboration on a watershed-wide basis. The City's four primary regulatory watersheds are grouped into the three SCWP watershed areas as follows (**Figure ES-1**):

- Upper Los Angeles River (ULAR) Watershed Area
- Central Santa Monica Bay (CSMB) Watershed Area (includes the City's portion of the Ballona Creek Watershed, Santa Monica Bay Jurisdictions 2 and 3, , and Marina del Rey Watershed)
- South Santa Monica Bay (SSMB) Watershed (includes the City's portion of the Dominguez Channel Watershed) and Santa Monica Bay Jurisdiction 7

The WMPs identify stormwater capture targets, and each member agency was tasked with developing specific projects to manage the required stormwater volume generated from their jurisdiction. Compliance strategies include a combination of smaller distributed projects such as green stormwater infrastructure corridors (green streets and alleys) and large Regional projects. The total capital cost for all projects identified in the WMPs for the City to achieve compliance is estimated to be $7.4 billion (B), discussed further in Program Outlook below. LASAN's WPD identifies projects within each watershed and sends the list to the Safe Clean Water Implementation Division (SCWID) to further develop the projects through development of concept reports and identification of potential funding.

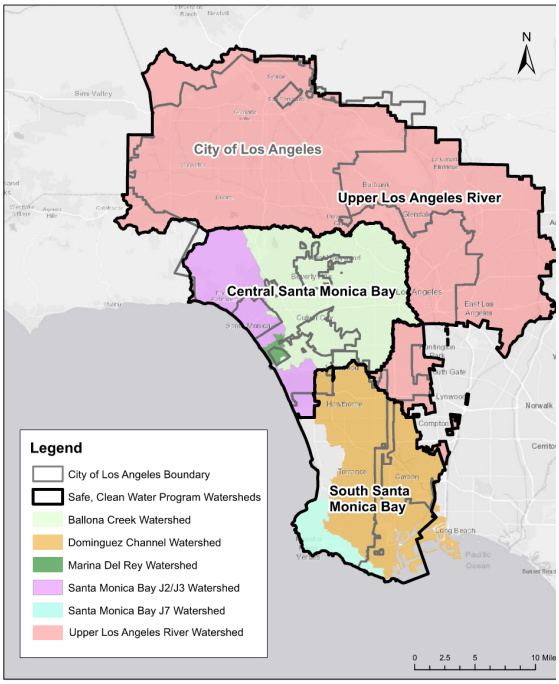


Figure ES-1 City of LA Boundaries within SCWP

Program Outlook

The estimated cost to meet the City's stormwater regulatory compliance obligations is $7.4 B over the next 20 years. The City's $500M Proposition O Program provided some initial funding for compliance projects but did not provide funding for ongoing maintenance of the completed projects.

Funds awarded from the Regional program are competitive and uncertain. Based on the City's proportional contribution to the Regional program, it is the City's goal that $45.6M is secured annually, consisting of the City's available proportional share in the ULAR - ($29.0M), Central Santa Monica Bay ($13.3M), and South Santa Monica Bay ($3.3M) Watershed Area Steering Committee (WASC) annual budgets. To provide continued success to the program, future Citywide requests should consider the respective WASC funding as well as the City's secured funding from the program[2]. Future Regional project applications should strive to achieve a goal of 120 percent in excess of the City's anticipated return for each of the respective watersheds.

In summary, as capital improvements are constructed and become operational, O&M costs cumulatively increase and deplete available Measure W funds. LASAN needs to re-evaluate O&M costs annually to adaptively manage projected costs compared with available budgets and determine the need for additional funding sources.

To balance the various priorities with the limited funding and the existing state of the Regional Program, it is recommended that the City implement the following guiding principles over the next year:

- **Develop and utilize on-call design-build contracts:** The City will implement a design-build delivery mechanism to deliver projects more efficiently and quickly. LASAN, in coordination with the Bureau of Engineering (BOE), is asking that the AOC recommend that the City Council request the City Attorney to prepare and present an ordinance allowing the Board of Public Works and its Bureaus to establish and utilize on-call design-build contracts for the delivery of the SCWP, pursuant to a competitive, sealed-proposal method.
- **Appropriate funds for program planning and project development:** Commit to the development of future projects by appropriating $3M (8 percent) of the annual Municipal return for the planning and development of future project development and program planning efforts (i.e., concept reports and feasibility studies).
- **Implement a five-year Municipal stormwater CIP:** Commit to investing $15M (40 percent) in Municipal annual return toward continued implementation of stormwater water quality projects for the next five years.
- **Prioritize current Regional funding needs before investing in new Municipal projects:** CIP funding shall prioritize Regional funded projects that have unfunded shortfalls to satisfy the City's commitments and compliance per project transfer agreements before investing in new Municipal stormwater infrastructure projects.

[2] Non-City Council-controlled departments should seek approval from their own board.

- **Fill voids in the Regional program with Municipal funds:** The $15M from the Municipal program will be responsible for filling voids in the Regional program (if a project is committed under the Regional program, and the Regional program lacks funds, the Municipal program will be used to finish the project).
- **Appropriate funds for O&M of constructed water quality projects:** Commit to an initial annual investment of $4M (11 percent) in Municipal annual return towards the O&M of existing eligible constructed water quality projects.
- **Develop green stormwater infrastructure O&M contracts:** Implement on-call landscape maintenance contracts specific to the needs of green stormwater infrastructure; (i.e., bioswales, green alleys, green streets, lakes, and wetlands).
- **Provide watershed regulatory support:** Commit $1M (2 percent) in Municipal annual return to the ongoing regulatory watershed efforts and MS4 Permit compliance support / Minimum Control Programs.
- **Appropriate funds for LASAN and BOE SCWP Administration and Implementation support staff:** Commit $16M (44 percent) in Municipal annual return to SCWP Administration and Implementation support staff from LASAN and BOE to successfully secure Regional funding, implement projects, and provide proactive O&M.
- **Verify the Municipal SCWP manages and budgets for the priorities of the City's existing obligations before taking on additional outside obligations:** Failure to do so can lead to the City not meeting its regulatory compliance milestones, receiving Notice of Violations (NOVs) and risking not meeting the intent outlined in the terms of the Municipal Transfer Agreement with the SCWP.

The CIP offers a five-year outlook for each watershed. While the long-term perspective of the CIP horizon is critical for planning, a five-year CIP outlook is the desired product of this WISP. A five-year outlook provides sufficient resolution of the SCWP's current condition and allows structured implementation. As the WISP will be updated on an annual basis, the five-year CIP outlook will regularly evolve with updated information. The extensive process described in the WISP document has numerous decision points and assumptions, each with sound technical reasoning, that will continue to be refined in future years.

The WISP is a living document and will be updated annually at the start of each fiscal year to reflect progress on projects and on meeting regulatory water quality compliance requirements, as well as changes in the SCWP goals and objectives, environmental regulations, new technologies, best management practices, and available funding sources.

Section 1
Introduction

In November 2018, Los Angeles County voters approved the Measure W Safe, Clean Water Program (SCWP), a parcel tax of 2.5 cents per square foot of impermeable surface, to support the costs of stormwater-related projects and activities. The SCWP is generating approximately $285M per year County-wide, with approximately $82M per year going to projects in the City of Los Angeles (City). Los Angeles Sanitation & Environment (LASAN) developed this Watershed Investment Strategic Plan (WISP) to provide program strategy and policy guidance, as well as capital project planning tools to manage City SCWP projects. The WISP represents an organized, methodological, and strategic project management approach that will enable the City to meet the County's SCWP program requirements.

The November 2019 Governance Structure for Measure W Report defines two purposes of a WISP:

1. Provide policy guidance that encompasses the County's requirements and addresses the City's specific interests; and

2. Serve as a capital projects management tool to organize, prioritize, and manage both Municipal and Regional Programs.

LASAN is committed to planning and developing a Municipal and Regional capital improvement program (CIP) that meets the objectives of the Municipal Separate Storm Sewer System (MS4) Permit. LASAN will sustain these programs through Measure W funding equal to $15M out of the annual Municipal return total of $36M.

Funds awarded from the Regional program are competitive and uncertain. Based on the City's proportional contribution to the Regional program, it is the City's goal to secure $45.6M annually, consisting of the City available proportional shares in the Upper Los Angeles River ($29.0 M), Central Santa Monica Bay ($13.3 M), and South Santa Monica Bay ($3.3 M) Watershed Area Steering Committee (WASC) annual budgets. To provide continued success to the program, future Citywide requests should consider the respective WASC funding as well as the City's secured funding from the program. Future Regional project applications should strive to achieve a goal of 120 percent return of the City's anticipated return for each of the respective watersheds. This WISP identifies the regulatory context for project selection (Section 2). The program builds on Watershed Management Program (WMP) efforts with a focus on MS4 compliance and the Reasonable Assurance Analysis (RAA), which identifies Total Maximum Daily Load (TMDL) milestones and the stormwater capture volume necessary for regulatory compliance in each of the City's four primary watersheds (**Figure 1-1**). This WISP describes the processes used to select projects, including the methodology used to prioritize the projects.

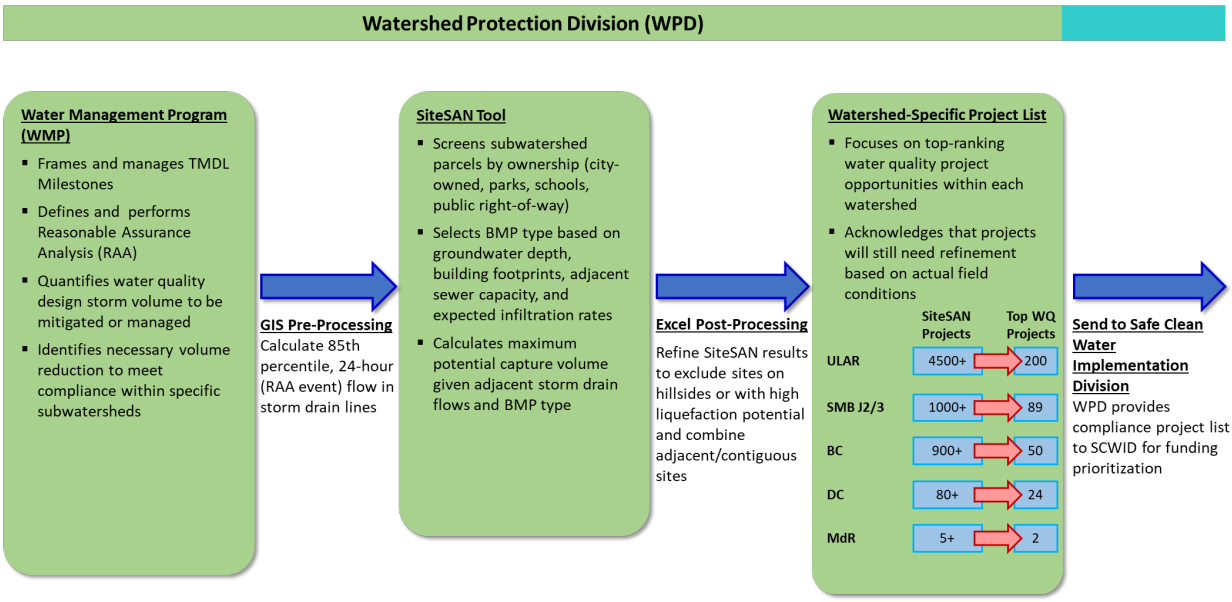


Figure 1-1. Regulatory Compliance

As shown in **Figure 1-1**, project identification is accomplished through the Geographic Information System- (GIS-)based SiteSAN (Site Selection Analysis) tool. The SiteSAN tool is used Citywide to identify and evaluate project opportunity sites through automation based on a defined set of parameters and criteria, including runoff volume to the site, the maximum runoff that could be captured on the site, liquefaction potential, depth to groundwater, and proximity to storm drains and sanitary sewers. The resulting master list of projects presents a path for the City to achieve compliance with regulatory requirements in each watershed. Acronyms for City watersheds shown on **Figure 1-1** include:

- ULAR: Upper Los Angeles River
- SMB J2/J3: Santa Monica Bay Jurisdictions 2 and 3
- BC: Ballona Creek
- DC: Dominguez Channel
- MdR: Marina del Rey

Figure 1-2 illustrates the SCWP project prioritization process, department collaboration, and LASAN's funding commitment, and outlines how funds are secured for stormwater regulatory compliance projects. The Safe Clean Water Implementation Division (SCWID) further develops the project list through the concept report and prepares the project funding application.

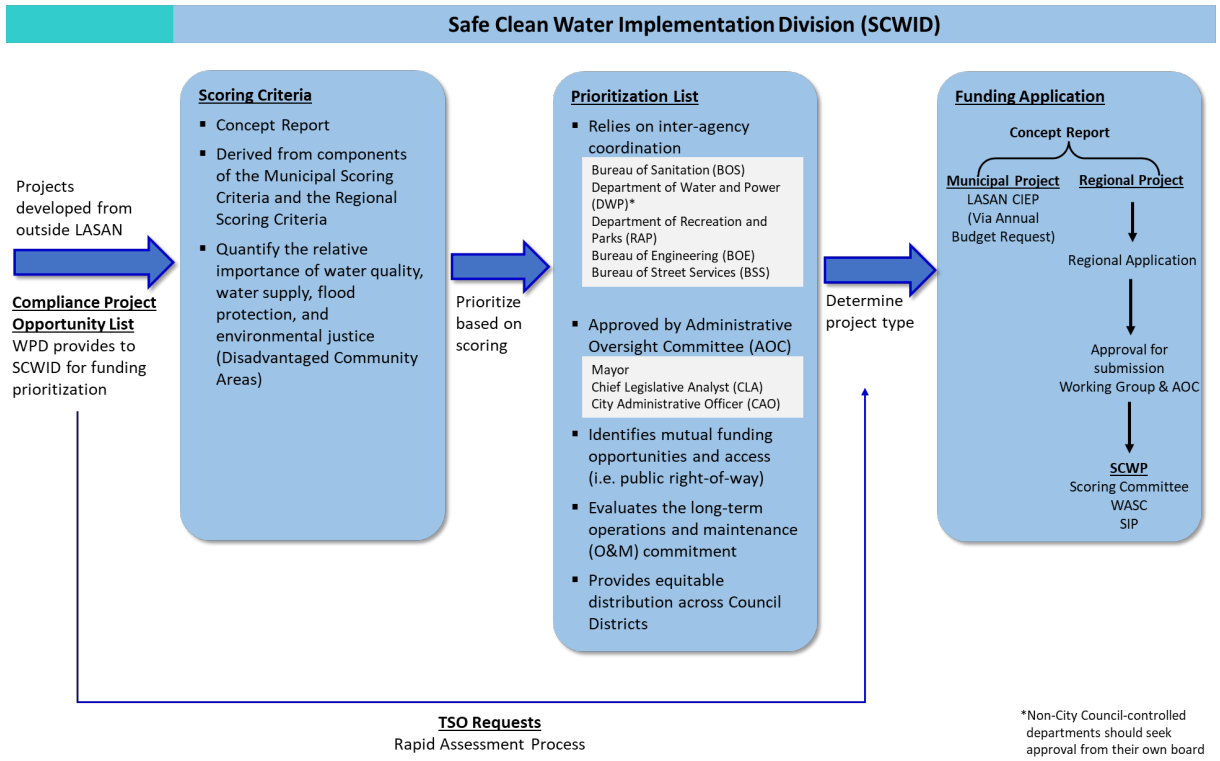


Figure 1-2. Project Prioritization

Section 2

Regulatory Context and Compliance

One of the primary objectives of the SCWP is to provide funding for projects required to meet the regulatory requirements of the MS4 permit. This section includes a discussion of the MS4 permit, a summary of watershed-level planning efforts, and a description of procedures LASAN is following towards compliance.

2.1 MS4 Permit

The National Pollutant Discharge Elimination System (NPDES) MS4 Permit Order No. R4-2021-0105 establishes the waste discharge requirements for stormwater and non-stormwater discharges within the watersheds of Los Angeles County. This NPDES MS4 Permit was adopted by the California Regional Water Quality Control Board, Los Angeles Region (Regional Board), on July 23, 2021, and became effective on September 11, 2021. The permittees are the City of Los Angeles (City), the County of Los Angeles, Los Angeles County Flood Control District, 83 other cities within the County of Los Angeles, County of Ventura, and the incorporated cities within Ventura County. **Figure 2-1** maps the permitted area.

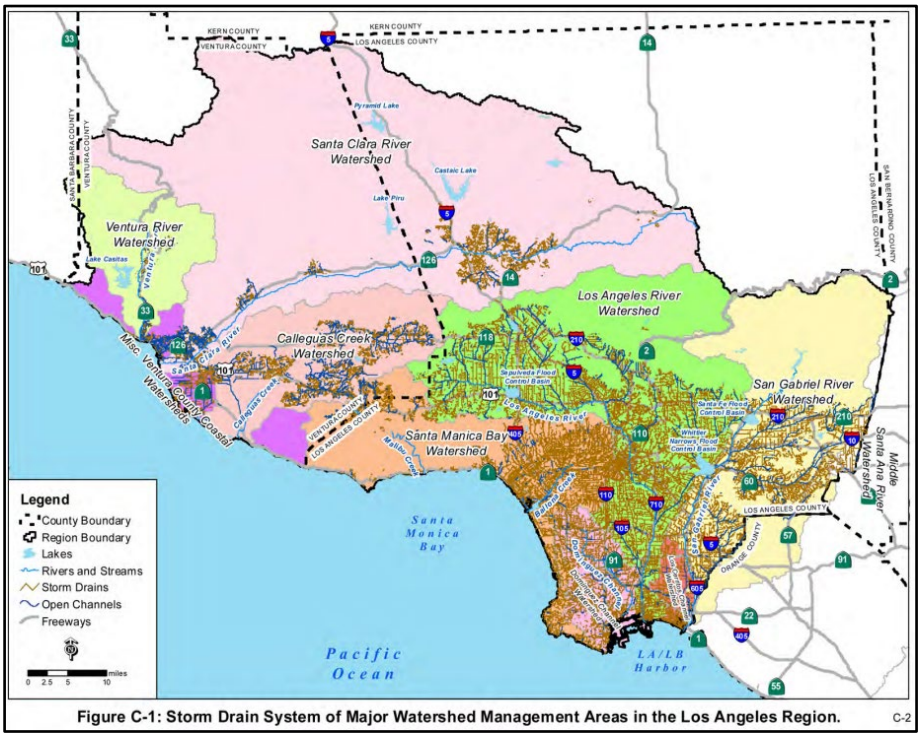


Figure 2-1. Map of MS4 Permitted Area (Source: 2021 MS4 NPDES Permit)[3]

[3] https://www.waterboards.ca.gov/rwqcb4/water_issues/programs/stormwater/municipal/#2

The current NPDES MS4 Permit is the most recent of five consecutive permits (issued in 1990, 1996, 2001, 2012, and 2021). This MS4 Permit includes the most stringent requirements to date as it establishes numeric water quality limits for receiving waters in Los Angeles County and effluent limitations for discharges of stormwater and urban runoff from the MS4. The new NPDES MS4 Permit includes increased permittee responsibilities for inspections, land development and monitoring, and it requires that permittees comply with all TMDL water quality requirements.

The MS4 Permit contains effluent limitations, receiving water limitations (RWLs) and TMDL provisions, and outlines the process for developing watershed management programs (WMPs). It incorporates the TMDL wasteload allocations (WLAs) applicable to dry- and wet-weather conditions as water-quality-based effluent limits (WQBELs) and/or RWLs. Section V.A of the Permit requires compliance with the WQBELs and RWLs as outlined by the respective TMDLs.

2.1.1 Total Maximum Daily Loads

The fundamental stormwater regulatory standards to be met are referred to as TMDLs. Urban stormwater runoff picks up various pollutants, including trash, oil, bacteria, fertilizers, pesticides and toxics, which eventually end up in receiving waters. A TMDL is a limit on the amount of a pollutant that a specific waterbody can receive from all sources (including urban runoff) and still meet water quality standards.

Table 2-1 provides a summary of the TMDLs for watersheds within the City. The City's four primary regulatory watersheds are grouped into the three SCWP watershed areas as follows (**Figure 2-2**):

- Upper Los Angeles River (ULAR) Watershed Area
- Central Santa Monica Bay (CSMB) Watershed Area (includes the City's portion of the Ballona Creek Watershed, Santa Monica Bay Jurisdictions 2 and 3, and Marina del Rey Watershed)
- South Santa Monica Bay (SSMB) Watershed (includes the City's portion of the Dominguez Channel Watershed) and Santa Monica Bay Jurisdiction 7

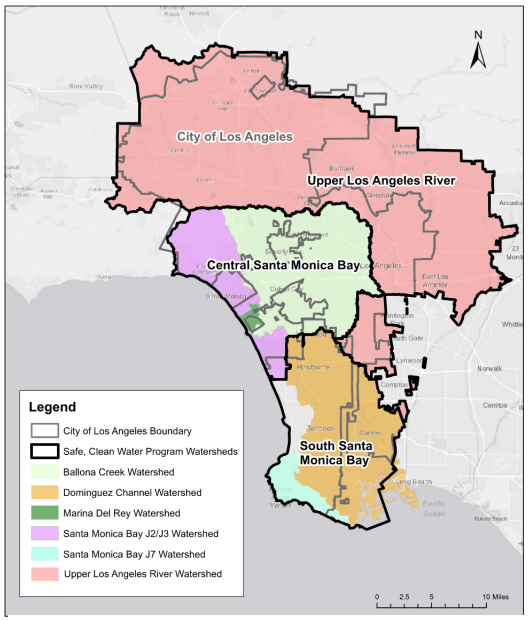


Figure 2-2 City of LA Boundaries within SCWP Watersheds

The City continues to assume a leadership role in protecting the quality of its waters and is currently subject to the TMDLs listed in **Table 2-1**. These TMDLs address multiple water quality impairments in the Los Angeles River, Ballona Creek, Santa Monica Bay shoreline, Dominguez Channel, and several lakes within the City. TMDL details, including the implementation timeline, are provided in **Appendix A**.

Table 2-1. Summary of TMDLs

Watershed		Trash and Debris	Nutrients	Metals	Bacteria	Toxic Pollutants	Pesticides and PCBs	Others
ULAR	Upper Los Angeles River	Los Angeles River Watershed Trash Legg Lake Trash Echo Park Lake Trash	Los Angeles River Nitrogen Compounds and Related Effects Echo Park Lake Nutrient Lake Calabasas Nutrient Legg Lake Nutrient	Los Angeles River and Tributaries Metals	Los Angeles River Watershed Bacteria	Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants TMDL	Echo Park Lake PCBs	Echo Park Lake Chlordane Echo Park Lake Dieldrin
CSMB	Ballona Creek	SMB Debris TMDL, Ballona Creek Trash TDML		Ballona Creek Metals TMDL	Ballona Creek, Ballona Estuary, and Sepulveda Channel Bacteria TMDL	Ballona Creek Estuary Toxic Pollutants TMDL	SMB DDTs and PCBs TMDL	Ballona Creek Wetlands TMDL for Sediment and Invasive Exotic Vegetation
	Santa Monica Bay J2 and 3	SMB Debris TMDL			SMB Beaches Bacteria TMDL		SMB DDTs and PCBs TMDL	
	Marina Del Rey	SMB Debris TMDL						
SSMB	Dominguez Channel	Machado Lake Trash TMDL	Machado Lake Nutrient TMDL		Los Angeles Harbor Bacteria TMDL	Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants TMDL	Machado Lake Pesticides and PCBs TMDL	

2.1.2 Watershed Management Programs

The NPDES MS4 Permit includes provisions for the development and implementation of WMPs that allow permittees to customize their stormwater programs to achieve compliance with permit requirements, including the TMDL water quality regulations and other Clean Water Act mandates. Development of a WMP encompasses the prioritization of water-quality issues, identification of implementation strategies, control measures, and best management practices (BMPs) to meet water quality standards and other MS4 permit requirements, integrated water quality monitoring, and a process for stakeholder input.

The WMPs also allow MS4 permittees to address water quality issues more effectively through interagency collaboration on a watershed-wide basis. The City is located in four major watersheds: Santa Monica Bay, Los Angeles River, Ballona Creek, and Dominguez Channel. The LASAN is responsible for implementing the MS4 permit within the City through the Watershed Protection Division (WPD). LASAN has partnered with other MS4 permittees in the City's four watersheds for collaborative approaches to the development of the WMPs. Accordingly, four Watershed Management Groups (WMGs) led by LASAN have been established, consisting of the City, County of Los Angeles, Los Angeles County Flood Control District, and many of the municipalities that are located within the City's four watersheds.

The WMP for each watershed outlines a path to developing control measures that address Waterbody-Pollutant Combinations (WBPCs) that have been observed to exceed water quality objectives within the receiving waterbodies. The WMP provides an overarching framework from which to build the stormwater quality compliance program. While the WMP does identify several Regional projects that could manage a portion of the required volume of flow for each of the member agencies, much of the framework of the WMP is based on a high-level assessment with stormwater capture volume targets that are general in nature and not linked to specific project sites. Each member agency was subsequently tasked with identifying and developing specific projects to construct that would manage the required volume of stormwater flow generated from their jurisdiction.

Each WMP uses hydraulic modeling to vet various scenarios like treatment processes, land use and pollutant data to determine the amount of stormwater required to be treated to meet regulatory milestones. Compliance strategies include a combination of smaller distributed projects such as green stormwater infrastructure corridors (green streets and alleys) and large Regional projects. One of the most significant products of the WMPs are lists of project opportunities that can be implemented to address the water quality requirements of the MS4 Permit. The WMP implementation strategy uses computer modeling, RAA, to assist in selecting subwatersheds/subbasins that would provide the greatest pollutant removal. The WMP identifies project locations and the quantity of stormwater that needs to be treated at the sites to meet the City's compliance requirements.

The total capital cost for all projects identified in the WMPs for the City to achieve compliance is estimated to be $7.4B as shown in **Figure 2-3**.

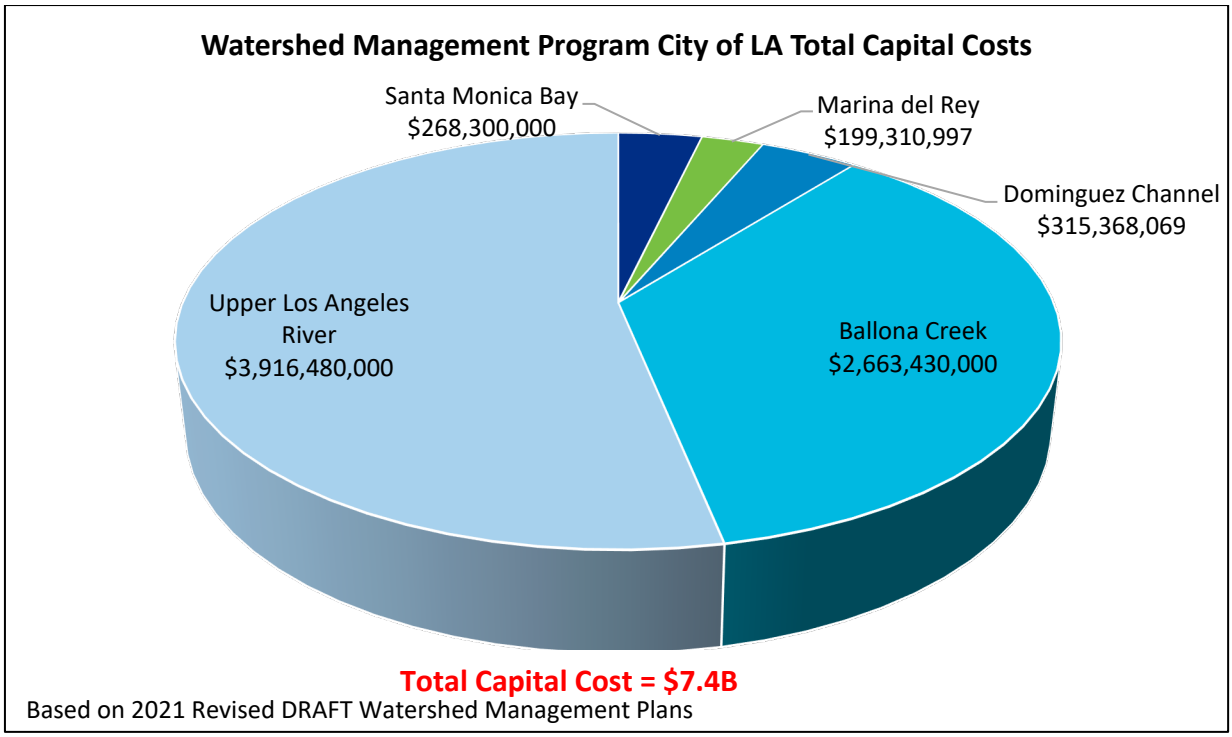


Figure 2-3. Estimated Total WMP Implementation Cost

Over the past decade, the City has implemented a significant number of projects focused on improving water quality and meeting permit requirements. The City's 2004 Proposition O program, a ballot measure approved by the City's residents, provided $500M to fund water quality projects. The City has also received funding from various other sources and many signature stormwater projects have been successfully implemented. However, funding insecurity limited the speed with which projects could be implemented.

With the passage of Measure W, the City has been able to expand the stormwater program. LASAN can continue to develop a stormwater CIP that aligns with SCWP allocated funds while continuing to seek additional outside funding. Section 2.2 discusses the SCWP structure as well as the regulatory framework for the City watersheds.

2.2 Regulatory Compliance and Project Identification

The City faces numerous regulatory requirements set forth to provide protection of receiving waters from urban pollution conveyed via urban runoff. As an operator of an MS4, the City manages discharges from its system to improve water quality and achieve regulatory compliance. One component of the City's compliance strategy involves implementation of water quality improvement projects throughout the City where site conditions allow. This section summarizes the City Watershed Protection Division's effort to develop a master list of wet-weather infrastructure projects designed to capture and treat stormwater and provide a long-term path to regulatory compliance as outlined in **Figure 1-1**. The three principal components of the regulatory compliance step include: 1) the WMP and the RAA stormwater volume required for capture, 2) project identification and analysis through the SiteSAN tool, and 3) assembling watershed-specific project lists.

2.2.1 Reasonable Assurance Analysis

Extensive water quality and BMP modeling was performed during the development of the WMP, including an RAA as a permit requirement. An RAA is used to quantitatively demonstrate the degree to which implementation of the BMPs presented in the WMP can address WBPCs and associated WQBELs and/or RWLs. Flows and pollutant load concentrations predicted by RAA modeling were used to select BMPs for the WMP Implementation Strategy by considering multiple BMP scenarios while factoring in cost effectiveness and the preferences of the WMP Group.

Results from this modeling effort are presented in the WMP as a "recipe for compliance" for each jurisdiction in the watershed. These results are expressed as the volume of stormwater each jurisdiction would need to manage to achieve compliance and which control measures (i.e., low impact development [LID], green streets, or Regional BMPs) could be implemented to manage the flow under this "recipe." The primary metric for demonstrating reasonable assurance that the WQBELs and/or RWLs will be achieved is volume of flow managed; therefore, the stormwater volume managed is considered the BMP performance goal for the WMP. Siting BMPs on public land is prioritized over siting on private land to save costs and minimize logistical challenges.

As shown in **Figure 2-4**, The WMP process identified thousands of subwatershed areas with respective stormwater capture volumes within the larger City watersheds.

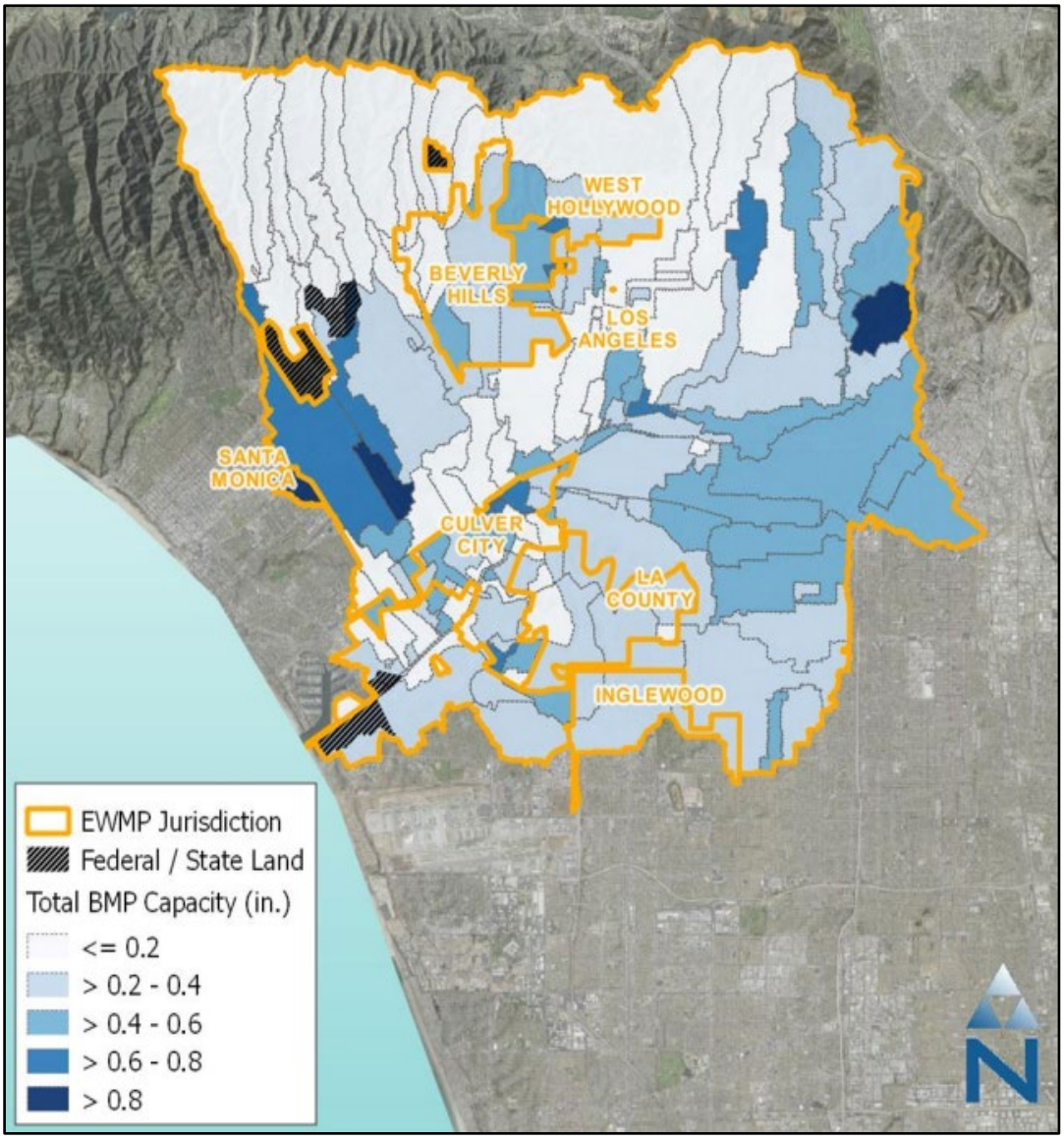


Figure 2-4. Illustrative Representation of Inches of Impervious Area Runoff Capture for WMP Compliance Needs

For the City, the breakdown of structural BMP categories included in each WMP stormwater capture volume recipe is presented below. The WMP expected that the recipe of BMPs would evolve as more refined planning occurs and specific projects are implemented. Necessary stormwater capture volumes for the City by Regulatory Watershed are shown in **Table 2-2**, with the exception of Santa Monica Bay Jurisdictional Group 7 (J7). Santa Monica Bay J7 is a small watershed with relatively little discharge from the MS4 to receiving waters. The existing bacteria TMDL compliance monitoring locations are all open beach and antidegradation locations per State Water Resources Control Board (SWRCB) Resolution No. 68-16, the Antidegradation Policy. Existing water quality is higher than necessary for the protection of beneficial uses. As antidegradation sites, all three locations have an implied zero load reduction as compared to the reference beach. For PCBs (polychlorinated biphenyl) and DDT (dichlorodiphenyltrichloroethane), the U.S. Environmental Protection Agency (USEPA) TMDL

indicates that the current load for Santa Monica Bay is less than the required load; therefore, a zero-load reduction is required for those parameters.

Table 2-2. Target RAA Stormwater Capture Volumes

Regulatory Watershed	Target Volume (acre-feet)
Upper LA River	2,862.9
Ballona Creek	1,902.2
Santa Monica Bay J2/J3	174
Dominguez Channel	371.3
Marina del Rey	53

While the WMP RAA analysis provided valid, justifiable results, the City was interested in examining whether sufficient space could be identified for Regional BMPs to be installed primarily on public lands and to take the analysis to the next level of specificity in terms of locations for structural BMP implementation.

The process for developing specific projects begins with the identification of the objective(s) for the project. The number one priority for projects is water quality improvement. Two important considerations for water quality projects are treatment volume and constituents of concern. Current permits require that all runoff from the 85th percentile storm be treated. This rainfall is typically a little more than 1 inch in 24 hours for locations within the City. Treatment volume influences parameters such as size, choice of treatment processes, budget and complexity of the project. Constituents of concern can be trash, bacteria, metals, nutrients, and pesticides that must be removed to meet regulatory limitations that are included in the MS4 permit for the major waterbodies in Los Angeles through TMDLs (**Table 2-1**). TMDL milestones (limitations with a compliance date) have been established for dry- and wet-weather conditions and can be expressed in concentrations for bacteria, metals, nutrients and pesticides. percentages for trash. **(Appendix A).**

2.2.2 SiteSAN

A key element in the development of the list of projects required for compliance is the innovation of a GIS-based tool (SiteSAN) capable of evaluating all City-owned properties, major street rights-of-way, and streets with medians. SiteSAN is intended to be used Citywide to identify, evaluate, and map project opportunity sites through automation based on a defined set of parameters and criteria. Ultimately, the stormwater volume captured for each of these sites sum to the target capture volume for the RAA event for each watershed. The SiteSAN effort is focused on wet-weather projects that are regional in nature, so the focus of the analysis is currently on larger-scale diversions from the City's network of storm drains and engineered channels. Most sites assume infiltration BMPs will be installed. Four primary computations occur on data shapefiles within the SiteSAN ArcGIS-based Python code as shown in **Figure 2-5**.

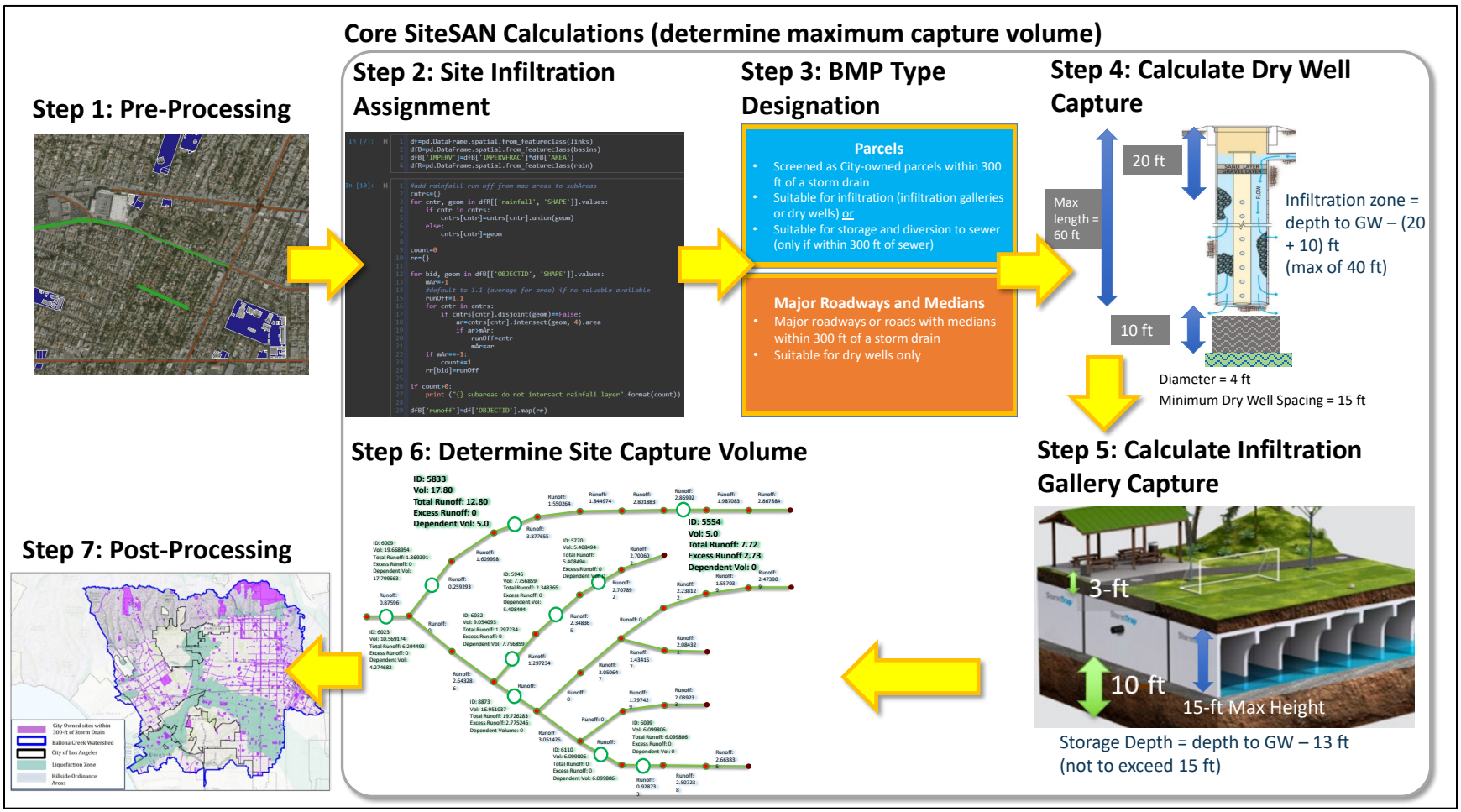


Figure 2-5. SiteSAN Tool Process

The 900+ projects identified by the SiteSAN tool were filtered into the appropriate watershed for further refinement and prioritization. **Appendix B** lists the top 319 citywide projects for SCWP funding consideration. Sorting the projects into watersheds allows LASAN to more easily identify the volume achieved toward compliance as well as the funding available.

The SiteSAN tool process is outlined in the subsections below.

2.2.2.1 Step 1: Pre-Processing

The SiteSAN tool utilizes several data inputs to properly evaluate each site and determine stormwater flow volumes for subsequent calculations. Inputs include physical characteristics of the land area, such as depth to groundwater or liquefaction zones, infrastructure features, such as roadway characteristics or parcel building data, and ownership data. Once the data is assembled in ArcGIS, several pre-processing steps take place:

1. Clip spatial data to watershed boundaries (lessens SiteSAN computational time by decreasing the amount of spatial data to be processed).

2. Define potential BMP footprint at each parcel by removing square footage of existing structures as well as subtracting a five-foot buffer around each building as well as the property perimeter.

3. Calculate potential parcel stormwater runoff volume by associating each hydrologic subarea with an 85th percentile, 24-hour, rainfall depth. The total accumulated flow in each storm drain is the sum of runoff volumes from all upstream tributary sub-areas.

4. Subtract existing project capture volumes.

5. Retain only parcels that are City-owned properties and rights-of-way to achieve a goal of maximizing stormwater capture on public parcels. This step relies on two different parcel layers: the 2016 land use from Southern California Association of Governments (SCAG) GIS database[4] and a City-provided shapefile that identifies agency ownership.

6. Eliminate sites with low depth to groundwater (for sites with good infiltration) or long distance to a sanitary sewer (for sites with poor infiltration characteristics.)

The reliance on these pre-processing steps is discussed in the subsequent sections.

2.2.2.2 Step 2: Site Infiltration Assignment

The measured infiltration rate for a given site is critical to the actual design and determination of capture volume that can be expected at the site. The City provided a GIS file based on soil type and runoff coefficient data from the Los Angeles County Hydrology Manual[5]. The GIS data spatially represents areas that are poor, fair, marginal, good, and excellent for infiltration. SiteSAN

---

[4] https://scag-spm-documentation.readthedocs.io/en/latest/scag_lu_codes/
[5] https://dpw.lacounty.gov/wrd/publication/engineering/2006_Hydrology_Manual/2006%20Hydrology%20Manual-Divided.pdf

assigned a soil category to each parcel based on its location: either "0" for poor infiltration, "1" for fair/marginal infiltration, and "2" for good/excellent infiltration. Any site in an area with a "0" for poor infiltration was considered infeasible for infiltration BMPs.

Vertical surficial infiltration rates for sites assigned a "1" (fair infiltration) or "2" (good infiltration) were conservatively estimated to be 0.3 inches/hour and 0.5 inches/hour, respectively. These rates were assigned to infiltration galleries.

Dry wells achieve a higher infiltration rate than infiltration galleries due to the fact they allow both vertical and horizontal infiltration (dry wells infiltrate along the entire shaft of the dry well as well as the bottom, while infiltration galleries infiltrate only through the bottom). The vertical configuration exposes the stormwater to a variety soil types in the well column, allowing greater infiltration opportunities. The dry well infiltration rates are assumed to be one order of magnitude higher than conservative estimates made for infiltration galleries: fair soils are assigned a rate of 3 inches/hour and good infiltration soils are assigned an infiltration rate equal to 5 inches/hour.

The planning level infiltration values represent a conservative middle ground that likely does not significantly over or underestimate performance, and overall may average out across the watersheds. Assumptions made for the purpose of this effort should be confirmed through geotechnical investigations during a future project phase.

2.2.2.3 Step 3: BMP Type Designation

The two primary BMP types used in the SiteSAN analysis include infiltration galleries and dry wells. Infiltration galleries are large subsurface structures that can infiltrate large volumes of flow into relatively shallow soils while allowing the ground surface to remain usable. These devices are typically sturdy enough to be installed under parking lots. Dry wells can be installed under roadways or parcels with only a manhole at the surface and provide an efficient method of infiltration using a smaller footprint and greater depth than infiltration galleries. Deep infiltration dry wells can be combined with green street BMPs that include smaller volumes of surface infiltration, allowing a project to achieve regional status by capturing flows from a larger tributary area.

The potential project sites generated from SiteSAN include:

- **Infiltration Parcels:** City-owned parcels within 300 feet of a storm drain that have good infiltration rates (soil type 1 or 2) for either infiltration galleries or dry wells.
- **Storage and Diversion Parcels:** City-owned parcels within 300 feet of a storm drain that have poor infiltration rates (soil type 0) but are within 300 feet of a sanitary sewer. Stormwater is stored for diversion to the sanitary sewer system for treatment and potential recycled water use, provided a sewer capacity analysis indicates conveyance and treatment capacity within the wastewater collection and treatment systems.
- **Major Roadways and Medians:** Publicly accessible roadways within 300 feet of a storm drain that have good infiltration rates (soil type 1 or 2) are suitable for green streets, offering bioswale and dry well options for stormwater retention.

The selected maximum distance from a stormwater link or a wastewater conduit was set to 300 feet. This was selected as a reasonable diversion length to consider because it is a typical distance between storm drain manholes and is the length of a city block. These values are variables in the tool, and the user can modify this information later if design parameters change.

The core calculations of the SiteSAN Python script determine BMP capacity for each of the three types of project sites.

Parcels with fair or good infiltration, with a minimum of 13 feet to the groundwater (to account for 3 feet of cover and 10 feet above groundwater), had two calculations performed. The first was to determine how much flow could be managed on site in an infiltration gallery and the second how much flow could be managed on site in dry wells.

For parcels with poor infiltration, a similar calculation was made except it was limited to the storage capacity of the gallery. In this situation, the volume would be stored for diversion to the sanitary sewer for recycled water reuse. Stored flow would be slowly released to the sewer over two to three days.

For medians and roadways, the calculation was restricted to dry wells since infiltration galleries could not be installed in the roadways due to interference with utilities and other concerns. Roadway BMPs would therefore not be suitable in areas of poor infiltration since diversion to sewer would require storage capacity to detain and slowly release flow to the sewer.

2.2.2.4 Step 4: Dry Well Parameters and Capture Volume Calculations

Dry well capture volumes are not computed for sites in liquefaction zones or with groundwater depths less than 30 feet (10-foot offset from groundwater table and 20-foot infiltration start depth). The dry well parameters, as currently assumed in SiteSAN, are summarized in **Table 2-3**.

Table 2-3. Dry Well Assumptions

Parameter	Value
Diameter	4 feet
Cross-sectional Area	12.6 square feet
Required Offset above Groundwater Table	10 feet
Infiltration Start Depth	20 feet below ground surface
Maximum Dry Well Length	60 feet
Maximum Infiltration Length	40 feet
Infiltration Rate (fair, good for dry wells)	3 inches/hour (fair), 5 inches/hour (good)
Minimum Dry Well Spacing (length, area)	15 feet, 225 square feet

Note: infiltration rates for dry wells are assumed to be higher than infiltration rates for infiltration galleries due to the horizontal and vertical infiltration achieved by dry wells.

The four-foot dry well diameter was used as a maximum diameter that would be reasonable for dry well installation and can include a gravel layer surrounding the dry well. The maximum length was conservatively estimated to be 60 feet, though dry wells can typically extend up to 120

feet deep. As such, this configuration could be modified to increase the depth and reduce the diameter as the City refines preferred design parameters.

Dry well capture volumes are computed using the following formulas (unit conversions have been omitted for clarity):

- *Infiltrating Surface Area = Circumference x Infiltrating Length*
- *Infiltration Volume = Infiltration Rate x Infiltrating Surface Area x 24 hours*
- *Storage Volume = Dry Well Depth x Dry Well Cross-sectional Area*
- *Capture Volume = Infiltration Volume + Storage Volume*
- *Number of Dry Wells at a Parcel = Site Area/Minimum Dry well Spacing (Area)*
- *Maximum Dry Well Capture Volume at a Parcel = Capture Volume x Number of Dry Wells*
- *Number of Dry Wells at a Road/Median = Length/Minimum Dry well Spacing (Length)*
- *Maximum Dry Well Capture Volume at a Road/Median = Capture Volume x Number of Dry Wells*

For dry wells in roadways, this evaluation does not consider subsurface utilities that can restrict the amount of available space to construct dry wells. Similarly, overhead utilities can also make construction of dry wells infeasible. These are factors that will need to be evaluated during subsequent phases of project development when constructability and feasibility are assessed. Subsequent screening should also remove sites with unreasonably high groundwater depths that would prohibit dry well function (even if the site exhibits a 30-foot depth to groundwater.)

2.2.2.5 Step 5: Infiltration Gallery Parameters and Capture Volume Calculations

Capture volumes are not computed for sites in liquefaction zones or with groundwater depths less than 13 feet (10-foot offset above groundwater table and 3-foot required ground cover for infiltration gallery). Later screening steps remove sites with unreasonably high groundwater depths that would prohibit infiltration gallery function, but only sites meeting these parameters were fully removed from the calculations. The infiltration gallery parameters, as currently assumed in the tool, are summarized in **Table 2-4**.

Table 2-4. Infiltration Gallery Assumptions

Parameter	Value
Required Ground Cover	3 feet
Required Offset from Groundwater Table	10 feet
Maximum Storage Height	15 feet
Infiltration Rate (fair, good for infiltration galleries)	0.3 inches/hour (fair), 0.5 inches/hour (good)

Note: infiltration rates for dry wells are assumed to be higher than infiltration rates for infiltration galleries due to the horizontal and vertical infiltration achieved by dry wells.

Infiltration Gallery capture volumes are computed using the following formulas (unit conversions have been omitted for clarity):

- *Infiltrating Surface Area = Site Area*
- *Infiltration Volume = Infiltration Rate x Infiltrating Surface Area x 24 hours*
- *Storage Volume = Storage Depth x Infiltrating Surface Area*
- *Infiltration Gallery Maximum Capture Volume = Infiltration Volume + Storage Volume*

The determination of the available footprint for a BMP was generalized based on the total square footage of the property minus the buildings and a buffer, and this method can in some cases overestimate the available space for BMP implementation on parcels. For example, if the property had multiple buildings with small spaces between them, that would not be an optimal situation for an infiltration gallery compared to a park that would likely have its identified space in the form of a large continuous space. In some cases, a reduced footprint could be compensated for by increasing the depth of the BMP or installing dry wells in the adjacent streets. This should be evaluated on a case-by-case basis.

2.2.2.6 Step 6: Determine Site Capture Volume

The SiteSAN pre-processing step assigned a cumulative flow to each segment of the storm drain network, and the tool assigns a potential stormwater volume that could be diverted to the site based on the largest stormwater volume from all overlapping storm drains. Multiple sites could be associated with the same link, and SiteSAN does not double count that flow. The tool will first assign as much flow as it can to the larger site (by BMP capacity). Then, any remaining flow from the link will be assigned to the next largest site until all flow has been assigned or there are no more sites associated with that link.

This process results in an available runoff volume being assigned to a site. The maximum capture volume for each site is determined by taking the larger value between the dry well and infiltration gallery maximum capture volumes (i.e., what a parcel or roadway could manage on site). The usable capture volume for each site is computed by the tool through an iterative process that considers both the available runoff volume and the maximum capture volume. Usable capture volumes are computed using the following formulas (unit conversions have been omitted for clarity):

- *Site Maximum Capture Volume = Maximum (Dry Well Capture Volume, Gallery Capture Volume)*
- *Site Usable Capture Volume = Minimum (Site Max Capture Volume, Link Available Volume)*

It is also important to note that the tool does not remove the flow associated with a given link from downstream links. As previously discussed, the volume of flow assigned to each link is static once pre-processing is complete. Therefore, the links are no longer dynamically associated with one another. This approach was preferred because if the flow assigned to an upstream parcel was removed from downstream consideration, it would be impossible to know how much flow could

have arrived at a downstream site. If the downstream site were superior to the upstream site that was assigned the flow, then the more desirable site may be omitted due to lack of flow. By reserving this analysis of sequencing and prioritization for future steps, the tool is identifying all valid opportunities.

2.2.2.7 Step 7: Project Estimates and Schedule

Project site information identified by the SiteSAN tool includes the stormwater capture volume for the 85th percentile 24-hour storm event and a preliminary cost estimate based on a formula related to capture volume. The costs were estimated based on a September 2020 construction cost for Strathern Park North Stormwater Capture Project. For this 2022 report, baseline costs are estimated as $550,000 per acre-foot captured. This construction cost is escalated five percent per year to the mid-point of construction, the start date of which varies by project. These estimates are used herein to approximate potential future funding requests to the Safe, Clean Water Program CIP.

The Los Angeles Bureau of Engineering (BOE) provides detailed examples of budgets for water quality and stormwater projects and indicates that water quality projects typically take one to four years for construction, while stormwater conveyance projects typically take one to three years for complete construction. At this planning level assessment, it is assumed projects with less than 10 acre-feet of capture require three years to completion, projects between 10 and 20 acre-feet of capture take four years, and projects with capture larger than 20 acre-feet require five years for construction completion.

2.2.2.8 Step 8: Post-Processing

A post-GIS step includes spreadsheet screening of the SiteSAN output shapefile to further refine the list of projects. The tool output generates project information which can be used in the spreadsheet analysis; **Table 2-5** lists these parameters.

Table 2-5. Key SiteSAN Output

Parameter	Description of Potential Use
Liquefaction or Contamination Zone	A yes to either of these options means that these parcels can be screened out in subsequent analyses
Hillside	A yes here means the site should not be considered
State Assembly District	For project distribution analysis
City Council District	For project distribution analysis
Load Reduction Factor	The targeted percent of the associated subwatershed that must be managed to achieve compliance based on WMP modeling; higher percent = higher priority areas
Street Name	For project names
Agency Name	Agency within the City that owns the land – for identification or sorting projects into portfolios (i.e. LASAN)
Link Identification Number	ID number associated with the links network; useful so user can see what sites draw from the same link
Drainage Grid Page	The City is divided into drainage grids and each site is assigned to one grid; useful for user to see what sites are near each other
Street Grid	To identify what grid the street segment is located in

First, all sites located in a liquefaction zone or on a hillside were assigned a capture volume of 0 acre-feet. These sites pose a greater risk of failure during seismic events and were not considered for subsurface BMP installation. However, these sites were not entirely removed from the table because in the future, the City may choose to consider surface BMPs in these areas.

Second, each site was reviewed on the City's NavigateLA website[6], the County Assessor's office website[7], and on Google Maps. Where a site was judged clearly unsuitable for BMP implementation, it was removed from the list. Examples of sites judged unsuitable include Housing Authority sites that consist of small apartment complexes with only front yards available for BMP installation, or sites where a parking structure was built in place of a surface parking lot, so the site no longer had the available space estimated by the tool.

As a third step in further evaluating the list, any parcel assigned a usable volume below 2.25 acre-feet was filtered out. Since the purpose of this exercise was to identify Regional projects, it was assumed that sites smaller than this would not be included in this category as it was estimated that the cost involved in dispatching contractors for numerous small-scale projects would not be as cost effective as mobilizing work for less numerous, but larger in capacity, sites.

The final step was to combine sites. Large properties made up of multiple parcels (i.e., the site has multiple APNs associated with it, as is often the case with schools and large parks) are combined into one "site." Some roadway segments are combined into one longer project. Since both parcel sites and roadway sites have been identified by the tool and are being evaluated for further consideration, there will be situations where both types of sites are adjacent to one another, and they may be assigned to the same stormwater link. When this is the case, project options should be evaluated in conjunction with one another to determine the best scenario for managing the stormwater, which would include either one site or a combination of sites (e.g., a single site, two parcels, a roadway and a parcel, etc.).

Constructability has not been evaluated, nor has an evaluation been done to confirm that each site could manage the volume of flow determined by the tool, which would need geotechnical investigations to confirm infiltration rates and field-verified site conditions.

2.2.3 SiteSAN Scoring Criteria

The Municipal and Regional scoring criteria establish a numerical score for each project based on benefits to water quality, water supply, flooding, and the community. The scores also consider project cost-effectiveness. Prioritizing projects at a preliminary stage of project development using the Municipal and/or Regional Scoring criteria is difficult given the lack of site-specific technical information known and differentiators among projects. For example, costs are determined based on a unit cost related to stormwater capture volume, so cost-effectiveness would be uniform across all projects. To address this concern, LASAN WPD established simplified SiteSAN ranking criteria to evaluate project opportunity sites relative to one another.

---

[6] https://navigatela.lacity.org/navigatela/
[7] https://assessor.lacounty.gov/homeowners/property-search

LASAN established a simplified SiteSAN ranking criteria that facilitated a reasonable comparison among projects in an effort to provide SCWID a basis of project to evaluate the strength of a project with the Safe Clean Water Program goals and objectives.

The first step in developing the SiteSAN criteria was to compare the Regional and Municipal scoring criteria to determine areas of overlap. Next, it was determined which criteria could be used to differentiate among projects. This evaluation resulted in the following six criteria:

Schedule reliability: highest priority given to projects where LASAN has jurisdiction and could start on them as soon as possible.

Water quality: analysis conducted during the development of the WMPs provided location-based scores that indicate which areas have higher pollutant loading than others, where areas with high pollutant loading are prioritized. Another feature generated by the Enhanced Watershed Management Plan (EWMP) Reasonable Assurance Analysis (RAA) modeling effort, which aids in the siting of BMPs, was a determination of the percent load reduction required for each of the subwatersheds within the four primary City watersheds. The required load reduction is based on the modeled pollutant loading from a given subwatershed. Subwatersheds with land uses associated with higher pollutant loading require a higher stormwater volume capture than those with lower pollutant loadings. As an example, areas with less development tend to have a lower load reduction factor than dense urban areas. Load reduction factors are the targeted percent of the associated subwatershed that must be managed to achieve compliance based on WMP modeling. The higher the load reduction factor, the higher the priority of the area. By targeting sites with a high load reduction factor, the City will manage the most critical locations first.

Disadvantaged Communities (DACs): projects that benefit a DAC are prioritized.

Flood control: higher priority is given to areas where historical flood control complaints exist.

Water supply benefit: higher priority is given to projects that are located in areas of the City where infiltration results in groundwater recharge (namely the San Fernando Valley) or on a land use such as a park where on-site reuse is anticipated to be a feature of the project.

Community benefits: projects that have the potential to benefit the community are given higher priority. This was determined based on land use type, where any project where the public would have access to the land was assumed to provide a community benefit. Community benefit features would be established during conceptual design, but it is assumed that those features would be considered and included where possible. All sites should have the potential to incorporate community benefits, including beautification, greenscaping, and LID-type surface features that would provide residents of the City and others with not only improved water quality, but a more aesthetically pleasing environment.

Based on these key factors, a scoring matrix was developed, and weighting factors were established where the weight of all factors sums to 100 (**Table 2-6**).

Table 2-6. Criteria Weighting

Schedule Reliability	Water Quality	DAC	Flood Control	Water Supply Benefit	Community Benefit	Total Score
25	15	15	15	15	15	100

Schedule reliability was assigned the highest weight, equal to 25, because a higher schedule reliability score (driven by accessibility and type of ownership) indicates that LASAN will have better control of the projects and can start on them as soon as possible. All other factors were assigned a weight of 15.

LASAN's SCWID uses the list of projects provided by the WPD to draw upon projects for both the Municipal and Regional programs. The SCWID leads and vets additional project studies, planning, or modeling efforts for the City. The annual selection of projects is based on meeting the water quality objectives (i.e., upcoming TMDL compliance milestones in each watershed) of the MS4 permit.

2.2.4 Priority Projects for SCW Funding

As discussed above, the SiteSAN tool identified citywide projects for SCW funding consideration. To find equity in distributing 30 priority projects across the City to apply for SCW funding, LASAN's SCWID established the following criteria: 1) select projects distributed across all fifteen council districts, with at least ten projects in each SCW watershed, 2) distribute the projects so that there is approximately the same number of roadway and parcel projects, and 3) target projects with the highest SiteSAN scores while maximizing capture volume. **Appendix C** contains the shortlisted priority projects that resulted from this selection process, including site-specific data and design summaries for each project.

Section 3
SCW Program

LASAN's Safe Clean Water Implementation Division (SCWID) is responsible for managing and overseeing the City's Safe, Clean Water Program and project implementation. Projects identified in the SiteSAN prioritization will be evaluated and further prioritized using both Municipal and Regional scoring criteria.

On November 6, 2018, Los Angeles County voters approved Measure W, the Safe, Clean Water Program, a parcel tax of 2.5 cents per square foot of impermeable surface to support the costs of stormwater-related projects and activities.[8] Measure W generates approximately $285M per year County-wide, of which approximately $82M per year ($36.0M Municipal, $45.6M Regional) should be returned to the City of Los Angeles. The SCWP designates three watershed areas within LASAN's jurisdiction (**Figure 2-2**) for funding purposes.

The three watershed areas within LASAN's jurisdiction include:

- Upper Los Angeles River Watershed Area: includes the City's portion of the Upper Los Angeles River Watershed
- Central Santa Monica Bay Watershed Area: includes the City's portion of the Ballona Creek Watershed, Santa Monica Bay (Jurisdictions 2 and 3, and Marina del Rey) Watershed
- South Santa Monica Bay Watershed Area: includes the City's portion of the Dominguez Channel Watershed and Santa Monica Bay (Jurisdiction 7)

As shown in **Figure 1-1**, LASAN's SCWID uses the list of projects provided by the WPD and the SiteSAN prioritization to draw upon projects to be considered for both the Municipal and Regional Program funding. The SCWID leads and vets additional project studies, planning, or modeling efforts for the City. SCWID will investigate the projects' technical feasibility and elaborate on the proposed concepts by conducting in-depth site investigations and preparing technical concept reports.

The concept report process starts 12 months prior to the call for projects for the Regional Program at the beginning of each fiscal year. This report outlines the practicality of the site to meet water quality objectives of the MS4 permit (i.e., upcoming TMDL compliance milestones in each watershed), validate geotechnical assumptions, investigate utility coordination right-of-way issues and establish a refined scope, schedule, and budget.

---

[8] Los Angeles County Code of Ordinances, Flood Control District Code, Chapter 16 – Los Angeles Safe Clean Warder Program, Section 16.08 – Special Parcel Tax Rate.
https://library.municode.com/ca/los_angeles_county/codes/code_of_ordinances?nodeId=FLCODICO_CH16LOANRESACLWAPRSPPATAPRSTURRUCARESTURRUPO_16.08SPPATARA

Projects will be given a preliminary score based on the Municipal scoring criteria and the Regional programs scoring criteria. Top priority projects are identified by assigning project scores. Factors such as leveraging funding, equitability throughout the City and interdepartmental project collaboration will be evaluated in determining which projects will move forward for funding consideration.

Top-ranked projects are screened by the concept report findings and recommendations. This is followed by development of scope, schedule, estimated project budgets and Citywide collaboration, and finally application to the Municipal or Regional program. Other Bureaus and City Departments seeking to secure SCW funding are highly encouraged to participate in the SCW Working Group and Administrative Oversight Committee (AOC), which aid in deciding on the Municipal or Regional program for the projects.

3.1 Project Scoring

3.1.1 Municipal Scoring Criteria

The SCW Working Group and AOC approved the City's "Municipal Scoring Criteria" shown in **Figure 3-1** to objectively score projects based on County SCWP goals and City policy objectives. Municipal Scoring Criteria follow the same general categories as the County Regional Program Scoring Criteria and include additional criteria that prioritize the City specific policy objectives (citywide equitability, flood protection needs, resiliency, biodiversity, operation and maintenance cost-effectiveness). All City projects requesting funding through the Municipal Program will be scored and prioritized based on these criteria.

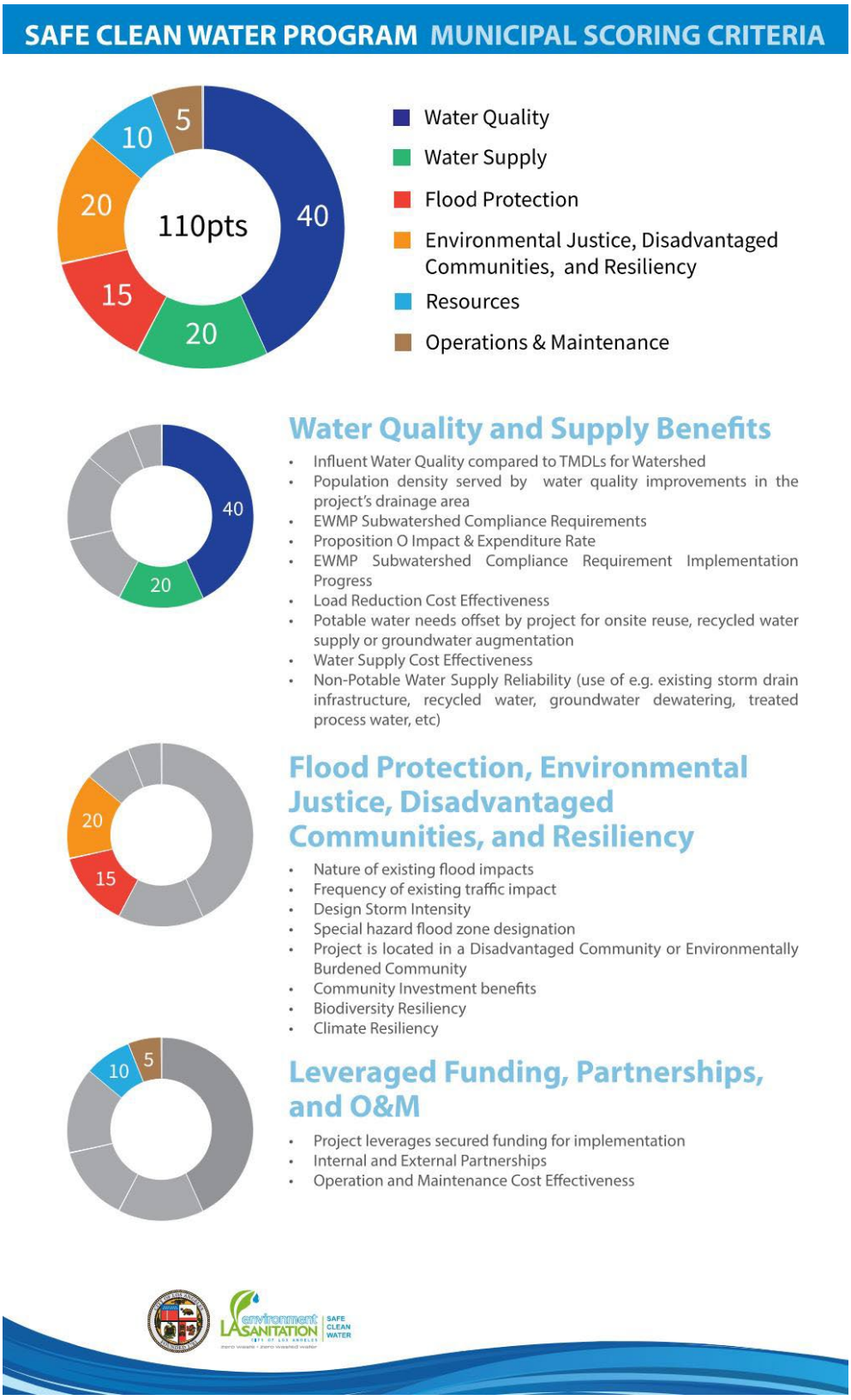


Figure 3-1. SCWP Municipal Scoring Criteria

3.1.2 Regional Scoring Criteria

All City projects to be submitted to the County SCWP Regional Infrastructure Program will be scored and prioritized based on ranking criteria developed by the Regional WASC and Scoring Committee. The SCWP criteria were published in September 2019[8] and consist of eight criteria and two alternate criteria for dry-weather projects. These criteria are contained in five groups consisting of:

A project that leverages funds and community support utilities funds outside of the SCWP program, demonstrates strong local, community-based support, and has been developed in partnership with a Non-governmental organization (NGO) or Community-Based Organization (CBO).

Regional Program projects are required to meet the threshold score of 60 points or more out of a maximum 110 points to be eligible for consideration. **Figure 3-2** shows the scoring criteria based on the Infrastructure Program Project Scoring Criteria.[9]

LASAN's SCWID, coordinates Measure W activities for the City of Los Angeles. LASAN's responsibilities in managing the City's stormwater program (flood protection, watershed management, and water quality compliance) allow it to work effectively with City departments, community partners, and regional agencies. This collaboration, including stakeholder interaction, helps prioritize projects within the City and identify opportunities for leveraging funding.

[9] LA County Safe, Clean Water Program Feasibility Study Guidelines, Exhibit A - Infrastructure Program Project Scoring Criteria, September 19, 2019
https://safecleanwaterla.org/wp-content/uploads/2019/09/Feasibility-Study-Guidelines-20190917-FINAL-1.pdf

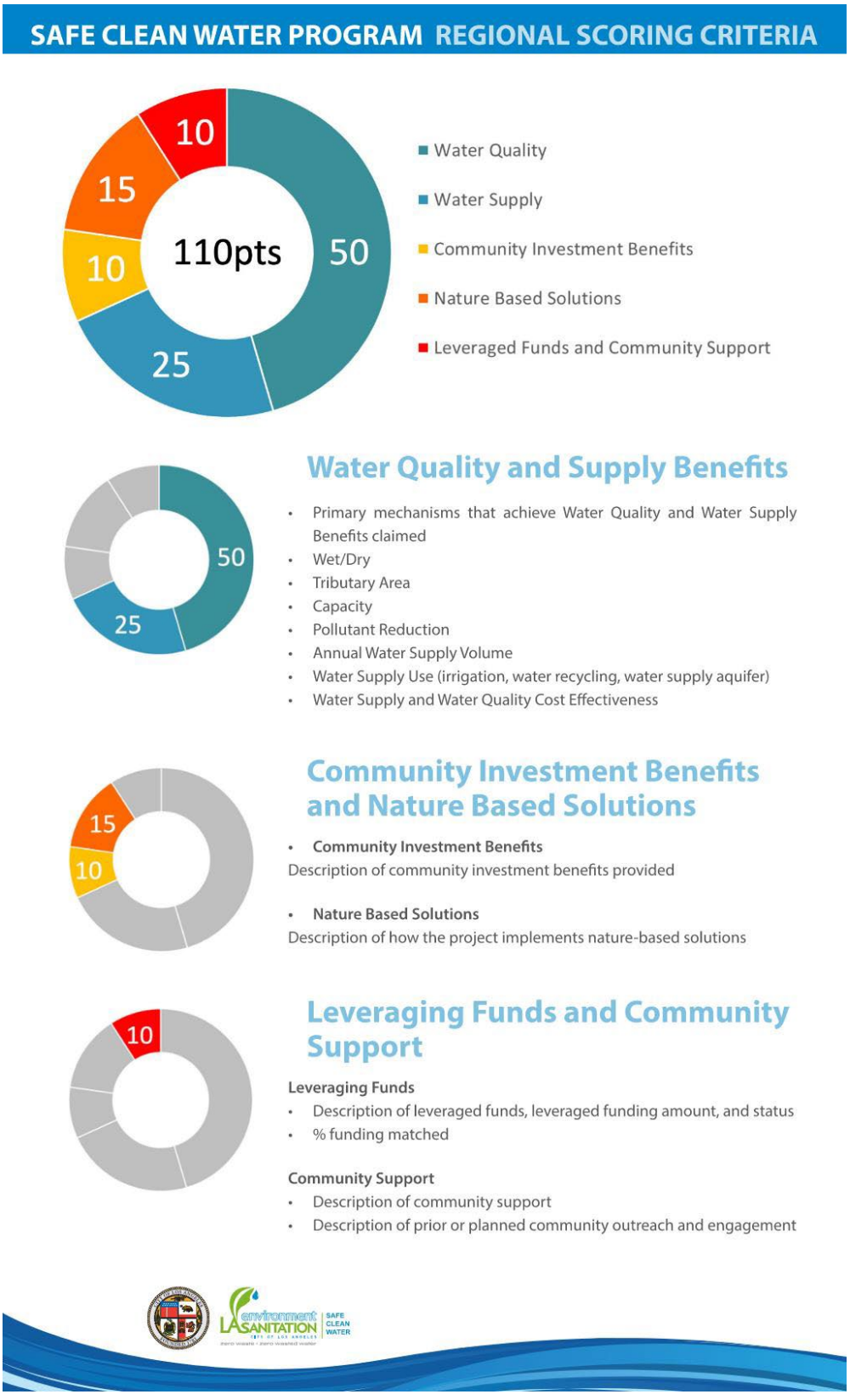


Figure 3-2. SCWP Regional Scoring Criteria Collaboration

3.1.3 Interagency Collaboration

On October 2, 2019, the City Council approved a collective governance model for both the Regional and Municipal Programs. In addition to the Bureau of Sanitation (BOS), program governance involves participation from the Department of Water and Power (DWP), Department of Recreation and Parks (RAP), Bureau of Engineering (BOE) and Bureau of Street Services (BSS). BOS was designated to be the City's lead agency to work with Los Angeles County staff to support Steering Committee activities/efforts associated with Central Santa Monica Bay, Upper Los Angeles River, and South Santa Monica Bay Watersheds.

On November 27, 2019, the City Council Energy, Climate Change and Environmental Justice Committee produced a Governance Structure for Measure W.[10] The Governance Structure established an AOC and a Working Group within LASAN to develop the WISP. The SCWP AOC oversees all City projects and programs funded with proceeds from Measure W and provides proper administration of the City's SCWP. Any actions or recommendations by the AOC are subject to approval by the City Council and the Mayor.

The Mayor and City Council provide oversight of both the SCWP Municipal and Regional Programs through existing administrative processes or those established under the ordinance. Annual project selections under both programs require approval from the Mayor and City Council for them to move forward. LASAN is the fund manager and the custodian of projects seeking Measure W funding. LASAN checks that projects adhere to LA County's funding criteria and shepherds projects through the City's annual administrative process.

Prior to starting the development of feasibility reports for Regional consideration each year, LASAN presents a list of recommended Regional projects (based on concept reports) to the SCWP Working Group for consensus. This Working Group consists of staff from the Mayor's office, City Administrative Officer office, City Legislative Analyst office, RAP, DWP, BOE, and BSS. This group meets monthly to check that recommended projects are moving forward to meet the County's annual call for projects deadline. LASAN, with the concurrence of the Working Group, then moves the Regional projects into feasibility report development.

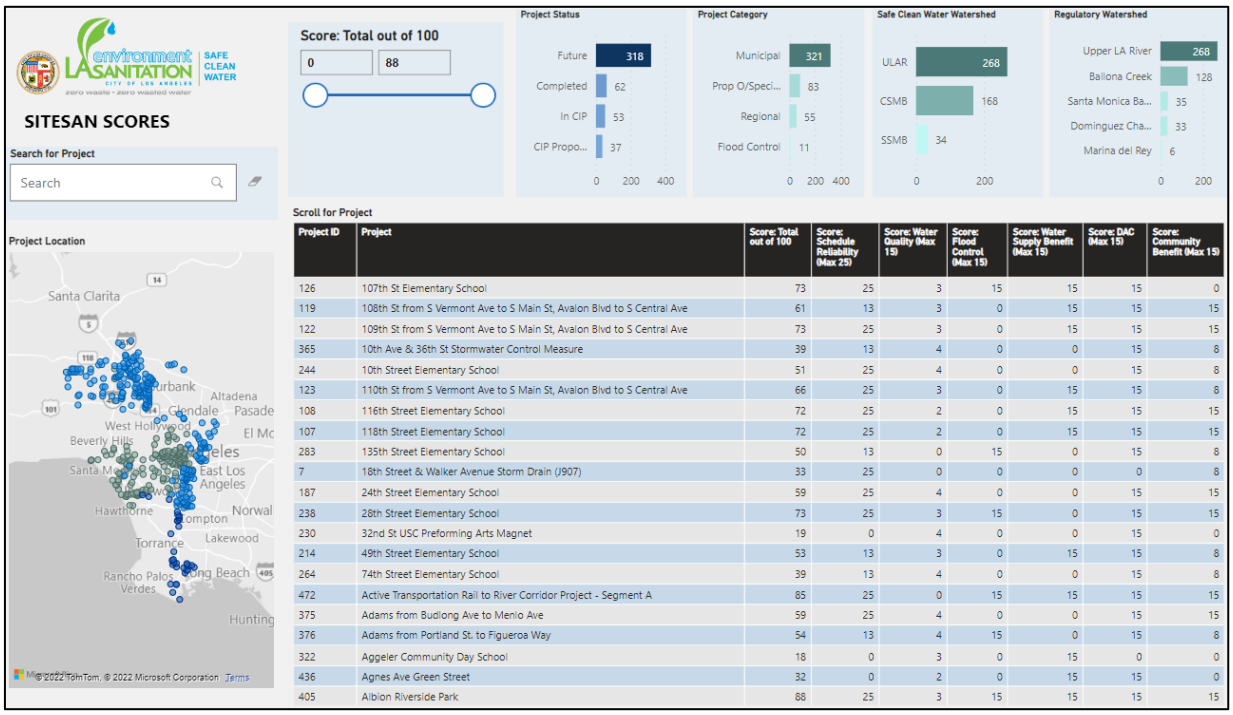
Other City departments seeking Safe, Clean Water Funding (Municipal and / or Regional) shall participate in the Working Group. Given the competitiveness and limited funding within the Regional Program, it is important that all City departments anticipate and coordinate with LASAN on potential upcoming proposals so that these projects can be considered for inclusion in the WISP. Each cycle, prior to the submission of a project to the Regional Program, all City departments will present their proposal to the working group and AOC for consideration. Final recommendations for approval of Regional project submission will then be sent to the City Council. Non-City Council-controlled departments should seek approval from their own board.

Many Regional projects may involve other City departments and agencies and require coordination in their development. This effort is performed in parallel with the project outreach

[10] Governance Structure for Measure W – Safe, Clean Water Program (CF 18-0384-S1), November 27, 2019

efforts. Various forms of agreements, including easements and memorandums of agreement, sometimes need to be prepared to enable construction of the projects, depending on the City departments or agencies involved.

Citywide initiatives such as the Inter-agency Memorandum of Understanding (MOU) and the City's SCWID dashboard (**Figure 3-3**) support a centralized citywide presentation of various projects within the SCWP. The dashboard allows LASAN to view project parameters as they fit into the overall SCWP and the financial impacts they have on the program. Results of the Power BI dashboard help LASAN management decide which projects to move forward to concept and feasibility report development. Project-specific parameters such as captured volume, Council District, Disadvantage Community (DAC) impact, expenditures, and O&M costs are considered.



Project ID	Project	Score: Total out of 100	Score: Schedule Reliability (Max 25)	Score: Water Quality (Max 15)	Score: Flood Control (Max 15)	Score: Water Supply Benefit (Max 15)	Score: DAC (Max 15)	Score: Community Benefit (Max 15)
126	107th St Elementary School	73	25	3	15	15	15	0
119	108th St from S Vermont Ave to S Main St, Avalon Blvd to S Central Ave	61	13	3	0	15	15	15
122	109th St from S Vermont Ave to S Main St, Avalon Blvd to S Central Ave	73	25	3	0	15	15	15
365	10th Ave & 36th St Stormwater Control Measure	39	13	4	0	0	15	8
244	10th Street Elementary School	51	25	4	0	0	15	8
123	110th St from S Vermont Ave to S Main St, Avalon Blvd to S Central Ave	66	25	3	0	15	15	8
108	116th Street Elementary School	72	25	2	0	15	15	15
107	118th Street Elementary School	72	25	2	0	15	15	15
283	135th Street Elementary School	50	13	0	15	0	15	8
7	18th Street & Walker Avenue Storm Drain (J907)	33	25	0	0	0	0	8
187	24th Street Elementary School	59	25	4	0	0	15	15
238	28th Street Elementary School	73	25	3	15	0	15	15
230	32nd St USC Preforming Arts Magnet	19	0	4	0	0	15	0
214	49th Street Elementary School	53	13	3	0	15	15	8
264	74th Street Elementary School	39	13	4	0	0	15	8
472	Active Transportation Rail to River Corridor Project - Segment A	85	25	0	15	15	15	15
375	Adams from Budlong Ave to Menlo Ave	59	25	4	0	0	15	15
376	Adams from Portland St. to Figueroa Way	54	13	4	15	0	15	8
322	Aggeler Community Day School	18	0	3	0	15	0	0
436	Agnes Ave Green Street	32	0	2	0	15	15	0
405	Albion Riverside Park	88	25	3	15	15	15	15

Figure 3-3. Power BI Dashboard

3.1.4 Community Engagement and Collaboration

LASAN's SCWID will outreach and engage community stakeholders, as described in the City of Los Angeles Safe Clean Water Program Strategic Outreach and Engagement Plan. The ongoing support and engagement with the SCWP Watershed Coordinators are key for the City to identify and incorporate projects from entities and partners outside of the City into the WISP. The goals of the Watershed Coordinator Teams include facilitating community engagement, identifying priorities within the watershed's communities, identifying and developing project concepts, integrating priorities through partnerships and stakeholder networks, leveraging funding, educating local stakeholders and collaborating with municipal partners and other Watershed Coordinator Teams on a broader regional basis. The Watershed Coordinators bring community-developed projects involving the City to the attention of LASAN SCWID. These projects can then be included in the

City's project prioritization and scoring processes to determine if they are beneficial projects for the City, and opportunities for collaboration.

3.2 SCW Funding

The SCWP includes two primary sources of funding: the Municipal Program and the Regional Program. Agencies within the County are allocated a certain amount of funding through the Municipal Program, whereas a separate Regional Program awards funds to applicants within each SCWP watershed area on a competitive basis. Both of these funding sources are available to the City as discussed below.

Proceeds of the Municipal and Regional Programs are focused on funding only water quality and water supply projects. There will be instances that flood control projects may be funded through Measure W if significant water quality and water supply elements are incorporated into the design of the project.

3.2.1.1 Municipal Program Funding

Cities will receive direct funding via the SCW Municipal Program proportional to the revenues generated within their boundaries. The City expects to receive approximately $36M per year through the Municipal Program. Municipal funds can be used for a variety of purposes related to the SCWP, including CIP projects, staff salaries, O&M, project development, and related water quality efforts. The Municipal funds are expected to vary year-to-year as the SCWP approves and denies the tax credit, exemption, and appeal applications, as outlined in the approved measure. **Figure 3-4** plots recent SCWP Municipal returns to the City.

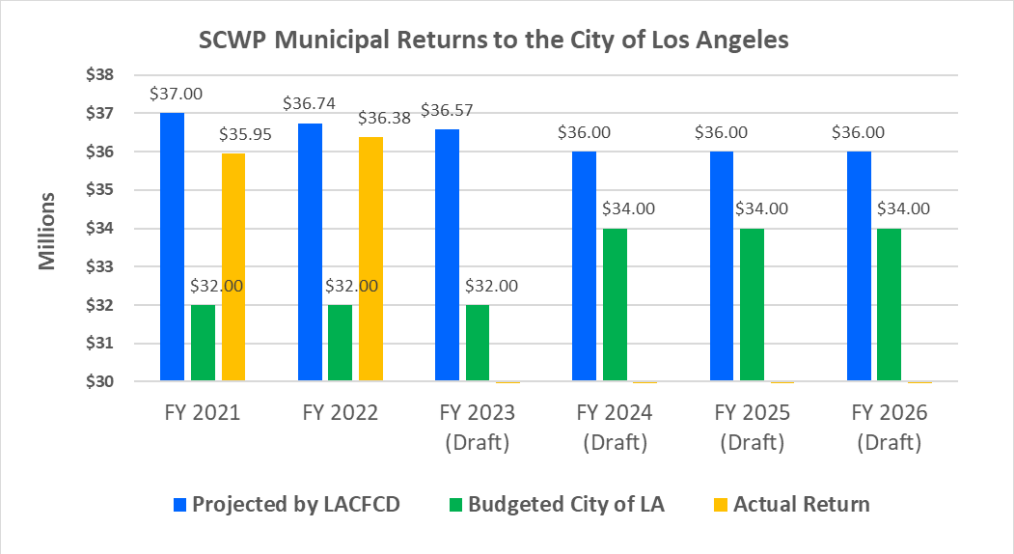


Figure 3-4. Breakdown of Recent and Projected Municipal Program Returns

The anticipated annual available amount of funding from the Municipal Program for 2021 to 2022 was stated by the SCWP to be $36.57M for the City. To verify the City can continue to demonstrate progress in implementing stormwater quality projects throughout the City to meet its regulatory requirements, LASAN recommends the City commit to funding a $15M CIP program for the next

five years. The distribution of Municipal funds, to the best of LASAN's ability, will be distributed proportionally among the various watersheds such that the City can demonstrate progress in achieving the required target capture volumes in each watershed. **Table 3-1** shows the calculations associated with this distribution, assuming 40 percent (approximately $15M) is available for project implementation. The "watershed area" refers to the SCWP-designated watershed areas: Upper Los Angeles River, Central Santa Monica Bay, and South Santa Monica Bay, which do not directly align with the City's watersheds.

Table 3-1. Target Stormwater Capture Volumes and Municipal Funding Estimates by Watershed Area for the City

SAFE Clean Water Watershed	Upper Los Angeles River Watershed Area	Central Santa Monica Bay Watershed Area		South Santa Monica Bay Watershed Area	Total
EWMP Watershed	Upper LA River Watershed	Ballona Creek Watersheds	SMB J2/3 Watershed	Dominguez Channel Watershed	
Total Capture Volume Target from 2016 EWMP, acre-feet	3,065	1,709	196	370	5,340
Total Capture Volume Required from New Projects 2021 EWMP, acre-feet	2,172	1,343	24	151	3,690
Percent of Total	58.9%	36.4%	0.7%	4.1%	100.0%
Municipal CIP funds by Watershed	$8.83	$5.46	$0.10	$0.61	$15.00

3.2.1.2 Regional Program Funding

The City must compete for Regional funding each round through submission of applications to one of the following programs: Infrastructure and O&M, Special Studies and Technical Resource Program (TRP). At least 85 percent of the Regional revenue is used for infrastructure and O&M projects. Not more than 10 percent of the Regional Program revenue can be used for the TRP, and not more than 5 percent of the Regional Program revenue can be used for the Scientific Studies Program.

Regional funding is further distributed to projects within the watershed areas in proportion to the revenue received from those areas, after accounting for allocation of the 110-percent return to DACs to the extent feasible. If funding is equitably distributed to agencies based on their proportional tax contributions, the City should have a goal of securing $45.6M per year in funding from the Regional Program. **Table 3-2** summarizes the Regional tax return estimates (program revenue) for the City by watershed area participation.

Table 3-2. Regional Tax Return Estimates for the City by Watershed Area

SCW Watershed Area	FY 2021-22 Regional Tax Return Estimates (millions)	City Percent of Total Watershed Impervious Area	City's Proportional Amount in return (millions)
Upper Los Angeles River	$38.7	75%	$29.0
Central Santa Monica Bay	$17.2	77%	$13.3
South Santa Monica Bay	$17.7	19%	$3.3
Total	**$73.6**	--	**$45.6**

Regional funding secured by the City will vary from year to year as this funding is programmed through a competitive process by the WASCs. The total Regional Program funding programmed in FY 21/22 for the three SCW watersheds (ULAR, SSMB, and CSMB) in the City of Los Angeles is $73.6M. The anticipated long-term average annual Regional revenue for each watershed, based on impervious portion in the City, is $29.0M for ULAR, $13.3M for CSMB and $3.3M for SSMB, for a total of $ 45.6M per year. The $45.6M includes projects implemented by the City as well as projects within the City that are implemented by other entities such as Los Angeles Unified School District (LAUSD), Metro or CBOs. Regional returns to the City also include funded O&M, Special Studies, and TRP applications that are funded by the respective WASC and benefit the City.

Figure 3-5 outlines each type of project approval through the Regional process.

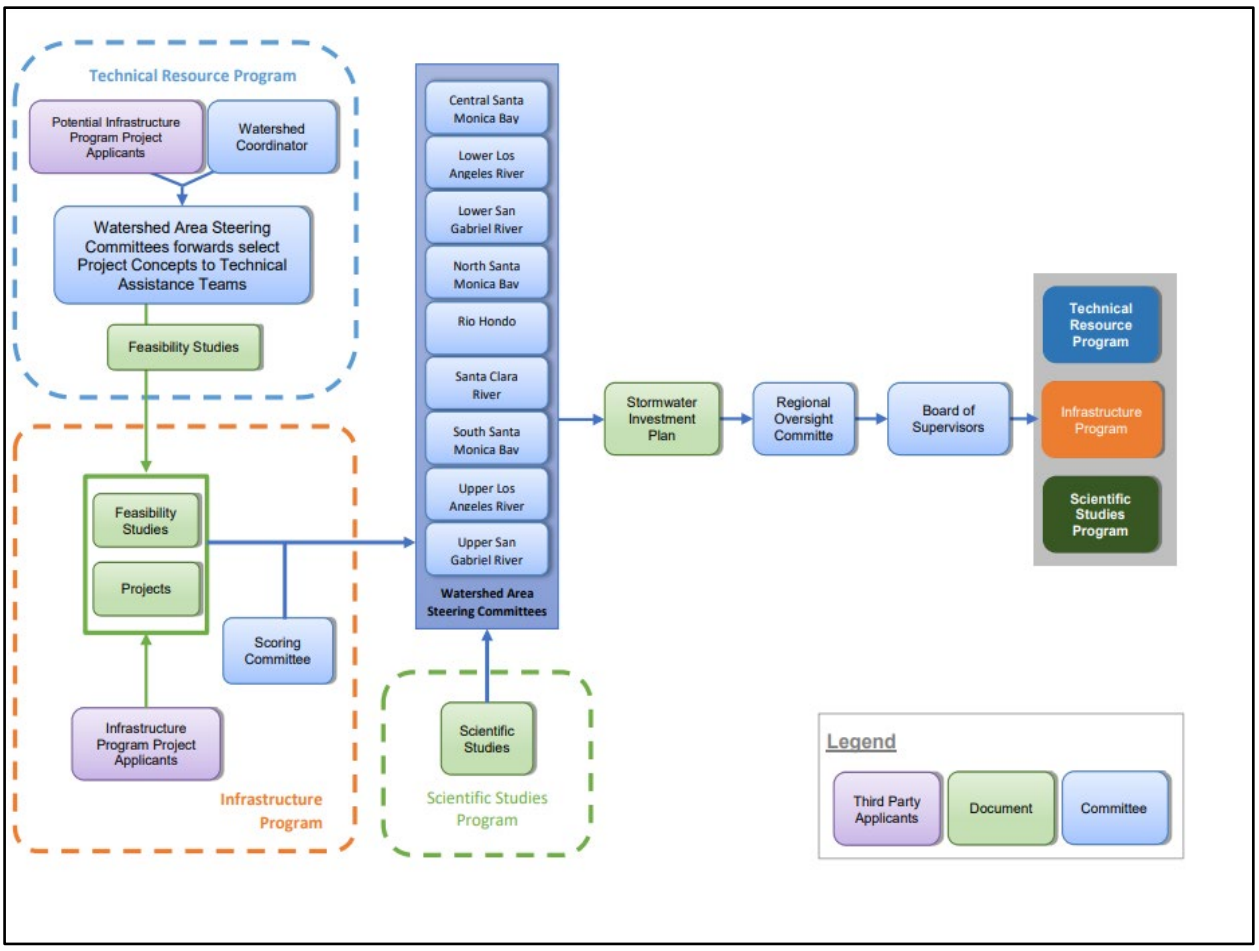


Figure 3-5. Outline of Regional Process for Regional Project to be Approved[11]

Many Regional projects may involve other City departments and agencies and require coordination in their development. This effort is performed in parallel with the project outreach efforts. Various forms of agreements, including easements and memoranda of agreement, sometimes need to be prepared to enable construction of the projects, depending on the City departments or agencies involved.

[11] WSC: SCW: (Source: https://safecleanwaterla.org/) Development

Section 4

Program and Project Implementation

Based on its jurisdiction, the City is estimated to receive $36M annually in Municipal funds. As the lead agency for watershed management and water quality compliance programs, the Safe Clean Water Implementation Division (SCWID) has been partnering with other city departments, municipalities, regional agencies, and community-based organizations to coordinate the City of Los Angeles' implementation of the Safe, Clean Water Program (SCWP). The annual operating budget for the Municipal program is comprised of salary appropriations to support the program[12], future project development, project development, capital improvement projects and operation and maintenance (O&M).

SCWID is tasked with managing the City's Stormwater CIP that will guide the implementation of the City's water quality, flood protection, and water supply projects utilizing Municipal, Regional and outside leverage funding sources. The Stormwater CIP is comprised of projects within four categories:

- Municipal Safe, Clean Water
- Regional Safe, Clean Water
- Flood Protection
- Proposition O and Third-Party Partnership Projects

The CIP offers a five-year outlook for each watershed. While the long-term perspective of the CIP horizon is critical for planning, a five-year CIP outlook is the desired product of this WISP. A five-year outlook provides sufficient resolution of the SCWP's current condition and allows structured implementation. As the WISP will be updated on an annual basis, the five-year CIP outlook will regularly evolve with updated information. The extensive process described in the WISP document has numerous decision points and assumptions, each with sound technical reasoning, that will continue to be refined in future years. For the proposed FY 22/23 WISP, the focus will be on the status and outlook of Municipal and Regional CIP funding.

A summary of the CIP for the four LASAN stormwater program categories is provided in **Table 4-1**.

[12] The Municipal Safe, Clean Water Fund is not dependent on the General Fund and budgets for reimbursement of General Fund costs annually.

Table 4-1. LASAN Stormwater CIP Program Summary (millions)

Program Name	Primary Source of Funding	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	Total
Municipal	SCW Municipal	$9.22	$15.00	$15.51	$16.40	$15.76	$15.00	$15.00	$101.89
Regional	SCW Regional	$12.43	$19.07	$25.08	$23.08	$24.83	$13.61	$0.58	$118.68
Flood Control	SB1 and SPA	$2.22	$2.10	$7.13	$16.33	$15.00	$15.00	$15.00	$72.78
Prop O and Third Party Partnership Projects	Prop O and NGOs	$0.40	$2.50	$4.15	$6.15	$5.93	$3.20	$2.67	$25.00
Total		**$24.27**	**$38.67**	**$51.87**	**$61.96**	**$61.52**	**$46.81**	**$33.25**	**$318.35**

Although the Municipal and Regional Program are two distinct programs the funding associated with each are interdependent. Municipal funds used for the project development (concept and feasibility reports) and geotechnical work can all be used as leverage funding for a regional application. All regional applications submitted by LASAN are packaged with Municipal funding as a matching contribution towards the project. Municipal funds also fund Regional project shortfall that have occurred as a result of project increase due to the administrative process to receive the projects first year disbursement and current economic factors (supply chain and inflation) challenges that many of our City capital improvement projects are experiencing today. Under the terms of the project specific transfer agreements the City has an obligation to construct the project and to demonstrate the project metrics the project committed to as part of the application.

The County's SCWP will continue to provide the funding associated with projects that are approved and programmed in the County's Stormwater Investment Plan (SIP). While many of these projects are experiencing cost increases, the County has not established guidelines and a process to request additional Regional funding. Until this guidance is available (anticipated in July 2023), LASAN recommends a portion of the $15M funding from the Municipal return be committed to fill the voids of the unanticipated cost increase for existing Regional projects. As a result, LASAN will utilize these funds for existing partially-funded projects identified in the Municipal CIP and will program the remaining Municipal annual funds for the Regional projects that are experiencing cost increases. The void may also require O&M expenses for existing stormwater projects be scaled down or deferred for the next few years.

4.1 Municipal CIP

Although Measure W was approved by voters in Nov 2018, LASAN did not receive its first municipal disbursement of local return funds until Dec 2021. To date, $39.7M has been provided to fund 13 projects. LASAN strongly recommends the following:

- Support the CIP remaining at $15M annually for the next five years to provide continuation of funding to the current Municipal projects in the current CIP.
- Until the Regional projects from rounds 1 through 3 are fully funded and project shortfalls are addressed, no additional Municipal projects will be added to the current CIP.

Table 4-2 summarizes the Municipal CIP.

Table 4-2. Municipal CIP Program (millions)

Project	CD	Total Funded	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26
Arroyo Seco LFD #1(Sycamore Grove Park)	14	$2.75	$0.85	$1.70	$0.20	$0.00	$ -	$ -
Arroyo Seco LFD #2 (Hermon Dog Park)	14	$4.21	$1.60	$2.16	$0.45	$ -	$ -	$ -
LA River LFD #1 (Palmetto)	14	$5.54	$2.05	$2.70	$0.79	$ -	$ -	$ -
LA River LFD #2 (Mission Rd)	14	$5.93	$2.26	$2.90	$0.77	$ -	$ -	$ -
LA River LFD #3 (2nd St and Santa Fe)	14	$5.18	$1.56	$2.74	$0.88	$ -	$ -	$ -
North Sepulveda Pedestrian Island (Sepulveda Green Median)	6	$1.50	$0.90	$ -	$ -	$0.60	$ -	$ -
Haynes St Greenway (Phase I of Haynes St LFD)	3	$1.27	$ -	$0.25	$.52	$0.50	$ -	$ -
Reseda Blvd Alley Green Streets	12	$3.36	$ -	$0.25	$0.61	$2.50	$ -	$ -
La Cienega Blvd Green Infrastructure Corridor	11	$2.84	$ -	$0.25	$1.59	$1.00	$ -	$ -
Mission and Jesse Green Parking Lot	14	$2.30	$ -	$0.25	$0.00	$2.05	$ -	$ -
LA River Low Flow Diversion (Compton Creek, 1 LFD)	15	$5.25	$ -	$0.30	$2.45	$2.50	$ -	$ -
E 6th St Green Infrastructure Corridor	14	$3.50	$ -	$ -	$1.75	$1.75	$ -	$ -
Stormwater Integration (SCADA and Telemetry of 30 stormwater facilities)	Various	$11.00	$ -	$ -	$ -	$ -	$5.00	$6.00
Regional Projects with Municipal Funding								
Ballona Creek Water Quality Improvement	5 and 11	$15.90	-	$1.50	$5.50	$5.50	$1.70	$1.70
MacArthur Park Rehabilitation Project	1	$16.36	-	-	-	-	$9.06	$7.30
Total		**$86.89**	**$9.22**	**$15.00**	**$15.51**	**$16.40**	**$15.76**	**$15.00**

4.2 Regional Program and Capital Improvement Plan

As the Regional Program process has become stable, the program itself is still competitive. The City participates in Upper LA River, Central Santa Monica Bay and South Santa Monica Bay watershed initiatives. Each watershed works independently, and the dynamics and challenges are unique to each one.

The City has been successful in the first three rounds of the Regional program. **Table 4-3** provides a summary of all the regionally programmed funds within the City.

Table 4-3. City of LA Regional Infrastructure, O&M, and Scientific Program Summary (millions)

Round	Infrastructure	O&M	Scientific Study	Total
1	$100.8	$0.40	$0.41	$101.61
2	$148.00	$ -	$ -	$148.00
3	$19.76	$2.40	$ -	$22.16
Total	$268.56	$2.80	$0.41	$271.77

An in-depth analysis for each of the respective watersheds the City participates in is provided to evaluate if the funds awarded in each of the watersheds is proportional to the funds collected by the City. As the Regional program continues to approve their annual SIPs, LASAN will continue to track and assess the program's progress. An annual evaluation of each WASC will give insight to how much funding has been programmed and how much funding is available for each watershed to program new projects. The City will strategically consider future funding requests to each of the respective watersheds in order to confirm that the City is receiving its proportional share and not overextending the WASC distribution to the City. In addition, future project applications being submitted to the Regional program should strive to represent equitable project distribution throughout the City. A proposed list of key projects that have potential for future SCW funding consideration are in Appendix D. Selections on this list are presented below in Tables 4-6, 4-9 and 4-12 for each of the SCW watershed areas. LASAN will provide updates to the working group and AOC throughout the year. In May of each year LASAN will evaluate all the projects being considered for submission and provide a recommendation to the AOC for approval.

4.2.1 Upper Los Angeles River (ULAR)

There are currently 18 ULAR Regional applications funded that are within the City boundaries (15 infrastructure projects, 2 O&M applications, and 1 special study). The ULAR SIP has programmed $164 M towards these applications since FY 20/21.

Table 4-4 provides a summary of funded applications within the City limits.

Table 4-4. Upper LA River Regional Revenue by Round (millions)

	Project	Type	Lead Agency	CD	Total Secured	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	Future Request
Round 1	Lankershim Blvd Local Area Urban Flow Management Network	Infrastructure	LASAN	2 and 6	$25.70	$5.14	$5.14	$5.14	$5.14	$5.14	$ -	$ -	$ -
	Oro Vista Local Area Urban Flow Management Project	Infrastructure	LASAN	7	$10.60	$2.12	$2.12	$2.12	$2.12	$2.12	$ -	$ -	$ -
	Echo Park Lake Rehabilitation	O & M	LASAN	13	$0.40	$0.40	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Recalculation of Wet-Weather Zinc Criterion ULAR	Special Study	LASAN	Various	$0.35	$0.09	$0.14	$0.12	$ -	$ -	$ -	$ -	$ -
	Fernangeles Park Stormwater Capture Project	Infrastructure	LADWP	6	$8.36	$2.92	$3.34	$1.25	$0.85	$ -	$ -	$ -	$ -
	Strathern Park North Stormwater Capture Project	Infrastructure	LADWP	2	$9.28	$3.24	$3.71	$1.40	$0.93	$ -	$ -	$ -	$ -
	Valley Village Park Stormwater Capture Project	Infrastructure	LADWP	2	$3.18	$1.11	$1.27	$0.48	$0.32	$ -	$ -	$ -	$ -
	Active Transportation Rail Corridor Project (Segment A)	Infrastructure	MTA	8 and 9	$8.42	$1.50	$4.00	$2.00	$0.42	$0.12	$ -	$ -	$0.38
	Rory M. Shaw Wetlands Park	Infrastructure	LACFCD	6	$10.00	$2.00	$2.00	$2.00	$2.00	$2.00	$ -	$ -	$ -
Round 2	Lincoln Park Neighborhood Green Street Network	Infrastructure	LASAN	1	$18.63	$ -	$3.72	$3.72	$3.72	$3.72	$3.72	$ -	$ -
	Broadway – Manchester Multi-modal Green Street Project	Infrastructure	BSS	8	$11.72	$ -	$0.89	$4.00	$4.00	$2.83	$ -	$ -	$ -
	David M. Gonzales Recreation Center	Infrastructure	LADWP	7	$19.36	$ -	$0.39	$0.58	$1.55	$2.13	$3.10	$ -	$11.62

	Project	Type	Lead Agency	CD	Total Secured	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	Future Request
	Stormwater Capture Project												
	Valley Plaza Park Stormwater Capture Project	Infrastructure	LADWP	2	$26.44	$ -	$0.52	$0.79	$2.11	$2.91	$4.23	$ -	$15.87
	LA Pierce College Northeast Campus Stormwater Capture and Use Project	Infrastructure	LACC	3	$5.23	$ -	$0.47	$4.76	$ -	$ -	$ -	$ -	$ -
	Metro Orange Line - Water Infiltration and Quality Project	Infrastructure	MTA		$20.77	$ -	$1.60	$5.07	$6.00	7.28	0.82	$ -	$ -
Round 3	Echo Park Lake Rehabilitation	O & M	LASAN	13	$2.40	$ -	$ -	$0.48	$0.48	$0.48	$0.48	$0.48	$-
	Whitsett Fields Park North Stormwater Capture Project	Infrastructure	LADWP	2	$8.40	$ -	$ -	$0.84	$1.68	$1.68	$1.68	$2.52	$-
	Watts Civic Center Serenity GreenWay	Infrastructure	CD 15	15	$2.66	$ -	$ -	$0.25	$0.25	$1.51	$0.65	$-	$-
Total					**$191.90**	**$18.52**	**$29.31**	**$35.00**	**$31.57**	**$31.92**	**$14.68**	**$3.00**	**$27.87**

Assessing the success that the City and third-party applicants within the City have had in securing Regional funds on the first three rounds, the City is receiving its proportional share of returns from the ULAR watershed. **Table 4-5** provides a summary of collected revenue versus programmed disbursements for the ULAR.

Table 4-5. City of LA Proportional Funding Contribution and Programmed ULAR Funds

	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	Future FYs [1]
City Proportional Funding Contribution ($M)	$29.01	$29.01	$29.01	$29.01	$29.01	$29.01	$29.01
City Program Return	$18.52	$29.31	$35.00	$31.57	$31.92	$14.68	$27.80
Percentage	63.8%	101%	121%	108%	110%	51%	96%

1 - LADWP has submitted program request for funding that extend past the five-year WISP approval. While the WASC has not formally approved and programmed the funds, it is anticipated that the WASC will continue to support the projects and provide some partial funding to the projects.

Table 4-6 provides a list of potential projects the City is currently considering for future Regional funding applications to the ULAR WASC. The list is subject to change depending on the ULAR WASC financial condition of the program.

Table 4-6. ULAR Proposed Regional Projects for Future Rounds Funding Consideration

	Project	CD	Type	Lead Agency
Round 4	Hollenbeck Park Rehabilitation Project	14	Infrastructure	LASAN
	Sylmar Channel	7	Infrastructure	LASAN
	Sepulveda Mission Mile	7	Infrastructure	StreetsLA
	Eagle Rock Blvd Stormwater Capture Project	14	Infrastructure	StreetsLAO
	Bowtie Demonstration Project	1	Infrastructure	Nature Conservancy
Round 5	LA River Green Infrastructure Project (3 LFD's)	3	Infrastructure	LASAN
	Sun Valley Green Neighborhood Infrastructure Project	2	Infrastructure	LASAN
	Osborne St: Path to Parkway Access Project)	7	Infrastructure	BSS
	Pollutant Source Characterization Study	Citywide	Special Study	LASAN
	Street Sweeping Study	Citywide	Special Study	LASAN
Round 6 - 8	Main St (W 41st St to W. Slauson) Green Street	9	Infrastructure	LASAN
	Lincoln Heights Recreation Center	1	Infrastructure	LASAN
	Hatteras Green Street	4	Infrastructure	LASAN
	Tujunga Canyon Blvd Green Street	7	Infrastructure	LASAN
	Saticoy St – Vineland Ave	2	Infrastructure	LASAN
	Van Nuys Recreation Center	6	Infrastructure	LADWP
	Branford Park	6	Infrastructure	LADWP

	Project	CD	Type	Lead Agency
	Hubert H. Humphrey Memorial Park	7	Infrastructure	LADWP
	North East Valley Multipurpose Center	7	Infrastructure	LADWP
	Mid-Valley Intergenerational Multipurpose Center	6	Infrastructure	LADWP
	Devonwood Park Stormwater Capture Project	7	Infrastructure	LADWP
	Sepulveda Recreation Center Stormwater Capture Project	6	Infrastructure	LADWP
	North Hills Community Park Stormwater Capture Project	6	Infrastructure	LADWP
	Ritchie Valens Park Stormwater Capture Project	7	Infrastructure	LADWP
	Roger W. Jessup Park Stormwater Capture Project	7	Infrastructure	LADWP
	Panorama City Recreation Center Stormwater Capture Project	6	Infrastructure	LADWP
	LFD Site W01 - Victory Blvd and Woodley Ave	6	Infrastructure	LADWP
	LFD Site W06 - Victory Blvd and Etiwanda Ave	3	Infrastructure	LADWP
	LFD Site W08 - Vanowen St and Crebs Ave	3	Infrastructure	LADWP
	Compton Creek LFD #2[1]	8	Infrastructure	LASAN
	White Oak Avenue (LAR LFD-E-021) [1]	5	Infrastructure	LASAN
	Reseda Boulevard (LAR LFD-E-048) [1]	3	Infrastructure	LASAN
	Tampa Avenue (LAR-E-065) [1]	3	Infrastructure	LASAN
	Haynes Street (LAR LFD-E-077) [1]	3	Infrastructure	LASAN
	Winnetka Avenue (LAR LFD-E-081) [1]	3	Infrastructure	LASAN
	De Soto Avenue (LAR LFD-E-096) [1]	3	Infrastructure	LASAN

1 - Committed MS4/TMDL Compliance Dry-Weather Projects

Unlike other watersheds, the ULAR watershed funded many applications in the first two rounds. As a result, much of the funding for the next three years is programmed, leaving little room for the watershed to fund new efforts. The City should be strategic in future project selections and carefully consider financial requests for future projects.

4.2.2 Central Santa Monica Bay (CSMB)

There are currently five CSMB Regional applications funded that are within City boundaries (four infrastructure projects and one technical resource project [TRP]). The CSMB SIP has programmed $48.6M towards these applications since FY 20/21.

Table 4-7 provides a summary of funded applications within the City limits.

Table 4-7. Central Santa Monica Bay Regional Revenue by Round (millions)

	Project	Type	Lead Agency	CD	Total Secured	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27
Round 1	MacArthur Park Rehabilitation Project	Infrastructure	LASAN	1	$20.00	$2.00	$2.00	$9.39	$4.69	$1.94	$-	$-
Round 2	Ballona Creek Water Quality Improvement - LFTF 1 (in Culver City)	Infrastructure	LASAN	5 and 11	$15.00	$-	$3.00	$3.00	$3.00	$3.00	$3.00	$-
	Slauson Connect Clean Water Project	Infrastructure	CD 9 (Geosyntec)	9	$4.89	$-	$-	$0.73	$1.96	$1.97	$0.23	$-
Round 3	Angeles Mesa Green Infrastructure Corridor Project	Infrastructure	LASAN	8	$8.40	$-	$-	$0.57	$0.53	$3.60	$3.60	$0.10
	Fern Dell Restoration and Stormwater Capture Project	TRP	Friends of Griffith Park	4	$0.30	$-	$-	$0.30	$-	$-	$-	$-
Total					**$48.59**	**$2.00**	**$5.00**	**$13.99**	**$10.18**	**$10.51**	**$6.83**	**$0.10**

Assessing the success that the City and third-party applicants within the City have had in securing Regional funds on the first three rounds, the City is receiving its proportional share of returns from the CSMB watershed. **Table 4-8** provides a summary of collected revenue versus programmed disbursements for the CSMB.

Table 4-8. City of LA Proportional Funding Contribution and Programmed CSMB Funds

	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26
City Proportional Funding Contribution ($M)	$13.02	$13.02	$13.02	$13.02	$13.02	$13.02
City Program Return	$2.00	$5.00	$13.99	$10.18	$10.51	$6.83
Percentage	15%	38%	107%	78%	81%	52%

Table 4-9 provides a list of potential projects the City is currently considering for future Regional funding applications to the CSMB WASC. The list is subject to change depending on the CSMB WASC financial condition of the program.

Table 4-9. CSMB Proposed Regional Projects for Future Rounds Funding Consideration

	Project	CD	Type	Lead Agency
Rd 4	Imperial Highway Green Infrastructure Corridor	11	Infrastructure	LASAN
Round 5	Historic South Central Neighborhood Greening Project	9 and 14	Infrastructure	LASAN
	Martin Luther King. Neighborhood Greening Project	8 and 10	Infrastructure	LASAN
	Baldwin Vista Green Streets Project	10	Infrastructure	LASAN
	Pollutant Source Characterization Study	Citywide	Special Study	LASAN
	Street Sweeping Study	Citywide	Special Study	LASAN
Round 6 - 8	Marina del Rey Triangle Area Stormwater Capture	11	Infrastructure	LASAN
	Jefferson Blvd Downtown Green Street Multi-benefit Stormwater Project	9	Infrastructure	LASAN
	Sepulveda Blvd Green Stormwater corridor (Palm Blvd to National Blvd)	5	Infrastructure	LASAN
	Rampart Village Stormwater Infrastructure	13	Infrastructure	LASAN

4.2.3 South Santa Monica Bay (SSMB)

There are currently four SSMB Regional applications funded that are within the City boundaries (three infrastructure projects and one TRP). The SSMB SIP has programmed $23.64M towards these applications since FY 20/21.

Table 4-10 provides a summary of funded applications within the City limits.

Table 4-10. South Santa Monica Bay Regional Revenue by Round (millions)

	Project	Type	Lead Agency	CD	Total Secured	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	FY 26/27	Future Request
Round 1	Wilmington Q Street Local Area Urban Flow Management Project	Infrastructure	LASAN	15	$4.92	$2.67	$2.25	$-	$-	$2.12	$-	$-	$-
Round 1	Recalculation of Wet-Weather Zinc Criterion SSMB	Infrastructure	LASAN	15	$0.57	$0.014	$0.023	$0.020	$-	$-	$-	$-	$-
Round 1	Harbor City Park Multi-benefit Stormwater Capture Project	TRP	LA County	15	$0.30	$0.30	$-	$-	$-	$-	$-	$-	$-
Round 2	Wilmington Neighborhood Greening Project	Infrastructure	LADWP	15	$12.17	$-	$0.66	$0.50	$3.40	$4.80	$2.81	$-	$-
Rd 3	None	--	--	-	$-	$-	$-	$-	$-	$-	$-	$-	$-
Total					**$17.96**	**$2.98**	**$2.93**	**$0.52**	**$3.40**	**$6.92**	**$2.81**	**$-**	**$-**

Assessing the success that the City and third-party applicants within the City have had in securing Regional funds on the first three rounds, the City is receiving its proportional share of returns from the SSMB watershed. **Table 4-11** provides a summary of collected revenue versus programmed disbursements for the SSMB.

Table 4-11. City of LA Proportional Funding Contribution and Programmed SSMB Funds

	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26
City Proportional Funding Contribution ($M)	$3.36	$3.36	$3.36	$3.36	$3.36	$3.36
City Program Return	$3.11	$3.14	$0.70	$3.40	$4.80	$2.81
Percentage	93%	93%	21%	101%	143%	84%

Table 4-12 provides a list of potential projects the City is currently considering for future Regional funding applications to the SSMB WASC. The list is subject to change depending on the SSMB WASC financial condition of the program.

Table 4-12. SSMB Proposed Regional Projects for Future Rounds Funding Consideration

	Project	CD	Type	Lead Agency
Round 4	Wilmington Anaheim Green Infrastructure Corridor	15	Infrastructure	LASAN
	Machado Ecosystem Rehabilitation Project	15	O & M	LASAN
Round 5	N. Marshall Court	15	Infrastructure	LASAN
	Pollutant Source Characterization Study	Citywide	Special Study	LASAN
	Street Sweeping Study	Citywide	Special Study	LASAN
Rounds 6 - 8	Normandie and Plaza del Amo Green Corridor Project	15	Infrastructure	LASAN
	Stormwater Pumping Plant upgrade and diversion to Terminal Island	15	Infrastructure	LASAN

Section 5

Project Delivery

Los Angeles Sanitation & Environment (LASAN) is the owner and operator of the City's stormwater infrastructure system and is responsible for financial management, and operation and maintenance (O&M). In addition, LASAN is the Stormwater National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit holder on behalf of the City and all of its departments; thus, LASAN is responsible and accountable for regulatory compliance. LASAN faces an increasingly complex and rapidly changing regulatory, technical, and financial landscape, particularly in the area of water and waste processing. The City is required to meet State regulations and the Federal Clean Water Act to improve water quality in the Los Angeles River, Santa Monica Bay, Ballona Creek, and the Dominguez Channel watersheds. The Los Angeles Regional Water Quality Control Board (Regional Board) has promulgated 22 TMDLs regulating the discharges of trash, bacteria, nutrients, metals, toxic sediment, and other pollutants into the City's receiving waters and watersheds. Most, if not all, of the TMDL deadlines are in 2026.

LASAN led the development of five Enhanced Watershed Management Plans (EWMPs) in collaboration with thirty other cities and agencies in local and regional watersheds to determine compliance with the interim and final milestones, in which the implementation cost is expected to exceed $7.2 B over the next 25 years. Non-compliance with TMDL interim and final milestones may expose the City to third-party lawsuits as well as fines and penalties from the State.

To verify that the City is implementing projects to support compliance with the regulatory requirements and the pending TMDL compliance milestones, it is imperative that the most efficient and appropriate project delivery methods are used. Establishing a list of on-call design-build (DB) contracts, to be managed by LASAN, will allow the City to solicit proposals based upon feasibility reports that have been prepared as part of the funding application, and award the design and construction scope in a cost-effective manner that significantly reduces the overall project delivery schedule and cost.

The City Charter permits the letting of contracts pursuant to a competitive sealed proposal method, in accordance with criteria established by ordinance adopted by at least two-thirds of the City Council (Section 371(b)). This process also allows for the use of DB or other appropriate project delivery systems when justified by the type of project and approved by the contracting authority.

In the past five years LASAN has piloted the DB approach to deliver smaller, less complex green stormwater infrastructure projects. **Table 5-1** lists projects that demonstrate LASAN's success in utilizing the DB method to deliver projects quickly and efficiently while seeing that all LASAN's O&M needs are addressed.

Table 5-1 Successful Design-Build Projects

Project	Project Cost	Construction Cost	Traditional Delivery	LASAN Design Build Delivery
Kitty Hawk Green Stormwater Project*	$938,370	$831,000	42 months	9 months
Slauson Green Alley *	$687,000	$630,370	42 months	9 months
Ben and Victory Green Stormwater Project	$2,500,000	$2,100,000	48 months	18 months
Van Nuys Blvd Green Stormwater Project	$3,360,000	$2,728,000	48 months	18 months
Garvanza Park Stormwater Project	$3,800,000	$3,200,000	60 months	24 months
San Fernando Valley - North Hollywood Green Streets Projects ▪ Victory and Goodland ▪ Agnes Ave ▪ Glenoaks and Filmore ▪ McCormick and Vineland ▪ Lankershim Blvd Great St	$14,200,000	$11,200,000	60 months	24 months

* Projects implemented to meet Supplemental Environmental Project (SEP) deadlines by the Regional Board.

LASAN, in coordination with BOE, are asking the AOC to recommend that City Council request the City Attorney to prepare and present an ordinance allowing the Board of Public Works and its Bureaus to allow DB contracts for the delivery of projects in the SCWP, pursuant to a competitive, sealed-proposal method. The BOE would remain responsible for designing and implementing complex projects and LASAN would use the DB contract to deliver smaller, less complex green stormwater infrastructure projects. These water capture and/or treatment projects have become more commonplace as part of the City's response to water quality issues and are typically focused on green stormwater infrastructure (e.g., curb cuts, bioswales, dry wells and tree planting). The DB approach maximizes 1) the use of LASAN's experience with small-scale designs that maximize opportunities within small footprints over a short delivery timeframe; 2) the volume of work that must be delivered quickly and efficiently; and 3) optimizes the workforce employed by the two Bureaus.

The existing stormwater CIP projects identified in **Table 5-2** are being developed using a traditional design-bid-build approach. Had a DB contracting mechanism been in-place, LASAN would have recommended these projects be considered for DB delivery method. Each year the WISP is updated, LASAN will identify projects that have the potential to be delivered using a DB delivery method.

Table 5-2 Existing Stormwater CIP Projects

Project	Project Type	Construction Cost (in Millions)
Haynes Street Greenway Project (CD 3)	Municipal CIP	$1.50
North Sepulveda Pedestrian Island (CD 6)	Municipal CIP	$1.40
Reseda Blvd Alley Green Streets (CD 12)	Municipal CIP	$3.15
La Cienega Blvd Green Infrastructure Corridor (CD 11)	Municipal CIP	$2.84
E 6th St Green Infrastructure Corridor (CD 14)	Municipal CIP	$2.86
Oro Vista Local Area Urban Flow Management Project (CD 7)	Regional CIP	$10.6
Lincoln Park Neighborhood Green Street Network (CD 1)	Regional CIP	$18.6
Slauson Connect Clean Water Project (CD 9)	Regional CIP	$4.89
Angeles Mesa Green Infrastructure Corridor Project (CD 8)	Regional CIP	$8.40
Wilmington Q Street Local (CD 15)	Regional CIP	$4.92
Wilmington Neighborhood Greening Project (CD 15)	Regional CIP	$12.2

To control costs, manage City risk, and provide timely delivery of a high-quality products, LASAN proposes the DB delivery method for the SCWP. Time is of the essence, and it is in the best interest of the City to expedite similar scope and size projects as part SCWP implementation to meet water quality goals and regulatory compliance deadlines, and minimize risk to the City. **Table 5-3** lists future projects that may be considered for a DB contracting mechanism.

Table 5-3 Potential Future Design-Build Projects

Project	Estimated Construction Cost (in Millions)
Sylmar Channel (CD 7)	$5.00
Sun Valley Green Neighborhood Infrastructure Project (CD 2)	$15.0
Imperial Highway Green Infrastructure Corridor (CD 11)	$5.23
Rosecrans Recreation Center Stormwater Project (CD 15)	$2.80
108th, 109th, and 110th Streets Stormwater Project (CD 8)	$13.0
Pacific Coast Highway Stormwater Project (Senator Ave to S. Normandie Ave) (CD 15)	$6.50
Western Avenue Stormwater Project (CD 15)	$6.70
Plummer Street Stormwater Project (CD 12)	$20.0
Los Angeles Street Stormwater Project (CD 14)	$3.00

A request for qualifications will be prepared by LASAN and issued to DB firms. All firms that submit a Statement of Qualifications will be evaluated, and those that meet the required qualifications will be included in the proposed on-call list. Contracts with each firm will be presented for approval and execution to the Board of Public Works and City Council. Once the contracts are executed and the list of on-call DB contractors is approved, proposals will be solicited for individual projects. Upon evaluation and review of the proposals, a report will be presented to the Board of Public Works, recommending award of the task order for each project. It is intended that any of the Bureaus that deliver projects for the Safe, Clean Water program will be able to utilize the list of on-call DB contracts.

Section 6

Operation and Maintenance

The Municipal Program allows the use of funds for operation and maintenance (O&M) on projects built prior to the implementation of the Safe, Clean Water Program (SCWP). Municipalities can spend up to 30 percent of local funds (up to approximately $10.5M per year for LASAN) for O&M expenditures on projects or programs completed prior to November 6, 2018.

Annual O&M costs vary by type of stormwater infrastructure and are assumed to average three percent of the construction cost for this CIP based on discussions with the City. O&M costs begin once construction is complete. LASAN should re-evaluate the planning level O&M costs annually and assign project-specific values to better define the budget available for construction.

6.1 O&M Obligations Impact on Budget

Currently about $3.5 to $4.5M per year of the annual Municipal funds is used for O&M expenses on existing projects. Of this, approximately $2M is used for catch basin replacement, and $1.5M to $2.5M is used for Proposition O projects.

The current O&M budget does not reflect actual current O&M needs because, until the passage of Measure W, there were limited funds to establish contracts to help support O&M efforts. Proposition O funded $500M in stormwater quality projects, which made significant progress toward MS4 compliance. However, this was a one-time bond program that did not provide for the estimated $15M per year (estimating O&M equal to 3% of capital cost) of O&M spending for the projects that it funded. Therefore, a backlog of deferred maintenance is growing.

During the pre-design stage of each stormwater project, the O&M needs over the life of the project are assessed. LASAN then budgets for the future O&M needs as projects secure funding to move forward. Currently, there are 61 completed stormwater projects that require LASAN to budget for O&M and 36 projects in the CIP in various stages of completion. The total O&M needs for the completed projects are currently $19.3M per year in FY 2028, and when combined with the planned projects will increase to $24.7M in FY 2028.

O&M expenses for new Regional projects will need to be funded by the Regional Program because O&M needs for existing and new projects will exceed the Municipal Program budget within 10 years. Over time, this will reduce revenue for new projects and O&M expenses will eventually total more than the entire revenue from the Measure W parcel tax. To minimize the cost of O&M, LASAN will partner with community-based organizations (CBOs) to provide maintenance for as many projects as feasible. LASAN will provide maintenance for gray infrastructure, including pumps, wet wells, and pipes. However, due to the specialized nature of some project components, maintenance for more complex projects will need to be contracted out.

6.2 Stakeholder Engagement Process

Development and implementation of community outreach and engagement activities are requirements for projects funded by both the SCWP Regional Program and Municipal Program, as well as O&M activities associated with funded projects. The SCWP defines community outreach as activities that include online media outreach, local media outreach and grassroots outreach, as appropriate, and defines community engagement as activities that include council, commission or committee meetings where public input is invited, or festivals, fairs, or open houses. The SCWP requires community outreach and engagement activities at the onset, during the design phase, and throughout the construction of funded projects to solicit, address, and seek input from community members. Emphasis is placed on activities that create two-way communication.

These County SCWP requirements are consistent with the City's values and commitment to meaningful engagement with local communities and stakeholders. LASAN developed the City's SCW Program Community Outreach and Engagement Strategic Plan which reflects these core values and demonstrates how the City's SCWP will be conducted in accordance with the County SCWP requirements. The City's SCW Program Community Outreach and Engagement Strategic Plan has been developed in conjunction with other City Departments and Bureaus and will be submitted to the SCW AOC for approval in FY 22/23.

The Plan includes:

- Communication goals and objectives
- A three-pronged approach (programmatic outreach, Regional Program project-specific outreach, and Municipal Program project-specific outreach)
- Strategies, methods, and materials for community outreach and community engagement
- Reporting requirements mandated by the County SCWP
- Coordination with WASC Watershed Coordinators to align with their watershed-specific Outreach Plans.

It is LASAN's intent to engage the project's surrounding community with culturally relevant outreach that considers the present needs of the community and those of future residents that will enjoy the outcome of the project. The outreach will offer interested stakeholders an opportunity to provide input on the overall product design and inform/educate the community on the benefits of these water quality projects (per flyers and internet sites; an example is shown in **Figure 6-1**). Outreach includes virtual meetings, in-person workshops, and impromptu site gatherings with project stakeholders.

Figure 6-1. Example of SCWP Public Outreach

Section 7
Conclusions

The Watershed Investment Strategic Plan (WISP) represents an organized, methodological and strategic program planning and project management approach that will enable the City to meet the County's Safe, Clean Water Program (SCWP) requirements and the City's sustainability, equity, organizational, and other related objectives. The WISP is led by Los Angeles Sanitation & Environment (LASAN), whose role is coordinating and managing the City's flood control and water quality compliance-programs.

The WISP identifies and describes the processes used to select projects, including:

- Building upon WMP efforts with a focus on MS4 compliance.
- Summarizing the methodology used to prioritize projects.
- Creating a list of projects to be included in the Capital Improvement Program (CIP).

Annual funding from the SCWP includes $36M of Municipal funds (only $15M of which is used for projects) and $45.6M of Regional funds. Because the SCWP funds are used for construction as well as operation and maintenance (O&M) (which is expected to increase to $21.7M in FY 2028) the approximately $60M from the SCWP will not be adequate to complete the $7.4B of required WMP projects within the current planning horizon, but will offset some of the costs.

To facilitate an efficient and impactful annual update each year, it is recommended that the various City departments maintain the following actions:

1. Follow the prescribed sequence for SCWP project application and implementation illustrated in the WISP.
2. Regularly report on the progress of projects and current regulatory compliance needs, as well as changes in the SCWP program goals and objectives, environmental regulations, new technologies, best management practices, and available funding sources.
3. Continue to collaborate with one another and conduct robust public outreach to notify and receive feedback from stakeholders on SCWP projects.

LASAN has identified considerations through development of the WISP that should be included in future SCWP development. These considerations include Municipal scoring criteria, county coordination, and project O&M, and encompass aspects within the purview of the WISP as well as the entire SCWP as listed below:

1. The Municipal Scoring Criteria should be reviewed to better reflect the goals and objectives of the program and provide more flexibility and creativity in the project

development process. Using the current criteria results in scores that are significantly determined by the site that is selected, leaving less room for adjusting projects to meet community needs.

2. O&M should be prioritized when budgeting the limited resources available. If projects are not properly maintained, they will not operate as designed and the City will not receive the anticipated compliance and community benefits from them.

3. Creative funding and cost sharing opportunities should be pursued to maximize the projects that can be constructed, operated, and maintained. In addition, new technologies should be evaluated to reduce cost and increase the effectiveness of construction and O&M.

4. The City should continue to collaborate with the County to refine and improve the SCWP. Resulting changes to the program should be considered and incorporated into each WISP.

The WISP is a living document and will be updated annually to reflect progress on projects and on meeting regulatory compliance, as well as changes in the SCWP program goals and objectives, requirements, environmental regulations, new technologies, best management practices, and available funding sources.

CIP projects will be evaluated and updated fiscally as new information becomes available, progresses, funding is refined, and lessons are learned during the implementation of early projects.

Appendix A

TMDL Compliance Schedule

This appendix presents the TMDL compliance schedule for each watershed.

Table A-1. ULAR TMDL

Watershed	Applicable TMDL	Interim/Final Deadlines
Upper Los Angeles River	Los Angeles River Nitrogen Compounds and Related Effects	Final deadline in 2009 (pre-2012 MS4 Permit)
	Los Angeles River Watershed Trash	Phased reduction in baseline WLAs, starting from 2008 with the final deadline in 2016
	Legg Lake Trash	Phased increase in drainage area covered by full capture systems, starting from 2008 with the final deadline in 2016
	Echo Park Lake Trash	Final deadline of 2016
	Echo Park Lake PCBs	Interim deadline of 2016
	Echo Park Lake Chlordane	Interim deadline of 2016
	Echo Park Lake Dieldrin	Interim deadline of 2016
	Echo Park Lake Nutrient	Interim nutrients (50%) deadline of 2020, final deadline of 2024 for all constituents
	Lake Calabasas Nutrient	Interim nutrients (50%) deadline of 2020, final deadline of 2024 for all constituents
	Legg Lake Nutrient	Interim nutrients (50%) deadline of 2020, final deadline of 2024 for all constituents
	Los Angeles River and Tributaries Metals	2012: 50% of Group's drainage area meets dry-weather WLA and 25% of Group's drainage area meets wet-weather WLA 2020: 75% of Group's drainage area meets dry-weather WLA 2024: 100% of Group's drainage area meets dry-weather WLA and 50% of Group's drainage area meets wet-weather WLA 2028: 100% of Group's drainage area meets wet-weather WLAs
	Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants	Final deadline of 2032

Watershed	Applicable TMDL	Interim/Final Deadlines
	Los Angeles River Watershed Bacteria	The following deadlines* are reflective of the LRS schedule to achieve the dry-weather WLA: Segment B Mainstem: March 23, 2022 Segment B Tributaries: Sept. 23, 2023 Segment E Mainstem: March 23, 2025 Segment A Tributaries: Sept. 23, 2025 Segment E Tributaries: March 23, 2029 Segment C/D Mainstem, Segment C/D Tributaries: Sept. 23, 2030 The final deadline to achieve the wet-weather WLA and geometric mean WLA is March 2037 for all segments and tributaries. * The Group could choose to pursue a second phase of LRS implementation which would extend the final deadline for the dry-weather WLA.

Table A-2. CSMB TMDL

Watershed	Applicable TMDL	Interim/Final Deadlines
Ballona Creek	Santa Monica Bay Debris TMDL	2020 100%
	Ballona Creek Trash TDML	2015 100%
	Ballona Creek Estuary Toxic Pollutants TMDL	Effective date of the 2021 Permit: Total PCBs 50%; All other constituents 75% July 15, 2026: Total PCBs 100%; All other constituents 100%
	Ballona Creek Metals TMDL	January 11, 2016: Dry Weather 100%; Wet Weather 50% July 15, 2026: Dry Weather 100%; Wet Weather 100%
	Ballona Creek, Ballona Estuary, and Sepulveda Channel Bacteria TMDL	April 27, 2013: Dry Weather 100% July 15, 2026: Wet Weather 100%
	Ballona Creek Wetlands TMDL for Sediment and Invasive Exotic Vegetation	Effective date of the 2021 Permit
	Santa Monica Bay DDTs and PCBs TMDL	2017 (75%) Effective date of the 2021 Permit (100%)
Marina Del Rey	Santa Monica Bay Debris TMDL	2020 100%
Santa Monica Bay Jurisdictional Group 2 and 3	Santa Monica Bay Debris TMDL	2020 100%
	Santa Monica Bay DDTs and PCBs TMDL	Effective date of the 2021 Permit
	Santa Monica Bay Beaches Bacteria TMDL	Dry weather effective since the effective date of the previous MS4 Permit (Order No. R4-2012-0175). Interim (50%) WQBELs and RWLs for wet weather extended until 2023. Final WQBELs and RWLs for wet weather extended until 2026.

Table A-3. SSMB TMDL

Watershed	Applicable TMDL	Interim/Final Deadlines
Dominguez Channel	Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants TMDL	Interim deadline of 2026 Final deadline of 2032
	Machado Lake Trash TMDL	100% by 2016
	Machado Lake Nutrient TMDL	Final deadline of 2018
	Machado Lake Pesticides and PCBs TMDL	Final deadline of 2019
	Los Angeles Harbor Bacteria TMDL	Interim deadline of 2026 Final deadline of 2032
Santa Monica Bay Jurisdictional Group 7	Santa Monica Bay Debris TMDL	2020 100%
	Santa Monica Bay Bacteria TDML	Summer Dry Weather, July 2006 Winter Dry Weather, July 2009 Wet Weather, July 2013

Appendix B

Master List of Projects for Each Watershed

This appendix contains the top 319 projects initially identified using the SiteSAN methodology.

B-1. Upper Los Angeles River Watershed Master List of Projects

Site No.	Parcel, Roadway or Combination	Assessor Parcel Numbers (APN) or Roadway	Liquefaction	Street Boundary for Roadways			Address	Description	Agency	City Council District	State Assembly District	Depth to Groundwater (ft)	Stormwater Capture (acre-feet)				Stormwater Link ID Number(s)	Drainage Grid(s)	Street Grid(s)	Benefits a DAC (yes/no)	Load Reduction Factor	Other Features	Planning Level Cost Estimate ($M)
				ADLF	ADLT	Street							Infiltration Gallery	Drywells	Estimated Runoff to Site	Total Estimated Maximum Usable Volume (not to exceed 50 ac-ft per site) (acre-feet)							
1	Parcel	2336-001-900					11117 Victory Blvd, North Hollywood, CA 91606	Victory Vineland Recreation Center	LA City	2	39	146	92.5	148.9	95.1	50.0	2493 and 2491	427-02	180B173	Yes	79%	Site consists of approximately 50% open field and 50% athletic courts plus a restaurant. Potential to divert from link 2491, though at 600 ft away it exceeds the target maximum of 300 ft, but appears to have a higher available volume (approximately 90 af).	$55.20
2	Parcel	2695-020-900, 2695-020- 901, 2695-021-900, 2695-021-901					10445 Balboa Blvd, Granada Hills, CA 91344	Valley Academy of Arts and Sciences	LA Unified School Dist	12	38	180	92.0	99.0	56.1	50.0	657	390-04	207B133	No	80%	Large grassy area and paved playground area in northern portion of site. Includes parcels to the south at Granada Hills Science Materials Center.	$55.20
3	Parcel	2321-002-900, 2321-002-902					6911 Laurelgrove Ave, North Hollywood, CA 91605	Park and Public Library	LA City	2	39	160	105.3	169.6	66.5	50.0	2089	399-16	183B165	Yes	63%	Large grassy area.	$55.20
4	Parcel	6063-024-900					147 E 107th St, Los Angeles, CA 90003	107th St Elementary School	LA Unified School Dist	8	64	68	53.2	54.6	81.2	50.0	7638	566-10	090A205	Yes	91%	Large paved yard, grassy area, and parking lot. Diversion is from Compton Channel two blocks to the south. If diversion from Compton Channel is infeasible, there is an alternate pipe (link 7626) on San Pedro St.	$55.20
5	Parcel	2215-001-910					7501 Tyrone Ave, Van Nuys, CA 91405	LADWP - Valley Service Planning	LA City	2	46	113	393.0	423.2	125.7	50.0	13975	399-09	189B153	Yes	63%	Large parking lots throughout property. Proposed diversion is from link across the railroad tracks to the north so should be considered for feasibility during future phases. If infeasible, there are several other links adjacent and more easily accessible to the site (links 1844, 13980). Site is located in a closed Brownfield site which will need to be evaluated during future phases.	$55.20
6	Parcel	2689-018-900					16825 Napa St, Northridge, CA 91343	Parthenia St Elementary School	LA Unified School Dist	12	45	113	67.5	108.6	248.9	50.0	8204 and 1356	390-16	195B133	No	90%	Large paved school yard, grassy area in northwest corner of property. Proposed diversion is from Bull Creek channel (link 1356) east of school. If diversion from Bull Creek is infeasible, there appears to be 23.3 ac-ft available in the storm drains.	$55.20
7	Parcel	2653-006-900, 2653-006-908, 2653-006-910, 2653-006-912, 2653-006-914, 2653-007-903					8825 Kester Ave, Panorama City, CA 91402	Sepulveda Recreation Center	LA City	6	46	125	113.9	122.6	49.3	49.3	1322 and 1321	389-16	195B149	Yes	53%	Park with large grassy areas, baseball fields, parking lots, and tennis courts. Pacoima Wash is directly easy of the property and would pose the easiest diversion, if suitable. Tool has identified a diversion from link 1342 which is further away from the site.	$54.40
8	Parcel	6074-009-923					145 W 108th St, Los Angeles, CA 90061	LAPD Southeast Community Police Station	LA City	8	64	72	44.7	48.1	97.1	48.1	7649 and 7635	566-13	088-5A203	Yes	84%	Large parking lot.	$53.10
9	Parcel	2696-026-900					17170 Tribune St, Granada Hills, CA 91344	Granada Elementary School	LA Unified School Dist	12	38	165	50.7	54.6	43.4	43.4	6946 and 13561	356-16	207B133	No	80%	Elementary school with large parking lot on NE corner of property and paved school yard. Proposed diversion link is on eastern boundary of site on Amestoy Ave.	$47.80

B-1. Upper Los Angeles River Watershed Master List of Projects

Site No.	Parcel, Roadway or Combination	Assessor Parcel Numbers (APN) or Roadway	Liquefaction	Street Boundary for Roadways			Address	Description	Agency	City Council District	State Assembly District	Depth to Groundwater (ft)	Stormwater Capture (acre-feet)				Stormwater Link ID Number(s)	Drainage Grid(s)	Street Grid(s)	Benefits a DAC (yes/no)	Load Reduction Factor	Other Features	Planning Level Cost Estimate ($M)
				ADLF	ADLT	Street							Infiltration Gallery	Drywells	Estimated Runoff to Site	Total Estimated Maximum Usable Volume (not to exceed 50 ac-ft per site) (acre-feet)							
10	Parcel	5171-024-902, 5171-024-904, 5171-024-905, 5171-024-910, 5171-025-900, 5171-025-901, 5171-025-902					2300 E 7th St, Los Angeles, CA 90023	Potential City yard	LA City	14	53	177	53.7	57.9	40.6	40.6	5495, 13910, 13911, and 5703	515-13	123A219	Yes	91%	Large industrial lot, some commercial buildings. Vehicles and machinery parked on-site. Proposing diversion from both LA River and pipe upstream, though future phases should consider the suitability of diverting from the river directly. Alternatively, several closer links that are also adjacent to the property should be considered instead.	$44.80
11	Parcel	2746-008-900					21050 Plummer St, Chatsworth, CA 91311	Aggeler Community Day School	LA Unified School Dist	12	45	62	59.4	77.4	34.4	34.4	992 and 956	391-09	198B105	No	95%	Parking lots and grassy areas dispersed throughout northern portion of property. Large grassy area in southern portion.	$38.00
12	Parcel	5104-002-900, 5104-004-900, 5104-004-901, 5104-004-902, 5104-004-903, 5104-004-904, 5104-004-905, 5104-004-906, 5104-004-907, 5104-004-908, 5104-004-909, 5104-004-910, 5104-004-911, 5104-004-912, 5104-004-913, 5104-004-914, 5104-004-915					1225 E 52nd St, Los Angeles, CA 90011	Hooper Avenue Elementary School and Children's Center	LA Unified School Dist	9	59	126	40.9	44.0	28.2	28.2	6490 and 6462	557-03	111A209	Yes	91%	Large parking lots and paved school yard across both campuses.	$31.10
13	Parcel	5108-011-909, 5108-011-910					750 E 49th St, Los Angeles, CA 90011	49th Street Elementary School	LA Unified School Dist	9	59	132	43.2	46.6	23.5	23.5	6445 and 13885	537-14	111A207	Yes	84%	Large paved playground area. Could consider diverting from link 13885, though the distance exceeds the target maximum of 300 ft.	$26.00
14	Parcel	2307-021-900					12201 Sherman Way, North Hollywood, CA 91605	Los Angeles Fleet Services Major Repair Facility	LA City	2	39	172	55.7	89.6	22.2	22.2	8264	399-16	183B165	No	63%	Large maintenance lot with vehicles on-site. Site is located in a closed Brownfield site which will need to be evaluated during future phases.	$24.50
15	Parcel	2787-005-900					17960 Chase St, Northridge, CA 91325	Northridge Middle School	LA Unified School Dist	12	45	26	261.2	0.0	18.8	18.8	1458 and 8223	397-02	192B125	No	95%	Large open space, grass yards, parking lots. Another potential diversion from storm drain east of property on Zelzah Ave.	$20.80
16	Parcel	5210-011-900, 5210-011-907, 5210-011-905, 5210-011-902, 5210-011-901, 5210-011-904, 5210-011-903, 5210-011-906					2025 Griffin Ave, Los Angeles, CA 90031	Griffin Ave Elementary School	LA Unified School Dist	1	51	33	18.7	2.8	22.8	18.7	4535 and 4488	495-14	136-5A223	Yes	74%	Decently sized paved playground area and grassy area.	$20.70
17	Parcel	5204-011-903					2303 Workman St, Los Angeles, CA 90031	Lincoln Height Recreation Center	LA City	1	51	29	34.5	1.6	17.8	17.8	4488 and 4435	495-10	138A221	Yes	74%	Decent sized parking lot and grassy area separated with basketball court in between.	$19.70

B-1. Upper Los Angeles River Watershed Master List of Projects

Site No.	Parcel, Roadway or Combination	Assessor Parcel Numbers (APN) or Roadway	Liquefaction	Street Boundary for Roadways			Address	Description	Agency	City Council District	State Assembly District	Depth to Groundwater (ft)	Stormwater Capture (acre-feet)				Stormwater Link ID Number(s)	Drainage Grid(s)	Street Grid(s)	Benefits a DAC (yes/no)	Load Reduction Factor	Other Features	Planning Level Cost Estimate ($M)
				ADLF	ADLT	Street							Infiltration Gallery	Drywells	Estimated Runoff to Site	Total Estimated Maximum Usable Volume (not to exceed 50 ac-ft per site) (acre-feet)							
18	Parcel	5105-005-900, 5105-005-901, 5105-004-900, 5105-004-901, 5105-005-901, 5105-006-900, 5105-006-901, 5105-006-902, 5105-008-901, 5105-008-903, 5105-008-905, 5106-027-900, 5106-027-901					5330 Morgan Ave #578, Los Angeles, CA 90011	Campos Residence	LA City Housing Authority	9	59	121	46.5	50.1	17.6	17.6	6660 and 6614	557-04	108B213	Yes	91%	Lawns, open spaces, and parking lots throughout the community.	$19.50
19	Parcel	2408-031-901					8960 Herrick Ave, Sun Valley, CA 91352	LAUSD Maintenance and Operations North 2	LA Unified School Dist	6	39	197	73.5	118.3	17.1	17.1	11619 and 10925	387-14	195B173	Yes	95%	Large parking areas throughout property.	$19.00
20	Parcel	2634-016-904, 2634-016-905, 2634-018-901, 2634-019-900					8501 Arleta Ave, Sun Valley, CA 91352	Robert Lewis High School, Polytechnic High School, Byrd Middle School	LA Unified School Dist	6	39	207	152.9	246.2	16.8	16.8	1463	399-04	192B165	No	95%	Large open spaces (baseball fields, football fields, etc.) and parking lots. Available flow is limited due to existing project (Fernangeles Recreation Center) west of the site and it's proximity to the Tujunga spreading grounds. Site is located in a closed Brownfield site which will need to be evaluated during future phases.	$18.60
21	Parcel	2519-017-900, 2519-018-900, 2519-019-900, 2522-015-901					130 N Brand Blvd, San Fernando, CA 91340	San Fernando Middle School	LA Unified School Dist	0	39	59	112.5	90.1	15.2	15.2	11341	358-05	213B153	Yes	84%	Large grassy areas, parking lots throughout school property. Can potentially divert flow from line on Fourth St as well.	$16.90
22	Parcel	2407-021-901, 2405-016-901					10153 Arminta St, Sun Valley, CA 91352	De Garmo Park	LA City	2	39	817	13.7	14.8	19.6	14.8	10897, 10880, and 10902	400-07	189B181	Yes	90%	Park with grassy areas and walkway.	$16.40
23	Parcel	2557-023-900, 2557-024-900, 2557-024-909, 2557-027-909, 2557-023-901					10625 Plainview Ave, Tujunga, CA 91042	Verdugo Hills High School	LA Unified School Dist	7	39	95	169.2	272.5	13.4	13.4	11069 and 11731	360-15	207A195	Yes	68%	Clustered buildings, outdoor track, baseball and softball field, 4 tennis courts, medium paved concrete area, small parking lot, disjointed grassy areas.	$14.80
24	Parcel	2632-026-900					8358 San Fernando Rd, Sun Valley, CA 91352	Sun Valley Metrolink Station	LA City	6	39	259	37.3	60.0	13.0	13.0	1515 and 10910	400-02	192B173	Yes	95%	Large parking lot for Metrolink station.	$14.50
25	Parcel	6054-029-920					419 W 98th St, Los Angeles, CA 90003	Charles W. Barrett Elementary School	LA Unified School Dist	8	64	61	72.8	61.9	12.3	12.3	13876 and 13881	566-05	093A203	Yes	84%	Large paved playground area, buildings are clustered, small parking lot.	$13.60
26	Parcel	5108-027-906					4410 McKinley Ave, Los Angeles, CA 90011	George Washington Carver Middle School	LA Unified School Dist	9	59	146	67.8	73.0	12.2	12.2	6381 and 2872	537-14	112-5A207	Yes	84%	Parcel is 60% buildings. Remainder is open field, paved playground area, and small garden. Could consider link 2872 for additional flow, though it is a greater distance from the site.	$13.50
27	Parcel	6037-002-909					8715 La Salle Ave, Los Angeles, CA 90047	La Salle Ave Elementary School	LA Unified School Dist	8	59	114	53.4	57.6	11.6	11.6	7383 and 7316	565-03	096A195	Yes	84%	50% buildings, 50% paved playground area.	$12.90
28	Parcel	2324-002-900					12544 Saticoy St S, North Hollywood, CA 91605	LADOT Branch Office	LA City	2	39	187	29.4	47.3	11.6	11.6	1942	399-11	186B161	No	63%	Large City-owned parking lot. Link 1942 is across the Southern Pacific RR tracks on Raymer St so feasibility will be considered in future phases.	$12.90

B-1. Upper Los Angeles River Watershed Master List of Projects

Site No.	Parcel, Roadway or Combination	Assessor Parcel Numbers (APN) or Roadway	Liquefaction	Street Boundary for Roadways			Address	Description	Agency	City Council District	State Assembly District	Depth to Groundwater (ft)	Stormwater Capture (acre-feet)				Stormwater Link ID Number(s)	Drainage Grid(s)	Street Grid(s)	Benefits a DAC (yes/no)	Load Reduction Factor	Other Features	Planning Level Cost Estimate ($M)
				ADLF	ADLT	Street							Infiltration Gallery	Drywells	Estimated Runoff to Site	Total Estimated Maximum Usable Volume (not to exceed 50 ac-ft per site) (acre-feet)							
29	Parcel	5113-007-907, 5113-008-912					429 E 42nd Pl., Los Angeles, CA 90011	Gilbert Lindsay Community Center Park	LA City	9	59	148	140.1	150.9	11.5	11.5	5574, 6306, and 6229	537-10	114A207	Yes	84%	1 baseball field, 2 soccer fields, open grassy area, large parking lot, ~1/3 clustered buildings.	$12.80
30	Parcel	2680-011-900					10900 Hayvenhurst Ave, Granada Hills, CA 91344	Tulsa Street Elementary School	LA Unified School Dist	12	38	172	90.2	97.2	10.8	10.8	604 and 592	357-09	210B137	No	90%	Large paved playground area and grassy area.	$12.10
31	Parcel	2651-013-908, 2651-013-901, 2651-013-905, 2651-013-907, 2651-013-906, 2651-013-910, 2651-013-909					14839 Rayen St, Panorama City, CA 91402	Alta California Elementary School	LA Unified School Dist	6	46	193	10.0	10.7	51.0	10.7	1315, 1327, and 1260	389-16	195B149	Yes	53%	School with grassy area and large paved playground. Link 1260 is an open channel.	$12.00
32	Parcel	6074-010-906, 6074-010-907, 6074-010-900, 6074-010-905, 6074-010-908					10811 S Main St, Los Angeles, CA 90061	Los Angeles Fire Department Station 64	LA City	8	64	73	6.6	10.6	42.6	10.6	7649	566-13	088-5A203	Yes	84%	Sizeable parking lot.	$11.90
33	Parcel	5107-005-909					1447 E 45th St, Los Angeles, CA 90011	Ascot Avenue Elementary School	LA Unified School Dist	9	59	162	43.6	46.9	9.5	9.5	2870	537-15	112-5A211	Yes	91%	Mostly buildings. Small parking lot connected to paved playground area. Some construction on site, unclear if construction is complete.	$10.60
34	Parcel	5117-001-900					1569 E 32nd St, Los Angeles, CA 90011	Nevin Ave Elementary School	LA Unified School Dist	9	59	184	26.7	28.8	8.9	8.9	6185 and 6099	537-12	117A211	Yes	91%	Large asphalt schoolyard and parking lot. Second link on Compton Ave (6099) that can be diverted from for additional capture. Portion of the site is in an open Brownfield site which will need to be evaluated during future phases to determine suitability.	$9.90
35	Parcel	2651-014-901, 2651-014-900					9075 Willis Ave, Panorama City, CA 91402	Primary Academy for Success CSPP	LA Unified School Dist	6	46	202	9.8	10.5	8.3	8.3	1131, 1315 and 1327	389-16	198B149	Yes	53%	Parcel is primarily buildings with a narrow paved playground/grassy area, medium parking lot in northeast corner.	$9.30
36	Parcel	2779-022-902					21444 Parthenia St, Canoga Park, CA 91304	Parthenia Park	LA City	3	45	50	20.4	11.7	8.2	8.2	1428, 1353, and 1412	391-13	195B105	Yes	90%	Small grassy area with playground.	$9.20
37	Parcel	6084-012-900					11610 Stanford Ave, Los Angeles, CA 90059	116th Street Elementary School	LA Unified School Dist	15	64	101	27.4	29.6	7.6	7.6	6900 and 7775	581-03	084B205	Yes	63%	50% buildings, 50% paved playground area.	$8.60
38	Parcel	6073-023-902, 6073-023-901					234 E 112th St, Los Angeles, CA 90061	Samuel Gompers Middle School	LA Unified School Dist	8	64	Range 77-80	158.2	170.4	7.4	7.4	7706, 7747	566-14	087A205	Yes	84%	Parking lot on northern side of E 112th St, large grassy areas and asphalt school yard, empty lot on eastern boundary of S Main St. Has substantial space for potential subsurface infiltration.	$8.30
39	Parcel	2733-024-900					17340 W SAN JOSE ST 91344	Patrick Henry Middle School	LA Unified School Dist	12	38	126	172.1	185.3	6.8	6.8	13181 and 671	390-04	207B133	No	80%	Large open field, paved playground area, and parking lot.	$7.60
40	Parcel	2626-013-900					13000 Montague St, Arleta, CA 91331	Montague Elementary School & Montague Charter Academy	LA Unified School Dist	7	39	317	67.3	108.3	6.6	6.6	506 and 999	388-11	198B161	No	87%	Small grassy area next to small paved playground area. Also two separate parking lots on opposite corners of property.	$7.40

B-1. Upper Los Angeles River Watershed Master List of Projects

Site No.	Parcel, Roadway or Combination	Assessor Parcel Numbers (APN) or Roadway	Liquefaction	Street Boundary for Roadways			Address	Description	Agency	City Council District	State Assembly District	Depth to Groundwater (ft)	Stormwater Capture (acre-feet)				Stormwater Link ID Number(s)	Drainage Grid(s)	Street Grid(s)	Benefits a DAC (yes/no)	Load Reduction Factor	Other Features	Planning Level Cost Estimate ($M)
				ADLF	ADLT	Street							Infiltration Gallery	Drywells	Estimated Runoff to Site	Total Estimated Maximum Usable Volume (not to exceed 50 ac-ft per site) (acre-feet)							
41	Parcel	5113-029-903, 5113-029-908, 5113-029-909, 5113-029-910, 5113-029-911, 5113-029-912, 5113-029-913, 5113-029-914, 5113-029-907, 5113-029-906, 5113-029-905, 5113-029-904, 5113-029-900					4000 S Main St, Los Angeles, CA 90037	Wallis Annenberg High School	LA Unified School Dist	9	59	141	6.0	6.4	6.0	6.0	6234	537-10	115-5A205	Yes	89%	Parcel crowded with buildings but paved courtyard in the center. Diversion potential at intersection of Woodlawn and W Martin Luther King Jr Blvd.	$6.70
42	Parcel	2316-017-900, 2316-017-904, 2316-017-908, 2316-017-907, 2316-017-912, 2316-017-901, 2316-017-903, 2316-017-910, 2316-017-909, 2316-017-905, 2316-017-902, 2316-017-906, 2316-017-911					7451 Camellia Ave, North Hollywood, CA 91605	Camellia Avenue Elementary School	LA Unified School Dist	2	39	171	20.4	32.9	5.7	5.7	1909	400-09	186B169	Yes	59%	Large paved playground area and parking lot.	$6.40
43	Parcel	2336-006-900, 2336-009-900, 2336-010-900					6501 Fair Ave, North Hollywood, CA 91606	Fairview Elementary School	LA Unified School Dist	2	39	154	47.3	76.1	5.3	5.3	2428 and 2507	427-02	180B173	Yes	79%	Medium paved playground area surrounded by small buildings and trailers.	$6.00
44	Parcel	2321-005-906					7063 Laurel Canyon Blvd, North Hollywood, CA 91605	LAFD Station 89	LA City	2	39	159	36.1	58.1	5.1	5.1	2206 and 2082	399-16	183B165	No	63%	Project site is a fire station. Large impervious areas. Consideration should be given to impacts to fire station operations. Site is located in a closed Brownfield site which will need to be evaluated during future phases.	$5.70
45	Parcel	2559-006-900					7960 Foothill Blvd, Tujunga, CA 91040	Possible City yard	LA City	7	39	45	6.3	4.1	5.0	5.0	11730	386-03	204B193	No	68%	Tank with unknown contents on site, two small buildings and small open grassy area. Consideration should be taken to ensure the site is suitable.	$5.60
46	Parcel	6075-023-900					510 W 111th St, Los Angeles, CA 90044	Figueroa St Elementary School	LA Unified School Dist	8	64	87	31.9	34.3	4.9	4.9	7723	566-13	087A201	Yes	84%	Approximately 40% of the site is a large paved playground area; remainder is buildings, parking lot, and disjointed grassy areas.	$5.60
47	Parcel	6073-019-904, 6073-019-901, 6073-019-909, 6073-019-905, 6073-019-902, 6073-019-900, 6073-019-907, 6073-019-908, 6073-019-906, 6073-019-903					320 E 111th St, Los Angeles, CA 90061	Animo Locke Charter High School #2	LA Unified School Dist	8	64	76	3.3	5.4	4.9	4.9	7708	566-14	087A205	Yes	84%	Parking lot plus disjointed grassy areas.	$5.50
48	Parcel	5117-013-900					1501 E 41st St, Los Angeles, CA 90011	Ross Snyder Recreation Center	LA City	9	59	179	157.4	169.5	4.9	4.9	6239	537-12	115-5A211	Yes	91%	Three soccer fields, tennis court, basket ball court, swimming pool, recreation center building, and grassy area.	$5.50
49	Parcel	2651-009-900, 2651-009-901					9132 N TOBIAS AVE 91402	Tobias Avenue Park	LA City	6	46	202	11.3	12.2	4.9	4.9	1134 and 1161	389-12	198B149	No	53%	Grassy areas with two half-basketball courts and a playground	$5.50

B-1. Upper Los Angeles River Watershed Master List of Projects

Site No.	Parcel, Roadway or Combination	Assessor Parcel Numbers (APN) or Roadway	Liquefaction	Street Boundary for Roadways			Address	Description	Agency	City Council District	State Assembly District	Depth to Groundwater (ft)	Stormwater Capture (acre-feet)				Stormwater Link ID Number(s)	Drainage Grid(s)	Street Grid(s)	Benefits a DAC (yes/no)	Load Reduction Factor	Other Features	Planning Level Cost Estimate ($M)
				ADLF	ADLT	Street							Infiltration Gallery	Drywells	Estimated Runoff to Site	Total Estimated Maximum Usable Volume (not to exceed 50 ac-ft per site) (acre-feet)							
50	Parcel	5204-006-900					221 S Ave 22, Los Angeles, CA 90031	Public Parking Lot 657	LA City	1	51	28	4.7	0.1	6.9	4.7	4435	495-10	138A221	Yes	74%	Small public parking lot (not a parking garage).	$5.30
51	Parcel	6083-018-900					220 E 118TH ST 90061	118th Street Elementary School	LA Unified School Dist	15	64	90	39.8	42.9	4.6	4.6	7778 and 7782	581-02	084B205	Yes	63%	Small grassy area next to large paved playground area as well as parking lot. Link 7782 is approximately 400 ft away, which exceeds the target maximum of 300 ft, but could be considered.	$5.20
52	Parcel	2570-014-900					6410 W OLCOTT ST 91042	Mountain View Elementary School	LA Unified School Dist	7	39	108	64.5	103.8	4.5	4.5	10985 and 10989	385-06	201B205	No	58%	Small grassy area next to a large paved playground area.	$5.10
53	Parcel	2625-004-900					9377 Vena Ave, Arleta, CA 91331	Vena Avenue Elementary School	LA Unified School Dist	6	39	264	55.3	59.5	4.5	4.5	1048	388-10	198B157	No	87%	Paved playground area.	$5.10
54	Parcel	2748-040-900					20655 Plummer St, Chatsworth, CA 91311	West Valley Animal Shelter	LA City	12	45	66	38.1	55.4	4.4	4.4	951	391-10	201B109	No	85%	Small grassy area on northeast corner. Small parking lot on southeast corner.	$5.00
55	Parcel	5204-014-900					2530 N WORKMAN ST 90031	Lincoln Heights Branch Library	LA City	1	51	28	5.2	0.1	4.4	4.4	4433	495-10	139-5A223	Yes	74%	Small grassy area and small parking lot separated by building.	$5.00
56	Parcel	2404-026-900					8642 Sunland Blvd, Sun Valley, CA 91352	Sun Valley Youth Arts Center/Stone House	LA City	6	39	250	4.2	6.7	4.2	4.2	10917	400-03	192B177	Yes	90%	Small grassy area divided in half by stone building. Small parking lot. Slightly disjointed. Downstream of an existing BMP; volume to be confirmed during next phase.	$4.80
57	Parcel	5210-013-905, 5210-013-906, 5210-013-907, 5210-013-908, 5210-013-909, 5210-013-910, 5210-013-911, 5210-013-912, 5210-013-913					2425 Alhambra Ave, Los Angeles, CA 90031	US Post Office	LA City	1	51	45	4.0	1.8	58.9	4.0	8398	495-14	135A223	Yes	74%	Large parking lot.	$4.60
58	Parcel	5593-029-900, 5593-030-903, 5593-002-904, 5593-030-904					3900 Chevy Chase Dr, Los Angeles, CA 90039	Dept of Recreation & Parks, City of Los Angeles	LA City	13	43	39	3.9	1.6	11.5	3.9	11914	445-10	159B205	Yes	85%	Large site with available space for subsurface infiltration. Buildings and storage for maintenance vehicles, and parking lot in the center.	$4.40
59	Parcel	5210-025-905, 5210-025-906					3118 N Main St, Los Angeles, CA 90031	Possible vacant lot	LA City	1	51	45	3.8	1.7	56.8	3.8	4588	495-15	135A223	Yes	74%	Empty grassy area.	$4.30
60	Parcel	2314-007-901, 2314-007-900					7935 Vineland Ave, Sun Valley, CA 91352	Sun Valley Branch Library	LA City	6	39	494	4.0	6.4	3.4	3.4	8245	400-06	189B173	Yes	79%	Medium sized parking lot adjacent to library.	$3.80
61	Parcel	2409-004-901					10765 Strathern St, Sun Valley, CA 91352	Roscoe Elementary School	LA Unified School Dist	2	39	645	58.7	94.5	3.3	3.3	1652 and 131	400-07	189B177	Yes	79%	Large asphalt school yard and outdoor parking lot.	$3.80
62	Parcel	2620-014-900, 2620-014-901, 2620-014-902, 2620-014-903, 2620-014-904					13520 Van Nuys Blvd, Pacoima, CA 91331	Pacoima City Hall	LA City	7	39	195	2.6	4.1	3.2	3.2	11184	358-14	207B157	No	91%	Parking lot and small grassy area have the potential to implement subsurface infiltration. Site is located in an oil and gas area which should be evaluated during future phases.	$3.70
63	Parcel	2618-023-901					13605 Van Nuys Blvd, Pacoima, CA 91331	Pacoima Branch Library	LA City	7	39	180	4.3	6.9	3.2	3.2	655	358-14	207B157	Yes	91%	Potential subsurface infiltration under library parking lot. Site is located in an oil and gas area which should be evaluated during future phases.	$3.70

B-1. Upper Los Angeles River Watershed Master List of Projects

Site No.	Parcel, Roadway or Combination	Assessor Parcel Numbers (APN) or Roadway	Liquefaction	Street Boundary for Roadways			Address	Description	Agency	City Council District	State Assembly District	Depth to Groundwater (ft)	Stormwater Capture (acre-feet)				Stormwater Link ID Number(s)	Drainage Grid(s)	Street Grid(s)	Benefits a DAC (yes/no)	Load Reduction Factor	Other Features	Planning Level Cost Estimate ($M)
				ADLF	ADLT	Street							Infiltration Gallery	Drywells	Estimated Runoff to Site	Total Estimated Maximum Usable Volume (not to exceed 50 ac-ft per site) (acre-feet)							
64	Parcel	5205-019-900					2661 Pasadena Ave, Los Angeles, CA 90031	California Children's Academy	LA Unified School Dist	1	51	29	3.5	0.2	3.1	3.1	4312	495-10	141A221	Yes	74%	School yard and parking lot on-site.	$3.50
65	Parcel	5115-019-900, 5115-019-901, 5115-019-902, 5115-019-903, 5115-019-904, 5115-019-905, 5115-020-916, 5115-020-917, 5115-020-918, 5115-020-919, 5115-020-920					899 E 42nd Pl., Los Angeles, CA 90011	Harmony Elementary School	LA Unified School Dist	9	59	156	23.1	24.9	3.0	3.0	6305	537-10 and 537-11	114A209	Yes	84%	Large asphalt schoolyard, parking lot, and grassy area	$3.50
66	Parcel	6061-002-900					843 W 104th Pl, Los Angeles, CA 90044	Little Green Acres Park	LA City	8	64	79	2.8	3.0	13.1	3.0	7613	565-12	090A199	Yes	84%	Community Garden.	$3.50
67	Parcel	5107-008-900					4504 S Central Ave, Los Angeles, CA 90011	Vernon - Leon H. Washington Jr. Memorial Branch Library	LA City	9	59	149	2.8	3.0	9.2	3.0	6397	537-15	112-5A209	Yes	91%	Small parking lot with potential for subsurface infiltration.	$3.50
68	Parcel	5171-002-900, 5171-003-900, 5171-001-900, 5171-001-901, 5171-001-902, 5171-001-903, 5171-001-904, 5171-001-905, 5171-001-906					1526 East 4th St, Los Angeles, CA 90033	Pico Gardens affordable housing	LA City Housing Auth	14	53	160 to 169	66.2	71.3	2.7	2.7	5301 and 5378	515-09	127-5A219 and 126A219	Yes	91%	Parcel is largely covered by buildings so actual available space for subsurface infiltration is limited. Potential project areas exist on three large lawn areas in northern parcel.	$3.10
69	Parcel	5171-015-902					651 S Mission Rd, Los Angeles, CA 90023	Small Park near pump station	LA City	14	53	176	8.9	9.6	1.8	1.8	5455	515-13	124-5A219	Yes	91%	Landscaped areas.	$2.10
70	Parcel	2645-021-905					14094 Van Nuys Blvd, Arleta, CA 91331	Empty Lot	LA City	6	39	187	4.9	5.3	1.3	1.3	862	388-01	204B153	No	87%	Grassy area with potential for subsurface infiltration. Site is located in an oil and gas area which should be evaluated during future phases.	$1.60
71	Roadway		No	800	898	108th St	108th St from S Vermont Ave to S Main St, Avalon Blvd to S Central Ave	108th St from S Vermont Ave to S Main St, Avalon Blvd to S Central Ave	Roadway	8	62	86	0.0	19.5	7.9	7.9	6889	565-16	088-5A199	Yes	84%	Diversion from link 6889 (near intersection with S Grand Ave) for street alignment between Vermont Ave and 110 freeway. Potential diversion against street grade. Limited by available runoff volume.	$8.90
72	Roadway		No	300	348	108th St	108th St from S Vermont Ave to S Main St, Avalon Blvd to S Central Ave	109th St from S Vermont Ave to S Main St, Avalon Blvd to S Central Ave	Roadway	8	64	76	0.0	9.5	30.9	9.5	6885	566-13	088-5A203	Yes	84%	Diversion along 108th St near intersection with S Broadway Ave. Reduced volume from 6889 accounted for in upstream segments of the street.	$10.60
73	Roadway		Yes	611	699	108th St	108th St from S Vermont Ave to S Main St, Avalon Blvd to S Central Ave	110th St from S Vermont Ave to S Main St, Avalon Blvd to S Central Ave	Roadway	8	64	73	0.0	27.7	280.6	27.7	6894	566-14	088-5A207	Yes	74%	Diversion at Compton Creek on Avalon Blvd for street alignment east of Avalon Blvd. Subtracted flow from upstream segments.	$30.60
74	Roadway		No	10101	10199	Arleta Ave	Arleta Ave from Mercer St to Carl St	Arleta Ave from Mercer St to Carl St	Roadway	6	39	156	0.0	12.9	13.5	12.9	731 and 758	388-01	204B153	No	91%	Several links to pull from at intersections. A portion of the site is in an oil and gas area.	$14.30

B-1. Upper Los Angeles River Watershed Master List of Projects

Site No.	Parcel, Roadway or Combination	Assessor Parcel Numbers (APN) or Roadway	Liquefaction	Street Boundary for Roadways			Address	Description	Agency	City Council District	State Assembly District	Depth to Groundwater (ft)	Stormwater Capture (acre-feet)				Stormwater Link ID Number(s)	Drainage Grid(s)	Street Grid(s)	Benefits a DAC (yes/no)	Load Reduction Factor	Other Features	Planning Level Cost Estimate ($M)
				ADLF	ADLT	Street							Infiltration Gallery	Drywells	Estimated Runoff to Site	Total Estimated Maximum Usable Volume (not to exceed 50 ac-ft per site) (acre-feet)							
75	Roadway		No	10011	10029	Arleta Ave	Arleta Ave from Carl St to Terra Bella St	Arleta Ave from Carl St to Terra Bella St	Roadway	6	39	205	0.0	17.0	175.7	17.0	487	388-01	204B153	No	87%	Long channel parallel to road. A segment of this area is in an oil and gas area.	$18.90
76	Roadway		No	9761	9799	Arleta Ave	Arleta Ave from Terra Bella St to Kagel Canyon St	Arleta Ave from Terra Bella St to Kagel Canyon St	Roadway	6	39	262	0.0	12.8	173.3	12.8	926	388-06	201B157	No	87%	Long channel parallel to road.	$14.20
77	Roadway		No	9581	9649	Arleta Ave	Arleta Ave from Kagel Canyon St to Montague St	Arleta Ave from Kagel Canyon St to Montague St	Roadway	6	39	280	0.0	21.6	162.2	21.6	998	388-06	201B157	No	87%	Long channel parallel to road.	$23.90
78	Roadway		No	9181	9299	Arleta Ave	Arleta Ave from Montague St to Wentworth St	Arleta Ave from Montague St to Wentworth St	Roadway	6	39	242	0.0	20.2	156.0	20.2	1094	388-10	198B157	No	87%	Long channel parallel to road.	$22.40
79	Roadway		No	8881	8999	Arleta Ave	Arleta Ave from Wentworth St to Sheldon St	Arleta Ave from Wentworth St to Sheldon St	Roadway	6	39	162	0.0	18.1	87.6	18.1	1247	388-15	195B161	No	87%	Tool identified link 520 is used by Tujunga Pumping Station & Spreading Grounds, Link 1340 is a surface flow. Potential to divert from link 1247 (channel) which has 87.64 ac-ft available. Note small gap in usable roadway between Tonopah St and Tujunga Wash Channel.	$20.10
80	Roadway		No	3400	3498	Avalon Blvd	Avalon Blvd from E. Jefferson Blvd to E 43rd St	Avalon Blvd from E. Jefferson Blvd to E 43rd St	Roadway	9	59	160	0.0	20.4	24.5	20.4	6033	537-06	117A207	Yes	84%	Diversion from 62" drain (link 6033) on E 33rd St/S San Pedro St, one block to the north. Volume limited to not exceed 20 ac-ft though potential for additional capture volume. Flow from same storm drain is accounted for upstream at Central Ave (link id 8875); this volume has been subtracted.	$22.60
81	Roadway		No	4300	4348	Avalon Blvd	Avalon Blvd from E 43rd St to E 51st St	Avalon Blvd from E 43rd St to E 51st St	Roadway	9	59	146	0.0	19.2	12.4	12.4	6310	537-10	114A207	Yes	84%	Diversion from 36" drain (link 6310) running under Avalon Blvd.	$13.80
82	Roadway		Yes	5100	5198	Avalon Blvd	Avalon Blvd from E 51st St to E 62nd St	Avalon Blvd from E 51st St to E 62nd St	Roadway	9	59	128	0.0	8.7	7.7	7.7	6450	537-14	108B205	Yes	84%	Storm drain turns west on E 51st St. Diversion from 54" storm drain (link 6450) at intersection with E 51st St. Small gaps in alignment between E 59th St and E 59th Pl as well as E 60th St and E 61st St. Link is separate hydraulically from links 6310 and 13886.	$8.70
83	Roadway		Yes	5500	5598	Avalon Blvd	Avalon Blvd from E 55th St to E Slauson Ave	Avalon Blvd from E 55th St to E Slauson Ave	Roadway	9	59	125	0.0	6.8	16.3	6.8	13886	557-02	108B205	Yes	84%	Diversion from 48" drain (link 13886) running under Avalon Blvd.	$7.70
84	Roadway		Yes	5820	5898	Avalon Blvd	Avalon Blvd from E Slauson Ave to E 62nd St	Avalon Blvd from E Slauson Ave to E 62nd St	Roadway	9	59	124	0.0	8.2	5.8	5.8	8672	557-06	105B205	Yes	84%	Diversion from 36" drain (link 8673/8672) at intersection with E Slauson Ave.	$6.50
85	Roadway		Yes	7110	7198	Avalon Blvd	Avalon Blvd from E Florence Ave to E 77th St	Avalon Blvd from E Florence Ave to E 77th St	Roadway	9	59	90	0.0	12.2	11.2	11.2	8696	557-10	102B205	Yes	84%	Break in street selection alignment until E Florence Ave. Diversion from storm drain at intersection with E Florence Ave, under Avalon Blvd. Limited by flow. Site is near a closed Brownfield site which should be considered in future phases of evaluation.	$12.40
86	Roadway		Yes	7700	7798	Avalon Blvd	Avalon Blvd from E 77th St to E 83rd St	Avalon Blvd from E 77th St to E 83rd St	Roadway	9	59	66	0.0	8.7	4.2	4.2	7244	557-14	099B205	Yes	85%	Diversion from 36" drain (link 7244) running under Avalon Blvd.	$4.70

B-1. Upper Los Angeles River Watershed Master List of Projects

Site No.	Parcel, Roadway or Combination	Assessor Parcel Numbers (APN) or Roadway	Liquefaction	Street Boundary for Roadways			Address	Description	Agency	City Council District	State Assembly District	Depth to Groundwater (ft)	Stormwater Capture (acre-feet)				Stormwater Link ID Number(s)	Drainage Grid(s)	Street Grid(s)	Benefits a DAC (yes/no)	Load Reduction Factor	Other Features	Planning Level Cost Estimate ($M)
				ADLF	ADLT	Street							Infiltration Gallery	Drywells	Estimated Runoff to Site	Total Estimated Maximum Usable Volume (not to exceed 50 ac-ft per site) (acre-feet)							
87	Roadway		Yes	9400	9438	Avalon Blvd	Avalon Blvd from E 94th St to E Century Blvd	Avalon Blvd from E 94th St to E Century Blvd	Roadway	9	64	52	0.0	13.1	178.6	13.1	7525	566-06	093A207	Yes	91%	Break in street selection alignment until E 94th St. Diversion from storm drain (link 7525) under Avalon Blvd. Removed flow used at upstream street segments. Site is near a closed Brownfield site which should be considered in future phases of evaluation.	$14.60
88	Roadway		Yes	10000	10098	Avalon Blvd	Avalon Blvd from E Century Blvd to E 108th St	Avalon Blvd from E Century Blvd to E 108th St	Roadway	8	64	65	0.0	30.0	167.4	30.0	7587	566-10	091-5A207	Yes	91%	Diversion from storm drain (link id 7587) under Avalon Blvd. Both the median and road may provide opportunities for subsurface infiltration. Limited by 30 ac-ft volume.	$33.20
89	Roadway		Yes	10800	10890	Avalon Blvd	Avalon Blvd from E 108th St to E Lanzit Ave	Avalon Blvd from E 108th St to E Lanzit Ave	Roadway	8	64	71	0.0	18.6	297.9	18.6	6894	566-14	088-5A207	Yes	74%	Diversion from concrete channel (link id 6894) on intersection Avalon Blvd/E 108th St. High volume in channel.	$20.60
90	Roadway		No	11290	11298	Avalon Blvd	Avalon Blvd from E Lanzit Ave to E 116th Pl (105 Freeway)	Avalon Blvd from E Lanzit Ave to E 116th Pl (105 Freeway)	Roadway	15	64	88	0.0	9.4	6.1	6.1	7725	566-14	087A207	Yes	84%	Diversion from 66" pipe (link id 7725) at intersection of E 113th St/Unit St, east of Avalon Blvd. Another street project is proposed on Imperial Hwy, could not divert from this link (7748).	$6.80
91	Roadway		No	3300	3398	Central Blvd	Central Blvd from E 33rd St to E 45th St	Central Blvd from E 33rd St to E 45th St	Roadway	9	59	168	0.0	22.1	13.0	13.0	8875	537-07	117A209	Yes	91%	Diversion from 57" diameter storm drain (link id 8875) at intersection with E 33rd St. Site is located near a closed Brownfield site; further evaluation to occur during next phase.	$14.40
92	Roadway		Yes	4500	4502	Central Blvd	Central Blvd from E 45th St to E 73rd St	Central Blvd from E 45th St to E 73rd St	Roadway	9	59	150	0.0	61.2	17.4	17.4	8675	537-15	112-5A209	Yes	91%	Diversion from pipe running along Central Blvd from link 2873 to 8675 intermittently along street alignment. Limited by runoff volume in pipe. Diversion from adjacent streets may be possible but consideration should be given to other identified sites. Hooper Avenue is hydraulically downstream of Central Blvd, making diversion more difficult.	$19.30
93	Roadway		Yes	7300	7398	Central Blvd	Central Blvd from E 73rd St to E 87th St	Central Blvd from E 73rd St to E 87th St	Roadway	9	59	91	0.0	30.2	5.2	5.2	7064	557-11	102B209	Yes	58%	Diversion from storm drain (link id 7064) at intersection with E 73rd St. Flow is limited by available runoff in pipe.	$5.80
94	Roadway		Yes	8700	8748	Central Blvd	Central Blvd from E 87th St to E Century Blvd	Central Blvd from E 87th St to E Century Blvd	Roadway	9	59	60	0.0	20.0	32.8	20.0	7527	566-03	096A209	Yes	90%	Diversion from unknown diameter storm drain (link id 7527) running south on S Central Ave along street alignment. Limited to 20 ac-ft but may have the potential for additional volume.	$22.20
95	Roadway		Yes	10022	10098	Central Blvd	Central Blvd from E Century Blvd to Southern Pacific RR	Central Blvd from E Century Blvd to Southern Pacific RR	Roadway	8	64	71	0.0	34.1	41.6	20.0	7685	566-11	090B209	Yes	91%	Flow is diverted from storm drain (link id 7592) under Central Ave. 20 ac-ft of flow is being used at the upstream street segments. 21.6 ac-ft of available flow remaining in pipe running along Central Ave. Limited to 20 ac-ft but may have the potential to manage more flow.	$22.20
96	Roadway		Yes	11100	11198	Central Blvd	Central Blvd from Southern Pacific RR to E Imperial Hwy	Central Blvd from Southern Pacific RR to E Imperial Hwy	Roadway	15	64	104	0.0	18.3	350.2	18.3	7711	566-15	087A209	Yes	84%	Diversion from open channel at E Lanzit Ave (link 7711).	$20.30
97	Roadway		Yes	11600	11698	Central Blvd	Central Blvd from E Imperial Hwy to E 119th St	Central Blvd from E Imperial Hwy to E 119th St	Roadway	15	64	101	0.0	15.1	348.6	15.1	7760	581-03	084B209	Yes	84%	Diversion from large concrete channel (link 7760).	$16.80

B-1. Upper Los Angeles River Watershed Master List of Projects

Site No.	Parcel, Roadway or Combination	Assessor Parcel Numbers (APN) or Roadway	Liquefaction	Street Boundary for Roadways			Address	Description	Agency	City Council District	State Assembly District	Depth to Groundwater (ft)	Stormwater Capture (acre-feet)				Stormwater Link ID Number(s)	Drainage Grid(s)	Street Grid(s)	Benefits a DAC (yes/no)	Load Reduction Factor	Other Features	Planning Level Cost Estimate ($M)
				ADLF	ADLT	Street							Infiltration Gallery	Drywells	Estimated Runoff to Site	Total Estimated Maximum Usable Volume (not to exceed 50 ac-ft per site) (acre-feet)							
98	Roadway		No	12861	12899	Glenoaks Blvd	Glenoaks Blvd from Astoria St to Beaver St	Glenoaks Blvd from Astoria St to Beaver St	Roadway	7	39	97	0.0	11.7	7.1	7.1	11477, 11476, and 11454	350-12	222B153	Yes	84%	Requires 3 diversions to fully maximize site's available capacity. 4.05 ac-ft from link 11477 + 5.06 ac-ft from link 11768 + 3.21 ac-ft from link 11790. Diversion from 11768 appears be against grade. Link 11495 is one large block away from the road segment, potentially exceeding maximum target distance.	$7.90
99	Roadway		No	10031	10199	Glenoaks Blvd	Glenoaks Blvd from Branford Ave to Northwest of Tujunga Wash Channel	Glenoaks Blvd from Branford Ave to Northwest of Tujunga Wash Channel	Roadway	6	39	159	0.0	12.8	8.2	8.2	790, 716, and 790	388-04	204B169	Yes	90%	Tool identified link is surface flow. Alternative links 716 (potentially beyond the 300 ft target maximum distance) and 490 (downstream) provide less than 2.25 ac-ft.	$9.10
100	Roadway		No	8341	8499	Glenoaks Blvd	Glenoaks Blvd from Wheatland Ave to Roscoe Blvd	Glenoaks Blvd from Wheatland Ave to Roscoe Blvd	Roadway	2	39	504	0.0	10.8	97.1	10.8	10910	400-03	192B177	Yes	90%	Single diversion from link 10920 (channel).	$12.00
101	Roadway		No	990	998	Imperial Highway	Imperial Highway from Vermont Ave to Harbor Freeway (110)	Imperial Highway from Vermont Ave to Harbor Freeway (110)	Roadway	8	62	100	0.0	17.5	3.1	3.1	7758	565-16	087A199	Yes	84%	Four lane highway with turn lane in the center with parking on each side. Diversion from 45'' gravity main at Figueroa Street. Currently attributed to Link 7758 and Link 7753. This site should be considered along with the identified parcel APN 6075-023-900, as this parcel is downstream of this site. Also should be evaluated along with segment of Imperial highway. Site is located near a closed Brownfield site which will be evaluated in future phases.	$3.60
102	Roadway		Yes	601	699	Imperial Highway	Imperial Highway from South Avalon Boulevard to South Central Avenue	Imperial Highway from South Avalon Boulevard to South Central Avenue	Roadway	15	64	95	0.0	31.1	272.7	31.1	7750 and 7760	566-14	087A207	Yes	84%	Four lane highway with turn lane in the center and parking on each side. This site could capture link 7750, and potentially channel link 7760.	$34.40
103	Roadway		Yes	1201	1449	Imperial Highway	Imperial Highway from South Central Avenue to Success Ave	Imperial Highway from South Central Avenue to Success Ave	Roadway	15	64	101	0.0	13.4	366.8	13.4	7760	581-03	084B209	No	84%	Diversion from channel (link id 7760). High runoff volume. Site is located near a closed Brownfield site which will be evaluated in future phases.	$14.90
104	Roadway		Yes	1451	1599	Imperial Highway	Imperial Highway from Success Ave to South Grandee Ave	Imperial Highway from Success Ave to South Grandee Ave	Roadway	15	64	93	0.0	12.8	138.7	12.8	7761	581-04	084B213	Yes	90%	Four lane highway with turn lane in the center and parking on each side. Diversions from 57'' gravity main at intersection with Wadsworth Ave, 39'' gravity main at South Central Ave, 84'' gravity main at Success Ave, and 27'' at South Grandee Ave.	$14.20
105	Roadway		Yes	21400	21498	Lassen St	Lassen St from Desering Ave to De Soto Ave	Lassen St from Desering Ave to De Soto Ave	Roadway	12	45	51	0.0	21.6	9.5	9.5	849	391-05	201B105	No	95%	Divert from 52" storm drain under Lassen St (link id 849). The paired link (13494) is an open channel. Limited by available runoff volume.	$10.60
106	Roadway		No	20700	20898	Lassen St	Lassen St from De Soto Ave to Lurline Ave	Lassen St from De Soto Ave to Lurline Ave	Roadway	12	45	76	0.0	11.7	14.2	11.7	848	391-06	201B109	No	85%	Divert from 60" storm drain at intersection with De Soto Ave (link id 848). Limited by available drywell capture volume.	$13.00
107	Roadway		No	20500	20698	Lassen St	Lassen St from Lurline Ave to Mason Ave	Lassen St from Lurline Ave to Mason Ave	Roadway	12	45	73	0.0	11.7	6.7	6.7	818	391-06	201B109	No	85%	Divert from 60" storm drain running under Lassen St. Limited by available runoff volume.	$7.50

B-1. Upper Los Angeles River Watershed Master List of Projects

Site No.	Parcel, Roadway or Combination	Assessor Parcel Numbers (APN) or Roadway	Liquefaction	Street Boundary for Roadways			Address	Description	Agency	City Council District	State Assembly District	Depth to Groundwater (ft)	Stormwater Capture (acre-feet)				Stormwater Link ID Number(s)	Drainage Grid(s)	Street Grid(s)	Benefits a DAC (yes/no)	Load Reduction Factor	Other Features	Planning Level Cost Estimate ($M)
				ADLF	ADLT	Street							Infiltration Gallery	Drywells	Estimated Runoff to Site	Total Estimated Maximum Usable Volume (not to exceed 50 ac-ft per site) (acre-feet)							
108	Roadway		No	20400	20498	Lassen St	Lassen St from Mason Ave to Winnetka Ave	Lassen St from Mason Ave to Winnetka Ave	Roadway	12	45	66	0.0	14.1	23.9	14.1	841	391-07	201B109	No	85%	Divert from 81" storm drain (link id 841) running under Lassen St. Limited at 20 ac-ft.	$15.70
109	Roadway		No	19900	20098	Lassen St	Lassen St from Winnetka Ave to Corbin Ave	Lassen St from Winnetka Ave to Corbin Ave	Roadway	12	45	52	0.0	13.0	71.3	13.0	907	391-07	201B113	No	85%	Divert from open channel (link id 907) at intersection with Winnetka Ave. Limited by drywell capture volume.	$14.50
110	Roadway		No	19500	19698	Lassen St	Lassen St from Corbin Ave to Tampa Ave	Lassen St from Corbin Ave to Tampa Ave	Roadway	12	45	50	0.0	12.6	50.2	12.6	8173	391-08	201B117	No	85%	Divert from open channel (link id 8173) at intersection with Corbin Ave. Limited by drywell capture volume.	$14.00
111	Roadway		No	14720	14798	Lassen St	Lassen St from Willia Ave to Woodman Ave	Lassen St from Willia Ave to Woodman Ave	Roadway	7	46	70	0.0	9.6	7.8	7.8	489	389-08	201B149	No	53%	Divert from 81" storm drain around intersection with Natick Ave (link id 489). Limited by drywell capture volume.	$8.70
112	Roadway		No	3400	3498	Main Street	Main Street from Jefferson Blvd to W 41st St	Main Street from Jefferson Blvd to W 41st St	Roadway	9	59	150	0.0	20.6	24.7	20.6	6022	537-06	118-5A205	Yes	89%	The same pipe is diverted from on the intersection with Avalon Blvd (link 6033) and Central Ave (link 8875). Volumes used at both segments upstream have been subtracted out of available diversion volume. Diverting from 100" storm drain. Limited to 20 ac-ft but could potentially manage additional flow.	$22.80
113	Roadway		Yes	4100	4138	Main Street	Main Street from W 41st St to W Slauson Ave	Main Street from W 41st St to W Slauson Ave	Roadway	9	59	138	0.0	12.3	18.3	12.3	6625	537-09	115-5A203	Yes	89%	Divert from pipe running under Main St (multiple link numbers with the highest/furthest downstream being 54" storm drain or link id 6625).	$13.70
114	Roadway		Yes	5820	5914	Main Street	Main Street from W Slauson Ave to E 66th St	Main Street from W Slauson Ave to E 66th St	Roadway	9	59	105	0.0	20.1	39.9	20.1	6760	557-05	105B201	Yes	84%	Divert from 84" pipe running under Main St (6760). Subtracting flow taken upstream from 6625. Subtracting flow used by parcel project 5113-029-900. Limited at 20 ac-ft. Site is located near a closed Brownfield site which will be evaluated during future phases.	$22.30
115	Roadway		Yes	6600	6622	Main Street	Main Street from E 66th St to E 75th St	Main Street from E 66th St to E 75th St	Roadway	9	59	88	0.0	20.2	30.7	20.2	6987	557-09	102B201	Yes	84%	Divert from 84" pipe running under Main St (6987). Subtracting flow taken upstream at 6625 and 6760. Subtracting flow used by parcel project 5113-029-900. Limited at 20 ac-ft.	$22.40
116	Roadway		Yes	7500	7510	Main Street	Main Street from E 75th St to E 82nd Pl	Main Street from E 75th St to E 82nd Pl	Roadway	9	59	66	0.0	13.6	19.3	13.6	7122	557-09	102B201	Yes	85%	Divert from 81" pipe running under Main St (7122). Subtracting flow taken upstream at 6625. 6760, and 6987. Subtracting flow used by parcel project 5113-029- 900. Large gap in tool-identified available street alignment from E 82nd Pl to E 94th St. Many BMPs in this area.	$15.10
117	Roadway		Yes	9340	9398	Main Street	Main Street from E 94th St to E 104th St	Main Street from E 94th St to E 104th St	Roadway	8	64	50	0.0	20.6	4.6	4.6	7562	566-06	094-5A205	Yes	91%	Divert from 30" storm drain at intersection of W 94th St and alley way. Limited by available flow.	$5.20
118	Roadway		No	21700	21828	Plummer St	Plummer St from Jordan Ave to Canoga Ave	Plummer St from Jordan Ave to Canoga Ave	Roadway	12	45	51	0.0	7.1	5.7	5.7	989	391-09	198B105	No	89%	Divert from 51" storm drain (link id 989) at intersection with Owensmouth Ave. Limited by available runoff volume.	$6.50
119	Roadway		No	20750	20898	Plummer St	Plummer St from De Soto Ave to Mason Ave	Plummer St from De Soto Ave to Mason Ave	Roadway	12	45	65	0.0	20.2	30.7	20.2	956	391-10	198B109	No	85%	Divert from 81" storm drain at intersection with De Soto Ave. Site is located near a closed Brownfield site which will be evaluated during future phases.	$22.40
120	Roadway		No	20300	20498	Plummer St	Plummer St from Mason Ave to Oso Ave	Plummer St from Mason Ave to Oso Ave	Roadway	12	45	61	0.0	9.2	11.1	9.2	976	391-11	198B113	No	85%	Divert from storm drain directly upstream of link identified by tool.	$10.30

B-1. Upper Los Angeles River Watershed Master List of Projects

Site No.	Parcel, Roadway or Combination	Assessor Parcel Numbers (APN) or Roadway	Liquefaction	Street Boundary for Roadways			Address	Description	Agency	City Council District	State Assembly District	Depth to Groundwater (ft)	Stormwater Capture (acre-feet)				Stormwater Link ID Number(s)	Drainage Grid(s)	Street Grid(s)	Benefits a DAC (yes/no)	Load Reduction Factor	Other Features	Planning Level Cost Estimate ($M)
				ADLF	ADLT	Street							Infiltration Gallery	Drywells	Estimated Runoff to Site	Total Estimated Maximum Usable Volume (not to exceed 50 ac-ft per site) (acre-feet)							
121	Roadway		No	20100	20298	Plummer St	Plummer St from Oso Ave to Jumilla Ave	Plummer St from Oso Ave to Jumilla Ave	Roadway	12	45	57	0.0	17.4	72.6	17.4	958	391-11	198B113	No	85%	Divert from open channel at intersection with Winnetka Ave (link 958).	$19.30
122	Roadway		No	19720	19748	Plummer St	Plummer St from Jumilla Ave to Tampa Ave	Plummer St from Jumilla Ave to Tampa Ave	Roadway	12	45	50	0.0	11.5	53.2	11.5	968	391-12	198B117	No	85%	Divert from open channel at intersection with Winnetka Ave (link 968).	$12.80
123	Roadway		No	14900	14916	Plummer St	Plummer St from Marley Way to Cedros Ave	Plummer St from Marley Way to Cedros Ave	Roadway	7	46	176	0.0	10.1	17.8	10.1	497	389-12	198B149	No	53%	Divert from 60" storm drain at intersection with Marley Way (link 497). Limited by drywell CV. Street segments overlapping large open channel will be infeasible for drywell placement.	$11.30
124	Roadway		No	16816	16898	Saticoy St	Saticoy St from Balboa Blvd to West of Bull Creek	Saticoy St from Balboa Blvd to West of Bull Creek	Roadway	6	46	109	0.0	10.3	240.0	10.3	1832	397-12	186B133	Yes	90%	Potential diversion from Bull Creek on east end of project; potentially routing flow against street grade. Note that flow for the most easterly segment in this project is divides between two segments of this road since it crosses under bull creek. Site is located near a closed Brownfield site which will be evaluated during future phases.	$11.50
125	Roadway		No	16600	16620	Saticoy St	Saticoy St from East of Bull Creek to Hayvenhurst Ave	Saticoy St from East of Bull Creek to Hayvenhurst Ave	Roadway	6	46	112	0.0	7.8	229.8	7.8	1832	398-09	186B137	Yes	74%	Diversion from Bull Creek (Link 1832).	$8.70
126	Roadway		No	14500	14628	Saticoy St	Saticoy St from Tobias Ave to Tyrone Ave Cul-de- sac	Saticoy St from Tobias Ave to Tyrone Ave Cul-de-sac	Roadway	6	46	100	0.0	12.3	27.1	12.3	1861	398-12	186B149	Yes	63%	Diversion from Pacoima Wash. Suggested links appear to be surface flows. This road cuts through a LADWP building complex (parcel 2215-001-910) which is also an identified parcel site. May be sufficient flow for both projects. Note a small gap in the road segment right after Van Nuys Blvd at the gate/entrance to the LADWP building complex.	$13.70
127	Roadway		No	12540	12698	Saticoy St	Saticoy St from Belair Ave to West of Hollywood Fwy	Saticoy St from Belair Ave to West of Hollywood Fwy	Roadway	2	39	209	0.0	8.4	14.6	8.4	1866, 1867 or 1923	399-11	186B161	No	63%	This site is limited by access to storm drains/flow. A single diversion can be taken from link 1923 OR two diversions from links 1866 and 1867 (mutually exclusive) can achieve 7.29 ac-ft of runoff. The link identified by the tool is not feasible because it is on the other side of a major highway.	$9.40
128	Roadway		No	12500	12528	Saticoy St	Saticoy St East of Hollywood Fwy to Laurel Canyon Blvd.	Saticoy St East of Hollywood Fwy to Laurel Canyon Blvd.	Roadway	2	39	217	0.0	25.9	27.3	25.9	144 and 143	399-11	186B161	Yes	63%	Two diversions to achieve the usable volume. Both options are against grade and potentially distant.	$28.60
129	Roadway		Yes	4331	4399	Tujunga Ave	Tujunga Ave from Riverside Dr/Camarillo St to 101 freeway	Tujunga Ave from Riverside Dr/Camarillo St to 101 freeway	Roadway	2	46	76	0.0	19.5	224.7	19.5	3145	443-06	165B173	No	63%	Diversion from Tujunga Wash. Site is located near a closed Brownfield site which will be evaluated during future phases.	$21.60
130	Roadway		Yes	4621	4743	Tujunga Ave	Tujunga Ave from 101 freeway to Camarillo St (Riverside Dr if looking left of Hollywood Fwy)	Tujunga Ave from 101 freeway to Camarillo St (Riverside Dr if looking left of Hollywood Fwy)	Roadway	2	46	74	0.0	8.0	2.6	2.6	3160	443-02	168B173	No	63%	Diversion from link 3160 downstream of the entire segment thus may require diversion against street grade.	$3.10

B-1. Upper Los Angeles River Watershed Master List of Projects

Site No.	Parcel, Roadway or Combination	Assessor Parcel Numbers (APN) or Roadway	Liquefaction	Street Boundary for Roadways			Address	Description	Agency	City Council District	State Assembly District	Depth to Groundwater (ft)	Stormwater Capture (acre-feet)				Stormwater Link ID Number(s)	Drainage Grid(s)	Street Grid(s)	Benefits a DAC (yes/no)	Load Reduction Factor	Other Features	Planning Level Cost Estimate ($M)
				ADLF	ADLT	Street							Infiltration Gallery	Drywells	Estimated Runoff to Site	Total Estimated Maximum Usable Volume (not to exceed 50 ac-ft per site) (acre-feet)							
131	Roadway		Yes	4801	4899	Tujunga Ave	Tujunga Ave from Magnolia Blvd to Camarillo St	Tujunga Ave from Magnolia Blvd to Camarillo St	Roadway	2	46	70	0.0	23.1	222.5	23.1	3113	443-02	168B173	No	63%	Diversion from Central Branch Tujunga Wash Channel. Potential diversion against grade. Site is located near a closed Brownfield site which will be evaluated during future phases.	$25.60
132	Roadway		Yes	5201	5239	Tujunga Ave	Tujunga Ave from Chandler Blvd to Magnolia Blvd	Tujunga Ave from Chandler Blvd to Magnolia Blvd	Roadway	2	46	83	0.0	10.2	8.4	8.4	13968	427-14	171B173	No	59%	Diversion from 13968 (52" pipe).	$9.40
133	Roadway		Yes	5601	5625	Tujunga Ave	Tujunga Ave from Oxnard St to Burbank Blvd	Tujunga Ave from Oxnard St to Burbank Blvd	Roadway	2	39	118	0.0	28.9	34.1	28.9	2775	427-10	174B173	Yes	59%	Site is located near a closed Brownfield site which will be evaluated during future phases.	$31.90
134	Roadway		No	6501	6599	Tujunga Ave	Tujunga Ave from Vanowen St to Victory Blvd	Tujunga Ave from Vanowen St to Victory Blvd	Roadway	2	39	154	0.0	46.8	22.5	22.5	2488 and 2390	427-02	180B173	Yes	59%	Diversion from storm drain along the road.	$24.90
135	Roadway		No	9101	9299	Tujunga Ave	Tujunga Ave between Peoria St and Bradley Ave, Sun Valley	Tujunga Ave between Peoria St and Bradley Ave, Sun Valley	Roadway	6	39	204	0.0	74.5	11.4	11.4	1079, 516	387-13	198B169	Yes	84%	Diversion from storm drain along the road.	$12.70
136	Roadway		Yes	16800	16898	Vanowen St	Vanowen St from Balboa Blvd to Odessa Ave.	Vanowen St from Balboa Blvd to Odessa Ave.	Roadway	6	46	52	0.0	19.8	244.3	19.8	2362	397-16	183B133	Yes	90%	Diversion from Bull Creek bisects this section of roadway. Additional storm drains at the upstream end of this segment could be considered. Potential to capture additional volume.	$21.90
137	Roadway		Yes	14340	14398	Vanowen St	Vanowen St from Sylmar Ave to Tyrone Ave & Katherine Ave to Hazeltine Ave	Vanowen St from Sylmar Ave to Tyrone Ave & Katherine Ave to Hazeltine Ave	Roadway	2	46	89	0.0	9.6	46.1	9.6	2304	428-01	180B149	Yes	63%	Diversion from 120" pipe along Lennox Ave (near the upstream end, but 1 block from the start of the road segment). Note a 1-block gap in feasible road segment selected by tool between Tyrone Ave and Katherine Ave.	$10.70
138	Roadway		No	12600	12698	Vanowen St	Vanowen St from Bellaire Ave to Whitsett Ave	Vanowen St from Bellaire Ave to Whitsett Ave	Roadway	2	46	153	0.0	17.0	76.2	17.0	2227, 2233, 2220	428-03	180B161	Yes	63%	Considerations should be given to other identified projects in the vicinity.	$18.90
139	Roadway		No	12100	12128	Vanowen St	Vanowen St from Vantage Ave to Hinds Ave	Vanowen St from Vantage Ave to Hinds Ave	Roadway	2	39	160	0.0	32.2	79.1	32.2	2293	428-04	180B165	No	63%	Evaluation in future phases should consider potential overlapping drainage areas and the potential to increase capture at this site. Site is located near a closed Brownfield site which will be evaluated during future phases.	$35.50
140	Roadway		No	11660	11662	Vanowen St	Vanowen St from Troost Ave to Tujunga Ave	Vanowen St from Troost Ave to Tujunga Ave	Roadway	2	39	160	0.0	20.3	36.0	20.3	2333	427-01	180B169	Yes	59%	Diversion from 66" pipe at Lankershim Blvd, located a block away from the west end of the road segment.	$22.50

B-1. Upper Los Angeles River Watershed Master List of Projects

Site No.	Parcel, Roadway or Combination	Assessor Parcel Numbers (APN) or Roadway	Liquefaction	Street Boundary for Roadways			Address	Description	Agency	City Council District	State Assembly District	Depth to Groundwater (ft)	Stormwater Capture (acre-feet)				Stormwater Link ID Number(s)	Drainage Grid(s)	Street Grid(s)	Benefits a DAC (yes/no)	Load Reduction Factor	Other Features	Planning Level Cost Estimate ($M)
				ADLF	ADLT	Street							Infiltration Gallery	Drywells	Estimated Runoff to Site	Total Estimated Maximum Usable Volume (not to exceed 50 ac-ft per site) (acre-feet)							
141	Roadway		Yes	16500	16698	Victory Boulevard	Victory Boulevard from Balboa Ave to Valjean Avenue	Victory Boulevard from Balboa Ave to Valjean Avenue	Roadway	6	45	60	0.0	21.1	244.3	21.1	2469	429-01	180B137	Yes	74%	Six lane highway with center turning lane. Diversion from 48'' gravity main and open channel associated with link 2469 at intersection with Bull Creek. Associated with links 2476, 2469, 2491, 2490, and 2468. Limited to 20 ac-ft but could have the potential to manage more flow.	$23.40
142	Roadway		Yes	15706	15712	Victory Boulevard	Victory Boulevard 200 foot stretch to the west of intersection with Haskell Avenue	Victory Boulevard 200 foot stretch to the west of intersection with Haskell Avenue	Roadway	6	45	60	0.0	0.8	1.2	0.8	2483	429-02	180B141	No	63%	Six lane highway with center turning lane. Diversion location from 84'' pipe at intersection with Hayvenhurst Avenue. Potential diversion from link 2483.	$1.00
143	Roadway		Yes	14200	14298	Victory Boulevard	Victory Boulevard from Sylmar Avenue to Calhoun Ave	Victory Boulevard from Sylmar Avenue to Calhoun Ave	Roadway	6	46	78	0.0	7.6	45.3	7.6	2245	428-01	180B153	Yes	63%	Four lane roadway with center turning lane and parking on each side. Diversion from link 2245 along Lennox Ave.	$8.60
144	Roadway		Yes	11930	11998	Victory Boulevard	Victory Boulevard from Hollywood Freeway (170) to Radford Avenue	Victory Boulevard from Hollywood Freeway (170) to Radford Avenue	Roadway	2	39	145	0.0	20.5	91.3	20.5	2583 and 2578	428-04	180B165	Yes	63%	Six lane highway with center turning lane. Diversion from 48'' and 57'' gravity main at intersection with Laurel Canyon Boulevard becomes 78" represented by link 2583 (combining runoff from links 2449 and 2450). Could also divert from 2578 at upstream end.	$22.70
145	Roadway		No	11430	11458	Victory Boulevard	Victory Boulevard from Troost Ave to Tujunga Ave	Victory Boulevard from Troost Ave to Tujunga Ave	Roadway	2	39	147	0.0	45.6	7.6	7.6	2489	427-01	180B169	Yes	59%	Four lane roadway with center turning lane and parking on each side. Diversion from storm drain at intersection with Farmdale Ave.	$8.50
146	Roadway		Yes	5343	5349	Vineland Ave	Vineland Ave from Burbank Blvd to Chandler Blvd	Vineland Ave from Burbank Blvd to Chandler Blvd	Roadway	2	39	96	0.0	8.0	98.6	8.0	99	427-14	171B173	Yes	63%	Diversion from link 99.	$9.00
147	Roadway		Yes	5601	5699	Vineland Ave	Vineland Ave from Oxnard St to Burbank Blvd	Vineland Ave from Oxnard St to Burbank Blvd	Roadway	2	39	122	0.0	11.7	90.6	11.7	99	427-10	174B173	Yes	58%	Diversion from link 99.	$13.10
148	Roadway		Yes	5801	5829	Vineland Ave	Vineland Ave from Erwin St to Oxnard St	Vineland Ave from Erwin St to Oxnard St	Roadway	2	39	133	0.0	23.5	96.9	23.5	2639	427-10	174B173	Yes	58%	Diversion from 2639, which extends from Victory to Oxnard St; this length is split into two separate projects to limit size of each project.	$26.00
149	Roadway		Yes	6201	6319	Vineland Ave	Vineland Ave from Victory Blvd to Erwin St	Vineland Ave from Victory Blvd to Erwin St	Roadway	2	39	141	0.0	11.7	73.4	11.7	2639	427-06	177B173	Yes	58%	Diversion from 2639, which extends from Victory to Oxnard St; this length is split into two separate projects to limit size of each project.	$13.00
150	Roadway		No	6401	6499	Vineland Ave	Vineland Ave from Vanowen St to Victory St	Vineland Ave from Vanowen St to Victory St	Roadway	2	39	140	0.0	23.4	89.9	23.4	2371	427-02	180B173	Yes	63%	Diversion from 2371.	$25.90
151	Roadway		No	6801	6999	Vineland Ave	Vineland Ave from Sherman Way to Vanowen St	Vineland Ave from Sherman Way to Vanowen St	Roadway	2	39	156	0.0	23.4	82.7	23.4	10874	427-02	180B173	Yes	79%	Site is located near a closed Brownfield site which will be evaluated during future phases.	$25.90

B-1. Upper Los Angeles River Watershed Master List of Projects

Site No.	Parcel, Roadway or Combination	Assessor Parcel Numbers (APN) or Roadway	Liquefaction	Street Boundary for Roadways			Address	Description	Agency	City Council District	State Assembly District	Depth to Groundwater (ft)	Stormwater Capture (acre-feet)				Stormwater Link ID Number(s)	Drainage Grid(s)	Street Grid(s)	Benefits a DAC (yes/no)	Load Reduction Factor	Other Features	Planning Level Cost Estimate ($M)
				ADLF	ADLT	Street							Infiltration Gallery	Drywells	Estimated Runoff to Site	Total Estimated Maximum Usable Volume (not to exceed 50 ac-ft per site) (acre-feet)							
152	Roadway		No	7201	7239	Vineland Ave	Vineland Ave from Saticoy St. to Sherman Way	Vineland Ave from Saticoy St. to Sherman Way	Roadway	2	39	169	0.0	23.4	15.1	15.1	1893 and 10878	400-14	183B173	Yes	79%	Diversion proposed from two links (appear to be 30" diameters). Adjacent to Hollywood Burbank Airport. Site is located near a closed Brownfield site which will be evaluated during future phases. Site is located near a closed Brownfield site which will be evaluated during future phases.	$16.80
153							Los Angeles River Segment E from Canoga Avenue to White Oak Avenue	LA River Green Infrastructure Project	LASAN	3						N/A							$12.86
154	Roadway						Saticoy Street down to Sherman Way and Tujunga Ave. to Vineland Ave	Sun Valley Neighborhood Green Infrastructure Project	LASAN	2						5.25							$5.40
155	Roadway						Osborne St between San Fernando Rd and Foothill Blvd	Osborne Street Path to Parkway Access Project	StreetsLA	7						N/A							TBD
156	Parcel						13306 Branford Street, Pacoima, CA 91311	Branford Park	LADWP	6						25							$43.36
157	Parcel						10230 Woodman Avenue, Mission Hills, CA 91345	Devonwood Park	LADWP	7						12							$35.26
158	Parcel						12560 Fllmore Street, Pacoima, CA 91331	Hubert H. Humphrey Memorial Recreational Center	LADWP	7						6.7							$23.55
159	Parcel						9540 Van Nuys Boulevard, Panorama City, CA 91402	Mid-Valley Intergenerational Multipurpose Center	LADWP	6						4.5							$18.83
160	Parcel						11300 Glenoaks Boulevard, Pacoima, CA 91331	North East Valley Multipurpose Center	LADWP	7						7.5							$21.69
161	Parcel						8756 Parthenia Place, North Hills, CA 91343	North Hills Community Park	LADWP	6						12.6							$27.08
162	Parcel						8600 Hazeltine Avenue, Panorama City, CA 91402	Panorama City Recreation Center	LADWP	6						11.8							$22.28
163	Parcel						10736 Laurel Canyon Boulevard, Pacoima, CA 91331	Ritchie Valens Park	LADWP	7						9.4							$25.99
164	Parcel						12467 Osborne Street, Pacoima, CA 91331	Roger W. Jessup Park	LADWP	7						7							$23.55

B-1. Upper Los Angeles River Watershed Master List of Projects

Site No.	Parcel, Roadway or Combination	Assessor Parcel Numbers (APN) or Roadway	Liquefaction	Street Boundary for Roadways			Address	Description	Agency	City Council District	State Assembly District	Depth to Groundwater (ft)	Stormwater Capture (acre-feet)				Stormwater Link ID Number(s)	Drainage Grid(s)	Street Grid(s)	Benefits a DAC (yes/no)	Load Reduction Factor	Other Features	Planning Level Cost Estimate ($M)
				ADLF	ADLT	Street							Infiltration Gallery	Drywells	Estimated Runoff to Site	Total Estimated Maximum Usable Volume (not to exceed 50 ac-ft per site) (acre-feet)							
165	Parcel						8825 Kester Avenue, Los Angeles, CA 91404	Sepulveda Recreational Center	LADWP	6						15							$25.85
166	Parcel						14301 Vanowen Street, Van Nuys, CA 91406	Van Nuys Recreational Center	LADWP	6						12							$20.59
167	Parcel						12229 Slater St. Los Angeles, CA 90059	Compton Creek LFD #2	LA City	8						N/A							$3.30
168	Parcel						LA River at White Oak Ave, Los Angeles, California 91316	White Oak Avenue (LAR LFD-E-021)	LA City	5						20.4							$4.48
169	Parcel						LA River at Reseda Blvd, Los Angeles, California 91316	Reseda Boulevard (LAR LFD-E-048)	LA City	3						20.4							$3.77
170	Parcel						LA River at Tampa Ave, Los Angeles, California 91316	Tampa Avenue (LAR-E-065)	LA City	3						20.4							$2.19
171	Parcel						Intersection of Haynes Street and Lubao Ave, Los Angeles, CA 91303	Haynes Street (LAR LFD-E-077)	LA City	3						33.9							$1.92
172	Parcel						LA River at Winnetka Ave, Los Angeles, California 91316	Winnetka Avenue (LAR LFD-E-081)	LA City	3						6.8							$3.58
173							LA River at De Soto Ave, Los Angeles, California 91316	De Soto Avenue (LAR LFD-E-096)	LA City	3						54.3							$2.01
174							Various	Pollutant Source Characterization Study	LA City	Various						NA							$3.5*
175							Various	Street Sweeping Study	LA City	Various						NA							$0.975*
													TOTAL CAPTURE VOLUME:			2488 ACRE-FT FROM THE 85TH PERCENTILE 24-HOUR STORM							

Notes:

1: Usable volume is determined as the lesser of max site capacity and estimated runoff to site.

2. Costs assumptions are described in Section 5.4. As described, costs assume $1M per ac-ft managed plus 10 percent additional for design costs and $150,000 per site for geotechnical investigations to determine infiltration rates, depth to groundwater, and other conditions used to determine feasibility.

3. Next phases of evaluation will determine a prioritized list of projects from these opportunity sites. This evaluation will consider scaling and sequencing of projects, which will include an evaluation to ensure projects with overlapping drainage areas are appropriately scaled.

* Estimated study cost

Compliance Target	**Volume (acre-ft)**
Target (2016 EWMP)	3065
Existing projects	513
LID projections	344
Van Nuys Airport	32
Tillman WRP	4
Total New Project Needed	**2,171.5**
Identified New Projects	**2,488.0**

Note: SUSMP volumes are estimated for the 0.75-inch storm using the land area and a runoff coefficient of 0.9.

B-2. Ballona Creek Watershed Master List of Projects

Site No.	Parcel, Roadway or Combination	Assessor Parcel Numbers (APN)	Street Boundary for Roadways			Address	Description	Agency	City Council District	State Assembly District	Depth to Groundwater (ft)	Stormwater Capture (acre-feet)				Stormwater Link ID Number(s)	Drainage Grid(s)	Load Reduction Factor (%)	Planning Level Cost Estimate ($M)
			ADLF	ADLT	Street							Infiltration Gallery Capacity (ac-ft)	Drywells Capacity (ac-ft)	Runoff To Site (ac- ft)	Usable Volume (ac-ft)[1]				
1	Parcel	4251-010-902				11020 W CLOVER AVE 90034	Clover Ave Elementary School	LAUSD	5	54	62	81.8	71.6	300.3	81.8	5857	534-02	95%	$90.10
2	Parcel	5082-011-903				1245 S QUEEN ANNE PL 90019	Queen Anne Recreation Center. Adjacent to Queen Anne Elementary School	L A City	10	54	44	65.5	27.7	439.7	65.5	5066	517-05	95%	$72.20
3	Parcel	5073-001-900				1500 S ARLINGTON AVE 90019	Pio Pico Middle School	LAUSD	10	53	63	65.0	58.5	53.3	53.3	8848	517-06	95%	$58.80
4	Parcel	5538-023-902, 5538-023-905				855 N VERMONT AVE 90029	LA City College. Potentially less available space than estimated.	LACCD[2]	13	43	20	141.5	0.0	49.7	49.7	4216	493-08	95%	$54.80
5	Parcel	4255-006-900				10650 W ASHBY AVE 90064	Overland Ave Elementary School	LAUSD	5	54	55	43.3	30.3	94.5	43.3	5469	519-10	87%	$47.80
6	Parcel	5080-032-903, 5078-001-920				3250 SAN MARINO ST 90006	Ardmore Recreation Center and Seoul International Park Recreation Center and Playground	L A City	10	53	51	38.2	22.9	160.0	38.2	4979	517-03	92%	$42.20
7	Parcel	5094-006-902, 5094-006-905				701 S Catalina St 90005	Robert F. Kennedy Community School	LAUSD	10	53	27	36.1	0.7	101.9	36.1	4697 and 4795; not in series	517-04	92%	$39.90
8	Parcel	5076-007-913, 5076-007-911, 5076-007-901, 5076-007-903, 5076-007-907, 5076-007-909, 5076-007-912, 5076-007-908, 5076-008-909				2481 W 11th ST 90006	Leo Politi Elementary School	LAUSD	1	53	60	33.3	29.8	142.3	33.3	13816 and 14165; not in series	516-05	95%	$36.80
9	Parcel	5082-007-903, 5082-007-910				1212 S QUEEN ANNE PL 90019	Queen Ann Place Elementary School. Adjacent to Queen Anne Recreation Center	LAUSD	10	54	44	32.7	12.9	439.7	32.7	5066	517-05	92%	$36.10
10	Parcel	5075-014-900				1550 S NORMANDIE AVE 90006	Normandie Recreation Center	L A City Playground	1	53	71	44.3	47.7	31.7	31.7	14163	517-12	95%	$35.00
11	Parcel	5080-023-900, 5080-016-907, 5080-016-908, 5080-016-910				980 S HOBART BLVD 90006	Hobart Boulevard Elementary School	LAUSD	10	53	53	28.8	18.0	265.2	28.8	4979 and 4980; not in series	517-07, 517-03	92%	$31.90
12	Parcel	4326-016-900				1403 S FAIRBURN AVE 90024	Fairburn Elementary School	LAUSD	5	54	47	26.1	13.0	31.3	26.1	14053	519-02	87%	$28.90
13	Parcel	4360-024-900				601 S HOLMBY AVE 90024	Warner Avenue Elementary School	LAUSD	5	54	43	26.9	10.7	26.1	26.1	14054	491-13	87%	$28.90
14	Parcel	5135-025-900, 5135-025-902, 5135-025-903				1725 S TOBERMAN ST 90015	Toberman Recreation Center	L A City	1	53	141	27.7	29.8	30.9	25.5	5414, 5426; not in series.	516-09	95%	$28.20
15	Parcel	5123-008-905				822 W 32ND ST 90007	32nd St USC Preforming Arts Magnet	LAUSD	9	59	136	23.0	24.8	30.4	24.8	8457	537-01	95%	$27.40
16	Parcel	4262-023-900				1831 S STONER AVE 90025	Stoner Avenue Recreation Center	L A City	11	50	59	119.0	95.3	24.0	24.0	5438	520-16	86%	$26.60
17	Parcel	5090-026-900				890 S LUCERNE BLVD CA 90005	Harold A. Henry Park	L A City	4	50	36	22.1	4.9	23.7	22.1	4895	517-02	95%	$24.40
18	Parcel	5070-013-905				4861 W VENICE BLVD 90019	Los Angeles Police Department. Only suitible for storage/diversion to sewer due to "poor" soils for infiltration.	L A City	10	54	47	22.0	0.0	512.6	22.0	5169	518-08	95%	$24.40
19	Parcel	4006-013-900, 4006-014-900, 4006-011-900				3140 W HYDE PARK BLVD 90043	Hyde Park Elementary School	LAUSD	8	62	153	94.0	101.2	20.9	20.9	6856, 6874, and 6833. In series, 6856 downstream	558-09 and 558-05	96%	$23.10
20	Parcel	5124-023-911				2328 S ST JAMES PL 90007	F D Lanterman High School	LAUSD	1	59	146	46.6	50.1	20.6	20.6	5669	516-13	95%	$22.80
21	Parcel	5124-021-906, 5124-020-903				2020 S OAK ST 90007	Norwood Street Elementary School	LAUSD	1	59	147	30.4	32.8	20.5	20.5	5501	516-13	95%	$22.70
22	Parcel	5120-002-912				123 E 32ND ST 90011	Dolores Huerta Elementary School[6]	LAUSD	9	59	157	19.4	20.8	19.7	19.7	6009	537-06	95%	$21.80

B-2. Ballona Creek Watershed Master List of Projects

Site No.	Parcel, Roadway or Combination	Assessor Parcel Numbers (APN)	Street Boundary for Roadways			Address	Description	Agency	City Council District	State Assembly District	Depth to Groundwater (ft)	Stormwater Capture (acre-feet)				Stormwater Link ID Number(s)	Drainage Grid(s)	Load Reduction Factor (%)	Planning Level Cost Estimate ($M)
			ADLF	ADLT	Street							Infiltration Gallery Capacity (ac-ft)	Drywells Capacity (ac-ft)	Runoff To Site (ac- ft)	Usable Volume (ac-ft)[1]				
23	Parcel	5134-007-933, 5138-016-914				1301 S FIGUEROA ST 90015	LA Convention Center and surroundeing area	L A City	9	53	143	151.5	163.1	18.0	18.0	5390 and 8850; 5390 downstream of 8850	516-10	95%	$20.00
24	Parcel	5092-011-904				745 S WILTON PL 90005	Wilton Place Elementary School	LAUSD	4	53	40	18.0	5.8	87.2	18.0	8406	517-02	92%	$19.90
25	Parcel	5127-029-900				1921 MAPLE AVE 90011	Santee High School	LAUSD	9	59	167	219.5	236.4	17.8	17.8	5833	537-02	95%	$19.70
26	Parcel	5114-017-923				913 E JEFFERSON BLVD 90011	Synergy Charter Academy[7]	LAUSD	9	59	164	15.7	16.9	25.8	16.9	8873	537-07, 537-06	95%	$18.70
27	Parcel	5077-026-902				2726 W FRANCIS AVE 90005	Hoover Street Elementary School	LAUSD	1	53	27	15.4	0.0	116.9	15.4	14166	516-01	95%	$17.00
28	Parcel	5126-014-905				2100 S FLOWER ST 90007	LA Trade Technical College. Parking lot is actually a parking structure; need to evaluate available space.	LACCD	9	59	156	143.9	155.0	14.1	14.1	5666	516-14	90%	$15.70
29	Parcel	5137-014-903				1000 S GRATTAN ST 90015	10th Street Elementary School	LAUSD	1	53	100	18.4	19.8	13.5	13.5	5209	516-05	95%	$15.00
30	Parcel	5028-004-902				4000 S LA BREA AVE 90008	Jim Gilliam Rec Center	L A City	8	54	119	256.6	276.3	12.7	12.7	6106	535-11	90%	$14.10
31	Parcel	5540-003-900				1133 N MARIPOSA AVE 90029	Ramona Elementary School	LAUSD	13	43	20	11.8	0.0	24.2	11.8	4003	493-04	95%	$13.20
32	Parcel	4127-016-901				5540 W 77TH ST 90045	Open Magnet Charter School	LAUSD	11	62	78	71.6	77.1	11.5	11.5	7211	559-14	95%	$12.80
33	Parcel	5522-023-903				501 N VAN NESS AVE 90004	Van Ness Avenue Elementary School[5]	LAUSD	4	53	17	11.3	0.0	10.7	10.7	8385	493-06	85%	$12.00
34	Parcel	5078-024-910				1157 S BERENDO ST 90006	Berendo Middle School	LAUSD	1	53	60	51.9	42.9	10.7	10.7	5025	517-08	92%	$12.00
35	Parcel	5076-010-900				1130 VERMONT AVE 90006	Olympic Community Police Station	L A City	1	53	62	24.2	21.2	10.1	10.1	14194	517-08	92%	$11.20
36	Parcel	4204-018-900				9000 Overland Ave 90230	West Los Angeles College. Property has Culver City address	LACCD	0	54	58	128.7	99.8	9.3	9.3	6279	535-09	90%	$10.40
37	Parcel	4260-005-900, 4260-005-903, 4260-005-902				11505 W OLYMPIC BLVD 90064	LA Fire Station 59	L A City	11	54	56	9.1	6.6	10.7	9.1	3432, 5435. Not series	519-13	86%	$10.20
38	Parcel	5128-016-904, 5128-016-910				2807 S STANFORD AVE 90011	28th Street Elementary School	LAUSD	9	59	167	37.3	40.1	9.1	9.1	6032 and 5945; 6032 is downstream	537-06, 537-07	95%	$10.10
39	Parcel	5137-007-913, 5137-007-912				1313 W OLYMPIC BLVD 90015	Olympic Primary Center	LAUSD	1	53	99	8.2	8.9	11.6	8.9	5111	516-06	95%	$9.90
40	Parcel	5056-011-903				1827 S HOOVER ST 90006	Pico Union Vest Pocket Park	L A City	1	53	140	8.1	8.7	8.7	8.7	5353	516-09	95%	$9.80
41	Parcel	4321-015-900				2050 S SELBY AVE 90025	Westwood Elementary School and Westwood Charter Elementary School	LAUSD	5	54	51	33.3	20.0	8.6	8.6	5159	519-06	87%	$9.60
42	Parcel	5053-026-907, 5053-026-908, 5053-026-903, 5053-026-906				2717 S HALLDALE AVE 90018	Loren Miller Rec Center	CRA3	8	59	106	7.9	8.6	43.4	8.6	5774	517-15	95%	$9.60
43	Parcel	5056-024-901, 5056-030-904, 5056-025-901				1500 W WASHINGTON BLVD 90007	West Adams Preparatory High School	LAUSD	1	53	124	68.6	73.8	8.3	8.3	5354, 5399, 5484 in series, 5484 furthest downstream	517-12	95%	$9.30
44	Parcel	5545-017-900				1316 N BRONSON AVE 90028	Joseph Le Conte Middle School	LAUSD	13	50	17	12.8	0.0	7.9	7.9	3977	493-02	85%	$8.90
45	Parcel	5056-024-901, 5056-030-904, 5056-025-901				151 W 30TH ST 90007	John Adams Middle School	LAUSD	9	59	155	57.3	61.8	9.8	7.9	5819 downstream of 5964; 5881 independent	537-02	95%	$8.80
46	Parcel	4258-016-900				11330 W GRAHAM PL 90064	Webster Middle School	LAUSD	11	54	58	261.9	203.0	7.8	7.8	6571	519-13	86%	$8.70
47	Parcel	5545-017-907				1316 N BRONSON AVE 90028	Citizens of the World Charter School	LAUSD	13	50	17	7.4	0.0	7.9	7.4	3907	469-14	85%	$8.30
48	Parcel	5536-014-900				1022 N VAN NESS AVE 90038	Santa Monica Boulevard Community Charter School	LAUSD	13	53	17	7.2	0.0	8.0	7.2	4065	493-02	85%	$8.00
49	Parcel	5124-009-902, 5124-009-903				1010 W 25TH ST 90007	Hoover Recreation Center	L A City	1	59	140	31.2	33.6	6.2	6.2	2853 and 5644 in series; 2853 downstream	516-13	95%	$7.00
50	Parcel	4125-001-901				5651 W MANCHESTER AVE 90045	LAPD Ahmanson Recruit Training Center and Los Angeles Police Federal Credit Union	L A City	11	62	92	179.5	193.3	6.1	6.1	7251	564-01	95%	$6.90
51	Parcel	5117-001-903, 5114-036-900, 5117-001-905				2912 S COMPTON AVE 90011	Nevin Avenue Elementary School	LAUSD	9	59	181	5.7	6.1	6.1	6.1	6110	537-07, 537-11	95%	$6.90
52	Parcel	5118-012-905				1403 E 27TH ST 90011	Dr. Julian Nava Learning Academy	LAUSD	9	59	180	16.1	17.4	6.1	6.1	6099	537-07	95%	$6.90
53	Parcel	5076-019-901				1251 S WESTMORELAND AVE 90006	Fire Station 13 parking lot	L A City	1	53	82	5.4	5.8	28.5	5.8	5132	517-08	92%	$6.50
54	Parcel	5127-001-901				1635 S SAN PEDRO ST 90015	San Pedro Elementary School	LAUSD	14	59	172	24.4	26.3	5.4	5.4	5770	537-03	95%	$6.10
55	Parcel	5072-014-902, 5072-012-917				1700 S BRONSON AVE 90019	Johnnie L. Cochran and Arlington Heights Elementary School and detached parking lot.	LAUSD	10	54	71	163.7	164.4	5.4	5.4	5359, 5405	517-10	95%	$6.10
56	Parcel	5077-027-900				2617 W SAN MARINO ST 90006	Appears to be vacant lot not far from Hoover Elementary School	LAUSD	1	53	30	5.2	0.4	118.1	5.2	14207	516-01	95%	$5.80

B-2. Ballona Creek Watershed Master List of Projects

Site No.	Parcel, Roadway or Combination	Assessor Parcel Numbers (APN)	Street Boundary for Roadways			Address	Description	Agency	City Council District	State Assembly District	Depth to Groundwater (ft)	Stormwater Capture (acre-feet)				Stormwater Link ID Number(s)	Drainage Grid(s)	Load Reduction Factor (%)	Planning Level Cost Estimate ($M)
			ADLF	ADLT	Street							Infiltration Gallery Capacity (ac-ft)	Drywells Capacity (ac-ft)	Runoff To Site (ac- ft)	Usable Volume (ac-ft)[1]				
57	Parcel	5083-001-900				4650 W OLYMPIC BLVD 90019	Los Angeles High School	LAUSD	10	54	35	175.6	0.0	5.2	5.2	14149	517-05	95%	$5.80
58	Parcel	6017-012-900				2112 W 74TH ST 90047	74th Street Elementary School	LAUSD	8	59	130	31.0	33.4	4.9	4.9	7138	558-10	96%	$5.60
59	Parcel	5059-004-900, 5059-004-901				2450 S CRENSHAW BLVD 90016	Two adjacent parcels that appear to be undeveloped adjacent to Rosa Parks Villas affordable housing.	CRA[3]	10	54	84	4.4	4.7	5.3	4.7	14075	517-13	97%	$5.40
60	Parcel	5054-031-901				2700 S BUDLONG AVE 90007	Richardson Family Park	L A City	8	59	120	4.2	4.5	66.2	4.5	9553	517-16	95%	$5.10
61	Parcel	5082-012-900				4460 W PICO BLVD 90019	Appears to be parking lot for LA Rec and Parks	L A City	10	54	50	6.8	3.9	4.0	4.0	2830	517-05	92%	$4.60
62	Parcel	5142-023-900				1510 W CAMBRIA ST 90017	Belmont Community Adult School	LAUSD	1	53	63	4.4	4.0	3.9	3.9	5048	516-06	95%	$4.50
63	Parcel	6036-009-900				8701 S ST ANDREWS PL 90047	Saint Andrew's Recreation Center	L A City	8	59	131	115.5	124.4	3.8	3.8	7319	565-03	96%	$4.30
64	Parcel	5060-031-900				2520 W WASHINGTON BLVD 90018	Carson Gore Academy of Environmental Studies	LAUSD	10	54	75	6.1	6.6	3.7	3.7	14162	517-10	95%	$4.20
65	Parcel	5027-015-900				4800 S LA BREA AVE 90008	Norman O. Houston Park	L A City	8	54	119	142.9	153.9	3.6	3.6	6413	535-15	90%	$4.10
66	Parcel	5006-009-901				5732 S CRENSHAW BLVD 90043	City parking lot	L A City	8	54	127	3.3	3.6	7.7	3.6	6673	558-01	96%	$4.10
67	Parcel	5135-004-900				1342 S ALVARADO TER 90006	Terrance Park	L A City	1	53	125	12.3	13.3	3.4	3.4	5238	516-09	95%	$3.90
68	Parcel	4323-026-900				1840 S COTNER AVE 90025	DWP Large parcel	L A City	5	54	49	10.1	5.5	3.4	3.4	3422	519-09	86%	$3.90
69	Parcel	5124-001-900				2308 S HOOVER ST 90007	Triangle area where streets merge. Appears to have recenlty been developed with benches, shade, and lots of vegetation.	L A City	1	59	139	3.2	3.4	34.2	3.4	8854	516-13	95%	$3.90
70	Parcel	5080-019-911				1224 S SERRANO AVE 90006	Los Angeles Elementary School	LAUSD	10	53	62	3.7	3.2	3.2	3.2	5085	517-07	92%	$3.70
71	Parcel	5031-004-900				4000 W SANTO TOMAS DR 90008	Marlton High School	LAUSD	8	54	136	39.1	42.1	3.1	3.1	6243	535-12	90%	$3.60
72	Parcel	5006-007-900				5349 S 11TH AVE 90043	City parking lot	L A City	8	54	118	4.5	4.9	3.1	3.1	6505	558-01	90%	$3.60
73	Parcel	5071-025-903				4601 W WASHINGTON BLVD 90016	City parking lot	L A City	10	54	65	3.1	2.9	10.4	3.1	5347	518-12	91%	$3.50
74	Parcel	4249-011-900				3330 S GRANVILLE AVE 90066	Mar Vista Elementary School	LAUSD	11	54	66	50.1	49.0	3.0	3.0	6020	534-05	95%	$3.40
75	Parcel	4401-009-900				333 S BARRINGTON AVE 90049	Barrington Rec Center	L A City	11	50	35	38.1	7.5	2.9	2.9	4887	490-15	86%	$3.40
76	Parcel	4322-004-902				10901 W PICO BLVD 90064	City Parking Lot	L A City	5	54	55	2.9	2.1	12.8	2.9	5369	519-10	84%	$3.40
77	Parcel	5078-002-906				984 S NORMANDIE AVE 90006	Maricopa-Nabi Primary Center	LAUSD	10	53	52	2.9	1.8	160.0	2.9	4974	517-08	92%	$3.40
78	Parcel	5058-009-912				2300 S GRAMERCY PL 90018	24th Street Elementary School	LAUSD	10	54	84	116.8	125.8	2.8	2.8	14164	517-15	95%	$3.30
79	Parcel	5134-007-921				1206 W PICO BLVD 90015	City Parking Lot. Convention Center Parking.	L A City	9	53	142	16.7	18.0	2.6	2.6	14095	516-10	95%	$3.10
80	Parcel	5142-013-911				1619 W 7TH ST 90017	Esperanza Elementary School	LAUSD	1	53	39	3.9	1.2	2.6	2.6	4929	516-02	92%	$3.00
81	Parcel	5058-012-901				2101 W ADAMS BLVD 90018	Housing authority apartments (Gramercy Park)	HACLA[4]	10	54	88	9.1	9.8	2.6	2.6	2854	517-15	95%	$3.00
82	Parcel	4106-026-900				6011 W 79TH ST 90045	Westport Heights Elementary School	LAUSD	11	62	59	59.7	70.9	2.6	2.6	7222	559-13	95%	$3.00
83	Parcel	5077-010-902				682 S VERMONT AVE 90005	City Parking Lot	L A City	10	53	19	3.3	0.0	2.3	2.3	4793	517-04	92%	$2.70
84	Parcel	5040-026-919				1239 W JEFFERSON BLVD 90007	John W. Mack Elementary School	LAUSD	8	59	125	2.1	2.3	27.9	2.3	14080	536-04	95%	$2.70
85	Roadway		501	519	Adams	Portland St. to Figueroa Way	Portland St. to Figueroa Way	Roadway	1	59	150	0	14.4	23.0	14.4	6567	121-5A203, 123A201	90	$12.00
86	Roadway		1351	1565	Adams	Budlong Ave to Menlo Ave	Budlong Ave to Menlo Ave	Roadway	8	53	126	0	10.7	64.2	10.7	2844	123B197	95	$12.00
87	Roadway		1001	1199	Arlington	Olympic Blvd to 12th St	Olympic Blvd to 12th St	Roadway	4, 10	53	53	0	4.8	290.1	4.8	5072	129B189	92	$5.50
88	Roadway		1801	2105	Barrington	Iowa Ave to south of Mississippi Ave	Iowa Ave to south of Mississippi Ave	Roadway	11	50	54	0	10.3	39.2	10.3	14032	126B149	86	$11.50
89	Roadway		100	399	Jefferson	Hope St to west of Main St	Hope St to west of Main St	Roadway	9	59	153	0	20.3	70.0	20.3	5951	118-5A203, 118-5A205	95	$22.50
90	Roadway		1301	1301	Los Angeles	15th St to Pico Blvd	15th St to Pico Blvd	Roadway	14	53	166	0	5.0	7.7	5.0	5941	124-5A209	95, 90	$5.60
91	Roadway		2701	3659	Sawtelle	Brookhaven Ave to Regent St	Brookhaven Ave to Regent St	Roadway	11	54	58	0	29.6	322.1	29.6	5998	120B153, 120B157, 117B157	95	$32.70
92	Roadway				Venice	Crenshaw Blvd to Highland Ave	Median between Crenshaw Blvd and Highland Ave	Roadway	10	54	54	0	17.8	512.6	17.8	5169	129B181	92	$19.80

B-2. Ballona Creek Watershed Master List of Projects

Site No.	Parcel, Roadway or Combination	Assessor Parcel Numbers (APN)	Street Boundary for Roadways			Address	Description	Agency	City Council District	State Assembly District	Depth to Groundwater (ft)	Stormwater Capture (acre-feet)				Stormwater Link ID Number(s)	Drainage Grid(s)	Load Reduction Factor (%)	Planning Level Cost Estimate ($M)
			ADLF	ADLT	Street							Infiltration Gallery Capacity (ac-ft)	Drywells Capacity (ac-ft)	Runoff To Site (ac- ft)	Usable Volume (ac-ft)[1]				
93	Roadway		3101	4199	Venice	Crenshaw Blvd to Arlington Ave	Crenshaw Blvd to Arlington Ave	Roadway	10	53, 54	67	0	16.6	62.0	16.6	5223	126B189, 126B185	95	$18.40
94	Roadway		1401	2049	Western	14th St to 20th St	14th St to 20th St	Roadway	10	53	65	0	18.9	35.2	18.9	5186	129B193	92, 95	$20.90
95	Roadway		2701	2999	Westwood	Brookhaven Ave to National Blvd	Brookhaven Ave to National Blvd	Roadway	5	54	57	0	8.0	38.1	8.0	5558	123B157	87	$8.90
96	Parcel					5298 Coliseum Street	Baldwin Vista Green Streets Project	LA City	10										$4.76
97	Roadway					Ballona Creek Watershed bounded by 12th Street, Main Street, Adams Boulevard, and Long Beach Avenue	Historic South Central Neighborhood Greening Project	LA City	9 & 14										$19.80
98	Roadway					Martin Luther King Jr. Blvd from S Vermont Ave to Westside Ave and 39th St and W Vernon Ave	Martin Luther King Jr. Neighborhood Greening Project	LA City	8, 9 & 10										$15.02
99	NA					Various	Pollutant Source Characterization Study	LA City	Various						NA				$3.5*
100	NA					Various	Street Sweeping Study	LA City	Various						NA				$0.975*
											TOTAL CAPTURE VOLUME:	1333.5 ACRE-FT FROM THE 85TH PERCENTILE 24-HOUR STORM							

Notes:
1: Usable volume is determined as the lesser of max site capacity and estimated runoff to site.
2: LACCD: Los Angeles Community College District
3: CRA: Community Redevelopment Agency
4: HACLA: Housing Authority of the City of LA
5: Van Ness Elementary School is an area with poor soils for infiltration. Only storage and diverion to sewer should be considereed at this locations. All other sites can consider both as all other sites are located within proximity to a wastewater conduit.
6: Dolores Huerta Elementary School also includes the following APNs: 5120-002-915, 5120-002-910, 5120-002-913, 5120-002-900, 5120-002-902, 5120-002-909, 5120-002-901, 5120-002-914, 5120-002-908, 5120-002-916, and 5120-002-911.
7. Synergy Charter Academy also includes the following APNs: 5114-017-911, 5114-017-917, 5114-017-916, 5114-017-908, 5114-017-918, 5114-017-921, 5114-017-903, 5114-017-906, 5114-017-919, 5114-017-920 and 5114-017-901.
8. Costs assumptions are described in Section 5.4. As described, costs assume $1M per ac-ft managed plus 10 percent additional for design costs and $150,000 per site for geotechnical investigations to determine infiltration rates, depth to groundwater, and other conditions used to determine feasibility.
* Estimated study cost

B-3. Santa Monica Bay Watershed Master List of Projects

Site No.	Parcel, Roadway or Combination	Assessor Parcel Numbers (APN)	Street Boundary for Roadways			Address	Description	Agency	City Council District	State Assembly District	Depth to Groundwater (ft)	Stormwater Capture (acre-feet)				Stormwater Link ID Number(s)	Drainage Grid(s)	Street Grid(s)	Benefits a DAC (yes/no)	Other Features	SMB Jurisdiction	Planning Level Cost Estimate ($M)
			ADLF	ADLT	Street							Infiltration Gallery	Drywells	Estimated Runoff to Site	Total Estimated Maximum Usable Volume (not to exceed 50 ac-ft per site) (acre-feet)							
1	Roadway		6974	12849	Vista del Mar	6974 Vista Del Mar, Playa del Rey, 90293	Nine roadway segments. Road adjacent to dunes, between airport and beach, and Hyperion Treatment Plant and beach. In the LAX/Hyperion WRP area.	Road	11	62	Range: 16-93	0	Up to 51	Up to 126	50.0	7552, 7749, 7783, 7460, 7413, 7334	563-13, 563-05, 584-02, 563-05, 584-06, 562-08, 562-04	087B153, 093B153, 087B153, 081B157, 093B149, 096B149	No	One open Brownfield site (also designated as closed) and four additional closed Brownfield sites; two segments are located in oil and gas areas. Consideration should be given to the suitability of deep infiltration during future	J2	$55.20
2	Parcel	4122-023-917				9119 S SEPULVEDA WESTWAY 90045	Possible open area with equipment storage. In the Westchester area/near LAX	L A City	11	62	77	398.1	640.9	68.8	32.0	7425	563-07	093B161	No	feasibility concerns, adjusted from the SiteSAN tool identified link number 7425 to instead propose diversion from links 7411 and 7412. Volume reduced based on this adjustment. Site is not located in a Brownfield, Superfund, nor oil and gas area.	J2	$35.40
3	Parcels and Roadway	4124-003-914, 4124-002-916	7900	8598	Sepulveda Blvd	7900 Sepulveda Blvd, Los Angeles 90045	Roadway site plus two sites identified as parcels that are directly adjacent to the road. In the Westchester area.	Road	11	62	Range: 54-82	Up to 22	Up to 93	Up to 16	17.4	7622, 7318, 7442, 7450	563-16, 563-04, 563-12, 563-08	096B165, 099B165, 090B165, 093B165	No	Roadway site for drywells; includes two sites identified as parcels that are directly adjacent to the road. One open Brownfield site (also designated as closed) plus one	J2	$19.30
4	Parcel	4244-021-900				1630 S WALGROVE AVE 90066	Walgrove Elementary School, in the Mar Vista area	LAUSD	11	62	30	117.0	8.2	14.4	14.4	6282	533-12	114B149	No	School with large open space. Site is not located in a Brownfield, Superfund, nor oil and gas area.	J3	$16.00
5	Parcel and Roadway (median)	4122-026-900, 4122-022-929			Manchester Ave	8900 S EMERSON AVE 90045 and length of Manchester Blvd	Two separate sites sharing volume: Westchester-Emerson Community Adult School and LA Fire Station 5 plus the adjacent Manchester Blvd. In the Westchester area.	LAUSD, L A City, Road	11	62	Between 44-69	Up to 200	Up to 322	13.2	13.2	7340, 7381	563-04, 564-01	096B165, 096B153	No	Manchester median is assigned the same link as 4122- 026-900, and that link is upstream of 4122-022-929. 4122 026-900 was assigned 0 capture volume since the flow was assigned to the median. However, either this section of Manchester median or either of the parcels could be suitable for the identified volume, or a combination of both. Site is not located in a Superfund site, but some portion of Manchester Blvd is in an oil and gas area and a Brownfield, which should be evaluated in future phases of feasibility study.	- J2	$14.70
6	Parcel	4122-022-930				6900 W MANCHESTER AVE 90045	Westchester Golf Course. In the Westchester area.	L A City	11	62	60	1420.4	1740.0	12.6	12.6	7386, 7389	563-04	093B161	No	Center and Westchester Golf Course are adjacent to one another. Flow appears to be from separate storm drains so usable volumes are not double counted. SiteSAN Tool identified link 7386; adding 7389 as it is adjacent to the site and appears to be a separate tributary. Site is not	J2	$14.00

B-3. Santa Monica Bay Watershed Master List of Projects

Site No.	Parcel, Roadway or Combination	Assessor Parcel Numbers (APN)	Street Boundary for Roadways			Address	Description	Agency	City Council District	State Assembly District	Depth to Groundwater (ft)	Stormwater Capture (acre-feet)				Stormwater Link ID Number(s)	Drainage Grid(s)	Street Grid(s)	Benefits a DAC (yes/no)	Other Features	SMB Jurisdiction	Planning Level Cost Estimate ($M)
			ADLF	ADLT	Street							Infiltration Gallery	Drywells	Estimated Runoff to Site	Total Estimated Maximum Usable Volume (not to exceed 50 ac-ft per site) (acre-feet)							
7	Roadway		11700	12998	Sunset Blvd	Sunset Blvd from Barrington Ave to S. Rockingham Ave	Long section of Sunset Blvd that is at the base on the hillside zone. In the Brentwood area.	Road	11	50	Range: 37-50	0.0	15.7	88.8	10.7	9158, 9153, 9154, 9149, 9075, 5009, 9152, 9068, 9067, 9150, 9147, 9148	490-15, 520-02, 520-01	135B145, 135B141, 132B137	No	Roadway site. Flow appears to drain from the hills so there are opportunities to capture separate flow along the alignment. Site is not located in a Superfund site nor an oil and gas area, but is indicated to be within proximity to a closed Brownfield site (near 12200 Sunset Blvd).	J2 and J3 (mostly J3)	$11.90
8	Parcel	4264-008-900				SW corner of San Vicente Blvd and Greta Green Way	Brentwood Country Club. In the Brentwood area.	L A City	11	50	30	8.8	0.6	20.8	8.8	5001	520-06	129B141	No	Open area on the edge of the country club that would be suitable for subsurface infiltration. Site is not located in a Brownfield, Superfund, nor oil and gas area.	J3	$9.80
9	Parcel	4108-001-900				8401 Emerson Ave, Los Angeles, CA 90045	Kentwood Elementary School. In the Westchester area.	LAUSD	11	62	51	55.0	48.3	7.1	7.1	7306	563-04	096B161	No	School with large paved area. Site is not located in a Brownfield, Superfund, nor oil and gas area.	J2	$7.90
10	Parcel	4119-001-904				7400 W MANCHESTER AVE 90045	Westchester High School. In the Westchester area.	LAUSD	11	62	31	368.5	40.0	4.9	4.9	7316	563-02	096B157	No	School with yard potentially suitable for subsurface infiltration. Site is adjacent to Manchester, another identified site, so would need to evaluate during future phases of evaluation if flow is duplicated. Site is not located in a Brownfield or Superfund site, but is in an oil and gas area.	J2	$5.50
11	Roadway		13000	13098	San Vicente Blvd	13000 San Vicente Blvd, Brentwood 90049	One length of roadway, separated into two sites, one on either side of a median on San Vicente from Avondale to 26th St. In the Brentwood area.	Road	11	50	55	0	5.4	4.3	4.3	5216	520-05	129B137	No	Roadway site. Site is not located in a Superfund site nor an oil and gas area, but is indicated to be within proximity to a closed Brownfield site.	J2 and J3	$4.90
12	Parcel	4122-022-927, 4122-022-931				7000 W MANCHESTER AVE 90045	Westchester Recreation Center. In the Westchester area.	L A City	11	62	Range: 45-59	Up to 400	Up to 259	4.0	4.0	7389	563-03, 563-07	096B161, 093B161	No	Recreation Center and Westchester Golf Course are adjacent to one another. Flow appears to be from separate storm drains so usable volumes are not double counted. Site is not located in a Brownfield, Superfund,	J2	$4.50
13	Parcel	4118-009-900				7751 Paseo Del Rey, Playa Del Rey, CA 90293	Paseo del Rey Fundamental Elementary School. In the Westchester area.	LAUSD	11	62	27	60.5	0	3.3	3.3	7341	563-01	096B153	No	playground. Next to Westchester High School but different storm drains. Site is not located in a Brownfield	J2	$3.80
14	Parcel	4112-029-900				6621 W MANCHESTER AVE 90045	Fire Station Number 5. In the Westchester area.	L A City	11	62	57	2.9	3.3	12.2	3.3	6544	563-04	096B165	No	where subsurface infiltration could be installed. Would need to verify that there is no onsite fueling. Site is adjacent to Manchester Blvd medians, and Kenwood Elementary School, bit it appears to not be nested with	J2	$3.70

B-3. Santa Monica Bay Watershed Master List of Projects

Site No.	Parcel, Roadway or Combination	Assessor Parcel Numbers (APN)	Street Boundary for Roadways			Address	Description	Agency	City Council District	State Assembly District	Depth to Groundwater (ft)	Stormwater Capture (acre-feet)				Stormwater Link ID Number(s)	Drainage Grid(s)	Street Grid(s)	Benefits a DAC (yes/no)	Other Features	SMB Jurisdiction	Planning Level Cost Estimate ($M)
			ADLF	ADLT	Street							Infiltration Gallery	Drywells	Estimated Runoff to Site	Total Estimated Maximum Usable Volume (not to exceed 50 ac-ft per site) (acre-feet)							
15	Parcel	4119-029-900				8821 Villanova Ave, Los Angeles, CA 90045	Loyola Village Elementary School. In the Westchester area.	LAUSD	11	62	38	70.8	26.8	3.1	3.1	7397	563-02	096B157	No	Smaller usable volume but this elementary school is in the same neighborhood as Westchester High School so could combine the projects. Different storm drains. SiteSAN Tool identified link 7397; adding 7363 as it is adjacent to the site and appears to be a separate tributary. Site is not located in a Brownfield, Superfund, nor oil and gas area.	J2	$3.60
16	Parcel	4401-009-900				333 S BARRINGTON AVE 90049	Recreation Center. In the Brentwood area.	LA City	11	50	35	29.1	5.7	1.8	1.8	13723	520-03	135B145	No	Recreation center with large open space. Site is not located in a Brownfield, Superfund, nor oil and gas area.	J3	$2.20
17						Various	Pollutant Source Characterization Study	LA City	Various						NA							$3.5*
18						Various	Street Sweeping Study	LA City	Various						NA							$0.975*
TOTAL CAPTURE VOLUME: 191 ACRE-FT FROM THE 85TH PERCENTILE 24-HOUR STORM																						

Notes:

1: Usable volume is determined as the lesser of max site capacity and estimated runoff to site.

2. Costs assumptions are described in Section 5.4. As described, costs assume $1M per ac-ft managed plus 10 percent additional for design costs and $150,000 per site for geotechnical investigations to determine infiltration rates, depth to groundwater, and other conditions used to determine feasibility.

3. Next phases of evaluation will determine a prioritized list of projects from these opportunity sites. This evaluation will consider scaling and sequencing of projects, which will include an evaluation to ensure projects with overlapping drainage areas are appropriately scaled.

* Estimated study cost

Compliance Target	Volume (acre-ft)
Target (2016 EWMP)	195.9
Existing projects	68.3
LID projections (2021 EWMP)	7.8
LAX Airport Capture (SUSMP)	90
Hyperion Capture (SUSMP)	6.3
Total New Project Needed	**23.5**
Identified New Projects	**191**

Note: SUSMP volumes are estimated for the 0.75-inch storm using the land area and a runoff coefficient of 0.9.

B-4. Dominguez Channel Watershed Master List of Projects

Site No.	Parcel, Roadway or Combination	Assessor Parcel Numbers (APN) or Roadway	Street Boundary for Roadways			Address	Description	Agency	City Council District	State Assembly District	Depth to Groundwater (ft)	Stormwater Capture (acre-feet)				Stormwater Link ID Number(s)	Drainage Grid(s)	Street Grid(s)	Benefits a DAC (yes/no)	Pollutant Load Factor (1 to 5, 5 being highest)	Other Features	Planning Level Cost Estimate ($M)
			ADLF	ADLT	Street							Infiltration Gallery	Drywells	Estimated Runoff to Site	Total Estimated Maximum Usable Volume (not to exceed 50 ac-ft per site) (acre-feet)							
1	Parcel	4128-004-908, 4128-004-907, 4128-003-915, 4128-018-912				5230 Arbor Vitae St, Los Angeles, CA 90	Vacant Parcel with potential new construction	L A City Airport	11	62	Ranging from 106 to 117	Up to 23.8	Up to 25.6	64.2	50.0	7593	564-06	093B173	Yes	5	Site looks to have recently been developed. Assessor's website states it is government owned and vacant. If recently developed, it is likely managing flow onsite, however it is a large so has the potential to capture off-site flow. Multiple links are identified across the various parcels, but the furthest downstream appears to be link 7593, which has a runoff volume of 64 ac-ft. Therefore, limiting the flow here to a maximum of 50 ac-ft. Adjacent roadways were also identified by the SiteSAN Tool as viable options, so if this site is infeasible, consideration should be given to the adjacent roads. No Brownfield, Superfund or oil and gas.	$55.20
2	Parcel	6120-022-900				647 W Gardena Blvd, Gardena, CA 9024	Gardena Elementary School	L A Unified School Dist	15	64	35	39.6	7.8	53.4	39.6	7869	588-05	069B197	Yes	5	School site appears suitable for subsurface infiltration due to large paved area. Currently assuming diverting flow from link 7869, though could also consider flow from link 7868, though the distance to that link exceeds 300-ft. Site is not located in a Brownfield, Superfund, nor oil and gas area.	$43.70
3	Parcel	4123-018-926				6000 Will Rogers St Los Angeles, CA 900	Carl E. Nielson Youth Park	L A City	11	62	77	124.7	200.8	30.3	30.3	7352	564-01	096B169	No	5	Lots of green space where a subsurface infiltration could be implemented. SiteSAN tool identified link 7369 but the adjacent link 7352, which is les than 300-ft away, has 30.3 ac-ft so volume is adjusted to this amount. Site is not in a Brownfield or Superfund location but is in an oil and gas area so consideration should be given to the suitability of deep infiltration during future phases of feasibility study.	$33.50
4	Parcel	6132-005-900				570 W 135th St, Los Angeles, CA 90061	Ramirez Nursery	L A City	15	64	76	40.3	43.4	19.6	19.6	7818	581-09	078B201	No	5	Site is a plant nursery underneath overhead electrical transmission lines which could limit construction of deep dry wells. Consideration should be given to impacts to the nursery. Site is not located in a Brownfield or Superfund site, but is indicated as in an oil and gas area so consideration should be given to the suitability of deep infiltration during future phases of feasibility study.	$21.70
5	Parcel	7415-024-902				828 W L St, Wilmington, CA 90744	Gulf Avenue STEAM Elementary School and Magnet Center	L A Unified School Dist	15	64	33	42.7	7.9	16.4	16.4	8122	613-06	033B205	Yes	4	Site is an elementary school with a large paved area to consider for subsurface infiltration. The site is not a Superfund site but is in a closed Brownfield site and in an oil and gas area so consideration should be given to the suitability of deep infiltration during future phases of feasibility study.	$18.20
6	Parcel	7413-017-903				1001 W 253rd St, Harbor City, CA 9071	Normont Elementary School	L A Unified School Dist	15	66	73	44.7	48.1	13.1	13.1	8040	614-04	036B197	Yes	3	Site is an elementary school with a large amount of paved play space, some of which could be modified to include subsurface infiltration. Site is not in a Brownfield or Superfund location but is in an oil and gas area so consideration should be given to the suitability of deep infiltration during future phases of feasibility study.	$14.50

B-4. Dominguez Channel Watershed Master List of Projects

Site No.	Parcel, Roadway or Combination	Assessor Parcel Numbers (APN) or Roadway	Street Boundary for Roadways			Address	Description	Agency	City Council District	State Assembly District	Depth to Groundwater (ft)	Stormwater Capture (acre-feet)				Stormwater Link ID Number(s)	Drainage Grid(s)	Street Grid(s)	Benefits a DAC (yes/no)	Pollutant Load Factor (1 to 5, 5 being highest)	Other Features	Planning Level Cost Estimate ($M)
			ADLF	ADLT	Street							Infiltration Gallery	Drywells	Estimated Runoff to Site	Total Estimated Maximum Usable Volume (not to exceed 50 ac-ft per site) (acre-feet)							
7	Roadway		18200	18748	Western Ave	18200 Western Ave 90248	Segment of Western Blvd from 182nd St to north of 405 Fwy	Roadway	15	66	Between 83-87	0.0	12.1	17.4	12.1	7888	599-03	63B193, 060B19	Yes	5	The length of Western included here could draw from Link 7888 to capture 17.42 ac-ft. However, since the freeway crosses Western, limiting the volume to the segment north of the freeway. Adjacent streets could potentially capture the remaining 5 ac-ft of available flow in the stormdrain. Site is not a Superfund Site nor is it in an area with oil and gas. The length of the site is associated with a closed Brownfield site so further investigation is needed in the next phases of feasibility study.	$13.50
8	Roadway		1025	1498	Pacific Coast Hwy	1025 Pacific Coast Highway 90710	Segment of Pacific Coast Highway, Senator Ave to east of Normandie Ave	Roadway	15	66	Between 56-74	0.0	12.1	11.8	11.8	8700	614-08, 614-07	036B197, 033B	Yes	3 and 4	Rather than draw from links identified (8098, 8095), this site could draw from link 8700, which has a runoff volume of 11.8. Since these four roadway segments have available capacity, setting the usable volume to equal this value. Site is not a Superfund Site nor is it in an area with oil and gas. One roadway segment is a closed Brownfield site so further investigation is needed in the next phases of feasibility study.	$13.10
9	Parcel	7439-016-900				1465 W 243rd St, Harbor City, CA 9071	President Ave Elementary School	L A Unified School Dist	15	66	75	75.9	81.7	5.9	5.9	8003	604-15	039B193	No	4	space, some of which could be modified to include a subsurface infiltration. Site is not in a Brownfield or Superfund location but is in an oil and gas area so consideration should be given to the suitability of deep infiltration during future phases of feasibility	$6.70
10	Parcel	6119-025-900				14920 S Menlo Ave, Gardena, CA 90247	Rosecrans Recreation Center	L A City	15	64	53	155.6	101.1	5.0	5.0	7843	587-04	072B197	Yes	5	This is an existing project site. However, the capture volume at the site appears to only be 0.4 ac-ft. This site is a park with plenty of opportunity for a BMP. Could be considered for a Phase 2 project to expand the existing BMPs. This site is not a Superfund site nor is it in an oil and gas area. It is a closed Brownfield site so consideration should be given during future phases of the feasibility evaluation to ensure the site is suitable.	$5.60
11	Parcel	6117-033-900				801 W 135th St, Gardena, CA 90247	135th Street Elementary School	L A Unified School Dist	15	64	96	57.6	62.0	4.3	4.3	7814	582-12	078B197	Yes	5	Site is an elementary school with a large amount of paved play space, some of which could be modified to include a subsurface infiltration. Site could also consider capturing flow from link 7817 for an additional 1 ac-ft, though it is presented as being on the 110 Fwy so further analysis would be required. Site is not in a Brownfield or Superfund location but is in an oil and gas area so consideration should be given to the suitability of deep infiltration during future phases of feasibility study.	$4.90

B-4. Dominguez Channel Watershed Master List of Projects

Site No.	Parcel, Roadway or Combination	Assessor Parcel Numbers (APN) or Roadway	Street Boundary for Roadways			Address	Description	Agency	City Council District	State Assembly District	Depth to Groundwater (ft)	Stormwater Capture (acre-feet)				Stormwater Link ID Number(s)	Drainage Grid(s)	Street Grid(s)	Benefits a DAC (yes/no)	Pollutant Load Factor (1 to 5, 5 being highest)	Other Features	Planning Level Cost Estimate ($M)
			ADLF	ADLT	Street							Infiltration Gallery	Drywells	Estimated Runoff to Site	Total Estimated Maximum Usable Volume (not to exceed 50 ac-ft per site) (acre-feet)							
12	Parcel	6119-012-900				Behind 14834 Estrella Ave (garden behind homes on Estrella Ave and Denver Ave, from W 149th St to W 146th St)	Rosecrans Metro Garden Club	L A City	15	64	48	29.7	15.6	4.1	4.1	7832	588-01	072B201	No	5	Green space that appears to be used for community garden plots; appears to be opportunities for subsurface infiltration implementation. Site is not in a Brownfield or Superfund location but is in an oil and gas area so consideration should be given to the suitability of deep infiltration during future phases of feasibility study.	$4.60
13	Parcel	7439-015-900				24300 S Western Ave, Harbor City, CA 9	Narbonne High School	L A Unified School Dist	15	66	81	400.2	431.0	4.0	4.0	8010	604-15	039B193	No	4	Site is a high school with opportunity for subsurface infiltration implementation in the paved play spaces or the greenspace near the baseball fields. Site is not in a Brownfield or Superfund location but is in an oil and gas area so consideration should be given to the suitability of deep infiltration during future phases of feasibility study.	$4.50
14	Parcel	7425-023-908				Alameda St from Pacific Coast Highway to near E Opp Street, CA 90744	Railway adjacent parcel	L A City	15	64	32	86.5	12.7	3.0	3.0	8127	613-08	036B213	Yes	5	Site is adjacent to a railway line with some additional ROW on either side that could be used for BMP implementation. Pretreatment, consideration for pollutants from the railway, and any ground settling from infiltration would have to be considered in next phases of design. In NavigateLA it appears to be referred to as parcels 7425-023-914, 7425-023-915, and in the SiteSAN tool it is 7425-023-908, which does not appear on Navigate LA. Site is not a Superfund site but is in a closed Brownfield site and an oil and gas area so consideration should be given to the suitability of deep infiltration during future phases of feasibility study.	$3.40
15	Parcel	6132-006-900				552 W 140th St, Gardena, CA 90248	Miyako Nursery	L A City	15	64	59	29.0	23.2	2.7	2.7	14013	581-13	075B201	No	5	Site is a plant nursery with a road between plants, which could be suitable for subsurface infiltration. Would need to consider disruption to nursery. SiteSAN tool identified link 14013 but could potentially divert flow from link 7818, which has 19.6 ac-ft of available runoff, and increase the amount of usable volume. However, the lower volume identified here may be suitable for the site. Site is not in a Brownfield or Superfund location but is in an oil and gas area so consideration should be given to the suitability of deep infiltration during future phases of feasibility study.	$3.10

B-4. Dominguez Channel Watershed Master List of Projects

Site No.	Parcel, Roadway or Combination	Assessor Parcel Numbers (APN) or Roadway	Street Boundary for Roadways			Address	Description	Agency	City Council District	State Assembly District	Depth to Groundwater (ft)	Stormwater Capture (acre-feet)				Stormwater Link ID Number(s)	Drainage Grid(s)	Street Grid(s)	Benefits a DAC (yes/no)	Pollutant Load Factor (1 to 5, 5 being highest)	Other Features	Planning Level Cost Estimate ($M)
			ADLF	ADLT	Street							Infiltration Gallery	Drywells	Estimated Runoff to Site	Total Estimated Maximum Usable Volume (not to exceed 50 ac-ft per site) (acre-feet)							
16	Parcel and Roadway	7421-022-900	1401	1499	Avalon Blvd	1425 N Avalon Blvd, Wilmington, CA 90	Avalon High School and segment of Avalon Blvd	L A Unified School Dist and Roadway	15	64	62	4.9	6.4	2.7	2.7	6914	613-02	036B205	No	4	Small school site with limited areas for BMP placement in parking lot and play area. Site may not have sufficient space, however, Avalon Blvd is adjacent to the site and is identified by the SiteSAN tool as suitable; potential to consider placement of some drywells in Avalon Blvd as well as subsurface infiltration in the school parking lot. Site is not a Brownfield, Superfund nor oil and gas area.	$3.10
17	Parcel	7422-017-900				401 E M St, Wilmington, CA 90744	Banning Park and Museum	L A City	15	64	56	309.0	330.9	2.7	2.7	8085	613-03 036B209	036B209	Yes	4	Parcel with lots of greenspace and great opportunity for subsurface infiltration implementation. Site is not a Superfund site but is in a closed Brownfield site and an oil and gas area so consideration should be given to the suitability of deep infiltration during future phases of feasibility study.	$3.10
18	Roadway		801	869	El Segundo Blvd	801 El Segundo Blvd 90247	Segment of El Segundo Blvd from Vermont Ave to the 405 Fwy	Roadway	15	64	110	0.0	4.0	2.3	2.3	7802	582-08	081B197	Yes	5	Segment of El Segundo Blvd west of Vermont Ave and east of the 405 Fwy. The site is not a Superfund site but is in a closed Brownfield site and in an oil and gas area so consideration should be given to the suitability of deep infiltration during future phases of feasibility study.	$2.70
19	Parcel	7410-006-900				1508 254th St, Harbor City, CA 90710	Harbor City Elementary School	L A Unified School Dist	15	66	77	31.7	34.1	2.3	2.3	8077	614-03	036B193	No	4	Elementary school with large paved play area, where subsurface infiltration could be implemented. Site is not in a Brownfield or Superfund location but is in an oil and gas area so consideration should be given to the suitability of deep infiltration during future phases of feasibility study.	$2.70

B-4. Dominguez Channel Watershed Master List of Projects

Site No.	Parcel, Roadway or Combination	Assessor Parcel Numbers (APN) or Roadway	Street Boundary for Roadways			Address	Description	Agency	City Council District	State Assembly District	Depth to Groundwater (ft)	Stormwater Capture (acre-feet)				Stormwater Link ID Number(s)	Drainage Grid(s)	Street Grid(s)	Benefits a DAC (yes/no)	Pollutant Load Factor (1 to 5, 5 being highest)	Other Features	Planning Level Cost Estimate ($M)
			ADLF	ADLT	Street							Infiltration Gallery	Drywells	Estimated Runoff to Site	Total Estimated Maximum Usable Volume (not to exceed 50 ac-ft per site) (acre-feet)							
20						Bandini Children's Park at the intersection of West Summerland Place, North Marshall Court and West Oliver	North Marshall Court Green Streets Project	LASAN	15						0.5								$2.20
21						Various	Pollutant Source Characterization Study	LA City	Various						NA							$3.5*
22						Various	Street Sweeping Study	LA City	Various						NA							$0.975*
TOTAL CAPTURE 232.4 ACRE-FT FROM THE 85TH PERCENTILE 24-HOUR STORM																						

Notes:

1: Usable volume is determined as the lesser of max site capacity and estimated runoff to site.

2. Costs assumptions are described in Section 5.4. As described, costs assume $1M per ac-ft managed plus 10 percent additional for design costs and $150,000 per site for geotechnical investigations to determine infiltration rates, depth to groundwater, and other conditions used to determine feasibility.

3. Next phases of evaluation will determine a prioritized list of projects from these opportunity sites. This evaluation will consider scaling and sequencing of projects, which will include an evaluation to ensure projects with overlapping drainage areas are appropriately scaled.

* Estimated study cost

Compliance Target	Volume (acre-ft)
Target (2016 EWMP)	370.0
Existing projects	141.0
LID projections	51.0
LAX	25
Terminal Island WRP	2.0
Needed	**150.4**
Identified New Projects	**232.4**

Note: SUSMP volumes are estimated for the 0.75-inch storm using the land area and a runoff coefficient of 0.9.

B-5. Marina Del Rey Watershed Master List of Projects

Site No.	Parcel, Roadway or Combination	Assessor Parcel Numbers (APN)	Address	Description	Agency	City Council District	State Assembly District	Depth to Groundwater (ft)	Stormwater Capture (acre-feet)				Stormwater Link ID Number(s)	Drainage Grid(s)	Street Grid(s)	Benefits a DAC (yes/no)	Other Features	Planning Level Cost Estimate ($M)
									Infiltration Gallery	Drywells	Estimated Runoff to Site	Total Estimated Maximum Usable Volume (not to exceed 50 ac-ft per site) (acre-feet)						
1	Parcel	4245-015-900	2224 Walgrove Ave 90066	Mark Twain Middle School	LAUSD	11	62	31	282.0	0	3.7	4.7	6412, 6390	533-16	111B149	No	Property has large grassy field and large parking lots that could be suitable for BMP implementation. SiteSAN Tool identified link 6412; adding link 6390 as it is adjacent to the site with 1 ac-ft.	$5.40
2	Parcel	4245-018-900	12901 W Venice Blvd 90066	Disability Community Resources C	LA City	11	62	31	1.6	0	1.8	1.8	13842	534-13	111B153	No	Buliding takes up most of property in the front but there is a decenly large parking lot in the rear, off Beethoven St.	$2.10
3			Various	Pollutant Source Characterization Study	LA City	Various						NA						$3.5*
4			Various	Street Sweeping Study	LA City	Various						NA						$0.975*
										TOTAL CAPTURE VOLUME:		6.6	ACRE-FT FROM THE 85TH PERCENTILE 24-HOUR STORM					

Notes:
1: Usable volume is determined as the lesser of max site capacity and estimated runoff to site.
2. Costs assumptions are described in Section 5.4. As described, costs assume $1M per ac-ft managed plus 10 percent additional for design costs and $150,000 per site for geotechnical investigations to determine infiltration rates, depth to groundwater, and other conditions used to determine feasibility.
3. Next phases of evaluation will determine a prioritized list of projects from these opportunity sites. This evaluation will consider scaling and sequencing of projects, which will include an evaluation to ensure projects with overlapping drainage areas are appropriately scaled.

* Estimated study cost

Compliance Target	Volume (acre-ft)
Target (2021 EWMP)	53.0
Existing projects	8.3
LID projections	7.9
Total New Project Needed	36.8
Identified New Projects	6.6

Note: SUSMP volumes are estimated for the 0.75-inch storm using the land area and a runoff coefficient of 0.9.

Appendix C

Design Summaries for Priority Projects for SCW Funding

Table C-1. Priority Projects for SCW Funding

Project Count	Council District	SCWP Watershed	City Watershed	Project Name	Project ID	Step 1: from Existing Design Summaries? (SiteSAN Tool Methodology Report)	Step 2: from "CIP Proposed" Projects list? (CIP Analysis Spreadsheet Download 12/19/2022)	Step 3: from Master Project list? (SiteSAN Tool Methodology Report)	Project type		SiteSAN Score: Total out of 100*	Total Construction Cost*	Capture Volume (acre-feet)*
1	1	CSMB	BC	Toberman Recreation Center	242	Yes		Yes	Parcel	Parks, Recreation, and Libraries	59	$14,004,020	25.5
2	1	ULAR	ULAR	Public Parking Lot 657	266		Yes	Yes	Parcel	Facilities	88	$2,563,000	4.7
3	2	ULAR	ULAR	De Garmo Park	311		Yes	Yes	Parcel	Parks, Recreation, and Libraries	68	$8,134,500	14.8
4	3	ULAR	ULAR	Parthenia Park	317			Yes	Parcel	Parks, Recreation, and Libraries	53	$4,526,500	8.2
5	4	CSMB	BC	Wilton Place Elementary School	212		Yes	Yes	Parcel	Schools	58	$9,873,981	18.0
6	5	CSMB	BC	Clover Ave Elementary School	165	Yes		Yes	Parcel	Schools	59	$44,964,769	81.8
7	6	ULAR	ULAR	Sun Valley Metrolink Station	314		Yes	Yes	Parcel	Facilities	69	$7,155,500	13.0
8	7	ULAR	ULAR	Verdugo Hills High School	353			Yes	Parcel	Schools	46	$7,348,000	13.4
9	8	ULAR	ULAR	108th St from S Vermont Ave to S Main St, Avalon Blvd to S Central Ave	119			Yes	Roadway	Streets	61	$4,351,185	7.9
		ULAR	ULAR	109th St from S Vermont Ave to S Main St, Avalon Blvd to S Central Ave	122		Yes	Yes	Roadway	Streets	73	$4,345,000	7.9
		ULAR	ULAR	110th St from S Vermont Ave to S Main St, Avalon Blvd to S Central Ave	123			Yes	Roadway	Streets	66	$4,345,000	7.9
10	8	CSMB	BC	Richardson Family Park	184			Yes	Parcel	Parks, Recreation, and Libraries	74	$2,475,000	4.5
11	9	CSMB	BC	Jefferson- Hope St to west of Main St	379	Yes		Yes	Roadway	Streets	51	$11,165,000	20.3
		ULAR	ULAR	Main Street from Jefferson Blvd to W 41st St	251		Yes	Yes	Roadway	Streets	69	$11,330,000	20.6
		ULAR	ULAR	Main Street from W 41st St to W Slauson Ave	224		Yes	Yes	Roadway	Streets	88	$6,765,000	12.3
		ULAR	ULAR	Main Street from W Slauson Ave to E 66th St	139		Yes	Yes	Roadway	Streets	88	$11,055,000	20.1
		ULAR	ULAR	Main Street from E 66th St to E 75th St	135			Yes	Roadway	Streets	58	$11,110,000	20.2
		ULAR	ULAR	Main Street from E 75th St to E 82nd Pl	136		Yes	Yes	Roadway	Streets	73	$7,480,000	13.6
		ULAR	ULAR	Main Street from E 94th St to E 104th St	131			Yes	Roadway	Streets	58	$2,535,387	4.6
12	10	CSMB	BC	Johnnie L. Cochran and Arlington Heights Elementary School and detached parking lot.	193	Yes		Yes	Parcel	Schools Facilities	59	$2,966,077	5.4
13	11	CSMB	BC	Stoner Avenue Recreation Center	169	Yes		Yes	Parcel	Parks, Recreation, and Libraries	36	$13,203,800	24.0
14	11	SSMB	DC	Vacant Parcel with potential new construction	363			Yes	Parcel	Facilities	35	$27,500,000	50.0
15	11	SSMB	DC	Carl E. Nielson Youth Park	364			Yes	Parcel	Parks, Recreation, and Libraries	40	$16,665,000	30.3
16	11	CSMB	SMB J2/3	Fire Station Number 5. In the Westchester area.	154			Yes	Parcel	Facilities	40	$1,796,786	3.3
17	11	CSMB	MdR	Mark Twain Middle School	162			Yes	Parcel	Schools	20	$2,585,000	4.7
18	12	ULAR	ULAR	Plummer St from Jordan Ave to Canoga Ave	323			Yes	Roadway	Streets	18	$3,150,838	5.7
		ULAR	ULAR	Plummer St from De Soto Ave to Mason Ave	324			Yes	Roadway	Streets	18	$11,110,000	20.2
		ULAR	ULAR	Plummer St from Mason Ave to Oso Ave	325			Yes	Roadway	Streets	18	$5,060,000	9.2
		ULAR	ULAR	Plummer St from Oso Ave to Jumilla Ave	326			Yes	Roadway	Streets	38	$9,570,000	17.4
		ULAR	ULAR	Plummer St from Jumilla Ave to Tampa Ave	327			Yes	Roadway	Streets	33	$6,325,000	11.5
		ULAR	ULAR	Plummer St from Marley Way to Cedros Ave	332			Yes	Roadway	Streets	19	$5,555,000	10.1
19	13	CSMB	BC	Ramona Elementary School	260			Yes	Parcel	Schools	54	$6,510,861	11.8
20	14	CSMB	BC	Los Angeles St from 15th to Pico Blvd	380			Yes	Roadway	Streets	55	$2,750,000	5.0
21	14	ULAR	ULAR	Potential City yard	252			Yes	Parcel	Facilities	66	$22,332,750	40.6
22	15	ULAR	ULAR	Central Blvd from E Imperial Hwy to E 119th St	109			Yes	Roadway	Streets	66	$8,305,000	15.1
		ULAR	ULAR	Imperial Highway from South Central Avenue to Success Ave	110			Yes	Roadway	Streets	66	$7,370,000	13.4
		ULAR	ULAR	Imperial Highway from Success Ave to South Grandee Ave	111		Yes	Yes	Roadway	Streets	73	$7,040,000	12.8
23	15	SSMB	DC	Banning Park and Museum	274		Yes		Parcel	Parks, Recreation, and Libraries	63	$1,485,000	2.7
24	15	SSMB	DC	Gardena Elementary School	279			Yes	Parcel	Schools	70	$21,789,534	39.6
25	15	SSMB	DC	Segment of Pacific Coast Highway, Senator Ave to east of Normandie Ave	272			Yes	Roadway	Streets	48	$6,490,000	11.8
26	15	SSMB	DC	Segment of Western Blvd from 182nd St to north of 405 Fwy	278			Yes	Roadway	Streets	20	$6,655,000	12.1
27	15	SSMB	DC	Rosecrans Recreation Center	280			Yes	Parcel	Parks, Recreation, and Libraries	48	$2,750,000	5.0
28	15	SSMB	DC	Rosecrans Metro Garden Club	281			Yes	Parcel	Parks, Recreation, and Libraries	33	$2,231,364	4.1
29	15	SSMB	DC	Normont Elementary School	271			Yes	Parcel	Schools	70	$7,205,000	13.1
30	15	SSMB	DC	Gulf Avenue STEAM Elementary School	155			Yes	Parcel	Schools	50	$9,020,000	16.4

* Data based on Excel spreadsheet "FY 23-24 CIP Analysis_FINAL" downloaded on 12/19/2022. This data may change in more recent versions of the subject file.

Toberman Recreation Center Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Project Overview

- The Toberman Recreation Center Stormwater Project (Project) was part of a 2021 citywide effort to identify stormwater capture and infiltration projects needed to achieve National Pollutant Discharge Elimination System (NPDES) permit compliance and meet Total Maximum Daily Loads (TMDLs).
- The Project presents an opportunity to enhance surface water quality and increase subsurface infiltration by diverting, capturing, and infiltrating upstream wet-weather runoff while providing other benefits to the community.
- The Project would manage 25.5 acre-feet of stormwater diverted from the 63-inch and 51-inch City of Los Angeles storm drains located under Toberman and Union Streets, respectively. The diverted flow would be conveyed to a series of subsurface Best Management Practices (BMPs) that would recharge groundwater.
- BMP options include:
  - One large 15-foot-high infiltration gallery would be located under the existing field. The approximate footprint would be 200 feet by 300 feet (as shown in Figure 1). During design, it would be determined if one single or multiple interconnected infiltration galleries are preferred.
  - As an alternative, stormwater could be infiltrated into the ground by using a system of drywells under the school courtyards. The specific number and locations of drywells would be determined during a future feasibility study.

Figure 2: typical Infiltration Gallery (Source: StormTrap)

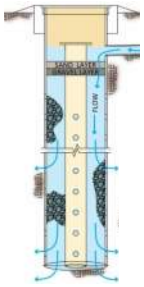


Figure 3: Typical Drywell (Source: CA Office of Environmental Health Hazard Assessment)

Project Summary (per CIP Analysis Workbook)

Address	1725 S Toberman Street Los Angeles, CA 90015	**Project ID**	242
Coordinates	34° 2'21.15"N, 118°16'43.81"W	**Capture Volume (Drainage Area)**	25.5 acre-feet (507 acres)
City Council District	1	**Construction Cost**	$14.0 M
City of LA Watershed	Ballona Creek	**Construction Duration**	5 years
Safe, Clean Water Program (SCWP) Watershed	Central Santa Monica Bay	**Disadvantaged Community (DAC)**	Yes
Project Type	Parcel	**Owning Agency**	City of Los Angeles

Figure 1: Conceptual Layout

Toberman Recreation Center Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Design Considerations

- Rainfall from the 85th percentile 24-hour storm is approximately 1.1 inches based on Los Angeles County isohyets.
- The assumed infiltration rate is 0.3 in/hr and 3 in/hr for infiltration galleries and drywells, respectively. This infiltration rate was conservatively estimated based on the best available data when soil condition is fair for infiltration.
- Depth to groundwater is approximately 141 feet based on the City of Los Angeles GeoHub.
- The following will need to be conducted as part of the future design:
  - Conduct a site evaluation to confirm that the site can manage the flow volume with the maximum safe size of the BMP.
  - Perform geotechnical investigations to confirm soil suitability, infiltration rates, and setback requirements at this site.
  - Consider the invert elevation of the diversion point and BMP freeboard requirements, which could impact the installation depth and capture volume capacity of the infiltration BMP.
  - Evaluate overhead utilities, potential utility easements, and right-of-way constraints that may interfere with the BMP or diversion system's constructability.
  - Pretreatment of stormwater will be necessary to reduce maintenance and prolong the lifespan of the infiltration BMP by removing trash, debris, organic materials, coarse sediments, and associated pollutants prior to entering the infiltration BMP.

Photo: Existing condition of the recreation center fields. View from W 18th Street.

Photo: Existing condition of the recreation center fields. View from W 17th Street

Project Benefits

Water Quality

The proposed project assists in increasing wet-weather stormwater infiltration to reduce bacteria, toxics, and metals in downstream receiving water bodies. This project location has a pollutant load reduction factor of 95 percent.

Water Supply

The proposed project would increase subsurface infiltration of stormwater and contribute to groundwater recharge.

Reduced Flooding

This area is a location with identified flooding issues. Increasing subsurface infiltration would reduce flooding in the project vicinity.

Parks and Green Space

After construction of the project, the existing park and field would be re-constructed, re-invigorating this important open green space.

Reduced Heat Island Effect

Greenscaping and additional trees at the site would provide shade to aid in offsetting the effects of heat-absorbing materials.

Neighborhood Beautification

New turf and vegetation in landscaped areas and other beautification elements would increase community pride and engagement.

Community Benefit

The enhanced park would include active recreation features and passive features such as benches, picnicking areas and educational kiosks, which would promote socialization and outdoor time, improving the well-being of the community.

DAC Benefits

The project is located within a disadvantaged community (DAC) boundary, as defined by the Department of Water Resources (DWR).

Public Parking Lot 657 Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Project Overview

- The Public Parking Lot 657 Stormwater Project (Project) was part of a 2021 citywide effort to identify stormwater capture and infiltration projects needed to achieve National Pollutant Discharge Elimination System (NPDES) permit compliance and meet Total Maximum Daily Loads (TMDLs).
- The Project presents an opportunity to enhance surface water quality and increase subsurface infiltration by diverting, capturing, and infiltrating upstream wet-weather runoff.
- The Project would manage 4.7 acre-feet of stormwater diverted from the 44-inch City of Los Angeles storm drain located under Manitou Avenue. The diverted flow would be conveyed to a series of subsurface Best Management Practices (BMPs) that would recharge groundwater.
- BMP options include:
  - One 15-foot-high infiltration gallery under the parking lot with an approximate footprint of 50 feet by 120 feet (as shown in Figure 1). This BMP would manage up to 2 acre-feet of stormwater. Pending further evaluation, multiple interconnected galleries with open spaces between may be necessary.
  - Remaining stormwater volume would be received by drywells in the neighboring streets (as shown in Figure 1).

Figure 2: typical Infiltration Gallery (Source: StormTrap)

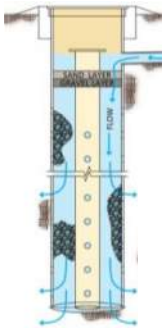
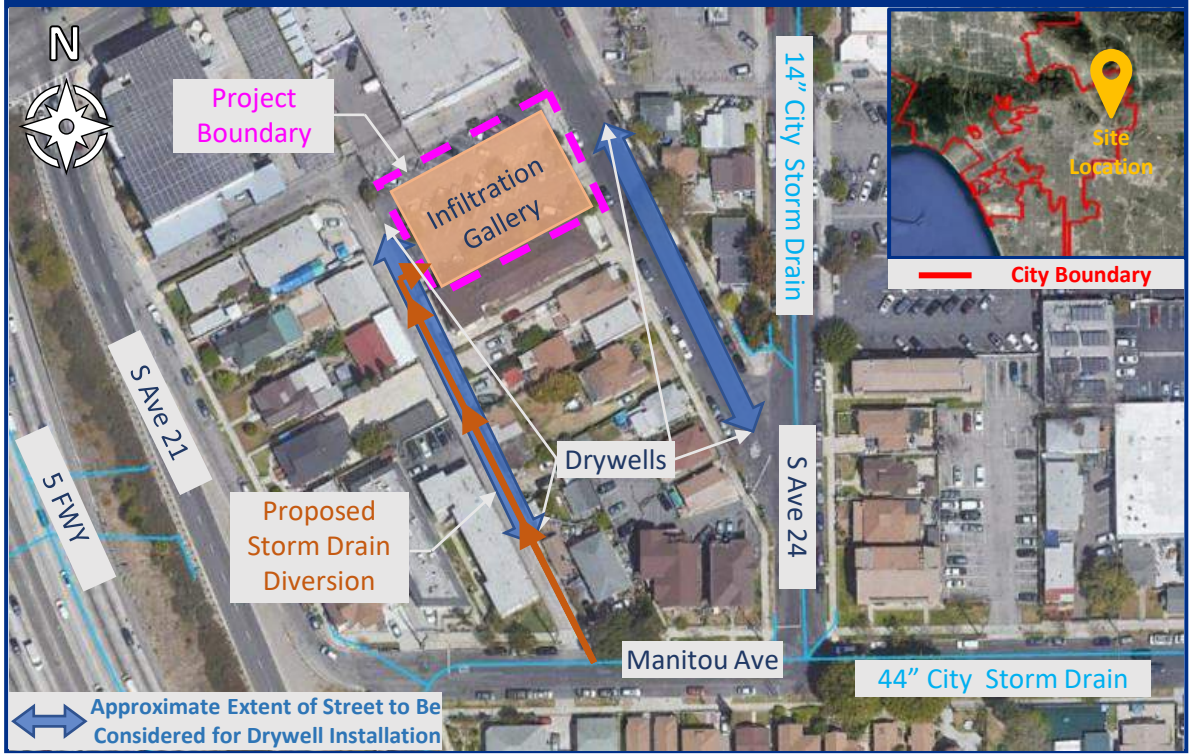


Figure 3: Typical Drywell (Source: CA Office of Environmental Health Hazard Assessment)

Project Summary (per CIP Analysis Workbook)

Address	221 S Ave 22 Los Angeles, CA 90031	**Project ID**	266
Coordinates	34° 4'22.21"N, 118°13'3.89"W	**Capture Volume (Drainage Area)**	4.7 acre-feet (129 acres)
City Council District	1	**Construction Cost**	$2.6 M
City of LA Watershed	Upper Los Angeles River	**Construction Duration**	3 years
Safe, Clean Water Program (SCWP) Watershed	Upper Los Angeles River	**Disadvantaged Community (DAC)**	Yes
Project Type	Parcel	**Owning Agency**	City of Los Angeles

Figure 1: Conceptual Layout



Public Parking Lot 657 Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Design Considerations

- Rainfall from the 85th percentile 24-hour storm is approximately 1 inch based on Los Angeles County isohyets.
- The assumed infiltration rate is 0.3 in/hr and 3 in/hr for infiltration galleries and drywells, respectively. This infiltration rate was conservatively estimated based on the best available data when soil condition is fair for infiltration.
- Depth to groundwater is approximately 28 feet based on the City of Los Angeles GeoHub.
- The following will need to be considered as part of the future design:
  - Conduct a site evaluation to confirm that the site can manage the flow volume with the maximum safe size of the BMP.
  - Perform geotechnical investigations to confirm soil suitability, infiltration rates, and setback requirements at this site.
  - Consider the invert elevation of the diversion point and BMP freeboard requirements, which could impact the installation depth and capture volume capacity of the infiltration BMP.
  - Evaluate overhead utilities, potential utility easements, and right-of-way constraints that may interfere with the BMP or diversion system's constructability.
  - Pretreatment of stormwater will be necessary to reduce maintenance and prolong the lifespan of the infiltration BMP by removing trash, debris, organic materials, coarse sediments, and associated pollutants prior to entering the infiltration BMP.

Photo: Existing condition of the parking lot. View from S Ave 22.

Photo: Existing condition of the parking lot. View from inside the parking lot.

Project Benefits

Water Quality

The proposed project assists in increasing wet-weather stormwater infiltration to reduce bacteria, toxics, and metals in downstream receiving water bodies. This project location has a pollutant load reduction factor of 74 percent.

Water Supply

The proposed project would increase subsurface infiltration of stormwater and contribute to groundwater recharge.

Reduced Flooding

This area is a location with identified flooding issues. Increasing subsurface infiltration would reduce flooding in the project vicinity.

Reduced Heat Island Effect

Additional trees and rain garden in the parking lot could help to offset impervious areas and heat absorbing materials.

Neighborhood Beautification

New vegetation would modestly improve neighborhood aesthetics.

Community Benefit

The enhanced parking lot would include educational kiosks, promoting community engagement in stormwater quality improvement.

DAC Benefits

The project is located within a disadvantaged community (DAC) boundary, as defined by the Department of Water Resources (DWR).

De Garmo Park Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Project Overview

- The De Garmo Park Stormwater Project (Project) was part of a 2021 citywide effort to identify stormwater capture and infiltration projects needed to achieve National Pollutant Discharge Elimination System (NPDES) permit compliance and meet Total Maximum Daily Loads (TMDLs).
- The Project presents an opportunity to enhance surface water quality and increase subsurface infiltration by diverting, capturing, and infiltrating upstream wet-weather runoff while providing other benefits to the community.
- The Project would manage 14.8 acre-feet of stormwater diverted from a 75-inch storm drain maintained by the Los Angeles County Flood Control District (LACFCD). The diverted flow would be conveyed to a series of subsurface Best Management Practices (BMPs) that would recharge groundwater.
- BMP options include:
  - One large 15-foot-high infiltration gallery with an approximate footprint of 0.8 acres would be located under the park (as shown in Figure 1). This BMP would manage up to 12.3 acre-feet of stormwater. Pending further evaluation, multiple interconnected galleries with open spaces between may be necessary.
  - Remaining stormwater volume could be received by drywells along the linear park (as shown in Figure 1).
  - Bioretention could be used in the project area to manage additional surface flow runoff.

Figure 2: Typical Infiltration Gallery (Source: StormTrap)

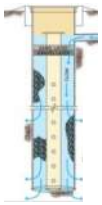


Figure 3: Typical Drywell (Source: CA Office of Environmental Health Hazard Assessment)

Figure 4: Typical Bioretention (Source: Philadelphia Green Streets Design Manual)

Project Summary (per CIP Analysis Workbook)

Address	10153 Arminta St Sun Valley, CA 91352	**Project ID**	311
Coordinates	34°12'53.14"N, 118°21'9.50"W	**Capture Volume (Drainage Area)**	14.8 acre-feet (507 acres)
City Council District	2	**Construction Cost**	$8.1 M
City of LA Watershed	Upper Los Angeles River	**Construction Duration**	4 years
Safe, Clean Water Program (SCWP) Watershed	Upper Los Angeles River	**Disadvantaged Community (DAC)**	Yes
Project Type	Parcel	**Owning Agency**	City of Los Angeles

Figure 1: Conceptual Layout

De Garmo Park Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Design Considerations

- Rainfall from the 85th percentile 24-hour storm is approximately 1.1 inches based on Los Angeles County isohyets.
- The assumed infiltration rate is 0.3 in/hr and 3 in/hr for infiltration galleries and drywells, respectively. This infiltration rate was conservatively estimated based on the best available data when soil condition is fair for infiltration.
- Depth to groundwater is approximately 817 feet based on the City of Los Angeles GeoHub.
- The following will need to be considered as part of the future design:
  - Conduct a site evaluation to confirm that the site can manage the flow volume with the maximum safe size of the BMP.
  - Perform geotechnical investigations to confirm soil suitability, infiltration rates, and setback requirements at this site.
  - Consider the invert elevation of the diversion point and BMP freeboard requirements, which could impact the installation depth and capture volume capacity of the infiltration BMP.
  - Evaluate overhead utilities, potential utility easements, and right-of-way constraints that may interfere with the BMP or diversion system's constructability.
  - Pretreatment of stormwater will be necessary to reduce maintenance and prolong the lifespan of the infiltration BMP by removing trash, debris, organic materials, coarse sediments, and associated pollutants prior to entering the infiltration BMP.
  - Coordinate with LACFCD for the flood control permit with respect to the potential hydraulic impacts of the proposed storm drain diversion.

Photos: Existing condition of De Garmo Park.

Project Benefits

Water Quality
The proposed project assists in increasing wet-weather stormwater infiltration to reduce bacteria, toxics, and metals in downstream receiving water bodies. This project location has a pollutant load reduction factor of 90 percent.

Water Supply
The proposed project would increase subsurface infiltration of stormwater and contribute to groundwater recharge.

Reduced Flooding
This area is a location with identified flooding issues. Increasing subsurface infiltration would reduce flooding in the project vicinity.

Parks and Green Space
Improved open space, playground equipment, and greenscaping would provide space for people to exercise and socialize.

Neighborhood Beautification
New vegetation and beautification elements would increase community pride and engagement.

Community Benefit
The enhanced park would include walking paths and passive features such as benches and educational kiosks, which would improve the well-being of the community by offering means to socialize and spend time in the outdoors.

DAC Benefits
The project is located within a disadvantaged community (DAC) boundary, as defined by the Department of Water Resources (DWR).

Parthenia Park Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Project Overview

- The Parthenia Park Stormwater Project (Project) was part of a 2021 citywide effort to identify stormwater capture and infiltration projects needed to achieve National Pollutant Discharge Elimination System (NPDES) permit compliance and meet Total Maximum Daily Loads (TMDLs).
- The Project presents an opportunity to enhance surface water quality by diverting, capturing, and infiltrating upstream wet-weather runoff while providing other benefits to the community.
- The Project would manage 8.2 acre-feet of surface stormwater runoff by a subsurface Best Management Practice (BMP) that would recharge groundwater.
- BMP options include:
  - One large 15-foot-high infiltration gallery would be located under the park. The footprint would be approximately 0.5 acres with approximate dimensions of 190 feet by 125 feet (as shown in Figure 1). During design, it would be determined if one single or multiple interconnected infiltration galleries are preferred.
  - As an alternative, stormwater could be infiltrated into the ground using a system of drywells. The specific number and locations of drywells would be determined during a future feasibility study.

Figure 2: typical Infiltration Gallery (Source: StormTrap)

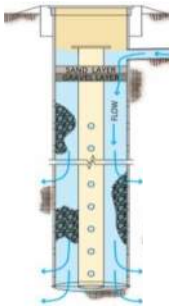
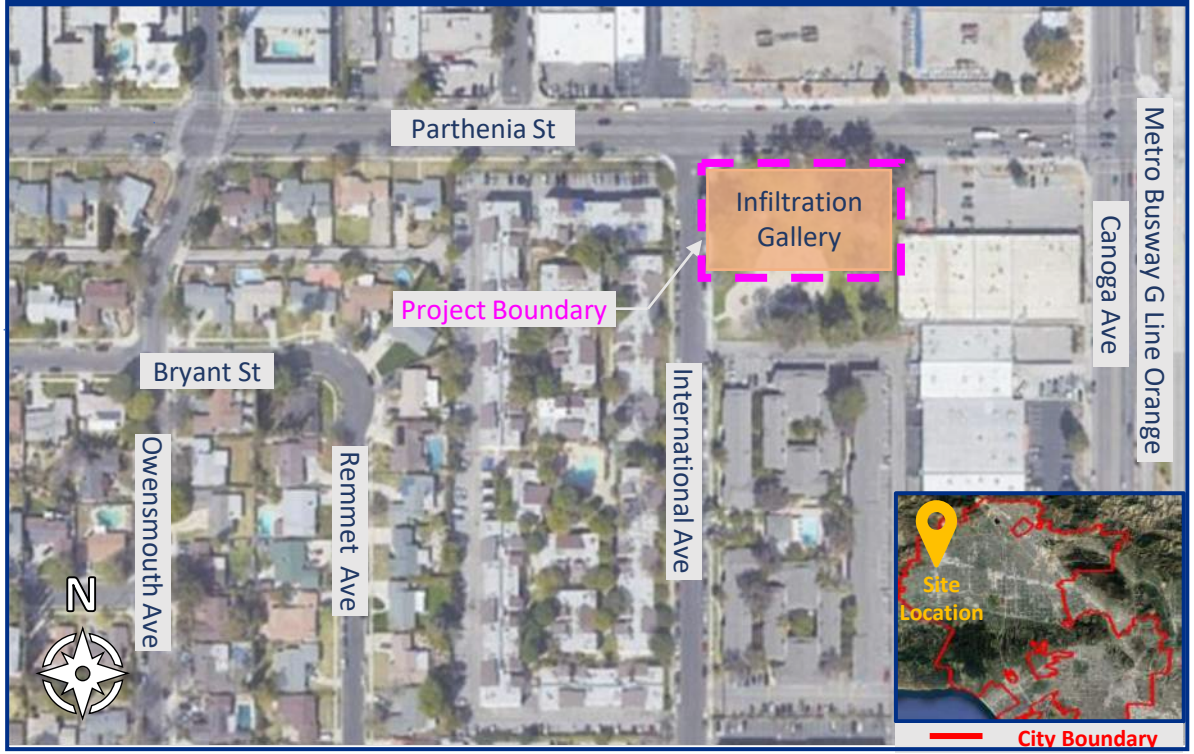


Figure 3: Typical Drywell (Source: CA Office of Environmental Health Hazard Assessment)

Project Summary (per CIP Analysis Workbook)

Address	21444 Parthenia St Canoga Park, CA 91304	**Project ID**	317
Coordinates	34°13'39.86"N, 118°35'56.19"W	**Capture Volume (Drainage Area)**	8.2 acre-feet (145 acres)
City Council District	3	**Construction Cost**	$4.5 M
City of LA Watershed	Upper Los Angeles River	**Construction Duration**	3 years
Safe, Clean Water Program (SCWP) Watershed	Upper Los Angeles River	**Disadvantaged Community (DAC)**	Yes
Project Type	Parcel	**Owning Agency**	City of Los Angeles

Figure 1: Conceptual Layout



Parthenia Park Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Design Considerations

- Rainfall from the 85th percentile 24-hour storm is approximately 1 inch based on Los Angeles County isohyets.
- The assumed infiltration rate is 0.3 in/hr and 3 in/hr for infiltration galleries and drywells, respectively. This infiltration rate was conservatively estimated based on the best available data when soil condition is fair for infiltration.
- Depth to groundwater is approximately 50 feet based on the City of Los Angeles GeoHub.
- The following will need to be considered as part of the future design:
  - Conduct a site evaluation to confirm that the site can manage the flow volume with the maximum safe size of the BMP.
  - Perform geotechnical investigations to confirm soil suitability, infiltration rates, and setback requirements at this site.
  - Evaluate overhead utilities, potential utility easements, and right-of-way constraints that may interfere with the BMP's constructability.
  - Pretreatment of stormwater will be necessary to reduce maintenance and prolong the lifespan of the infiltration BMP by removing trash, debris, organic materials, coarse sediments, and associated pollutants prior to entering the infiltration BMP.

Photo: Existing condition of Parthenia Park. View from Parthenia Street

Photo: Existing condition of Parthenia Park. View from International Ave

Project Benefits

Water Quality

The proposed project would assist in increasing wet-weather stormwater infiltration to reduce bacteria, toxics, and metals in downstream receiving water bodies. This project location has a pollutant load reduction factor of 90 percent.

Water Supply

The proposed project would increase subsurface infiltration of stormwater and contribute to groundwater recharge.

Parks and Green Space

Open space, playground equipment, and greenscaping would provide space for people to exercise and socialize.

Neighborhood Beautification

New vegetation and beautification elements would increase community pride and engagement.

Community Benefit

The enhanced park would include active recreation features and passive features such as benches and educational kiosks, which would promote socialization, and outdoor time would have a positive impact on the well-being of the community.

DAC Benefits

The project is located within a disadvantaged community (DAC) boundary, as defined by the Department of Water Resources (DWR).

Wilton Place Elementary School Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Project Overview

- The Wilton Place Elementary School Stormwater Project (Project) was part of a 2021 citywide effort to identify stormwater capture and infiltration projects needed to achieve National Pollutant Discharge Elimination System (NPDES) permit compliance and meet Total Maximum Daily Loads (TMDLs).
- The Project presents an opportunity to enhance surface water quality and increase subsurface infiltration by diverting, capturing, and infiltrating upstream wet-weather runoff while providing other benefits to the community.
- The Project would manage 18 acre-feet of stormwater diverted from a 78-inch City of Los Angeles storm drain located under South Wilton Place and convey flow to a series of subsurface Best Management Practices (BMPs) that would recharge groundwater.
- BMP options include:
  - One large 15-foot-high infiltration gallery under the central paved area with an approximate footprint of 70 feet by 250 feet (as shown in Figure 1). This BMP would manage up to 6 acre-feet of stormwater. Pending further evaluation, multiple interconnected galleries with open spaces between may be necessary.
  - Remaining stormwater volume would be received by drywells at the school site (as shown in Figure 1).
  - Bioretention and porous materials for the walkways and other paved areas could be used in the project area.

Figure 2: typical Infiltration Gallery (Source: StormTrap)

Figure 3: Typical Bioretention (Source: Philadelphia Green Streets Design Manual)

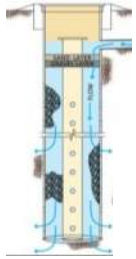
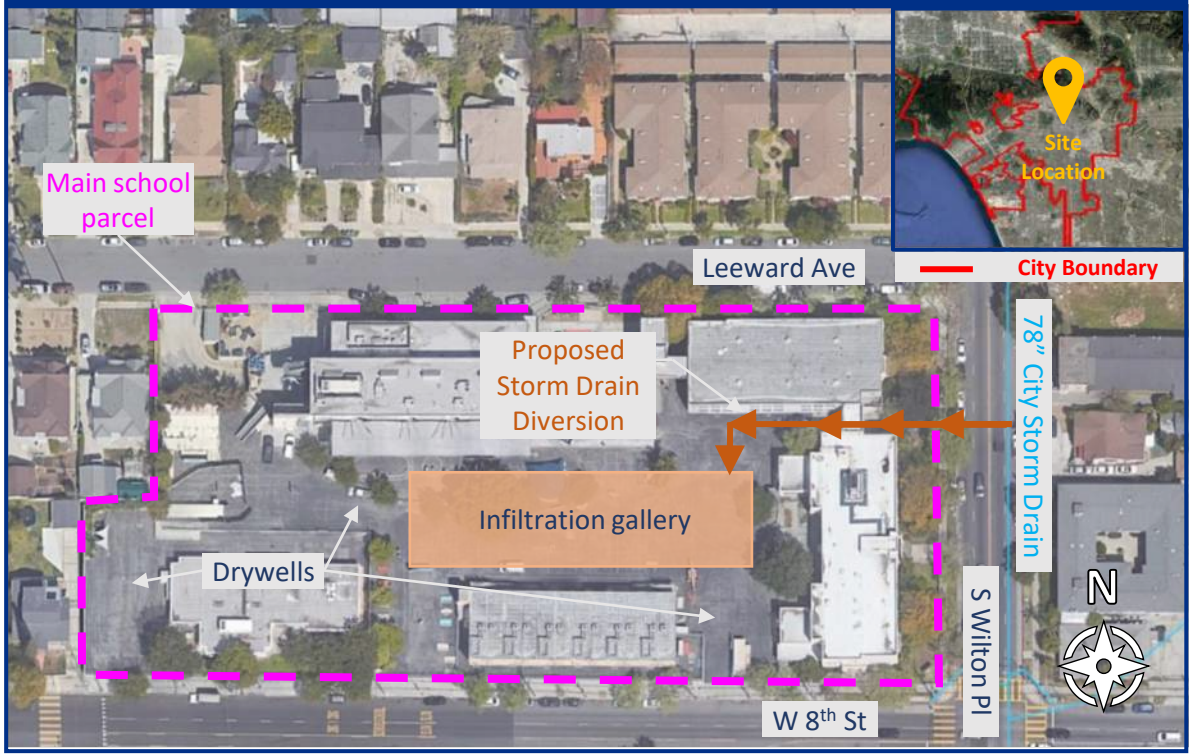


Figure 4: Typical Drywell (Source: CA Office of Environmental Health Hazard Assessment)

Project Summary (per CIP Analysis Workbook)

Address	745 S Wilton Pl Los Angeles, CA 90005	**Project ID**	212
Coordinates	34° 3'30.83"N, 118°18'54.67"W	**Capture Volume (Drainage Area)**	18 acre-feet (2,481 acres)
City Council District	4	**Construction Cost**	$9.9 M
City of LA Watershed	Ballona Creek	**Construction Duration**	4 years
Safe, Clean Water Program (SCWP) Watershed	Central Santa Monica Bay	**Disadvantaged Community (DAC)**	Yes
Project Type	Parcel	**Owning Agency**	Los Angeles Unified School District

Figure 1: Conceptual Layout



Wilton Place Elementary School Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Design Considerations

- Rainfall from the 85th percentile 24-hour storm is approximately 1.1 inches based on Los Angeles County isohyets.
- The assumed infiltration rate is 0.3 in/hr and 3 in/hr for infiltration galleries and drywells, respectively. This infiltration rate was conservatively estimated based on the best available data when soil condition is fair for infiltration.
- Depth to groundwater is approximately 40 feet based on the City of Los Angeles GeoHub.
- The following will need to be considered as part of the future design:
  - Conduct a site evaluation to confirm that the site can manage the flow volume with the maximum safe size of the BMP.
  - Perform geotechnical investigations to confirm soil suitability, infiltration rates, and setback requirements at this site.
  - Consider the invert elevation of the diversion point and BMP freeboard requirements, which could impact the installation depth and capture volume capacity of the infiltration BMP.
  - Evaluate overhead utilities, potential utility easements, and right-of-way constraints that may interfere with the BMP or diversion system's constructability.
  - Pretreatment of stormwater will be necessary to reduce maintenance and prolong the lifespan of the infiltration BMP by removing trash, debris, organic materials, coarse sediments, and associated pollutants prior to entering the infiltration BMP.

Photo: Existing condition of the school, view from W 8th St.

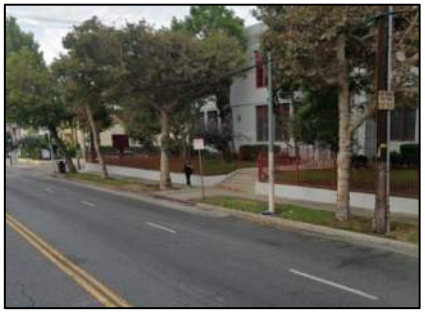


Photo: Existing condition of the school, view from S Wilton Pl.

Project Benefits

Water Quality

The proposed project would assist in increasing wet-weather stormwater infiltration to reduce bacteria, toxics, and metals in downstream receiving water bodies. This project location has a pollutant load reduction factor of 92 percent.

Water Supply

The proposed project would increase subsurface infiltration of stormwater and contribute to groundwater recharge.

Reduced Heat Island Effect

Greenscaping and additional trees in the schools' courtyards and around the properties would provide shade and reduce heat-absorbing materials.

Neighborhood Beautification

New vegetation and beautification elements would improve mental well-being by encouraging more active outdoor recreation.

Community Benefit

New and improved playground equipment and greenscaping would improve the schools' aesthetics, recreational spaces, and school pride.

DAC Benefits

The project is located within a disadvantaged community (DAC) boundary, as defined by the Department of Water Resources (DWR).

Clover Avenue Elementary School Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Project Overview

- The Clover Avenue Elementary School Stormwater Project (Project) was part of a 2021 citywide effort to identify stormwater capture and infiltration projects needed to achieve National Pollutant Discharge Elimination System (NPDES) permit compliance and meet Total Maximum Daily Loads (TMDLs).
- The Project presents an opportunity to enhance surface water quality and increase subsurface infiltration by diverting, capturing, and infiltrating upstream wet-weather runoff.
- The Project would manage 81.8 acre-feet of stormwater diverted from Sawtelle Channel which receives combined flow from the buried Sepulveda Channel, a 186-inch storm drain maintained by the Los Angeles County Flood Control District (LACFCD), and a 144-inch storm drain maintained by City of Los Angeles. The diverted flow would be conveyed to a series of subsurface Best Management Practices (BMPs) that would recharge groundwater.
- BMP options include:
  - One large 15-foot-high infiltration gallery under the paved playground and field, with an approximate footprint of 3.3 acres (as shown in Figure 1). This BMP would manage up to 50 acre-feet. Pending further evaluation, multiple interconnected galleries with open spaces between them may be necessary.
  - Drywells in the neighboring streets would receive additional flow (as shown in Figure 1). Additional stormwater runoff could also be diverted from the 45-inch LACFCD storm drain located in the intersection of National Boulevard and Sepulveda Boulevard. This would add approximately 88 acres to the overall drainage area.
  - Bioretention could be utilized in future green streets.

Figure 2: Typical Infiltration Gallery (Source: StormTrap)

Figure 3: Typical Bioretention (Source: Philadelphia Green Streets Design Manual)

Figure 4: Typical Drywell (Source: CA Office of Environmental Health Hazard Assessment)

Project Summary (per CIP Analysis Workbook)

Address	11020 Clover Avenue Los Angeles, CA 90034	**Project ID**	165
Coordinates	34° 1'34.86"N, 118°25'28.47"W	**Capture Volume (Drainage Area)**	81.8 acre-feet (9,614 acres)
City Council District	5	**Construction Cost**	$45.0 M
City of LA Watershed	Ballona Creek	**Construction Duration**	5 years
Safe, Clean Water Program (SCWP) Watershed	Central Santa Monica Bay	**Disadvantaged Community (DAC)**	No
Project Type	Parcel	**Owning Agency**	Los Angeles Unified School District

Figure 1: Conceptual Layout

Clover Avenue Elementary School Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Design Considerations

- Rainfall from the 85th percentile 24-hour storm is approximately 1.1 inches based on Los Angeles County isohyets.
- The assumed infiltration rate is 0.3 in/hr and 3 in/hr for infiltration galleries and drywells, respectively. This infiltration rate was conservatively estimated based on the best available data when soil condition is fair for infiltration.
- Depth to groundwater is approximately 62 feet based on the City of Los Angeles GeoHub.
- The following will need to be considered as part of the future design:
  - Conduct a site evaluation to confirm that the site can manage the flow volume with the maximum safe size of the BMP.
  - Perform geotechnical investigations to confirm soil suitability, infiltration rates, and setback requirements at this site.
  - Consider the invert elevation of the diversion point and BMP freeboard requirements, which could impact the installation depth and capture volume capacity of the infiltration BMP.
  - Evaluate overhead utilities, potential utility easements, and right-of-way constraints that may interfere with the BMP or diversion system's constructability.
  - Pretreatment of stormwater will be necessary to reduce maintenance and prolong the lifespan of the infiltration BMP by removing trash, debris, organic materials, coarse sediments, and associated pollutants prior to entering the infiltration BMPs.
  - Coordinate with LACFCD for the flood control permit with respect to the potential hydraulic impacts of the proposed storm drain diversion.
  - Identify the number of storm drain diversions required to hydraulically supply the proposed quantity and locations of drywells in the project area.

Photo: Existing condition of the school field and paved areas.

Project Benefits

Water Quality

The proposed project would assist in increasing wet-weather stormwater infiltration to reduce bacteria, toxics, and metals in downstream receiving water bodies. This project location has a pollutant load reduction factor of 95 percent.

Water Supply

The proposed project would increase subsurface infiltration of stormwater and contribute to groundwater recharge.

Reduced Flooding

This area is a location with identified flooding issues. Increasing subsurface infiltration would reduce flooding in the project vicinity.

Reduced Heat Island Effect

Greenscaping and additional trees in the at the school and on the neighboring greenstreets would provide shade to aid in offsetting the effects of heat-absorbing materials.

Neighborhood Beautification

New greenscaping, trees, and some shaded bus stops would beautify the neighborhood. Added green space and playground upgrades would benefit students and staff while encouraging safer, more active outdoor recreation.

Community Benefit

New and improved athletic fields, playground equipment, and greenscaping would improve the school's aesthetics, recreational spaces, and school pride. New greenscaping and shaded seating at bus stops would be provided in the future green streets. Participation of local artists in redesign at the school and along the green streets would increase community engagement.

Sun Valley Metrolink Station Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Project Overview

- The Sun Valley Metrolink Station Stormwater Project (Project) was part of a 2021 citywide effort to identify stormwater capture and infiltration projects needed to achieve National Pollutant Discharge Elimination System (NPDES) permit compliance and meet Total Maximum Daily Loads (TMDLs).
- The Project presents an opportunity to enhance surface water quality by diverting, capturing, and infiltrating upstream wet-weather runoff while providing other benefits to the community.
- The Project would manage 13 acre-feet of stormwater diverted from a 54-inch Los Angeles County Flood Control District (LACFCD) located under San Fernando Road and a Caltrans storm drain under the 5 Freeway and convey to a series of subsurface Best Management Practices (BMPs) that would recharge groundwater.
- BMP options include:
  - One large 15-foot-high infiltration gallery would be located under the parking lot with approximate dimensions of 200 feet by 200 feet (as shown in Figure 1). During design, it would be determined if one single or multiple interconnected infiltration galleries are preferred.
  - As an alternative, stormwater could be infiltrated into the ground using a system of drywells under the parking lot. The specific number and locations of drywells would be determined during a feasibility study.

Figure 2: typical Infiltration Gallery (Source: StormTrap)

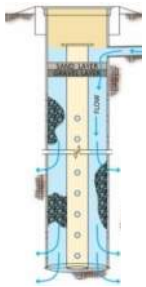


Figure 3: Typical Drywell (Source: CA Office of Environmental Health Hazard Assessment)

Project Summary (per CIP Analysis Workbook)

Address	8358 San Fernando Rd Sun Valley, CA 91352	**Project ID**	314
Coordinates	34°13'21.56"N, 118°22'20.45"W	**Capture Volume (Drainage Area)**	13 acre-feet (172 acres)
City Council District	6	**Construction Cost**	$7.1 M
City of LA Watershed	Upper Los Angeles River	**Construction Duration**	4 years
Safe, Clean Water Program (SCWP) Watershed	Upper Los Angeles River	**Disadvantaged Community (DAC)**	Yes
Project Type	Parcel	**Owning Agency**	City of Los Angeles

Figure 1: Conceptual Layout

Sun Valley Metrolink Station Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Design Considerations

- Rainfall from the 85th percentile 24-hour storm is approximately 1.1 inches based on Los Angeles County isohyets.
- The assumed infiltration rate is 0.5 in/hr and 5 in/hr for infiltration galleries and drywells, respectively. This infiltration rate was conservatively estimated based on the best available data when soil condition is good for infiltration.
- Depth to groundwater is approximately 259 feet based on the City of Los Angeles GeoHub.
- The following will need to be considered as part of the future design:
  - Conduct a site evaluation to confirm that the site can manage the flow volume with the maximum safe size of the BMP.
  - Perform geotechnical investigations to confirm soil suitability, infiltration rates, and setback requirements at this site.
  - Consider the invert elevation of the diversion point and BMP freeboard requirements, which could impact the installation depth and capture volume capacity of the infiltration BMP.
  - Evaluate overhead utilities, potential utility easements, and right-of-way constraints that may interfere with the BMP or diversion system's constructability.
  - Pretreatment of stormwater will be necessary to reduce maintenance and prolong the lifespan of the infiltration BMP by removing trash, debris, organic materials, coarse sediments, and associated pollutants prior to entering the infiltration BMP.
  - Coordinate with LACFCD and Caltrans for the flood control permit with respect to the potential hydraulic impacts of the proposed storm drain diversion.

Photo: Existing condition of the parking lot, view from inside.

Photo: Metrolink station, view from San Fernando Rd.

Project Benefits

Water Quality
The proposed project would assist in increasing wet-weather stormwater infiltration to reduce bacteria, toxics, and metals in downstream receiving water bodies. This project location has a pollutant load reduction factor of 95 percent.

Water Supply
The proposed project would increase subsurface infiltration of stormwater and contribute to groundwater recharge.

Reduced Flooding
This area is a location with identified flooding issues. Increasing subsurface infiltration would reduce flooding in the project vicinity.

Reduced Heat Island Effect
Greenscaping and additional trees in the parking lot would provide shade to aid in offsetting the effects of heat-absorbing materials.

Neighborhood Beautification
New landscaped areas proposed for parking lot would improve neighborhood aesthetics.

Community Benefit
The enhanced parking lot would include educational kiosks, promoting community engagement in stormwater quality improvement.

DAC Benefits
The project is located within a disadvantaged community (DAC) boundary, as defined by the Department of Water Resources (DWR).

Verdugo Hills High School Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Project Overview

- The Verdugo Hills High School Stormwater Project (Project) was part of a 2021 citywide effort to identify stormwater capture and infiltration projects needed to achieve National Pollutant Discharge Elimination System (NPDES) permit compliance and meet Total Maximum Daily Loads (TMDLs).
- The Project presents an opportunity to enhance surface water quality by diverting, capturing, and infiltrating upstream wet-weather runoff while providing other benefits to the community.
- The Project would manage 13.4 acre-feet of stormwater diverted from Los Angeles County Flood Control District (LACFCD) 72-inch and 36-inch reinforced concrete pipe (RCP) storm drains located under Hillrose Street and Irma Avenue, respectively, and convey flow to a series of subsurface Best Management Practices (BMPs) that would recharge groundwater.
- BMP options include:
  - One large 15-foot-high infiltration gallery would be located under the field. The approximate footprint would be 300 ft by 130 feet (as shown in Figure 1). During design, it would be determined if one single or multiple interconnected infiltration galleries are preferred.
  - Other parts of the school (as shown in Figure 1) may be also used to manage additional stormwater runoff if additional storm drain diversions deem feasible.
  - As an alternative, stormwater could be infiltrated into the ground using a system of drywells at the school. The specific number and locations of drywells would be determined during a feasibility study.

Figure 2: Typical Infiltration Gallery (Source: StormTrap)

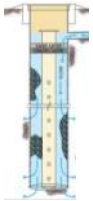
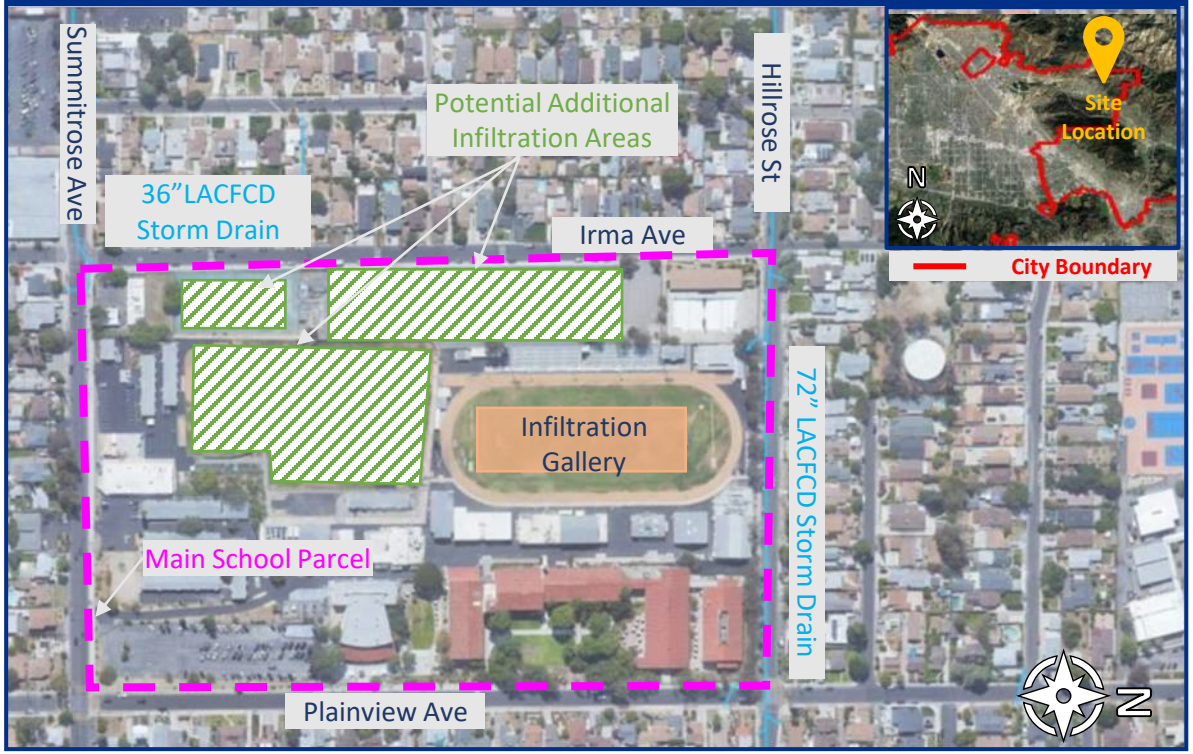


Figure 3: Typical Drywell (Source: CA Office of Environmental Health Hazard Assessment)

Project Summary (per CIP Analysis Workbook)

Address	10625 Plainview Ave Tujunga, CA 91042	**Project ID**	353
Coordinates	34°15'41.74"N, 118°17'54.51"W	**Capture Volume (Drainage Area)**	13.4 acre-feet (613 acres)
City Council District	7	**Construction Cost**	$7.3 M
City of LA Watershed	Upper Los Angeles River	**Construction Duration**	4 years
Safe, Clean Water Program (SCWP) Watershed	Upper Los Angeles River	**Disadvantaged Community (DAC)**	Yes
Project Type	Parcel	**Owning Agency**	Los Angeles Unified School District

Figure 1: Conceptual Layout



Verdugo Hills High School Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Design Considerations

- Rainfall from the 85th percentile 24-hour storm is approximately 1.1 inches based on Los Angeles County isohyets.
- The assumed infiltration rate is 0.5 in/hr and 5 in/hr for infiltration galleries and drywells, respectively. This infiltration rate was conservatively estimated based on the best available data when soil condition is good for infiltration.
- Depth to groundwater is approximately 95 feet based on the City of Los Angeles GeoHub.
- The following will need to be considered as part of the future design:
  - Conduct a site evaluation to confirm that the site can manage the flow volume with the maximum safe size of the BMP.
  - Perform geotechnical investigations to confirm soil suitability, infiltration rates, and setback requirements at this site.
  - Consider the invert elevation of the diversion point and BMP freeboard requirements, which could impact the installation depth and capture volume capacity of the infiltration BMP.
  - Evaluate overhead utilities, potential utility easements, and right-of-way constraints that may interfere with the BMP or diversion system's constructability.
  - Pretreatment of stormwater will be necessary to reduce maintenance and prolong the lifespan of the infiltration BMP by removing trash, debris, organic materials, coarse sediments, and associated pollutants prior to entering the infiltration BMP.
  - Coordinate with LACFCD for the flood control permit with respect to the potential hydraulic impacts of the proposed storm drain diversion.

Photo: Existing condition of the school, view from Plainview Ave.

Photo: Existing condition of the soccer field, view from Hillrose St.

Project Benefits

Water Quality

The proposed project would assist in increasing wet-weather stormwater infiltration to reduce bacteria, toxics, and metals in downstream receiving water bodies. This project location has a pollutant load reduction factor of 18 percent.

Water Supply

The proposed project would increase subsurface infiltration of stormwater and contribute to groundwater recharge.

Reduced Flooding

This area is a location with identified flooding issues. Increasing subsurface infiltration would reduce flooding in the project vicinity.

Reduced Heat Island Effect

Greenscaping and additional trees in the school's courtyards and around the property would provide shade to aid in offsetting the effects of heat-absorbing materials.

Neighborhood Beautification

New vegetation and beautification elements would increase community pride and engagement.

Community Benefit

New and improved athletic fields and greenscaping would improve the school's aesthetics, recreational spaces, and school pride.

DAC Benefits

The project is located within a disadvantaged community (DAC) boundary, as defined by the Department of Water Resources (DWR).

108th, 109th, and 110th Streets Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Project Overview

- The 108th, 109th, and 110th Streets Stormwater Project (Project), from South Vermont Avenue to South Main Street and from Avalon Boulevard to South Central Avenue was part of a 2021 citywide effort to identify stormwater capture and infiltration projects needed to achieve National Pollutant Discharge Elimination System (NPDES) permit compliance and meet Total Maximum Daily Loads (TMDLs).
- The Project presents an opportunity to enhance surface water quality by diverting, capturing, and infiltrating upstream wet weather runoff.
- The Project would manage total of 45.1 acre-feet of stormwater diverted from multiple links of the City of Los Angeles reinforced concrete pipe (RCP) storm drain system. The diverted flow would be conveyed to a network of drywells along 108th, 109th, and 110th Streets and their adjacent streets from South Vermont Avenue to South Main Street and Avalon Boulevard to South Central Avenue for groundwater recharge.
- Figure 1 presents an example of the diversion from the 90-inch City of Los Angeles storm drain that could be conveyed to a network of drywells along 108th, 109th, 110th Streets, and adjacent streets. The specific number and locations of drywells will be determined during a feasibility study.
- Bioretention would also be designed into the cross streets to capture surface flow.

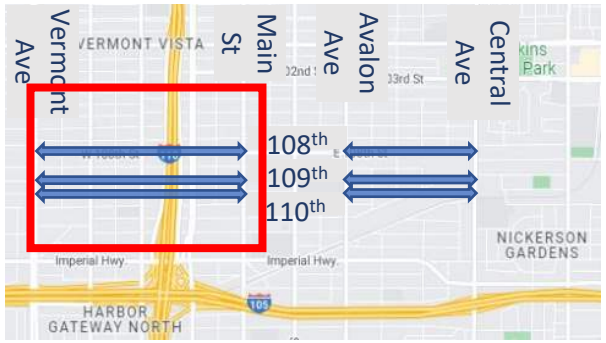


Figure 2: Project overall area. The area in the red rectangle is shown in Figure 1.

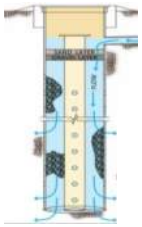


Figure 3: Typical Drywell (Source: CA Office of Environmental Health Hazard Assessment)

Project Summary (per CIP Analysis Workbook)

Address	108th , 109th , 110th St Los Angeles, CA	**Project ID**	119, 122, 123
Coordinates	33°56'17.54"N, 118°17'29.72"W	**Capture Volume (Drainage Area)**	45.1 acre-feet (7,076 acres)
City Council District	8	**Construction Cost**	$13.0 M
City of LA Watershed	Upper Los Angeles River	**Construction Duration**	3 years
Safe, Clean Water Program (SCWP) Watershed	Upper Los Angeles River	**Disadvantaged Community (DAC)**	Yes
Project Type	Roadway	**Owning Agency**	Roadway

Figure 1: Conceptual Layout

108th, 109th, and 110th Streets Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Design Considerations

- Rainfall from the 85th percentile 24-hour storm is approximately 1 inch based on Los Angeles County isohyets.
- The assumed infiltration rate is 3 in/hr for drywells. This infiltration rate was conservatively estimated based on the best available data when soil condition is fair for infiltration.
- Depth to groundwater ranges from approximately 73 to 86 feet, based on the City of Los Angeles GeoHub.
- The following will need to be considered as part of the future design:
  - Conduct a site evaluation to confirm that the site can manage the flow volume with the maximum safe size of the BMP.
  - Perform geotechnical investigations to confirm soil suitability, infiltration rates, and setback requirements at this site.
  - Consider the invert elevation of the diversion point and BMP freeboard requirements, which could impact the installation depth and capture volume capacity of the infiltration BMP.
  - Evaluate overhead utilities, potential utility easements, and right-of-way constraints that may interfere with the BMP or diversion system's constructability.
  - Pretreatment of stormwater will be necessary to reduce maintenance and prolong the lifespan of the infiltration BMP by removing trash, debris, organic materials, coarse sediments, and associated pollutants prior to entering the infiltration BMP.
  - Identify the number of storm drain diversions required to hydraulically supply the proposed quantity and locations of drywells in the project area.

Photo: 108th Street facing east from Vermont Ave.

Photo: 108th facing west from Main St.

Project Benefits

Water Quality

The proposed project would assist in increasing wet-weather stormwater infiltration to reduce bacteria, toxics, and metals in downstream receiving water bodies. This project location has a pollutant load reduction factor of 84 percent.

Water Supply

The proposed project would increase subsurface infiltration of stormwater and contribute to groundwater recharge.

Reduce Heat Island Effect

Greenscaping and additional trees in biofiltration areas and upgraded bus stops would aid in offsetting the effects of heat-absorbing materials.

Neighborhood Beautification

New greenscaping, trees, and shaded bus stops would improve neighborhood aesthetics.

Community Benefit

New greenscaping and shaded seating at bus stops in the future green streets. Potential for local artists to participate in redesign to increase community engagement and capture the local community aesthetic.

DAC Benefits

The project is located within a disadvantaged community (DAC) boundary, as defined by the Department of Water Resources (DWR).

Richardson Family Park Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Project Overview

- The Richardson Family Park Stormwater Project (Project) was part of a 2021 citywide effort to identify stormwater capture and infiltration projects needed to achieve National Pollutant Discharge Elimination System (NPDES) permit compliance and meet Total Maximum Daily Loads (TMDLs).
- The Project presents an opportunity to enhance surface water quality by diverting, capturing, and infiltrating upstream wet-weather runoff while providing other benefits to the community.
- The Project would manage 4.5 acre-feet of stormwater diverted from a 90-inch City of Los Angeles storm drain located under South Budlong Avenue and convey to a series of subsurface Best Management Practices (BMPs) that would recharge groundwater.
- BMP options include:
  - One large 15-foot-high infiltration gallery would be located under the field. The approximate footprint would be 90 feet by 145 feet (as shown in Figure 1). During design, it would be determined if one single or multiple interconnected infiltration galleries are preferred.
  - Remaining stormwater volume would be received by drywells at the school site (as shown in Figure 1).
  - Bioretention and porous materials for the walkways and other paved areas could be used in the project area.

Figure 2: typical Infiltration Gallery (Source: StormTrap)

Figure 3: Typical Bioretention (Source: Philadelphia Green Streets Design Manual)

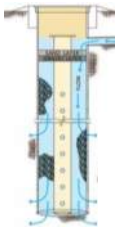


Figure 4: Typical Drywell (Source: CA Office of Environmental Health Hazard Assessment)

Project Summary (per CIP Analysis Workbook)

Address	2700 S Budlong Ave Los Angeles, CA 90007	**Project ID**	184
Coordinates	34° 1'48.77"N, 118°17'44.28"W	**Capture Volume (Drainage Area)**	4.5 acre-feet (1,077 acres)
City Council District	8	**Construction Cost**	$2.5 M
City of LA Watershed	Ballona Creek	**Construction Duration**	3 years
Safe, Clean Water Program (SCWP) Watershed	Central Santa Monica Bay	**Disadvantaged Community (DAC)**	Yes
Project Type	Parcel	**Owning Agency**	City of Los Angeles

Figure 1: Conceptual Layout

Richardson Family Park Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Design Considerations

- Rainfall from the 85th percentile 24-hour storm is approximately 1.1 inches based on Los Angeles County isohyets.
- The assumed infiltration rate is 0.3 in/hr and 3 in/hr for infiltration galleries and drywells, respectively. This infiltration rate was conservatively estimated based on the best available data when soil condition is fair for infiltration.
- Depth to groundwater is approximately 120 feet based on the City of Los Angeles GeoHub.
- The following will need to be considered as part of the future design:
  - Conduct a site evaluation to confirm that the site can manage the flow volume with the maximum safe size of the BMP.
  - Perform geotechnical investigations to confirm soil suitability, infiltration rates, and setback requirements at this site.
  - Consider the invert elevation of the diversion point and BMP freeboard requirements, which could impact the installation depth and capture volume capacity of the infiltration BMP.
  - Evaluate overhead utilities, potential utility easements, and right-of-way constraints that may interfere with the BMP or diversion system's constructability.
  - Pretreatment of stormwater will be necessary to reduce maintenance and prolong the lifespan of the infiltration BMP by removing trash, debris, organic materials, coarse sediments, and associated pollutants prior to entering the infiltration BMP.
  - Identify the number of storm drain diversion required to hydraulically supply the proposed quantity and locations of drywells in the project area.

Photos: Existing condition of Richardson Family Park.

Project Benefits

Water Quality
The proposed project would assist in increasing wet-weather stormwater infiltration to reduce bacteria, toxics, and metals in downstream receiving water bodies. This project location has a pollutant load reduction factor of 95 percent.

Water Supply
The proposed project would increase subsurface infiltration of stormwater and contribute to groundwater recharge.

Reduced Flooding
This area is a location with identified flooding issues. Increasing subsurface infiltration would reduce flooding in the project vicinity.

Parks and Green Space
After construction of the BMP, the existing park and field would be re-constructed, re-invigorating this important open green space.

Neighborhood Beautification
New vegetation and beautification elements would increase community pride and engagement.

Community Benefit
The enhanced park would include active recreation features and passive features such as benches, picnicking areas and educational kiosks, which would promote socialization, and outdoor time would have a positive impact on the well-being of the community.

DAC Benefits
The project is located within a disadvantaged community (DAC) boundary, as defined by the Department of Water Resources (DWR).

Jefferson Boulevard and Main Street Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Project Overview

- The Jefferson Boulevard and Main Street Stormwater Project (Project) was part of a 2021 citywide effort to identify stormwater capture and infiltration projects needed to achieve National Pollutant Discharge Elimination System (NPDES) permit compliance and meet Total Maximum Daily Loads (TMDLs).
- The Project presents an opportunity to enhance surface water quality and increase subsurface infiltration by diverting, capturing, and infiltrating upstream wet weather runoff.
- The Project would manage a total of 111.7 acre-feet of stormwater diverted from multiple links of the City of Los Angeles reinforced concrete pipe (RCP) storm drain system. The diverted flow would be conveyed to a network of drywells along Jefferson Boulevard, Main Street, and their adjacent streets for groundwater recharge.
- Figure 1 presents an example of the diversion from the 100-inch City of Los Angeles storm drain that could be conveyed to a network of drywells along Jefferson Boulevard and adjacent streets, including Figueroa Street, Grand Avenue, Hill Street, Broadway, and Maple Street. The specific number and locations of drywells will be determined during a feasibility study.
- Bioretention would also be designed into the cross streets to capture surface flow.

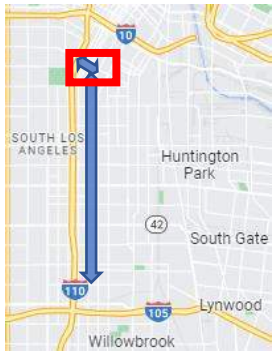


Figure 2: Project overall area. The area in the red rectangle is shown in Figure 1.

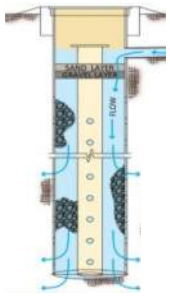


Figure 3: Typical Drywell (Source: CA Office of Environmental Health Hazard Assessment)

Figure 4: Typical Bioretention (Source: Philadelphia Green Streets Design Manual)

Project Summary (per CIP Analysis Workbook)

Address	Jefferson Blvd and Main Street	**Project ID**	379,251,224,139, 136,135,131
Coordinates	34° 1'14.87"N, 118°16'39.84"W	**Capture Volume (Drainage Area)**	111.7 acre-feet (5,762 acres)
City Council District	11	**Construction Cost**	$61.4 M
City of LA Watershed	Ballona Creek/ Upper Los Angeles River	**Construction Duration**	3-5 years
Safe, Clean Water Program (SCWP) Watershed	Central Santa Monica Bay/ Upper Los Angeles River	**Disadvantaged Community (DAC)**	Yes
Project Type	Roadway	**Owning Agency**	Roadway

Figure 1: Conceptual Layout

Jefferson Boulevard and Main Street Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Design Considerations

- Rainfall from the 85th percentile 24-hour storm ranges from approximately 1 inch to 1.1 inches based on Los Angeles County isohyets.
- The assumed infiltration rate is 3 in/hr for drywells. This infiltration rate was conservatively estimated based on the best available data when soil condition is fair for infiltration.
- Depth to groundwater ranges from approximately 50 to 150 feet, based on the City of Los Angeles GeoHub.
- The following will need to be considered as part of the future design:
  - Conduct a site evaluation to confirm that the site can manage the flow volume with the maximum safe size of the BMP.
  - Perform geotechnical investigations to confirm soil suitability, infiltration rates, and setback requirements at this site.
  - Consider the invert elevation of the diversion point and BMP freeboard requirements, which could impact the installation depth and capture volume capacity of the infiltration BMP.
  - Evaluate overhead utilities, potential utility easements, and right-of-way constraints that may interfere with the BMP or diversion system's constructability.
  - Pretreatment of stormwater will be necessary to reduce maintenance and prolong the lifespan of the infiltration BMP by removing trash, debris, organic materials, coarse sediments, and associated pollutants prior to entering the infiltration BMP.
  - Identify the number of storm drain diversions required to hydraulically supply the proposed quantity and locations of drywells in the project area.

Photo: Hill Street facing north from Jefferson.

Photo: Jefferson facing east from Flower St.

Project Benefits

Water Quality
The proposed project would assist in increasing wet-weather stormwater infiltration to reduce bacteria, toxics, and metals in downstream receiving water bodies. This project location has a pollutant load reduction factor that ranges from 84 to 95 percent.

Water Supply
The proposed project would increase subsurface infiltration of stormwater and contribute to groundwater recharge.

Reduce Heat Island Effect
Greenscaping and additional trees in biofiltration areas to aid in offsetting the effects of heat-absorbing materials.

Neighborhood Beautification
New greenscaping and trees would improve aesthetics and provide much-needed benefits to those who live and work in this neighborhood.

Community Benefit
New greenscaping in the future green streets. Potential for local artists to participate in redesign to increase community engagement and capture the local community aesthetic.

DAC Benefits
The project is located within a disadvantaged community (DAC) boundary, as defined by the Department of Water Resources (DWR).

Johnnie L. Cochran Jr. Middle School and Arlington Heights Elementary School
City of Los Angeles | Stormwater Project Design Summary

Project Overview

- The Johnnie L. Cochran Jr. Middle School and Arlington Heights Elementary School Stormwater Project (Project) was part of a 2021 citywide effort to identify stormwater capture and infiltration projects needed to achieve National Pollutant Discharge Elimination System (NPDES) permit compliance and meet Total Maximum Daily Loads (TMDLs).
- The Project presents an opportunity to enhance surface water quality and increase subsurface infiltration by diverting, capturing, and infiltrating upstream wet-weather runoff while providing other benefits to the community.
- The Project would manage 5.4 acre-feet of stormwater diverted from a 48-inch Los Angeles County Flood Control District (LACFCD) storm drain located under West Washington Boulevard. The diverted flow would be conveyed to a series of subsurface Best Management Practices (BMPs) that would recharge groundwater.
- BMP options include:
  - One large 15-foot-high infiltration gallery with an approximate footprint of 125 feet by 125 feet at a Los Angeles Unified School District (LAUSD) parking lot located to the south of the main school property (as shown in Figure 1). During design, it would be determined if one single or multiple interconnected infiltration galleries are preferred.
  - The main school parcel may be used to manage an additional 50 acre-feet of stormwater if a longer diversion from Venice Boulevard were deemed feasible. This option would divert stormwater from a 162-inch LACFCD storm drain approximately 850 feet from the school athletic field (as shown in Figure 1).
  - As an alternative, stormwater could be infiltrated into the ground using a system of drywells at the site or in the neighboring streets. The specific number and locations of drywells would be determined during a future feasibility study.

Figure 2: Typical Infiltration Gallery (Source: StormTrap)

Figure 3: Typical Drywell (Source: CA Office of Environmental Health Hazard Assessment)

Project Summary (per CIP Analysis Workbook)

Address	1700 S. Bronson Ave Los Angeles, CA 90019	**Project ID**	193
Coordinates	34° 2'35.51"N, 118°19'40.79"W	**Capture Volume (Drainage Area)**	5.4 acre-feet (72 acres)
City Council District	10	**Construction Cost**	$3.0 M
City of LA Watershed	Ballona Creek	**Construction Duration**	3 years
Safe, Clean Water Program (SCWP) Watershed	Central Santa Monica Bay	**Disadvantaged Community (DAC)**	Yes
Project Type	Parcel	**Owning Agency**	Los Angeles Unified School District

Figure 1: Conceptual Layout

Johnnie L. Cochran Jr. Middle School and Arlington Heights Elementary School
City of Los Angeles | Stormwater Project Design Summary

Design Considerations

- Rainfall from the 85th percentile 24-hour storm is approximately 1.1 inches based on Los Angeles County isohyets.
- The assumed infiltration rate is 0.3 in/hr and 3 in/hr for infiltration galleries and drywells, respectively. This infiltration rate was conservatively estimated based on the best available data when soil condition is fair for infiltration.
- Depth to groundwater is approximately 71 feet based on the City of Los Angeles GeoHub.
- The following will need to be considered as part of the future design:
  - Conduct a site evaluation to confirm that the site can manage the flow volume with the maximum safe size of the BMP.
  - Perform geotechnical investigations to confirm soil suitability, infiltration rates, and setback requirements at this site.
  - Consider the invert elevation of the diversion point and BMP freeboard requirements, which could impact the installation depth and capture volume capacity of the infiltration BMP.
  - Evaluate overhead utilities, potential utility easements, and right-of-way constraints that may interfere with the BMP or diversion system's constructability.
  - Pretreatment of stormwater will be necessary to reduce maintenance and prolong the lifespan of the infiltration BMP by removing trash, debris, organic materials, coarse sediments, and associated pollutants prior to entering the infiltration BMP.
  - Coordinate with LACFCD for the flood control permit with respect to the potential hydraulic impacts of the proposed storm drain diversion.

Photo: Existing condition of the school field and paved areas.

Photo: Existing condition of the LAUSD parking lot.

Project Benefits

Water Quality

The proposed project would assist in increasing wet-weather stormwater infiltration to reduce bacteria, toxics, and metals in downstream receiving water bodies. This project location has a pollutant load reduction factor of 95 percent.

Water Supply

The proposed project would increase subsurface infiltration of stormwater and contribute to groundwater recharge.

Reduced Heat Island Effect

Greenscaping and additional trees in the school's courtyards and around the properties would provide shade to aid in offsetting the effects of heat-absorbing materials.

Neighborhood Beautification

New vegetation and enhanced aesthetics would improve mental well-being by encouraging, more active outdoor recreation.

Community Benefit

Updated athletic field, basketball courts, playground equipment at the elementary school, greenscaping, and addition of trees throughout the campus, would improve the school's aesthetics, recreational spaces, and school pride.

DAC Benefits

The project is located within a disadvantaged community (DAC) boundary, as defined by the Department of Water Resources (DWR).

Stoner Recreation Center Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Project Overview

- The Stoner Recreation Center Stormwater Project (Project) was part of a 2021 citywide effort to identify stormwater capture and infiltration projects needed to achieve National Pollutant Discharge Elimination System (NPDES) permit compliance and meet Total Maximum Daily Loads (TMDLs).
- The Project presents an opportunity to enhance surface water quality and increase subsurface infiltration by diverting, capturing, and infiltrating upstream wet-weather runoff while providing other benefits to the community.
- The Project would manage 24 acre-feet of stormwater diverted from the 66-inch City of Los Angeles storm drain located under South Westgate Avenue. The diverted flow would be conveyed to a series of Best Management Practices (BMPs) that would recharge groundwater.
- BMP options include:
  - One large 15-foot-high infiltration gallery under the athletic field, with an approximate footprint of 280 feet by 250 feet (as shown in Figure 1). Pending further evaluation, multiple interconnected galleries with open spaces between may be necessary.
  - As an alternative, stormwater could be infiltrated into the ground using a system of drywells at the site or in the neighboring streets. The specific number and locations of drywells would be determined during a future feasibility study.
  - Bioretention BMPs and trees around the project's perimeter and pervious pavement to infiltrate surface flow (as shown in Figure 1).
  - Additional stormwater runoff could also be diverted from the 36-inch City storm drain located under Missouri Avenue. This would add approximately 94 acres to the overall drainage area.

Figure 2: Typical Infiltration Gallery (Source: StormTrap)

Figure 3: Typical Drywell (Source: CA Office of Environmental Health Hazard Assessment)

Figure 4: Typical Bioretention (Source: Philadelphia Green Streets Design Manual)

Project Summary (per CIP Analysis Workbook)

Address	1831 S Stoner Ave Los Angeles, CA 90025	**Project ID**	169
Coordinates	34° 2'17.20"N, 118°27'14.81"W	**Capture Volume (Drainage Area)**	24 acre-feet (355 acres)
City Council District	11	**Construction Cost**	$13.2 M
City of LA Watershed	Ballona Creek	**Construction Duration**	5 years
Safe, Clean Water Program (SCWP) Watershed	Central Santa Monica Bay	**Disadvantaged Community (DAC)**	No
Project Type	Parcel	**Owning Agency**	City of Los Angeles

Figure 1: Conceptual Layout

Stoner Recreation Center Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Design Considerations

- Rainfall from the 85th percentile 24-hour storm is approximately 1.1 inches based on Los Angeles County isohyets.
- The assumed infiltration rate is 0.3 in/hr and 3 in/hr for infiltration galleries and drywells, respectively. This infiltration rate was conservatively estimated based on the best available data when soil condition is fair for infiltration.
- Depth to groundwater is approximately 59 feet based on the City of Los Angeles GeoHub.
- The following will need to be considered as part of the future design:
  - Conduct a site evaluation to confirm that the site can manage the flow volume with the maximum safe size of the BMP.
  - Perform geotechnical investigations to confirm soil suitability, infiltration rates, and setback requirements at this site.
  - Consider the invert elevation of the diversion point and BMP freeboard requirements, which could impact the installation depth and capture volume capacity of the infiltration BMP.
  - Evaluate overhead utilities, potential utility easements, and right-of-way constraints that may interfere with the BMP or diversion system's constructability.
  - Pretreatment of stormwater will be necessary to reduce maintenance and prolong the lifespan of the infiltration BMP by removing trash, debris, organic materials, coarse sediments, and associated pollutants prior to entering the infiltration BMP.

Photo: Existing condition of the site.

Project Benefits

Water Quality

The proposed project would assist in increasing wet-weather stormwater infiltration to reduce bacteria, toxics, and metals in downstream receiving water bodies. This project location has a pollutant load reduction factor of 86 percent.

Water Supply

The proposed project would increase subsurface infiltration of stormwater and contribute to groundwater recharge.

Parks and Green Space

New and improved athletic fields, playground equipment, and greenscaping would improve the existing recreation center.

Reduced Heat Island Effect

Bioretention, greenscaping, and additional trees along the park perimeter would provide shade to aid in offsetting the effects of heat-absorbing materials.

Neighborhood Beautification

Re-constructed fields, new vegetation and enhanced aesthetics, along with added trees and seating areas, would improve mental well-being by encouraging social gatherings and providing a break from the heat.

Community Benefit

Upgraded park amenities would allow children and adults to play, exercise, and relax. Improvements would be decided upon through an interactive stakeholder process.

Vacant Parcel with Potential New Construction Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Project Overview

- The Vacant Parcel with Potential New Construction Stormwater Project (Project) was part of a 2021 citywide effort to identify stormwater capture and infiltration projects needed to achieve National Pollutant Discharge Elimination System (NPDES) permit compliance and meet Total Maximum Daily Loads (TMDLs).
- The Project presents an opportunity to enhance surface water quality and increase subsurface infiltration by diverting, capturing, and infiltrating upstream wet-weather runoff.
- The Project would manage 50 acre-feet of stormwater diverted from reinforced concrete pipe (RCP) storm drain lines that are maintained by the Los Angeles County Flood Control District (LACFCD) and are surrounding the site. The diverted flow would be conveyed to a series of subsurface Best Management Practices (BMPs) that would recharge groundwater.
- BMP options include:
  - One large 15-foot-high infiltration gallery under the paved area with an approximate footprint of 3.3 acres as shown in the northeast of the Project area (Figure 1). This BMP would manage up to 50 acre-feet of stormwater runoff. Pending further evaluation, multiple interconnected galleries with open spaces between may be necessary.
  - Other parts of the site (as shown in Figure 1) may be also used to manage additional stormwater runoff if additional storm drain diversions deem feasible.
  - As an alternative, stormwater could be infiltrated into the ground using a system of drywells. The specific number and locations of drywells would be determined during a future feasibility study.

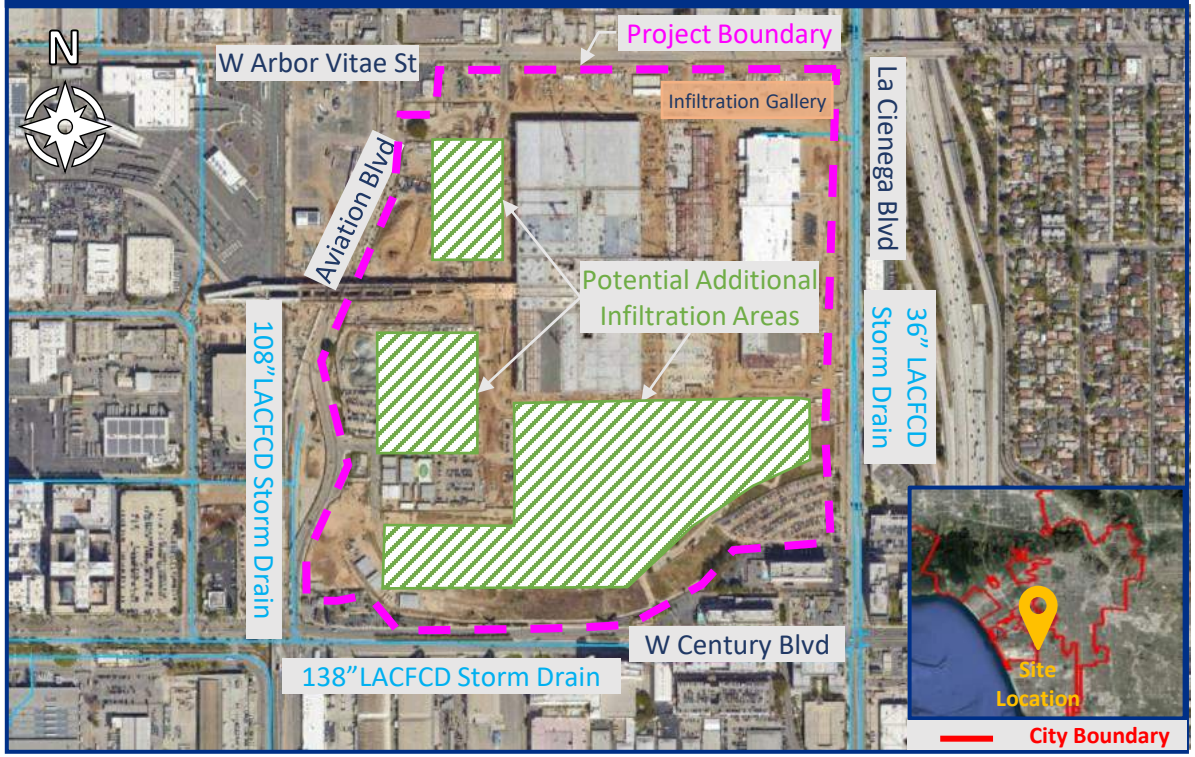
Figure 2: Typical Infiltration Gallery (Source: StormTrap)

Figure 3: Typical Drywell (Source: CA Office of Environmental Health Hazard Assessment)

Project Summary (per CIP Analysis Workbook)

Address	5230 Arbor Vitae St Los Angeles, CA 90045	**Project ID**	363
Coordinates	33°57'8.19"N, 118°22'15.96"W	**Capture Volume (Drainage Area)**	50 acre-feet (1,040 acres)
City Council District	11	**Construction Cost**	$27.5 M
City of LA Watershed	Dominguez Channel	**Construction Duration**	5 years
Safe, Clean Water Program (SCWP) Watershed	South Santa Monica Bay	**Disadvantaged Community (DAC)**	Yes
Project Type	Parcel	**Owning Agency**	Los Angeles International Airport

Figure 1: Conceptual Layout



Vacant Parcel with Potential New Construction Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Design Considerations

- Rainfall from the 85th percentile 24-hour storm is approximately 1.1 inches based on Los Angeles County isohyets.
- The assumed infiltration rate is 0.3 in/hr and 3 in/hr for infiltration galleries and drywells, respectively. This infiltration rate was conservatively estimated based on the best available data when soil condition is fair for infiltration.
- Depth to groundwater is approximately 106 feet based on the City of Los Angeles GeoHub.
- The following will need to be considered as part of the future design:
  - Conduct a site evaluation to confirm that the site can manage the flow volume with the maximum safe size of the BMP.
  - Perform geotechnical investigations to confirm soil suitability, infiltration rates, and setback requirements at this site.
  - Consider the invert elevation of the diversion point and BMP freeboard requirements, which could impact the installation depth and capture volume capacity of the infiltration BMP.
  - Evaluate overhead utilities, potential utility easements, and right-of-way constraints that may interfere with the BMP or diversion system's constructability.
  - Pretreatment of stormwater will be necessary to reduce maintenance and prolong the lifespan of the infiltration BMP by removing trash, debris, organic materials, coarse sediments, and associated pollutants prior to entering the infiltration BMP.
  - Coordinate with LACFCD for the flood control permit with respect to the potential hydraulic impacts of the proposed storm drain diversion.

Photo: Existing condition of the site. Arbor Vitae St and La Cienega Blvd intersection.

Photo: Existing condition of the site. View from the Cienega Blvd.

Project Benefits

Water Quality

The proposed project would assist in increasing wet-weather stormwater infiltration to reduce bacteria, toxics, and metals in downstream receiving water bodies.

Water Supply

The proposed project would increase subsurface infiltration of stormwater and contribute to groundwater recharge.

Reduced Heat Island Effect

New vegetation, greenscaping and additional trees would provide shade to aid in offsetting the effects of heat-absorbing materials.

DAC Benefits

The project is located within a disadvantaged community (DAC) boundary, as defined by the Department of Water Resources (DWR).

Carl E. Nielson Youth Park Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Project Overview

- The Carl E. Nielson Youth Park Stormwater Project (Project) was part of a 2021 citywide effort to identify stormwater capture and infiltration projects needed to achieve National Pollutant Discharge Elimination System (NPDES) permit compliance and meet Total Maximum Daily Loads (TMDLs).
- The Project presents an opportunity to enhance surface water quality and increase subsurface infiltration by diverting, capturing, and infiltrating upstream wet-weather runoff.
- The Project would manage 30.3 acre-feet of stormwater diverted from a 45-inch storm drain maintained by the City of Los Angeles. The diverted flow would be conveyed to a series of subsurface Best Management Practices (BMPs) that would recharge groundwater.
- BMP options include:
  - One large 15-foot-high infiltration gallery under the ball field, with an approximate footprint of 300 feet by 300 feet (as shown in Figure 1). Pending further evaluation, multiple interconnected galleries with open spaces between may be necessary.
  - Additional stormwater runoff could be diverted from the 24-inch City storm drain located under parking lot. This would add approximately 63 acres to the overall drainage area.
  - As an alternative, stormwater could be infiltrated into the ground using a system of drywells. The specific number and locations of drywells would be determined during a future feasibility study.
  - Bioretention could be utilized in future green streets.

Figure 2: Typical Infiltration Gallery (Source: StormTrap)

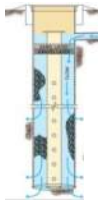


Figure 3: Typical Drywell (Source: CA Office of Environmental Health Hazard Assessment)

Figure 4: Typical Bioretention (Source: Philadelphia Green Streets Design Manual)

Project Summary (per CIP Analysis Workbook)

Address	6000 Will Rogers St Los Angeles, CA 90045	**Project ID**	364
Coordinates	33°57'22.13"N, 118°23'19.47"W	**Capture Volume (Drainage Area)**	30.3 acre-feet (51 acres)
City Council District	11	**Construction Cost**	$16.7 M
City of LA Watershed	Dominguez Channel	**Construction Duration**	5 years
Safe, Clean Water Program (SCWP) Watershed	South Santa Monica Bay	**Disadvantaged Community (DAC)**	No
Project Type	Parcel	**Owning Agency**	City of Los Angeles

Figure 1: Conceptual Layout

Carl E. Nielson Youth Park Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Design Considerations

- Rainfall from the 85th percentile 24-hour storm is approximately 1.1 inches based on Los Angeles County isohyets.
- The assumed infiltration rate is 0.3 in/hr and 3 in/hr for infiltration galleries and drywells, respectively. This infiltration rate was conservatively estimated based on the best available data when soil condition is fair for infiltration.
- Depth to groundwater is approximately 77 feet based on the City of Los Angeles GeoHub.
- The following will need to be considered as part of the future design:
  - Conduct a site evaluation to confirm that the site can manage the flow volume with the maximum safe size of the BMP.
  - Perform geotechnical investigations to confirm soil suitability, infiltration rates, and setback requirements at this site.
  - Consider the invert elevation of the diversion point and BMP freeboard requirements, which could impact the installation depth and capture volume capacity of the infiltration BMP.
  - Evaluate overhead utilities, potential utility easements, and right-of-way constraints that may interfere with the BMP or diversion system's constructability.
  - Pretreatment of stormwater will be necessary to reduce maintenance and prolong the lifespan of the infiltration BMP by removing trash, debris, organic materials, coarse sediments, and associated pollutants prior to entering the infiltration BMP.

Photo: Existing condition of the park, view from Will Rogers St.

Photo: Existing condition of the park, view from Yorktown Ave.

Project Benefits

Water Quality

The proposed project would assist in increasing wet-weather stormwater infiltration to reduce bacteria, toxics, and metals in downstream receiving water bodies.

Water Supply

The proposed project would increase subsurface infiltration of stormwater and contribute to groundwater recharge.

Neighborhood Beautification

New greenscaping and trees would beautify the neighborhood. The updated park will benefit visitors while encouraging safer, more active outdoor recreation.

Community Benefit

The updated park includes active recreation features and passive features such as benches, picnicking areas and educational kiosks, which would promote socialization, and outdoor time would have a positive impact on the well-being of the community. Upgrades in the parking lot could include educational kiosks, promoting community engagement in stormwater quality improvement.

Fire Station Number 5 Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Project Overview

- The Fire Station Number 5 Stormwater Project (Project) was part of a 2021 citywide effort to identify stormwater capture and infiltration projects needed to achieve National Pollutant Discharge Elimination System (NPDES) permit compliance and meet Total Maximum Daily Loads (TMDLs).
- The Project presents an opportunity to enhance surface water quality and increase subsurface infiltration by diverting, capturing, and infiltrating upstream wet-weather runoff.
- The Project would manage 3.3 acre-feet of stormwater diverted from the 84-inch Los Angeles County Flood Control District (LACFCD) storm drain located under Emerson Avenue and convey flow to a series of subsurface Best Management Practices (BMPs) that would recharge groundwater.
- BMP options include:
  - One 15-foot-high infiltration gallery under the parking area of the fire station, with approximate dimensions of 100 feet by 100 feet (as shown in Figure 1). A BMP this size would require the former fire station's building to be demolished.
  - Drywells would receive additional flow if building demolition is not deemed feasible and the infiltration gallery was restricted to a smaller footprint.

Figure 2: typical Infiltration Gallery
(Source: StormTrap)

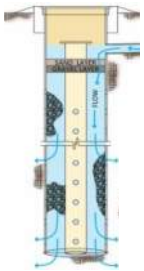
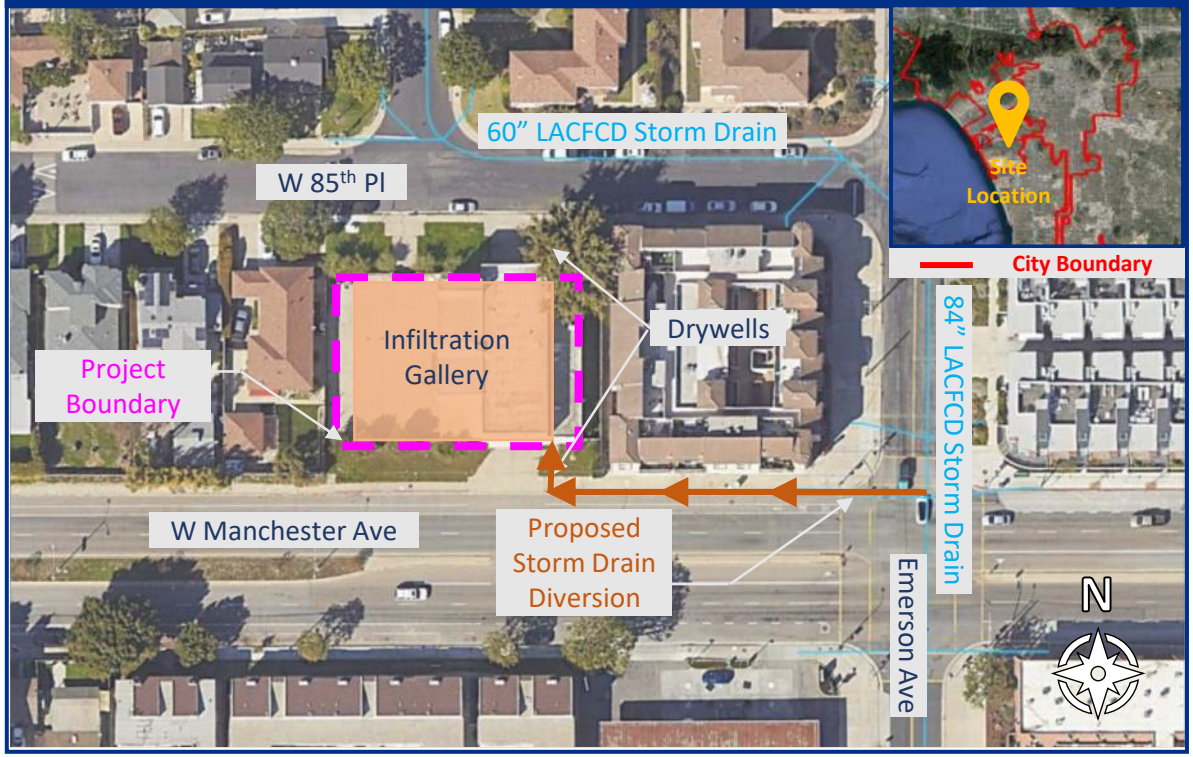


Figure 3: Typical Drywell
(Source: CA Office of Environmental Health Hazard Assessment)

Project Summary (per CIP Analysis Workbook)

Address	6621 W Manchester Ave, Los Angeles, CA 90045	**Project ID**	154
Coordinates	33°57'36.52"N, 118°24'18.75"W	**Capture Volume (Drainage Area)**	3.3 acre-feet (302 acres)
City Council District	11	**Construction Cost**	$1.8 M
City of LA Watershed	Santa Monica Bay J2/3	**Construction Duration**	3 years
Safe, Clean Water Program (SCWP) Watershed	Central Santa Monica Bay	**Disadvantaged Community (DAC)**	No
Project Type	Parcel	**Owning Agency**	City of Los Angeles

Figure 1: Conceptual Layout



Fire Station Number 5 Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Design Considerations

- Rainfall from the 85th percentile 24-hour storm is approximately 1.1 inches based on Los Angeles County isohyets.
- The assumed infiltration rate is 0.5 in/hr and 5 in/hr for infiltration galleries and drywells, respectively. This infiltration rate was conservatively estimated based on the best available data when soil condition is fair for infiltration.
- Depth to groundwater is approximately 57 feet based on the City of Los Angeles GeoHub.
- The following will need to be considered as part of the future design:
  - Conduct a site evaluation to confirm that the site can manage the flow volume with the maximum safe size of the BMP.
  - Perform geotechnical investigations to confirm soil suitability, infiltration rates, and setback requirements at this site.
  - Consider the invert elevation of the diversion point and BMP freeboard requirements, which could impact the installation depth and capture volume capacity of the infiltration BMP.
  - Evaluate overhead utilities, potential utility easements, and right-of-way constraints that may interfere with the BMP or diversion system's constructability.
  - Pretreatment of stormwater will be necessary to reduce maintenance and prolong the lifespan of the infiltration BMP by removing trash, debris, organic materials, coarse sediments, and associated pollutants prior to entering the infiltration BMP.

Photo: Existing condition of the former fire station, view from W Manchester Ave.

Photo: Existing condition of the former fire station, view from W 85th Pl.

Project Benefits

Water Quality

The proposed project would assist in increasing wet-weather stormwater infiltration to reduce bacteria, toxics, and metals in downstream receiving water bodies.

Water Supply

The proposed project would increase subsurface infiltration of stormwater and contribute to groundwater recharge.

Reduced Heat Island Effect

Replacing the building and parking lot with open space, greenscaping, and trees would provide shade and aid in offsetting the effects of heat-absorbing materials.

Neighborhood Beautification

New vegetation and beautification elements would increase community pride and engagement.

Community Benefit

If the demolition of the fire station is deemed feasible, converting this site into a neighborhood pocket park would provide a space for residents to gather and socialize. Including educational kiosks would engage the community in stormwater quality improvement.

Mark Twain Middle School Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Project Overview

- The Mark Twain Middle School Stormwater Project (Project) in the Westchester area was part of a 2021 citywide effort to identify stormwater capture and infiltration projects needed to achieve National Pollutant Discharge Elimination System (NPDES) permit compliance and meet Total Maximum Daily Loads (TMDLs).
- The Project presents an opportunity to enhance surface water quality and increase subsurface infiltration by diverting, capturing, and infiltrating upstream wet-weather runoff.
- The Project would manage 4.7 acre-feet of stormwater diverted from a 39-in storm drain under Lucile Avenue, maintained by the Los Angeles County Flood Control District (LACFCD). The diverted flow would be conveyed to a series of subsurface Best Management Practices (BMPs) that would recharge groundwater.
- BMP options include:
  - One large 15-foot-high infiltration gallery under one of the school's paved playgrounds, with an approximate dimension of 100 feet by 135 feet (as shown in Figure 1). This BMP would manage up to 4.7 acre-feet of stormwater runoff. Pending further evaluation, multiple interconnected galleries with open spaces between may be necessary.
  - Other parts of the school parcel (as shown in Figure 1) may be used to manage additional volume of stormwater if diversions from other LACFCD storm drains under Beethoven Street, Walgrove Avenue, and Marco Place are deemed feasible.
  - As an alternative, stormwater could be infiltrated into the ground using a system of drywells at the site. The specific number and locations of drywells would be determined during a future feasibility study.

Figure 2: Typical Infiltration Gallery (Source: StormTrap)

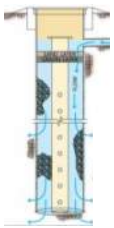


Figure 3: Typical Drywell (Source: CA Office of Environmental Health Hazard Assessment)

Project Summary (per CIP Analysis Workbook)

Address	2224 Walgrove Ave Los Angeles, CA 90066	**Project ID**	162
Coordinates	33°59'59.36"N, 118°26'52.81"W	**Capture Volume (Drainage Area)**	4.7 acre-feet (78 acres)
City Council District	11	**Construction Cost**	$2.6 M
City of LA Watershed	Marina Del Ray	**Construction Duration**	3 years
Safe, Clean Water Program (SCWP) Watershed	Central Santa Monica Bay	**Disadvantaged Community (DAC)**	No
Project Type	Parcel	**Owning Agency**	Los Angeles Unified School District

Figure 1: Conceptual Layout

Mark Twain Middle School Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Design Considerations

- Rainfall from the 85th percentile 24-hour storm is approximately 1.1 inches based on Los Angeles County isohyets.
- The assumed infiltration rate is 0.3 in/hr and 3 in/hr for infiltration galleries and drywells, respectively. This infiltration rate was conservatively estimated based on the best available data when soil condition is fair for infiltration.
- Depth to groundwater is approximately 31 feet based on the City of Los Angeles GeoHub.
- The following will need to be considered as part of the future design:
  - Conduct a site evaluation to confirm that the site can manage the flow volume with the maximum safe size of the BMP.
  - Perform geotechnical investigations to confirm soil suitability, infiltration rates, and setback requirements at this site.
  - Consider the invert elevation of the diversion point and BMP freeboard requirements, which could impact the installation depth and capture volume capacity of the infiltration BMP.
  - Evaluate overhead utilities, potential utility easements, and right-of-way constraints that may interfere with the BMP or diversion system's constructability.
  - Pretreatment of stormwater will be necessary to reduce maintenance and prolong the lifespan of the infiltration BMP by removing trash, debris, organic materials, coarse sediments, and associated pollutants prior to entering the infiltration BMP.
  - Coordinate with LACFCD for the flood control permit with respect to the potential hydraulic impacts of the proposed storm drain diversion.

Photo: Existing condition of the school paved playground, view from Victoria Ave.

Photo: Existing condition of Beethoven Elementary School's paved playground, view from Lucille Ave.

Project Benefits

Water Quality

The proposed project would assist in increasing wet-weather stormwater infiltration to reduce bacteria, toxics, and metals in downstream receiving water bodies.

Water Supply

The proposed project would increase subsurface infiltration of stormwater and contribute to groundwater recharge.

Reduced Heat Island Effect

Greenscaping and additional trees in the school's courtyards and around the property would provide shade to aid in offsetting the effects of heat-absorbing materials.

Neighborhood Beautification

New vegetation and beautification elements would increase community pride and engagement. Added green space would benefit students and staff while encouraging safer, more active outdoor recreation.

Community Benefit

New and improved athletic fields, outdoor recreational space, and greenscaping would improve the school's aesthetics, recreational spaces, and school pride.

Plummer Street Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Project Overview

- The Plummer Street Stormwater Project (Project) was part of a 2021 citywide effort to identify stormwater capture and infiltration projects needed to achieve National Pollutant Discharge Elimination System (NPDES) permit compliance and meet Total Maximum Daily Loads (TMDLs).
- The Project presents an opportunity to enhance surface water quality and increase subsurface infiltration by diverting, capturing, and infiltrating upstream wet weather runoff.
- The Project would manage total of 74.1 acre-feet of stormwater diverted from multiple links of the City of Los Angeles storm drain system. The diverted flow would be conveyed to a network of drywells along Plummer and its adjacent streets for groundwater recharge.
- Figure 1 presents an example of the diversion from the 81-inch City of Los Angeles storm drain under DeSoto Avenue that could be conveyed to a network of drywells along Plummer Street from DeSoto Avenue to Mason Avenue. The specific number and locations of drywells will be determined during a feasibility study.
- Bioretention would also be designed into the cross streets to capture surface flow.

Figure 2: Project overall area.
The area in the red rectangle is shown in Figure 1.

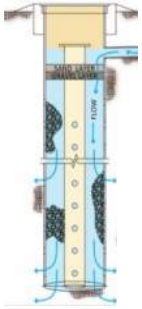
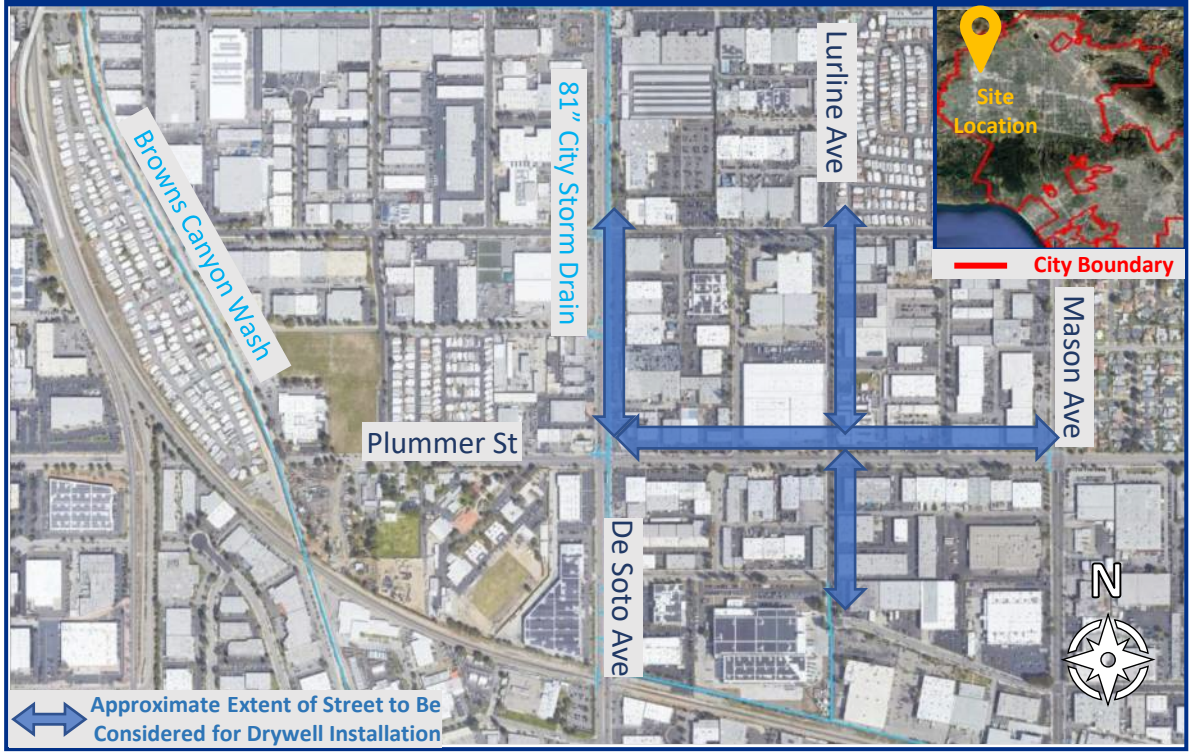


Figure 3: Typical Drywell (Source: CA Office of Environmental Health Hazard Assessment)

Project Summary (per CIP Analysis Workbook)

Address	Plummer St from DeSoto Ave to Mason Ave, Los Angeles, CA 91311	**Project ID**	323, 324, 325, 326, 327, 332
Coordinates	34°14'33.77"N, 118°36'14.28"W	**Capture Volume (Drainage Area)**	74.1 acre-feet (5,912 acres)
City Council District	12	**Construction Cost**	$40.8 M
City of LA Watershed	Upper Los Angeles River	**Construction Duration**	3-5 years
Safe, Clean Water Program (SCWP) Watershed	Upper Los Angeles River	**Disadvantaged Community (DAC)**	No
Project Type	Roadway	**Owning Agency**	Roadway

Figure 1: Conceptual Layout



Plummer Street Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Design Considerations

- Rainfall from the 85th percentile 24-hour storm ranges from approximately 1 inch to 1.1 inches based on Los Angeles County isohyets.
- The assumed infiltration rate is 3 in/hr for drywells. This infiltration rate was conservatively estimated based on the best available data when soil condition is fair for infiltration.
- Depth to groundwater ranges from approximately 50 to 65 feet, based on the City of Los Angeles GeoHub.
- The following will need to be considered as part of the future design:
  - Conduct a site evaluation to confirm that the site can manage the flow volume with the maximum safe size of the BMP.
  - Perform geotechnical investigations to confirm soil suitability, infiltration rates, and setback requirements at this site.
  - Consider the invert elevation of the diversion point and BMP freeboard requirements, which could impact the installation depth and capture volume capacity of the infiltration BMP.
  - Evaluate overhead utilities, potential utility easements, and right-of-way constraints that may interfere with the BMP or diversion system's constructability.
  - Pretreatment of stormwater will be necessary to reduce maintenance and prolong the lifespan of the infiltration BMP by removing trash, debris, organic materials, coarse sediments, and associated pollutants prior to entering the infiltration BMP.
  - Identify the number of storm drain diversions required to hydraulically supply the proposed quantity and locations of drywells in the project area.

Photo: Plummer Street facing east from De Soto Ave.

Photo: Plummer St facing west from Mason St.

Project Benefits

Water Quality

The proposed project would assist in increasing wet-weather stormwater infiltration to reduce bacteria, toxics, and metals in downstream receiving water bodies. This project location has a pollutant load reduction factor that ranges from 85 to 95 percent.

Water Supply

The proposed project would increase subsurface infiltration of stormwater and contribute to groundwater recharge.

Reduce Heat Island Effect

Greenscaping and additional trees in biofiltration areas would aid in offsetting the effects of heat-absorbing materials.

Community Benefit

New greenscaping in the future green streets. Potential for local artists to participate in redesign to increase community engagement and capture the local community aesthetic.

Neighborhood Beautification

New greenscaping and trees would improve neighborhood aesthetics.

Ramona Elementary School Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Project Overview

- The Ramona Elementary School Stormwater Project (Project) was part of a 2021 citywide effort to identify stormwater capture and infiltration projects needed to achieve National Pollutant Discharge Elimination System (NPDES) permit compliance and meet Total Maximum Daily Loads (TMDLs).
- The Project presents an opportunity to enhance surface water quality and increase subsurface infiltration by diverting, capturing, and infiltrating upstream wet-weather runoff.
- The Project would manage 11.8 acre-feet of stormwater diverted from a 64-inch storm drain maintained by the City of Los Angeles. The diverted flow would be conveyed to a series of subsurface Best Management Practices (BMPs) that would recharge groundwater.
- BMP options include:
  - One large 15-foot-high infiltration gallery under the paved playground and field, with an approximate footprint of 0.8 acres (as shown in Figure 1). Pending further evaluation, multiple interconnected galleries with open spaces between may be necessary.
  - As an alternative, stormwater could be infiltrated into the ground using a system of drywells under the paved playground or other parts of the school. The specific number and locations of drywells would be determined during a future feasibility study.

Figure 2: typical Infiltration Gallery (Source: StormTrap)

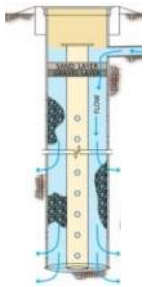


Figure 3: Typical Drywell (Source: CA Office of Environmental Health Hazard Assessment)

Project Summary (per CIP Analysis Workbook)

Address	1133 N Mariposa Av Los Angeles, CA 90029	**Project ID**	260
Coordinates	34° 5'29.49"N, 118°17'59.95"W	**Capture Volume (Drainage Area)**	11.8 acre-feet (573 acres)
City Council District	13	**Construction Cost**	$6.5 M
City of LA Watershed	Ballona Creek	**Construction Duration**	4 years
Safe, Clean Water Program (SCWP) Watershed	Central Santa Monica Bay	**Disadvantaged Community (DAC)**	Yes
Project Type	Parcel	**Owning Agency**	Los Angeles Unified School District

Figure 1: Conceptual Layout

Ramona Elementary School Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Design Considerations

- Rainfall from the 85th percentile 24-hour storm is approximately 1-inch based on Los Angeles County isohyets.
- The assumed infiltration rate is 0.3 in/hr and 3 in/hr for infiltration galleries and drywells, respectively. This infiltration rate was conservatively estimated based on the best available data when soil condition is fair for infiltration.
- Depth to groundwater is approximately 20 feet based on the City of Los Angeles GeoHub.
- The following will need to be considered as part of the future design:
  - Conduct a site evaluation to confirm that the site can manage the flow volume with the maximum safe size of the BMP.
  - Perform geotechnical investigations to confirm soil suitability, infiltration rates, and setback requirements at this site.
  - Consider the invert elevation of the diversion point and BMP freeboard requirements, which could impact the installation depth and capture volume capacity of the infiltration BMP.
  - Evaluate overhead utilities, potential utility easements, and right-of-way constraints that may interfere with the BMP or diversion system's constructability.
  - Pretreatment of stormwater will be necessary to reduce maintenance and prolong the lifespan of the infiltration BMP by removing trash, debris, organic materials, coarse sediments, and associated pollutants prior to entering the infiltration BMP.

Photo: Existing condition of the school, view from N Normandie Ave.

Photo: Existing condition of the school, view from Santa Monica Blvd.

Project Benefits

Water Quality

The proposed project would assist in increasing wet-weather stormwater infiltration to reduce bacteria, toxics, and metals in downstream receiving water bodies. This project location has a pollutant load reduction factor of 95 percent.

Water Supply

The proposed project would increase subsurface infiltration of stormwater and contribute to groundwater recharge.

Reduced Flooding

This area is a location with identified flooding issues. Increasing subsurface infiltration would reduce flooding in the project vicinity.

Reduced Heat Island Effect

Greenscaping and additional trees around the school property would provide shade to aid in offsetting the effects of heat-absorbing materials.

Neighborhood Beautification

New vegetation and beautification elements would increase community pride and engagement.

Community Benefit

New and improved outdoor recreational space and greenscaping would improve the school's aesthetics, recreational spaces, and school pride.

DAC Benefits

The project is located within a disadvantaged community (DAC) boundary, as defined by the Department of Water Resources (DWR).

Los Angeles Street Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Project Overview

- The Los Angeles Street, from 15th to Pico Boulevard, Stormwater Project (Project) was part of a 2021 citywide effort to identify stormwater capture and infiltration projects needed to achieve National Pollutant Discharge Elimination System (NPDES) permit compliance and meet Total Maximum Daily Loads (TMDLs).
- The Project presents an opportunity to enhance surface water quality and increase subsurface infiltration by diverting, capturing, and infiltrating upstream wet weather runoff.
- The Project would manage 5 acre-feet of stormwater diverted from the City of Los Angeles reinforced concrete pipe (RCP) storm drain system. The diverted flow would be conveyed to a network of drywells along Los Angeles Street between 15th Street and Pico Boulevard for groundwater recharge.
- Figure 1 presents an example of the diversion from the 24-inch and a 48-inch City of Los Angeles storm drain that could be conveyed to a network of drywells along Los Angeles Street from 15th Street to Pico Boulevard and adjacent streets. The specific number and locations of drywells will be determined during a feasibility study.
- Bioretention would also be designed into the cross streets to capture surface flow.

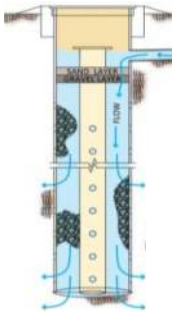


Figure 2: Typical Drywell (Source: CA Office of Environmental Health Hazard Assessment)

Figure 3: Typical Bioretention (Source: Philadelphia Green Streets Design Manual)

Project Summary (per CIP Analysis Workbook)

Address	Los Angeles St from 15th to Pico Blvd	**Project ID**	380
Coordinates	34° 2'8.54"N, 118°15'33.83"W	**Capture Volume (Drainage Area)**	5 acre-feet (66 acres)
City Council District	14	**Construction Cost**	$2.8 M
City of LA Watershed	Ballona Creek	**Construction Duration**	3 years
Safe, Clean Water Program (SCWP) Watershed	Central Santa Monica Bay	**Disadvantaged Community (DAC)**	No
Project Type	Roadway	**Owning Agency**	Roadway

Figure 1: Conceptual Layout

Los Angeles Street Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Design Considerations

- Rainfall from the 85th percentile 24-hour storm is approximately 1.1 inches based on Los Angeles County isohyets.
- The assumed infiltration rate is 3 in/hr for drywells. This infiltration rate was conservatively estimated based on the best available data when soil condition is fair for infiltration.
- Depth to groundwater is approximately 166 feet, based on the City of Los Angeles GeoHub.
- The following will need to be considered as part of the future design:
  - Conduct a site evaluation to confirm that the site can manage the flow volume with the maximum safe size of the BMP.
  - Perform geotechnical investigations to confirm soil suitability, infiltration rates, and setback requirements at this site.
  - Consider the invert elevation of the diversion point and BMP freeboard requirements, which could impact the installation depth and capture volume capacity of the infiltration BMP.
  - Evaluate overhead utilities, potential utility easements, and right-of-way constraints that may interfere with the BMP or diversion system's constructability.
  - Pretreatment of stormwater will be necessary to reduce maintenance and prolong the lifespan of the infiltration BMP by removing trash, debris, organic materials, coarse sediments, and associated pollutants prior to entering the infiltration BMP.
  - Identify the number of storm drain diversions required to hydraulically supply the proposed quantity and locations of drywells in the project area.

Photo: Los Angeles St facing south from Pico Blvd.

Photo: Los Angeles St facing north from 15th St.

Project Benefits

Water Quality

The proposed project would assist in increasing wet-weather stormwater infiltration to reduce bacteria, toxics, and metals in downstream receiving water bodies. This project location has a pollutant load reduction factor of 7 percent.

Water Supply

The proposed project would increase subsurface infiltration of stormwater and contribute to groundwater recharge.

Reduce Heat Island Effect

Greenscaping and additional trees in biofiltration areas would aid in offsetting the effects of heat-absorbing materials.

Community Benefit

New greenscaping in the future green streets. Potential for local artists to participate in redesign to increase community engagement and capture the local community aesthetic.

Neighborhood Beautification

New vegetation and beautification elements would increase community pride and engagement.

City Yard Multi-Benefit Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Project Overview

- The City Yard Stormwater Project (Project) was part of a 2021 citywide effort to identify stormwater capture and infiltration projects needed to achieve National Pollutant Discharge Elimination System (NPDES) permit compliance and meet Total Maximum Daily Loads (TMDLs).
- The Project presents an opportunity to enhance surface water quality and increase subsurface infiltration by diverting, capturing, and infiltrating upstream wet-weather runoff.
- The Project would manage 40.6 acre-feet of stormwater diverted from the 72-inch and 62-inch storm drains maintained by the Los Angeles County Flood Control District (LACFCD) and City of Los Angeles, respectively, as well as Caltrans storm drains located near the freeway system to the east of the project area. The diverted flow would be conveyed to a series of subsurface Best Management Practices (BMPs) that would recharge groundwater.
- BMP options include:
  - One large 15-foot-high infiltration gallery under the paved city yard, with an approximate footprint of 2.7 acres (as shown in Figure 1). Pending further evaluation, multiple interconnected galleries with open spaces between may be necessary.
  - As an alternative, stormwater could be infiltrated into the ground using a system of drywells under the City yard. The specific number and locations of drywells would be determined during a future feasibility study.

Figure 2: typical Infiltration Gallery (Source: StormTrap)

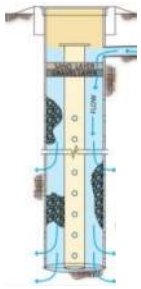
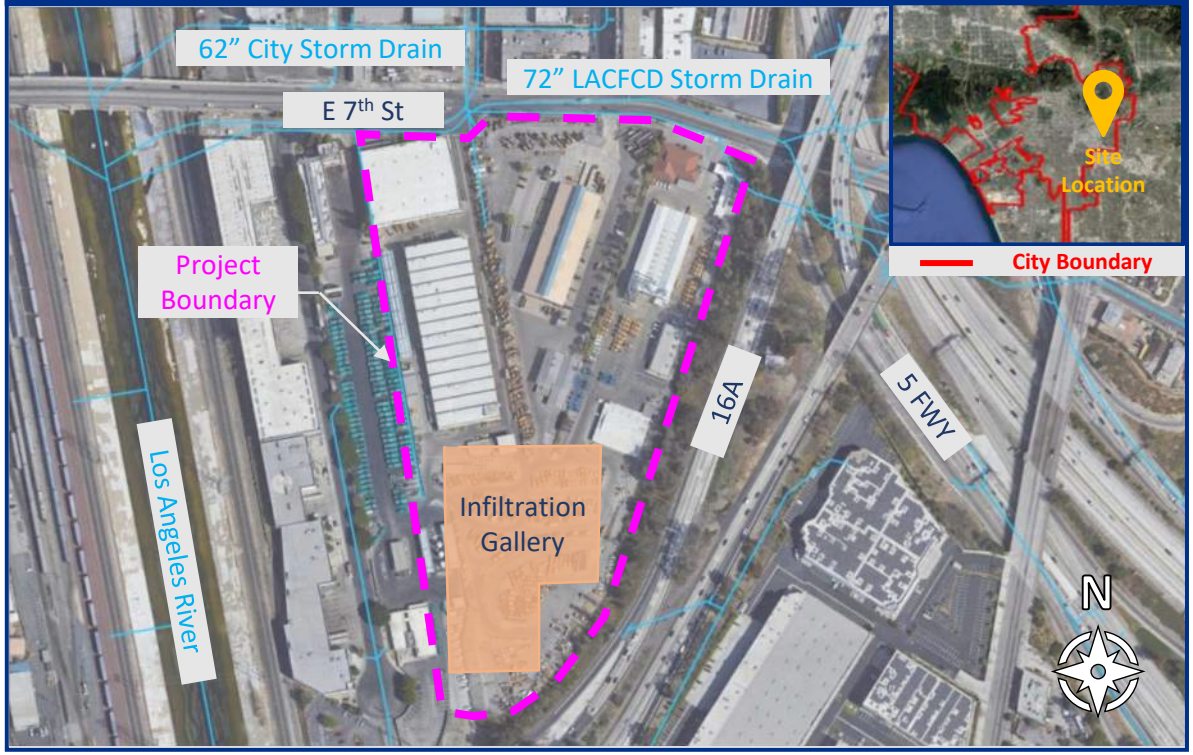


Figure 3: Typical Drywell (Source: CA Office of Environmental Health Hazard Assessment)

Project Summary (per CIP Analysis Workbook)

Address	2300 E 7th St Los Angeles, CA 90023	**Project ID**	252
Coordinates	34° 2'4.21"N, 118°13'22.20"W	**Capture Volume (Drainage Area)**	40.6 acre-feet (1,011 acres)
City Council District	14	**Construction Cost**	$22.3 M
City of LA Watershed	Upper Los Angeles River	**Construction Duration**	5 years
Safe, Clean Water Program (SCWP) Watershed	Upper Los Angeles River	**Disadvantaged Community (DAC)**	Yes
Project Type	Parcel	**Owning Agency**	City of Los Angeles

Figure 1: Conceptual Layout



City Yard Multi-Benefit Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Design Considerations

- Rainfall from the 85th percentile 24-hour storm is approximately 1-inch based on Los Angeles County.
- The assumed infiltration rate is 0.3 in/hr and 3 in/hr for infiltration galleries and drywells, respectively. This infiltration rate was conservatively estimated based on the best available data when soil condition is fair for infiltration.
- Depth to groundwater is approximately 177 feet based on the City of Los Angeles GeoHub.
- The following will need to be considered as part of the future design:
  - Conduct a site evaluation to confirm that the site can manage the flow volume with the maximum safe size of the BMP.
  - Perform geotechnical investigations to confirm soil suitability, infiltration rates, and setback requirements at this site.
  - Consider the invert elevation of the diversion point and BMP freeboard requirements, which could impact the installation depth and capture volume capacity of the infiltration BMP.
  - Evaluate overhead utilities, potential utility easements, and right-of-way constraints that may interfere with the BMP or diversion system's constructability.
  - Pretreatment of stormwater will be necessary to reduce maintenance and prolong the lifespan of the infiltration BMP by removing trash, debris, organic materials, coarse sediments, and associated pollutants prior to entering the infiltration BMP.
  - Coordinate with LACFCD and Caltrans for the flood control permit with respect to the potential hydraulic impacts of the proposed storm drain diversion.

Photo: Existing condition of the City yard: front gate area.

Photo: Existing condition of the City yard: proposed infiltration gallery area.

Project Benefits

Water Quality — The proposed project would assist in increasing wet-weather stormwater infiltration to reduce bacteria, toxics, and metals in downstream receiving water bodies. This project location has a pollutant load reduction factor of 91 percent.

Water Supply — The proposed project would increase subsurface infiltration of stormwater and contribute to groundwater recharge.

Reduced Heat Island Effect — Greenscaping and additional trees around the perimeter of the City yard would provide shade to aid in offsetting the effects of heat-absorbing materials.

Neighborhood Beautification — New vegetation and beautification elements would increase community pride and engagement.

DAC Benefits — The project is located within a disadvantaged community (DAC) boundary, as defined by the Department of Water Resources (DWR).

Central Boulevard and Imperial Highway Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Project Overview

- The Central Boulevard and Imperial Highway Stormwater Project (Project) was part of a 2021 citywide effort to identify stormwater capture and infiltration projects needed to achieve National Pollutant Discharge Elimination System (NPDES) permit compliance and meet Total Maximum Daily Loads (TMDLs).
- The project presents an opportunity to enhance surface water quality and increase subsurface infiltration by diverting, capturing, and infiltrating upstream wet weather runoff.
- The Project would manage total of 41.3 acre-feet of stormwater diverted from multiple links of the City of Los Angeles reinforced concrete box (RCB) storm drain system. The diverted flow would be conveyed to a network of drywells along Central Boulevard from East Imperial Highway to East 119th Street, Imperial Highway from South Central Avenue to Success Avenue, Imperial Highway from Success Avenue to South Grandee Avenue, and their adjacent streets for groundwater recharge.
- Figure 1 presents an example of a diversion from the 60-inch City of Los Angeles storm drain that could be conveyed to a network of drywells along Central Boulevard and adjacent streets. The specific number and locations of drywells will be determined during a feasibility study.
- Bioretention would also be designed into the cross streets to capture surface flow.

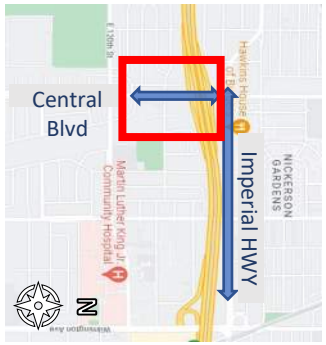


Figure 2: Project overall area. The area in the red rectangle is shown in Figure 1.

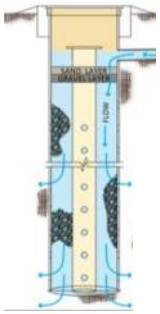


Figure 3: Typical Drywell (Source: CA Office of Environmental Health Hazard Assessment).

Project Summary (per CIP Analysis Workbook)

Address	Central Blvd and Imperial Hwy Los Angeles, CA 90059	**Project ID**	109, 110, 111
Coordinates	33°55'46.10"N, 118°15'15.46"W	**Capture Volume (Drainage Area)**	41.3 acre-feet (14,543 acres)
City Council District	15	**Construction Cost**	$22.7 M
City of LA Watershed	Upper Los Angeles River	**Construction Duration**	4 years
Safe, Clean Water Program (SCWP) Watershed	Upper Los Angeles River	**Disadvantaged Community (DAC)**	Yes
Project Type	Roadway	**Owning Agency**	Roadway

Figure 1: Conceptual Layout

Central Boulevard and Imperial Highway Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Design Considerations

- Rainfall from the 85th percentile 24-hour storm is approximately 0.9 inches based on Los Angeles County isohyets.
- The assumed infiltration rate is 3 in/hr for drywells. This infiltration rate was conservatively estimated based on the best available data when soil condition is fair for infiltration.
- Depth to groundwater ranges from approximately 93 to 101 feet, based on the City of Los Angeles GeoHub.
- The following will need to be conducted as part of the future design:
  - Conduct a site evaluation to confirm that the site can manage the flow volume with the maximum safe size of the BMP.
  - Perform geotechnical investigations to confirm soil suitability, infiltration rates, and setback requirements at this site.
  - Consider the invert elevation of the diversion point and BMP freeboard requirements, which could impact the installation depth and capture volume capacity of the infiltration BMP.
  - Evaluate overhead utilities, potential utility easements, and right-of-way constraints that may interfere with the BMP or diversion system's constructability.
  - Pretreatment of stormwater would be necessary to reduce maintenance and prolong the lifespan of the infiltration BMP by removing trash, debris, organic materials, coarse sediments, and associated pollutants prior to entering the infiltration BMP.
  - Identify the number of storm drain diversions required to hydraulically supply the proposed quantity and locations of drywells in the project area.

Photo: Central Ave facing north from 119th St.

Photo: Central Ave facing south from Imperial Hwy.

Project Benefits

Water Quality

The proposed project assists in increasing wet-weather stormwater infiltration to reduce bacteria, toxics, and metals in downstream receiving water bodies. This project location has a pollutant load reduction factor that ranges from 84 to 90 percent.

Water Supply

The proposed project would increase subsurface infiltration of stormwater and contribute to groundwater recharge.

Reduce Heat Island Effect

Greenscaping and additional trees in biofiltration areas and upgraded bus stops would aid in offsetting the effects of heat-absorbing materials.

Community Benefit

New greenscaping and shaded seating at bus stops in the future green streets. Potential for local artists to participate in redesign to increase community engagement and capture the local community aesthetic.

DAC Benefits

The project is located within a disadvantaged community (DAC) boundary, as defined by the Department of Water Resources (DWR).

Neighborhood Beautification

New greenscaping, trees, and shaded bus stops would be part of improved neighborhood aesthetics and provide much-needed benefits to those who live and work in this DAC.

Banning Park and Museum Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Project Overview

- The Banning Park and Museum Stormwater Project (Project) was part of a 2021 citywide effort to identify stormwater capture and infiltration project needed to achieve National Pollutant Discharge Elimination System (NPDES) permit compliance and meet Total Maximum Daily Loads (TMDLs).
- The Project presents an opportunity to enhance surface water quality and increase subsurface infiltration by diverting, capturing, and infiltrating upstream wet-weather runoff while providing other benefits to the community.
- The Project would manage 2.7 acre-feet of stormwater diverted from a 24-inch City of Los Angeles storm drain. The diverted flow would be conveyed to a series of subsurface Best Management Practices (BMPs) that would recharge groundwater.
- BMP options include:
  - One large 15-foot-high infiltration gallery under the existing open spaces and walkways, with an approximate footprint of 150 feet by 55 feet (as shown in Figure 1).
  - As an alternative, stormwater could be infiltrated into the ground using a system of drywells at the site or in the neighboring streets. The specific number and locations of drywells would be determined during a future feasibility study.
  - Bioretention and porous materials for the walkways could be used in the project area.

Figure 2: Typical Infiltration Gallery (Source: StormTrap)

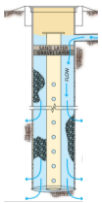


Figure 3: Typical Drywell (Source: CA Office of Environmental Health Hazard Assessment)

Figure 4: Typical Bioretention (Source: Philadelphia Green Streets Design Manual)

Project Summary (per CIP Analysis Workbook)

Address	401 E M St, Wilmington CA 90744	**Project ID**	274
Coordinates	33°47'25.02"N, 118°15'29.47"W	**Capture Volume (Drainage Area)**	2.7 acre-feet (57 acres)
City Council District	15	**Construction Cost**	$1.5 M
City of LA Watershed	Dominguez Channel	**Construction Duration**	3 years
Safe, Clean Water Program (SCWP) Watershed	South Santa Monica Bay	**Disadvantaged Community (DAC)**	Yes
Project Type	Parcel	**Owning Agency**	City of Los Angeles

Figure 1: Conceptual Layout

Banning Park and Museum Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Design Considerations

- Rainfall from the 85th percentile 24-hour storm is approximately 0.7 inches based on Los Angeles County isohyets.
- The assumed infiltration rate is 0.5 in/hr and 5 in/hr for infiltration galleries and drywells, respectively. This infiltration rate was conservatively estimated based on the best available data when soil condition is good for infiltration.
- Depth to groundwater is approximately 56 feet based on the City of Los Angeles GeoHub.
- The following will need to be considered as part of the future design:
  - Conduct a site evaluation to confirm that the site can manage the flow volume with the maximum safe size of the BMP.
  - Perform geotechnical investigations to confirm soil suitability, infiltration rates, and setback requirements at this site.
  - Consider the invert elevation of the diversion point and BMP freeboard requirements, which could impact the installation depth and capture volume capacity of the infiltration BMP.
  - Evaluate overhead utilities, potential utility easements, and right-of-way constraints that may interfere with the BMP or diversion system's constructability.
  - Pretreatment of stormwater will be necessary to reduce maintenance and prolong the lifespan of the infiltration BMP by removing trash, debris, organic materials, coarse sediments, and associated pollutants prior to entering the infiltration BMP.

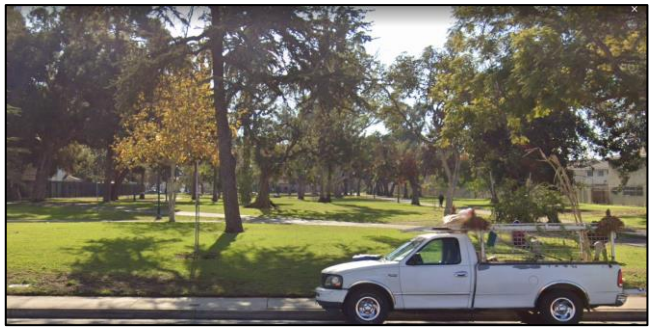


Photo: Existing condition of the west side of the park.

Project Benefits

Water Quality
The proposed project would assist in increasing wet-weather stormwater infiltration to reduce bacteria, toxics, and metals in downstream receiving water bodies.

Water Supply
The proposed project would increase subsurface infiltration of stormwater and contribute to groundwater recharge.

Reduced Flooding
This area is a location with identified flooding issues. Increasing subsurface infiltration would reduce flooding in the project vicinity.

Parks and Green Space
After construction of the project, the existing park and field would be re-constructed, re-invigorating this important open green space.

Neighborhood Beautification
New vegetation and beautification elements would increase community pride and engagement.

Community Benefit
New greenscaping and other passive features such as shaded seating and educational kiosks would be provided may promote socialization, and outdoor time would have a positive impact on the well-being of the community.

DAC Benefits
The project is located within a disadvantaged community (DAC) boundary, as defined by the Department of Water Resources (DWR).

Gardena Elementary School Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Project Overview

- The Gardena Elementary School Stormwater Project (Project) was part of a 2021 citywide effort to identify stormwater capture and infiltration projects needed to achieve National Pollutant Discharge Elimination System (NPDES) permit compliance and meet Total Maximum Daily Loads (TMDLs).
- The Project presents an opportunity to enhance surface water quality and increase subsurface infiltration by diverting, capturing, and infiltrating upstream wet-weather runoff while providing other benefits to the community.
- The Project would manage 39.6 acre-feet of stormwater diverted from a 114-inch storm drain maintained by the Los Angeles County Flood Control District (LACFCD). The diverted flow would be conveyed to a series of subsurface Best Management Practices (BMPs) that would recharge groundwater.
- BMP options include:
  - One large 15-foot-high infiltration gallery under the paved playground and field, with an approximate footprint of 0.8 acres (as shown in Figure 1). This BMP would manage up to 12 acre-feet.
  - Remaining stormwater volume could be received by drywells at the school site or neighboring streets (as shown in Figure 1).
  - Bioretention and porous materials for the walkways could be used in the project area.

Figure 2: Typical Infiltration Gallery (Source: StormTrap)

Figure 3: Typical Bioretention (Source: Philadelphia Green Streets Design Manual)

Project Summary (per CIP Analysis Workbook)

Address	647 W Gardena Blvd Gardena, CA 90247	**Project ID**	279
Coordinates	33°52'56.24"N, 118°17'11.62"W	**Capture Volume (Drainage Area)**	39.6 acre-feet (991 acres)
City Council District	15	**Construction Cost**	$21.8 M
City of LA Watershed	Dominguez Channel	**Construction Duration**	5 years
Safe, Clean Water Program (SCWP) Watershed	South Santa Monica Bay	**Disadvantaged Community (DAC)**	Yes
Project Type	Parcel	**Owning Agency**	Los Angeles Unified School District

Figure 1: Conceptual Layout

Gardena Elementary School Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Design Considerations

- Rainfall from the 85th percentile 24-hour storm is approximately 0.9 inches based on Los Angeles County isohyets.
- The assumed infiltration rate is 0.3 in/hr and 3 in/hr for infiltration galleries and drywells, respectively. This infiltration rate was conservatively estimated based on the best available data when soil condition is fair for infiltration.
- Depth to groundwater is approximately 35 feet based on the City of Los Angeles GeoHub.
- The following will need to be considered as part of the future design:
  - Conduct a site evaluation to confirm that the site can manage the flow volume with the maximum safe size of the BMP.
  - Perform geotechnical investigations to confirm soil suitability, infiltration rates, and setback requirements at this site.
  - Consider the invert elevation of the diversion point and BMP freeboard requirements, which could impact the installation depth and capture volume capacity of the infiltration BMP.
  - Evaluate overhead utilities, potential utility easements, and right-of-way constraints that may interfere with the BMP or diversion system's constructability.
  - Pretreatment of stormwater will be necessary to reduce maintenance and prolong the lifespan of the infiltration BMP by removing trash, debris, organic materials, coarse sediments, and associated pollutants prior to entering the infiltration BMP.
  - Coordinate with LACFCD for the flood control permit with respect to the potential hydraulic impacts of the proposed storm drain diversion.

Photo: Existing condition of the school outdoor recreational area. View from W Gardena Blvd.

Photo: Existing condition of the school outdoor recreational area. View from Estrella Ave.

Project Benefits

Water Quality

The proposed project would assist in increasing wet-weather stormwater infiltration to reduce bacteria, toxics, and metals in downstream receiving water bodies.

Water Supply

The proposed project would increase subsurface infiltration of stormwater and contribute to groundwater recharge.

Reduced Flooding

This area is a location with identified flooding issues. Increasing subsurface infiltration would reduce flooding in the project vicinity.

Reduced Heat Island Effect

Greenscaping and additional trees at the school and on the neighboring green streets would provide shade to aid in offsetting the effects of heat-absorbing materials.

Neighborhood Beautification

New greenscaping, trees, and a shaded bus stop on W Gardenia Boulevard would beautify the neighborhood. Added green space and playground upgrades would benefit students and staff while encouraging safer, more active outdoor recreation.

Community Benefit

New and improved playground spaces and greenscaping would improve the school's aesthetics, recreational spaces, and school pride.

DAC Benefits

The project is located within a disadvantaged community (DAC) boundary, as defined by the Department of Water Resources (DWR).

Segment of Pacific Coast Highway Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Project Overview

- Segment of Pacific Coast Highway Stormwater Project (Project), Senator Avenue to the east of Normandie Avenue, was part of a 2021 citywide effort to identify stormwater capture and infiltration projects needed to achieve National Pollutant Discharge Elimination System (NPDES) permit compliance and meet Total Maximum Daily Loads (TMDLs).
- The Project presents an opportunity to enhance surface water quality and increase subsurface infiltration by diverting, capturing, and infiltrating upstream wet weather runoff.
- The Project would manage 11.8 acre-feet of stormwater diverted from the Los Angeles County Flood Control District (LACFCD) storm drain system. The diverted flow would be conveyed to a network of drywells along the Pacific Coast Highway between Senator Avenue to the east of Normandie Avenue and their adjacent streets for groundwater recharge.
- Figure 1 presents an example of the diversion from the 81-inch LACFCD storm drain that could be conveyed to a network of drywells along the Pacific Coast Highway between Senator Avenue to the east of Normandie Avenue and their adjacent streets. The specific number and locations of drywells will be determined during a feasibility study.
- Bioretention would also be designed into the cross streets to capture surface flow.

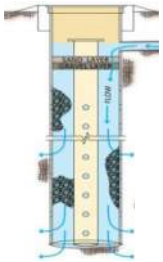


Figure 2: Typical Drywell
(Source: CA Office of Environmental Health Hazard Assessment)

Figure 3: Typical Bioretention
(Source: Philadelphia Green Streets Design Manual)

Project Summary (per CIP Analysis Workbook)

Address	Pacific Coast Highway, Senator Ave to east of Normandie Ave Los Angeles, CA 90701	**Project ID**	272
Coordinates	33°47'27.80"N, 118°15'0.19"W	**Capture Volume (Drainage Area)**	11.8 acre-feet (193 acres)
City Council District	15	**Construction Cost**	$6.5 M
City of LA Watershed	Dominguez Channel	**Construction Duration**	4 years
Safe, Clean Water Program (SCWP) Watershed	South Santa Monica Bay	**Disadvantaged Community (DAC)**	Yes
Project Type	Roadway	**Owning Agency**	Roadway

Figure 1: Conceptual Layout

Segment of Pacific Coast Highway Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Design Considerations

- Rainfall from the 85th percentile 24-hour storm is approximately 0.9 inches based on Los Angeles County isohyets.
- The assumed infiltration rate is 5 in/hr for drywells. This infiltration rate was conservatively estimated based on the best available data when soil condition is good for infiltration.
- Depth to groundwater is approximately 56 feet, based on the City of Los Angeles GeoHub.
- The following will need to be considered as part of the future design:
  - Conduct a site evaluation to confirm that the site can manage the flow volume with the maximum safe size of the BMP.
  - Perform geotechnical investigations to confirm soil suitability, infiltration rates, and setback requirements at this site.
  - Consider the invert elevation of the diversion point and BMP freeboard requirements, which could impact the installation depth and capture volume capacity of the infiltration BMP.
  - Evaluate overhead utilities, potential utility easements, and right-of-way constraints that may interfere with the BMP or diversion system's constructability.
  - Pretreatment of stormwater will be necessary to reduce maintenance and prolong the lifespan of the infiltration BMP by removing trash, debris, organic materials, coarse sediments, and associated pollutants prior to entering the infiltration BMP.
  - Identify the number of storm drain diversions required to hydraulically supply the proposed quantity and locations of drywells in the project area.
  - Coordinate with LACFCD for the flood control permit with respect to the potential hydraulic impacts of the proposed storm drain diversion.

Photo: Pacific Coast Hwy facing west from N Normandie Ave.

Photo: Pacific Coast Hwy facing east from Senator Ave.

Project Benefits

Water Quality

The proposed project would assist in increasing wet-weather stormwater infiltration to reduce bacteria, toxics, and metals in downstream receiving water bodies.

Water Supply

The proposed project would increase subsurface infiltration of stormwater and contribute to groundwater recharge.

Reduce Heat Island Effect

Greenscaping and additional trees in biofiltration areas and upgraded bus stops to aid in offsetting the effects of heat-absorbing materials.

Community Benefit

New greenscaping in the future green streets. Potential for local artists to participate in redesign to increase community engagement and capture the local community aesthetic.

Neighborhood Beautification

New greenscaping and trees would improve neighborhood aesthetics.

DAC Benefits

The project is located within a disadvantaged community (DAC) boundary, as defined by the Department of Water Resources (DWR).

Western Avenue Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Project Overview

- The Western Avenue from 182nd Street to North of 405 Freeway Stormwater Project (Project) was part of a 2021 citywide effort to identify stormwater capture and infiltration projects needed to achieve National Pollutant Discharge Elimination System (NPDES) permit compliance and meet Total Maximum Daily Loads (TMDLs).
- The Project presents an opportunity to enhance surface water quality and increase subsurface infiltration by diverting, capturing, and infiltrating upstream wet weather runoff.
- The Project would manage 12.1 acre-feet of stormwater diverted from the City of Los Angeles storm drain system. The diverted flow would be conveyed to a series of drywells along Western Boulevard from 182nd Street to North of 405 Freeway and their adjacent streets for groundwater recharge.
- Figure 1 presents an example of the diversion from the 78-inch City of Los Angeles storm drain that could be conveyed to a network of drywells along Western Boulevard from 182nd Street to North of 405 Freeway and adjacent streets. The specific number and locations of drywells will be determined during a feasibility study.
- Bioretention would also be designed into the cross streets to capture surface flow.

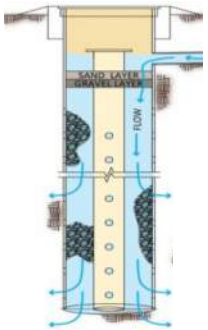


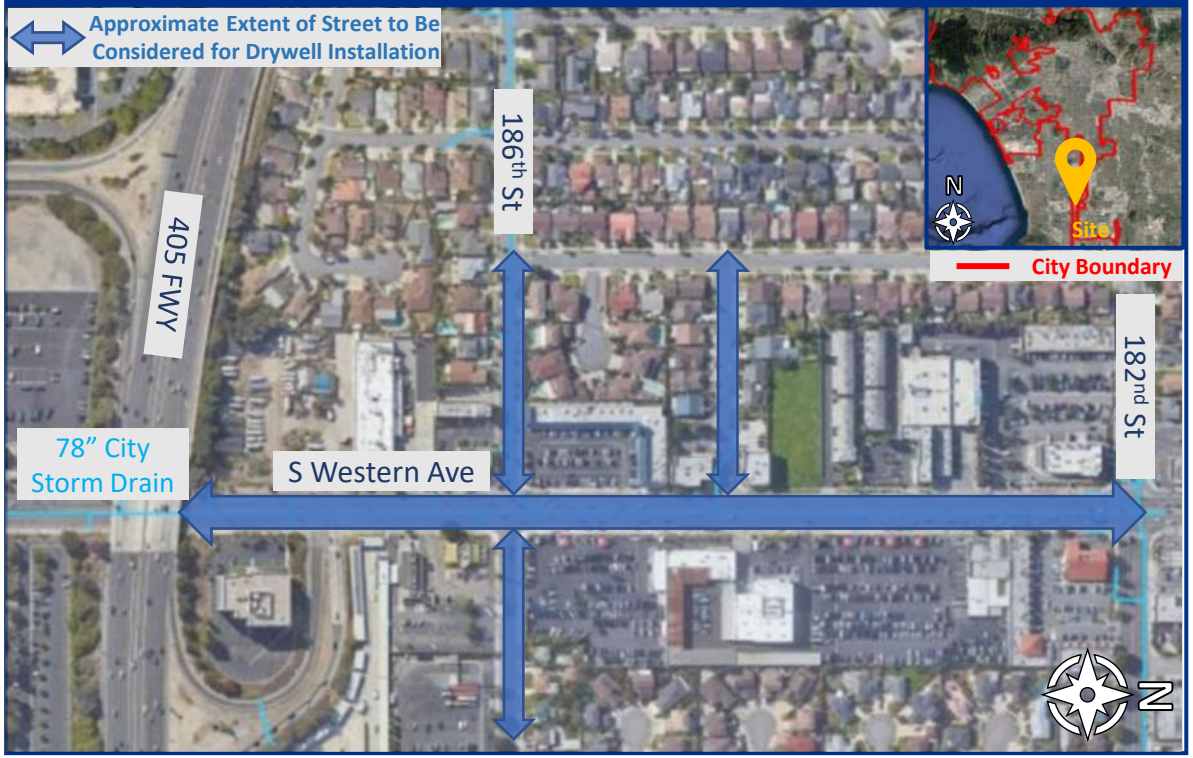
Figure 2: Typical Drywell
(Source: CA Office of Environmental Health Hazard Assessment)

Figure 3: Typical Bioretention
(Source: Philadelphia Green Streets Design Manual)

Project Summary (per CIP Analysis Workbook)

Address	Western Ave from 182nd St to 405 Fwy Gardenia, CA 90248	**Project ID**	278
Coordinates	33°51'55.01"N, 118°18'31.84"W	**Capture Volume (Drainage Area)**	12.1 acre-feet (329 acres)
City Council District	15	**Construction Cost**	$6.7 M
City of LA Watershed	Dominguez Channel	**Construction Duration**	4 years
Safe, Clean Water Program (SCWP) Watershed	South Santa Monica Bay	**Disadvantaged Community (DAC)**	No
Project Type	Roadway	**Owning Agency**	Roadway

Figure 1: Conceptual Layout



Western Avenue Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Design Considerations

- Rainfall from the 85th percentile 24-hour storm is approximately 0.9 inch based on Los Angeles County isohyets.
- The assumed infiltration rate is 3 in/hr for drywells. This infiltration rate was conservatively estimated based on the best available data when soil condition is fair for infiltration.
- Depth to groundwater is approximately 83 feet, based on the City of Los Angeles GeoHub.
- The following will need to be conducted as part of the future design:
  - Conduct a site evaluation to confirm that the site can manage the flow volume with the maximum safe size of the BMP.
  - Perform geotechnical investigations to confirm soil suitability, infiltration rates, and setback requirements at this site.
  - Consider the invert elevation of the diversion point and BMP freeboard requirements, which could impact the installation depth and capture volume capacity of the infiltration BMP.
  - Evaluate overhead utilities, potential utility easements, and right-of-way constraints that may interfere with the BMP or diversion system's constructability.
  - Pretreatment of stormwater will be necessary to reduce maintenance and prolong the lifespan of the infiltration BMP by removing trash, debris, organic materials, coarse sediments, and associated pollutants prior to entering the infiltration BMP.
  - Identify the number of storm drain diversions required to hydraulically supply the proposed quantity and locations of drywells in the project area.

Photo: Western Ave facing south from 182nd Ave.

Photo: Western Ave facing north from north of 405 FWY.

Project Benefits

Water Quality

The proposed project would assist in increasing wet-weather stormwater infiltration to reduce bacteria, toxics, and metals in downstream receiving water bodies.

Water Supply

The proposed project would increase subsurface infiltration of stormwater and contribute to groundwater recharge.

Reduce Heat Island Effect

Greenscaping and additional trees in biofiltration areas and upgraded bus stops would aid in offsetting the effects of heat-absorbing materials.

Community Benefit

New greenscaping and shaded seating at bus stops in the future green streets. Potential for local artists to participate in redesign to increase community engagement and capture the local community aesthetic.

Neighborhood Beautification

New greenscaping, trees, and shaded bus stops would improve neighborhood aesthetics.

Rosecrans Recreation Center Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Project Overview

- The Rosecrans Recreation Center Stormwater Project (Project) was part of a 2021 citywide effort to identify stormwater capture and infiltration projects needed to achieve National Pollutant Discharge Elimination System (NPDES) permit compliance and meet Total Maximum Daily Loads (TMDLs).
- The Project presents an opportunity to enhance surface water quality and increase subsurface infiltration by diverting, capturing, and infiltrating upstream wet-weather runoff.
- The Project would manage 5 acre-feet of stormwater diverted from a 108-inch storm drain maintained by the Los Angeles County Flood Control District (LACFCD). The diverted flow would be conveyed to a series of subsurface Best Management Practices (BMPs) that would recharge groundwater.
- BMP options include:
  - One large 15-foot-high infiltration gallery under the ball field, with an approximate footprint of 100 feet by 145 feet (as shown in Figure 1). This BMP would manage up to 5 acre-feet of stormwater runoff. Pending further evaluation, multiple interconnected galleries with open spaces between may be necessary.
  - As an alternative, stormwater could be infiltrated into the ground using a system of drywells at the site or in the neighboring streets. The specific number and locations of drywells would be determined during a future feasibility study.
  - Bioretention could be utilized in the area between the two fields.

Figure 2: Typical Infiltration Gallery (Source: StormTrap)

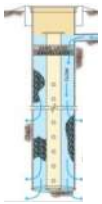


Figure 3: Typical Drywell (Source: CA Office of Environmental Health Hazard Assessment)

Figure 4: Typical Bioretention (Source: Philadelphia Green Streets Design Manual)

Project Summary (per CIP Analysis Workbook)

Address	14920 S Menlo Ave Gardena, CA 90247	**Project ID**	280
Coordinates	33°53'44.63"N, 118°17'25.79"W	**Capture Volume (Drainage Area)**	5 acre-feet (124 acres)
City Council District	15	**Construction Cost**	$2.8 M
City of LA Watershed	Dominguez Channel	**Construction Duration**	3 years
Safe, Clean Water Program (SCWP) Watershed	South Santa Monica Bay	**Disadvantaged Community (DAC)**	No
Project Type	Parcel	**Owning Agency**	City of Los Angeles

Figure 1: Conceptual Layout

Rosecrans Recreation Center Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Design Considerations

- Rainfall from the 85th percentile 24-hour storm is approximately 0.9 inches based on Los Angeles County isohyets.
- The assumed infiltration rate is 0.3 in/hr and 3 in/hr for infiltration galleries and drywells, respectively. This infiltration rate was conservatively estimated based on the best available data when soil condition is fair for infiltration.
- Depth to groundwater is approximately 53 feet based on the City of Los Angeles GeoHub.
- The following will need to be considered as part of the future design:
  - Conduct a site evaluation to confirm that the site can manage the flow volume with the maximum safe size of the BMP.
  - Perform geotechnical investigations to confirm soil suitability, infiltration rates, and setback requirements at this site.
  - Consider the invert elevation of the diversion point and BMP freeboard requirements, which could impact the installation depth and capture volume capacity of the infiltration BMP.
  - Evaluate overhead utilities, potential utility easements, and right-of-way constraints that may interfere with the BMP or diversion system's constructability.
  - Pretreatment of stormwater will be necessary to reduce maintenance and prolong the lifespan of the infiltration BMP by removing trash, debris, organic materials, coarse sediments, and associated pollutants prior to entering the infiltration BMP.
  - Coordinate with LACFCD for the flood control permit with respect to the potential hydraulic impacts of the proposed storm drain diversion.

Photo: Existing condition of the ball field. View from Vermont Ave.

Photo: Existing condition of the basketball field. View from 149th St.

Project Benefits

Water Quality

The proposed project would assist in increasing wet-weather stormwater infiltration to reduce bacteria, toxics, and metals in downstream receiving water bodies.

Water Supply

The proposed project would increase subsurface infiltration of stormwater and contribute to groundwater recharge.

Reduced Flooding

This area is a location with identified flooding issues. Increasing subsurface infiltration would reduce flooding in the project vicinity.

Reduced Heat Island Effect

Greenscaping and additional trees at the recreation center would provide shade to aid in offsetting the effects of heat-absorbing materials.

Neighborhood Beautification

New greenscaping and trees would beautify the neighborhood. Added green space and passive features (spectator seating and educational kiosks) would benefit visitors while encouraging safer, more active outdoor recreation.

Community Benefit

New and improved athletic fields and greenscaping would improve the aesthetics and recreational spaces.

Rosecrans Metro Garden Club Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Project Overview

- The Rosecrans Metro Garden Club Stormwater Project (Project) was part of a 2021 citywide effort to identify stormwater capture and infiltration projects needed to achieve National Pollutant Discharge Elimination System (NPDES) permit compliance and meet Total Maximum Daily Loads (TMDLs).
- The Project presents an opportunity to enhance surface water quality and increase subsurface infiltration by diverting, capturing, and infiltrating upstream wet-weather runoff.
- The Project would manage 4.1 acre-feet of surface stormwater runoff by a subsurface Best Management Practice (BMP) that would recharge groundwater.
- BMP options include:
  - One large 15-foot-high infiltration gallery under the garden club plots with an approximate footprint of 40 feet by 300 feet (as shown in Figure 1). This BMP would manage up to 4.1 acre-feet. Pending further evaluation, multiple interconnected galleries with open spaces between may be necessary.
  - As an alternative, stormwater could be infiltrated into the ground using a system of drywells at the site. The specific number and locations of drywells would be determined during a future feasibility study.
  - Bioretention could be used in the project area to manage surface flow from W 149th Street.

Figure 2: Typical Infiltration Gallery (Source: StormTrap)

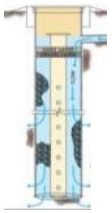


Figure 3: Typical Drywell (Source: CA Office of Environmental Health Hazard Assessment)

Figure 4: Typical Bioretention (Source: Philadelphia Green Streets Design Manual)

Project Summary (per CIP Analysis Workbook)

Address	Behind 14834 Estrella Ave, Gardena, CA 90248	**Project ID**	281
Coordinates	33°53'53.70"N, 118°17'6.34"W	**Capture Volume (Drainage Area)**	4.1 acre-feet (99 acres)
City Council District	15	**Construction Cost**	$2.2 M
City of LA Watershed	Dominguez Channel	**Construction Duration**	3 years
Safe, Clean Water Program (SCWP) Watershed	South Santa Monica Bay	**Disadvantaged Community (DAC)**	No
Project Type	Parcel	**Owning Agency**	City of Los Angeles

Figure 1: Conceptual Layout

Rosecrans Metro Garden Club Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Design Considerations

- Rainfall from the 85th percentile 24-hour storm is approximately 0.9 inches based on Los Angeles County isohyets.
- The assumed infiltration rate is 0.3 in/hr and 3 in/hr for infiltration galleries and drywells, respectively. This infiltration rate was conservatively estimated based on the best available data when soil condition is fair for infiltration.
- Depth to groundwater is approximately 48 feet based on the City of Los Angeles GeoHub.
- The following will need to be considered as part of the future design:
  - Conduct a site evaluation to confirm that the site can manage the flow volume with the maximum safe size of the BMP.
  - Perform geotechnical investigations to confirm soil suitability, infiltration rates, and setback requirements at this site.
  - Consider the invert elevation of the diversion point and BMP freeboard requirements, which could impact the installation depth and capture volume capacity of the infiltration BMP.
  - Evaluate overhead utilities, potential utility easements, and right-of-way constraints that may interfere with the BMP constructability.
  - Pretreatment of stormwater will be necessary to reduce maintenance and prolong the lifespan of the infiltration BMP by removing trash, debris, organic materials, coarse sediments, and associated pollutants prior to entering the infiltration BMP.

Photo: Existing condition of the garden club from the north end.

Photo: Existing condition of the garden club from the south end.

Project Benefits

Water Quality

The proposed project assists in increasing wet-weather stormwater infiltration to reduce bacteria, toxics, and metals in downstream receiving water bodies.

Water Supply

The proposed project would increase subsurface infiltration of stormwater and contribute to groundwater recharge.

Neighborhood Beautification

The community gardens offer neighborhood beautification.

Community Benefit

The existing gardens will be replaced above the infiltration gallery. Potential upgrades could be incorporated based on community input.

Normont Elementary School Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Project Overview

- The Normont Elementary School Stormwater Project (Project) was part of a 2021 citywide effort to identify stormwater capture and infiltration projects needed to achieve National Pollutant Discharge Elimination System (NPDES) permit compliance and meet Total Maximum Daily Loads (TMDLs).
- The Project presents an opportunity to enhance surface water quality and increase subsurface infiltration by diverting, capturing, and infiltrating upstream wet-weather runoff.
- The Project would manage 13.1 acre-feet of stormwater diverted from the Lomita reinforced concrete box (RCB) storm drain maintained by the Los Angeles County Flood Control District (LACFCD). The diverted flow would be conveyed to a series of subsurface Best Management Practices (BMPs) that would recharge groundwater.
- BMP options include:
  - One large 15-foot-high infiltration gallery under the paved playground and field, with an approximate footprint of 300 feet by 100 feet (as shown in Figure 1). This BMP would manage up to 10.3 acre-feet. Pending further evaluation, multiple interconnected galleries with open spaces between may be necessary.
  - Remaining stormwater volume would be received by drywells at the school site or neighboring streets (as shown in Figure 1).
  - Bioretention and porous materials for the parking lot, driveways, and walkways could be used in the project area.

Figure 2: Typical Infiltration Gallery (Source: StormTrap)

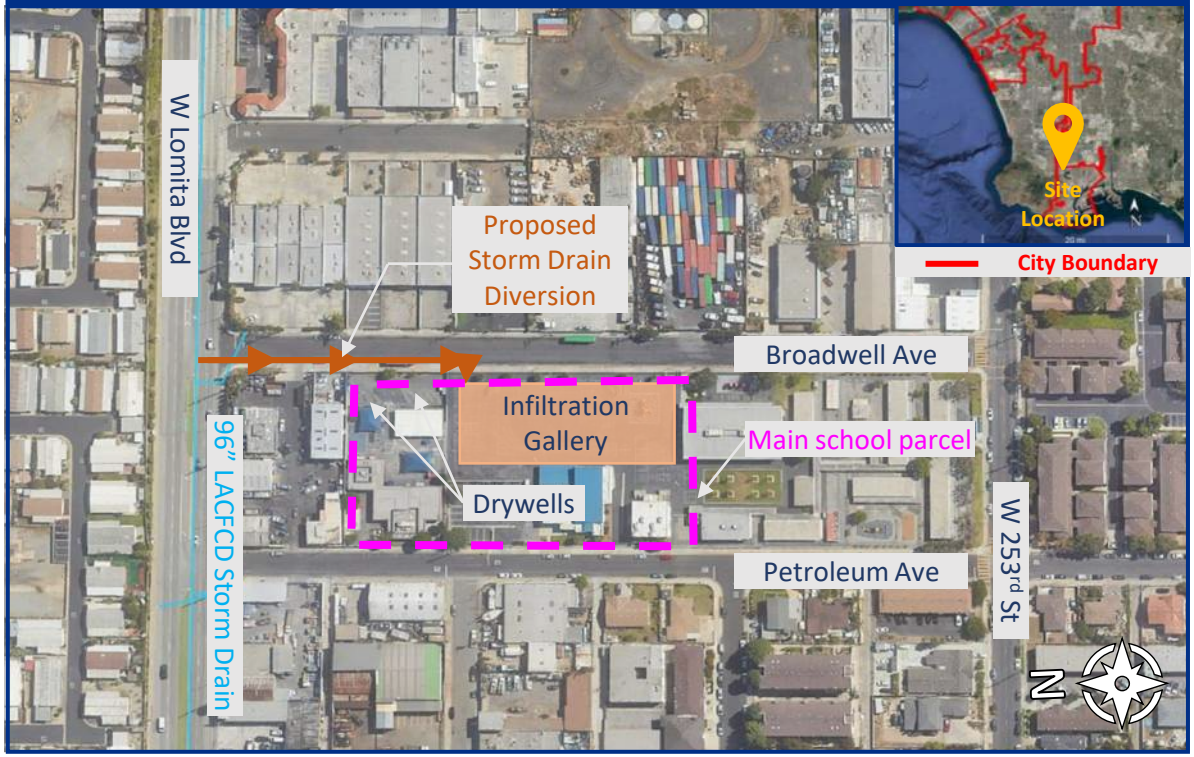
Figure 3: Typical Drywell (Source: CA Office of Environmental Health Hazard Assessment)

Figure 4: Typical Bioretention (Source: Philadelphia Green Streets Design Manual)

Project Summary (per CIP Analysis Workbook)

Address	1001 W 253rd St Harbor City, CA 90710	**Project ID**	271
Coordinates	33°47'45.91"N, 118°17'35.68"W	**Capture Volume (Drainage Area)**	13.1 acre-feet (283 acres)
City Council District	15	**Construction Cost**	$7.2 M
City of LA Watershed	Dominguez Channel	**Construction Duration**	4 years
Safe, Clean Water Program (SCWP) Watershed	South Santa Monica Bay	**Disadvantaged Community (DAC)**	Yes
Project Type	Parcel	**Owning Agency**	Los Angeles Unified School District

Figure 1: Conceptual Layout



Normont Elementary School Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Design Considerations

- Rainfall from the 85th percentile 24-hour storm is approximately 0.9 inches based on Los Angeles County isohyets.
- The assumed infiltration rate is 0.3 in/hr and 3 in/hr for infiltration galleries and drywells, respectively. This infiltration rate was conservatively estimated based on the best available data when soil condition is fair for infiltration.
- Depth to groundwater is approximately 73 feet based on the City of Los Angeles GeoHub.
- The following will need to be considered as part of the future design:
  - Conduct a site evaluation to confirm that the site can manage the flow volume with the maximum safe size of the BMP.
  - Perform geotechnical investigations to confirm soil suitability, infiltration rates, and setback requirements at this site.
  - Consider the invert elevation of the diversion point and BMP freeboard requirements, which could impact the installation depth and capture volume capacity of the infiltration BMP.
  - Evaluate overhead utilities, potential utility easements, and right-of-way constraints that may interfere with the BMP or diversion system's constructability.
  - Pretreatment of stormwater will be necessary to reduce maintenance and prolong the lifespan of the infiltration BMP by removing trash, debris, organic materials, coarse sediments, and associated pollutants prior to entering the infiltration BMP.
  - Coordinate with LACFCD for the flood control permit with respect to the potential hydraulic impacts of the proposed storm drain diversion.

Photo: Existing condition of the school parking lot.

Photo: Existing condition of School outdoor recreational area.

Project Benefits

Water Quality

The proposed project would assist in increasing wet-weather stormwater infiltration to reduce bacteria, toxics, and metals in downstream receiving water bodies.

Water Supply

The proposed project would increase subsurface infiltration of stormwater and contribute to groundwater recharge.

Reduced Flooding

This area is a location with identified flooding issues. Increasing subsurface infiltration would reduce flooding in the project vicinity.

Reduced Heat Island Effect

Greenscaping and additional trees at the school would provide shade to aid in offsetting the effects of heat-absorbing materials.

Neighborhood Beautification

New greenscaping and trees would beautify the neighborhood. Added green space and playground upgrades would benefit students and staff while encouraging safer, more active outdoor recreation.

Community Benefit

New and improved outdoor recreation and greenscaping would improve the school's aesthetics, recreational spaces, and school pride.

DAC Benefits

The project is located within a disadvantaged community (DAC) boundary, as defined by the Department of Water Resources (DWR).

Gulf Avenue STEAM Elementary School Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Project Overview

- The Gulf Avenue STEAM Elementary School Stormwater Project (Project) was part of a 2021 citywide effort to identify stormwater capture and infiltration projects needed to achieve National Pollutant Discharge Elimination System (NPDES) permit compliance and meet Total Maximum Daily Loads (TMDLs).
- The Project presents an opportunity to enhance surface water quality and increase subsurface infiltration by diverting, capturing, and infiltrating upstream wet-weather runoff.
- The Project would manage 16.4 acre-feet of stormwater diverted from a 114-inch storm drain maintained by the Los Angeles County Flood Control District (LACFCD). The diverted flow would be conveyed to a series of subsurface Best Management Practices (BMPs) that would recharge groundwater.
- BMP options include:
  - One large 15-foot-high infiltration gallery under the existing paved playground and field, with an approximate footprint of 300 feet by 160 feet (as shown in Figure 1). Pending further evaluation, multiple interconnected galleries with open spaces between may be necessary.
  - As an alternative, stormwater could be infiltrated into the ground using a system of drywells under the paved playground or other parts of the school. The specific number and locations of drywells would be determined during a future feasibility study.
  - Bioretention and porous paving for the parking lot, driveways, and walkways could be used in the project area.

Figure 2: Typical Infiltration Gallery (Source: StormTrap)

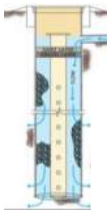


Figure 3: Typical Drywell (Source: CA Office of Environmental Health Hazard Assessment)

Figure 4: Typical Bioretention (Source: Philadelphia Green Streets Design Manual)

Project Summary (per CIP Analysis Workbook)

Address	828 W L St Wilmington, CA 90744	**Project ID**	155
Coordinates	33°47'7.19"N, 118°16'21.88"W	**Capture Volume (Drainage Area)**	16.4 acre-feet (448 acres)
City Council District	15	**Construction Cost**	$9.0 M
City of LA Watershed	Dominguez Channel	**Construction Duration**	4 years
Safe, Clean Water Program (SCWP) Watershed	South Santa Monica Bay	**Disadvantaged Community (DAC)**	Yes
Project Type	Parcel	**Owning Agency**	Los Angeles Unified School District

Figure 1: Conceptual Layout

Gulf Avenue STEAM Elementary School Stormwater Project
City of Los Angeles | Stormwater Project Design Summary

Design Considerations

- Rainfall from the 85th percentile 24-hour storm is approximately 0.8 inches based on Los Angeles County isohyets.
- The assumed infiltration rate is 0.5 in/hr and 5 in/hr for infiltration galleries and drywells, respectively. This infiltration rate was conservatively estimated based on the best available data when soil condition is good for infiltration.
- Depth to groundwater is approximately 33 feet based on the City of Los Angeles GeoHub.
- The following will need to be considered as part of the future design:
  - Conduct a site evaluation to confirm that the site can manage the flow volume with the maximum safe size of the BMP.
  - Perform geotechnical investigations to confirm soil suitability, infiltration rates, and setback requirements at this site.
  - Consider the invert elevation of the diversion point and BMP freeboard requirements, which could impact the installation depth and capture volume capacity of the infiltration BMP.
  - Evaluate overhead utilities, potential utility easements, and right-of-way constraints that may interfere with the BMP or diversion system's constructability.
  - Pretreatment of stormwater will be necessary to reduce maintenance and prolong the lifespan of the infiltration BMP by removing trash, debris, organic materials, coarse sediments, and associated pollutants prior to entering the infiltration BMP.
  - Coordinate with LACFCD for the flood control permit with respect to the potential hydraulic impacts of the proposed storm drain diversion.

Photo: Existing condition of the school outdoor recreation area.

Photo: Existing condition of the school driveway from Gulf Ave.

Project Benefits

Water Quality
The proposed project would assist in increasing wet-weather stormwater infiltration to reduce bacteria, toxics, and metals in downstream receiving water bodies.

Water Supply
The proposed project would increase subsurface infiltration of stormwater and contribute to groundwater recharge.

Reduced Flooding
This area is a location with identified flooding issues. Increasing subsurface infiltration would reduce flooding in the project vicinity.

Reduced Heat Island Effect
Greenscaping and additional trees at the site would provide shade to aid in offsetting the effects of heat-absorbing materials.

Neighborhood Beautification
New greenscaping and trees would beautify the neighborhood. Added green space and playground upgrades would benefit students and staff while encouraging safer, more active outdoor recreation.

Community Benefit
New and improved playground spaces and greenscaping would improve the school's aesthetics, recreational spaces, and school pride.

DAC Benefits
The project is located within a disadvantaged community (DAC) boundary, as defined by the Department of Water Resources (DWR).

Appendix D

Key Projects for Future SCW Funding Consideration

Table D-1. Key Projects for CIP

Project	EWMP Watershed	SCW Watershed	Score	Volume	Address	Latitude	Longitude
Van Nuys Recreation Center	Upper LA River	ULAR	82.2	104.9		34.194	-118.445
Broadway - Manchester (Streets LA)	Upper LA River	ULAR	85.5	51.9		33.960	-118.278
Glenoaks Blvd from Wheatland Ave to Roscoe Blvd	Upper LA River	ULAR	78.9	10.8	Glenoaks Blvd from Wheatland Ave to Roscoe Blvd	34.224	-118.362
Sun Valley Youth Arts Center/Stone House	Upper LA River	ULAR	78.9	4.2	8642 Sunland Blvd, Sun Valley, CA 91352	34.227	-118.366
Sun Valley Metrolink Station	Upper LA River	ULAR	79.7	13.0	8358 San Fernando Rd, Sun Valley, CA 91352	34.223	-118.372
De Garmo Park	Upper LA River	ULAR	78.9	14.8	10153 Arminta St, Sun Valley, CA 91352	34.215	-118.353
LADWP - Valley Service Planning	Upper LA River	ULAR	74.7	50.0	7501 Tyrone Ave, Van Nuys, CA 91405	34.209	-118.446
LAFD Station 89	Upper LA River	ULAR	74.7	5.1	7063 Laurel Canyon Blvd, North Hollywood, CA	34.199	-118.398
Victory Vineland Recreation Center	Upper LA River	ULAR	77.2	50.0	11117 Victory Blvd, North Hollywood, CA 91606	34.188	-118.373
Vanowen St from Sylmar Ave to Tyrone Ave & Katherine Ave to Hazeltine Ave	Upper LA River	ULAR	74.7	9.6	Vanowen St from Sylmar Ave to Tyrone Ave & Katherine Ave to Hazeltine Ave	34.194	-118.444
Vineland Ave from Victory Blvd to Erwin St	Upper LA River	ULAR	74.7	0	Vineland Ave from Victory Blvd to Erwin St	34.187	-118.37
Lincoln Heights Branch Library	Upper LA River	ULAR	88.9	4.4	2530 N Workman St 90031	34.076	-118.214
Lincoln Heights Recreation Center	Upper LA River	ULAR	96.4	17.8	2303 Workman St, Los Angeles, CA 90031	34.073	-118.215
Public Parking Lot 657	Upper LA River	ULAR	96.4	4.7	221 S Ave 22, Los Angeles, CA 90031	34.073	-118.218
US Post Office	Upper LA River	ULAR	81.4	4.0	2425 Alhambra Ave, Los Angeles, CA	34.065	-118.212
Potential City yard	Upper LA River	ULAR	76.6	40.6	2300 E 7th St, Los Angeles, CA 90023	34.035	-118.223
Main Street from Jefferson Blvd to W 41st St	Upper LA River	ULAR	79.7	20.6	Main Street from Jefferson Blvd to W 41st St	34.019	-118.273
Central Blvd from E 33rd St to E 45th St	Upper LA River	ULAR	92.2	13.0	Central Blvd from E 33rd St to E 45th St	34.014	-118.257
Main Street from W 41st St to W Slauson Ave	Upper LA River	ULAR	98.8	12.3	Main Street from W 41st St to W Slauson Ave	34.009	-118.274
Avalon Blvd from E 43rd St to E 51st St	Upper LA River	ULAR	78.0	12.4	Avalon Blvd from E 43rd St to E 51st St	34.006	-118.265
Gilbert Lindsay Community Center Park	Upper LA River	ULAR	78.8	11.5	429 E 42nd Pl., Los Angeles, CA 90011	34.007	-118.266
Campos Residence	Upper LA River	ULAR	84.1	17.6	5330 Morgan Ave #578, Los Angeles, CA 90011	33.994	-118.244
Avalon Blvd from E 51st St to E 62nd St	Upper LA River	ULAR	83.0	7.7	Avalon Blvd from E 51st St to E 62nd St	33.997	-118.265
Main Street from W Slauson Ave to E 66th St	Upper LA River	ULAR	98.8	20.1	Main Street from W Slauson Ave to E 66th	33.989	-118.274
Main Street from E 75th St to E 82nd Pl	Upper LA River	ULAR	83.1	13.6	Main Street from E 75th St to E 82nd Pl	33.972	-118.274
Avalon Blvd from E 77th St to E 83rd St	Upper LA River	ULAR	78.1	4.2	Avalon Blvd from E 77th St to E 83rd St	33.969	-118.265
Central Blvd from E 87th St to E Century Blvd	Upper LA River	ULAR	84.0	20	Central Blvd from E 87th St to E Century Blvd	33.959	-118.256
Central Blvd from E Century Blvd to Southern Pacific RR	Upper LA River	ULAR	79.1	20	Central Blvd from E Century Blvd to Southern Pacific	33.946	-118.254
110th St from S Vermont Ave to S Main St, Avalon Blvd to S Central Ave	Upper LA River	ULAR	75.5	27.7	108th St from S Vermont Ave to S Main St, Avalon Blvd to S Central Ave	33.938	-118.292

Table D-1. Key Projects for CIP

Project	EWMP Watershed	SCW Watershed	Score	Volume	Address	Latitude	Longitude
109th St from S Vermont Ave to S Main St, Avalon Blvd to S Central Ave	Upper LA River	ULAR	83.0	9.5	108th St from S Vermont Ave to S Main St, Avalon Blvd to S Central Ave	33.938	-118.292
Los Angeles Fire Department Station 64	Upper LA River	ULAR	78.0	10.6	10811 S Main St, Los Angeles, CA 90061	33.938	-118.274
LAPD Southeast Community Police Station	Upper LA River	ULAR	78.0	48.1	145 W 108th St, Los Angeles, CA 90061	33.939	-118.275
Imperial Highway from Vermont Ave to Harbor Freeway (110)	Upper LA River	ULAR	75.5	3.1	Imperial Highway from Vermont Ave to Harbor Freeway (110)	33.931	-118.292
Imperial Highway from Success Ave to South Grandee Ave	Upper LA River	ULAR	83.9	12.8	Imperial Highway from Success Ave to South Grandee Ave	33.929	-118.249
Imperial Highway from South Central Avenue to Success Ave	Upper LA River	ULAR	75.5	13.4	Imperial Highway from South Central Avenue to Success Ave	33.929	-118.254
Central Blvd from E Imperial Hwy to E 119th St	Upper LA River	ULAR	75.5	15.1	Central Blvd from E Imperial Hwy to E 119th St	33.929	-118.254
Saticoy St- Vineland Ave SE Project	Upper LA River	ULAR	97.2	0		34.208	-118.37
Saticoy St- Vineland Ave NE Project	Upper LA River	ULAR	97.2	0		34.208	-118.37
Saticoy St- Vineland Ave NW Project	Upper LA River	ULAR	97.2	0		34.208	-118.37
Hollenbeck Park Lake Rehabilitation Project	Upper LA River	ULAR	76.6	89.9		34.040	-118.218
107th St Elementary School	Upper LA River	ULAR	81.4	50	147 E 107th St, Los Angeles, CA 90003	33.940	-118.272
Griffin Ave Elementary School	Upper LA River	ULAR	96.4	18.7	2025 Griffin Ave, Los Angeles, CA 90031	34.069	-118.213
Ascot Avenue Elementary School	Upper LA River	ULAR	84.1	9.5	1447 E 45th St, Los Angeles, CA 90011	34.003	-118.249
LA River Green Infrastructure Project	Upper LA River	ULAR	70.0	N/A	Los Angeles River Segment E from Canoga Avenue to White Oak Avenue		
Sun Valley Neighborhood Green Infrastructure Project	Upper LA River	ULAR	N/A	5.3	Saticoy Street down to Sherman Way and Tujunga Ave. to Vineland		
Osborne Street Path to Parkway Access Project	Upper LA River	ULAR	N/A	N/A	Osborne St between San Fernando Rd and Foothill Blvd		
Branford Park	Upper LA River	ULAR	69-87	25.0	13306 Branford Street, Pacoima, CA 91311		
Devonwood Park	Upper LA River	ULAR	61-83	12.0	10230 Woodman Avenue, Mission Hills, CA 91345		
Hubert H. Humphrey Memorial Recreational Center	Upper LA River	ULAR	49-67	6.7	12560 Fllmore Street, Pacoima, CA 91331		
Mid-Valley Intergenerational Multipurpose Center	Upper LA River	ULAR	49-67	4.5	9540 Van Nuys Boulevard, Panorama City, CA 91402		
North East Valley Multipurpose Center	Upper LA River	ULAR	59-77	7.5	11300 Glenoaks Boulevard, Pacoima, CA		
North Hills Community Park	Upper LA River	ULAR	62-80	12.6	8756 Parthenia Place, North Hills, CA 91343		
Panorama City Recreation Center	Upper LA River	ULAR	56-74	11.8	8600 Hazeltine Avenue, Panorama City, CA 91402		
Ritchie Valens Park	Upper LA River	ULAR	49-67	9.4	10736 Laurel Canyon Boulevard, Pacoima, CA 91331		

Table D-1. Key Projects for CIP

Project	EWMP Watershed	SCW Watershed	Score	Volume	Address	Latitude	Longitude
Roger W. Jessup Park	Upper LA River	ULAR	49-67	7.0	12467 Osborne Street, Pacoima, CA 91331		
Sepulveda Recreational Center	Upper LA River	ULAR	66-84	15.0	8825 Kester Avenue, Los Angeles, CA 91404		
Van Nuys Recreational Center	Upper LA River	ULAR	72-90	12.0	14301 Vanowen Street, Van Nuys, CA 91406		
Arlington from Olympic to 12th St	Ballona Creek	CSMB	76.7	4.8	Olympic Blvd to 12th St	34.053	-118.315
Adams from Portland St. to Figueroa Way	Ballona Creek	CSMB	64.7	14.4	Portland St. to Figueroa Way	34.031	-118.282
Adams from Budlong Ave to Menlo Ave	Ballona Creek	CSMB	69.7	10.7	Budlong Ave to Menlo Ave	34.007	-118.296
Saint Andrew's Recreation Center	Ballona Creek	CSMB	69.8	3.8	8701 S St Andrews Pl 90047	33.958	-118.312
Toberman Recreation Center	Ballona Creek	CSMB	69.7	25.5	1725 S Toberman St 90015	34.040	-118.279
Terrance Park	Ballona Creek	CSMB	77.2	3.4	1342 S Alverado Terrace 90006	34.045	-118.281
Hoover Recreation Center	Ballona Creek	CSMB	64.7	6.2	1010 W 25th St 90007	34.032	-118.284
Triangle area where streets merge.	Ballona Creek	CSMB	72.2	3.4	2308 S Hoover St 90007	34.035	-118.284
Harold A. Henry Park	Ballona Creek	CSMB	69.7	22.1	890 S Lucerne Blvd CA 90005	34.058	-118.325
City Parking Lot	Ballona Creek	CSMB	69.1	3.1	4601 W Washington Blvd 90016	34.040	-118.34
Fire Station 13 parking lot	Ballona Creek	CSMB	69.2	5.8	1251 S Westmoreland Ave 90006	34.048	-118.29
Olympic Community Police Station	Ballona Creek	CSMB	69.2	10.1	1130 Vermont Ave 90006	34.050	-118.291
City parking lot	Ballona Creek	CSMB	69.1	3.1	4601 W Washington Blvd 90016	34.040	-118.34
Pico Union Vest Pocket Park	Ballona Creek	CSMB	84.7	8.7	1827 S Hoover St 90006	34.041	-118.284
Richardson Family Park	Ballona Creek	CSMB	84.7	4.5	2700 S Budlong Ave 90007	34.030	-118.296
Rampart Village Stormwater Infrastructure (South Union Ave Green Infrastructure Corridor)	Ballona Creek	CSMB	69.2	1.0		34.064	-118.266
West 48th Street Green Street Infrastructure Corridor	Ballona Creek	CSMB	69.7	0	W 48 St & S Budlong Ave	34.000	-118.296
Wilshire Boulevard Green Street	Ballona Creek	CSMB	84.7	0	Wilshire Blvd & S Parkview	34.060	-118.281
Martin Luther King Jr. Neighborhood Greening Project (39th St Stormwater Project)	Ballona Creek	CSMB	69.7	0.2	S Western Ave & W 39 St	34.011	-118.318
Historic South Central Neighborhood Greening Project	Ballona Creek	CSMB	84.7	746	S Main St & E Adams Blvd	34.019	-118.273
Robert F. Kennedy Community School	Ballona Creek	CSMB	84.2	36.1	701 S Catalina St 90005	34.060	-118.297
LA Trade Technical College.	Ballona Creek	CSMB	84.0	14.1	2100 S Flower St 90007	34.031	-118.271
Berendo Middle School	Ballona Creek	CSMB	84.2	10.7	1157 S Berendo St 90006	34.050	-118.295
28th Street Elementary School	Ballona Creek	CSMB	83.0	9.1	2807 S Stanford Ave 90011	34.008	-118.259
Baldwin Vista Green Streets Project	Ballona Creek	CSMB	23	5.4	5298 Coliseum Street		

Table D-1. Key Projects for CIP

Project	EWMP Watershed	SCW Watershed	Score	Volume	Address	Latitude	Longitude
Historic South Central Neighborhood Greening Project	Ballona Creek	CSMB	74	42.6	Ballona Creek Watershed bounded by 12th Street, Main Street, Adams Boulevard, and Long Beach Avenue		
Martin Luther King Jr. Neighborhood Greening Project	Ballona Creek	CSMB	59	28.1	Martin Luther King Jr. Blvd from S Vermont Ave to Westside Ave and 39th St and W Vernon Ave		
Banning Park and Museum	Dominguez Channel	SSMB	62.5	0	401 E M St, Wilmington, CA 90744	33.79	-118.258
Marshall Court Phase II	Dominguez Channel	SSMB	70	19.6	N Marshall Ct	33.746	-118.293
North Marshall Court Green Streets Project	Dominguez Channel	SSMB	55	0.506	Bandini Children's Park at the intersection of West Summerland Place, North Marshall Court and West Oliver		
Pollutant Source Characterization Study	N/A	ULAR (70.6%), CSMB (17.8%), SSMB (11.6%)	N/A	Various	Various	N/A	N/A
Street Sweeping Study	N/A	ULAR (70.6%), CSMB (17.8%), SSMB (11.6%)	N/A	Various	Various	N/A	N/A

environment LASANITATION
CITY OF LOS ANGELES
zero waste • zero wasted water

SAFE CLEAN WATER

CDM Smith®
cdmsmith.com

FORM GEN. 160 (Rev. 11-02)

CITY OF LOS ANGELES
INTERDEPARTMENTAL CORRESPONDENCE

Date March 20, 2023

To: Measure W – Administrative Oversight Committee (AOC)
Matthew W. Szabo, City Administrative Officer
Sharon M. Tso, Chief Legislative Analyst
Ryan Jackson, Office of the Mayor

From: Michael Scaduto, P.E., ENV SP *Michael Scaduto*
Principal Engineer
Safe Clean Water Implementation Division
LA Sanitation and Environment

Subject: Safe Clean Water Alternative Contracting
On-Call Design/Build Contracts

RECOMMENDATION

1) That the AOC recommends that the City Council request the City Attorney to prepare and present an ordinance allowing the Board of Public Works and its Bureaus to utilize Design/Build contracts for the delivery of projects in the Safe, Clean Water Program, pursuant to a competitive, sealed-proposal method.

Background

The City recognizes the need to meet State regulations and the Federal Clean Water Act in order to improve water quality in the Los Angeles River, Santa Monica Bay, Ballona Creek, and the Dominquez Channel watersheds. The Los Angeles Regional Water Quality Control Board (Water Board) has promulgated 22 Total Maximum Daily Loads (TMDLs) regulating the discharges of trash, bacteria, nutrients, metals, toxic sediment, and other pollutants into the City's receiving waters and watersheds.

LA Sanitation and Environment (LASAN) has led the development of five Enhanced Water Management Programs (EWMPs) in collaboration with thirty other cities and agencies in local and regional watersheds to achieve compliance with the interim and final milestones, in which the implementation cost is expected to exceed $7.2 billion over the next 25 years. Non-compliance with TMDL interim and final milestones may expose the City to third party lawsuits as well as fines and penalties from the State.

The City has been on the forefront of stormwater/watershed management programs for years. In 2004, the City voters approved Proposition O, which dedicated up to $500 million to implement stormwater management and water quality improvement projects throughout the City; and, in 2018, with 69% support of the electorate, the voters of Los Angeles County approved Measure W, the Safe, Clean Water Program, which includes

an annual tax of $0.024 per square feet of impervious area on parcels in Los Angeles County.

The Safe, Clean Water program generates approximately $36 million per year for the City of Los Angeles through the Municipal Program, and Los Angeles County is administering the Regional Program, which provides competitive grant opportunities for additional stormwater projects. The goal of the Safe, Clean Water Program is to use the parcel tax to support multi-benefit stormwater projects and programs that improve water quality, increase water supply, and provide community benefits. These projects will also support access to local jobs and help meet environmental justice objectives for the City.

To ensure that the City is implementing projects to support compliance with the regulatory requirements and the pending TMDL compliance milestones, it is imperative that the most efficient and appropriate project delivery methods are utilized. Establishing a list of pre-qualified on-call design-build (DB) contracts, to be managed by LASAN, will allow the City to solicit proposals based upon feasibility reports that have been prepared as part of the funding application, and award the design and construction scope in a cost-effective manner that significantly reduces the overall project delivery schedule.

The City Charter permits the letting of contracts pursuant to a competitive sealed proposal method, in accordance with criteria established by ordinance adopted by at least two-thirds of the City Council (Section 371(b)). This process also allows for the use of DB or other appropriate project delivery systems when justified by the type of project and approved by the contracting authority. Typically, City Council approval for alternative contact delivery methods is provided for individual projects. Therefore, to ensure sufficient controls are implemented while providing flexibility to achieve schedule efficiencies, it is recommended that the pre-qualified on-call DB list can only be utilized for task orders up to $20 million, adjusted annually based on the Consumer Price Index, which includes both the design and construction scope of services, unless City Council approval is provided for a project that exceeds this ceiling. In addition, only projects included in the Watershed Investment Strategic Plan will be authorized to be delivered using the pre-qualified on-call DB list, unless specifically approved by the AOC.

Further, to ensure that there are sufficient ongoing opportunities for design and construction firms to participate in the delivery of the SCW program, it is recommended that prior to executing any contract extensions with the original DB firms, there will be an opportunity for other DB firms to be added to the pre-qualified on-call list.

Upon City Council approval of the alternative project delivery ordinance, a Request for Qualifications will be prepared by LASAN and issued to DB firms. All firms that submit a Statement of Qualifications will be evaluated, and those that meet the required qualifications will be included in the proposed on-call list. Contracts with each firm will be presented for approval and execution to the Board of Public Works and City Council. Once the contracts are executed and the list of on-call DB contractors is approved, proposals will be solicited for individual projects. Upon evaluation and review of the

proposals, a report will be presented to the Board of Public Works, recommending award of the task order for each project. It is intended that any of the Bureaus that deliver projects for the Safe, Clean Water program will be able to utilize the list of pre-qualified on-call DB contracts.

In an effort to control costs, manage City-risk, and assure timely delivery of a high-quality product, LASAN proposes to utilize the DB delivery method for the Safe, Clean Water Program. Time is of the essence, and it is in the best interest of the City to expedite implementation of the Safe, Clean Water Program in order to meet water quality goals and regulatory compliance deadlines, and minimize risk to the City.

Therefore, it is recommended that the AOC recommend that the City Council request the City Attorney to prepare and present an ordinance allowing the Board of Public Works and its Bureaus to let DB contracts for the delivery of the Safe, Clean Water Program, pursuant to a competitive, sealed-proposal method.

Cc: Jacqueline Wagner, CAO
Jessica Quach, CAO
Janice Yu, CAO
Rafael Prieto, CLA
Barbara Romero, LASAN
Traci Minamide, LASAN
Julie Allen, LASAN
Adena Hopenstand, LASAN
Ted Allen, BOE
Alfred Mata, BOE
Ana Tabuena Ruddy, BSS
Delon Kwan, DWP
Art Castro, DWP

CITY OF LOS ANGELES
INTERDEPARTMENTAL CORRESPONDENCE

Date March 20, 2023

To: Measure W – Administrative Oversight Committee (AOC)
Matthew W. Szabo, City Administrative Officer
Sharon M. Tso, Chief Legislative Analyst
Ryan Jackson, Office of the Mayor

From: Michael Scaduto, P.E., ENV SP *Michael Scaduto*
Principal Engineer
Safe Clean Water Implementation Division
LA Sanitation and Environment

Subject: City of Los Angeles Community (Non-municipal) Proposed Project Support Letter Policy

RECOMMENDATIONS

1. Approve the proposed Policy for SCWP Community (Non-municipal) Proposed Projects.

2. Direct LA Sanitation and Environment to publish and implement the City of Los Angeles Policy for SCWP Community (Non-municipal) Proposed Project Support Letter Policy and distribute the policy document to all stakeholders and other City of Los Angeles departments implementing Safe, Clean Water Program projects.

BACKGROUND

In November 2018, Los Angeles County voters approved Measure W, which created the Safe Clean Water Program (SCWP) administered by the Los Angeles County Flood Control District (LACFCD). The SCWP was developed in collaboration with public health, environmental groups, cities, business, labor, and community-based organizations to protect water quality and provide new sources of water for the Los Angeles community. The SCWP generates an estimated $285 million annually from a countywide property tax assessment. These funds are utilized by LA Sanitation and Environment (LASAN), as well as other city departments and non-municipal organizations, for the development of regional and municipal stormwater projects and programs.

For non-municipal applicants to utilize SCWP funding, the organizations must first obtain a Letter of Support or Letter of Non-Objection from the municipality in which the project is proposed. The purpose of the City of Los Angeles Policy for SCWP Community (Non-Municipal) Proposed Projects is to create a process for the City to consider and generate Letters of Support and Letters of Non-Objection for SCWP projects. The Policy seeks to

provide a transparent, timely, and equitable process for ensuring that non-municipal proposed projects align with City priorities.

CONSIDERATIONS AND CONCLUSIONS

The Non-Municipal Proposed Projects Policy applies to community-proposed SCWP projects within the City, projects involving City infrastructure, facilities, or rights-of-way, as well as projects located outside the City that have an impact on stormwater quality or reuse within the City. It seeks to provide non-municipal collaborators with clear instructions and timelines for requesting letters, review and approval of those requests, or explanations for why requests may not be fulfilled.

The invitation to collaborate with the City on projects will be issued by the AOC after the County confirms its schedule for the upcoming round. Once issued, Non-Municipal applicants must submit an intake form at least nine months prior to the LACFCD annual call for projects. The application form will include the following LACFCD's mandatory requirements for SCWP Support Letters:

- Operation and Maintenance Plans, Roles, and Responsibilities.
- Maintenance and Use Agreements for Conceptual Approval.
- Inclusion in Regional Water Quality Plan.

Each intake form will also include project information such as project location, proponent, drainage area, components, benefits, permit requirements, cost, and schedule. Once submitted, the intake form will be reviewed for completeness, and distributed for review to ensure the projects meet the mission and objectives of the SCWP and the priorities of the City. Letters will then be issued to Non-Governmental proposed project proponents clarifying the City's process and decision as outlined in the Policy.

LASAN recommends that the SCWP Administrative Oversight Committee endorse and implement the Policy for SCWP Non-municipal proposed projects document. As directed, LA Sanitation and Environment would publish the Non-Municipal Proposed Projects Policy document and distribute the policy document to other City of Los Angeles departments implementing Safe, Clean Water Program projects for further coordination.

Attachment 1: City of Los Angeles Policy for Safe Clean Water Community (Non-municipal) Proposed Projects

Cc: Jacqueline Wagner, CAO
Jessica Quach, CAO
Janice Yu, CAO
Rafael Prieto, CLA
Barbara Romero, LASAN
Traci Minamide, LASAN

Julie Allen, LASAN
Adena Hopenstand, LASAN
Ted Allen, BOE
Alfred Mata, BOE
Ana Tabuena Ruddy, BSS
Delon Kwan, DWP
Art Castro, DWP

City of Los Angeles Policies and Procedures for Safe Clean Water Program Community-Proposed Projects

1. **Scope:** This Policy will apply to the following Safe Clean Water Program (SCWP) community-proposed projects within the City, projects involving City infrastructure, facilities, or rights-of-way, as well as projects located outside the City that have an impact on stormwater quality or reuse within the City:
   - Applications that are not led by cities/municipalities, the LAFCD or other government agencies;
   - Applications initiated by non-profit organizations, community groups or private entities; and
   - Applications initiated by elected City officials and carried out by consultant firms, community groups, or other entities.

2. **LACFCD's Mandatory Requirements for SCWP Support Letters:**

   Support Letters
   - Regional Infrastructure Program applications require community-proposed (referred to by the LA County Flood Control District (LACFCD) as "non-municipal") project applicants to include an Initial Letter of Support from the municipality in which the project is proposed.
   - Technical Resources Program applications require community-proposed project applicants to submit a Letter of Non-Objection from the municipality in which the project is being proposed.
   - Scientific Study applications do not require support letters from the municipality.

   Operation and Maintenance Plans, Roles, and Responsibilities
   - The Initial Letter of Support for Regional Infrastructure Program applications shall include concurrence with the plan for operations and maintenance (O&M) and the responsible party that has agreed to perform the operation and maintenance, as outlined in SCWP Feasibility Study Guidelines.

   Maintenance and Use Agreements for Conceptual Approval
   - A Initial Letter of Support from the City is required by the if a community-proposed project impacts flood control property, per LACFCD policy.
   - The letter shall include a commitment for the City to enter a Maintenance and Use Agreement with LACFCD on behalf of the community-proposed project applicant/developer. Note: physical maintenance can be completed by other entities, but the municipality holds the ultimate liability burden. For this reason, it is beneficial to all parties involved to enter a memorandum of agreement (MOA) for project O&M.

   Inclusion in Regional Water Quality Plan
   - Projects shall be included in a Regional Water Management Plan (i.e. WMP or IRWM Plan) in order to be scored, per Safe Clean Water Ordinance.

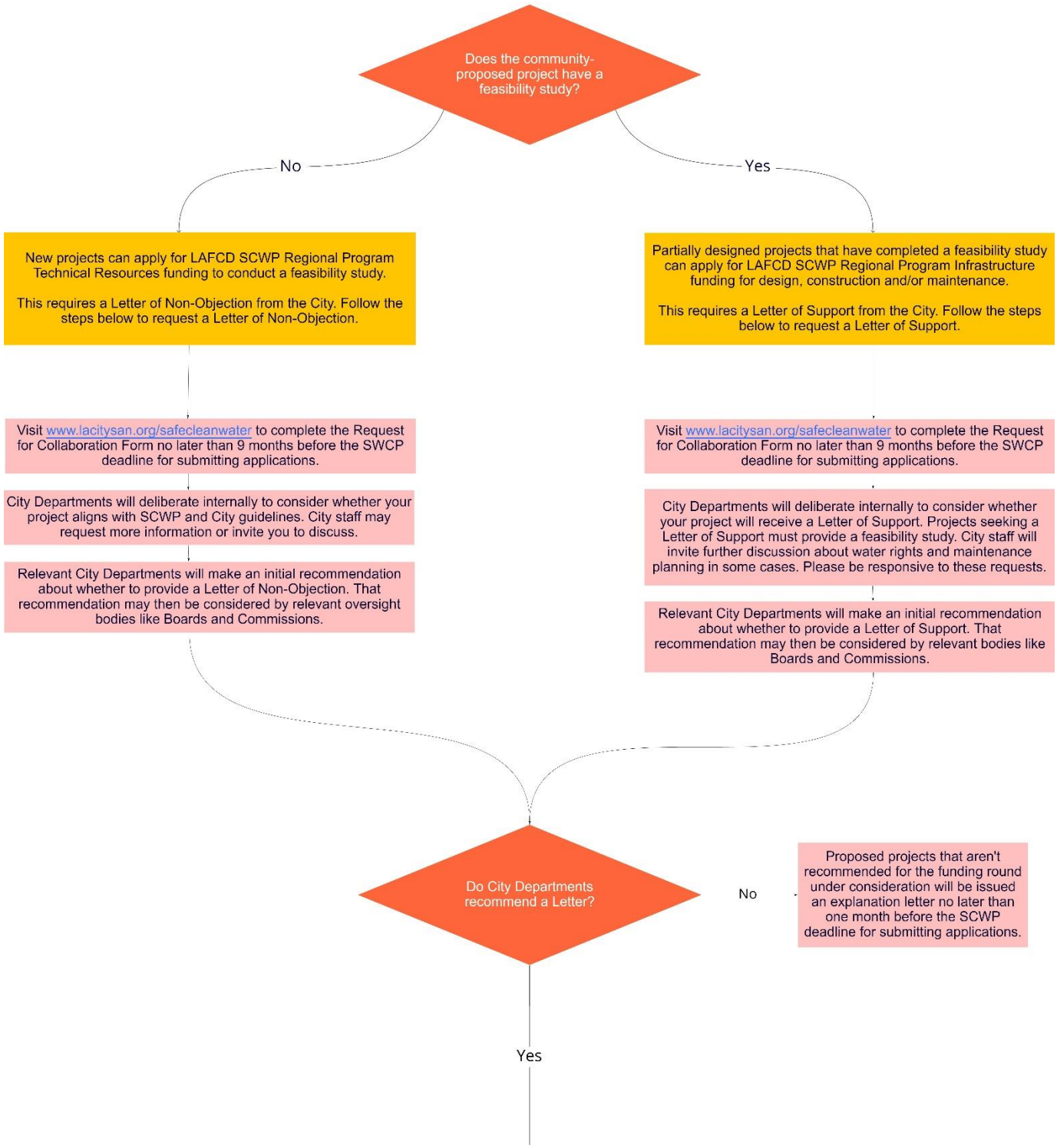
3. **Proposal Evaluations:** An **intake form** will be prepared by LASAN for community-proposed project applicants to complete and submit. Required information includes but is not limited to project location, proponent, drainage area, components, benefits, permit requirements, cost, and schedule. An **O&M plan** shall be submitted and reviewed to determine whether the City concurs, and if an MOU or MOA is needed for the City to partner on project O&M. The O&M plan shall include items specified in the Draft Template Transfer Agreement, § TAA-5. The plan shall specify O&M roles, an estimate of O&M and other costs incurred by the City, and a letter of intent to partner and enter into an MOA with the City for project O&M, when applicable. The review process is as follows:
   - LASAN receives intake forms, reviews for completeness, and distributes to interested City departments (e.g. LASAN, RAP, LADWP, BSS) and through the City Safe Clean Water working group for review.
   - Interested departments review intake form and project materials to ensure that projects that meet the mission and objectives of the SCWP and the priorities of the City without any adverse effects to the City.
   - Based on review results, LASAN gives a recommendation of whether to issue a letter.

4. **Approving Bodies and Deadlines:**
   - Approval: Working Group → AOC (CLA, CAO, Mayor's Office) → Council → Mayor
   - Deadline for requesting a letter is 9 months ahead of the application deadline for the fiscal year round. Decisions for letter issuance will be made at least a month in advance of the deadline.

Attachment A – Flow Chart

The flow chart below summarizes details from the City of Los Angeles Policy and Procedures for Community-Proposed Safe Clean Water Program Projects document. The flow chart illustrates the City of Los Angeles (City) process for generating Letters of Support and Letters of Non-Objection for Los Angeles County Flood Control District (LAFCD) Safe Clean Water Program (SCWP) funding applications.

The flow chart is intended to accompany the document and omits certain details project proponents may need to successfully request a letter.



Attachment A – Flow Chart (Continued)