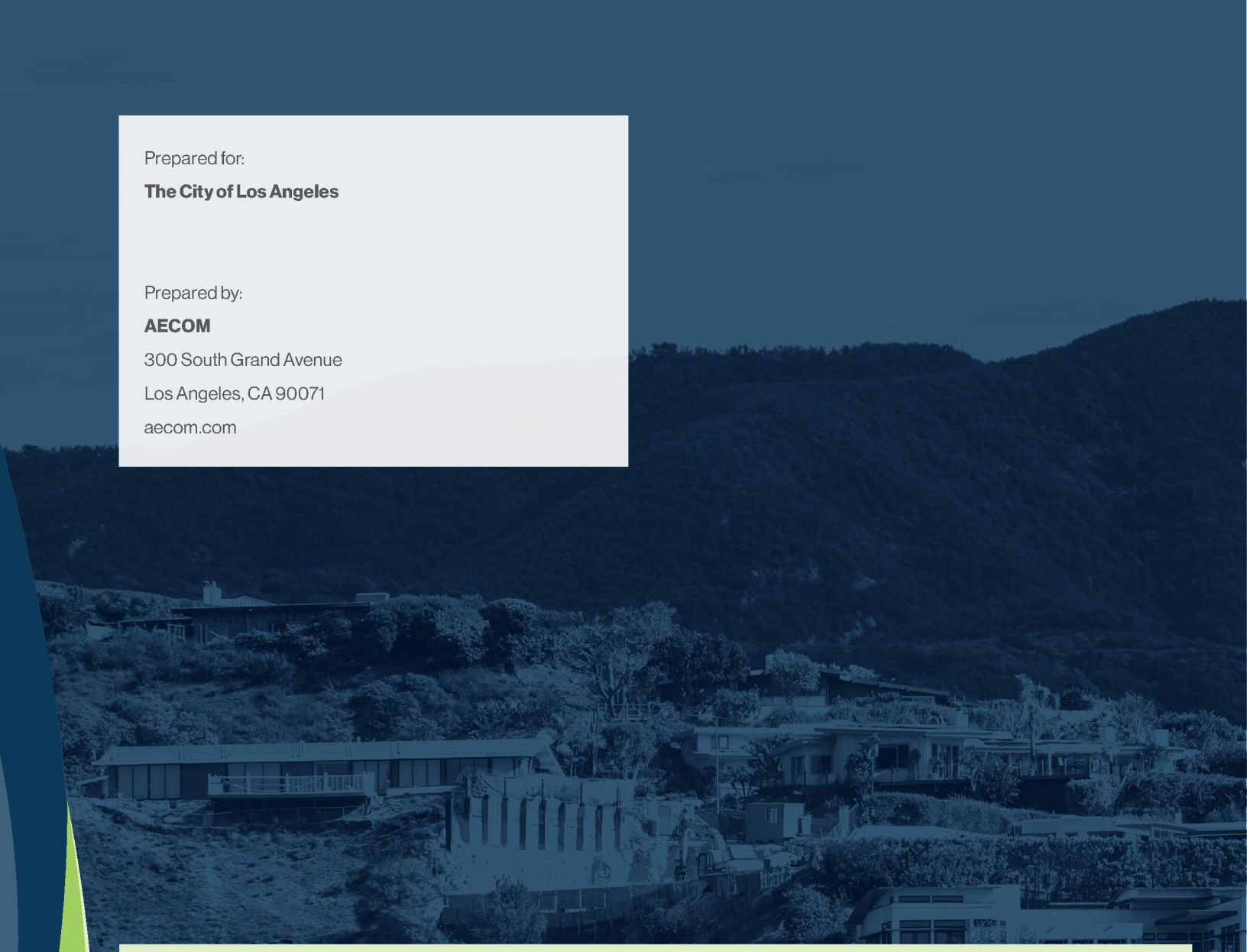


Workstream 2 | Pacific Palisades Wildfires Recovery

Infrastructure Restoration Plan

City of Los Angeles | February, 2026

AECOM



Prepared for:

The City of Los Angeles

Prepared by:

AECOM

300 South Grand Avenue

Los Angeles, CA 90071

aecom.com

Disclaimer

This report, including all figures, data, and examples, is based on the best available data, information, site access, and materials provided by the City of Los Angeles (City) or third parties at the time of performance and provided solely for the City of Los Angeles's independent evaluation. AECOM relies on the accuracy, completeness, and timeliness of information provided by the City and is not liable for errors, omissions, damages or losses arising from inaccuracies, incompleteness or deficiencies in the use of City or third-party data.

AECOM has provided services and deliverables on an "as-is" basis and makes no warranties of fitness for purpose, or specific outcomes. It is advisory in nature and does not direct any particular course of action, sequence, or implementation step. All decisions regarding whether, when, or how to implement any action, policy, or project element, wholly or in part, are at the City of Los Angeles's sole discretion, including determinations of feasibility, prioritization, funding, permitting, and coordination with others, including other jurisdictions or agencies. AECOM does not control or supervise the City of Los Angeles or any third-party's operations, staffing, field activities, construction, or means and methods.

AECOM shall bear no liability or responsibility for post-delivery modifications to this work product. This deliverable was prepared exclusively for the City of Los Angeles as part of Task 42, Emergency Project Management and Engineering Support Services for the 2025 Wind and Fire Storm Response, Subtask A. It is not intended for construction, implementation, or reliance by any third party.

To the extent the City enters into any contracts incorporating BOE's General Conditions for Construction Contracts arising out of or implementing the deliverables under this Subtask A, the definition of "Design Consultant" in BOE's General Conditions Section 00316, shall be defined to include AECOM in its capacity as "Planning and Advisory Consultant" under this Subtask.

Preamble and General Introduction:

This Infrastructure Restoration Plan is a moment in time report of the damage, restoration, and reconstruction plans for public and private infrastructure in the Pacific Palisades, and is intended to support the City's ongoing work to plan and execute the projects needed to restore infrastructure systems damaged by the fire and improve them for the future.

From the outset, this report recognizes that infrastructure is only one component of the restoration and rebuilding of the Palisades, an effort that will not be complete until homes and businesses are rebuilt and occupied. Because the rebuilding of individual properties is a private matter conducted by individual landowners, the Infrastructure Restoration Plan focuses on the City's effort to be prepared to (1) provide safe street access to the properties consistent with pre-Fire conditions, (2) provide public utility service to properties which were undamaged or which have been reconstructed, and, where possible, (3) reduce conflict and disruption to private property rebuilding and occupied buildings from restoration and improvement projects.

This document contains a wide array of valuable information which supports these efforts, and is organized to center the information needed to assist the City's Departments in understanding possible conflicts between proposed projects and an order of work which seeks to avoid conditions where the City could be forced to remove or re-work an already restored component (to the extent possible), and to provide information at various levels of detail for varying audiences.

In support of this, the document is organized as follows:

- Executive Summary – Provides an overview of all components of the document, including reduced versions of key graphical representations and tables, for the purpose of providing a summary document for readers seeking to understand the information, results, and recommendations.
- Section 1 – Introduction – Covers the scope and purpose of this report in greater detail, the history of the neighborhood and its development, a summary of the infrastructure operators within the neighborhood, descriptions of the various infrastructure systems which exist to serve the neighborhood, organized by utility type, and summary information about the utility operator's damage assessments after the disaster.
- Section 2 – Regulatory Framework and Land Use – Contains a discussion of some of the regulatory concerns influencing development and reconstruction within the Palisades.
- Section 3 – Strategic Framework for Infrastructure Restoration – Covers the organizing principles which support the City's restoration and rebuilding efforts toward infrastructure.
  - 3.1 – discussion of the phased recovery process which acknowledges the need to Stop the Emergency (Tier 1), Restore Essential Services (Tier 2), and then Rebuild for the Future (Tier 3).
  - 3.2 – an analysis of the City's currently proposed projects within the disaster study area for schedule conflicts, with recommendations for deconfliction where appropriate.
  - 3.3 – detailed discussion of the nature of Tier 1 projects, and overview of the City's and Private Utilities Tier 1 projects, most of which have been completed.
  - 3.4 – detailed discussion of the nature of Tier 2 projects, and overview of City's remaining Tier 2 projects.
  - 3.5 – detailed discussion of the nature of Tier 3 projects, and overview of the City's proposed/planned Tier 3 projects.
- Section 4 – Recommended Resilience Upgrades – discusses some strategies which the City's departments could consider implementing in the future to improve disaster resilience within the Palisades and beyond.
- Section 5 – Summary of Recommendations of the Consultant to the City.
- Section 6 – Table of References
- Appendices providing a variety of in-depth information about the development of the report and related topics which may be of interest to certain stakeholders.

Readers of this report should be aware that the report recognizes that infrastructure project development is a dynamic process which is influenced by many factors, including the degree of importance, the operability of the assets which are addressed by the project, funding and funding sources, material and labor resource availability, demand for the service provided by the project or the assets, public and worker safety, the ability or inability to complete work concurrently with other work, and competition from other projects.

Information in this report about the City's ongoing and planned efforts was gathered from the City's Departments between July and October 2025, and reflects the City's planning efforts and understanding as of the date of the report.

This report does not consider the factors of funding and funding sources or the need of the City to maintain operations elsewhere in its discussion of project scheduling. This report considers all infrastructure within the Palisades, but readers should be aware that certain systems, including Natural Gas service and all forms of Telecommunications service (telephone, cable TV, and internet service), are provided by private, for-profit companies which operated under a license and maintain their systems according to their own operating standards. The City cannot make or require repairs or improvements to these privately owned systems.

This report is complementary to other documents published by the City about the recovery from the January 2025 wind and fire disaster, but serves its own unique purpose. As a result of this, information about infrastructure projects may be organized in ways that are similar, but not identical, to other documents, reflecting the differing purposes and audiences for these documents.



Executive Summary

Executive Summary

The Pacific Palisades Infrastructure Restoration Plan (IRP) provides the City of Los Angeles with a coordinated, multi-agency roadmap for restoring critical infrastructure systems damaged by the Palisades Fire that occurred in January 2025. Commissioned by the City of Los Angeles, the IRP integrates assessments and recovery strategies across electric, gas, telecommunications, water, wastewater, stormwater, and transportation networks, delivering a framework that not only rebuilds essential services but embeds long-term resilience into every system.

Workstream 2 (WS2): Infrastructure Restoration Plan developed the IRP to address damaged public infrastructure and guide the phased rebuilding of the Pacific Palisades in alignment with the City's long-term recovery and resilience goals. WS2 operates in coordination with:

Workstream 1: Project management and governance structure

Workstream 3: Fire mitigation planning and risk reduction

Workstream 4: Logistics and traffic management for reconstruction access

Workstream 5: Recovery office staff support

Workstream 6: Long-term recovery planning

This integrated approach enables sharing of datasets, assessments, and recommendations across teams to produce cohesive and actionable deliverables that advance recovery efforts holistically.

The IRP is organized into six sections, each addressing a distinct component of the recovery framework for Pacific Palisades. Together, these sections provide a comprehensive view of the physical systems that underpin community recovery and long-term resilience in Pacific Palisades.

Section 1	**Introduction.** Defines the purpose, scope, and context of the IRP, outlining its alignment with the City of Los Angeles' broader wildfire recovery and resilience initiatives.
Section 2	**Regulatory Framework and Land Use.** Outlines the regulatory and land use framework governing recovery and rebuilding in Pacific Palisades.
Section 3	**Strategic Framework for Infrastructure Restoration.** Outlines the overall recovery approach and three-tiered restoration framework that guide prioritization of projects, coordination across agencies, and integration of resilience and modernization objectives.
Section 4	**Recommended Resilience Upgrades.** Identifies infrastructure upgrades, modernization opportunities, and capital-planning actions that extend beyond near-term recovery—such as system hardening, undergrounding, distributed energy resources, green infrastructure, and other investments that enhance long-term safety and reliability.
Section 5	**Summary and Recommendation.** Summarizes key findings, observations, and lessons learned from the recovery planning process, emphasizing opportunities to enhance interagency coordination and long-term infrastructure resilience.
Section 6	**References.** Identifies data sources, technical references, and supporting documents that informed the analyses and recommendations presented in this Plan.

This IRP also includes eight appendices that provide a broad range of supplemental information.

Purpose and Objectives

The Infrastructure Restoration Plan accomplishes the following:



Pacific Palisades Background

Pacific Palisades is a 24,354-acre coastal community on the western edge of the City of Los Angeles (City) that encompasses seaside and hillside neighborhoods along the Pacific Ocean and throughout the Santa Monica Mountains. The community sits within a Wildland-Urban Interface (WUI) area, zones where human development meets natural vegetation, and is designated as a Very High Fire Hazard Severity Zone (VHFHSZ) by the California Department of Forestry and Fire Protection (CAL FIRE).

Figure ES.1 presents the organizations that are responsible for infrastructure in Pacific Palisades:

Figure ES.1: City departments responsible for infrastructure in Pacific Palisades

Main Institution/ Agency	Bureau/Division	Role
Los Angeles Department of Public Works (DPW)	Bureau of Engineering (BOE)	BOE serves as the City's lead agency for planning, designing, and managing the construction of public infrastructure, buildings, and open-space projects.
	Bureau of Street Lighting (BSL)	BSL serves as the City's agency responsible for designing, constructing, operating, maintaining, and repairing the municipal street-lighting system.
	Bureau of Street Services (StreetsLA)	StreetsLA is responsible for preserving, protecting, maintaining, and renewing the City's street network and urban forests, including roads, sidewalks, on-street bikeways, street trees, and medians.
	Bureau of Sanitation (LASAN)	LASAN is responsible for collecting, treating, and disposing of sewage and solid waste, and for operating and maintaining sanitary sewers, storm drains, wastewater treatment plants, and related infrastructure.
	Bureau of Contract Administration (BCA)	BCA oversees and enforces compliance on the City's public-works and service contracts, ensuring that projects are carried out safely, lawfully, and in accordance with required plans and specifications.
Los Angeles Department of Water and Power (LADWP)	Power	LADWP Power generates, transmits, and distributes electricity across Los Angeles, operating a large municipal power system.
	Water	LADWP Water operates and maintains a water system of over 7,300 miles of mains and trunk lines to deliver high-quality water across Los Angeles.
LA Department of Transportation (LADOT)		LADOT leads the planning, project delivery, and operations of the City's transportation system.
Los Angeles Department of General Services (GSD)		GSD is responsible for managing, maintaining, and delivering capital improvements for City-owned facilities, including municipal buildings and libraries, and supports post-disaster facility repair, reconstruction, and long-term capital delivery.
Los Angeles Public Library (Library)		The Library owns and operates library facilities citywide and coordinates with GSD and other City departments on damage assessment, repair, reconstruction, and restoration of library services following disasters.
Department of Recreation and Parks (RAP)		RAP operates and maintains parks, recreation centers, swimming pools, sports fields, trails, and open-space facilities.

Dry Utilities

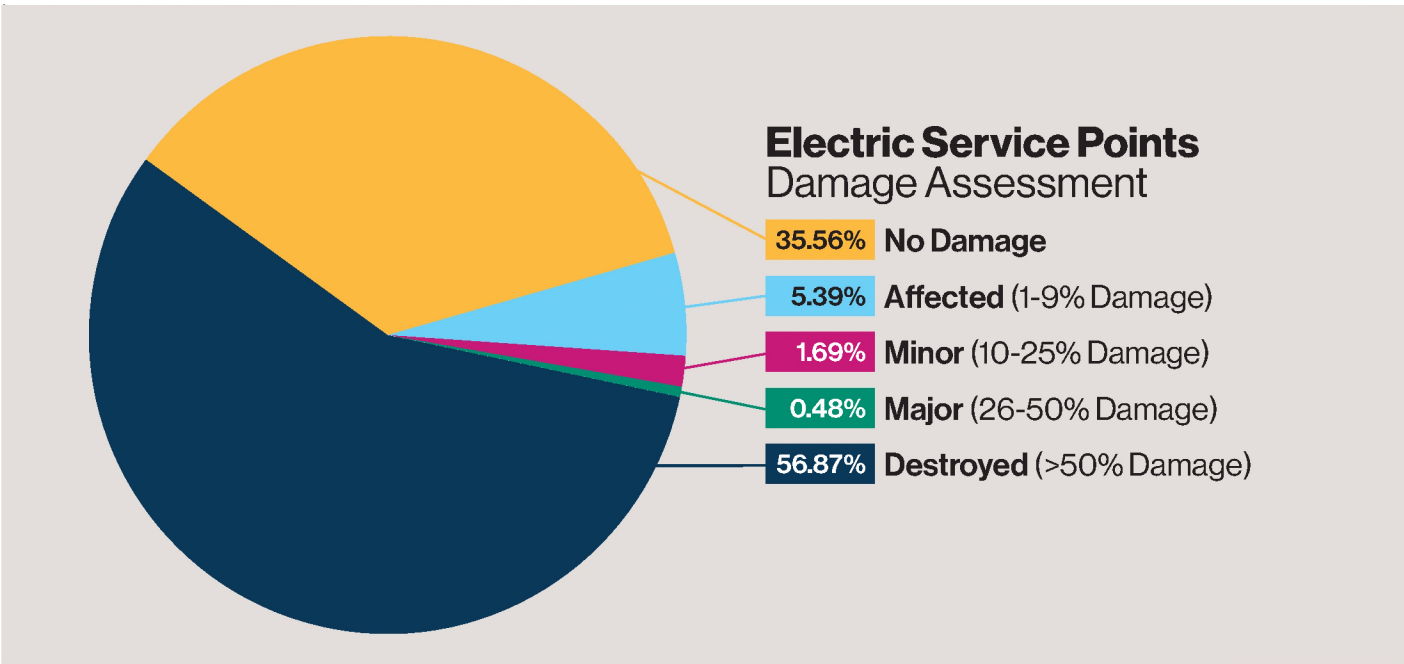
Dry utilities include electric power, gas, and communications (telephone, cable, fiber) systems.



Electric Power Infrastructure and Delivery

The electrical infrastructure serving Pacific Palisades is operated and maintained by the Los Angeles Department of Water and Power (LADWP). The area relies on interconnected assets—including receiving and distribution stations, sub-transmission lines, pole-top substations, and both overhead and underground distribution circuits—that form the foundation of local electric service delivery. The Fire caused devastating damage to electric utility service points. More than half of all assessed service points experienced severe to total destruction. Figure ES.2 presents the distribution of damage to electric service points by the percentage of damage to each.

Figure ES.2: Electric service points damage by severity level



Gas Utilities

Natural gas service in Pacific Palisades is provided by Southern California Gas Company (SoCalGas) a private company which provides utility service under a franchise agreement with the City. SoCalGas reported no significant damage to its underground distribution infrastructure, aside from the destruction of structures and meters. The company indicated that no known damage occurred to any aboveground components of pressure regulating stations within the fire zone. SoCalGas has deactivated natural gas service to all buildings that were destroyed or deemed uninhabitable by closing the Service to Main Connection valve and severing and capping the service lateral to prevent unintended gas migration. The utility plans to restore service to reconstructed buildings in accordance with its standard new business service protocols, once service requests are initiated by property owners.

Telecommunications Utilities

The Palisades Fire severely damaged both aerial and underground communications infrastructure, destroying fiber-optic and coaxial cables, macro cell sites, cabinets, and power supplies. Telecommunication companies include Spectrum/Charter, Frontier, Verizon, AT&T, and T-Mobile. All telecommunications providers are private companies which provide utility services under a franchise agreement with the City. These organizations deployed mobile assets for communication coverage immediately after the Fire through the restoration period.

Key efforts included:

- Prioritized emergency services to First Responders.
- Opened more than 35,000 temporary Wi-Fi access points across Southern California.
- Installed temporary fiber circuits and poles, coordinating undergrounding projects with LADWP.
- Reduced and/or waived fees and charges for a limited period.

Wet Utilities



Wet utilities in Pacific Palisades include potable water, wastewater, and stormwater systems.

Potable Water

Potable water is delivered by the Los Angeles Department of Water and Power (LADWP) and supplied to Pacific Palisades via the Westgate Trunk Line into pressure zones divided by elevation. Low-elevation zones receive water primarily by gravity, while high-elevation zones are served by pumping stations that lift water uphill. The Marquez Knolls Pump Station pumps water into the Marquez Knolls Tank, the Santa Ynez Pump Station pumps into the Trailer Tank, and the Trailer Pump Station pumps into the Temescal Tank.

Wastewater

The Pacific Palisades sanitary sewer collection system is operated by the Department of Public Works, Bureau of Sanitation (LASAN). The system is primarily operated by gravity, but there are six wastewater lift stations and force mains that move flow across varying elevations in the neighborhood to the gravity system. Wastewater is treated at the Hyperion Water Reclamation Plant in Playa Del Rey.

Septic Systems

A septic system is an on-site method of treating and disposing of household wastewater when a property is not connected to a centralized sewer.

A significant number of properties in the coastal and more remote and hilly parts of Pacific Palisades rely on septic systems. Approximately 139 wastewater septic systems in neighborhoods within the Pacific Palisades burn area were impacted by the Fires.

Septic systems are permitted through the Los Angeles County Department of Public Health (DPH), Environmental Health Division. LASAN is evaluating opportunities and challenges with converting homeowners' wastewater systems from septic to sewer service during the rebuilding period.

For further details, please see Section 4.2.2.3.

Stormwater

The stormwater network includes the City of Los Angeles and Los Angeles County Flood Control District (LACFCD) and LASAN assets. Among these assets are catch basins, underground drains, debris basins, and engineered channels that discharge to Santa Monica Bay. These systems are supplemented by coastal Low-Flow Diversion (LFD) facilities designed to intercept and treat dry-weather urban runoff for water-quality protection.

Prior to January 2025, stormwater system improvements for Pacific Palisades were planned to include stormwater capture and debris management. Subsequent inspections of the watershed burn area indicated an increased potential for debris-rich runoff during storms, and this type of runoff did occur after the Fire. Winter storms caused localized flooding and mudslides and overwhelmed basins and inlets along Palisades Drive, Pacific Coast Highway (PCH), and adjacent corridors—consistent with regional post-wildfire hydrology, where peak discharges can increase several-fold over pre-Fire conditions under high-intensity rainfall.

In response, the City mobilized post-Fire recovery and infrastructure restoration with Los Angeles Bureau of Engineering (BOE), LASAN, and partner consultants under mayoral directives, supported by the U.S. Army Corps of Engineers (USACE) deployment of K-rails and other protective measures, such as near-term storm-drain replacements, debris-control upgrades, and fire-resilient retrofits in the Pacific Palisades canyons.

Street Trees and Surface Infrastructure



The Fire's aftermath revealed a complex interplay of damage from direct flame exposure, post-Fire hydrological changes, and sediment transport, all of which have degraded the integrity of roadways and their associated infrastructure. Surface infrastructure includes curbs, gutters, sidewalks, driveway, curb ramps, street lighting, traffic signals, stormwater infrastructure, utility access points, etc. Street trees were also significantly impacted. Many trees were destroyed or critically damaged while others require additional maintenance and monitoring to recover from fire impacts.

Street Trees

Street trees are managed by the City's Urban Forestry Division (UFD), which falls under the broader Bureau of Street Services (StreetsLA).

Street trees in Pacific Palisades were assessed and inventoried prior to the Palisades Fire, and the resulting data are hosted on an online, publicly available database called TreeKeeper. After the Palisades Fire, in the fall of 2025, the City completed an assessment of trees in the public right-of-way and within the Palisades Fire perimeter. The assessment evaluated over 6,000 sites, including trees, stumps, vacant sites, and obsolete sites. Of the trees and stumps analyzed, 4,681 were identified as needing removal, maintenance, or monitoring. Additionally, the assessment found 1,162 sites that may be suitable for replanting, 763 stumps, 281 obsolete sites, and and 6 trees that were not impacted by the fire but were recommended for removal or pruning.

Surface Infrastructure

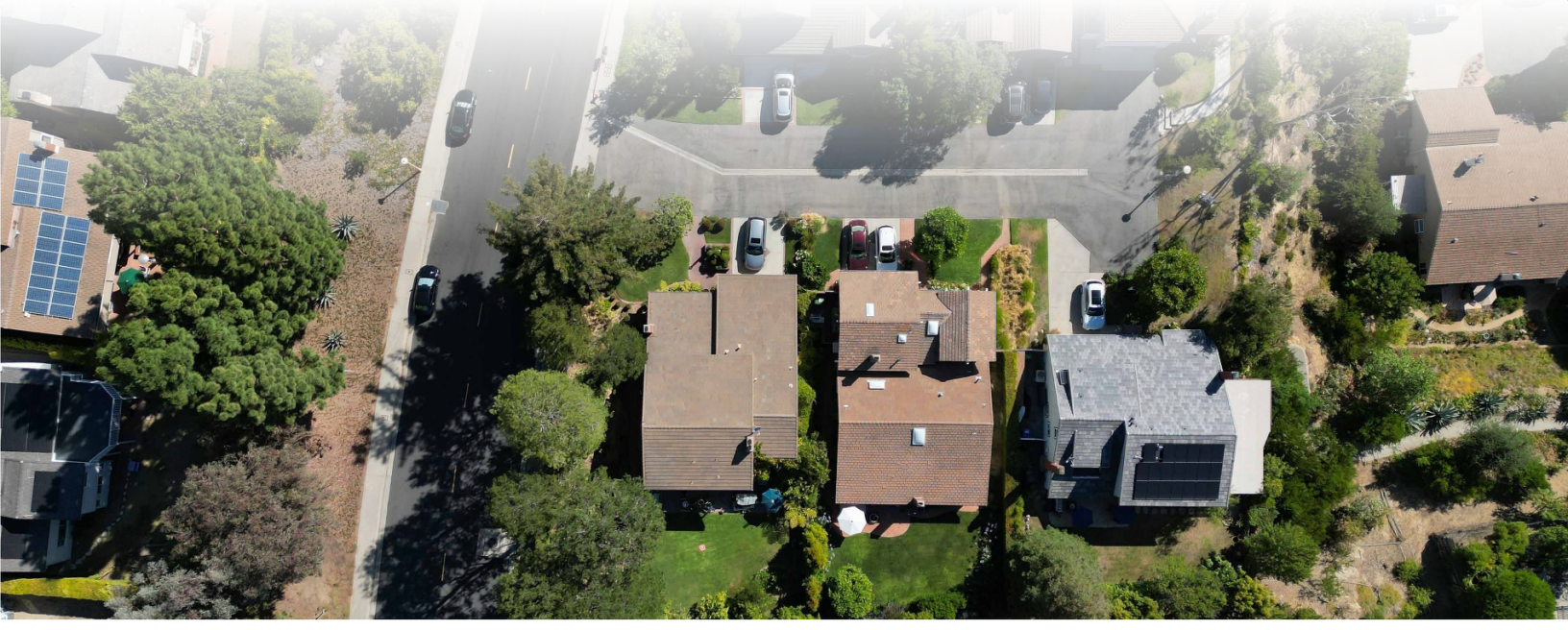
In canyon-adjacent roads, slope instability was exacerbated by aging infrastructure and the lack of subdrain systems. Due to the advanced age of paved surfaces, oxidation occurred to the surface of these materials. Pavement surfaces also experienced "shoving" due to heavy truck traffic and vehicle loads during hot weather conditions.

Post-Fire fire damage has impacted the asphalt paving, certain specific curb and gutter, pedestrian ramps, and driveways throughout the fire rebuild area. In most cases, pavement damages fell into one of two categories — debris impacts or quality-of-asset damages. The first of these, the impact of objects in the right-of-way which prevent the normal operation of roadways and walkways, as well as access to utility facilities and private properties, represents a Tier 1 restoration responsibility. Debris removal and emergency stabilization are discussed in the section on Tier 1 response. Quality of asset damages, including things like charred asphalt and concrete, small potholes, and similar impacts, are considered a Tier 3 matter, as they do not necessarily impede the normal operation of the asset, but do need to be repaired or restored for long term resilience. The City's facilities in the Palisades experienced both of these kinds of damage.

Traffic signals, signage, light poles and striping are essential components for the daily operation and safety of the community. A large portion of the City's above grade surface infrastructure, including street lights, traffic signals, and road signs, was damaged or destroyed by the Fire. The restoration of these assets is discussed in the section on Tier 1 activities.

Overall, the City has already completed all Tier 1 work related to the Surface Infrastructure asset class, and a large portion of what could be considered Tier 2 work was also completed in the Tier 1 response by the City. Remaining work across Tier 2 and Tier 3 is covered in the appropriate sections of this document.

A discussion of the impacted locations and replacement strategies are found throughout this report under the main headings for Surface Infrastructure in each section.



Natural Infrastructure

Natural infrastructure includes existing ecosystems and the restoration of natural processes to deliver infrastructure functions such as stormwater management, slope stabilization, flood prevention, and water quality improvement. In the context of Pacific Palisades, where steep topography, post-Fire erosion, and landslide risks are significant, natural infrastructure offers sustainable and adaptive solutions that complement engineered systems.



Physical Setting

The Palisades Fire occurred on the southern flanks of the Santa Monica Mountains, an area of steep terrain and complex topography with many canyons and small watersheds that are moderately steep to very steep. The underlying geology is predominantly Cretaceous age to Miocene age sedimentary and volcanic rock, and extensive alluvial fan deposits underlie the developed mesas.

Debris Flow Hazards

The U.S. Geological Survey prepared a computer model to estimate debris flow from the Pacific Palisades watershed. The model predicts the likelihood and volume of hazard based on a design storm. Figure ES.3 is a pre-Fire map that presents the current model results, based on a 15-minute, 24 mm/hr (0.94 in/hr) intensity storm. The model can also inform the City's future planning and decision-making related to debris-flow management in the post-Fire environment.

This report recognizes that debris flow contamination to waterways and natural areas is a significant concern, but consideration of that aspect of debris flows management is not within the scope of infrastructure restoration planning.

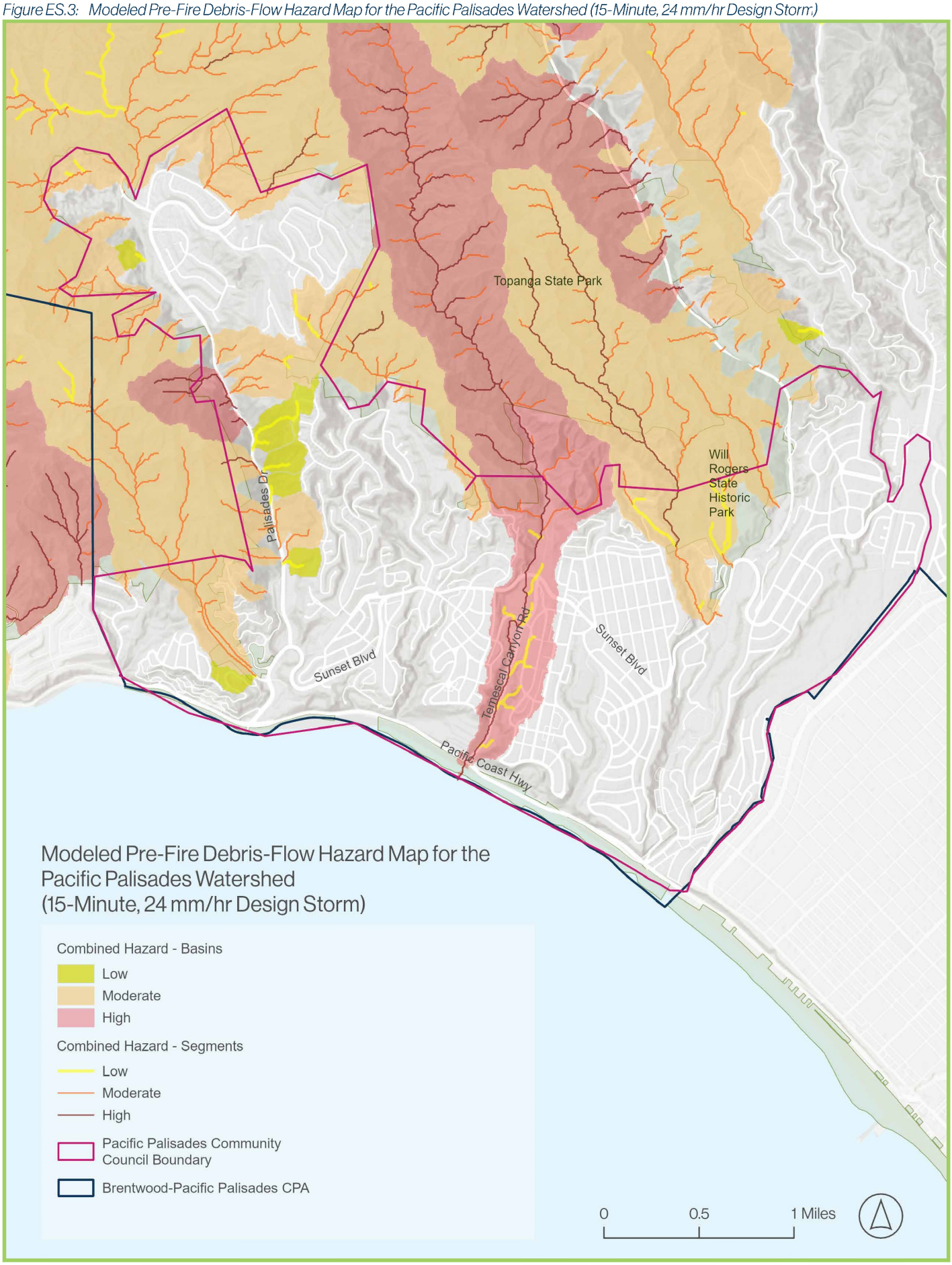
Post-Fire Slope and Landslide Risks

The fire burned the slopes and hillsides, exposing the surficial soil. Due to the steepness of the exposed slopes, there are risks associated with erosion, surficial slope failure, debris flow, and exacerbation of existing active landslides. Evaluations of post-Fire hazards and impacts included the following:

- **WERT Evaluation - 2025 Palisades Fire – January 24, 2025.** The Watershed Emergency Response Team (WERT) Evaluation was a rapid assessment aimed at assisting the community after the wildfire by documenting post-Fire risks posed by debris flows and flood and rockfall hazards.
- **GEER Reconnaissance of Geotechnical and Infrastructure Impacts.** Geotechnical Extreme Events Reconnaissance Association (GEER) conducted a reconnaissance of the geotechnical and infrastructure impacts from the Palisades Fire in June 2025.

The WERT Evaluation and the GEER Reconnaissance provide a comprehensive assessment of post-Fire risks to safety and property. Assessments of each individual site are summarized and mapped. Related geotechnical hazard categories include rock fall and debris flows. At-risk existing improvements or features include retaining walls, debris barriers, debris basins and culverts, homes, roads, and bridges.

Figure ES.3: Modeled Pre-Fire Debris-Flow Hazard Map for the Pacific Palisades Watershed (15-Minute, 24 mm/hr Design Storm)



Regulatory Framework and Land Use

The regulatory and land use framework establishes the rules, constraints, and opportunities guiding how post-Fire rebuilding is to align with long-term community resilience, environmental protection, and sustainable growth in Pacific Palisades.

Primary Regulations



General Plan

The Los Angeles General Plan is the City's long-term policy framework for guiding physical development, land use, infrastructure, and community well-being. The General Plan consists of multiple mandated elements, such as Land Use, Housing, Conservation, Mobility, Safety, and Noise.



Brentwood-Pacific Palisades Community Plan

Brentwood-Pacific Palisades Community Plan combines discussions of goals, objectives, policies, and programs with a detailed land use map. Key goals of the plan include preserving low-density residential neighborhoods (comprised primarily of single-family homes) while encouraging higher densities and mixed-use development in pedestrian-oriented and transit corridors such as San Vicente Boulevard and Sunset Boulevard.



Zoning Ordinance

The Zoning Ordinance implements the Los Angeles General Plan including the Brentwood-Pacific Palisades Community Plan. The ordinance identifies allowable land uses and provides development standards, height districts, and various other overlays. Zoning in Pacific Palisades includes districts for residential, commercial, public facilities, and recreational or open space.



Baseline Hillside Ordinance

The citywide Baseline Hillside Ordinance is a set of zoning regulations designed to control development in the hillside areas of Los Angeles, which include many parts of the Pacific Palisades.



Pacific Palisades Commercial Village and Neighborhoods Specific Plan

The Pacific Palisades Commercial Village and Neighborhoods Specific Plan governs development in four key commercial areas within Pacific Palisades: the central commercial village, as well as Marquez, Santa Monica Canyon, and the Sunset/PCH commercial corridors. The Specific Plan aims to ensure that the four key commercial areas continue to be vibrant and cohesive while remaining compatible with the surrounding low-density, residential character.



Coastal Zone

The California Coastal Act is a landmark environmental law enacted in 1976 to protect, conserve, and manage the state's coastal resources. Its primary goals include preserving public access to the shoreline, protecting natural habitats, safeguarding scenic beauty, managing coastal hazards like erosion and sea level rise, and ensuring environmentally responsible development. Within the Coastal Zone, most development projects require a Coastal Development Permit (CDP) from either the California Coastal Commission or a local government that has adopted a Local Coastal Program (LCP) certified by the Commission.



Senate Bill 9

Senate Bill 9 (SB 9) applies to single-family residential zones in California and supports the creation of up to four housing units on a single-family parcel when combined with Accessory Dwelling Unit (ADU) allowances. Enforcement of SB 9 was paused in the Fire area following Governor Newsom's Executive Order N-32-25. Subsequently, Los Angeles Mayor Karen Bass issued an Executive Order No. 9 stating that the City will not accept or process applications for any project within the boundaries of the Palisades Fire. The state and city orders are temporary and only in effect during the state of emergency.



Accessory Dwelling Units

ADUs are smaller residential units located on the same lot as a larger primary dwelling. ADUs can be built in any area in Los Angeles that allows residential use. ADUs must follow all applicable zoning, building, and residential codes.



CAL FIRE Fire Hazard Severity Zones

In California, the responsibility for fire protection is divided among the federal, state, and local entities. The California Department of Forestry and Fire Protection (CAL FIRE) is a hazard response team that serves and protects the people, property, and resources of California (State of California, 2025a). CAL FIRE oversees vegetation management programs, enforces fire-safe building standards, and designates Fire Hazard Severity Zones (FHSZs) to identify areas that are most likely to experience wildfires over the next 30 to 50 years using a science-based model. All of Pacific Palisades is within a VHFHSZ and is therefore required to meet the State's defensible space standards.

Other Regulations and Codes Affecting Development

Executive Orders

The Los Angeles Mayor issued nine Emergency Executive Orders in response to the January 2025 wildfires and related recovery efforts. Emergency Executive Orders No. 1, No. 2, No. 5, and No. 9, Executive Order N-18-25, and Executive Order N-24-25 issued by the Governor are the orders that are most applicable to the infrastructure and objectives discussed in this IRP. These key orders are summarized in Table ES.1.

Table ES.1: Summary of Relevant Executive Orders Issued Post-Wildfire

Executive Order	Goal	Key Actions
Emergency Executive Order No. 1 - Return and Rebuild (City of Los Angeles, 2025a).	Provide a streamlined, rapid pathway for the rebuilding and recovery of communities.	■ Start cleanup efforts: debris removal, watershed hazards mitigation ■ Establish One-Stop Rebuilding Center ■ Establish Department Strike Force ■ Review rules for eligible projects and general rebuilding and reconstruction rules ■ Pause permit and entitlement deadlines for 3 years ■ Provide easier access to building plans ■ Make allowance for modular structures/mobile homes on affected properties ■ Expedite temporary certificates of occupancy for multi-family residential projects near completion
Emergency Executive Order No. 2 - Watershed Protection (City of Los Angeles, 2025b).	Protect waterways, beaches, and infrastructure of Los Angeles from post-Fire debris, erosion, and toxic runoff.	■ Implement temporary erosion and debris-flow controls ■ Remove vegetation and sediment from debris basins ■ Restore the use of Low Flow Diversion pump stations ■ Identify opportunities for soil stabilization on private properties ■ Seal damaged sewer laterals ■ Coordinate street sweeping and hazardous debris removal ■ Encourage residents not to wash cars and driveways to prevent runoff
Emergency Executive Order No. 5 - Return and Rebuild (City of Los Angeles, 2025c).	Establish a citywide framework for resilient, sustainable, and cost-effective rebuilding that strengthens homes, infrastructure, and public spaces against future climate and wildfire risks.	■ Fast-track resilient rebuild permitting ■ Promote wildfire prevention and fire-resistant construction ■ Ensure infrastructure resilience ■ Ensure resilient public facilities ■ Ensure water system resilience ■ Ensure flood and landslide protection ■ Foster wildfire disaster preparedness ■ Align planning with the City's Local Hazard Mitigation Plan, Climate Vulnerability Assessment, General Plan, Fire Code and LADWP's Wildfire Mitigation Plan, and the Los Angeles Resilience Plan ■ Enhance community resilience ■ Establish resilient rebuild advisory committee ■ Establish framework ensuring resilient homes
Executive Order No. 9 – Local Prohibition on SB 9 in Burn Areas (City of Los Angeles, 2025d).	Declare the City's review process for urban lot splits and two-unit developments in the Palisades Fire Very High Fire Hazard Severity Zone	■ City prohibits the acceptance or processing of any applications under Government Code 65852.21 or 66411.7 for any project within a VHFHSZ in the fire boundaries ■ Exception: Projects whose complete plan-check application was accepted before the Governor's Executive Order N-32-25 remain unaffected by this prohibition
Executive Order N-18-25 (Executive Department State of California, 2025).	Strengthen statewide wildfire resilience by hardening homes against embers, improving public access to fire-risk information, and modernizing emergency response systems.	■ Require the creation of an ember-resistant zone within 0 to 5 feet of a home (Zone 0 regulations) ■ State Fire Marshall should make Fire Hazard Severity Zone maps for Local Responsibility Areas (LRA) available to the public ■ CAL FIRE and Cal OES must work with local, tribal, and federal partners and FIRESCOPE to review and modernize the Interagency Resource Ordering Capability (IROC) system to ensure more efficient mutual-aid resource deployment
Executive Order N-24-25 (Executive Department State of California, 2025)	Facilitate the rebuilding of damaged or destroyed infrastructure by suspending CEQA and CCA requirements for electric, gas, water, sewer, and telecommunications infrastructure projects.	■ Suspend CEQA and CCA requirements for: • Damaged or destroyed electric and telecommunications infrastructure • Electric, gas, water, sewer, or telecommunications projects adjacent to damaged or destroyed infrastructure • Other underground electric, gas, water, sewer, or telecommunications projects that can be undertaken at the same time as/at the same site as these repairs

Government Agencies

The Pacific Palisades area lies within the general jurisdiction of the City of Los Angeles and is a part of Council District 11. The area is bordered to the south by the independent city of Santa Monica, and to the west/northwest by an unincorporated area of Los Angeles County. In addition to the State of California's general authority exercised by the Governor's office and the State Legislature, Regulatory authority for the neighborhood is primarily vested in the City of Los Angeles, but several other agencies have jurisdiction over specific areas or operations. These include:

- Los Angeles County – Board of Supervisors District 3
- Flood Control District
- State of California, Department of Transportation (Caltrans)
- State of California, State Parks Department
- Los Angeles Unified School District (LAUSD)
- California Coastal Commission
- California State Department of Fish and Wildlife and the U.S Fish and Wildlife Service
- U.S. Army Corps of Engineers (USACE)

Regulations Affecting Dry Utilities

Dry utilities and undergrounding are governed by CPUC Rule 20, CPUC General Order 128, General Order 95, California Proposition 218 regulations and local formation rules for Utility Undergrounding Assessment Districts.

Regulations Affecting Wet Utilities

- **Fire Code.** Article 7 of the Los Angeles Municipal Code constitutes the "Los Angeles Fire Code." It adopts portions of the 2022 California Fire Code and the 2021 International Fire Code.
- **California State Water Resources Control Board Codes.** The California Code of Regulations Titles 17 and 22 (California Regulations Related to Drinking Water) establish the regulatory framework for the design, operation, and protection of potable water systems, with direct relevance to wet utility infrastructure.
- **Los Angeles County Department of Public Health (LACDPH) Codes.** Los Angeles County Department of Public Health regulations establish public health and sanitary standards for water and wastewater systems, including permitting, oversight, and compliance requirements that affect wet utility infrastructure countywide.
- **Los Angeles Municipal Code, Article 4.5 – Stormwater and Urban Runoff Pollution Control.** This article is implemented and enforced by LASAN, establishing requirements for stormwater management, urban runoff control, and compliance with the City's MS4 Permit.
- **Los Angeles Municipal Code, Article 4 – Sewers, Water Courses, and Drains.** Administered by LASAN, this article governs sanitary sewer use, wastewater discharges, industrial pretreatment, and protection of the City's sewer system.

Regulations Affecting Surface Infrastructure

- Any work performed within a public street or right-of-way requires proper authorization through the BOE or StreetsLA
- Street trees are regulated by the UFD within StreetsLA.
- Vegetation within the public right-of-way must adhere to StreetsLA's Right-of-Way Landscaping Guidelines.
- Municipal codes and regulations for Los Angeles streets can be found in the City's Municipal Code. In particular, LAMC §62.00 et seq. governs the use, excavation, improvement, and restoration of the public right-of-way, setting the regulatory framework that applies to street work following the Fire.

Regulations Affecting Natural Infrastructure

The City of Los Angeles Department of Building and Safety (LADBS) regulates the construction on and around slopes on private property. Pacific Palisades lies within the Hillside Area as defined in the Los Angeles Municipal Code, Section 91.7003, which designates any grading within the hillside area as "engineered grading." Because much of the post-Fire restoration work occurs on steep, fire-affected hillsides, slope stability becomes a primary natural-infrastructure concern, and any grading needed to restore vegetation, prevent erosion, or re-establish drainage patterns could fall under LADBS hillside regulations.

The City, County, and State have implemented programs and building code standards that mandate proactive vegetation management and infrastructure upgrades such as the following:

- **Brush Clearance Program:** The City's Brush Clearance Program requires that property owners in VHFHSZ areas clear hazardous vegetation and maintain defensible space within specified distances of structures and roadways used for vehicular travel.
- **California Defensible Space Requirements:** These vegetation management requirements apply to properties in the State Responsibility Area (SRA) or VHFHSZs in the Local Responsibility Area (LRA) as designated by CAL FIRE.
- **Wildland-Urban Interface (WUI) Regulations:** These regulations establish minimum statewide requirements for wildfire risk mitigation in designation WUI areas and FHSZs.
- **Statewide Fuels Reduction Program:** This program was developed by the California Natural Resources Agency and California Environmental Protection Agency to fulfill Governor Newsom's State of Emergency Proclamation seeking to expedite fuels reduction projects that protect communities and reduce severe risks of catastrophic wildfires. The program facilitates timely implementation of essential wildfire safety initiatives.

The City recognizes that slopes and other natural infrastructure features often cross multiple land ownership boundaries, and that project development for slopes which extend from the public right-of-way (PROW) onto private properties, or which cross multiple Agencies ownership will require coordination and approvals for future projects. Solutions to be implemented are influenced by many operational concerns of the landowners and Agencies Having Jurisdiction, and the precise scope of possible future projects were not considered herein.

Strategic Framework for Infrastructure Restoration

The strategic framework described in this IRP guides how damaged infrastructure in Pacific Palisades can be restored, upgraded, and made more resilient. It establishes a three-tiered, phased approach that ranges from immediate life-safety actions to permanent system upgrades that reduce future hazard risks.

Prioritization Approach for Tiered Restoration Framework

Phasing Recovery in Three Stages

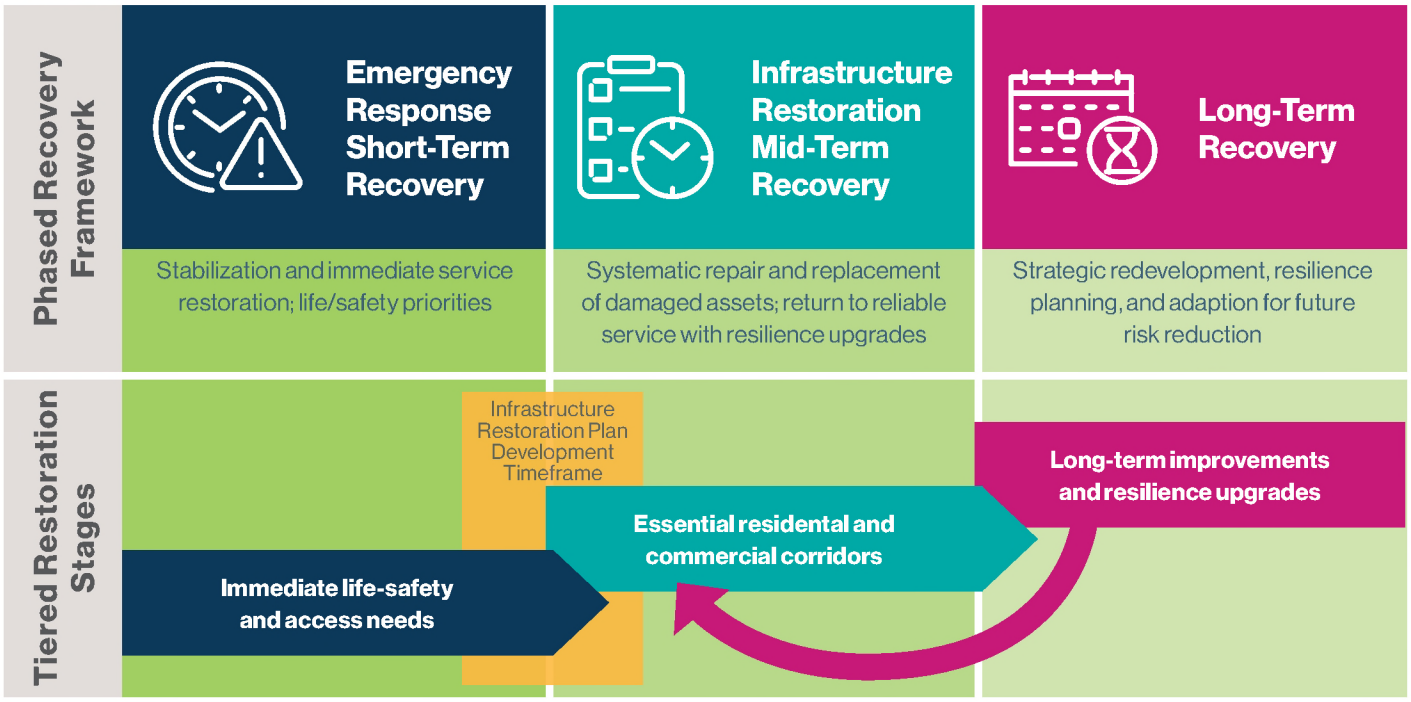
The recovery and rebuilding framework shown in Figure ES.4 was adapted from FEMA's Restoration and Recovery: Guide for Private-Public Partnerships (FEMA, 2025). The framework uses FEMA classifications, which organize recovery actions according to the stage or phase in which they are to occur: short-term emergency response, medium-term restoration of essential services, and long-term rebuilding and resilience upgrades.

Ranking Assets in Priority Tiers

The recovery and rebuilding approach has three tiers:

- **Tier 1 Objective:** Stabilize critical infrastructure to enable emergency response, protect public safety, and restore essential lifeline services to first responders and vulnerable populations.
- **Tier 2 Objective:** Expand restoration from critical facilities to the broader community, focusing on habitability, economic revitalization, and coordinated repair sequencing — completing the work needed to return each infrastructure component to its normal operating condition.
- **Tier 3 Objective:** Implement permanent infrastructure improvements to improve operating conditions, capability, capacity or disaster resilience of the infrastructure.

Figure ES.4: Framework for rebuilding adapted from FEMA classifications (FEMA, 2025)



Schedule and Sequence Analysis for Infrastructure Restoration

Cross-Agency Schedule

Table ES.2 is a summary of all dry utilities, wet utilities, and streets projects that are in the conflict schedules on street intersections described in (Table 3.6). Of the 263 identified projects, 243 were mapped and evaluated based on their location and timeline. The remaining 20 projects, which included certain Public Assistance Projects and RSS Plans, were not mapped and evaluated because they lacked the defined geographic coordinates or street-level details necessary for spatial analysis.

Within the Palisades, the City has a number of Departments and Bureaus which own and operate infrastructure assets, as do several private companies and other Government Agencies outside of the City. Each of these asset owners has their own systems for tracking their assets, the damages caused to those assets, and their proposed restoration and improvement projects related to those assets.

The preparation of this Plan considered the damage assessments performed by these asset owners, the already completed repairs, and the asset owner's proposed or considered future projects which the asset owners found to be sufficiently advanced in planning to present for analysis.

As will be discussed later in this report, each Department, Bureau, and Agency will continue to operate and maintain their facilities during the recovery period, which will result in new projects being developed to respond to needs and incidents which arise in the future.

As has been discussed elsewhere, a significant component of the infrastructure restoration effort is completed - all of the private utility companies have reported to the City that they are prepared to receive new customer utility connections as rebuilding proceeds. Several City assets are in similar conditions.

The City's asset owners in the Department of Water and Power, the various Bureaus within the Department of Public Works, and other Departments have identified a number of proposed or considered projects which were analyzed in this report in order to describe the City's Infrastructure Restoration Plan. These efforts are discussed in other City documents as well, where different criteria may be used to categorize or group the projects for other analysis.

This report has used the term "project" to mean a named item of work which modifies an asset which has location and time data associated to it by the department that has proposed or performed it. This definition is specific to this effort.

Project General Categories

- The projects which were evaluated were described by their asset owners in several general categories, which are summarized below for the reader's understanding.

Dry Utilities

- **Underground and Corridor Hardening –** LADWP system-hardening projects to upgrade underground conduits and distribution corridors.
- **DS-29 Station Upgrades –** LADWP capital upgrades supporting modernization and 12-kV conversion at Distribution Station 29.
- **Distribution Automation and Advanced Metering –** LADWP grid-modernization projects deploying automation and advanced metering.

Wet Utilities

- **Water Main Betterment Projects (Phases 1 & 2) –** LADWP projects replacing water mains nearing end of useful life and improving system reliability in fire-impacted zones.
- **DR4856 Permanent Work Projects –** FEMA-authorized permanent repairs to water, wastewater, stormwater, and related infrastructure.
- **BOE Proposed Projects –** BOE-led projects provided by LASAN, identifying wet utility recovery and mitigation needs and pending full approval for development.
- **Pumping Plant Projects Provided by LASAN –** LASAN-submitted FEMA mitigation and permanent-work proposals for stormwater and drainage restoration.
- **RSS Plans –** City resilience and stormwater-management projects from the Resilience and Sustainability Strategy.
- **Damage Assessment –** LASAN projects derived from post-Fire inspections and infrastructure damage inventory.

Public Buildings, Parks, and Other City Facilities

- **DR4856 Permanent Work Projects –** Street, hardscape, and wall restoration projects led by BOE, BSL, and StreetsLA.

Streets, Hardscapes, and Walls

- **DR4856 Permanent Work Projects (Streets) –** FEMA-approved permanent roadway and slope restoration by StreetsLA.
- **Public Assistance Projects (Not Already Included in DR4856 List) –** Street signage, revetments, and tree replacement projects, not including any items already captured under DR4856 Permanent Work Projects.
- **Palisades StreetsLA Locations –** StreetsLA community-reported pavement and surface repair locations.
- **Palisades Burned Scars (Patchwork) –** StreetsLA localized pavement restoration for fire-damaged or destabilized street segments.

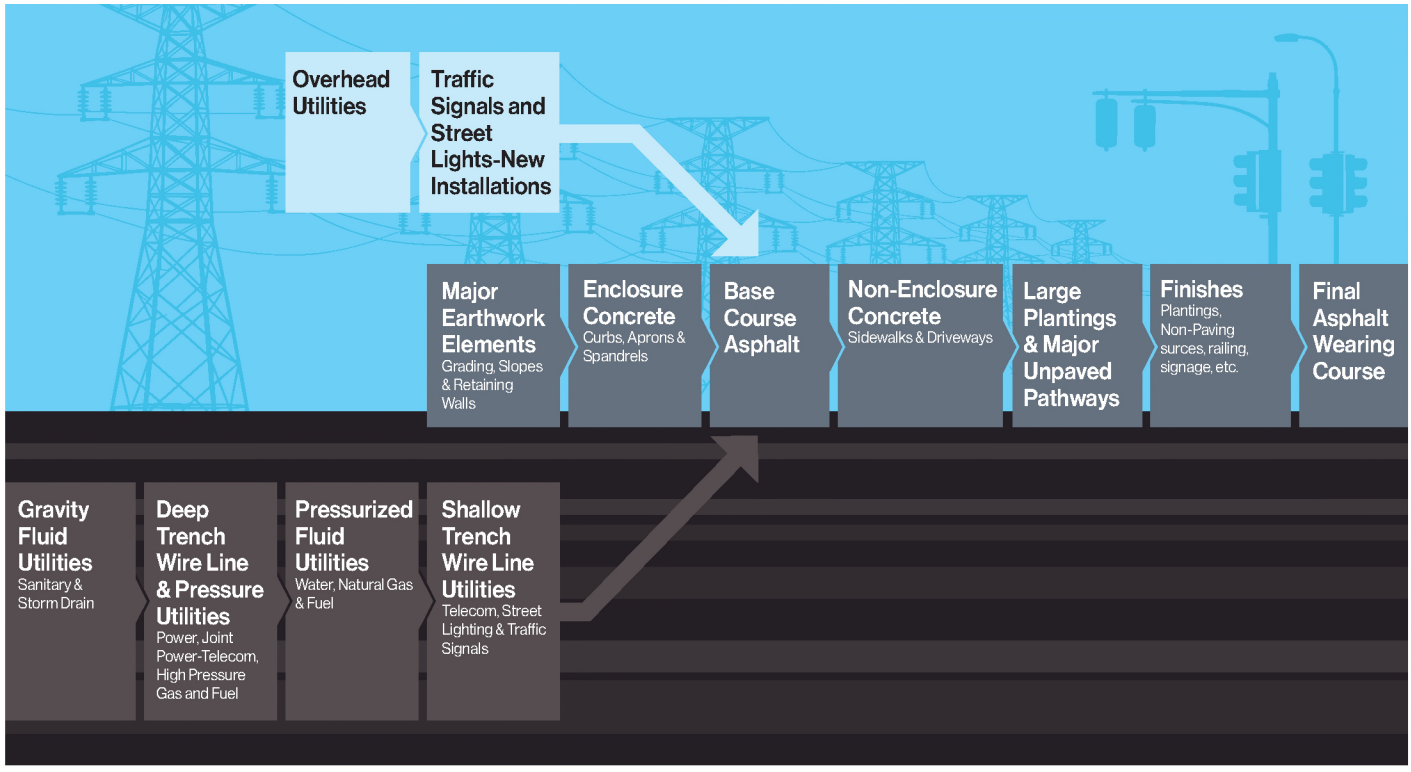
Table ES.2: Summary of Prcjects and Alignment with Sequencing Analysis

Category	General Category	Description	Number of Projects	Lead Agency	Status	Projects Included in WS2 Sequencing Analysis
Dry Utilities	Underground and Corridor Hardening	These LADWP Power projects focus on converting existing 4 kV systems to the standard 12 kV voltage level, upgrading power infrastructure to support this conversion, and implementing extensive undergrounding along Sunset Boulevard and other feasible locations across multiple neighborhood areas. This category includes (4) four undergrounding projects, each containing two load blocks, (2) two duct bank installation projects on Sunset Blvd. (East of DS-29 and DS29 to DS-99), (1) one project for addressing communications facilities on poles, and (1) one project for development of standards for 12kV. For the purposes of the schedule analysis, the communications on poles and standards projects are not considered, and neither is the completed work on Sunset.	8	LADWP - Power	1 Started; 7 Proposed	6
	DS-29 Station Upgrades	These LADWP Power projects focus on restoring Distributing Station 29 and upgrading it to support related initiatives, including the 12 kV system conversion and undergrounding efforts.	2	LADWP - Power	1 Started; 1 Proposed	2
	Distribution Automation and Advanced Metering	The Advanced Metering Infrastructure (AMI) program will be implemented by LADWP to leverage smart metering capabilities, including remote communication and real-time service monitoring. In parallel, Distribution Automation (DA) is being planned to further automate the power distribution system, improving operational efficiency, reliability, and overall system performance.	1	LADWP - Power	1 Proposed	0
Wet Utilities	Pacific Palisades Water Main Betterment Projects (Phase 1)	LADWP Water's Phase 1 Pacific Palisades Water Main Betterment Program focuses on widespread replacement and upsizing of leaking, end-of-useful-life, and undersized pipelines across numerous neighborhood segments to improve reliability and strengthen the system ahead of increasing operational demands.	20	LADWP - Water	6 Planned; 14 Proposed	20
	Pacific Palisades Water Main Betterment Projects (Phase 2)	LADWP Water's Phase 2 builds upon Phase 1 and shifts toward more targeted, systemlevel improvements by upgrading major trunk segments and upsizing pipelines near regulatory stations and areas requiring coordination with the Power System. These projects place an emphasis on strengthening hydraulic capacity, redundancy, and operational reliability in strategic parts of the network.	8	LADWP - Water	8 Proposed	8
	DR4856 Permanent Work Projects	These wet utilities-related DR4856 Permanent Work Projects span multiple City departments-- LADWP, LASAN, and StreetsLA-- and focus on restoring damaged infrastructure to their predisaster design, function, and capacity within their existing footprints.	8	LADWP - Water, LASAN, StreetsLA	Planned	8
	BOE Proposed Projects	These BOE-led projects provided by LASAN propose new storm drain and catch basin construction, sub-drain and pavement reconstruction, and drainage improvements.	3	BOE	Proposed	3
	Pumping Plant Projects Provided by LASAN	These pumping plant projects, provided to us by LASAN, document firerelated damage across multiple stormwater and wastewater facilities in the Palisades, aimed at restoring safe, reliable plant operations following wildfire impacts.	10	LASAN	Proposed	10
	RSS Plans	These RSS Plan items are led by the City of LA and focus on strengthening stormwater, wastewater, and debris-management systems.	9	City of LA	Planned	0
	Damage Assessment	These LASAN damage assessments identify needed repairs to stormwater, wastewater, and debris-management infrastructure.	12	LASAN	7 Planned; 5 Proposed	8

Category	General Category	Description	Number of Projects	Lead Agency	Status	Projects Included in WS2 Sequencing Analysis
Public Buildings, Parks, and Other City Facilities	DR4856 Permanent Work Projects	These DR4856 Permanent Work Projects are led by Library and RAP-- and focus on restoring damaged public buildings, parks, and other city facilities to their predisaster design, function, and capacity within their existing footprints.	8	Library and RAP	Planned	8
Streets, Hardscapes, and Walls	DR4856 Permanent Work Projects	These DR4856 Permanent Work Projects are led by BOE, BSL, and StreetsLA and focus on restoring damaged streets, hardscapes, and walls to their pre-disaster design, function, and capacity within their existing footprints.	10	BOE, BSL, and StreetsLA	Planned	9
	Public Assistance Projects (Not Already Included in DR4856 List)	These Public Assistance projects don't include any items already captured under Permanent Work Projects. The included projects are for street signage, revetments, and tree replacement.	3	LADOT, LASAN, and RAP	Planned	0
	Palisades StreetsLA Street Segment Projects	This list shows community-reported locations in the Palisades where StreetsLA has received service requests for roadway, pavement, or related street repairs.	11	StreetsLA	Planned	11
	Palisades Burned Scars (Patchwork) – StreetsLA dataset	These projects cover street segments that StreetsLA has identified as needing pavement repairs. These corridor-based street restoration activities address burn-scar related impacts to pavement and associated street elements identified by StreetsLA. The patchwork dataset documents element-level impacts across street segments, including: Street = 203, Curb = 203, Gutter = 203, Sidewalk = 203, and Driveway = 42.	150	StreetsLA	Planned	150
		Total Number of Projects	**263**	**Total Number of Projects Included in Analysis**		**243**

Note that '**General Category**' refers to the program or formal project list from which each infrastructure project originates (e.g., LADWP capital programs, DR4856 permanent work, Public Assistance (not already included in DR4856 list), or StreetsLA repair requests).

Figure ES.5: Infrastructure construction preferred order of operations for the general sequence



Cross-Department Integrated Scheduling

To manage the impact of rebuilding efforts within Pacific Palisades and reduce the volume of repeat work performed by different agencies and franchise utilities, the City could implement an integrated, cross-agency scheduling process.

The most effective strategy for this approach on streets where power and telecommunications are currently overhead and are being converted to underground is to follow the typical sequence for installation of utility systems, as shown in Figure ES.5.

The sequence of permanent restoration applies for the general sequence and can be summarized as follows:

- Sequence permanent restoration to provide utility service through the restoration tiers in a manner consistent with urban planning and community rebuilding efforts, and in coordination with water, power, and telecom restoration efforts.
- Integrate planned utility upgrades into permanent restoration to avoid replacing recently installed work.
- Complete permanent restoration, including upgrades, and the removal of temporary "emergency restoration" conditions in favor of permanent conditions.
- Review results, complete as-constructed documentation, and perform continuous improvement planning.
- Provide a mechanism for restoration of service to individual properties as rebuilding is completed at those properties.
- This sequence was designed to avoid construction conflicts between installations, with the consideration of using large machines to excavate for planting large items (i.e. 36"-48"-60" box trees) or doing heavy grading of non-pavement spaces in PROW parway areas, where crossing a new sidewalk or private driveway would result in damage/reconstruction of the newly installed concrete.
- This construction sequence considers the likely scenario that the City will have completed its infrastructure and right-of-way restoration work long before all private buildings have been reconstructed, and, as such, presents certain elements, including tree planting, as a coordinated effort by City forces. If the City is not responsible for a certain element of the streetscape, such as a tree planting, and that task is instead delegated to the private developer at that lot, those elements will be performed after all other work by the City in accordance with the City's rules, regulations, and standards for new infill construction which are uniform throughout the City. (Note that this assumption is based on the fact that the City does not have a capital planting program currently planned for Pacific Palisades, so tree planting locations will be the responsibility of the developer).
- Interactions between tree planting and root growth and underground utilities installations is a significant concern of both the utility asset operators (City Departments and Bureaus: LADWP, LASAN; Private Companies: SoCalGas, Various Telecommunications Firms), as tree root intrusion poses a risk to the utility installation, and subsequent repairs to root intrusions may damage trees. The common practice when new developments are being constructed is for the placement of large plantings, including trees to be developed in coordination with utility placements to limit the risk of interference between trees and utilities. When working in a redevelopment scenario, the presence of existing utility routes and building positioning relative to the property lines limits the number of locations for both utility and tree installations. Development should consider the need to support future street tree installations and other potential conflicts, and seek to route proposed underground installations so as to maximize the future use of the right-of-way for street trees and other purposes not specified or discussed herein. Generally speaking, utility operators both within and external to the City have standard procedures for avoiding damage to existing trees. These standards should be maintained in the context of infrastructure redevelopment as a part of disaster recovery. As noted in this report, in order to facilitate conflict avoidance, it is recommended that new trees and other large plantings should be installed after underground utilities. This approach allows for the Department, Bureau, or private entity which is installing the new plantings to select the placement of plantings so as to avoid interference with utilities.

  Because the placement of individual utility service laterals crossing the City's parkway areas is determined primarily by the building placement within the lot, and private developers may construct new buildings many years after the City intends to complete restoration within the PROW, care should be taken to provide spacing between trees which is sufficient to allow for the installation of utility piping within the operating standards of the various utility asset owners. Clearance requirements vary by utility type, tree type, and ground conditions. Ultimately, it will be the responsibility of the property owners and developers to plan their construction within the utility requirement, considering the trees which have been installed as of the time of permitting or which may be required or planned to be installed at a later date for each building.

  Note: Large trees can only be planted where parkway width allows.

This sequencing is based on the assumption that the City will conclude the City's public right-of-way restoration work long before all residential buildings are completed.

Tier 1

Emergency Response, Life Safety, and Essential Services

The objective of Tier 1, or short-term recovery, is to stabilize critical infrastructure to enable emergency response, protect public safety, and restore essential lifeline services to first responders and vulnerable populations. Table ES.3 is a summary of the short-term recovery priorities, which focused on immediate life-safety and emergency access needs.



Table ES.3: Tier 1 Assets - Sample of Immediate Life-Safety and Emergency Access Needs Assets

Tier 1 – Immediate life-safety and emergency access needs	**Dry Utilities**		
	Power	**Gas**	**Telecom**
	• Palisades Elementary Charter School service point • Plant #739 Stormwater station	• Critical valves near fire zone • High-pressure transmission mains	• Emergency communication for first responders • Cellular towers serving schools and shelters
	Wet Utilities		
	Potable Water	**Wastewater**	**Stormwater**
	• Fire Stations – FS 069 and FS 023 • Water Utility Tanks, Reservoirs, and Pumping Stations	• Sewer pump stations • Emergency bypass connections • Septic systems in burn area	• Debris Basins 69, 70, 71 • Critical culverts at PCH and Sunset corridors
	Street Trees and Surface Infrastructure		**Natural Infrastructure**
	Street Trees and Surface Infrastructure		**Natural Infrastructure and Vegetation**
	• Sunset Boulevard and Pacific Coast Highway (primary evacuation routes) • Temescal Canyon Road and Chautauqua Boulevard (secondary routes) • Hazardous[1] street tree removal and tree trimming to mitigate hazards of fallen limbs • Traffic signals, signage, light poles and striping		• Hillside slopes above Temescal and Santa Ynez Canyons • Burned hillsides adjacent to roads • Vegetated slopes near PCH and Sunset corridors

Status of Tier 1 Restoration

As described in the report, all of City's Departments which operate public infrastructure assets have reported that efforts which would be categorized as Tier 1 restoration projects have been completed. Similar reports were recieved from private utility operators who responded to the City's request for information. This information is discussed in greater detail in Section 1 and 3.4 of the report. Tier 1 work also includes longer lasting emergency response activities such as the Emergency Management Department's Debris Removal Task Force efforts. These efforts may have been categorized as a project (and included in this study), or as an operations task (and excluded from this study). These efforts are an important part of the work of recovery, even if they are not studied as a part of infrastructure restoration project planning.

1 The definition of Hazardous Tree varies between the City of Los Angeles, the EPA, and the Army Corps of Engineers. These definitions are discussed elsewhere in this report.

Tier 2

Restoration of Essential Residential and Commercial Corridors

The objective of Tier 2, or medium-term recovery, is to expand restoration from critical facilities to the broader community, focusing on habitability, economic revitalization, and coordinated repair sequencing. Table ES.4 is a summary of the assets related to this tier.



Note that although the below-grade sewer mains and manholes were not damaged by the Fire, they are included here to reflect necessary service reconnections at individual properties, while joint-trench and undergrounding activities appear under Streets because they are triggered by pavement restoration and right-of-way construction rather than utility repair alone.

Table ES.4: Tier 2 Assets - Sample of Restoration of Essential Residential and Commercial Corridors

Tier 2 – Restoration of essential residential and commercial corridors	**Dry Utilities**		
	Power	**Gas**	**Telecom**
	• Temporary service meters/ connections • Residential power distribution lines	• Automatic shut-off valves (geohazard zones) • Fiber-optic sensing conduits over pipelines	• 72-hr backup power systems at nodes • Mobile cell sites, hotspots, routers, and smart devices
	Wet Utilities		
	Potable Water	**Wastewater**	**Stormwater**
	• Santa Ynez Reservoir cover rehab	• Local sewer mains • Sewer laterals and manholes	• BMP/LFD systems: Temescal Park and Bay Club • Topanga debris-management facilities
	Street Trees and Surface Infrastructure		**Natural Infrastructure**
	Street Trees and Surface Infrastructure		**Natural Infrastructure and Vegetation**
	• Pavement rehab corridors: Chautauqua, Via de la Paz, Via de la Olas, and Marinette Road • Sunset Boulevard joint-trench/undergrounding • Maintain existing tree canopy		• Jute netting and biodegradable erosion-control for slope stability • Vegetative reinforcement

Status of Tier 2 Restoration - Electric Power Utility Systems

After restoring power to all undamaged structures, LADWP transitioned to temporary rebuild efforts, completing power distribution line restoration by June 30. While approximately 8,000 structures now have energized lines, many remain without service because customers have not requested temporary or permanent connections.

Status of Tier 2 Restoration - Natural Gas Utility Systems (Not City Owned)

SoCalGas plans to restore service to reconstructed buildings in accordance with its standard new business service protocols, once service requests are initiated by property owners.

Status of Tier 2 Restoration - Telecommunications Utilities (Not City Owned)

By early 2025, restoration efforts across the Greater Los Angeles area showed strong progress following disruptions caused by wildfires, windstorms, and Public Safety Power Shutoff (PSPS) events. Approximately 90% of impacted macro cell sites had been restored, and wireless network performance returned to over 99% of normal capacity. In residential areas affected by the fires, service—either permanent or temporary—was restored to more than 75% of homes. The remaining properties will require full infrastructure rebuilds, with coordination underway among multiple utility providers to support this complex recovery effort.

Status of Tier 2 Restoration - Wet Utilities

Before the Palisades Fire, the City had developed several plans to guide improvements of wet utility systems, including the One Water LA 2040 Plan (2018), the LADWP Urban Water Management Plan (2020), and the City's Sewer System Management Plan (LASAN, 2019). Collectively, these plans provided the foundation for integrated water resource management, wastewater operations, stormwater capture, and water conservation.

After the Fire, new plans were prepared to address the immediate and strategic response requirements. These include the LADWP Wildfire Mitigation Plan (2025), the City of Los Angeles FY 24–25 Watershed Investment Strategic Plan (2025), and the Mayor's Executive Order on Resilient Rebuilding (2025). Technical resources such as the USGS Post-Wildfire LIDAR Assessment and the GEER Post-Fire Technical Report provide data-driven guidance for infrastructure siting, debris flow management, and system hardening. Together, these post-Fire plans demonstrate a pivot from long-term planning to crisis-driven recovery and resilience building, aligning regulatory frameworks with on-the-ground needs in watershed restoration, storm drain rehabilitation, and water supply protection.

Tier 2 wet utility restoration is largely underway, with potable water systems back in service at the system level and remaining work focused on property-level reconnections, storm drain rehabilitation, and targeted upgrades identified through these post-Fire assessments.

These plans are described in Section 3.4.3.2.

Status of Tier 2 Restoration - Wastewater

Tier 2 rebuilding and restoration focuses on restoration of sewer service to destroyed homes. A new permitting pathway called 'Rebuild and Recovery' has been established to allow reconstruction in burned areas. The County and City have established 'One-Stop Rebuild Centers' where property owners can file for building, grading, septic, and utility permits in one location. Systemwide wastewater service has been fully restored, and remaining Tier 2 efforts are limited to reconnecting individual properties as they rebuild and addressing septic-to-sewer transition opportunities.

LASAN is evaluating opportunities and challenges of converting septic systems to sewer service in the Palisades. Further, there is coordination with Malibu and Los Angeles Regional Water Board to address septic systems in that community too. This effort is described in Section 3.4.3.3.

Status of Tier 2 Restoration - Stormwater

Tier 2 restoration efforts focus on transitioning from emergency cleanouts to systematic repair, replacement, and resilience upgrades that enable the Pacific Palisades canyon watersheds—Temescal, Santa Ynez, Los Liones, and Topanga—to safely pass debris-laden design events while restoring offline BMP systems and eliminating long-standing chokepoints. Systemwide stormwater functionality has been restored to pre-Fire operational levels, and Tier 2 actions now focus on long-term upgrades rather than emergency service restoration. Key activities include:

- **Debris-Management Capacity:** The recurring basin cleanout cycle will be replaced by permanent, engineered capacity.
- **Culverts and Crossings:** Replace heat-damaged or undersized culverts with fire resistant materials designed to handle post-Fire sediment loads.
- **Channel and Slope Stabilization in Burn-Impacted Canyons:** Targeted stabilization to address erosion, incision, and slope movement within the burned canyons.
- **Restoration of BMP and Low-Flow Diversion Systems:** BMP and LFD systems damaged or clogged during the Palisades Fire will be rehabilitated for dual functionality, maintaining water-quality performance while ensuring hydraulic reliability during storm events.
- **Monitoring, Threshold Refinement, and Early-Warning:** A permanent telemetered monitoring network will be installed at each canyon mouth and key crossing to capture rainfall, stage, and visual data.

These efforts are described in Section 3.4.3.4.

Status of Tier 2 Restoration - Street Trees and Surface Infrastructure

Tier 2 restoration efforts in Pacific Palisades prioritize coordinated resurfacing of local streets alongside the implementation of newly managed utility trenching plans. Core roadway access has already been re-established throughout the community, and Tier 2 efforts now address targeted pavement rehabilitation and coordination with ongoing utility work. Efforts include:

- **Pavement Rehabilitation:** Chautauqua Boulevard, Via de la Paz, Via de la Olas, and Marinette Road.
- **Utility Underground Coordination:** Development of detailed sequencing to avoid repeated pavement disruption and street cut fees, especially in corridors undergoing restoration.
- **Street Trees:** Maintain existing tree canopy and provide information to property owners about coordinating tree planting with rebuilding efforts.

Status of Tier 2 Restoration - Natural Infrastructure

Tier 2 mitigations for erosion and geologic hazards use various methods of slope stabilization. Immediate post-Fire stabilization needs were met during Tier 1, and Tier 2 efforts now advance sustained erosion control and slope recovery rather than emergency hazard mitigation, including:

- Surficial stabilization, grading, and benching. Steps for revegetation could include weed removal, site and soil preparation, irrigation, and selection of appropriate seed mixes.

These efforts are described in Section 3.4.5.1.



Tier 3

Long-Term Recovery and Rebuilding

Tier 3 focuses on moving beyond restoration toward transformation, rebuilding Pacific Palisades to be stronger, safer, and more adaptable than the area was before the Fire. Table ES.5 outlines the third phase of post-Fire recovery priorities, which focus on long-term infrastructure hardening, system modernization, and climate resilience.

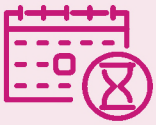


Table ES.5: Tier 3 Assets - Sample of Long-Term Recovery and Rebuilding

Tier 3 – Long-term recovery and rebuilding	**Dry Utilities**		
	Power	**Gas**	**Telecom**
	• 12 kV distribution modernization • Supporting stations (RS-K and DS-99) expansion • Conduit and cable corridors • Advanced Metering Infrastructure (AMI) and Intelligent Electronic Devices (IEDs)	• Joint-trench corridors with power and telecom utilities • Earthquake resistant shut-off valves and distribution mains	• System-wide RF communications network for smart metering and telemetry • Joint-trench integration with power and gas corridors
	Wet Utilities		
	Potable Water	**Wastewater**	**Stormwater**
	• Water Main Betterment Projects • Reservoir, tank, and pumping plant restoration/upgrades	• Sewer main rehabilitation • Sewer pumping plant upgrades • Septic to sewer	• Debris basin expansion • Resilient storm-drain and subdrain networks
	Street Trees and Surface Infrastructure		**Natural Infrastructure**
	Street Trees and Surface Infrastructure		**Natural Infrastructure and Vegetation**
	• Asphalt segments, curbs, gutters, sidewalks, and driveways rehab • Mobility Plan 2035 corridors (Sunset Boulevard, Pacific Coast Highway, Wilshire Boulevard, Sepulveda Boulevard, Barrington Avenue, Temescal Canyon Road, and Mulholland Drive) • Street tree planting following utility trenching, major grading and enclosure concrete • Maintain and protect existing tree canopy during construction		• Slope or bench drain systems • Soldier pile retaining walls • Steel netting and rock bolts • Riprap and bank protection

Tier 3 Long-Term Recovery- Dry Utilities

The redevelopment period for Pacific Palisades presents a unique opportunity to transition from restoration to a long-term modernization framework aligned with the City's broader recovery and resilience objectives. The post-Fire period coincides with a systemwide transformation of the City's utility infrastructure through various power systems projects and a redevelopment coordination framework.

The LADWP has prepared a comprehensive 12 kV Distribution System Plan that anchors the City's post-Fire infrastructure recovery strategy. This system plan is subject to the project approval process which governs all of LADWP's proposed projects. Major elements include:

- **Conversion of DS-29 to 12 kV:** Replacement of the legacy 4.8 kV equipment.
- **Expansion of Supporting Stations:** RS-K (Olympic Receiving Station) and DS-99 (Monte Grande).
- **Conduit and Cable Corridors:** Approximately 59,000 ft of new 34.5 kV conduit and 68,000 ft of 34.5 kV cable.
- **Automation and Smart Grid Integration:** Deployment of Distribution Automation and Intelligent Electronic Devices (IEDs) for real-time monitoring, fault isolation, and load balancing.

Redevelopment Coordination Framework

During the redevelopment period (2025–2035), coordination between LADWP, BOE, StreetsLA, and other utilities is essential to synchronize undergrounding, road reconstruction, and vertical rebuilding schedules. Key coordination principles include:

- **Sequenced Rebuild with Land-Use Phasing:** The 12 kV feeder deployment aligns with the City's phased reconstruction corridors.
- **Joint-Trench and Cross-Utility Integration:** Co-location of dry utilities (power, telecom, gas) within joint trenches where feasible, reducing surface disruption and supporting concurrent road reconstruction.
- **Design for Future Growth and Resilience:** The 12 kV conversion provides additional capacity for electrification initiatives.
- **Temporary Power and Service Continuity:** Use mobile transformer units and reclosers for temporary cutovers.

Undergrounding: A Foundational Resilience Strategy

The most impactful long-term infrastructure improvement being considered for Pacific Palisades is the coordinated effort to move overhead utility lines underground.

Tier 3 Long-Term Recovery-Wet Utilities

Wet utilities projects are aimed at improving the resilience, functionality, and sustainability of critical systems across various regions. These projects, led by a diverse group of agencies such as LADWP, LASAN, and other city and county departments, address a wide range of needs, including water main upgrades, disaster recovery, and damage assessments. These efforts are summarized in Table ES.5.

Tier 3 Long-Term Recovery-Street Trees and Surface Infrastructure

Tier 3 improvements to Pacific Palisades streets are guided by several plans including the Brentwood-Pacific Palisades Community Plan and the Pacific Palisades Community Plan.

Tier 3 is the recommended phase for street tree plantings, in coordination with utility installation and street design. This tier could also include the expansion of the street tree canopy and identification of resources for planting and tree care.

Tier 3 projects for surface infrastructure include a project which addresses widespread pavement degradation across Pacific Palisades.

See Section 3.5.3 for details of these plans.

Tier 3 Long-Term Recovery-Natural Infrastructure

Tier 3 improvements to natural infrastructure are guided by plans from the City of Los Angeles and Los Angeles County, including Bulletin/Public-Building Code P/BC 2024-154, Mitigation of Slope Failure, with mitigation measures against landslides that include soldier pile retaining walls.

Resilience upgrades for natural infrastructure focus on securing long-term slope and watershed health through permanent stabilization, native reforestation, and fuel-break vegetation management. Key objectives include:

- Stabilize high-risk slopes through structural and vegetative methods that integrate with the surrounding topography.
- Restore natural drainage patterns to improve infiltration, reduce concentrated runoff, and protect downstream infrastructure.
- Re-establish native plant communities that provide root reinforcement, improve soil structure, and restore ecological function.
- Integrate fuel-management zones and defensible space buffers to reduce wildfire vulnerability while maintaining habitat continuity.

Recommended Resilience Upgrades



Section 4 presents the resilience upgrade strategies for upgrades to dry utilities, wet utilities, street trees and surface infrastructure, and natural infrastructure. These strategies are intended to provide future resilience of the Pacific Palisades area. The strategies include administrative actions, engineering design, and coordinated implementation across dry utilities, wet utilities, street trees and surface infrastructure, and natural infrastructure.

The recommended resilience upgrades draw from two primary sources including existing departmental plans and technical documents shared with WS2, which reflect strategies already identified and vetted by LADWP, LASAN, StreetsLA, and other agencies; and additional opportunities identified by WS2 based on experience with post-disaster recovery and long-term infrastructure resilience. These recommendations should undergo comprehensive feasibility studies before implementation to ensure technical viability and cost-effectiveness.

Dry Utilities

An integrated approach to strengthening dry utility systems (electric, gas, and telecommunications utilities) across Pacific Palisades includes the following strategies:

Administrative Strategies

Administrative strategies focus on continuity planning by utilities to enhance customer experience and improve service reliability by adjusting their standard operating procedures. Key administrative strategies include:

- **Foundation and Governance:** Form continuity team with cross-functional representatives and designate a Chief Resilience Officer.
- **Risk Assessments and Analysis:** Conduct comprehensive evaluations of risks and system vulnerabilities. This includes analyzing vegetation proximity, equipment condition, weather patterns, and terrain factors. Develop detailed mitigation strategies and response plans to minimize exposure and enhance resilience.

Additional strategies can be found in Section 4.1.1.

Electric Utility Strategies

Eleven strategies are recommended for enhancing the reliability of the electric system:

- Voltage Conversion from 4.8 kV to 12 kV
- Undergrounding
- Covered Conductor
- Ground Level Distribution System (GLDS)
- Replacement of Wood Poles
- Advanced Conductors
- Advanced Vegetation Management
- Substations Upgrades, Physical and Environmental Protection
- Technological and Operational Modernization
- Leveraging AI and Digital Tools
- Resilience through Virtual Power Plants / DER

Gas Utility Strategies

Six strategies are recommended for addressing the gas utility network:

- Accelerated Replacement of At-Risk Pipelines
- Hardening of All Aboveground Infrastructure
- Strategic Undergrounding of Critical Nodes
- Deployment of Smart Sensor Networks
- System Segmentation via Automated and Remote-Control Valves
- Predictive Risk Modeling and Situational Awareness

Telecommunications Infrastructure Strategies

Four strategies are recommended to improve the long-term resilience of the telecommunications network:

- Prioritized, Risk-Based Undergrounding Program
- Harden Essential Aerial Assets
- Implement True Path and Technology Diversity
- Exceed the CPUC 72-Hour Backup Power Mandate

Implementation Strategies

The implementation strategies for dry utilities focus on a coordinated framework for long-term hardening of dry and wet utility systems in Pacific Palisades:

- Joint-trench or co-trenching opportunities, where dry utilities (electric, gas, and telecommunications) and wet utilities (water, sewer, stormwater) share underground corridors, are a central component of this framework, which aims to enhance resilience and reduce surface disruption but also lowers construction costs, improves coordination among agencies, and supports long-term maintenance efficiency.
- By aligning restoration priorities across utility types and hazard criteria, this implementation framework promotes reconstruction investments deliver durable, adaptable, and future-ready infrastructure.

Recommended Resilience Upgrades

Wet Utilities

Building upon the lessons learned from other recent disasters (i.e., Lahaina, Hawaii Wildfire, 2023) and coordinated directives under Emergency Executive Order No. 5, strategies have been developed for an integrated approach to restoring and strengthening potable water, wastewater, and stormwater systems across Pacific Palisades.

Administrative Strategies

Administrative strategies for restoring and strengthening wet utility systems include:

- **Accelerate Capital Plans:** Accelerating capital plans and coordinating / prioritizing local pipeline and facility upgrades with other recovery efforts would reduce the community's risk exposure time frame and enhance overall recovery efforts.
- **Reallocate Funds for Resilience:** Reallocating available resources toward resilience upgrades—such as fire- and seismic-hardening of mains, storage, and pumps—can prevent budget competition from delaying critical improvements.

Engineering Strategies – Potable and Firefighting Water System

The following engineering strategies should be considered for restoring and strengthening potable and firefighting water systems:

- Consider augmenting system with additional backbone piping to enhance hydraulic capacity and reliability where appropriate.
- Consider conducting an engineering study of existing and proposed pump station capacity where appropriate.
- Consider evaluating opportunities to use seawater for firefighting where appropriate.
- Consider evaluating opportunities to combine non-potable water storage opportunities with environmental enhancement or recreational opportunities where appropriate.
- Consider evaluating opportunities for additional potable water storage while maintaining water quality where appropriate.
- Consider evaluating opportunities to increase water supply reliability through interconnections with neighboring water systems where appropriate.
- Consider dividing Santa Ynez Reservoir where appropriate
- Consider replacing water and sewer pipes nearing end of useful life where appropriate.
- Consider upgrading reservoirs to fire-resistant designs where appropriate.
- Consider installing remote-controlled isolation valves where appropriate.
- Consider implementing backflow prevention and zoning where appropriate.
- Consider adopting seismic-resilient piping (ERDIP) where appropriate.
- Consider deploying pressure monitoring systems where appropriate.
- Consider the use of remote-controlled isolation for fire support where appropriate.
- Consider the use of Enhance Real-Time Monitoring (iHydrant) where appropriate.
- Consider constructing new potable tanks where appropriate.

This report does not include, and should not be interpreted as providing, any assessment of whether the Santa Ynez Reservoir (SYR) or any other water sources would have been available or effective in supplying water to firefighters during the referenced fire event. We recommend that a separate, comprehensive water system assessment be performed to verify whether sufficient pressure, capacity, and operational conditions would be available to meet the demands associated with an event of this magnitude.

Wastewater

Wastewater efforts prioritize building adaptive systems by replacing end-of-useful-life mains, adding standby power, and integrating decentralized treatment capacity. Expanding sewer service to neighborhoods with septic systems could be considered.

Stormwater

Stormwater restoration efforts focus on enhancing flood resilience through retrofits with green infrastructure and sediment capture systems. Key strategies include:

- Reliable ocean-outfall and low-flow diversion (LFD) operations for water-quality protection.
- Durable debris management and conveyance capacity in coastal canyons.
- Distributed capture that turns damaging runoff into a supply asset where feasible.

Recommended Resilience Upgrades

Street Trees and Surface Infrastructure

Resilience upgrades for street improvements focus on long-term resilience strategies that go beyond immediate recovery and restoration. These include the implementation of resilient pavement upgrades and integration of "green infrastructure" stormwater capture elements, like bioswales, which are more common in multi-family, mixed use, or commercial areas. These measures help to add greening elements to the neighborhood while capturing rainwater and diverting it from the stormwater system, helping to improve water quality in the Santa Monica Bay.

Longer-term street tree efforts can align with goals identified in the First Step document outlining the approach to developing an Urban Forest Management Plan (UFMP). StreetsLA's Parkway / PROW Landscaping Guidelines outline the requirements for property owners and designers to install or modify landscaping elements within the City of Los Angeles public right-of-way, including parkways between the curb and sidewalk, medians, and similar areas. The guidelines define which activities require permits and the types of permits needed, establish design standards such as plant height limits, visibility requirements, and tree spacing, and specify irrigation and installation criteria. They also describe plan submittal requirements and include special provisions for stormwater capture features and the use of nonstandard materials. Key efforts include:

- Street Tree Species
- Maintenance and Care
- Sidewalk Design, Structural Soil, and Soil Cells
- Public Education and Outreach

Tree regulations also consider interference with public utilities and maintenance requirements.

Natural Infrastructure

Resilience upgrades for natural infrastructure focus on securing long-term slope and watershed health through permanent stabilization, native reforestation, and fuel-break vegetation management. Key objectives include:

- Stabilize high-risk slopes through structural and vegetative methods that integrate with the surrounding topography.
- Restore natural drainage patterns to improve infiltration, reduce concentrated runoff, and protect downstream infrastructure.
- Re-establish native plant communities that provide root reinforcement, improve soil structure, and restore ecological function.
- Integrate fuel-management zones and defensible space buffers to reduce wildfire vulnerability while maintaining habitat continuity.

Stakeholder Engagement

Restoration planning under WS2 was grounded in active engagement with utility operators, City departments, and the Pacific Palisades community. Coordination occurred through three primary channels, described below:



LADWP Utilities Task Force Interactions

WS2 participated in LADWP's Utilities Task Force meetings, some of them led by AECOM as part of other workstreams, and leveraged existing relationships established there to coordinate infrastructure data, restoration sequencing, and permitting across agencies.

These meetings brought together LADWP, BOE, LASAN, and StreetsLA to share GIS information, discuss schedule overlaps, and align priorities. The Utilities Task Force also supported coordination through LADWP's Unified Utilities Rebuild Operations Center (UUROC), which provides a single interface for contractors and customers to manage service restoration.



Infrastructure Provider Collaboration

The Plan includes key infrastructure providers (LADWP, SoCalGas, Southern California Edison [advisory role]), and communications infrastructure providers (AT&T, Charter/Spectrum, Frontier, T-Mobile) to promote that utility restoration efforts are reflected in the broader recovery framework. While private telecom providers did not provide direct input to WS2, their system restoration actions (e.g., temporary cellular and broadband deployments) were incorporated based on publicly available information and coordination updates from the LADWP Utilities Task Force.



Community Meetings and Workshops

The Pacific Palisades Community Council (PPCC) and local environmental organizations participated as community stakeholders, providing localized knowledge of neighborhood priorities and landscape restoration needs. Engagement with these groups was primarily consultative, focusing on information exchange, review of draft restoration concepts, and identification of community priorities related to access, aesthetics, and environmental recovery. While final decision-making authority remained with City departments and partner agencies, stakeholder input helped shape project sequencing, prioritize mitigation areas, and ensure the Plan reflects community context and values.

Conclusion

The Pacific Palisades Infrastructure Restoration Plan provides the City of Los Angeles with a comprehensive, actionable framework for transitioning from disaster response to resilient redevelopment. By aligning infrastructure reconstruction with broader initiatives, such as Resilient LA, LA's Green New Deal, and long-term capital investment programs, the Plan promotes recovery efforts that not only rebuild what was lost but also create a stronger, more adaptive community prepared for future wildfire and climate-related challenges.

Beyond its immediate application, the IRP serves as a replicable model for integrated, multi-agency infrastructure recovery planning across California and other regions facing compounding climate and disaster risks. By integrating emergency response, community recovery, and long-term resilience planning into a unified framework, the City of Los Angeles has established a roadmap that not only supports the efficient restoration of essential services but fundamentally transforms Pacific Palisades into a more resilient, sustainable, and climate-adaptive community.

The IRP is based on a three-tiered restoration approach, from immediate life-safety measures through community recovery to permanent infrastructure modernization, so that every phase of reconstruction builds upon previous efforts while advancing long-term objectives. The coordination of 263 projects demonstrates unprecedented interagency collaboration and strategic alignment.

The regulatory framework supporting this work—spanning City, State, and Federal requirements while leveraging emergency executive authorities—demonstrates how coordinated governance can accelerate recovery without compromising safety or environmental standards.

Perhaps most significantly, the IRP establishes replicable methodologies for other wildfire-impacted communities. The integrated scheduling processes, cross-agency coordination mechanisms, and resilience-focused engineering standards developed for Pacific Palisades will inform regional policy, update industry practices, and strengthen California's capacity to recover from future climate-driven disasters.

As reconstruction advances through the coming decade, Pacific Palisades will emerge as a community where infrastructure systems are hardened against wildfire, adapted to climate change, and designed to support sustainable growth. This IRP will help transform tragedy into opportunity, turning loss into a strategic investment in community resilience, economic vitality, and environmental stewardship.

The path forward requires sustained commitment, adequate funding, and continued collaboration among all partners. With these elements in place, Pacific Palisades will stand as proof that communities can recover from catastrophic wildfire — and not just rebuild what was lost, but create something better, safer, and more resilient for generations to come.

The City's key achievements and ongoing priorities are described below:



Completed Emergency Response

All Tier 1 stabilization efforts successfully protected public safety and restored critical services to first responders and vulnerable populations.



Active Community Recovery

Tier 2 restoration is progressing systematically, with utility reconnections, water and sewer reconnections, and roadway rehabilitation aligned with private rebuilding timelines.



Transformational Modernization

Tier 3 investments through 2035 will deliver 12 kV electrical conversion, seismic-resilient water infrastructure, automated distribution systems, green stormwater retrofits, and comprehensive slope stabilization—establishing Pacific Palisades as a model for climate-adaptive urban infrastructure.

Table of Contents

Acronyms and Other Abbreviations vii

1. Introduction 1

1.1. Purpose and Scope of the Infrastructure Restoration Plan 3
1.2. Pacific Palisades Background 3
1.2.1. Development History 5
1.2.2. Population and Employment 5
1.2.3. Government Agencies and Infrastructure 6
1.3. Dry Utilities 8
1.3.1. Electric Power Infrastructure and Delivery 8
1.3.2. Gas Utilities: Southern California Gas Company and Other Pipeline Operators 11
1.3.3. Telecommunications Utilities 12
1.4. Wet Utilities 13
1.4.1. Potable Water 13
1.4.2. Wastewater 15
1.4.3. Stormwater 15
1.5. Street Trees and Surface Infrastructure 19
1.5.1. Street Trees 19
1.5.2. Surface Infrastructure 25
1.6. Natural Infrastructure 26
1.6.1. Physical Setting 26

2. Regulatory Framework and Land Use 33

2.1. Regulatory Framework and Land Use 34
2.1.1. General Plan 34
2.1.2. Brentwood-Pacific Palisades Community Plan 34
2.1.3. Zoning Ordinance 36
2.1.4. Pacific Palisades Commercial Village and Neighborhoods Specific Plan 38
2.1.5. Baseline Hillside Ordinance 38
2.1.6. Coastal Zone 40
2.1.7. CAL FIRE Fire Hazard Severity Zones 42
2.1.8. Senate Bill 9 43
2.1.9. Accessory Dwelling Units 43
2.2. Other Regulations and Codes Affecting Development 44
2.2.1. Relevant Executive Orders 44
2.2.2. Interagency Interactions 46
2.2.3. Dry Utilities 46
2.2.4. Wet Utilities 47
2.2.5. Street Trees and Surface Infrastructure 49
2.2.6. Natural Infrastructure 51

3. Strategic Framework for Infrastructure Restoration 53
3.1. Prioritization Approach for Tiered Restoration Framework 54
3.1.1. Phasing Recovery in Three Stages 54
3.1.2. Ranking of Assets in Priority Tiers 55
3.1.3. Identifying High-Risk Areas with Critical Facilities 57
3.1.4. Map of Restoration Tiers 1, 2 and 3 58
3.2. Sequence Analysis for Infrastructure Restoration 62
3.2.1. Distribution of Projects 78
3.2.2. Analysis of Street Segments with Projects 80
3.2.3. Standing Structures and Planned Work Impacts 113
3.2.4. Street Segments Without Planned Work 116
3.2.5. Likelihood of Additional Projects Due to Maintenance Cycles 121
3.3. Tier 1 - Immediate Life-Safety and Emergency Access Needs 122
3.3.1. Dry Utilities 124
3.3.2. Wet Utilities 125
3.3.3. Street Trees and Surface Infrastructure 129
3.3.4. Natural Infrastructure 131
3.4. Tier 2 - Restoration of Essential Residential and Commercial Corridors 132
3.4.1. Regulatory Environment and Restoration 133
3.4.2. Dry Utilities 133
3.4.3. Wet Utilities 137
3.4.4. Street Trees and Surface Infrastructure 140
3.4.5. Natural Infrastructure 142
3.5. Tier 3 - Long-Term Recovery and Rebuilding 143
3.5.1. Dry Utilities 144
3.5.2. Wet Utilities 147
3.5.3. Street Trees and Surface Infrastructure 150
3.5.4. Natural Infrastructure 152

4. Recommended Resilience Upgrades 153
4.1. Dry Utilities 155
4.1.1. Recommended Administrative Strategies 155
4.1.2. Recommended Engineering Strategies 157
4.1.3. Recommended Implementation Strategy: Joint-Trench Opportunities 171
4.2. Wet Utilities 172
4.2.1. Recommended Administrative Strategies 172
4.2.2. Recommended Engineering Strategies 172
4.2.3. Recommended Implementation Strategy 188
4.3. Street Trees and Surface Infrastructure 190
4.3.1. Street Trees 190
4.3.2. Surface Infrastructure 191
4.4. Natural Infrastructure 193
4.4.1. Natural Infrastructure 193
4.4.2. Vegetation 193

5. Summary and Recommendation 195

6. References 197

Appendix A: Methodology, Assumptions, and Limitations A-1
A.1. Assumptions A-2
A.2. Participating Agencies, Stakeholders, and Community Representatives Contact List. A-3
A.2.1. Data Sources A-4

Appendix B: Technical Memo A-5

Appendix C: Potable Water Appendices A-17
C.1. System Coverage and Reliability A-18
C.1.1. Fire-Damaged Assets A-19
C.1.2. "Do Not Drink" Advisories A-20
C.1.3. ERDIP Example Applications A-20
C.2. LASAN Prioritization Approach A-21
C.2.1. Street and Traffic Impacts A-21
C.2.2. Property Access and Critical Facilities A-21
C.2.3. Flooding and Property Damage LASAN Storm Drain System Impacts A-21
C.2.4. Quality and Community Benefit A-21

Appendix D: Dry Utilities - 18-Step Continuity Plan A-23

Appendix E: Vegetation A-27
E.1. Summary of Palisades Weeds A-28
E.2. Recommended Native Seed Mixes for Pacific Palisades Restoration A-29

Appendix F: Supplemental Material for Project Sequencing A-31
F.1. List of Projects and Project Descriptions A-32
F.2. Likelihood of Additional Projects Due to Maintenance Cycles A-51
F.2.1. The Philosophy of Modern Asset Management A-51
F.2.2. From Plan to Project: The Capital Improvement Program (CIP) A-51
F.3. Street Segments with Standing Structures A-56
F.4. Street Segments without Planned Work A-61

Appendix G: Mapbook Wet Infrastructure Hazards Index A-79

Appendix H: Wet Utilities A-85
H.1. Wet Utilities A-86
H.1.1. Potable Water A-86
H.1.2. Wastewater A-91

List of Tables

Table 1.1: Pre-Fire Electrical Infrastructure Summary 9

Table 1.2: Post-Fire Pole Assessment Results 10

Table 1.3: Utility Infrastructure Replacement by LADWP 10

Table 1.4: Summary of Affected Service Points by Customer Class 11

Table 1.5: Service Point Damage Assessment by Severity Level 11

Table 1.6: Summary of Top 10 Pre-Fire Tree Species 19

Table 1.7: Trees or Stumps Damaged by Fire and Removed or Slated for Removal, Monitoring and Maintenance 21

Table 2.1: Summary of Relevant Executive Orders Issued Post-Wildfire 44

Table 2.2: Fire, Seismic, and Water Quality Codes Governing Wet Utilities 47

Table 2.3: Fire-Flow by Type of Land Development 48

Table 2.4: Summary of the Capacity of the Marquez Knolls, Trailer, and Temescal Water Storage Tanks 48

Table 2.5: Minimum Tree Spacing Requirements from Street and Utility Infrastructure 50

Table 3.1: General Actions by Tier – Framework for Ranking and System Restoration 56

Table 3.2: Baseline Damage Inventory of Tier 1 Critical Facilities (Input to Emergency Stabilization and Lifeline Restoration) 57

Table 3.3: Inventory of Tier 1 Wet Utility Critical Facilities Supporting Emergency Response, Stabilization, and Lifeline Service Restoration 58

Table 3.4: Summary of Projects and Alignment with Sequencing Analysis 62

Table 3.5: Post-Fire Damage, Updated Status, and Planned Projects for Pacific Palisades Assets 72

Table 3.6: Conflict Schedules on Street Intersections 82

Table 3.7: Recommended Adjustments to Project Sequencing and Inter-Agency Coordination 93

Table 3.8: Projects Concurrent with StreetsLA (more than one project and at least one of them is StreetsLA) 102

Table 3.9: Summary of Street Segment Projects by Work Type 110

Table 3.10: Estimated Project Cost Distribution by Source 111

Table 3.11: Estimated Cost Distribution by Project Identification Source 112

Table 3.12: Project Timeline by Source with Average Project Durations 112

Table 3.13: Street Segment Projects Responsibility by Agency 113

Table 3.14: Streets with High Structure Counts 114

Table 3.15: Street Segments with Number of Planned Projects 115

Table 3.16: Utility Trench Cut Density and Totals by Corridor for Corridors with No Planned Work 118

Table 3.17: Overview of Tiers 122

Table 3.18: Tier 1 Assets - Sample of Immediate Life-Safety and Emergency Access Needs Assets 123

Table 3.19: Prioritized Cleanout Matrix (0–12 Months) 128

Table 3.20: Tier 2 Assets - Sample of Restoration of Essential Residential and Commercial Corridors 132

Table 3.21: Summary of Improvement Plans Announced by Telecommunications Companies 135

Table 3.22: Examples of Pre-Fire Wet Utilities Plans 138

Table 3.23: Examples of Post-Fire Wet Utilities Plans 138

Table 3.24: Tier 3 Assets - Sample of Long-Term Recovery and Rebuilding 143

Table 4.1: Guide to Continuity Planning for Utilities 156

Table 4.2: Primary Hardening Recommendations for Electric and Gas Utilities 157

Table 4.3: LADWP Substation Upgrades 162

Table 4.4: Utilities with Advanced Vegetation Management 164

Table 4.5: Summary of Gas Utility Monitoring and Control Technologies for Enhanced Safety and Reliability 167

Table 4.6: Comparison of Telecommunications Providers 167

Table 4.7: Status of Undergrounding Plans by Telecom Companies 168

Table 4.8: Comparison of Backup Power Technologies and Their Suitability for Post-Fire Conditions 170

Table 4.9: Summary of Long-Term Potable Water Recommendations 174

Table 4.10: Existing and Potential Water Supply Infrastructure with Capacities and Status 174

Table 4.11: Combined Water Supply Strategies for Pacific Palisades 179

Table 4.12: Sewer Pipe Length and Year of Installation (Groups) 182

Table 4.13: Status of Initial Steps toward an Urban Forest Management Plan (LADPW, n.d.). 190

Table 4.14: Comparison of Surface Infrastructure Rehabilitation Alternatives 192

Table A.1: List of data acquired from external agencies....A-4
Table C.1: Summary of post-wildfire infrastructure damage costs....A-19
Table C.2: Seismically Resilient Pipe Projects....A-20
Table C.3: LASAN prioritization method for infrastructure restoration after disaster....A-22
Table E.1: Recommended Seed Mix for Pacific Palisades (Seed Zone 995 – Santa Monica Mountains)....A-29
Table F.1: All Dry Utilities, Wet Utilities, and Streets Projects. A-32
Table F.2: Comparative Pavement Maintenance (City and County)....A-52
Table F.3: LADWP Power System Inspection Cycles (CPUC G.O. 165)....A-53
Table F.4: Comparative Urban Tree Pruning Cycles....A-54
Table F.5: Street Segments with Standing Structures....A-56
Table F.6: Street Segments without Planned Work....A-61
Table H.1: Summary of Reservoir and Water Tank Capacities and Materials....A-87
Table H.2: Potable Water Pipe Diameters and Percent by Length in Pacific Palisades (GIS Data)....A-90
Table H.3: Sewer Pipe Diameters and Lengths in Pacific Palisades (GIS Data)....A-94
Table H.4: Fire Impacts on OWTS-Served and Sewer-Served Parcels....A-97

List of Figures

Figure 1.1: Pacific Palisades key landmarks....4
Figure 1.2: Summary of population, households, and employment projections within PPCC area boundaries....6
Figure 1.3: City departments responsible for infrastructure in Pacific Palisades....7
Figure 1.4: Electric service points damage by severity level....10
Figure 1.5: Map of Pacific Palisades water distribution system....14
Figure 1.6: Map of Santa Monica Bay HUC-12 subwatersheds .16
Figure 1.7: Rainfall intensity thresholds based on a 50% probability of debris flow in the Pacific Palisades fire area....17
Figure 1.8: Map of street trees sites prior to the Palisades Fire..20
Figure 1.9: Map of trees and stumps removed or slated for removal....22
Figure 1.10: Map of trees damaged by fire and slated for monitoring or maintenance....23
Figure 1.11: Map of potential street tree planting sites....24
Figure 1.12: Pacific Palisades area geology....27
Figure 1.13: Historic landslide activity landslide inventory map..28
Figure 1.14: Modeled Pre-Fire Debris-Flow Hazard Map for the Pacific Palisades Watershed (15-Minute, 24 mm/hr Design Storm)....29
Figure 1.15: Exposed slope face after the Fire (CAL FIRE, 2025)....30
Figure 1.16: Exposed slopes above homes in Mandeville Canyon (CAL FIRE, 2025).....31
Figure 1.17: Exposed slope above road (note the steepness of the slope) (CAL FIRE, 2025)....31
Figure 2.1: Map of Pacific Palisades land use....35
Figure 2.2: Map of existing zoning classifications, Hillside Ordinance, and Coastal Zone....37
Figure 2.3: Map of Los Angeles baseline hillside ordinance in Pacific Palisades....39
Figure 2.4: Map of the California Coastal Zone in Pacific Palisades....41
Figure 2.5: Hillside area as designated on BOE Basic Grid Map NDA-13372....52
Figure 3.1: Framework for rebuilding adapted from FEMA classifications (FEMA, 2025)....55
Figure 3.2: Map of Tier 1 Infrastructure....59
Figure 3.3: Map of Tier 2 Infrastructure....60
Figure 3.4: Map of Tier 3 Infrastructure....61
Figure 3.5: Infrastructure construction preferred order of operations....76

Figure 3.6: Map of all projects evaluated for the IRP 79
Figure 3.7: Map of street sections with conflicting projects..... 108
Figure 3.8: Map of street sections by number of projects..... 109
Figure 3.9: Summary of street projects by project identification source 110
Figure 3.10: Summary of Street Segment Projects by Source 111
Figure 3.11: Estimated cost distribution by category 112
Figure 3.12: Project timeline organized by source 113
Figure 3.13: Street segments without planned work..... 117
Figure 3.14: LADWP's Preliminary general scheduled for electric system upgrades as of October 1, 2025 144
Figure 3.15: Map of wet utilities planned and proposed projects 149
Figure 3.16: Slope or bench drain system (LACDPW, 2018)..... 152
Figure 3.17: Soldier pile retaining wall with tie-back anchors (LADBS)..... 152
Figure 3.18: Steel netting with rock bolts..... 152
Figure 4.1: Crews trenching for an undergrounding project (SDG&E, 2025) 158
Figure 4.2: Crews connecting covered conductor (Tsirikis, 2022) 159
Figure 4.3: A completed GLDS (Energy Connect Corp, 2025)..... 160
Figure 4.4: Replacement of wood poles..... 161
Figure 4.5: WERT post-Fire recommendations and operational applications for the Palisades Fire area 173
Figure 4.6: Map of potable water tiered age and betterment projects 176
Figure 4.7: Crosswalk of case studies and research/policy studies with potable water strategies..... 178
Figure 4.8: Fire impacts on Pacific Palisades OWTS 181
Figure 4.9: Pacific Palisades sewer pipes with year of installation..... 183
Figure 4.10: Composite priorities: stormwater quality, potential recharge to groundwater, and reported local flooding (Garcetti, 2018) 185
Figure 4.11: Map of LASAN-led projects classified by source and type 187
Figure 4.12: Erosion control on slopes, using vegetated stakes alone or in combination with brush mats (NRCS, 2021)..... 194
Figure 4.13: Erosion control using live fascine bundles and stakes (USDA Forest Service, 2006)..... 194
Figure 4.14: Live crib walls for slope stabilization and erosion control (NRCS, 2021)..... 194
Figure C.15: Primary Water Supply Sources in California A-18
Figure E.1: Pacific Palisades area lower growing restoration mix A-30
Figure H.1: Westgate trunk line through Pacific Palisades (LADWP, 2025d)..... A-86
Figure H.2: Map of Pacific Palisades water distribution system A-89
Figure H.3: Water pipe material distribution (GIS data) A-90
Figure H.4: Map of secondary sewer basins, City of Los Angeles..... A-91
Figure H.5: Map of sewer pipes by materials, OWTS, and wastewater/stormwater facilities in Pacific Palisades..... A-93
Figure H.6: Sewer pipe material distribution (GIS data) A-94
Figure H.7: Sewer lines and parcels with damaged structures in Pacific Palisades..... A-96

Acronyms and Other Abbreviations

˚F	degrees Farenheit
AB	(California) Assembly Bill
ABS	Acrylonitrile Butadiene Styrene
ACS	Alliance for Community Solutions; American Community Survey
ACSR	Aluminum Conductor Steel Reinforced
ADA	Americans with Disabilities Act of 1990
ADU	Accessory Dwelling Unit
AI	Artificial Intelligence
aka	also known as
ALERT	Automated Local Evaluation in Real Time
AMI	Advanced Metering Infrastructure
API	Application Programming Interface
ATSAC	Automated Traffic Surveillance and Control
BC	British Columbia
BCA	Los Angeles Department of Public Works, Bureau of Contract Administration
BIA	Business Impact Analysis
BMP	Best Management Practice
BOE	Bureau of Engineering; Los Angeles Department of Public Works, Bureau of Engineering
BOF	Board of Forestry and Fire Protection
BPA	Bonneville Power Administration
CA	California
CAL FIRE	California Department of Forestry and Fire Protection
CalEPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CalVTP	California Vegetation Treatment Program
CAN-SPAM	Controlling the Assault of Non-Solicited Pornography And Marketing Act of 2003
CAO	City Administrative Officer
CBD	Canopy Bulk Density
CBH	Canopy Base Height
CC	Canopy Cover
CCCPFD	Contra Costa County Fire Protection District
CCCWMP	Contra Costa County Wildfire Mitigation Program
CCPA	California Consumer Privacy Act
CCR	California Code of Regulations
CD 11	Council District 11
CDFW	California Department of Fish and Wildlife
CDOT	Colorado Department of Transportation
CDP	Coastal Development Permit
CEOC	County Emergency Operations Center
CEQA	California Environmental Quality Act
CERT	Community Emergency Response Team
CGC	California Government Code
CGS	California Geological Survey
CH	Canopy Height
ch/h	chains per hour
CHP	California Highway Patrol
CIP	Capital Improvement Program
CIPR	Cold in Place Recycling
City	City of Los Angeles Government
CIWQS	California Integrated Water Quality System
CNRA	California Natural Resources Agency
County	Los Angeles County
COW	Cell on Wheels
CPA	(Brentwood-Pacific Palisades) Community Plan Area
CPUC	California Public Utilities Commission
CREAT	Climate Resilience Evaluation and Awareness Tool
CRZ	Critical Root Zone
CTPZ	Community-Based Temporary Parking Zone
CWNCD	Clean Water North Collection Division
CWS	Community Water Systems
CWSCD	Clean Water North Collection Division
DA	Distribution Automation
DAFN	Disability, Access, and Functional Needs
DBH	Diameter at Breast Height
DCU	Data Collector Units
DEM	Digital Elevation Model
DER	Distributed Energy Resource
DERMS	Distributed Energy Resource Management System
DFOS	Distributed Fiber-Optic Sensing
DIMP	Distribution Integrity Management Program
DOC	Department Operations Center
DOE	U.S. Department of Energy
DPH	Los Angeles County Department of Public Health
DS	Distributing Station
DSD	Distribution System Development
DTSC	Department of Toxic Substances Control
DWP	Department of Water and Power

DWR	California Department of Water Resources
EAS	Emergency Alert System
EBL	Eastbound Left
EBR	Eastbound Right
EFWS	Emergency Firefighting Water System
EMAC	Emergency Management Assistance Compact
EMD	Emergency Management Department
EO	Executive Order
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
EPA	Environmental Protection Agency
EPP	Environmental Protection Plan
EPRI	Electric Power Research Institute
ERDIP	Earthquake Resistant Ductile Iron Pipe
ERDIP	Earthquake-Resilient Distribution Pipe
EV	Electric Vehicle
EVC	Existing Vegetation Cover
EVH	Existing Vegetation Height
EVT	Existing Vegetation Type
EWMP	Enhanced Watershed Management Program
FBFM40	LANDFIRE Fire Behavior Fuel Model
FCC	Federal Communications Commission
FCD	Fire Control District
FDR	Full Depth Reclamation
FEMA	Federal Emergency Management Agency
FHSZ	Fire Hazard Severity Zone
Fire	Palisades Fire
First Step	First Step: Developing an Urban Forest
FLISR	Fault Location, Isolation, and Service Restoration
FP	Fire Plan
FR	Fire Road
Frames	Fire Research and Management Exchange System
FRP	Fiberglass-Reinforced Pipe
FS	Fire Station
ft	foot, feet
FTTH	Fiber to the Home
FY	Fiscal Year
g/c	green per cycle
GB	Gigabytes
GEER	Geotechnical Extreme Event Reconnaissance Association
GEO	Geostationary
GIS	Geographic Information System
GLDS	Ground Level Distribution System
GO	General Order
GPM	Gallons per Minute
GR	Grass
GS	Grass-Shrub
GSA	Groundwater Sustainability Agency
HDPE	High-Density Polyethylene
HFC	Hybrid Fiber-Coaxial
HHW	Household Hazardous Waste
HIZEP	Home Ignition Zone Evaluation Program
HOA	Homeowners Association
HRDIP	Hazard Resistant Ductile Iron Pipe
HSC	California Health and Safety Code
HUC	Hydrologic Unit Code
IBC®	International Building Code®
IC	Incident Command
ICC	International Code Council
ICP	Incident Command Post
ICS	Incident Command System
IDE	Initial Damage Estimate
IPAWS	Integrated Public Alert and Warning System
IROC	Interagency Resource Ordering Capability
IRP	Infrastructure Restoration Plan
IRU	Indefeasible Right of Use
ISP	Internet Service Provider
IT	information Technology
ITA	Information Technology Agency
JADU	Junior Accessory Dwelling Units
KPI	Key Performance Indicator
kV	Kilovolt
LA	Los Angeles
LAA	Los Angeles Aqueduct
LABOE	Los Angeles Bureau of Engineering
LACDPW	Los Angeles County Department of Public Works
LACoFD	Los Angeles County Fire Department
LACP	Los Angeles City Planning
LADBS	City of Los Angeles Department of Building and Safety; Los Angeles Department of Building and Safety

LADOT	Los Angeles Department of Transportation
LADRP	Los Angeles Department of Regional Planning
LADWP	Los Angeles Department of Water and Power
LAFD	Los Angeles Fire Department
LAMC	Los Angeles Municipal Code
LANDFIRE	Landscape Fire and Resource Management Planning Tools
LAPD	Los Angeles Police Department
LASAN	Bureau of Sanitation; Los Angeles Department of Public Works, Bureau of Sanitation; Los Angeles Sanitation and Environment
LASD	Los Angeles County Sheriff's Department
LAUSD	Los Angeles Unified School District
LCP	Local Coastal Program
LCS	Lane Closure System
LCSS	Lane Closure Scheduling System
LEO	Low-Earth Orbit
LFD	Low-Flow Diversion
LIDAR	Light Detection and Ranging
LOS	Level of Service
LRA	Local Responsibility Area; Local Responsibility Areas
MAF	Million Acre-Feet
MFSZ	Mobile Food Service Zone
MG	Megagallons
ML	Machine Learning
MOU	Memorandum of Understanding
mph	miles per hour
MRCA	Mountains Recreation and Conservation Authority
MRT	Mountains Restoration Trust
MSMU	Mount Saint Mary's University
MTA	Metropolitan Transportation Authority
MTBS	Monitoring Trends in Burn Severity
MTTR	Mean Time to Restore
MVA	Megavolt-Ampere
MWD	Metropolitan Water District
n.d.	no date
NBT	Northbound Through
NDA	Non-Disclosure Agreement
NEMA	National Emergency Management Association
NERC	North American Electric Reliability Corporation
NFPA	National Fire Protection Association
NIFC	National Interagency Fire Center
NOAA	National Oceanic and Atmospheric Administration
NotifyLA	The City's Emergency System
NPDES	National Pollutant Discharge Elimination System
NSOA	Non-State-of-the-Art
NWS	National Weather Service
OA	Operational Area
OAEOC	Operational Area Emergency Operations Center
OES	Office of Emergency Services
OFM	Office of Forest Management
OH	Overhead
OR	Oregon
OWTS	On-Site Wastewater Treatment System
PA	Public Assistance (Program)
PALMS	Palisades Applied Logistics Management System
PCC	Portland Cement Concrete
PCCT	Palisades Community Communication Tool
PCH	Pacific Coast Highway
PE	Polyethylene
PG&E	Pacific Gas and Electric; Pacfic Gas and Electric Company
PII	Personally Identifiable Information
PIO	Public Information Officer
Plan	Logistics and Traffic Management Plan
PPCC	Pacific Palisades Community Council
PROW	Public Right-of-way
PSA	Public Service Announcement
PSEP	Pipeline Safety Enhancement Plan
PSPS	Public Safety Power Shutoff
PTDS	Pole-Top Distributing Stations
PVC	Polyvinyl Chloride
PWRS	Public Way Reservation System
RAP	Recreation and Parks
RCP	Reinforced Concrete Pipe
Rebuild	Palisades Rebuild
RPZ	Root Protection Zone
RS	Receiving Station
RSS	Recovery Support Strategy
RYLAN	Ready My LA Neighborhood
SAIDI	System Average Interruption Duration Index
SAIFI	System Average Interruption Frequency Index

SatCOLTs	Satellite Cell On Light Trucks
SB	Senate Bill
SBL	Southbound Left
SBR	Southbound Right
SBS	Soil Burn Severity
SBT	Southbound Through
SCAG	Southern California Association of Governments
SCE	Southern California Edison
SCG	Southern California Gas Company
SCWP	Safe, Clean Water Program
SDG&E	San Diego Gas & Electric
SEMS	Standardized Emergency Management System
SFPUC	San Francisco Public Utilities Commission
SGMA	Sustainable Groundwater Management Act
SIG	Special Implementation Group
SLA	Service-Level Agreement
SMC	Service to Main Connection
SOTL	Scattergood-Olympic Transmission Line
SPF	Seismic Steel Pipe
SPOT	Satellite Picocell on a Trailer
SRA	State Responsibility Area
SRF	Self-Realization Fellowship
SSMP	Sewer System Management Plan
StreetsLA	Bureau of Street Services; Los Angeles Department of Public Works, Bureau of Street Services
SWP	State Water Project
SWRCB	State Water Resources Control Board
SZ	Service Zone
T&D	Transmission and Distribution
TAS	Thermally-Activated Shutoff Valves
TAZ	Traffic Analysis Zone; Transportation Analysis Zone
TCO	Traffic Control Officer
TL	Timber Litter
TMPZ	Temporary Managed Parking Zones
TU	Timber Understory
TWLTL	Two-Way Left-Turn Lane
UCLA	University of California, Los Angeles
UFD	Urban Forestry Division
UFMP	Urban Fire Management Plan
UG	Underground
ULI	Urban Land Institute
USACE	U.S. Army Corps of Engineers
USBR	U.S. Bureau of Reclamation
USC	University of Southern California
USGS	U.S. Geological Survey
UUAD	Utility Undergrounding Assessment Districts
UUROC	Unified Utilities Rebuild Operations Center
UV	Ultraviolet
UWMP	Urban Water Management Plan
VGB	Vegetated Green Buffer
VHFHSZ	Very High Fire Hazard Severity Zone
VMP	Vegetation Management Program
vph	vehicles per hour
VPP	Virtual Power Plant
VSAT	Very Small Aperture Terminal
WA	Washington
WARN	Water and Wastewater Agency Response Network
WBL	Westbound Left
WBR	Westbound Right
WEA	Wireless Emergency Alert
WECC	Wireless Emergency Communication Center
WERT	Watershed Emergency Response Team
WPG	Wildfire Prevention Grant
WRF	Water Research Foundation
WRP	Wildfire Resilience Planning
WS	Workstream
WUI	Wildland-Urban Interface
ZIMAS	Zoning Information and Map Access System



1. Introduction

The Pacific Palisades Infrastructure Restoration Plan (IRP) provides a coordinated, multi-agency roadmap for restoring critical infrastructure systems damaged or destroyed by the 2025 Palisades Fire. Commissioned by the City of Los Angeles, the IRP integrates assessments, regulatory context, and implementation strategies across electric, gas, telecommunications, water, wastewater, stormwater, and transportation networks.

Workstream 2 (WS2), the focus of this report, developed the IRP to address damaged public infrastructure and guide the phased rebuilding of Palisades neighborhoods in alignment with the City's long-term recovery and resilience goals. WS2 operates in coordination with other workstreams: WS1, which defines the project management and governance structure; WS3, which summarizes information for use in Fire Mitigation Planning; and WS4, which focuses on Logistics and Traffic Management. Together, these workstreams contribute to recovery planning, design standards, and implementation sequencing that advance the City's long-term objectives for safety, resilience, and sustainable redevelopment.

This Infrastructure Restoration Plan (IRP) is organized into six sections, each addressing a distinct component of the recovery framework for Pacific Palisades. Together, these sections provide a comprehensive view of the physical systems that underpin community recovery and long-term resilience in Pacific Palisades.

Section 1 – Introduction. Defines the purpose, scope, and context of the IRP, outlining its alignment with the City of Los Angeles' broader wildfire recovery and resilience initiatives.

Section 2 – Regulatory Framework and Land Use. Outlines the regulatory and land use framework governing recovery and rebuilding in Pacific Palisades.

Section 3 – Strategic Framework for Infrastructure Restoration. Outlines the overall recovery approach and three-tiered restoration framework that guide prioritization of projects, coordination across agencies, and integration of resilience and modernization objectives.

Section 4 – Recommended Resilience Upgrades. Identifies infrastructure upgrades, modernization opportunities, and capital-planning actions that extend beyond near-term recovery—such as system hardening, undergrounding, distributed energy resources, green infrastructure, and other investments that enhance long-term safety and reliability.

Section 5 – Summary and Recommendation. Summarizes key findings, observations, and lessons learned from the recovery planning process, emphasizing opportunities to enhance interagency coordination and long-term infrastructure resilience.

Section 6 – References. Identifies data sources, technical references, and supporting documents that informed the analyses and recommendations presented in this IRP.

This IRP also includes the following appendices, which provide a range of supplemental information, including the following:

- **Appendix A:** Methodology, Assumptions, and Limitations
- **Appendix B:** Technical Memos
- **Appendix C:** Potable Water Appendices
- **Appendix D:** Dry Utilities - 18-Step Continuity Plan
- **Appendix E:** Vegetation
- **Appendix F:** Supplemental Material for Project Sequencing
- **Appendix G:** Mapbook Wet Infrastructure Hazards Index
- **Appendix H:** Wet Utilities

1.1. Purpose and Scope of the Infrastructure Restoration Plan

The City of Los Angeles government (City), through its Departments and Bureaus which operate and maintain infrastructure assets, is responsible for the restoration and reconstruction of those assets to support private landowner's ability to rebuild homes and commercial buildings following the disaster. The City has tasked the Bureau of Engineering (BOE) with certain planning and oversight responsibilities as the various Departments and Bureaus work to implement specific repair, restoration, and capital improvement projects in the Pacific Palisades. This report focuses on the Pacific Palisades Community Council (PPCC) area, referred to as "Pacific Palisades." Some infrastructure systems were heavily damaged during the Fire. As a part of the rebuilding effort, the City has commissioned AECOM to develop an Infrastructure Restoration Plan (Plan) that will serve as a coordinated, multi-agency roadmap for restoring damaged underground and aboveground infrastructure systems in Pacific Palisades. The IRP aims to accomplish the following:

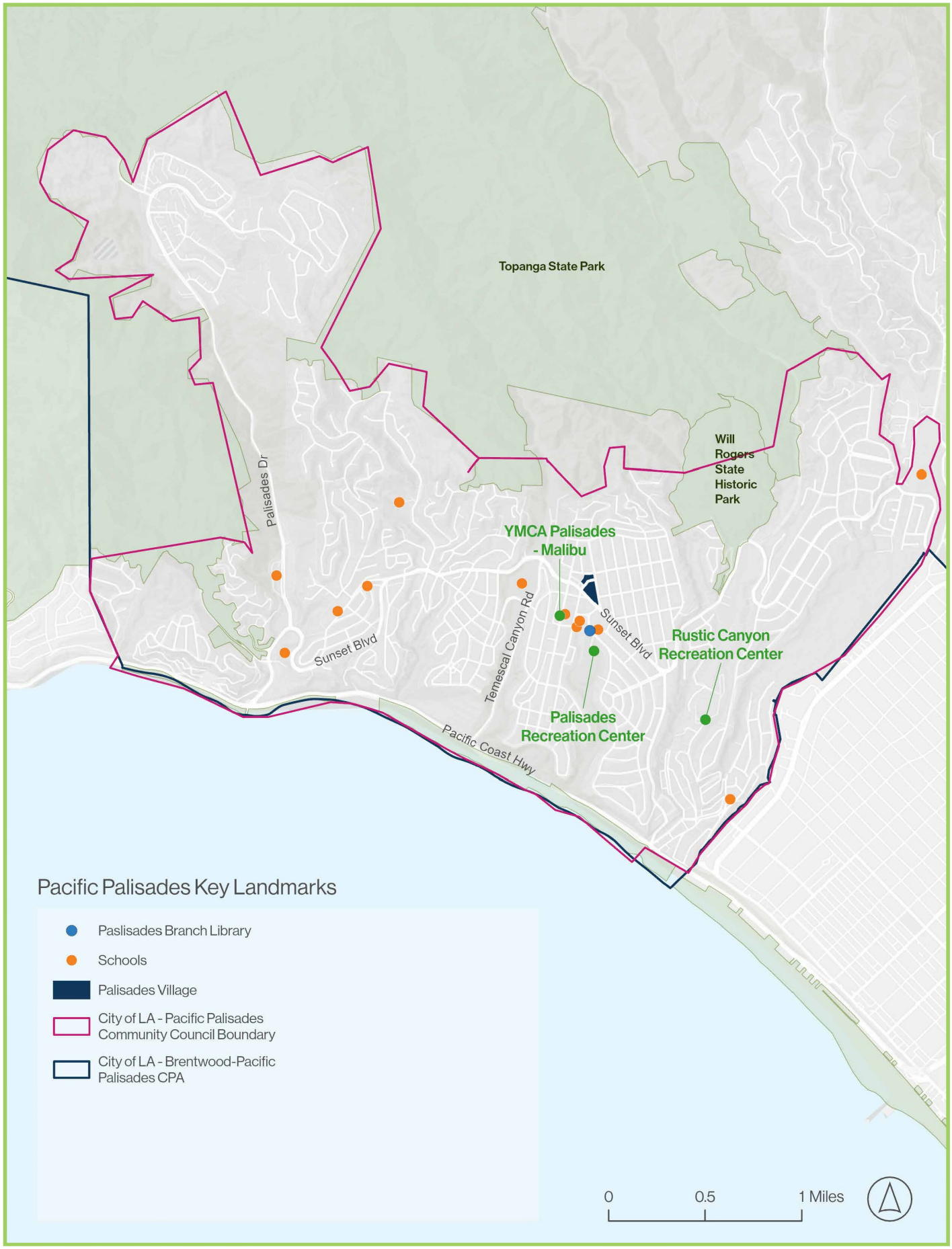
- Address damaged public infrastructure systems and define a phased rebuilding strategy aligned with the City's recovery goals, stakeholder input, and the current status of rebuilding and recovery (as of fall 2025).
- Establish a baseline understanding of the area through an analysis of baseline or pre-Fire conditions, relevant state and local laws, and land use and zoning regulations that influence future growth.
- Recommend a coordinated sequence of restoration activities that aligns with housing, commercial, and civic rebuilding schedules, as well as permitting and inspection timelines; and offers guidelines for hazard mitigation opportunities, including evaluation of existing water distribution systems, opportunities to upgrade fire defense capabilities, and recommendations for hydraulic modeling.
- Evaluate strategies for infrastructure rebuilding, including the upgrading of water, sewer, and electric utilities; construction techniques such as joint trenches; and septic-to-sewer conversion opportunities.

1.2. Pacific Palisades Background

Pacific Palisades is a 24,354-acre coastal community located on the western edge of the City of Los Angeles. It encompasses both seaside and hillside neighborhoods, extending from the Pacific Ocean to the slopes of the Santa Monica Mountains. The community is bordered by Topanga State Park and Will Rogers State Historical Park to the north, the neighborhood of Brentwood and the City of Santa Monica to the east, the Pacific Ocean to the south, and the City of Malibu to the west.

The natural landscape consists primarily of Coastal sage scrub and montane chaparral and woodlands. Pacific Palisades lies within a Wildland-Urban Interface (WUI) area, a designation referring to zones where human development meets or intermingles with natural vegetation. As of 2020, portions of Pacific Palisades are classified as medium or high-density interface areas. The area is identified as a Very High Fire Hazard Severity Zone (VHFHSZ) by the California Department of Forestry and Fire Protection (CAL FIRE). Figure 1.1 shows the community council subareas in Pacific Palisades.

Figure 1.1: Pacific Palisades key landmarks



Sources: City of LA; AECOM, 2025

1.2.1. Development History

Following early settlement and development, Pacific Palisades was founded in 1922. Originally envisioned as a utopian oasis focused on spirituality and education (SWCA Environmental Consultants, 2019), the neighborhood grew steadily throughout the 1920s as more residential areas were built (Pacific Palisades Historical Society, 2024). Traffic and development increased after the Pacific Coast Highway (PCH) was built, and Sunset Boulevard was paved in 1925. The Riveria Country Club and Bel-Air Bay Club were constructed in 1927 and 1930, respectively (SWCA Environmental Consultants, 2019). Around the same time, the Olmsted Brothers designed a local business district at the center of the community that has served as the community's downtown for decades; most recently, a $200 million redevelopment of a portion of the business district was completed in 2018.

Prior to the Fire, Pacific Palisades was a thriving, close-knit community with a mix of single-family homes, condominium and apartment buildings, three mobile home parks, the bustling Palisades Village shopping center with community-serving amenities and civic institutions, several schools, the Palisades Recreation Center and Palisades Branch Library, and a smaller commercial node at PCH and Sunset Boulevard. The area is home to architectural landmarks, including the Getty Villa, the Eames House, and the homes of many Hollywood celebrities. The neighborhood also provides important access to natural resources, including miles of trails in Topanga State Park and Will Rogers Historic State Park, which both provide habitat for mountain lions, deer, coyotes, and diverse plant and bird species.

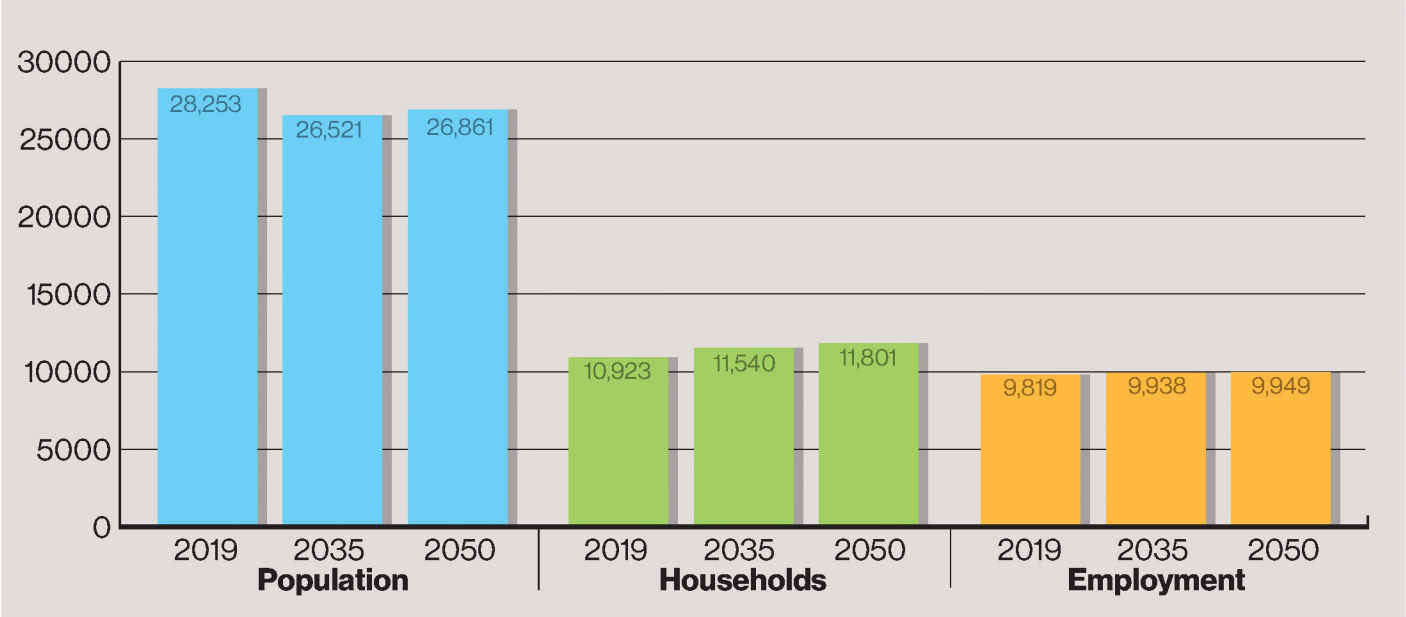
1.2.2. Population and Employment

Adjusted to the PPCC area boundaries, the American Community Survey's (ACS) most recent (2023) block group-based population estimates indicate that approximately 24,636 people lived in the Pacific Palisades area before the Palisades Fire. In 2024, the Southern California Association of Governments (SCAG) produced updated population, employment, and housing projections to forecast growth and inform future development decisions.[1] For areas within the PPCC area boundaries, SCAG projected the population to decrease between 2019 and 2035, and then to increase slightly between 2035 and 2050, although not reaching 2019 levels, while household and employment numbers are projected to increase, as shown in Figure 1.2 (SCAG, 2024).

The SCAG projections, however, do not account for recent changes to state law, such as Senate Bill 9 (SB 9), which increase development capacity on single-family zoned properties through broader allowance of Accessory Dwelling Units (ADUs) and lot splits. In July 2025, Governor Gavin Newsom's Executive Order N-32-25, followed by Mayor Karen Bass' Executive Order 9, exempted the Palisades Fire burn area from SB 9 requirements, but the exception will only remain in place during the state of emergency declaration period. The City will need to consider whether to apply an exception that would prohibit SB 9 and/or ADU construction in the future. The allowance of SB 9 and ADU-related construction may increase the population in the PPCC area.

1 SCAG's methodology uses larger Transportation Analysis Zone (TAZ) geographies and different data sources, so it is important to note that SCAG's data do not exactly match the ACS-based estimates for the same area.

Figure 1.2: Summary of population, households, and employment prcjections within PPCC area boundaries



1.2.3. Government Agencies and Infrastructure

Figure 1.3 illustrates the key City institutions and their respective roles within the infrastructure systems. The institutions listed in Figure 1.3 serve as lead agencies for projects that are summarized in Table 3.4 in Section 3.2. That table provides an overview of ongoing and planned projects within Pacific Palisades, including the number of projects and their associated lead agencies.

Figure 1.3: City departments responsible for infrastructure in Pacific Palisades

Main Institution/ Agency	Bureau/Division	Role
Los Angeles Department of Public Works (DPW)	Bureau of Engineering (BOE)	BOE serves as the City's lead agency for planning, designing, and managing the construction of public infrastructure, buildings, and open-space projects.
	Bureau of Street Lighting (BSL)	BSL serves as the City's agency responsible for designing, constructing, operating, maintaining, and repairing the municipal street-lighting system.
	Bureau of Street Services (StreetsLA)	StreetsLA is responsible for preserving, protecting, maintaining, and renewing the City's street network and urban forests, including roads, sidewalks, on-street bikeways, street trees, and medians.
	Bureau of Sanitation (LASAN)	LASAN is responsible for collecting, treating, and disposing of sewage and solid waste, and for operating and maintaining sanitary sewers, storm drains, wastewater treatment plants, and related infrastructure.
	Bureau of Contract Administration (BCA)	BCA oversees and enforces compliance on the City's public-works and service contracts, ensuring that projects are carried out safely, lawfully, and in accordance with required plans and specifications.
Los Angeles Department of Water and Power (LADWP)	Power	LADWP Power generates, transmits, and distributes electricity across Los Angeles, operating a large municipal power system.
	Water	LADWP Water operates and maintains a water system of over 7,300 miles of mains and trunk lines to deliver high-quality water across Los Angeles.
LA Department of Transportation (LADOT)		LADOT leads the planning, project delivery, and operations of the City's transportation system.
Los Angeles Department of General Services (GSD)		GSD is responsible for managing, maintaining, and delivering capital improvements for City-owned facilities, including municipal buildings and libraries, and supports post-disaster facility repair, reconstruction, and long-term capital delivery.
Los Angeles Public Library (Library)		The Library owns and operates library facilities citywide and coordinates with GSD and other City departments on damage assessment, repair, reconstruction, and restoration of library services following disasters.
Department of Recreation and Parks (RAP)		RAP operates and maintains parks, recreation centers, swimming pools, sports fields, trails, and open-space facilities.

1.3. Dry Utilities

1.3.1. Electric Power Infrastructure and Delivery

The electrical infrastructure serving the Pacific Palisades is operated and maintained by LADWP. The system is a complex, multi-tiered network of transmission and distribution circuits that has evolved over decades of urban growth. This legacy grid integrates early- to mid-20th-century design elements with modern upgrades that improve capacity, efficiency, and reliability.

Understanding the pre-Fire condition of this network is essential to guiding post-disaster recovery, identifying systemic vulnerabilities, and informing long-term resilience planning. The Pacific Palisades area relies on a series of interconnected assets—including receiving and distributing stations, sub-transmission lines, pole-top substations, and both overhead and underground distribution circuits—that form the foundation of local electric service delivery.

1.3.1.1. Power Transmission and Core Distribution Infrastructure

The primary high-voltage power source for the western Los Angeles region, including Pacific Palisades, originates from Receiving Station K (RS-K), also known as the Olympic Receiving Station. RS-K serves as a critical hub within LADWP's 230 kV transmission network. Commissioned in 1955, RS-K receives power transmitted from Scattergood Generating Station in Playa del Rey via the Scattergood-Olympic Transmission Line (SOTL), an underground 230 kV system constructed to enhance reliability across West Los Angeles.

Within RS-K, transmission voltage is stepped down from 230 kV to 34.5 kV, which is then distributed to local substations, including Distributing Station 29 (DS-29), the primary distribution node serving Pacific Palisades.

The system's distribution stations are described below.

Distribution Station 29 (DS-29)

DS-29 historically served as the principal distribution substation for the Pacific Palisades community. The station's role was to receive power at 34.5 kV (from RS-K) and step it down to 4.8 kV for neighborhood distribution. From DS-29, several primary circuits, including 29-03, 29-05, and 29-06, supplied residential and commercial load centers throughout the Pacific Palisades area.

Distribution Station 99 (DS-99)

DS-99 on Monte Grande, which serves Palisades Highlands, was constructed circa 1995 as a localized station receiving 34.5 kV sub-transmission and stepping it down for neighborhood distribution.

Pole-Top Distributing Stations (PTDS)

In 2017 and 2018, LADWP installed two compact PTDS. The substations enhance voltage support and reliability during peak demand or contingency events, and to supplement local distribution and alleviate loading on DS-29. The PTDS were sited strategically at:

- Temescal Canyon Road, south of Sunset Boulevard (constructed in 2017)
- Sunset Boulevard at Marquez Avenue (Bernheimer Lot) (constructed in 2018)

1.3.1.2. Electrical Sub-Transmission and Distribution Lines

Prior to the Fire, the electrical backbone of Pacific Palisades consisted of an integrated network of overhead and underground lines operating at multiple voltage levels.

The Royal-Monte Grande 1 Line: serves as the only overhead 34.5 kV sub-transmission line within the Pacific Palisades network, linking the San Fernando Valley grid to Distribution Station 99 (DS-99) and the adjacent Pole-Top Distributing Stations (PTDS). This line provides a critical connection between the regional transmission system and the local distribution network.

The legacy 4.8 kV Distribution Network: delivered power to most customers through LADWP's extensive circuits originating from DS-29, DS-99, and the PTDS units. These circuits fed pole-mounted transformers that stepped voltage down to 120/240 volts for residential and commercial service throughout the community.

Table 1.1 provides a summary of the key pre-Fire electrical infrastructure assets serving the Pacific Palisades area, detailing the location, type, primary function, key connections, and year of installation for each.

Table 1.1: Pre-Fire Electrical Infrastructure Summary

Asset Name/ Designation	Type	Primary Function	Key Connections/Circuits	Year Built/ Installed
Receiving Station K (Olympic)	Receiving Station	Steps down 230 kV to 34.5 kV for West LA	Fed by Scattergood-Olympic Transmission Line; feeds DS-29 and others	1955
Distribution Station 29	Distributing Station	Steps down 34.5 kV to 4.8 kV for Palisades	Fed by RS-K; Serves Circuits 29-03, 29-05, 29-06	1936
Distribution Station 99	Distributing Station	Local distribution for Palisades Highlands	Fed by 34.5 kV sub-transmission	c. 1995
PTDS-Sunset/ Marquez	Pole-Top Distributing Station	Supplmental distribution and reliability	Fed by 34.5 kV sub -transmission	2017
PTDS-Temescal/ Sunset	Pole-Top Distributing Station	Supplmental distribution and reliability	Fed by 34.5 kV sub -transmission	2017
Royal-Monte Grand 1 Line	Overhead Sub-Transmission Line	Transports 34.5 kV power to DS-99 and PTDS	Connects Valley grid to Palisades sub-transmission network	Unknown

Post-Fire Electrical Distribution Infrastructure

As part of the infrastructure baseline and post-disaster assessment, AECOM evaluated the immediate impacts of the Fire on the electrical distribution system. The Fire caused extensive system damage, resulting in widespread outages and prolonged restoration periods across the community. According to LADWP Council File No. 25-0006-S23, dated March 20, 2025, DS-29 sustained significant fire damage, particularly in the outdoor rack area. Affected components included control wiring, lighting systems, and cable trench covers. The data on the Fire's immediate effects serve as the foundation for prioritizing recovery actions and guiding future resilience planning.

A pole assessment was conducted immediately after determination of safe conditions to do so, and assessment findings are summarized in Table 1.2.

Table 1.2: Post-Fire Pole Assessment Results

Pole Assessment	Count	Percentage
Completely damaged	753	32%
Partially damaged	330	14%
No visual damage	1,257	54%
Total	**2,340**	**100%**

Table 1.3: Utility Infrastructure Replacement by LADWP

Asset Description	Count
Poles	1,135
Overhead Transformers	6
OH Conductor Installed (ft)	178,000
Underground Cable Installed (ft)	8,600
Underground Conduit Installed (ft)	9,650

Table 1.3 summarizes the utility infrastructure that LADWP replaced during its emergency response.

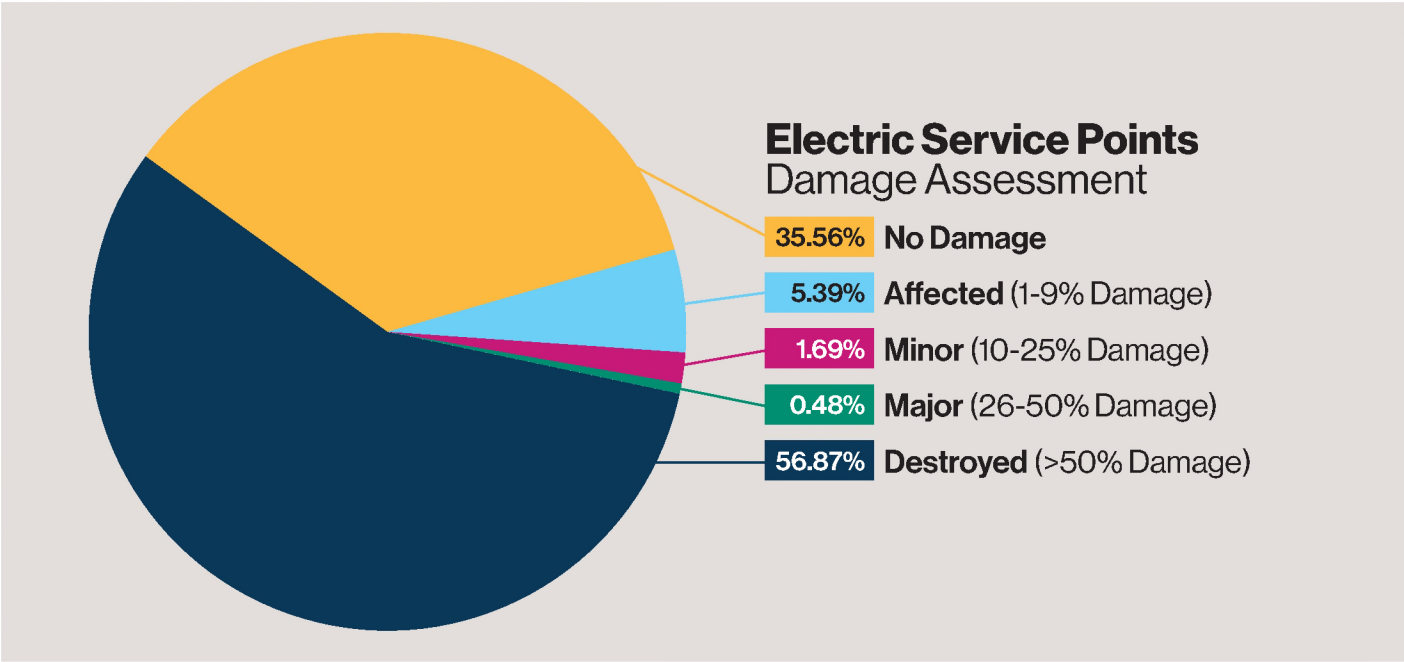
Post-Fire Service-Level Infrastructure

The Fire caused devastating damage to electric utility service points, and more than half of all assessed service points experienced severe to total destruction. Leveraging damage assessment data provided by the LADWP, AECOM conducted a comprehensive analysis of damage data from 12,400 electric utility service points. The analysis provides critical insights to guide recovery planning and infrastructure reconstruction. Key findings from the baseline data include:

- 68.18% of all electric service points (8,454) were assessed by CAL FIRE.
- 64.44% of the assessed electric service points (5,448) experienced some level of damage.
- 56.87% of the assessed electric service points (4,808) sustained greater than 50% damage.
- 35.56% of the assessed electric service points (3,006) experienced no damage.

Figure 1.4 presents the distribution of electric service point damage by severity level, illustrating how damage ranged from no damage to destroyed (>50% damage).

Figure 1.4: Electric service points damage by severity level



The impact across multiple property types was evaluated. The assessment indicated that residential properties bore the brunt of the damage, representing 92% of all affected service points. Table 1.4 summarizes the affected service points by customer class, and Table 1.5 is a summary of the severity level of damage to assessed service points.

Table 1.4: Summary of Affected Service Points by Customer Class

Customer Class	Affected (1-9% damage)	Not Assessed	Destroyed (>50% damage)	Major (26-50% damage)	Minor (10-25% damage)	No Damage	Grand Total
Unknown	17	831	145		20	95	1108
COM	43	359	196	2	18	95	713
GOVT		38	1			2	41
INDUST		1	1				2
MUNI		33	3			10	46
RES	396	2684	4462	39	105	2804	10490
Grand Total	**456**	**3946**	**4808**	**41**	**143**	**3006**	**12400**

Table 1.5: Service Point Damage Assessment by Severity Level

Damage Assessment	Service Point	Percentage
Affected (1-9% damage)	456	5.4%
Destroyed (>50% damage)	4,808	56.9%
Major (26-50% damage)	41	0.5%
Minor (10-25% damage)	143	1.7%
No damage	3,006	35.6%
Grand Total	**8,454**	**100%**

1.3.2. Gas Utilities: Southern California Gas Company and Other Pipeline Operators

Natural gas service in Pacific Palisades is provided by Southern California Gas Company (SoCalGas, SCG): a private company which provides utility service under a franchise agreement with the City, a regulated investor-owned utility operating transmission and distribution systems across 13 counties in California, including Los Angeles County.

SoCalGas's infrastructure in the region includes a transmission pipeline that runs north to south through a right-of-way between Sullivan Fire Road and Mandeville Canyon Road, crossing undeveloped terrain east of Pacific Palisades. This pipeline supplies a pressure regulating station near Brentwood Country Club outside the fire impact zone, where it supports a high-pressure distribution line running east-west along San Vicente Boulevard and Sunset Boulevard, and extending along the PCH (CA-1) to Malibu.

Beyond local distribution, there are two recorded liquid or fuel pipelines in the impact area. One is the SoCalGas transmission pressure line, and the other is maintained by a separate operator. Ownership details are not publicly disclosed, but the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration mapping database confirms that no facilities in this category were impacted by the Fire.

During a virtual meeting held on August 14, 2025, which was attended by AECOM technical staff and SoCalGas distribution planning leadership, SoCalGas provided a categorical assessment of its infrastructure in the fire-affected area.

While specific mapping data were withheld due to security considerations, SoCalGas reported no significant damage to its underground distribution infrastructure, aside from the destruction of structures and meters. SoCalGas also indicated that no known damage had occurred to any aboveground components of pressure regulating stations within the fire zone. At the time of the August 2025 meeting, SoCalGas had safely deactivated natural gas service to all destroyed or uninhabitable buildings by closing the Service to Main Connection (SMC) valve and severing and capping the service lateral to prevent unintended gas migration.

Looking ahead, SoCalGas indicated that service restoration will follow standard new business protocols, initiated once property owners submit requests for reconnection to newly constructed buildings.

1.3.3. Telecommunications Utilities

The Palisades Fire caused significant damage to both aerial and underground telecommunications systems across the Pacific Palisades community. Fiber-optic and coaxial cables, macro cell sites, network cabinets, and associated power equipment were damaged or destroyed. Restoration was complicated by pole loss, conduit damage, and unstable terrain, all of which limited safe access and increased vulnerability to subsequent outages. Power outages implemented during and after the Fire further constrained recovery activities.

Voice, data, and emergency alert services were disrupted for extended periods, leaving portions of the community without reliable communications. To restore coverage, service providers deployed temporary communication assets such as Cells on Wheels (COWs), portable power generators, and satellite-based links to support essential connectivity.

Telecommunication companies (e.g., Spectrum/Charter, Frontier, Verizon, AT&T, and other regional service providers) prioritized restoring communications to public safety facilities, first responders, and evacuation centers. Restoration to residential and commercial locations followed. The restoration efforts of each company are described below:

- **Spectrum**. Spectrum's commitment includes financial support to the Los Angeles Fire Department Foundation, American Red Cross, and the California Fire Foundation, small businesses through the Spectrum Community Investment Loan Fund as well as other nonprofit organizations. Its post-Fire efforts included Wi-Fi access and Internet service:
  - Spectrum opened more than 35,000 out-of-home Wi-Fi access points and made them available to users at no cost as a temporary measure.
  - Spectrum also opened its network Spectrum News 1 SoCal channel to the public, and provided free internet service to first responders. Spectrum also credited its customers for time periods without service.
- **Frontier Internet**. Frontier's response to the Fire and recovery efforts included replacing damaged copper lines with fiber. The company installed temporary fiber circuits and poles, coordinating undergrounding projects with LADWP. Frontier also deployed Cell on Wheels (COWs) in partnership with AT&T and Verizon to restore connectivity in affected areas.
- **Verizon**. Responded swiftly with a multi-pronged recovery strategy that included waiving domestic calls, text, and data usage fees for impacted consumers. The Verizon Frontline Crisis Response Team supported communications for first responders with mobile hotspots, routers, smart devices, network extenders, and charging stations. To support affected communities, Verizon deployed a Wireless Emergency Communication Center (WECC) at various locations for public access to cellular service, Wi-Fi, and charging stations. To maintain service continuity, Verizon used satellite backhaul and Satellite Picocells on Trailers (SPOTs).
- **AT&T**. Deployed backup power generators, Satellite Cell On Light Trucks (SatCOLTs), Super Cells on Wheels (Super COWs), and satellite-based trailers to maintain service continuity. Advanced technologies such as Flying COWs®—drones equipped with mobile cell tech—were used in key areas to extend wireless coverage and support emergency operations.
  - Additionally, AT&T prioritized first responder communications through its FirstNet® network, deploying Compact Rapid Deployables (CRDs) and mobile cell sites in coordination with CAL FIRE and the Governor's Office of Emergency Services (Cal OES) for uninterrupted, dedicated connectivity for public safety agencies.
  - By late January 2025, the company announced that its restoration efforts had achieved significant progress. Its overall wireless network in the Greater Los Angeles area was reported to be operating at more than 99% of normal capacity. For cell sites specifically impacted by the fires, more than 91% had been restored.
- **T-Mobile**. The company supported first responders with eSIMs and priority wireless service for faster service on the front lines. It set up Wi-Fi routers in locations across the area to support first responders, including the Los Angeles Police Department (LAPD), Los Angeles Fire Department (LAFD), Los Angeles County Police Department, Los Angeles County Sherriff's Department, CAL FIRE, and Cal OES. T-Mobile also opened stores to provide free Wi-Fi access at impacted areas.

1.4. Wet Utilities

Wet utilities in Pacific Palisades include potable water, wastewater, and stormwater and are governed by an integrated framework of local, state, and national regulations that guide their management. Planning and recovery efforts in the area follow these overarching guidelines. For example, California's Water Code, the State Water Resources Control Board's (SWRCB's) stormwater and resilience mandates, and federal programs under the Federal Emergency Management Agency (FEMA) and the U.S. Environmental Protection Agency (EPA) set standards for post-disaster recovery and long-term system resilience.

City-specific pre-Fire baseline plans and post-Fire recovery and resilience plans illustrate how the regulatory and planning framework has evolved. Within this framework, the City's pre-Fire baseline plans and post-Fire recovery strategies in response to the Palisades Fire show how the City's own regulatory compliance and resilience planning have also evolved in response to wildfire impacts.

1.4.1. Potable Water

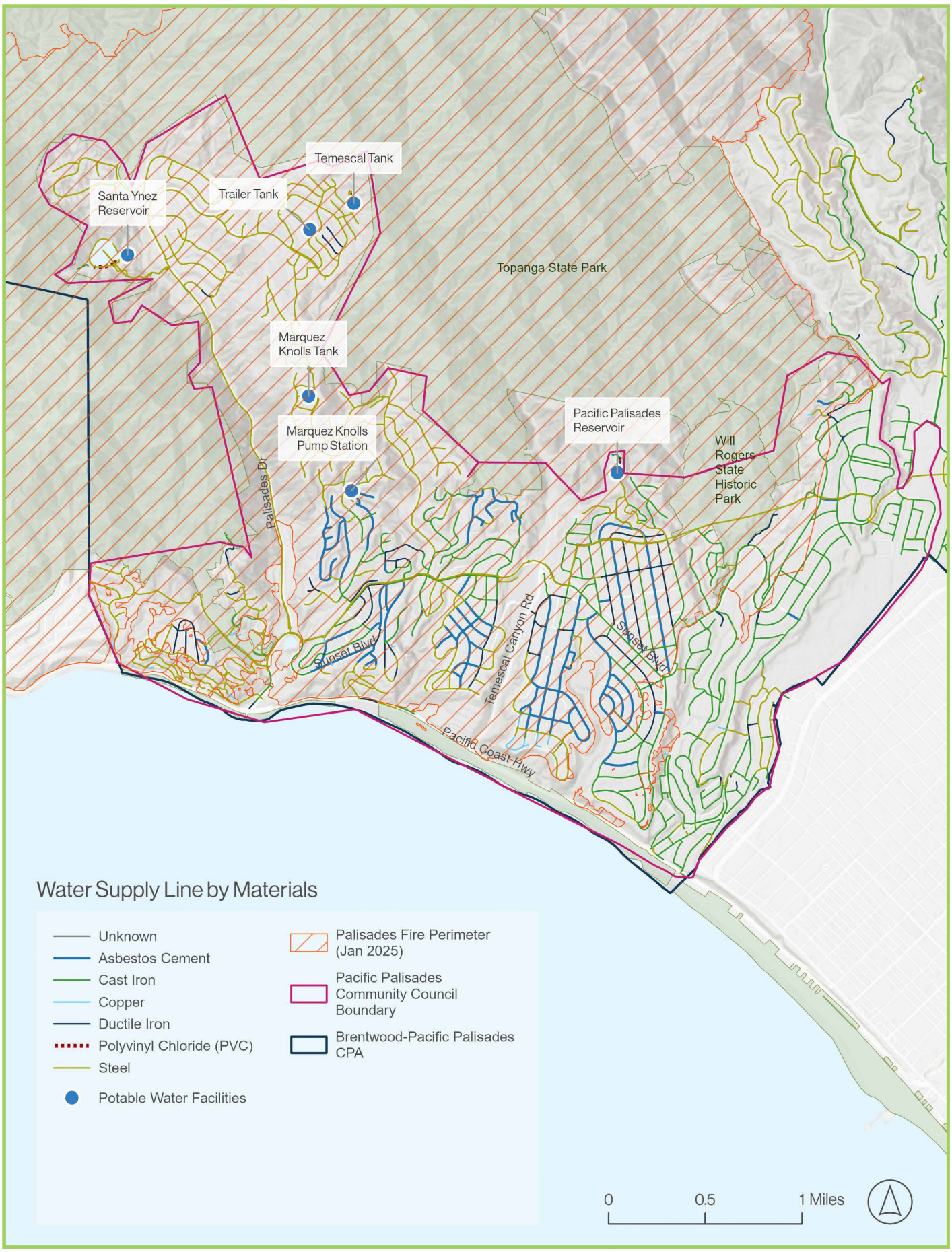
Pacific Palisades receives potable water through LADWP's regional distribution network, primarily via the Westgate Trunk Line, which conveys treated water from the Upper Stone Canyon Resevoir into a series of pressure zones that serve neighborhoods at different elevations. Three pump stations—Marquez Knolls, Santa Ynez, and Trailer—lift water into local storage tanks that help regulate pressure and maintain system reliability. While this infrastructure forms the backbone of water delivery, only its high-level configuration is essential to WS2, as it defines how system vulnerabilities, service disruptions, and restoration sequencing must be addressed during post-Fire recovery.

The Fire's most significant impacts occurred at customer service laterals and above-grade appurtenances, where more than half of all assessed water-service locations were classified as destroyed. In contrast, below-grade mains, hydrants, and valves largely remained intact and were rapidly returned to service, allowing LADWP to focus recovery efforts on property-level reconnections as rebuilding progresses. This overview provides the level of system detail needed to support WS2's restoration planning, prioritization of Tier-based actions, and coordination of utility sequencing across agencies. More technical descriptions of reservoirs, pump operations, pipe materials, system capacity, and damage classifications are included in Appendix H for reference.

A complete description of system hydraulics, facility characteristics, and detailed damage assessments—beyond what is required for WS2 decision-making—is provided in Appendix H for technical reference and documentation.



Figure 1.5: Map of Pacific Palisades water distribution system



1.4.2. Wastewater

Pacific Palisades is served by the LASAN-operated Hyperion sewer collection system, which consists primarily of gravity sewers conveying wastewater downslope toward PCH, with six pumping plants that support areas at higher elevations. The system includes approximately 1.4 million feet of sewer pipe, mostly 8-inch vitrified clay, with a small number of larger-diameter trunk segments and limited use of alternative materials. In addition to the public sewer network, a substantial number of properties in hillside and coastal areas rely on on-site wastewater treatment systems (OWTS).

Within the burn area, 139 OWTS were identified as potentially impacted, many located near existing sewer service and therefore presenting opportunities for septic-to-sewer conversion as part of long-term restoration. The wildfire did not significantly damage the below-grade sewer mains themselves; instead, wastewater impacts were driven by widespread destruction of buildings and lateral connections. Structural damage to sewer-served parcels (approximately 65% affected) and OWTS-served parcels (approximately 38% affected) reflects parcel-level damage rather than direct failure of sewer pipes or treatment systems. These impacts primarily translate into restoration needs related to service reconnection, damaged laterals, and potential replacement of on-site systems. The detailed wastewater system profile, damage assessment, and mapping of OWTS and sewer-served parcels are provided in Appendix H including evaluation of septic-to-sewer opportunities.

1.4.3. Stormwater

The stormwater network in Pacific Palisades (Figure H.6) includes City of Los Angeles and Los Angeles County Flood Control District (LACFCD) assets. Among these assets are catch basins, underground drains, debris basins, and engineered channels that discharge to the Santa Monica Bay. These systems are supplemented by coastal Low-Flow Diversion (LFD) facilities that are designed to intercept and treat dry-weather urban runoff for water-quality protection rather than to convey or manage large storm flows (LACDPW, 2025).

Pacific Palisades is characterized by short, steep coastal canyons—Temescal, Santa Ynez, Los Liones, and Topanga. These coastal canyons, which descend the south flank of the Santa Monica Mountains to Santa Monica Bay, function as short, flashy watersheds with response times under 30 minutes, leaving a minimal warning time between rainfall onset and debris-flow initiation.

Before the Fire, overland "major system" relief through streets and canyon thalwegs worked with the "minor system" of inlets and pipes, but outlet and slope constraints left several corridors prone to nuisance flooding during intense, short-duration rainfall. Situation reports from early 2025 described water and debris overtopping roadways and catch basins throughout the Pacific Palisades area and along the PCH (BOE and AECOM, 2025).

1.4.3.1. Pre-Fire Conditions

Prior to January 2025, much of the Pacific Palisades network reflected legacy design standards and materials (1950s–1970s), with selective rehabilitation projects advancing under LASAN/BOE. Long-range planning through One Water LA and the Safe, Clean Water (Measure W) program had already designated the Pacific Palisades canyons as priority zones for multi-benefit stormwater capture and debris management (LACDPW, 2025). Many facilities, however, were still optimized for low-flow diversion and water-quality compliance, not for the debris-laden storm peaks expected after a wildfire. The coastal LFD systems at Santa Monica Canyon and Temescal Canyon illustrate these pre-Fire limitations—reliant on small pumps, narrow discharge conduits, and limited debris screening capacity. These structural and operational constraints influenced post-Fire debris pathways by allowing sediment and debris to bypass or overwhelm low-flow diversion facilities, resulting in debris accumulation at specific downstream inlets, surface streets, and coastal discharge points following the January storm events.

As a result, post-Fire damage was localized and included debris-clogged storm drain, sediment-filled low-flow diversion structures, heat-affected lateral connections, and joint separation at select drainage facilities rather than widespread failure of major stormwater assets.

1.4.3.2. Disaster Impacts

Reconnaissance by Geotechnical Extreme Event Reconnaisance Association (GEER), a volunteer organization of geotechnical engineers, engineering geologists, and earth scientists from academia, industry, government organizations, and non-profit organizations, placed ignition on Temescal Ridge and documented subsequent debris-rich runoff during the storms of January 25, February 13, and March 13. Soil Burn Severity (SBS) mapping showed roughly 51% moderate and 3% high burn severity within the Fire's perimeter, conditions known to promote hydrophobic soil response and sharp increases in unit runoff during the first post-Fire wet season (Akin et al., 2025). Figure 1.6 illustrates the Santa Monica Bay HUC-12

subwatersheds and the Palisades Fire perimeter. Figure 1.7 presents the U.S. Geological Survey - Watershed Emergency Response Team's (USGS-WERT) modeled rainfall thresholds (0.3 in/15 min, 0.6 in/hr) associated with a 50% probability of debris flow within the Pacific Palisades burn area. These thresholds mark conditions where rainfall is likely to rapidly mobilize ash, soil, and debris, posing a high near-term hazard to downslope roads, homes, and channels.

Figure 1.6: Map of Santa Monica Bay HUC-12 subwatersheds

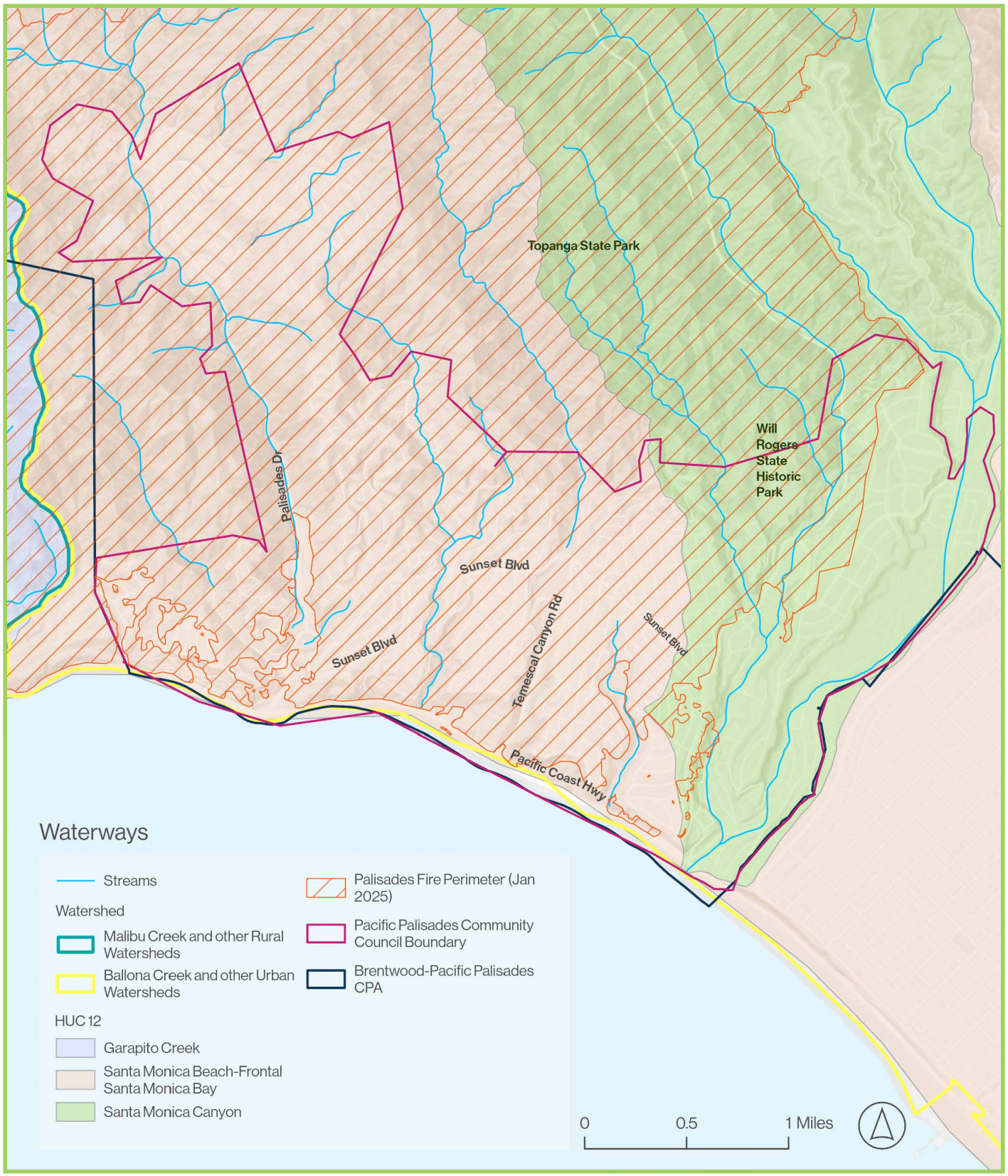
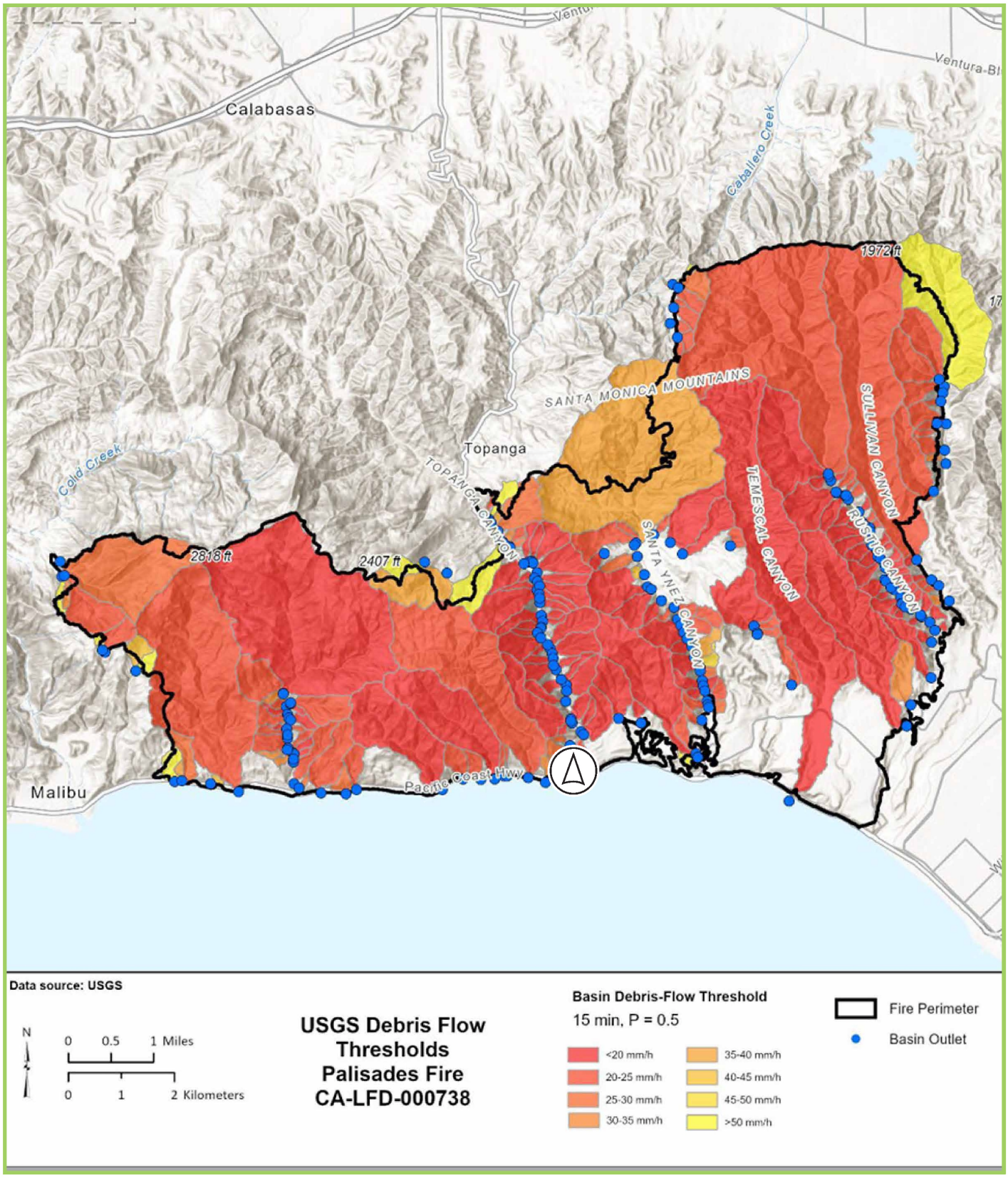


Figure 1.7: Rainfall intensity thresholds based on a 50% probability of debris flow in the Pacific Palisades fire area



1.4.3.3. Post-Fire Impacts to Stormwater Systems

Field investigations documented extensive storm-drain and slope-drainage damage consistent with high radiant heat and sediment loading, burned or melted pipe segments in hillside neighborhoods (e.g., Castellammare and Revello Drive), scorched appurtenances, and debris-plugged inlets (Akin et al., 2025). GEER's storm-drain section noted complete loss of plastic laterals and joint failures that interrupted conveyance until emergency bypass measures were installed. While these impacts resulted in localized drainage disruptions, no major trunk-line facilities were destroyed. Rather, the observations highlight system vulnerabilities under post-Fire conditions particularly rapid debris accumulation at inlets, heat sensitivity of plastic components, and reduced conveyance during short-duration, high-intensity rainfall.

Subsequent winter storms caused localized flooding and mudslides, and overwhelmed basins and inlets along Palisades Drive, PCH, and adjacent corridors—all of which are consistent with regional post-wildfire hydrology, where peak discharges can increase several-fold over pre-Fire conditions under high-intensity rainfall (California Geological Survey, 2024). The highest recurrence of roadway overtopping was recorded near Temescal Canyon Road and Sunset Boulevard, where culvert inlets were partially obstructed by woody debris within 30 minutes of peak intensity.

In response, the City mobilized post-Fire recovery and infrastructure restoration with BOE, LASAN, and partner consultants under mayoral directives, supported by the U.S. Army Corps of Engineers (USACE) deployment of K-rails and other protective measures, such as near-term storm-drain replacements, debris-control upgrades, and fire-resilient retrofits in the Pacific Palisades canyons (BOE and AECOM, 2025).



1.5. Street Trees and Surface Infrastructure

The January 2025 Palisades Fire significantly impacted the streets and pavement infrastructure across the region, compounding pre-existing vulnerabilities and introducing new hazards and impacts. The Fire's aftermath revealed a complex interplay of damage from direct flame exposure, post-Fire hydrological changes, and sediment transport, all of which have degraded the integrity of roadways and their associated infrastructure.

Street trees were also significantly impacted. Many trees were destroyed or critically damaged while others require additional maintenance and monitoring to recover from fire impacts.

1.5.1. Street Trees

1.5.1.1. Pre-Fire Assessment

Street trees in the City of Los Angeles are maintained by the City's Urban Forestry Division (UFD), which falls under the broader Bureau of Street Services (StreetsLA).[1]

Street trees in Pacific Palisades prior to the Fire were analyzed by a City consultant, Davey Resources Group (DRG) as a part of a larger, City-wide effort to inventory street tree location and characteristics in support of the City's urban forestry goals and creation of an Urban Forest Master Plan, currently under development. This City-wide assessment data is hosted on an online, publicly available database, TreeKeeper. Street tree data collected between 2022 and 2024 in Pacific Palisades[2] analyzed 9,691 street tree sites, as shown in Figure 1.8; of these, 1,211 were vacant sites and 108 sites consisted of only stumps.

The street tree canopy in Pacific Palisades was made up of a diverse mix of over 230 different species. The top five species were Jacaranda (*Jacaranda mimosifolia*) (719), Southern Magnolia (*Magnolia grandiflora*) (617), California Sycamore (*Platanus racemosa*) (426), Camphor tree (*Camphora officinarum*) (407), and Mexican Fan Palm (*Washingtonia robusta*) (345). A data summary prepared by DRG, based on street tree data collected between August and October 2023 in Pacific Palisades, found that 70.5% of trees were broadleaf species, which provide more shade than conifers or palms (StreetsLA, 2023).

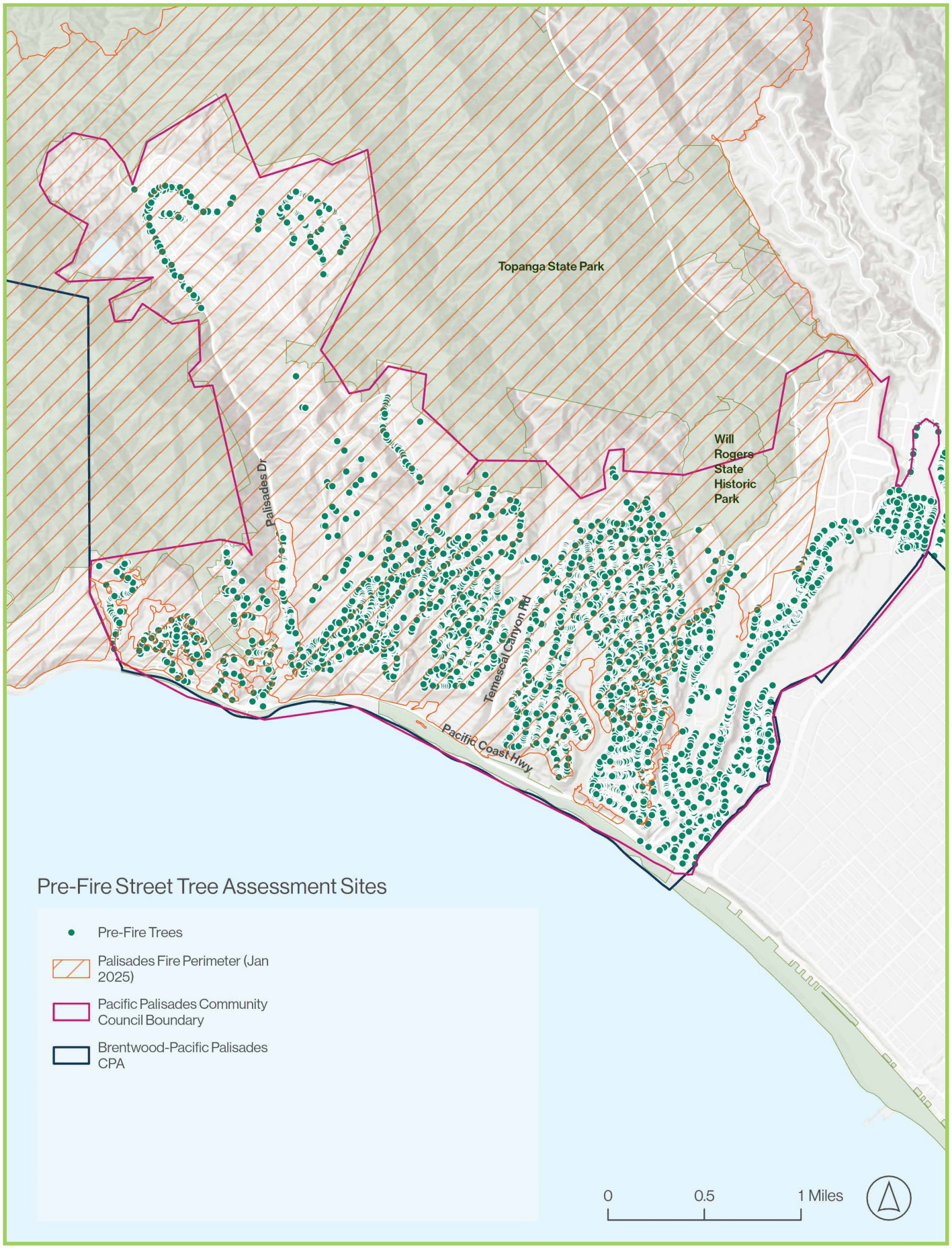
1 The City's Office of Forest Management (OFM), housed under Los Angeles City Planning (LACP) manages the City's urban forest.
2 Note that the data captured sites beyond the Palisades Fire perimeter.

Table 1.6 is a summary of the top 10 pre-Fire tree species, and Figure 1.8 shows a map of street tree sites before the Fire.

Table 1.6: Summary of Top 10 Pre-Fire Tree Species

Species	Count
Jacaranda (*Jacaranda mimosifolia*)	719
Southern Magnolia (*Magnolia grandiflora*)	617
California Sycamore (*Platanus racemosa*)	426
Camphor tree (*Camphora officinarum*)	407
Mexican Fan Palm (*Washingtonia robusta*)	345
Olive (*Olea europaea*)	313
Sweetgum	265
Red Flowering Gum (*Eucalyptus ficifolia*)	227
Canary Island Pine (*Pinus canariensis*)	203
Coast Live Oak (*Quercus agrifolia*)	189

Figure 1.8: Map of street trees sites prior to the Palisades Fire



Sources: City of LA; AECOM, 2025

1.5.1.2. Post Fire Assessment

Following the Palisades Fire, the City completed an assessment of trees in the public right-of-way, focused on areas within the Fire's perimeter. Prior to the City's assessment, two earlier assessments were completed within the Fire area. The first tree evaluation following the Fire was completed by the Environmental Protection Agency (EPA). The EPA assessed trees on private property, although some street trees were assessed. Following the EPA's assessment, a second assessment was performed by USACE during the Phase II debris removal process, focusing particularly on hazardous trees[3] on private property. Trees in the right-of-way were not removed and left for UFD inspection (StreetsLA, 2025).

The City's street tree assessment was completed in Fall 2025 and assessed over 6,180[4] sites including street trees, stumps, vacant sites, and obsolete sites. It included the baseline condition of each tree, such as its species, planting site, and diameter at breast height (DBH), as well as information about its post-Fire condition. Trees were assessed and categorized by next steps, which ranged from removal to monitoring; 1,009 trees and stumps were critically damaged and slated for removal. Although many survived, continued tree maintenance, pruning, and care will likely be needed to recover from the Fire's impacts.

Of the trees and stumps analyzed, 4,681 were identified as needing removal, maintenance, or monitoring. Additionally, the analysis found 1,162 sites that may be potential spaces for replanting, 763 stumps, 281 obsolete sites, and 6 trees recommended for removal or pruning, but not impacted by the fire.

Overall, the post-Fire tree canopy is made up of a diverse mix of over 170 different species[5]. The top five species are Jacaranda (*Jacaranda mimosifolia*) (354), Southern Magnolia (*Magnolia grandiflora*) (269), Mexican Fan Palm (*Washingtonia robusta*) (263), Camphor tree (*Camphora officinarum*) (138), and California Sycamore (*Platanus racemosa*) (138). Out of these top five species, only the California Sycamore (*Platanus racemosa*) is native.

Dead Trees or Stumps Slated for Removal

Figure 1.9 shows sites assessed with dead trees or stumps needing removal. After trees or stumps are removed, these sites may be possible locations for replanting trees. The two species with the highest percentage slated for removal are Jacaranda (*Jacaranda mimosifolia*) (43, 4.26% of those slated for removal) and Sweetgum (23, 2.28% of those slated for removal). Broadly, stump removal is considered a demolition scope and is recommended either during Tier 1 emergency response or to be scheduled alongside major earthwork operations prior to utility installations and hardscape repairs.

3 The definition of Hazardous Tree varies between the City of Los Angeles, the EPA, and the Army Corps of Engineers. These definitions are discussed elsewhere in this report.

4 Data analysis is based on assessment data received from StreetsLA/UFD on 10/24/2025 and may not reflect subsequent data finalization by UFD, live tree removals that may have been carried out by utility companies such as DWP, or other tree removals and maintenance that has occurred since.

5 The change in the number of species between the pre-and-post-Fire analysis may be in part due to differences between the pre-Fire and post-Fire assessment area or species that only had small numbers of trees that may have been removed between the two assessments.

Trees Damaged by Fire and Slated for Monitoring or Pruning

Figure 1.10 shows trees assessed that were identified as needing monitoring or pruning. The two species with the highest percentage slated for monitoring or pruning were Jacaranda (*Jacaranda mimosifolia*) (310, 8.44% of those trees slated for monitoring or pruning) and Mexican Fan Palm (*Washingtonia robusta*) (263, 7.16% of those trees slated for monitoring or pruning). Protecting trees during rebuilding efforts and construction, including maintaining a Tree Protection Zone (TPZ), is discussed further in Section 3.5.3.2.

Potential Planting Sites

Figure 1.11 shows the 1,162 potential future street tree planting sites identified during the assessment. These sites will need further vetting by UFD to meet a variety of criteria. New planting sites can provide an opportunity to consider integrating updated species recommendations, irrigation methods, or maintenance methods and timelines into planting efforts.

While some areas in Pacific Palisades have continuous parkways between the street and right-of-way, other areas, including some hillside areas, have no parkways and did not have any street trees prior to the Fire. Where parkways existed before the Fire, parkways should be maintained, and street trees should be replanted where feasible, depending on UFD analysis and criteria, and coordination with other construction and rebuilding activities, such as utility installation.

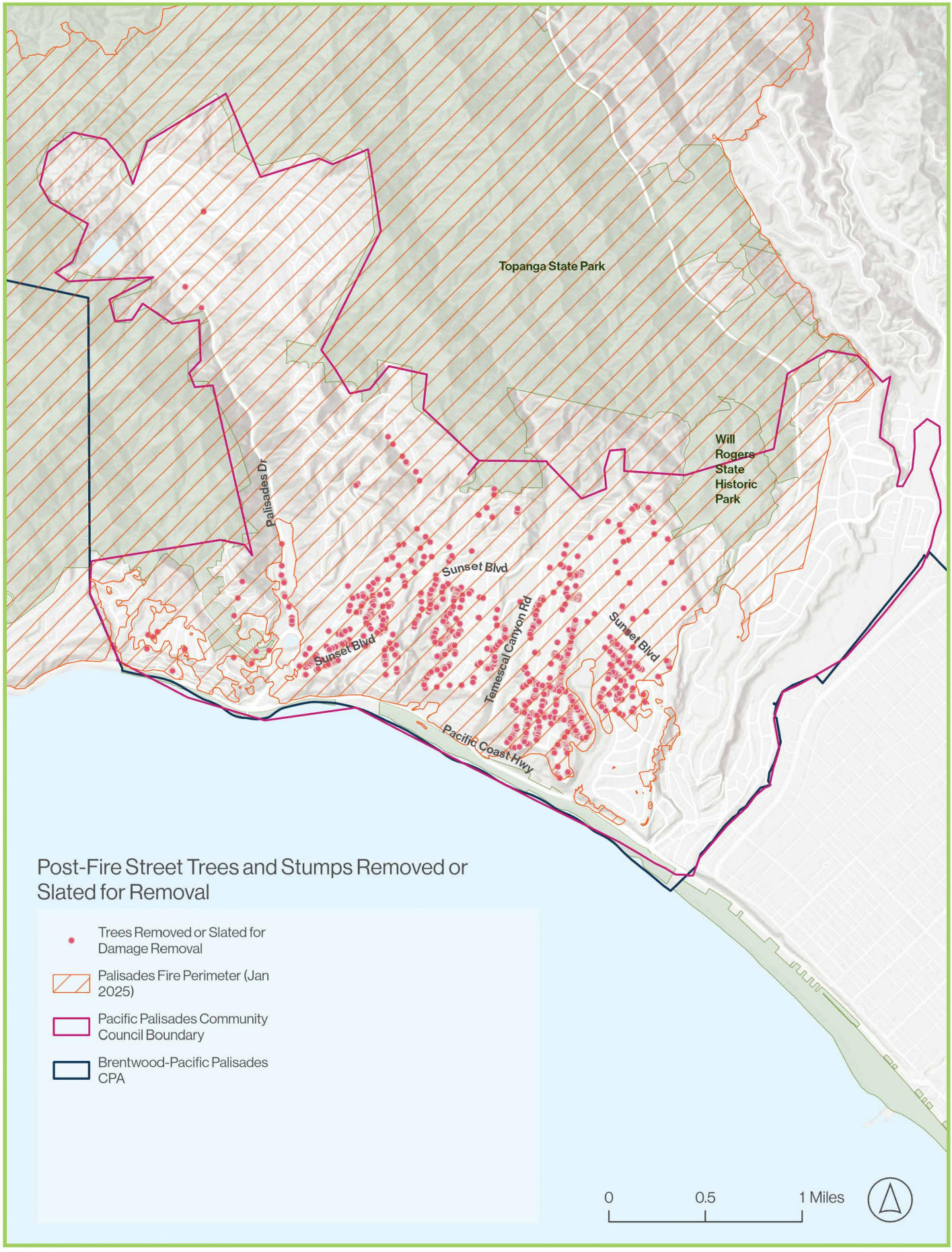
The data included in Table 1.7 is based on assessment data received from StreetsLA on October 24, 2025 and based on "Primary Maintenance" data which analyzed tree and stumps following the Fire. The analysis in this report includes only those categories identified here. See Figure 1.9 for a map of the trees and stumps removed or slated for removal.

Table 1.7: Trees or Stumps Damaged by Fire and Removed or Slated for Removal, Monitoring and Maintenance

Category	Counts	Percentage of Sites Analyzed
Fire Damage Stump Removal	750	12.14%
Fire Damage Removal	259	4.19%
Fire Damage Monitor	3,078	49.81%
Fire Damage Prune	594	9.61%

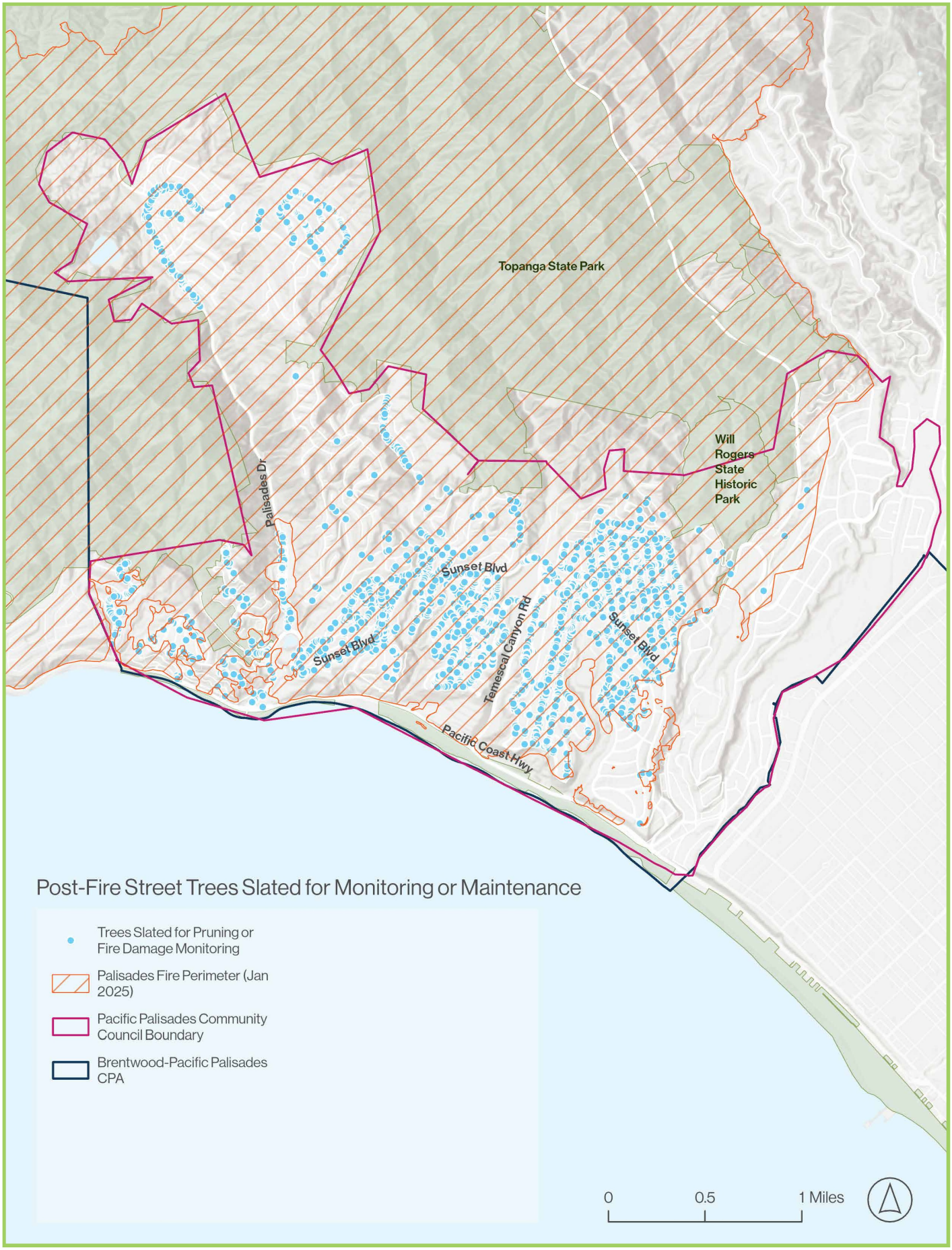
See Figure 1.10 for a map slated for monitoring and maintenance. See Figure 1.11 for a map of potential sites for street tree planting.

Figure 1.9: Map of trees and stumps removed or slated for removal



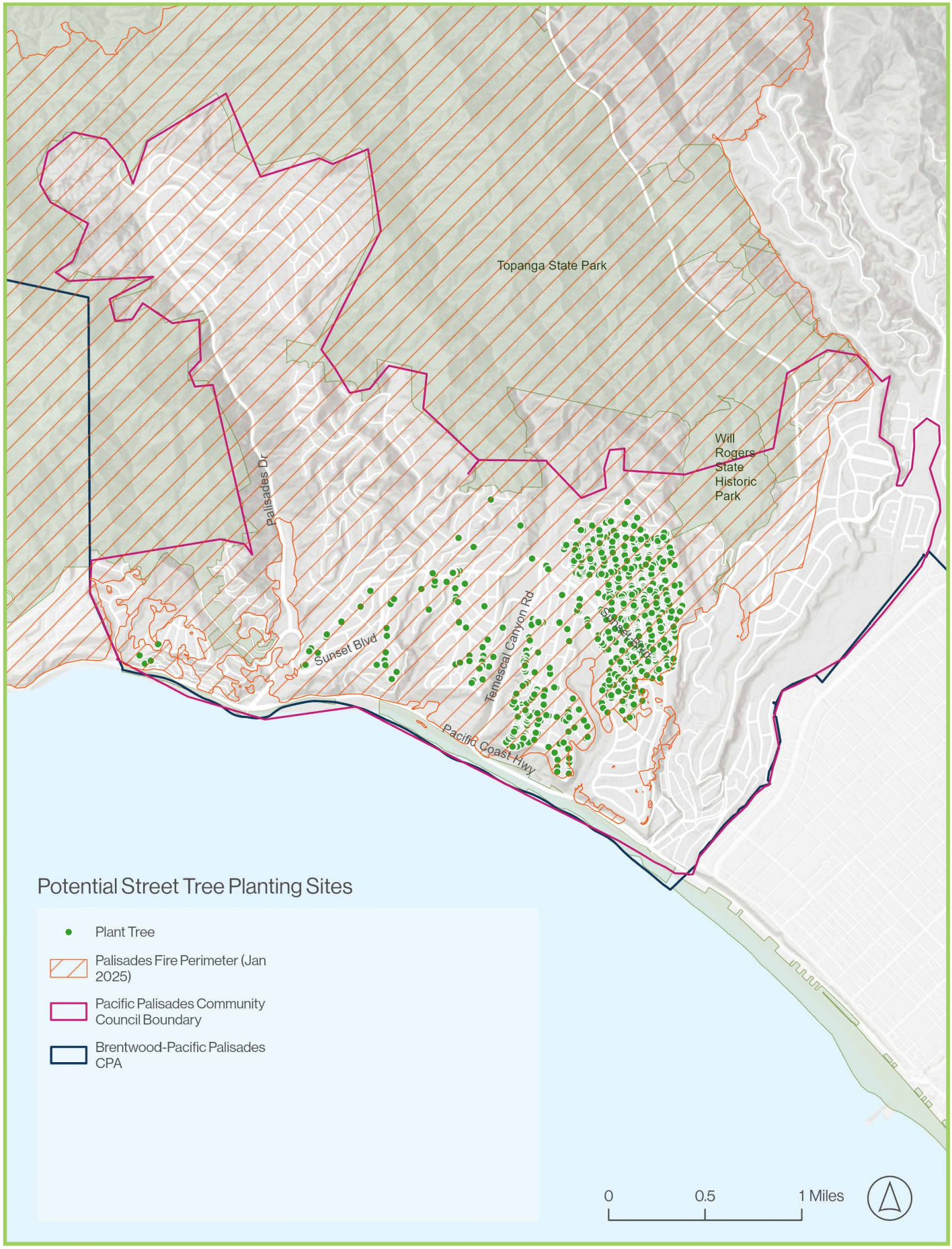
Sources: City of LA; AECOM, 2025

Figure 1.10: Map of trees damaged by fire and slated for monitoring or maintenance



Sources: City of LA; AECOM, 2025

Figure 1.11: Map of potential street tree planting sites



Sources: City of LA; AECOM, 2025

1.5.2. Surface Infrastructure

1.5.2.1. Pre-Fire Vulnerabilities

In canyon-adjacent roads, slope instability was exacerbated by aging infrastructure and the lack of subdrain systems. Surface infrastructure includes curbs, gutters, sidewalks, driveway, curb ramps, street lighting, traffic signals, stormwater infrastructure, utility access points, etc. Due to the advanced age of the paved surfaces, oxidation occurred to the surface of these materials and pavements. Pavement surfaces also experienced "shoving" due to heavy truck traffic and vehicle loads during hot weather conditions.

Street furniture assets have several vulnerabilities that can make them more susceptible to damage during a fire. Corrosion, aging, or material weaknesses specifically components made of aluminum, steel, or fiberglass could reduce their resistance to heat. Electrical issues such as degraded insulation or old components can worsen fire effects but do not directly cause fires on their own. Environmental conditions like vegetation buildup, pollution, or coastal exposure can also weaken the structures over time. Additionally, poor maintenance, damaged access panels, and worn coatings further increase the risk of failure when exposed to fire. Overall, heat exposure becomes more dangerous when the pole's structure or components are already compromised.

1.5.2.2. Post-Fire Impacts

Post-Fire impacts to surface infrastructure in Pacific Palisades could be associated with thermal damage, debris loading, altered drainage patterns, and increased traffic from emergency response and debris removal activities. These impacts affected roadway pavements, curbs, gutters, sidewalks, drainage features within the public right-of-way, and roadside appurtenances, particularly in canyon-adjacent corridors and low-lying areas.

Some specific locations where post-Fire conditions significantly affected surface infrastructure include:

- **Temescal Canyon and Los Leones Canyon:** Increased debris loading and runoff from post-Fire watershed conditions resulted in roadway overtopping, sediment accumulation, and pavement damage at canyon mouths and PCH crossings.
- **Chautauqua Boulevard Corridor:** Undersized culverts and increased sediment delivery following the Fire contributed to drainage-related pavement distress and localized flooding.
- **Via de la Paz and Via de la Olas:** Persistent sediment accumulation and sump conditions continue to degrade pavement surfaces and curb-and-gutter systems.
- **Marinette Road:** Post-Fire hydrologic changes exacerbated groundwater-related moisture intrusion beneath roadways, contributing to pavement deterioration.

Related systems such as debris flow management, stormwater pump stations, and groundwater infrastructure are addressed in their respective sections. Their interaction with surface infrastructure is noted here only to describe how post-Fire conditions affected roadway performance and safety.

Thermal Damage

High temperatures during the Palisades Fire caused significant damage to the street pavement and roadside infrastructure. The Fire's high temperatures caused asphalt to melt or ignite, leading to surface degradation and spalling. Intense heat also caused explosives to spall in concrete pavements, especially where vehicles were abandoned and burned on roadways. Additionally, the effects of the wildfire included the destruction of many guardrails and roadside structures, and destabilized slopes, all increasing the risk of landslides.

Post-Fire Debris Removal

Heavy truck traffic from suppression and emergency vehicles during debris removal significantly accelerated pavement deterioration in Pacific Palisades. The truck activity led to premature fatigue cracking and rutting of the pavement in the area, which reduced the overall lifespan of the pavement. Additionally, the increased axle load from the fire trucks and emergency vehicles contributed to structural fatigue and surface wear, further compromising pavement integrity.

Drainage and Flooding

The post-Fire hydrological changes in Pacific Palisades worsened pavement conditions. Hydrophobic soil and clogged drainage systems have increased the risk of flooding, which further damages pavements through erosion and water infiltration. Burned vegetation and altered soil conditions accelerated surface runoff, intensifying erosion and sediment deposition. Even moderate rainfall triggered debris flows that overwhelmed culverts and drainage systems, leading to pavement failures and hazardous driving conditions. GEER field teams documented melted culverts and destabilized headwalls, particularly in Temescal Canyon and on Bay Club Drive. Roadway overtopping and sediment accumulation became acute hazards, especially along the PCH and canyon mouths.

Street Surface Initial Damage Count

According to a count provided by StreetsLA in October 2025 and a report by BSL in March 2025, the January 2025 Palisades Fire burned vehicles and caused thermal damage to:

- 203 street segments (each approximately 152 SF)
- 203 curbs (each approximately 4.75 CF)
- 203 gutters (each approximately 14.25 CF)
- 42 sidewalks (each approximately 34.7 CF)
- 22 driveways (each approximately 52.8 CF)
- 488 streetlights (BSL, 2025)
- 577 street signs
- 188 street posts

1.6. Natural Infrastructure

Natural infrastructure includes existing ecosystems and the restoration of natural processes to deliver infrastructure functions such as stormwater management, slope stabilization, flood prevention, and water quality improvement. In the context of Pacific Palisades, where steep topography, post-Fire erosion, and landslide risks are significant, natural infrastructure offers sustainable and adaptive solutions that complement engineered systems. This section documents the area's physical setting, vegetation dynamics, and geotechnical conditions, establishing the foundation for nature-based strategies such as revegetation, debris flow mitigation, and habitat restoration. We are framing these efforts under "Natural Infrastructure," to emphasize that restoring and reinforcing ecological processes is not only an environmental goal but also a functional, cost-effective approach to building long-term resilience against wildfire, flood, and climate-related hazards.

Emergency stabilization measures addressing immediate post-Fire natural-infrastructure hazards (Tier 1) have already been implemented following the Palisades Fire, including emergency protective measures identified through WERT and other rapid assessments. As a result, the current status of natural infrastructure recovery in Pacific Palisades is within Tier 2 (medium-term recovery), which focuses on continued hazard monitoring, targeted mitigation, and planning for longer-term restoration and resilience actions.

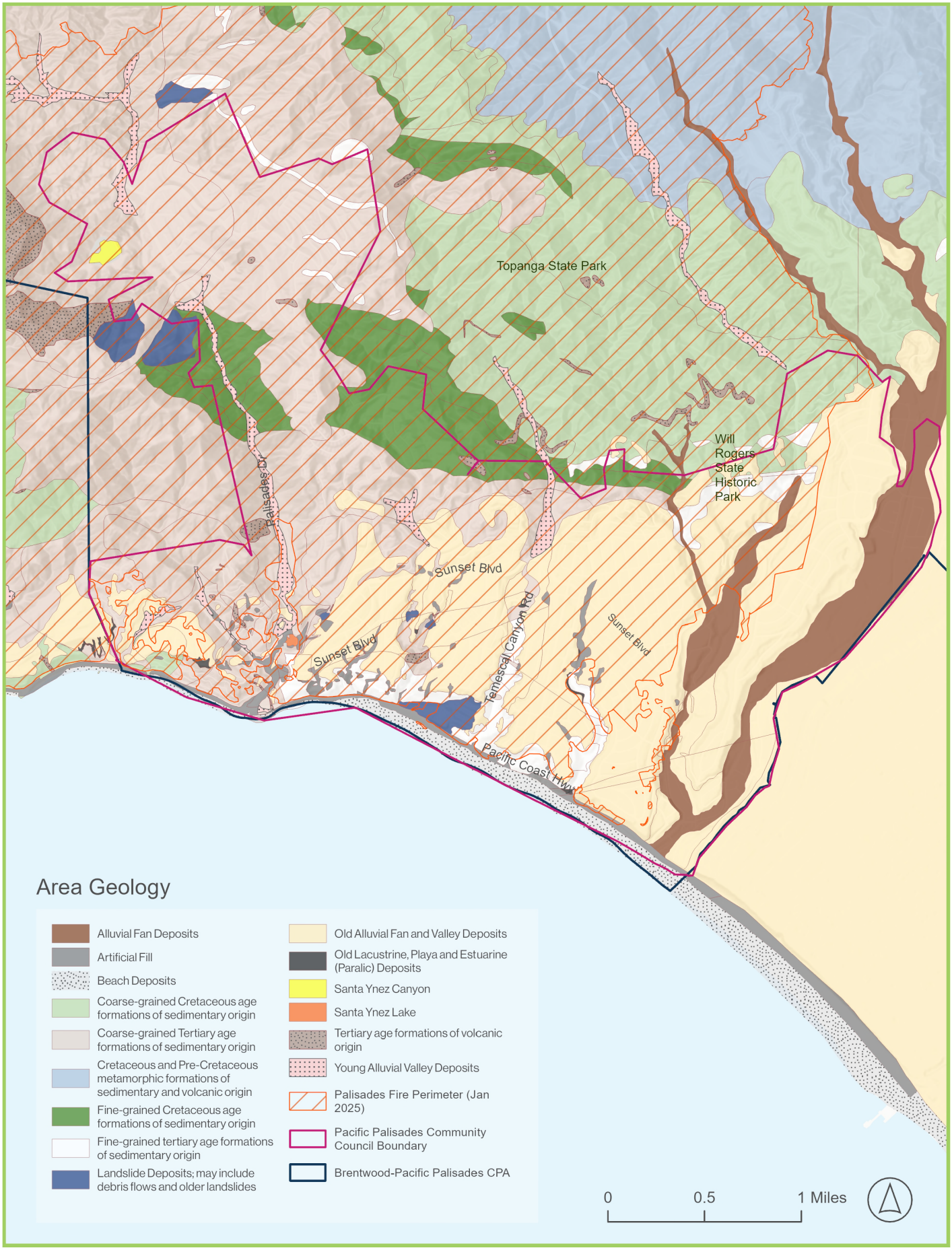
1.6.1. Physical Setting

The Palisades Fire occurred on the southern flanks of the Santa Monica Mountains, an area of steep terrain and complex topography with many canyons and small watersheds that are moderately steep to very steep. As shown in Figure 1.12, the underlying geology is predominantly Cretaceous age to Miocene age sedimentary and volcanic rock, and extensive alluvial fan deposits underlie the developed mesas. Figure 1.12 presents the area geology based on the Geologic Compilation of Quaternary Surficial Deposits in Southern California, Los Angeles 30' x 60' quadrangle (CGS, 2012). The predominate units in the highland areas are granular marine sedimentary rocks with the lower mesa areas underlain by Quaternary alluvium and alluvial fan deposits.

Tectonically the Santa Monica Mountains are an area of active uplift, which in combination with the granular soils results in high rates of erosion and slope instability. Landslides are abundant in the Pacific Palisades area and range from minor surficial failures resulting from soil and rock creep rockfall, soils slips, and debris flows to large, more deeply seated landslides (CAL FIRE and California Department of Conservation, 2025). Figure 1.13 shows mapped historic landslide activity (CGS, 2025) in the Pacific Palisades area with layers added that represent the area's infrastructure.

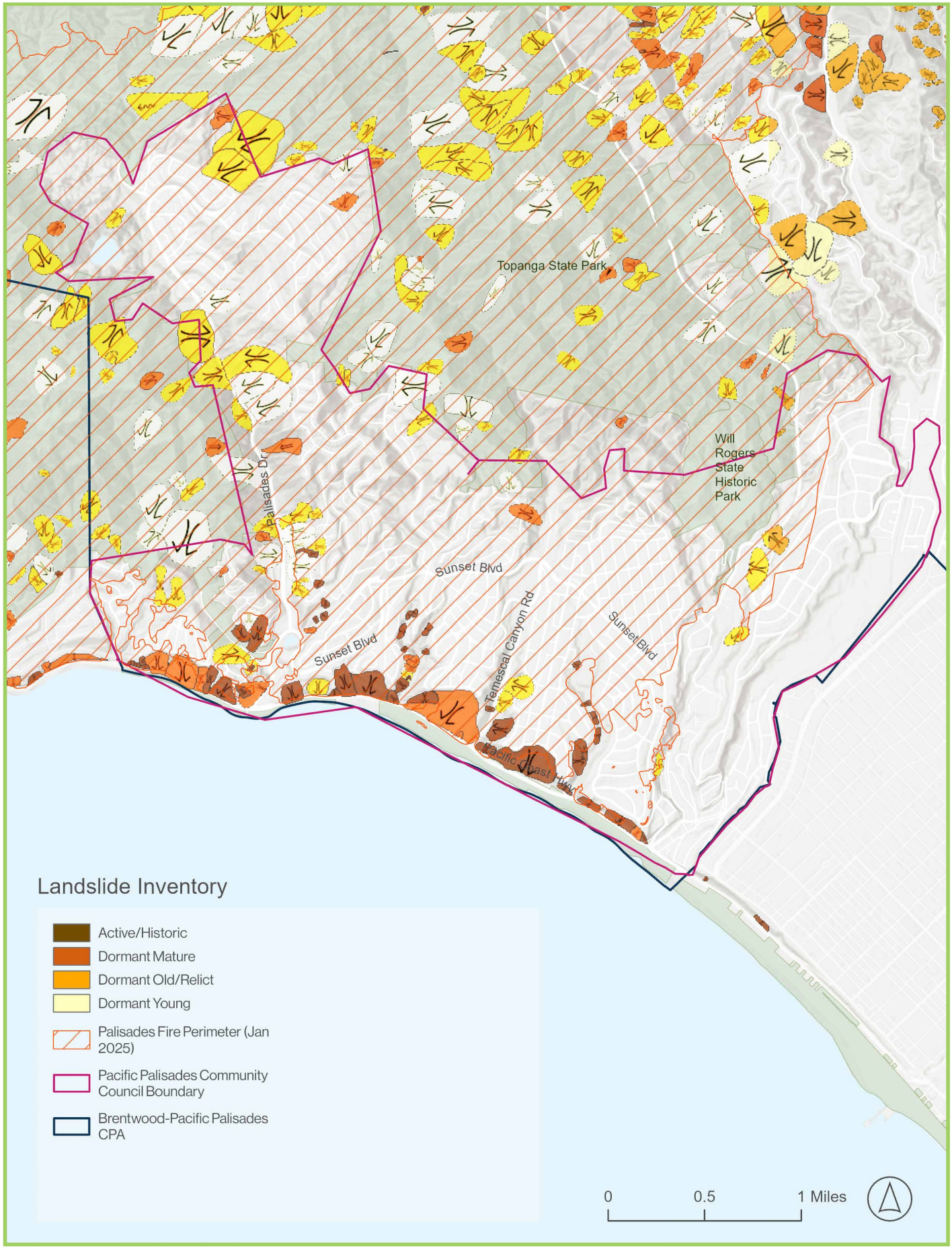
From a vegetation perspective, Pacific Palisades and surrounding areas have experienced repeated disturbances to the vegetation on its slopes from wildfire, invasive plant colonization, slope erosion, and urban edge pressures. Historically, the dominant plant communities were Southern Mixed Chaparral and Ventura Coastal Sage Scrub, both of which provide slope stability, wildlife habitat, and ecosystem services. Following the Fire, these areas are highly vulnerable to colonization by invasive annual grasses such as *Bromus madritensis* (red brome), *Bromus diandrus* (ripgut brome), *Avena spp.* (wild oats), and *Schismus barbatus* (Mediterranean grass). Forbs such as *Brassica nigra* (black mustard), *Hirschfeldia incana* (shortpod mustard), and *Centaurea melitensis* (tocalote) are also pervasive and contribute to dense, flashy fuel loads. The steep topography makes these sites particularly prone to erosion and slope failure after vegetation loss, which amplifies the risk of further erosion from heavy winter rainfall. Stressors identified in previous studies, including drought, nitrogen deposition, shortened fire-return intervals, and high human disturbance, all threaten the natural recovery of the native chaparral (Allen et al., 2018).

Figure 1.12: Pacific Palisades area geology



Sources: City of LA; AECOM, 2025

Figure 1.13: Historic landslide activity landslide inventory map

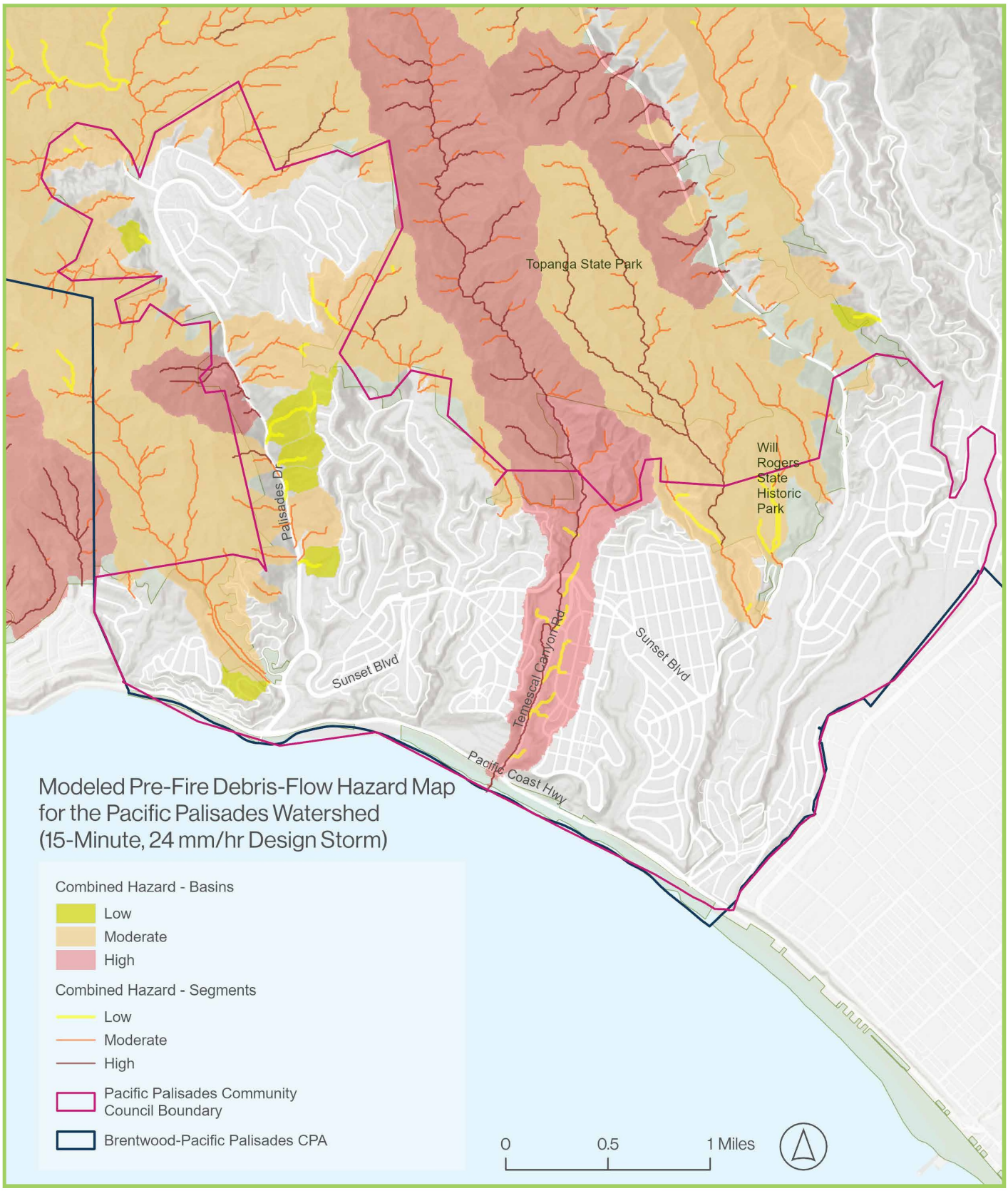


Sources: City of LA; AECOM, 2025

1.6.1.1. Post-Fire Debris Flow Map

The USGS debris flow hazard model (Staley, 2017) is a useful tool for highlighting potential areas of hazard. This model predicts the likelihood and volume of hazard based on a design storm. The model results are combined into an overall ranking scheme that ranges from low to high, based on a 15-minute, 24 mm/hr (0.94 in/hr) intensity storm. This hazard assessment is illustrated in Figure 1.14 with Geographic Information Systems (GIS) layers showing selected infrastructure.

Figure 1.14: Modeled Pre-Fire Debris-Flow Hazard Map for the Pacific Palisades Watershed (15-Minute, 24 mm/hr Design Storm)



Sources: City of LA; AECOM, 2025

1.6.1.2. Post-Fire Slope and Landslide Risks

Evaluations of post-Fire hazards and impacts include the Watershed Emergency Response Team (WERT) Evaluation - 2025 Palisades Fire, published on January 24, 2025. This was a rapid assessment aimed at assisting the community after the wildfire by documenting post-Fire risks posed by debris flows and flood and rockfall hazards. The WERT report assesses post-Fire risks to safety and property, or Values-at-Risk (VARs). The VARs are identified by individual sites with associated hazards and existing improvements potentially affected by the hazards. Assessments of each individual site are summarized and mapped. Related geotechnical hazard categories include rock fall and debris flows. At-risk existing improvements or features include retaining walls, debris barriers, debris basins and culverts, homes, roads, and bridges. Emergency Protective Measures were also provided in the WERT report. In addition, GEER published an analysis of geotechnical and infrastructure impacts in June 2025 following their assessments in the field.

The Palisades Fire burned large portions of coastal sage scrub and chaparral, leaving bare soil and former areas of native vegetation that are now dominated by invasive annual grasses and forbs. The loss of native vegetation has increased erosion hazards on steep slopes, weakened ecological resilience, and elevated future wildfire risk through the accumulation of flashy fuels. See Figure 1.15 through Figure 1.17.

Due to the steepness of the exposed slopes, there are risks associated with erosion, surficial slope failure, debris flow, and exacerbation of existing active landslides. The WERT generated a Soil Burn Severity (SBS) map of the burned area during their initial field assessments. Slopes inside the Palisades Fire perimeter burned at mostly low (31%) and moderate (51%) severity, and WERT's assessment noted that high burn severity occurred in steep canyon headwall slopes.

Figure 1.15: Exposed slope face after the Fire (CAL FIRE, 2025)



Figure 1.16: Exposed slopes above homes in Mandeville Canyon (CAL FIRE, 2025).

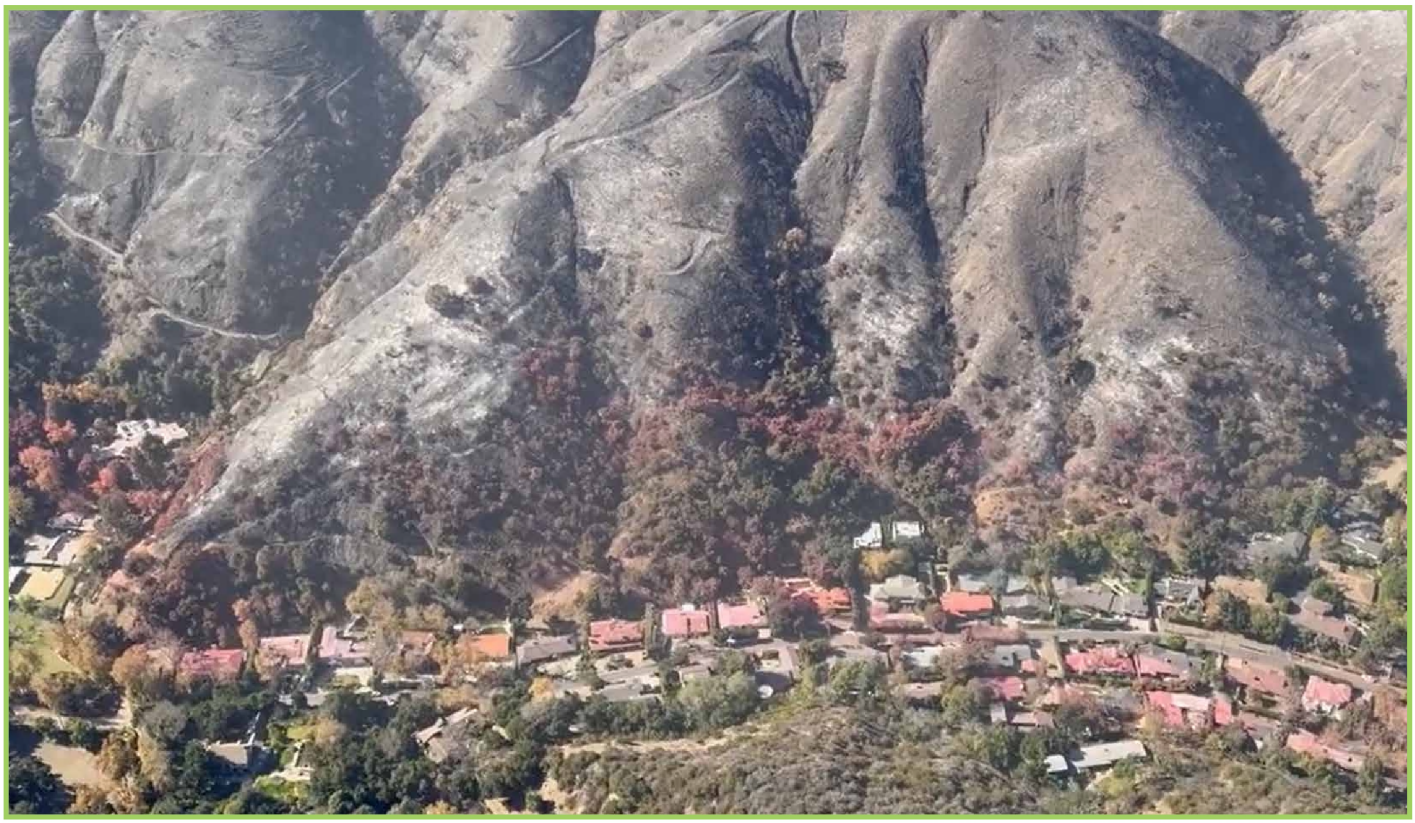


Figure 1.17: Exposed slope above road (note the steepness of the slope) (CAL FIRE, 2025)



1.6.1.3. Hazard Zone Intersections

The areas at greatest post-Fire risk are identified as having an increased debris flow likelihood, as shown in Figure 1.14. This figure presents estimates of the combined debris flow hazard using the USGS debris flow model and the SBS map and considering a 15-minute, 24 mm/hr intensity storm.

Post-rain-event reconnaissance first focuses on areas where infrastructure intersects with hazard zones. Additionally, areas underlain by existing landslides are at risk of localized reactivation of slide movement and are evaluated after rain events for reactivation of ground movement.

To better focus on areas where infrastructure intersects with the hazard zones, a mapbook with the Wet Infrastructure Hazards Index, including four map inserts showing combined debris-flow hazard zones, mapped landslides, and wet-infrastructure layers, is presented in Appendix G.

Emergency Protective Measures were also provided in the WERT report. This kind of assessment should be performed following significant rain events and should include geotechnical specialists.

Additional geotechnical information may be available from the various agencies (BOE, LASAN, LADWP) responsible for impacts to specific infrastructure sites following the Fire and storm events. Debris flow model results are not a site-specific analysis of the debris-flow hazard. Model results are limited and do not show basins less than approximately 5 acres. Furthermore, they do not specifically identify hazards in areas where one or more tributaries may contribute to flood and debris flows. For areas where no hazard is identified along a segment that is associated with a drainage network, a hazard may still be present but not identified because segment model results are limited by the resolution of the digital elevation model (DEM).

1.6.1.4. Multi-Agency and Ownership Interactions for Project Development

The City recognizes that slopes and other natural infrastructure features often cross multiple land ownership boundaries, and that project development for slopes which extend from the Public ROW onto private properties, or which cross multiple Agencies ownership will require coordination and approvals for future projects. Solutions to be implemented are influenced by many operational concerns of the landowners and Agencies Having Jurisdiction, and the precise scope of possible future projects were not considered herein.



2. Regulatory Framework and Land Use

2.1. Regulatory Framework and Land Use

This section outlines the regulatory and land use framework governing recovery and rebuilding in Pacific Palisades. The regulatory and land use framework establishes rules, constraints, and opportunities guiding how post-Fire rebuilding is to align with long-term community resilience, environmental protection, and sustainable growth in Pacific Palisades.

Section 2 summarizes the principal planning documents and legal instruments that shape how reconstruction, infrastructure restoration, and new development are to occur within the burn area. These documents and legal instruments include the Los Angeles General Plan, the Brentwood–Pacific Palisades Community Plan, zoning and specific plan requirements, hillside and coastal regulations, and recent housing legislation such as Senate Bill 9 and ADU provisions. Section 2 also addresses the broader executive orders, interagency coordination requirements, and infrastructure-specific regulations for dry utilities, wet utilities, and streets and natural systems.

2.1.1. General Plan

The Los Angeles General Plan is the City's long-term policy framework for guiding physical development, land use, infrastructure, and community well-being. Required by state law, the General Plan serves as the foundation for all land use decisions within the city. It outlines a vision for how Los Angeles should grow and evolve over time while balancing housing, jobs, transportation, public services, and environmental concerns.

The General Plan consists of multiple mandated elements, such as Land Use, Housing, Conservation, Mobility, Safety, and Noise. The General Plan also includes optional elements such as the Framework Element, which plays a central, integrative role. Adopted in 1996, the Framework Element provides citywide strategies for accommodating future growth. It offers policies related to urban form, housing affordability, transportation, infrastructure, economic development, and public health. The General Plan also addresses equity, environmental justice, and resilience to climate change and natural hazards – issues that have become increasingly important in recent updates and following recent events.

The Land Use Element of the General Plan consists of 34 Community Plans, which provide detailed, neighborhood-specific land use policies including the Brentwood-Pacific Palisades Community Plan, zoning, and mobility guidance. These Community Plans bridge citywide policy with local implementation by tailoring land use designations, densities, and development standards to the unique context of each area. They guide decisions on where new housing, retail operations, offices, parks, and public infrastructure should be located and at what scale. Community Plans are updated periodically to reflect changing demographics, development pressures, and planning priorities, and they play a key role in managing growth, creating new housing, and preserving neighborhood character.

It includes major corridors such as Sunset Boulevard designated as arterial roadways that serve high-capacity regional traffic and connect to neighborhoods and broader city networks. Collector streets distribute traffic from local streets to arterials zones.

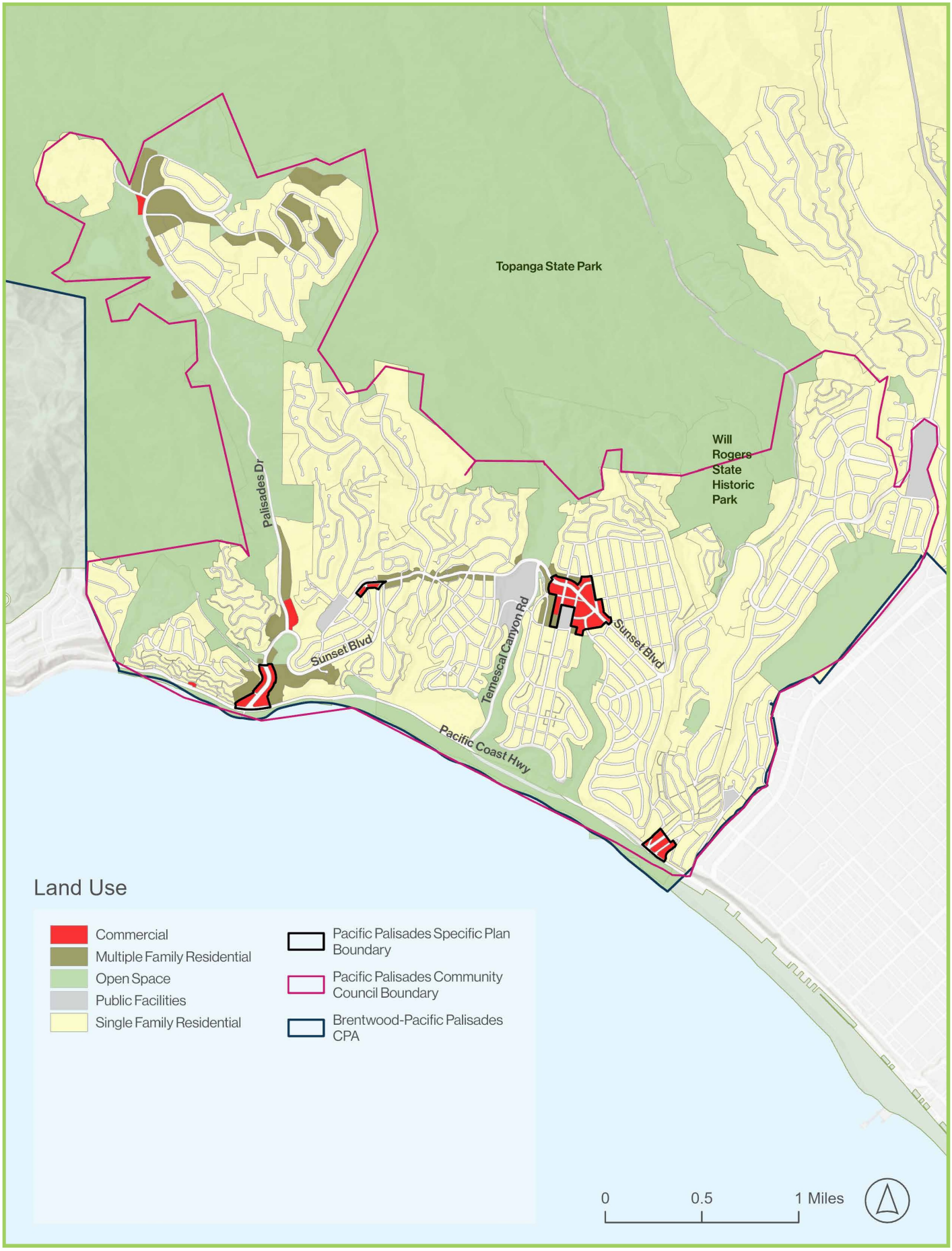
2.1.2. Brentwood-Pacific Palisades Community Plan

Pacific Palisades is located in the area guided by the Brentwood-Pacific Palisades Community Plan, which was last comprehensively updated in 1996. To regulate densities, land uses, and the arrangement of housing, commercial, public, and open spaces, the Brentwood-Pacific Palisades Community Plan combines discussions of goals, objectives, policies, and programs with a detailed land use and infrastructure map.

Pacific Palisades is largely composed of low-density residential areas with some scattered commercial nodes. Key goals of the plan include preserving low-density residential neighborhoods (comprised primarily of single-family homes) while encouraging higher densities and mixed-use development in pedestrian-oriented and transit corridors such as San Vicente Boulevard and Sunset Boulevard. The plan also emphasizes preserving open space (with about 55% of the area dedicated to natural or public open space), protecting the scenic coastal character of the area, improving public facilities and services (libraries, schools, fire/police), enhancing non-motorized transport, and ensuring sufficient infrastructure and parking while guiding transportation circulation and environmental preservation.

See Figure 2.1 for a map of land uses in Pacific Palisades.

Figure 2.1: Map of Pacific Palisades land use



Sources: City of LA; AECOM, 2025.



2.1.3. Zoning Ordinance

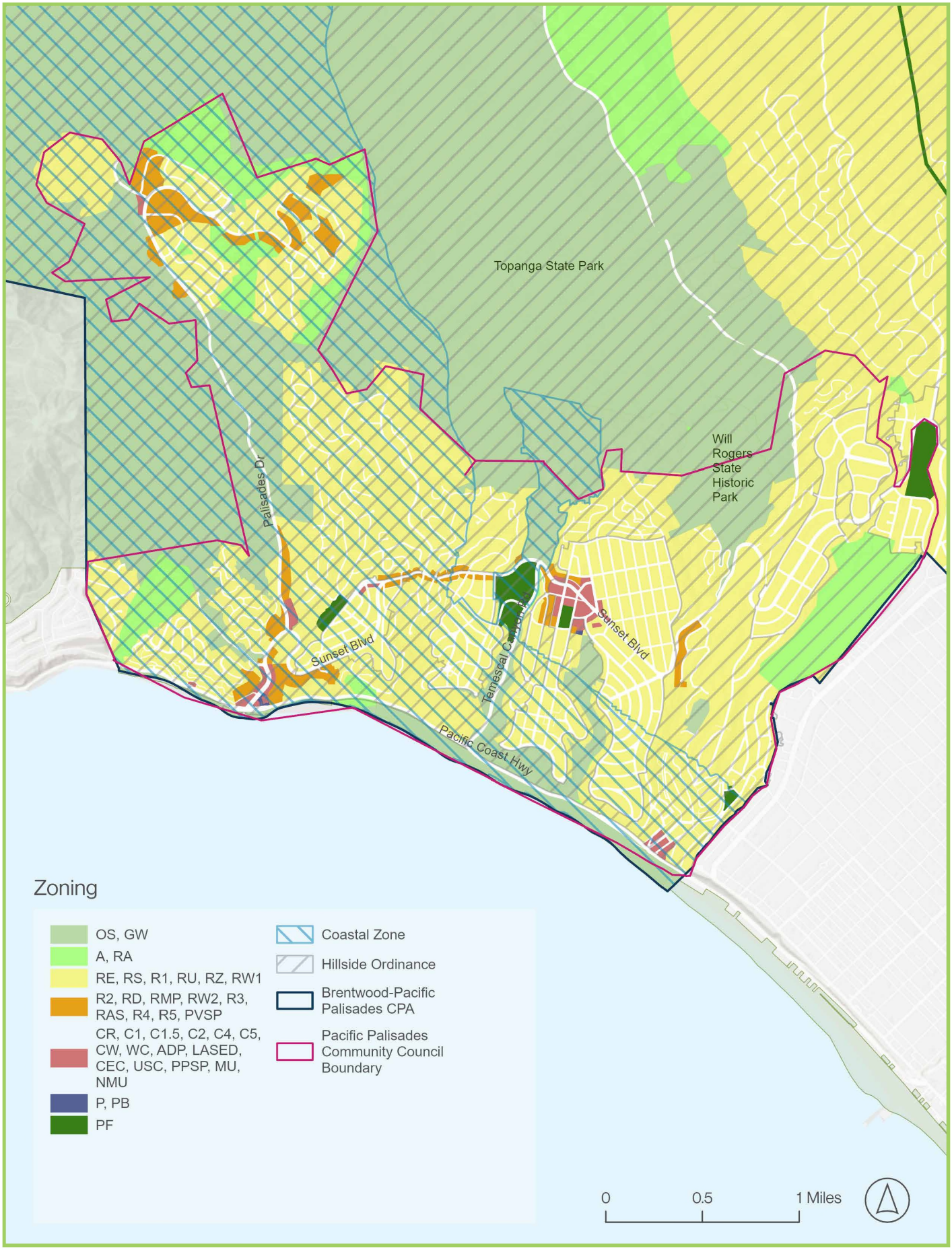
The Zoning Ordinance implements the Los Angeles General Plan and its 34 Community Plans, including the Brentwood-Pacific Palisades Community Plan. The ordinance identifies allowable land uses and provides development standards, height districts, and various other overlays. Zoning in Pacific Palisades includes districts for residential, commercial, public facilities, and recreational or open space. There are no industrial zones in the Pacific Palisades area.

Most of the developed portion of Pacific Palisades is zoned for low-density residential areas, which typically consist of single-family homes. Multi-family residential is present but far more limited. The zoning of these residential areas is defined by different levels of housing unit density (e.g., R1, R2, R3), although there are variants of each that may impose special constraints on floor area ratio, height, lot coverage, and other standards. Figure 2.2 shows the distribution of General Plan zoning classifications across Coastal and Hillside Ordinance Zones.

Pacific Palisades includes pockets of commercials uses, most notably the "Village" area along Sunset Boulevard between Carey Street and Temescal Canyon Road. Commercial areas are largely governed by the Pacific Palisades Commercial Village and Neighborhoods Specific Plan, which is described in Section 2.4.

The City is currently in the process of creating a new Zoning Code that will go into effect in each community when its Community Plan is next updated. While several Community Plan updates are in progress, there is no timeline for an update to the Brentwood-Pacific Palisades Community Plan as of the publication of this report.

Figure 2.2: Map of existing zoning classifications, Hillside Ordinance, and Coastal Zone



Sources: City of LA; AECOM, 2025.

2.1.4. Pacific Palisades Commercial Village and Neighborhoods Specific Plan

The Pacific Palisades Commercial Village and Neighborhoods Specific Plan (Specific Plan), originally adopted in 1985 and most recently amended in 2016, governs development in four key commercial areas within Pacific Palisades: the central commercial village, as well as Marquez, Santa Monica Canyon, and the Sunset/PCH commercial corridors.

The Specific Plan establishes plans for keeping the four key commercial areas vibrant and cohesive while remaining compatible with the surrounding low-density, residential character. The Specific Plan focuses on protecting the aesthetic integrity and pedestrian-friendly nature of the village by implementing guidelines for signage, storefront design, and layout. The plan promotes "orderly, attractive, and harmonious development." It seeks to minimize environmental impacts, stabilize land values, and protect public welfare by regulating incompatible structures or uses. It provides a structured review and approval process for exterior renovations, site design, and signage so that new development aligns with the community's character. The Specific Plan largely focuses on enhancing the visual appeal of the neighborhood and buffering new developments from nearby residences.

2.1.5. Baseline Hillside Ordinance

The citywide Baseline Hillside Ordinance shown in Figure 2.3 is a set of zoning regulations designed to control development in the hillside areas of Los Angeles, which include many parts of the Santa Monica Mountains like Pacific Palisades. First enacted in 1972 and amended over the years, the ordinance aims to address the unique challenges of building on steep slopes, such as soil stability, access for emergency vehicles, drainage, and environmental preservation; defines hillside areas using geographic and slope criteria; and applies more stringent regulations than those found in flatter, more urbanized parts of Los Angeles.

Key provisions of the Baseline Hillside Ordinance regulate grading, building height, lot coverage, and the size of new homes (Residential Floor Area Ratio). The ordinance limits how much land can be excavated or filled, sets minimum street widths and driveway gradients, and requires fire department access for new development. One of the ordinance's most impactful, and controversial, standards is the restriction on the construction of oversized homes – often referred to as "mansionization" – to preserve the character of hillside communities and protect against overdevelopment. For particularly steep slopes, stricter requirements are activated, further limiting the scope and scale of development.

The ordinance plays a crucial role in public safety and environmental protection, helping to reduce landslides and runoff-related erosion. In recent years, Los Angeles has considered strengthening hillside protections even further, particularly in response to worsening wildfires and climate change. Community groups often advocate for tighter controls, while developers and homeowners may seek variances or adjustments. The Baseline Hillside Ordinance reflects an ongoing balancing act between private property rights, sustainable growth, and the preservation of the city's fragile hillside ecosystems.

Figure 2.3: Map of Los Angeles baseline hillside ordinance in Pacific Palisades



Sources: City of LA; AECOM, 2025.

2.1.6. Coastal Zone

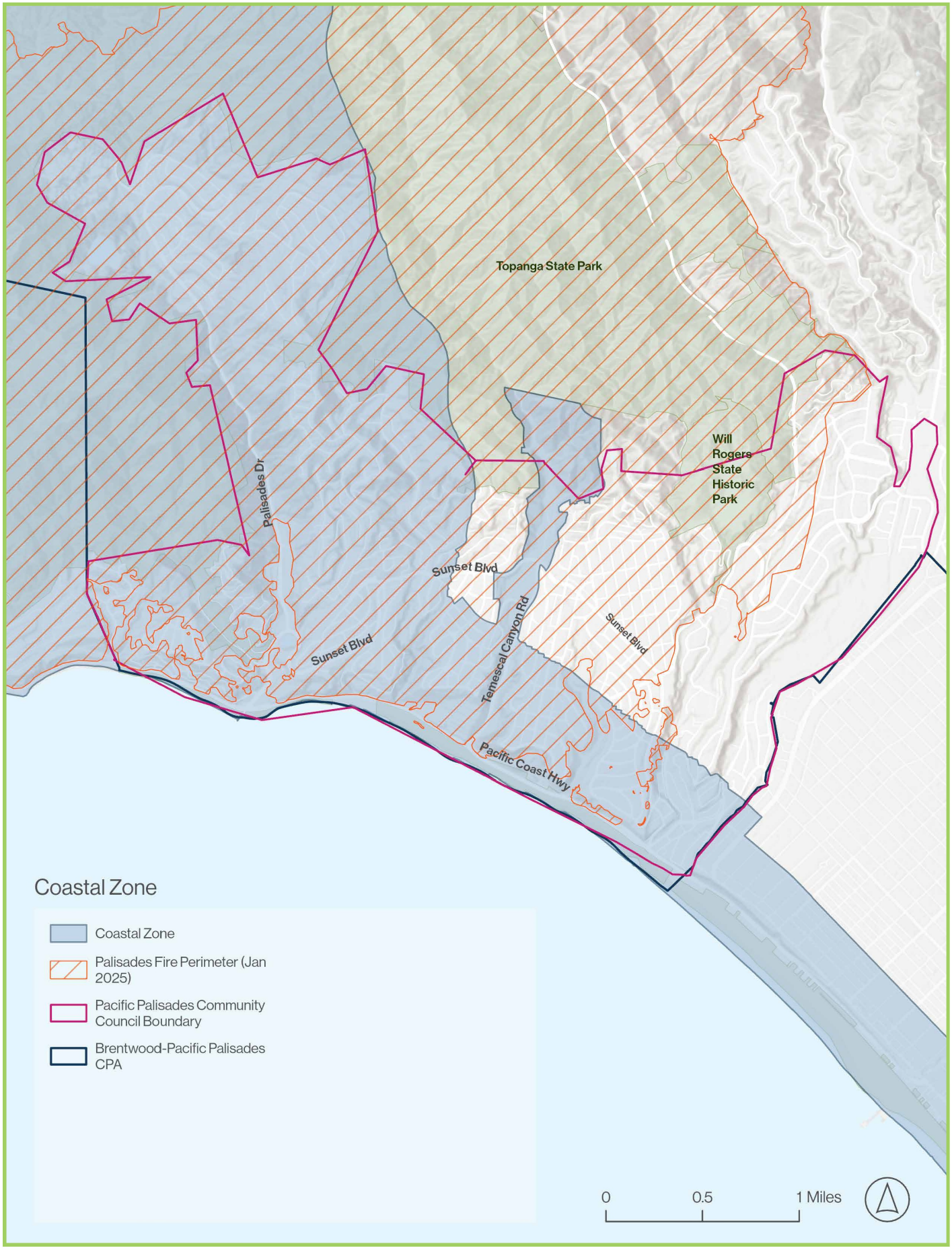
The California Coastal Act (Act) is a landmark environmental law enacted in 1976 to protect, conserve, and manage the state's coastal resources. It was established in response to increasing public concern over unchecked development and limited access to California's coastlines. The Act created the California Coastal Commission (Commission), a powerful state agency responsible for regulating land use and development within the Coastal Zone. Its primary goals include preserving public access to the shoreline, protecting natural habitats, safeguarding scenic beauty, managing coastal hazards like erosion and sea level rise, and ensuring environmentally responsible development.

The Coastal Zone shown in Figure 2.4 is a legally defined area that stretches along the California coastline and typically extends inland several hundred yards. However, in some areas, the Coastal Zone can reach several miles, especially where there are significant coastal resources such as wetlands, estuaries, or watersheds. The zone also includes offshore waters extending up to 3 miles out into the Pacific Ocean. The exact inland boundary varies, based on geography and local conditions, and is specifically mapped and regulated for each county and city along the coast.

Within the Coastal Zone, most development projects require a Coastal Development Permit (CDP) from either the California Coastal Commission or a local government that has adopted a Local Coastal Program (LCP) certified by the Commission. These permits aim to confirm that proposed activities—whether residential construction, commercial projects, or environmental restoration—align with the Coastal Act's policies. The Act prioritizes public coastal access, low-cost visitor accommodations, and environmental sustainability over private interests.



Figure 2.4: Map of the California Coastal Zone in Pacific Palisades



Sources: City of LA; AECOM, 2025.

2.1.7. CAL FIRE Fire Hazard Severity Zones

In California, the responsibility for fire protection is divided among the federal, state, and local entities. The California Department of Forestry and Fire Protection (CAL FIRE) is a hazard response team that serves and protects the people, property, and resources of California (State of California, 2025a). CAL FIRE responds to daily emergencies, including wildfires, and serves in 36 out of 58 of the state's counties and protects over 31 million acres of wildlands. In addition to response, CAL FIRE oversees vegetation management programs, enforces fire-safe building standards, and designates Fire Hazard Severity Zones (FHSZs) to identify areas that are most likely to experience wildfires over the next 30 to 50 years using a science-based model. Areas that fall under the State's purview are called State Responsibility Areas (SRAs) and areas that fall under a local jurisdiction's purview are called Local Responsibility Areas (LRAs). Both SRAs and LRAs are subject to the same requirements for hardening and defensible space. The last LRA map update was in March 2025 and the latest SRA update was in April 2024 (CAL FIRE, 2025a).

FHSZ designations are based on environmental and historical factors that include but are not limited to the following:

- **Vegetation type and density:** Fine fuels such as grasses, needles, and leaves ignite quickly and burn rapidly, while heavier fuels such as tree branches and logs take longer to ignite but can sustain fire for longer periods. Fuel type is the main determinant of flame length, rate of spread, and ember production, which can lead to spot fires ahead of the main blaze.
- **Slope and terrain:** Steeper slopes increase the rate of spread; fire moves faster uphill because it preheats fuels ahead of the main blaze. Barriers such as roads, rivers, and lakes can stop, or slow fire spread while canyons and valleys can channel wind and intensify fire behavior.
- **Fire history, typical fire weather, and wind patterns:** Areas with frequent fires may have less fuel accumulation. High temperatures, low humidity, and dry conditions all increase fire risk. Wind patterns determine oxygen delivery and can drive fire spread.

Wildland fire protection in California is a shared responsibility among state, local, and federal agencies, each overseeing different jurisdictions based on land use, ownership, and population density. In the County, this division is reflected in the designation of SRAs and LRAs. SRAs are managed by CAL FIRE and include rural, unincorporated lands, state parks, and forested areas and cover large portions of the Angeles National Forest and Santa Monica Mountains. LRAs are managed by local governments and include incorporated cities and suburban areas. Pacific Palisades is in an LRA that is designated as a Very High Fire Hazard Severity Zone (VHFHSZ). The City and LAFD are responsible for implementing fire safety regulations in the LRA.

In March 2025, CAL FIRE released updated FHSZ maps for SRAs and LRAs. Under California Government Code (CGC) § 51179, cities are required to adopt these maps by ordinance within 120 days of release and enforce building and vegetation management standards for properties within VHFHSZs (CGC § 51179, 2025). A person who owns, leases, controls, operates, or maintains an occupied structure within a VHFHSZ must ensure the following:

- New buildings use ignition-resistant construction materials including fire-resistant roofing and siding and non-combustible decks and fences per California Building Code Chapter 7A (State of California, 2023)
- Must maintain defensible space up to 100 feet from all sides of your structure (front, back, and sides)
- No combustible materials within 5 feet of properties and on roofs and in gutters (CGC § 51182, 2025)

2.1.8. Senate Bill 9

Senate Bill 9 (SB 9) is a recent change to state law which increases development capacity on single-family zoned properties through broader allowances of ADUs and lot splits. Additional requirements apply for SB 9 projects in VHFHSZ in Los Angeles. Los Angeles City Planning (LACP) guidance for SB 9 indicates that projects in VHFHSZs may be permitted if the criteria in Government Code Section 65913.4 is met including specific fire mitigation measures such as defensible space requirements and regulations related to road standards, water supply, fuel breaks, and greenbelts (Public Resources Code Sections 4291, 51182, and 4290).

In July 2025, Governor Newsom's Executive Order N-32-25, followed by Mayor Karen Bass' Executive Order 9, exempted the Palisades Fire burn area from SB 9 requirements, but the exception will only remain in place during the state of emergency declaration period.

2.1.9. Accessory Dwelling Units

Accessory Dwelling Units (ADUs), including ADUs, Junior ADUs (JADUs), and Manufactured Tiered Homes, can be built in any area in Los Angeles that allows residential use. ADUs must follow all applicable zoning, building, and residential codes. ADUs can also be combined with primary units for SB 9 projects. ADUs are permitted in VHFHSZ and hillside areas if they meet requirements related to parking spaces, sprinkler systems, and road width (Los Angeles Municipal Code Section 12.22 33 Exceptions). Within the Coastal Zone, the California Coastal Act applies, and thus a Coastal Development Permit (CDP) is required. However, public hearings, normally a part of a CDP application, are not required for ADU/JADU applications (City of Los Angeles, n.d.-b). City of Los Angeles Executive Orders issued following the Fire include guidance for ADUs. Attached or detached ADUs may be a part of a project that is eligible under either of these Executive Orders.



2.2. Other Regulations and Codes Affecting Development

This section presents the most relevant executive orders issued after the Fire, the key agencies with jurisdiction or regulatory authority over specific areas or operations in the Pacific Palisades area, and the regulations and codes governing dry utilities, wet utilities, streets, and natural infrastructure in the neighborhood.

2.2.1. Relevant Executive Orders

Los Angeles Mayor Karen Bass has issued nine Emergency Executive Orders in response to the January 2025 wildfires and related recovery efforts. Emergency Executive Orders No. 1, No. 2, No. 5, and No. 9 are the orders that are most applicable to the infrastructure and objectives discussed in this IRP, and these four orders by the Mayor are summarized in Table 2.1. Executive Order N-18-25 and N-24-25, issued by Governor Gavin Newsom, are also included in Table 2.1.

Table 2.1: Summary of Relevant Executive Orders Issued Post-Wildfire

Executive Order	Goal	Key Actions
Emergency Executive Order No. 1 - Return and Rebuild (City of Los Angeles, 2025a).	Provide a streamlined, rapid pathway for the rebuilding and recovery of communities.	■ Start cleanup efforts: debris removal, watershed hazards mitigation ■ Establish One-Stop Rebuilding Center ■ Establish Department Strike Force ■ Review rules for eligible projects and general rebuilding and reconstruction rules ■ Pause permit and entitlement deadlines for 3 years ■ Provide easier access to building plans ■ Make allowance for modular structures/mobile homes on affected properties ■ Expedite temporary certificates of occupancy for multi-family residential projects near completion
Emergency Executive Order No. 2 - Watershed Protection (City of Los Angeles, 2025b).	Protect waterways, beaches, and infrastructure of Los Angeles from post-Fire debris, erosion, and toxic runoff.	■ Implement temporary erosion and debris-flow controls ■ Remove vegetation and sediment from debris basins ■ Restore the use of Low Flow Diversion pump stations ■ Identify opportunities for soil stabilization on private properties ■ Seal damaged sewer laterals ■ Coordinate street sweeping and hazardous debris removal ■ Encourage residents not to wash cars and driveways to prevent runoff

Executive Order	Goal	Key Actions
Emergency Executive Order No. 5 - Return and Rebuild (City of Los Angeles, 2025c).	Establish a citywide framework for resilient, sustainable, and cost-effective rebuilding that strengthens homes, infrastructure, and public spaces against future climate and wildfire risks.	■ Fast-track resilient rebuild permitting ■ Promote wildfire prevention and fire-resistant construction ■ Ensure infrastructure resilience ■ Ensure resilient public facilities ■ Ensure water system resilience ■ Ensure flood and landslide protection ■ Foster wildfire disaster preparedness ■ Align planning with the City's Local Hazard Mitigation Plan, Climate Vulnerability Assessment, General Plan, Fire Code and LADWP's Wildfire Mitigation Plan, and the Los Angeles Resilience Plan ■ Enhance community resilience ■ Establish resilient rebuild advisory committee ■ Establish framework ensuring resilient homes
Executive Order No. 9 – Local Prohibition on SB 9 in Burn Areas (City of Los Angeles, 2025d).	Declare the City's review process for urban lot splits and two-unit developments in the Palisades Fire Very High Fire Hazard Severity Zone	■ City prohibits the acceptance or processing of any applications under Government Code 65852.21 or 66411.7 for any project within a Very High Fire Hazard Severity Zone in the fire boundaries ■ Exception: Projects whose complete plan-check application was accepted before the Governor's Executive Order N-32-25 remain unaffected by this prohibition
Executive Order N-18-25 (Executive Department State of California, 2025).	Strengthen statewide wildfire resilience by hardening homes against embers, improving public access to fire-risk information, and modernizing emergency response systems.	■ Require the creation of an ember-resistant zone within 0 to 5 feet of a home (Zone 0 regulations) ■ State Fire Marshall should make Fire Hazard Severity Zone maps for Local Responsibility Areas (LRA) available to the public ■ CAL FIRE and Cal OES must work with local, tribal, and federal partners and FIRESCOPE to review and modernize the Interagency Resource Ordering Capability (IROC) system to ensure more efficient mutual-aid resource deployment
Executive Order N-24-25 (Executive Department State of California, 2025)	Facilitate the rebuilding of damaged or destroyed infrastructure by suspending CEQA and CCA requirements for electric, gas, water, sewer, and telecommunications infrastructure projects.	■ Suspend CEQA and CCA requirements for: Suspend CEQA and CCA requirements for: • Damaged or destroyed electric and telecommunications infrastructure • Electric, gas, water, sewer, or telecommunications projects adjacent to damaged or destroyed infrastructure • Other underground electric, gas, water, sewer, or telecommunications projects that can be undertaken at the same time as/at the same site as these repairs

2.2.2. Interagency Interactions

The area of Pacific Palisades lies within the general jurisdiction of the City of Los Angeles and is a part of Council District 11. The area is bordered to the south by the independent city of Santa Monica, and to the west/northwest by an unincorporated area of Los Angeles County.

Regulatory authority for the neighborhood is primarily vested in the City of Los Angeles, but several other agencies have jurisdiction over specific areas or operations. These include:

- Los Angeles County – Board of Supervisors District 3
  - County services include Public Health (including permitting for septic systems and wells), Superior Court, and vector control.
- LA County Flood Control District
  - Responsibility for major storm drain systems.
- State of California, Department of Transportation (Caltrans)
  - Responsibility for maintenance and operation of state highways, including California State Highway 1/ PCH, which crosses the neighborhood at the southwestern edge.
- State of California, State Parks Department
  - Responsibility for maintenance and operation of State Parks, including the several state beaches, state historic parks, and other non-highway state lands within the neighborhood.
- Los Angeles Unified School District (LAUSD)
  - Responsibility for the operation and maintenance of public schools in and serving the neighborhood.

In addition to these agencies, which provide direct local services and have a jurisdictional role, several other State and Federal agencies have regulatory authority over development in Pacific Palisades. These include the California Coastal Commission, the California Public Utilities Commission (CPUC), the California State Department of Fish and Wildlife, the U.S Fish and Wildlife Service, and the U.S. Army Corps of Engineers.

2.2.3. Dry Utilities

Electric utilities and undergrounding are governed by CPUC Rule 20, CPUC General Order 128, CPUC General Order 95, California Proposition 218, and local formation rules for Utility Undergrounding Assessment Districts (UUADs), as described in the following sections.

CPUC Rule 20

Rule 20 specifies and governs certain types of overhead-to-underground conversion projects. It defines Rule 20A/20B/20C project types, eligibility criteria, and the allocation of ratepayer funding. Most municipality-driven undergrounding falls either under Rule 20A or 20B. When a municipality proposes to fund the project, Rule 20A governs; otherwise, Rule 20B governs.

The three subprograms under Rule 20 are summarized as follows:

- **Rule 20A –** A subprogram for community public interest projects funded primarily by electric ratepayers (credits allocated to jurisdictions). Rule 20A is typically used for scenic and public interest projects and requires these overhead to underground conversion projects to be nominated by local governments.
- **Rule 20B –** A cost-sharing subprogram in which a portion of the project cost is borne by ratepayers (a percentage) and the remainder by the requesting local agency or property owners.
- **Rule 20C –** A subprogram for overhead to underground conversion projects where the requesting party pays most or all costs (de minimis or private projects). Rule 20C projects are usually small in size and result from local codes that require projects involving the construction of new buildings to incorporate undergrounding around the new buildings. Rule 20C projects may also be projects in which a property owner elects to self-fund the undergrounding around new construction.

CPUC General Order (GO 128)

GO 128 establishes statewide technical and construction standards, inspection, and filing requirements for underground electric supply and communication systems (safety, conduit, manholes, clearances, and joint construction standards, among others). Utilities and contractors must design and construct to GO 128 standards and file required documentation. The CPUC's safety branch enforces compliance.

Any undergrounding design, specification, and construction, including utility relocations and inter-utility coordination that LADWP might propose, must follow GO 128 technical rules and may require CPUC oversight or filings before construction. This rule also governs telecommunications suppliers.

CPUC General Order 95 (GO 95)

GO 95 defines safety and construction requirements for overhead electric and communication lines in California. It establishes standards for design, construction, maintenance, and clearances that are critical to public safety and wildfire prevention. The regulation outlines minimum separation distances between conductors, structures, vegetation, and the public, and sets requirements for pole loading, strength, and inspection cycles. GO 95 also governs how utilities must build and maintain infrastructure to withstand weather, reduce ignition risks, and provide reliable service. Utilities must comply with these rules in both new construction and ongoing maintenance activities.

California Proposition 218

Proposition 218 outlines requirements for assessments, engineering reports, notices, and balloting for the establishment of a Utility Undergrounding Assessment District (UUAD), a local government administered district that spreads the non-ratepayer portion of undergrounding costs across the parcels that will benefit from the conversion. Many municipalities use the UUAD process to develop overhead to underground conversion projects under Rule 20. This process generally takes several years, beginning when the property owner petitions or solicits the undergrounding, and concludes with construction.

Local Formation Rules for Utility Undergrounding Assessment Districts

Local formation rules are implemented by cities and counties in accordance with California assessment law and Proposition 218. They require an engineer's report, mailed notices and ballots, a public hearing, and weighted approval by affected property owners. Projects typically involve coordination between the local government and the electric utility (and its Rule 20 application/credits), and compliance with GO 128 technical requirements. Financing typically is a mix of Rule 20 credits, local assessments, and property owner contributions.

2.2.4. Wet Utilities

Table 2.2 is a summary of the key codes and standards that govern wet utilities in California and that specifically address fire flow, seismic resilience, and water quality.

Table 2.2: Fire, Seismic, and Water Quality Codes Governing Wet Utilities

Code	Agency
Los Angeles Municipal Code (LAMC) Article 4 – Sewers, Water Courses and Drains Article 4.5 – Stormwater and Urban Runoff Pollution Control Article 7 – Fire Protection and Prevention (Fire Code)	City of Los Angeles
CA Water Code § 10632.5	California State Legislature
California Code of Regulations Titles 17 & 22 (California Regulations Related to Drinking Water)	California State Water Resources Control Board & Division of Drinking Water
California Health & Safety Code §116555	California State Legislature, enforced by California State Water Resources Control Board & Division of Drinking Water
General Order for Sanitary Sewer Systems	California State Water Resources Control Board
Porter-Cologne Water Quality Control Act	California State Water Resources Control Board
Los Angeles County Code, Title 11 – Health and Safety	Los Angeles County Department of Public Health

2.2.4.1. Fire Flow Codes

Article 7 of the Los Angeles Municipal Code constitutes the "Los Angeles Fire Code" (Fire Code). It adopts portions of the 2022 California Fire Code (CFC) and the 2021 International Fire Code (IFC), with exceptions, modifications and additions as noted throughout the code. Further, requirements for water systems with respect to fire protection are defined in Section 57.507 – Fire Protection Water Supplies.

Section 57.507.3 – Fire-Flow, includes fire flow requirements based on the type of land development, or as otherwise determined by the Chief. Section 57.507.3 – Fire-Flow, adopts Section 507 of the CFC in its entirety, with exceptions, modification and additions. This section includes fire flow requirements based on the type of land development, or as otherwise determined by the Chief. Table 2.3 shows fire-flow requirements for various types of development ranging from 2,000 GPM for low-density residential to up to 12,000 GPM for high-density industrial and commercial zones (City of Los Angeles, 2025e).

Table 2.3: Fire-Flow by Type of Land Development

Type of Land Development	Fire-Flow in Gallons per Minute
Low-Density Residential	2,000 GPM from three adjacent fire hydrants flowing simultaneously
High-Density Residential and Neighborhood Commercial	4,000 GPM from four adjacent fire hydrants flowing simultaneously
Industrial and Commercial	6,000 to 9,000 GPM from four to six fire hydrants flowing simultaneously
High-Density Industrial and Commercial (Principal Business Districts or Centers)	12,000 GPM available to any block (where local conditions indicate that consideration must be given to simultaneous fires, an additional 2,000 to 8,000 GPM will be required)

Source: City of Los Angeles, 2025f

In addition to flow requirements, the Fire Code also establishes the required water storage for firefighting. An analysis by LADWP indicates that the Marquez Knolls, Trailer, and Temescal Tanks water storage tanks not only meet but exceed these storage requirements (LADWP, 2025d).

The actual capacity, required storage capacity, and excess capacity of each tank is shown in Table 2.4. Regulatory storage is the amount needed for regular usage by customers in the area; fire-flow storage is the amount needed for use in a fire, which is set by the Fire Code; and emergency storage is the amount needed for fire-flow plus a sufficient excess amount to account for emergencies. All tanks exceeded their minimum requirements by the values shown in the rightmost column (LADWP, 2025d).

Table 2.4: Summary of the Capacity of the Marquez Knolls, Trailer, and Temescal Water Storage Tanks

Tank	Actual Capacity	Required Storage Capacity				Excess Capacity
		Regulatory	Fire-Flow (Per Fire Code)	Excess for Emergency	Total	
Marquez Knolls	1,018,502	78,000	480,000	60,000	618,000	400,502
Trailer	972,118	163,000	480,000	60,000	703,000	269,118
Temescal	972,118	63,000	480,000	60,000	603,000	369,118

Note: All capacities are shown in gallons (gal)
Source: LADWP, 2025b

2.2.4.2. Seismic Resilience Codes

In seismically vulnerable areas like Pacific Palisades, seismic planning is very important to infrastructure resilience. For water systems, California Water Code Section 10632.5 mandates that, beginning January 1, 2020, urban water management plans must include a seismic risk assessment and mitigation strategy. This promotes suppliers evaluating vulnerabilities across their water system facilities and mitigating those vulnerabilities. The code also states that they should update their plans accordingly when changes are made to the urban water management plan (California State Legislature, 2016).

2.2.4.3. California State Water Resources Control Board Codes

The California Code of Regulations Titles 17 and 22 (California Regulations Related to Drinking Water) establish the regulatory framework for the design, operation, and protection of potable water systems, with direct relevance to wet utility infrastructure. These regulations define standards for pipeline materials and construction practices, as well as minimum separation distances between potable mains and adjacent wastewater or stormwater conveyances. They require the implementation of cross-connection control programs supported by approved backflow prevention devices, and mandate disinfection of new or repaired pipelines and storage facilities prior to service. Operational requirements address system pressure maintenance, comprehensive water quality monitoring, and compliance with established contaminant limits. The regulations further obligate utilities to provide public notification in the event of water quality violations or contamination risks. While centered on potable and drinking water, these regulations also protect against contamination from wastewater and stormwater systems through separation, pressure, and backflow controls, making them core regulations for wet utility infrastructure coordination (California SWRCB and Division of Drinking Water, 2017).

California Health and Safety Code Section 116555 establishes key operational requirements for public water systems. It requires system owners to comply with all drinking water standards, maintain protection against backflow, and promote the delivery of a safe and reliable potable water supply. The code also states that only state-certified operators, at the appropriate grade level, may oversee treatment and distribution facilities. For community and non-transient noncommunity systems, per California Code, HSC 116555, 2017, certified operators must provide direct supervision of both treatment and distribution operations.

The General Order for Sanitary Sewer Systems establishes statewide waste discharge requirements for sanitary sewer systems to reduce sanitary sewer overflows and protect water quality. Under this order, all public agencies that own or operate sewer systems must develop and maintain a certified Sewer System Management Plan (SSMP). The order prohibits discharges of untreated sewage, requires systems to maintain adequate capacity for both dry- and wet-weather flows, and mandates a Spill Emergency Response Plan to guide immediate cleanup, public health protection, and reporting. It sets detailed notification and reporting procedures, including categorization of spills into four severity levels and the submittal of data through the California Integrated Water Quality System (CIWQS). Additional requirements include submission of geospatial service area maps, designation of a legally responsible official for certification, and strict timelines for compliance (California SWRCB, 2023).

The Porter-Cologne Water Quality Control Act authorizes the State and Regional Water Boards to regulate all waters of the state, including potable sources, wastewater discharges, and stormwater runoff. It requires dischargers obtain Waste Discharge Requirements, mandates basin plans with water quality objectives, and provides enforcement tools such as cleanup orders and penalties to protect water quality across all wet utilities (California SWRCB, 2008).

2.2.5. Street Trees and Surface Infrastructure

2.2.5.1. Street Trees

Street trees are regulated by UFD within StreetsLA. UFD also has some jurisdiction over protected[1] species on private property. A variety of regulations apply to street trees including parkway landscaping guidelines, regulated by StreetsLA's landscape architects, required permitting for parkway plantings, and tree spacing guidelines which govern how far street trees must be from other infrastructure, including utilities. Spacing between trees varies from 25 to 40 feet. See Table 2.5 for required spacing between trees and utilities.

There are two tree ordinances applicable to street trees. LAMC 62.169-62.178 applies to all trees in the public right-of-way in the City and outlines requirements and regulations for permits for planting and removing street trees, and laws relating to injuring street trees, tree maintenance, and street tree inspection clearances. This code is intended to protect existing street trees

1 Although all street trees are protected, a specific set of Southern California indigenous tree and shrub species are subject to additional regulations as per LAMC 46.00 (Protected Tree and Shrub Regulations) which applies to both trees in the public right-of-way and on private property.

and prevent their removal without required approval. The second ordinance, Protected Tree and Shrub Regulations (LAMC 46.00) applies specifically to a particular set of Southern California indigenous tree and shrub species. This ordinance applies both to trees in the public right-of-way and on private property.

There are a variety of permits that apply to parkway plantings, including street trees. In some cases, street tree permitting is encompassed by a broader construction or right-of-way improvement permit (StreetsLA, 2023). When it comes to species selection, StreetsLA provides a street tree selection guide for trees that may be approved for planting in the public right-of-way (BSS, n.d.-a). However, plans for tree planting, including species selection, must go through a permitting and approval process. The City requires that new tree plantings are a minimum 15-gallon size, installed with two untreated ten foot "lodgepole" wooden stakes, trees secured with specific standards (Plan S-663-1) and linear root control barriers may be required (Plan S-456-2) (StreetsLA, n.d.). To remove a street tree, a permit is required. For street trees, a 2:1 replacement is required while for trees included in the Protected Tree and Shrub Regulations ordinance, 4:1 replacement is required as per LAMC 46.02. In-lieu fees can be applied if a tree cannot be planted on site as per LAMC Section 62.177.

The existing permitting processes and regulations have been impacted by 2025 City of Los Angeles Emergency Executive Orders which waive specific requirements for rebuild plans that are within 110% footprint of the prior structure. Tree species included in LAMC 46.00 on private property and street trees impacted by the Fire are exempt from regular permits fees, and replacement requirements. Healthy trees may also be exempt if property was damaged and rebuilding plans fall within the requirements of Executive Order 1, which supports rebuilding a structure in the same location as one that was damaged or destroyed, not exceeding a 110% footprint. However, if trees are healthy and unaffected by the fire, but would need to be removed to accommodate rebuilding with a building footprint of more than 110%, a plot plan must be submitted to UFD, and all standard permits will apply, although the project will be expedited (StreetsLA, 2025).

Street trees are also included in StreetsLA's Parkway Landscaping Guidelines. These guidelines outline the requirements for property owners to install or modify landscaping elements within the City of Los Angeles public right-of-way, including parkways between the curb and sidewalk, medians, and similar areas. The guidelines define which activities require permits and the types of permits needed, establish design standards such as plant height limits, visibility requirements, and tree spacing, and specify irrigation and installation criteria. They also describe plan submittal requirements and include special provisions for stormwater capture features and the use of nonstandard materials. Tree planting standard plans, including tree well size and cover details (S-450), Tree Planting and Root Control Barrier Detail (S-456), and Tree Staking and Guying Detail (S-663) are also included in right-of-way landscaping guidelines.

Table 2.5: Minimum Tree Spacing Requirements from Street and Utility Infrastructure

Street distances from other infrastructure are as follows:	Feet
Water Meters/Vaults	6
Catch Basins	6
Gas Meters	8
Driveway Aprons	8
Transit Shelters	10
Fire Hydrants	10
Pedestrian Lights	15
Street Lights	20
Electrical Power Poles	20
Alley Entrances	20
Approach to Traffic Control Device in Direction of Travel	50
Unsignalized Intersections (45 feet from point of curb line to intersect)	45
Railroad Tracks	100

Source: Urban Forestry Division, 2023

2.2.5.2. Surface Infrastructure

Surface infrastructure within the public right-of-way—including curbs, gutters, sidewalks, driveways, curb ramps, street lighting, traffic signals, landscaping, stormwater features, and utility access points—is governed by the Los Angeles Municipal Code (LAMC) and related State and federal requirements (including ADA accessibility standards). These regulations are implemented through department-specific standards, permits, and approvals administered by the Bureau of Street Services (StreetsLA), Bureau of Engineering (BOE), Bureau of Street Lighting (BSL), and the Los Angeles Department of Transportation (LADOT), as applicable.

While emergency repairs may be implemented under Tier 1 to restore access and address immediate hazards, comprehensive reconstruction and regulatory compliance for street elements typically occur during Tier 2 (medium-term recovery) as part of corridor-based street restoration projects. The LAMC provides

the overarching regulatory authority, with detailed technical standards and permitting processes applied through department-specific guidelines and interdepartmental coordination.

In the City of Los Angeles, including the Pacific Palisades area, any work performed within a public street or right-of-way requires for proper authorization through the Bureau of Engineering (BOE) or StreetsLA. According to Los Angeles Municipal Code (LAMC) §62.105 and §62.61, a permit is required for any construction, excavation, or obstruction within a city-owned street or right-of-way. The most common permits for street work include the U-Permit for excavation or trenching, the A-Permit for limited improvements such as sidewalk, curb, and driveway repairs, and the Revocable "R" Permit for temporary encroachments or street/alley closures. Excavation of work under a U-Permit also requires payment of the Street Damage Restoration Fee (SDRF) to cover pavement restoration costs.

For projects that involve temporary lane or street closures, a Traffic Control Plan (TCP) must be submitted for approval for compliance with city traffic management regulations. When street work includes landscaping or planting within the parkway or median, the project must comply with the Parkway Landscaping Guidelines and receive approval from StreetsLA, which regulates planting, irrigation, and tree maintenance standards. In the Pacific Palisades area, permitting is handled through the BOE West Los Angeles District Office, which reviews right-of-way construction, excavation, and restoration plans for compliance with city standards.

Following the identification of 203 street segments in the Pacific Palisades region requiring attention due to Fire-related damage and post-disaster deterioration, a comprehensive two-phase rehabilitation strategy was developed to restore pavement integrity and achieve long-term resilience.

Phase 1 – Interim Repairs focuses on immediate stabilization. This includes the removal of Fire-damaged pavement and a structural assessment of the underlying base to determine necessary restoration. To maintain drivability and support ongoing construction activities, an interim asphalt topping should be placed across affected corridors.

Phase 2 – Final Overlay will implement the permanent pavement solution. This phase involves the placement of a final asphalt overlay, with lifts ranging from 2 to 3 inches, designed to meet city standards for durability and performance under future stress conditions.

2.2.6. Natural Infrastructure

The City of Los Angeles Department of Building and Safety (LADBS) regulates the construction on and around slopes. The PPCC area (see Figure 2.5) lies within the hillside area, as defined in the Los Angeles Municipal Code, Section 91.7003, which designates any grading within the hillside area as "engineered grading." Refer to Section 91.7005.1 of the Los Angeles Municipal Code for the limitations and exceptions of grading within hillside areas.

For purposes of this IRP, regulatory jurisdiction for slope and hillside stabilization depends on ownership and location (public right-of-way vs. private property) and on whether the work is tied to public infrastructure protection (e.g., roadway/utility corridors) versus private development. In general:

- Private property slopes (hillside lots): LADBS is the primary permitting authority for engineered grading and hillside construction under LAMC §91.7003 and related provisions.
- Public right-of-way slopes and roadway embankments: Work is typically permitted through BOE and/or StreetsLA, with LADBS requirements applying where engineered grading is triggered; coordination may also be required where stabilization protects or interfaces with public facilities.
- Public open space / parklands and canyon lands: Stabilization and restoration are implemented by the land-owning/operating agency (e.g., City, County, State Parks, MRCA/SMMC), with LADBS/BOE permits as applicable when work interfaces with City infrastructure or regulated grading.

Vegetated areas in the Pacific Palisades are owned and managed by a variety of different entities, including the City of Los Angeles, Los Angeles County, the Mountains Recreation & Conservation Authority, the California Department of Parks and Recreation, the Santa Monica Mountain Conservancy, and others. Workstream 3, or the Wildfire Resilience Planning document, provides more information about the specific locations of public land ownership in the Pacific Palisades.

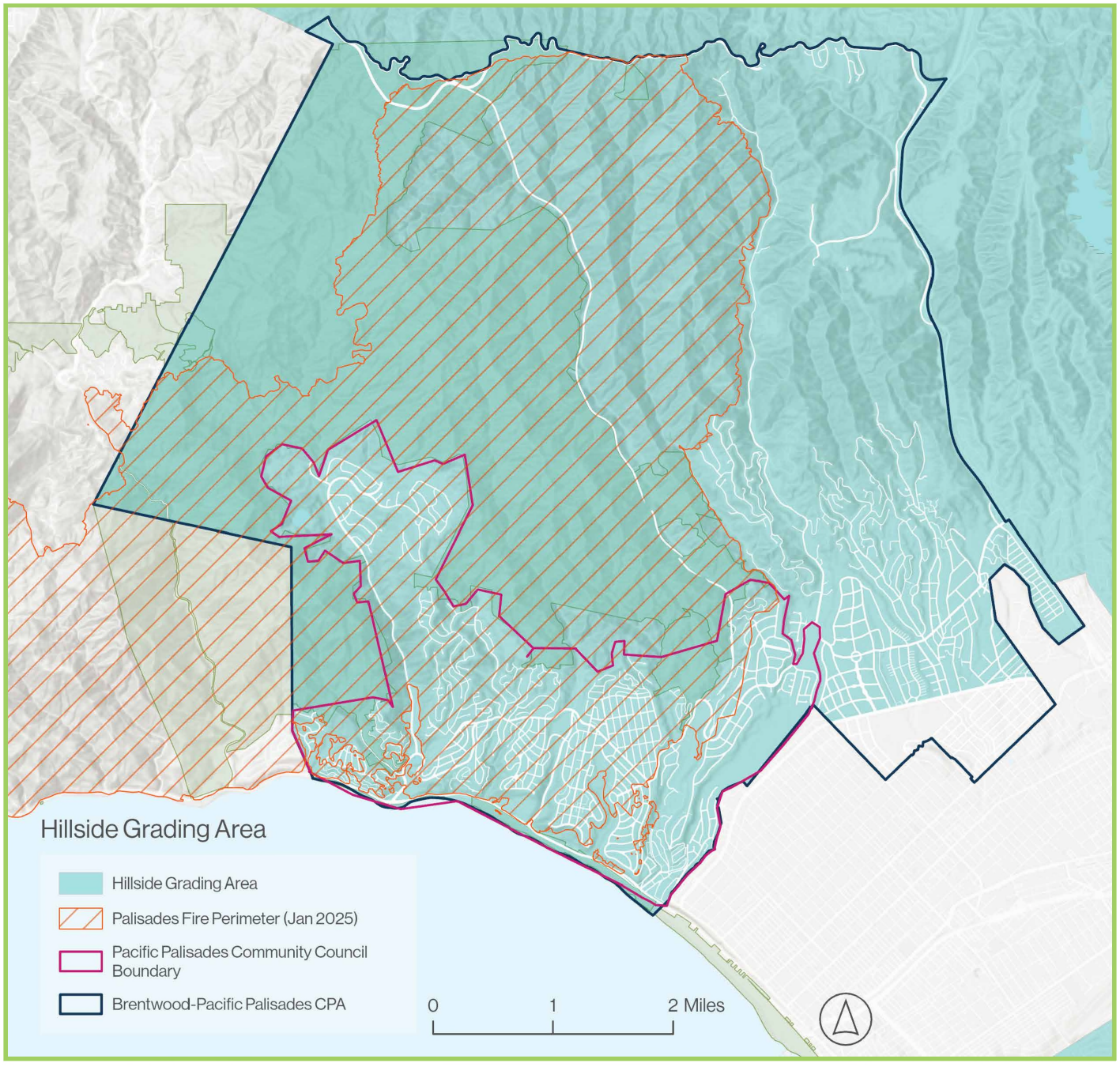
Additional City, County, and State regulations and standards for vegetation management and infrastructure upgrades include:

- **Brush Clearance Program:** The City's Brush Clearance Program requires that property owners in VHFHSZ areas clear hazardous vegetation and maintain defensible space within specified distances of structures and roadways used for vehicular travel.
- **California Defensible Space Requirements:** These vegetation management requirements apply to properties in the State Responsibility Area (SRA) or VHFHSZs in the Local Responsibility Area (LRA) as designated by CAL FIRE.

- **WUI Regulations:** These regulations establish minimum statewide requirements for wildfire risk mitigation in designation WUI areas and FHSZs. Regulations address construction criteria, landscape and vegetation management plans, and defensible space zones.
- **Statewide Fuels Reduction Program:** This program was developed by the California Natural Resources Agency and California Environmental Protection Agency to fulfill Governor Newsom's State of Emergency Proclamation seeking to expedite fuels reduction projects that protect communities and reduce severe risks of catastrophic wildfires. The program facilitates timely implementation of essential wildfire safety initiatives while ensuring the protection of public health and the environment.

The steep canyon terrain of Pacific Palisades functions as a form of natural infrastructure, shaping how water, sediment, and debris move across the landscape. Because these hillsides provide the primary drainage pathways for stormwater and post-Fire runoff, their stability is critical to protecting downstream roads, utilities, and homes. Restoration in these areas often requires grading, contour reshaping, or installation of retaining structures to reduce the risk of mudslides and landslides—actions that directly support the performance of natural drainage systems. In this way, hillside stabilization is both a geotechnical intervention and an essential component of restoring and reinforcing the area's natural infrastructure.

Figure 2.5: Hillside area as designated on BOE Basic Grid Map NDA-13372



Sources: City of LA; AECOM, 2025.



3. Strategic Framework for Infrastructure Restoration

This section presents the strategic framework that guides how damaged infrastructure in Pacific Palisades can be restored, upgraded, and made more resilient. It establishes a tiered, phased approach that ranges from immediate life-safety actions to permanent system upgrades that enhance system resilience. The framework integrates technical assessments, spatial analysis, and interagency coordination so that restoration efforts that are prioritized, sequenced, and implemented in a manner that supports both short-term recovery and sustainable rebuilding.

Section 3.1 defines the prioritization approach for the tiered restoration framework, which classifies actions into three tiers based on criticality. Section 3.2 introduces the Restoration and Recovery Plan Schedule and Sequence Analysis, showing how restoration projects align across agencies through time-spatial mapping and integrated scheduling. Sections 3.3 through 3.5 detail the tiered implementation strategy—from Tier 1 (Immediate Life-Safety and Emergency Access Needs), through Tier 2 (Restoration of Essential Residential and Commercial Corridors), to Tier 3 (Long-Term Recovery and Rebuilding) covering each major infrastructure category: Dry Utilities, Wet Utilities, Street Trees and Surface Infrastructure, and Natural Infrastructure. Together, these components form a unified roadmap to coordinate rebuilding, minimize service disruption, and strengthen the City's ability to recover its infrastructure.

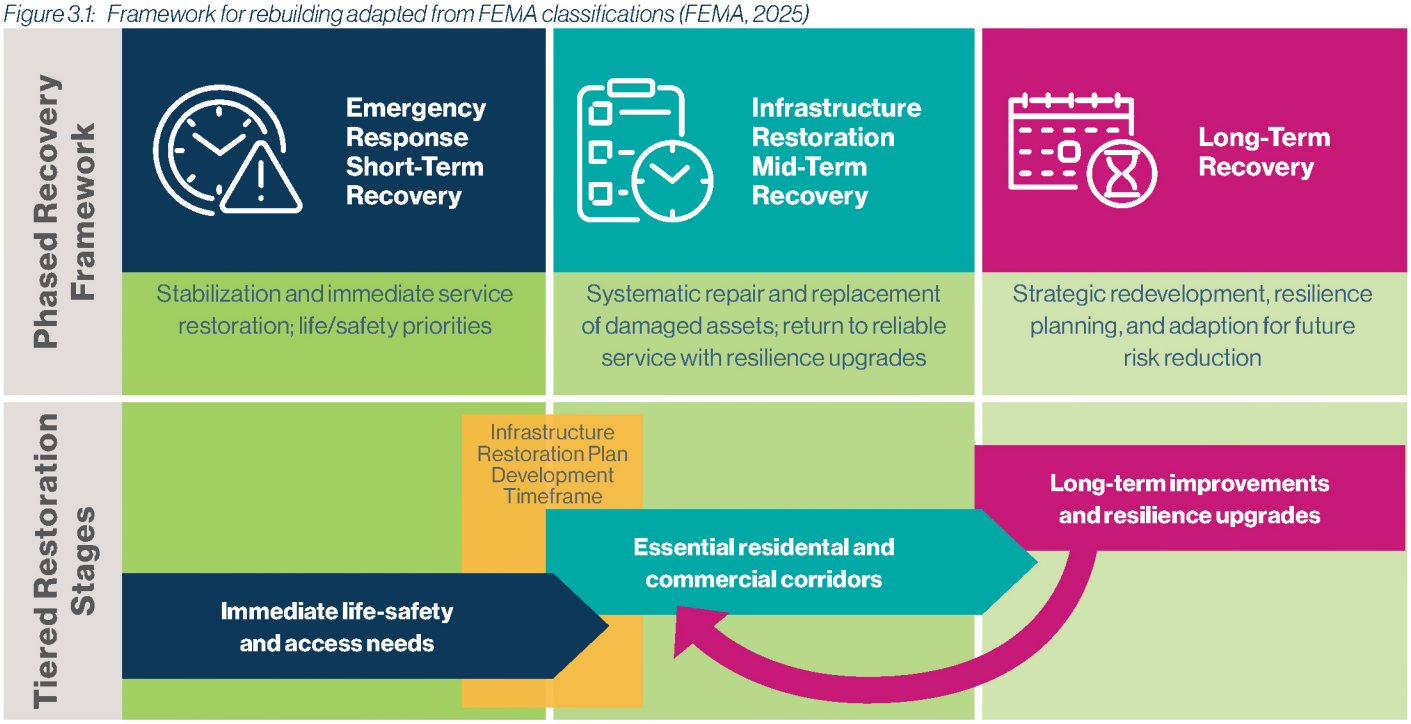
3.1. Prioritization Approach for Tiered Restoration Framework

3.1.1. Phasing Recovery in Three Stages

The recovery and rebuilding framework shown in Figure 3.1 was adapted from FEMA's Restoration and Recovery: Guide for Private-Public Partnerships (FEMA, 2025). The framework uses FEMA classifications, which organize recovery actions according to the stage or phase in which they are to occur: short-term emergency response, medium-term restoration of essential services, and long-term rebuilding and resilience upgrades. Each of these phases builds upon the previous one, moving from immediate stabilization of life-safety systems to the restoration of community functionality, and finally to permanent improvements that enhance future preparedness and adaptive capacity.

Within this adapted framework, infrastructure systems are treated as interdependent components of community recovery rather than isolated assets. The model emphasizes coordination among public agencies, private utilities, and community partners to ensure that restoration is sequenced logically by first enabling access and safety, then supporting habitability and economic recovery, and ultimately achieving resilient redevelopment. This structured progression guides how the City can prioritize and synchronize infrastructure repair, to ensure that investments made today lay the foundation for long-term sustainability and reduced disaster risk. All costs described in this Plan were developed by the Department responsible for the project. Costs are preliminary estimates which are subject to change during the approval process. Readers should consider these costs to be representative of a Class O estimate.

Figure 3.1: Framework for rebuilding adapted from FEMA classifications (FEMA, 2025)



3.1.2. Ranking of Assets in Priority Tiers

Table 3.1 presents a tiered framework of general actions for post-Fire infrastructure restoration in Pacific Palisades. It organizes critical utility and non-utility assets, including power, gas, telecommunications, potable water, wastewater, stormwater, streets, and community facilities, into three priority tiers: immediate life-safety and emergency access (Tier 1), restoration of essential residential and commercial corridors (Tier 2), and long-term recovery and rebuilding (Tier 3). The objective of each tier is as follows:

- **Tier 1 Objective:** Stabilize critical infrastructure to enable emergency response, protect public safety, and restore essential lifeline services to first responders and vulnerable populations.
- **Tier 2 Objective:** Expand restoration from critical facilities to the broader community, focusing on habitability, economic revitalization, and coordinated repair sequencing - completing the work needed to return each infrastructure component to its normal operating condition.
- **Tier 3 Objective:** Implement permanent infrastructure improvements to improve operating conditions, capability, capacity or disaster resilience of the infrastructure.

Table 3.1: General Actions by Tier – Framework for Ranking and System Restoration

Dry Utilities	Power	Gas	Telecom
Tier 1 – Immediate life-safety and emergency access needs.	Re-energize critical facilities (hospitals, fire command, etc.). Deploy mobile generators and isolate damaged feeders.	Shut off or cap any broken and leaking gas lines. Replace service to critical infrastructure.	Restore emergency comms for first responders via mobile or satellite nodes.
Tier 2 – Restoration of essential residential and commercial corridors.	Gradually restore residential and commercial services; replace damaged poles and transformers.	Inspect, test, and restore services, in phases, to residential and commercial facilities.	Reconnect neighborhoods and businesses; repair towers and fiber links.
Tier 3 – Long-term recovery and rebuilding.	Harden grid and underground lines in critical corridors, and expand digital technology.	Replace brittle mains with fire- and quake-resistant materials; add remote shutoff valves.	Harden infrastructure, add redundancy, and ensure backup power at critical nodes.

Wet Utilities	Potable Water	Wastewater	Stormwater
Tier 1 – Immediate life-safety and emergency access needs.	Restore water for firefighting and hospitals; flush and isolate damaged mains.	Prevent overflows; maintain basic operation at key pump stations.	Clear inlets and culverts to mitigate flooding and debris flow.
Tier 2 – Restoration of essential residential and commercial corridors.	Restore service zone by zone; replace contaminated or damaged laterals.	Inspect and clean sewers; repair damaged pipelines.	Repair storm drains, basins, and erosion controls in key corridors.
Tier 3 – Long-term recovery and rebuilding.	Replace lines which are indicated by DWP's useful life and suitabiltiy analysis; add sensors, tanks, and fire-dedicated storage.	Replace mains nearing end of useful life, add standby power, and integrate decentralized treatment.	Retrofit with green infrastructure and sediment capture systems.

Streets	Street Trees and Surface Infrastructure	Natural Infrastructure	Natural Infrastructure and Vegetation
Tier 1 – Immediate life-safety and emergency access needs.	Reopen emergency access routes; conduct temporary patching and debris removal. Remove hazardous trees or debris obstructing access; provide maintenance and monitoring for fire-damaged trees. Restore traffic lights for safe roadway access.	Tier 1 – Immediate life-safety and emergency access needs.	Stabilize slopes with emergency erosion control (sandbags, wattles, mulch, netting); mitigate landslides and debris slides near roads or utilities.
Tier 2 – Restoration of essential residential and commercial corridors.	Restore local streets alongside utility trenching; coordinate resurfacing across agencies. Repair or replace damaged curbs, gutters, sidewalks, driveway, street lights, and patchwork.	Tier 2 – Restoration of essential residential and commercial corridors.	Remove nonnative vegetation and treat compacted soils to improve infiltration and seed-to-soil contact. Stabilize slopes through planting of deep-rooted native perennial grasses and shrubs.
Tier 3 – Long-term recovery and rebuilding.	Initiate improved and consistent street tree maintenance and pruning to support fuel reduction. Implementation of resilient pavement upgrades, and integration of green street design elements.	Tier 3 – Long-term recovery and rebuilding.	Implement permanent slope stabilization, native reforestation, and vegetation management programs. Establish long-term vegetation zones with fire-resistant species and erosion-control measures. Establish an annual monitoring plan to measure vegetation survival, native cover, species richness, and invasive suppression.

Surface Infrastructure refers to every element of the streetscape, including, but not limited to the layout of the right-of-way, curbs, gutters, sidewalks, driveway aprons and curb ramps, heavy and light vehicle paving, street lighting, traffic signals, street trees, utility access points, and related features.

LASAN employs a multi-tiered framework to guide project prioritization following disasters, integrating both asset condition and community benefit considerations (see Table C.3 in Appendix C). The framework ranks assets based on hydraulic adequacy, risk of failure, and criticality to essential services. Projects that mitigate hazards to public rights-of-way or protect access to critical facilities such as hospitals and fire stations receive top priority. Subsequent tiers address repairs to occupiable structures and repetitive loss areas, followed by phased scheduling that balances urgency, cost-effectiveness, and number of beneficiaries. This approach ensures that deteriorated storm drains or undersized culverts are replaced before failure, drainage improvements are expedited for critical routes, and neighborhoods with recurring flood issues receive early attention.

3.1.3. Identifying High-Risk Areas with Critical Facilities

Los Angeles County Department of Public Works (LACDPW) provides a concise definition of critical facilities that is consistent with that of other local agencies and utilities, as well as with the State's general operating definition:

> ***Critical Facility:*** *A structure or other improvement that, because of its function, size, service area, or uniqueness, has the potential to cause serious bodily harm, extensive property damage, or disruption of vital socioeconomic activities if it is destroyed or damaged or if its functionality is impaired.*

Each agency has it's own specific definition of critical facilities which may include or exclude other types of building and assets than those listed here. This list does not capture privately owned facilities.

Table 3.2 is a summary of the critical public facilities (fire stations, schools), or dry utilities (power substations, and telecom facilities) in Pacific Palisades by type, and post-Fire damage condition. Table 3.3 is a summary of the wet utilities, such as tanks, reservoirs, and pumping stations, by type.

Table 3.2: Baseline Damage Inventory of Tier 1 Critical Facilities (Input to Emergency Stabilization and Lifeline Restoration)

Type	Facility Name	Damage Status
Fire Station	FS 069	No damage
	FS 023	No damage
Power Utility Substations	DS-29	Affected (1-9%)
	DS-99	No damage
Libraries	Palisades Branch Library	Destroyed (>50% Damage)
Recreation Centers	Rustic Canyon Recreation Center	Outside of fire perimeter; no damage
	Palisades Recreation Center	Destroyed (>50% Damage)
	Lowe Family YMCA	Destroyed (>50% Damage)
Schools	Palisades Charter High	8 out of 30 buildings destroyed (>50%), 1 affected (1-9% damage), remaining no damage
	Canyon Charter Elementary	No physical damage; outside of fire perimeter
	Revere Charter Middle School	No physical damage; outside of fire perimeter
	Marquez Charter	23 out of 26 buildings destroyed (>50%), 3 remained no damage
	Palisades Charter Elementary	8 out of 10 buildings destroyed (>50%), 1 affected (1-9%), and 1 with no physical damage
	Palisades Montessori Center	Destroyed (>50%)
	Village School, Inc.	Destroyed (>50%)
	Corpus Christi Elementary	Major structural damage (26-50%)
	St. Matthew's Parish School	2 out of 8 buildings destroyed (50%), 1 major damage (26-50%), 1 minor damage (10-25%), remaining 4 have no physical damage
	Westside Waldorf School	Destroyed (>50%)
	Calvary Christian School	No damage
	Seven Arrows Elementary	Destroyed (>50%)

Note: Inclusion of facilities in Tables 3.2 and 3.3 reflects baseline identification and observed physical damage conditions only. Operational status, temporary stabilization, and restoration activities are addressed through subsequent Tier 1 actions.

Table 3.3: Inventory of Tier 1 Wet Utility Critical Facilities Supporting Emergency Response, Stabilization, and Lifeline Service Restoration

Type	Name
Potable Water	Santa Ynez Reservoir
	Marquez Knolls Tank
	Trailer Tank
	Temescal Tank
	Marquez Knolls Pump Station
	Santa Ynez Pump Station
	Trailer Pump Station
Wastewater	Plant #631: Hampden Place
	Plant #632: PCH/Vons Parking Lot (Sunset)
	Plant #633: Chautauqua/Channel Pot Plant
	Plant #634: Temescal Canyon Road/PCH (PP 734 nearby)
	Plant #638: Palisades/Gated Community
	Plant #639: PCH/Bay Club Lower/Pumps in street
Stormwater	Plant #730: Palisades Park LFD (Baywatch LFD/Plant near PCH in lot)
	Plant #732: Marquez Canyon (LFD)/White Wall Plant
	Plant #733: Santa Monica Canyon (LFD)/ Inflatable Dam
	Plant #734: Temescal Canyon (LFD)/Outside of Plant 634
	Plant #735: Santa Monica Canyon (LFD)
	Plant #736: Temescal Canyon (LFD)
	Plant #739: Bay Club Drive (LFD)/Above Plant 639

Note: Inclusion of facilities in Tables 3.2 and 3.3 reflects baseline identification and observed physical damage conditions only. Operational status, temporary stabilization, and restoration activities are addressed through subsequent Tier 1 actions.

The locations of the wet utilities in Table 3.3 were displayed as points on the maps shown in Figure 1.5 (potable facilities) and Figure H.6 (wastewater and stormwater facilities) previously.

No police stations or hospitals are located within the geographic area identified on the maps, and the geographic area is based on fire parameters.

Additionally, privately owned fueling stations and grocery stores are often considered critical facilities. Because these are privately-operated facilities whose restoration post-disaster is not within the direct control of the City, they are not considered in detail in this report.

3.1.4. Map of Restoration Tiers 1, 2 and 3

Figure 3.2 through Figure 3.4 illustrate the locations of facilities within the three-tiered phased restoration approach for Pacific Palisades. This tiered framework aligns with the phased recovery strategy presented in Tier 3, including project prioritization.

Tier 1 (Short-Term Recovery): Focuses on emergency response and infrastructure supporting immediate life-safety and access needs. For immediate post-Fire damage to street trees, refer to Figure 1.9.

Figure 3.2 maps the critical facilities across Pacific Palisades, including fire stations, libraries, schools, power substations, and water tanks, reservoirs, and pumping stations. Additional Tier 1 infrastructure, as shown in Figure 3.2 , includes street signs and Tier 1 retaining walls.

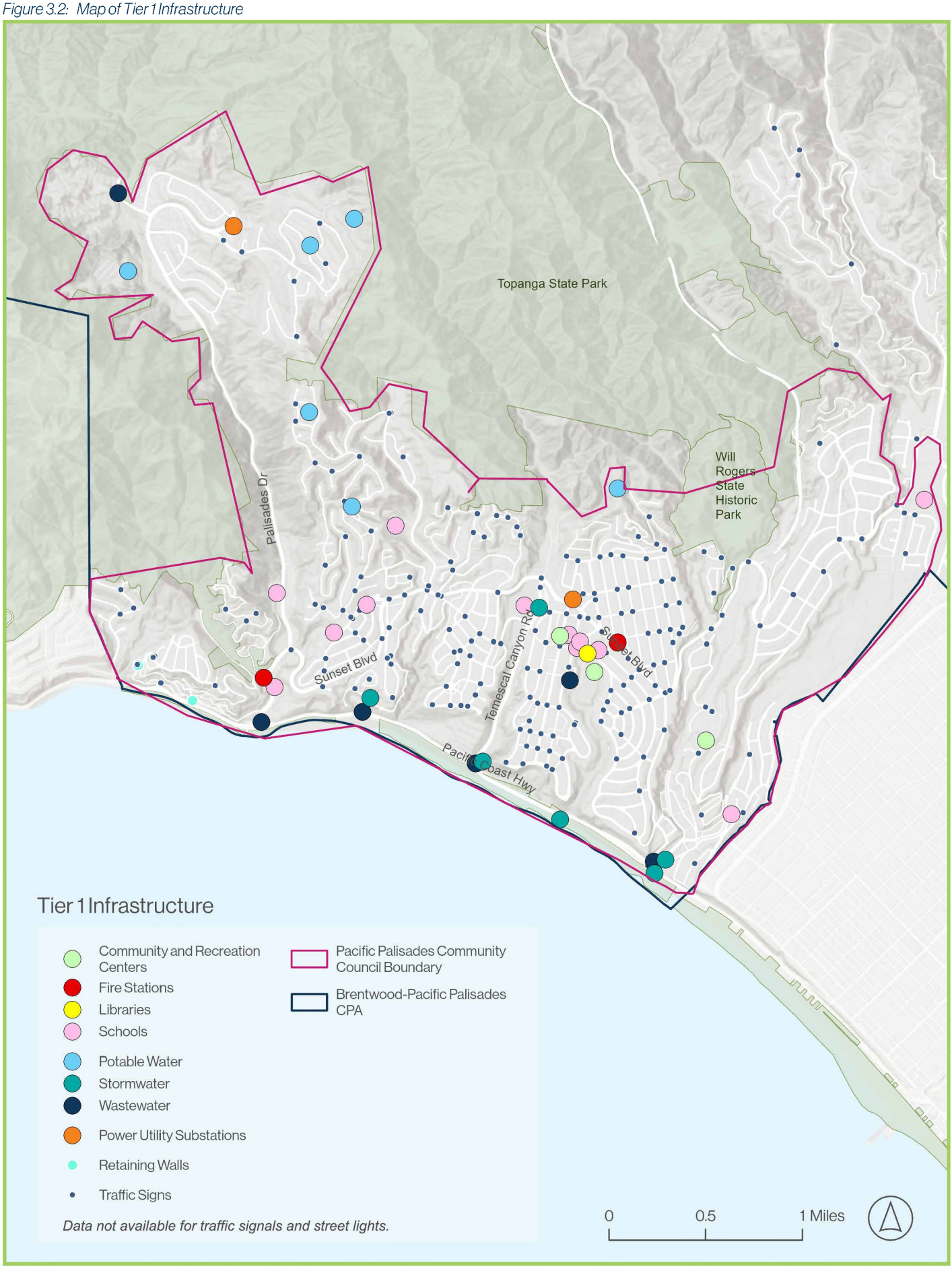
Tier 2 (Medium-Term Recovery): Focuses on restoring essential residential and commercial corridors.

Figure 3.3 provides a map of Tier 2 infrastructure, including key corridors, curbs, gutters, sidewalks, driveways, and Tier 2 retaining walls.

Tier 3 (Long-Term Recovery): Focuses on long-term infrastructure improvements.

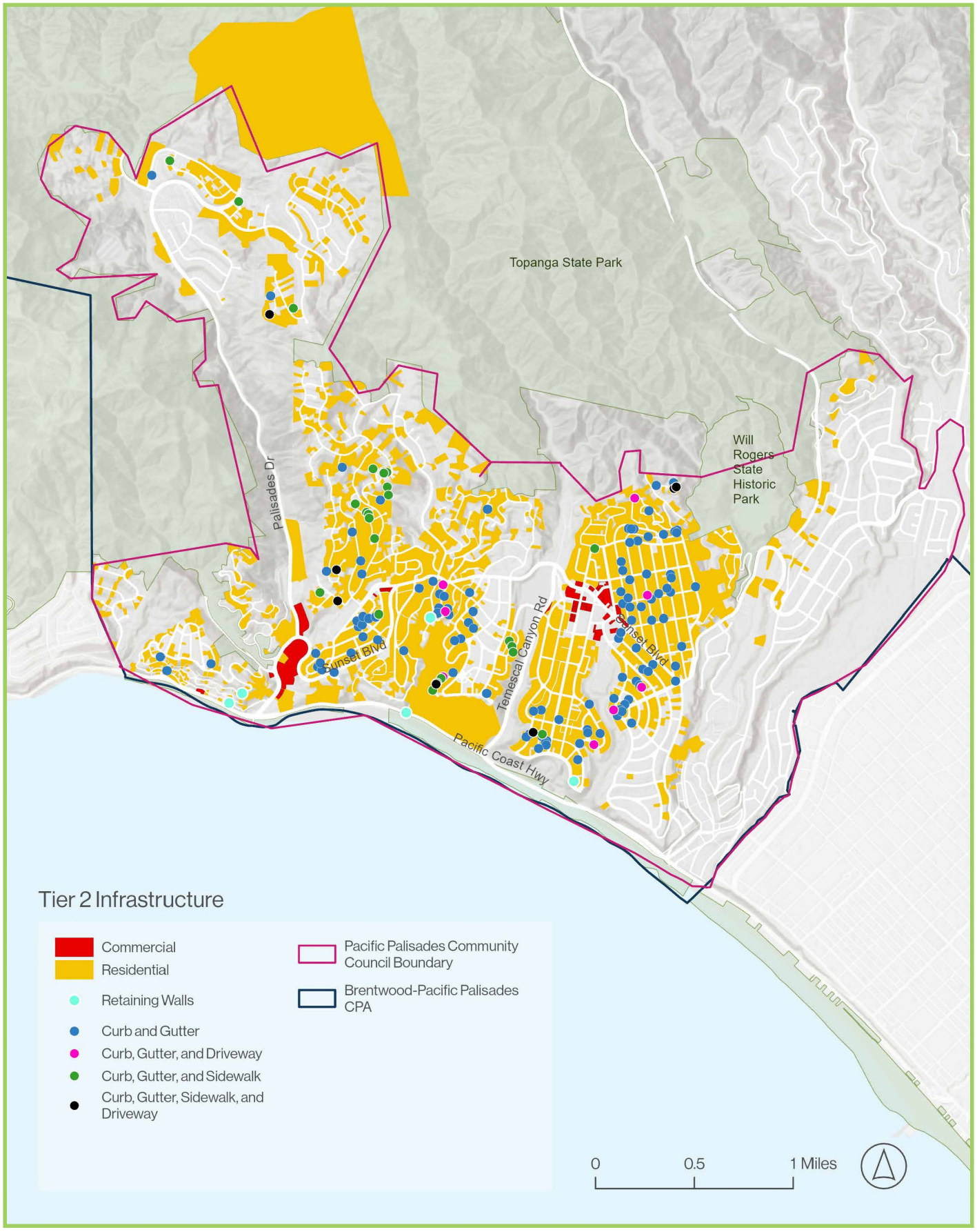
Figure 3.4 maps the damaged infrastructure, categorized into electric, private sewer, water systems, and StreetsLA patchwork projects. These areas represent the priority locations for resilient restoration. For potential street tree planting sites, refer to Figure 1.11.

Figure 3.2: Map of Tier 1 Infrastructure



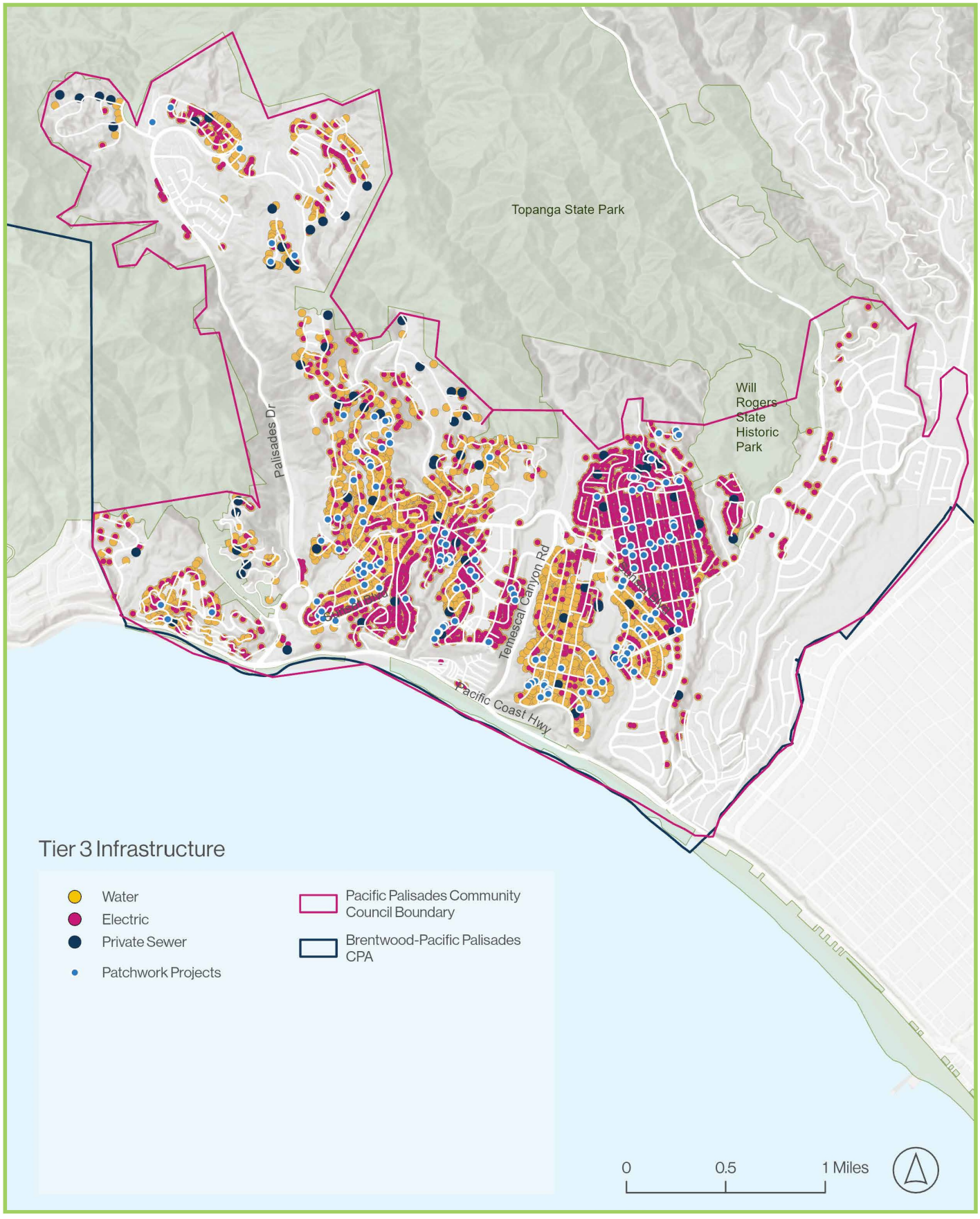
Tier 2, or medium-term recovery, focuses on the restoration of essential residential and commercial corridors. Figure 3.3 shows a map of these essential residential and commercial corridors throughout Pacific Palisades.

Figure 3.3: Map of Tier 2 Infrastructure



Tier 3 Projects extend and enhance Tier 2 efforts by improving or expanding infrastructure to increase capacity, capability, and/or resilience of the system. Tier 3 projects seek to restore infrastructure to its normal operating condition. The following map was prepared using LADWP's Preliminary Data Assessment dataset received in September 2025.

Figure 3.4: Map of Tier 3 Infrastructure



3.2. Sequence Analysis for Infrastructure Restoration

A summary of all projects that are displayed in the conflict schedule on street intersections (in Table 3.6) is provided in Table 3.4. The projects were also mapped as shown in Figure 3.6. Of the 263 identified projects, 243 were mapped and evaluated based on their location and timeline. The remaining 20 projects, including Public Assistance Projects (Not Already Included in DR4856 List) and RSS Plans, were not mapped and evaluated because they lacked the defined geographic coordinates or street-level details necessary for spatial analysis.

The complete list of 263 projects is provided in Table F.1, which includes the source, lead agency, project scope, project date, and cost estimate for each project. Each project is categorized aas "Dry Utilities," "Wet Utilities," "Public Buildings, Parks, and Other City Facilities," or "Streets, Hardscapes, and Walls" projects, as summarized in Table 3.4.

Disclaimer: Many projects identified in this document are currently in preliminary stages of the project development process, and may still be pending funding, final approvals, and/or permitting. All projects are subject to change in scope, schedule, and cost until they are fully approved. Some of the prcjects, strategies, and efforts described in this report may not be possible for the City to complete without additional funding from the Federal and State governments as well as philanthropy, which may or may not be forthcoming.

Table 3.4: Summary of Prcjects and Alignment with Sequencing Analysis

Category	General Category	Description	Number of Projects	Lead Agency	Status	Projects Included in WS2 Sequencing Analysis
Dry Utilities	Underground and Corridor Hardening	These LADWP Power projects focus on converting existing 4 kV systems to the standard 12 kV voltage level, upgrading power infrastructure to support this conversion, and implementing extensive undergrounding along Sunset Boulevard and other feasible locations across multiple neighborhood areas. This category includes (4) four undergrounding projects, each containing two load blocks, (2) two duct bank installation projects on Sunset Blvd. (East of DS-29 and DS29 to DS-99), (1) one project for addressing communications facilities on poles, and (1) one project for development of standards for 12kV. For the purposes of the schedule analysis, the communications on poles and standards projects are not considered, and neither is the completed work on Sunset.	8	LADWP - Power	1 Started; 7 Proposed	6
	DS-29 Station Upgrades	These LADWP Power projects focus on restoring Distributing Station 29 and upgrading it to support related initiatives, including the 12 kV system conversion and undergrounding efforts.	2	LADWP - Power	1 Started; 1 Proposed	2
	Distribution Automation and Advanced Metering	The Advanced Metering Infrastructure (AMI) program will be implemented by LADWP to leverage smart metering capabilities, including remote communication and real-time service monitoring. In parallel, Distribution Automation (DA) is being planned to further automate the power distribution system, improving operational efficiency, reliability, and overall system performance.	1	LADWP - Power	1 Proposed	0

Category	General Category	Description	Number of Projects	Lead Agency	Status	Projects Included in WS2 Sequencing Analysis
Wet Utilities	Pacific Palisades Water Main Betterment Projects (Phase 1)	LADWP Water's Phase 1 Pacific Palisades Water Main Betterment Program focuses on widespread replacement and upsizing of leaking, end-of-useful-life, and undersized pipelines across numerous neighborhood segments to improve reliability and strengthen the system ahead of increasing operational demands.	20	LADWP - Water	6 Planned; 14 Proposed	20
	Pacific Palisades Water Main Betterment Projects (Phase 2)	LADWP Water's Phase 2 builds upon Phase 1 and shifts toward more targeted, systemlevel improvements by upgrading major trunk segments and upsizing pipelines near regulatory stations and areas requiring coordination with the Power System. These projects place an emphasis on strengthening hydraulic capacity, redundancy, and operational reliability in strategic parts of the network.	8	LADWP - Water	8 Proposed	8
	DR4856 Permanent Work Projects	These wet utilities-related DR4856 Permanent Work Projects span multiple City departments-- LADWP, LASAN, and StreetsLA-- and focus on restoring damaged infrastructure to their predisaster design, function, and capacity within their existing footprints.	8	LADWP - Water, LASAN, StreetsLA	Planned	8
	BOE Proposed Projects	These BOE-led projects provided by LASAN propose new storm drain and catch basin construction, sub-drain and pavement reconstruction, and drainage improvements.	3	BOE	Proposed	3
	Pumping Plant Projects Provided by LASAN	These pumping plant projects, provided to us by LASAN, document firerelated damage across multiple stormwater and wastewater facilities in the Palisades, aimed at restoring safe, reliable plant operations following wildfire impacts.	10	LASAN	Proposed	10
	RSS Plans	These RSS Plan items are led by the City of LA and focus on strengthening stormwater, wastewater, and debris-management systems.	9	City of LA	Planned	0
	Damage Assessment	These LASAN damage assessments identify needed repairs to stormwater, wastewater, and debris-management infrastructure.	12	LASAN	7 Planned; 5 Proposed	8
Public Buildings, Parks, and Other City Facilities	DR4856 Permanent Work Projects	These DR4856 Permanent Work Projects are led by Library and RAP-- and focus on restoring damaged public buildings, parks, and other city facilities to their predisaster design, function, and capacity within their existing footprints.	8	Library and RAP	Planned	8
Streets, Hardscapes, and Walls	DR4856 Permanent Work Projects	These DR4856 Permanent Work Projects are led by BOE, BSL, and StreetsLA and focus on restoring damaged streets, hardscapes, and walls to their pre-disaster design, function, and capacity within their existing footprints.	10	BOE, BSL, and StreetsLA	Planned	9
	Public Assistance Projects (Not Already Included in DR4856 List)	These Public Assistance projects don't include any items already captured under Permanent Work Projects. The included projects are for street signage, revetments, and tree replacement.	3	LADOT, LASAN, and RAP	Planned	0
	Palisades StreetsLA Street Segment Projects	This list shows community-reported locations in the Palisades where StreetsLA has received service requests for roadway, pavement, or related street repairs.	11	StreetsLA	Planned	11
	Palisades Burned Scars (Patchwork) – StreetsLA dataset	These projects cover street segments that StreetsLA has identified as needing pavement repairs. These corridor-based street restoration activities address burn-scar related impacts to pavement and associated street elements identified by StreetsLA. The patchwork dataset documents element-level impacts across street segments, including: Street = 203, Curb = 203, Gutter = 203, Sidewalk = 203, and Driveway = 42.	150	StreetsLA	Planned	150
		Total Number of Projects	**263**	**Total Number of Projects Included in Analysis**		**243**

Note: Element-level counts are summarized from the StreetsLA patchwork dataset and represent identified impacted locations/ quantities by street element type.

Gantt Chart

The following chart provides visual presentation of all the City's planned projects as of October 1,2025 in the study area.

LADWP - Power | LADWP - Water | BOE | LASAN | RAP | StreetsLA | City of LA | Library | BSL

Lead Agency	High Level Summary	2025				2026				2027				2028				2029				2030			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
LADWP - Power	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles)																								
LADWP - Power	12kV UG - DS 29-DS-99; Backbone Segments on Sunset																								
LADWP - Power	12kV UG - Feeder Segments to Areas 5 & 6																								
LADWP - Power	12kV UG - Feeder Segments to Areas 3 &4																								
LADWP - Power	12kV UG - Feeder Segments to Areas 1&2																								
LADWP - Power	12kV UG - Feeder Segments to Areas 7&8																								
LADWP - Power	DS 29 Expansion and Upgrade																								
LADWP - Power	AMI Implementation in Palisades																								
LADWP - Power	DR4856 Permanent Work Project: Distribution Station 29																								
LADWP - Power	DR4856 Permanent Work Project: Communication Equipment on Power Poles																								
LADWP - Water	LADWP Palisades Betterment P1, #1: Via De La Paz/Sunset Blvd Regulator Station Rehab																								
LADWP - Water	LADWP Palisades Betterment P1, #2: Potrero - 8,700 LF ERP replacement																								
LADWP - Water	LADWP Palisades Betterment P1, #3: 2,260 LF ERP replacement																								
LADWP - Water	LADWP Palisades Betterment P1, #4: 9,297 LF ERP replacement																								
LADWP - Water	LADWP Palisades Betterment P1, #5: 8,600 LF ERP replacement																								
LADWP - Water	LADWP Palisades Betterment P1, #6: Porto Marina Way and Breve Way - 900 LF STL Replacement																								
LADWP - Water	LADWP Palisades Betterment P1, #7: Revello Dr and Tramonto Dr - 1,400 LF ERP replacement																								
LADWP - Water	LADWP Palisades Betterment P1, #8: Paseo Miramar and Via Lucia - 1,200 LF STL replacement																								
LADWP - Water	LADWP Palisades Betterment P1, #9: Marquez Ave and Ida St - 880 LF DI replacement																								
LADWP - Water	LADWP Palisades Betterment P1, #10: Chattanooga Place and Castac Place - 1,328 LF ERP replacement																								
LADWP - Water	LADWP Palisades Betterment P1, #11: Sunset Blvd and Las Casas Ave - 2,537 LF ERP replacement																								
LADWP - Water	LADWP Palisades Betterment P1, #12: Via De La Paz and Radcliffe Ave - 5,642 LF STL Replacement																								

Lead Agency	High Level Summary	2025				2026				2027				2028				2029				2030			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
LADWP - Water	LADWP Palisades Betterment P1, #13: Hampden Place and Swarthmore Ave - 4,838 LF ERP Replacement																								
LADWP - Water	LADWP Palisades Betterment P1, #14: Muskingum Ave and Temecula St - 4,539 LF ERP Replacement																								
LADWP - Water	LADWP Palisades Betterment P1, #15: Las Casas Ave and Marquette St - 3,772 LF ERP Replacement																								
LADWP - Water	LADWP Palisades Betterment P1, #16: Las Casas Ave and Marquette St - 4,133 LF ERP Replacement																								
LADWP - Water	LADWP Palisades Betterment P1, #17: Las Lomas Avenue and Alcima Ave - 5,148 LF ERP Replacement																								
LADWP - Water	LADWP Palisades Betterment P1, #18: Brooktree Road and Ranch Ln - 2,417 LF ERP Replacement																								
LADWP - Water	LADWP Palisades Betterment P1, #19: Goucher St and McKendree Avenue - 890 LF ERP Replacement																								
LADWP - Water	LADWP Palisades Betterment P1, #20: Castellammare Dr and Tramonto Dr - 1,300 LF STL Replacement																								
LADWP - Water	LADWP Palisades Betterment P2, a: 3,380 LF ERP Replacement																								
LADWP - Water	LADWP Palisades Betterment P2, b: Amalfi Dr & Toulon Dr Divider - 8,688 LF ERP Replacement																								
LADWP - Water	LADWP Palisades Betterment P2, c: North of Corona De Mar & Chautauqua Regulatory Station - 3,650 LF ERP Replacement																								
LADWP - Water	LADWP Palisades Betterment P2, d: South of Corona De Mar & Chautauqua Regulatory Station - 1,307 ERP Replacement																								
LADWP - Water	LADWP Palisades Betterment P2, e: 420 LF STL Replacement and 870 LF STL Installation																								
LADWP - Water	LADWP Palisades Betterment P2, f: Via De La Paz (1,500 LF), Sunset Blvd (1,335 LF), Swarthmore Ave (512 LF), Antioch St (460 LF) ERP Replacements																								
LADWP - Water	LADWP Palisades Betterment P2, g: South of Hartzell & Bester Regulatory Station - 2,380 LF STL Replacement																								
LADWP - Water	LADWP Palisades Betterment P2, h: Amalfi & Upper Mesa Regulatory Station - 3,810 LF STL Replacement																								
LADWP - Water	DR4856 Permanent Work Project: Water Tanks																								
LADWP - Water	DR4856 Permanent Work Project: Pacific Palisades Reservoir																								
LADWP - Water	DR4856 Permanent Work Project: Santa Ynez Reservoir																								
BOE	DR4856 Permanent Work Project: 559 Bienveneda Ave																								
BOE	DR4856 Permanent Work Project: 505 Bienveneda Ave																								

Lead Agency	High Level Summary	2025				2026				2027				2028				2029				2030			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
BOE	DR4856 Permanent Work Project: 17470 Revello Dr																								
BOE	DR4856 Permanent Work Project: 17632 Castellammare Dr																								
BOE	DR4856 Permanent Work Project: Stretto Way & Castellammare Dr																								
BOE	DR4856 Permanent Work Project: 17432 Posetano Road																								
BOE	DR4856 Permanent Work Project: 15205 Via de las Olas																								
LASAN	DR4856 Permanent Work Project: Debris Basins																								
LASAN	DR4856 Permanent Work Project: Storm Drains																								
LASAN	DR4856 Permanent Work Project: Pumping Plants																								
LASAN	DR4856 Permanent Work Project: 505 N Bienveneda Ave Sewer Pipe																								
RAP	DR4856 Permanent Work Project: Temescal Canyon Park																								
RAP	DR4856 Permanent Work Project: Palisades Rec Center (RAPID - Destroyed Buildings)																								
RAP	DR4856 Permanent Work Project: Palisades Rec Center (Park)																								
RAP	DR4856 Permanent Work Project: Palisades Rec Center (Old Recreation Center)																								
RAP	DR4856 Permanent Work Project: Palisades Rec Center (Contents)																								
RAP	DR4856 Permanent Work Project: George Wolfberg Park at Potrero Canyon																								
Library	DR4856 Permanent Work Project: Palisades Branch Library (RAPID)																								
LIbrary	DR4856 Permanent Work Project: Palisades Branch Library (Contents)																								
StreetsLA	DR4856 Permanent Work Project: Dewatering Wells																								
LASAN	Public Assistance Project (Not Already Included in DR4856 List): Revetments																								
RAP	Public Assistance Project (Not Already Included in DR4856 List): Tree Replacement																								
BOE	Proposed Project: Chautauqua Blvd Storm Drain - Catch Basin Construction																								
BOE	Proposed Project: Marinette Rd. way Southern terminus Subdrain System - Construction of pipe, 2 access points, and new asphalt pavement																								
BOE	Proposed Project: Via De La Olas and Via De La Paz Drainage - Resurfacing and grading, new catch basin, and stormdrain construction																								
LASAN	Project: PP 730 Palisades Park LFD																								
LASAN	Project: PP 734 Temescal Canyon Stormwater LFD																								
LASAN	Project: PP 736 Temescal Canyon Stormwater BMP																								
LASAN	Project: PP 739 Bay Club Stormwater LFD																								

Lead Agency	High Level Summary	2025				2026				2027				2028				2029				2030			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
LASAN	Project: PP 604																								
LASAN	Project: PP 632																								
LASAN	Project: PP 634																								
LASAN	Project: PP 638																								
LASAN	Project: PP 639																								
LASAN	Project: 505 North Bienveneda Ave Sewer Pipe																								
City of LA	RSS Plan #1.25: Enlarge Santa Ynez debris basin																								
LASAN	LASAN Damage Assessment: W of Palisades Dr N of Sea Ridge N Entrance - SW																								
LASAN	LASAN Damage Assessment: Palisades Drive																								
LASAN	LASAN Damage Assessment: W of Palisades Dr (1200 Block)																								
LASAN	LASAN Damage Assessment: Revello Dr																								
LASAN	LASAN Damage Assessment: 17333 Castellammare Dr																								
LASAN	LASAN Damage Assessment: 230 Arno Way																								
LASAN	LASAN Damage Assessment: 500 Pacific Coast Highway																								
LASAN	LASAN Damage Assessment: Calle de Palermo (17790) - SW																								
LASAN	LASAN Damage Assessment: 1000 Villa Grove Dr.																								
LASAN	LASAN Damage Assessment: 637 Jacon Way																								
BSL	DR4856 Permanent Work Project: Street Lights																								
StreetsLA	DR4856 Permanent Work Project: Charred Streets, Curbs & Sidewalks																								
StreetsLA	DR4856 Permanent Work Project: Private Property Debris Removal (PPDR) Damages																								
StreetsLA	16545 W SUNSET BLVD																								
StreetsLA	678 N Baylor St																								
StreetsLA	1001 WILL ROGERS STATE PARK RD																								
StreetsLA	847 N. Jacon Way																								
StreetsLA	Sunset Boulevard in the Palisades																								
StreetsLA	Sunset and Las Casas																								
StreetsLA	Muskingum Avenue																								
StreetsLA	Castellammare (Tramonto bulkhead and Porta Marino bulkhead)																								
StreetsLA	504 Marquette and 506 Las Casas																								
StreetsLA	Akron 16315/16301 near Bienveneda Ave																								
StreetsLA	16900 Block of Livorno Drive																								
StreetsLA	Next to 14601 Whitfield Ave																								
StreetsLA	Across From 14907 Whitfield Ave																								

Lead Agency	High Level Summary	2025				2026				2027				2028				2029				2030			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
StreetsLA	Across from 14643 Whitfield Ave																								
StreetsLA	A/F 1161 Cumbre Alta Ct.																								
StreetsLA	959 Galloway St																								
StreetsLA	955 or 957 Embury St (4)																								
StreetsLA	946 Embury St (3)																								
StreetsLA	938 Fiske Ave																								
StreetsLA	918 GLENHAVEN DR.																								
StreetsLA	906 Embury St																								
StreetsLA	881 Toyopa Dr																								
StreetsLA	880 Toyopa Dr																								
StreetsLA	841 JACON WAY																								
StreetsLA	838 Toyopa Drive																								
StreetsLA	760 Toyopa Dr																								
StreetsLA	760 Ocampo Dr (Drummond St)																								
StreetsLA	757 Toyopa Drive																								
StreetsLA	738 Chapala Dr																								
StreetsLA	734 JACON WAY																								
StreetsLA	732 Hartzell Ave																								
StreetsLA	729 ENCHANTED WAY																								
StreetsLA	726 Chapala Dr																								
StreetsLA	720 Chapala Dr																								
StreetsLA	719 Alma Real Dr																								
StreetsLA	679 Benveneda Av.																								
StreetsLA	670 n. Las Casas Av.																								
StreetsLA	669 Los Lomas Av.																								
StreetsLA	667 LACHMAN LANE																								
StreetsLA	665 VIA SANTA YNEZ																								
StreetsLA	662 ENCHANTED WAY																								
StreetsLA	655 Alma Real Dr																								
StreetsLA	649 Los Lomas Av.																								
StreetsLA	646 Los Lomas Av.																								
StreetsLA	640 El Cerco Dr																								
StreetsLA	635 El Cerco Pl																								
StreetsLA	633 Alma Real Dr																								
StreetsLA	626 n. Palmera Av.																								
StreetsLA	625 n. Palmera Av.																								
StreetsLA	622 Alma Real Dr																								

Lead Agency	High Level Summary	2025				2026				2027				2028				2029				2030			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
StreetsLA	621 Erskine Dr																								
StreetsLA	620 Erskine Dr																								
StreetsLA	619 n. Palmera Av.																								
StreetsLA	616 Los Lomas Av.																								
StreetsLA	615 Los Lomas Av.																								
StreetsLA	615 Alma Real Dr																								
StreetsLA	614 Erskine Dr																								
StreetsLA	614 Alma Real Dr																								
StreetsLA	609 Los Lomas Av.																								
StreetsLA	575 n. Tahquitz Pl.																								
StreetsLA	575 Almoloya Dr																								
StreetsLA	563 n. Tahquitz Pl.																								
StreetsLA	519 Beriut Ave																								
StreetsLA	511 Mount Holyoke																								
StreetsLA	500 Via De La Paz																								
StreetsLA	465 Puerto Del Mar																								
StreetsLA	445 Puerto Del Mar																								
StreetsLA	441 Puerto Del Mar																								
StreetsLA	429 Puerto Del Mar																								
StreetsLA	425 Puerto Del Mar																								
StreetsLA	421 Puerto Del Mar																								
StreetsLA	409 Puerto Del Mar																								
StreetsLA	400 Mount Holyoke																								
StreetsLA	400 Lombard Ave																								
StreetsLA	400 Beirut on friends st																								
StreetsLA	380 n. Grenola St																								
StreetsLA	365 Mount Holyoke																								
StreetsLA	355 Mount Holyoke																								
StreetsLA	350 Beirut Ave																								
StreetsLA	325 Via De La Paz																								
StreetsLA	319 Via De La Paz																								
StreetsLA	315 Via De La Paz																								
StreetsLA	215 QUADRO VECCHIO DR.																								
StreetsLA	17850 VICINO WAY																								
StreetsLA	17298 Avenida de la Herradura																								
StreetsLA	1708 PORTO MARINA WAY																								
StreetsLA	17047 LIVORNO DR																								

Lead Agency	High Level Summary	2025				2026				2027				2028				2029				2030			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
StreetsLA	17047 BOLLINGER DR.																								
StreetsLA	17046 LIVORNO DR.																								
StreetsLA	17035 LIVORNO DR.																								
StreetsLA	16924 DONNA YNEZ LANE																								
StreetsLA	16918 LIVORNO DR.																								
StreetsLA	16832 BOLLINGER DR.																								
StreetsLA	16820 EDGAR ST.																								
StreetsLA	16818 LIVORNO DR.																								
StreetsLA	16811 EDGAR ST.																								
StreetsLA	16808 EDGAR ST.																								
StreetsLA	16795 EDGAR ST. (ON THE IDA STREET SIDe)																								
StreetsLA	16790 EDGAR ST.																								
StreetsLA	16763 BOLLINGER DR.																								
StreetsLA	16755 BOLLINGER DR.																								
StreetsLA	16743 Monte Hermoso DR.																								
StreetsLA	16613 PEQUENO PLACE																								
StreetsLA	16612 PEQUENO PLACE																								
StreetsLA	16105 Northfield St.																								
StreetsLA	16055 Temecula St.																								
StreetsLA	1605 Michael Lane																								
StreetsLA	16037 Miami Wy.																								
StreetsLA	16009 Miami Wy.																								
StreetsLA	15871 Asilomar Bl																								
StreetsLA	15425 Via De Las Olas																								
StreetsLA	15396 Bestor Blvd																								
StreetsLA	15313 De Pauw St																								
StreetsLA	15257 Earlham St																								
StreetsLA	15250 Friends St																								
StreetsLA	15241 Earlham St																								
StreetsLA	15232 De Pauw St																								
StreetsLA	15217 Earlham St																								
StreetsLA	15000 Bashford St/1000 Embury St (5)																								
StreetsLA	14929 Whitfield Ave																								
StreetsLA	14925 Whitfield Ave																								
StreetsLA	14900 Carey St (corner house) (4)																								
StreetsLA	14900 Bestor Blvd/1100 Galloway																								
StreetsLA	14900 Bashford St/1000 Fiske St (4)																								

Lead Agency	High Level Summary	2025				2026				2027				2028				2029				2030			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
StreetsLA	14820 Pampas Ricas Blvd																								
StreetsLA	14800 Carey St (corner house) (3)																								
StreetsLA	14800 Bashford St/ 1000 Galloway St																								
StreetsLA	14757 Oracle Pl																								
StreetsLA	14727 Whitfield Ave																								
StreetsLA	14707 Oracle Pl																								
StreetsLA	14706 Oracle Pl																								
StreetsLA	14700 Oracle Pl																								
StreetsLA	14700 Bashford St/ Iliff St (corner house)																								
StreetsLA	14641 Drummond st (3)																								
StreetsLA	14611 Whitfield Ave																								
StreetsLA	14600 Bashford St /1001 Chautaugua St																								
StreetsLA	1433 Monte Grande Pl																								
StreetsLA	1372 Goucher																								
StreetsLA	1365 Marinette Road																								
StreetsLA	1323 Berea Pl																								
StreetsLA	1208 TURQUESA LANE																								
StreetsLA	1176 Fiske Ave																								
StreetsLA	11615 PEQUENO PLACE																								
StreetsLA	114 Marquez Pl.																								
StreetsLA	1131 TELLEM DR.																								
StreetsLA	1131 DONAIRE WAY																								
StreetsLA	1130 Embury St																								
StreetsLA	1123 TELLEM DR.																								
StreetsLA	1120 LAS LOMAS AVE.																								
StreetsLA	1116 Cumbre Alta Ct.																								
StreetsLA	1110 Embury St																								
StreetsLA	1054 GLENHAVEN DR.																								
StreetsLA	1054 Galloway St																								
StreetsLA	1047 Fiske Ave																								
StreetsLA	1046 Iliff St																								
StreetsLA	1036 Iliff St																								
StreetsLA	1023 Embury St																								
StreetsLA	1020 GLENHAVEN DR.																								
StreetsLA	1014 GLENHAVEN DR.																								
StreetsLA	1011 Iliff St																								
StreetsLA	1000 GLENHAVEN DR.																								

Table 3.5 summarizes key infrastructure assets in the Pacific Palisades burn area. For each asset, it documents any reported fire-related damages, notes on the most up-to-date status where available, and lists related projects that address restoration needs from the list of 263 projects. Publicly available literature and information reported to us by agencies were thoroughly reviewed for fire damage and status. Refer to Table F.1 for the scope of the projects listed in the rightmost column of Table 3.5.

Table 3.5: Post-Fire Damage, Updated Status, and Planned Prcjects for Pacific Palisades Assets

General Asset	Reported Fire Damage (if applicable)	Most Up-to-Date Status of Asset (if applicable)	Any Related Projects (refer to Table F.1 for expanded project description)
Distribution Station 29	DS-29 sustained significant fire damage, particularly in the outdoor rack area. Affected components included control wiring, lighting systems, and cable trench covers.	Most up-to-date information available was from the immediate post-Fire report.	(1) DS 29 Expansion and Upgrade (2) DR4856 Permanent Work Project: Distribution Station 29
Power Poles	DR4856 reported that 2 cellular access points and 11 relays were destroyed by wildfires.	Most up-to-date information available was from the immediate post-Fire report.	(1) DR4856 Permanent Work Project: Communication Equipment on Power Poles
Power Metering Devices	Not reported	LADWP has completed AMI and distribution-automation pilots in 2018-2023 at locations unrelated to the disaster, and has already deployed a system-wide RF communications network and a back-office metering platform.	(1) AMI Implementation in Palisades
Underground Feed	Not reported	Not reported	(1) 12kV UG - DS 29-DS-99; Backbone Segments on Sunset (2) 12kV UG - Feeder Segments to Areas 1 & 2 (3) 12kV UG - Feeder Segments to Areas 3 & 4 (4) 12kV UG - Feeder Segments to Areas 5 & 6 (5) 12kV UG - Feeder Segments to Areas 7 & 8 (6) Develop 12kV Design Standards (7) 34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles)
Via De La Paz/ Sunset Blvd Regulator Station	Not reported	Not reported	(1) LADWP Palisades Betterment P1, #1: Via De La Paz/Sunset Blvd Regulator Station Rehab
Trailer Tank	There was damage to the surrounding area, but the Trailer Tank itself remained unaffected.	Most up-to-date information available was from the immediate post-Fire report.	(1) DR4856 Permanent Work Project: Water Tanks
Marquez Knolls Tank	The Fire significantly impacted and damaged the Marquez Knolls Tank. It is suspected that additional damage will be observed when the tank is drained and the interior inspected.	DR4856 reports LADWP cannot drain the tank until the summer season is over due to the current demand and safety issues associated with draining the tank.	(1) DR4856 Permanent Work Project: Water Tanks
Temescal Tank	The Fire significantly impacted the LADWP Temescal Tank, resulting to damage to the site and exterior water tank.	Most up-to-date information available was from the immediate post-Fire report.	(1) DR4856 Permanent Work Project: Water Tanks
Pacific Palisades Reservoir	DR4856 reported scorched PVC pipe and contaminated concrete.	In early 2024, LADWP explored the option of restoring the Pacific Palisades Reservoir to provide temporary storage while the Santa Ynez Reservoir was out of service.	(1) DR4856 Permanent Work Project: Pacific Palisades Reservoir
Santa Ynez Reservoir	Not reported	Santa Ynez Reservoir was returned to service on June 26, 2025 after completion of repairs.	(1) DR4856 Permanent Work Project: Santa Ynez Reservoir

General Asset	Reported Fire Damage (if applicable)	Most Up-to-Date Status of Asset (if applicable)	Any Related Projects (refer to Table F.1 for expanded project description)
Retaining Walls	DR4856 damage assessments reported fire-related damage to retaining wall systems at multiple locations, including burned elements, damaged piles, and slope instability. Reported locations include 559 Bienveneda Ave, Stretto Way & Castellammare Dr, and 15205 Via de las Olas.	Damage assessments have been completed at the identified locations; however reported completion status remains at 0 percent. The immediate post-Fire assessment represents documented field information available at the time of this IRP.	The projects listed below represent discrete retaining wall sites and restoration scopes and are not intended to imply a one-to-one correspondence with individual damage observations. (1) DR4856 Permanent Work Project: 559 Bienveneda Ave (2) DR4856 Permanent Work Project: 505 Bienveneda Ave (3) DR4856 Permanent Work Project: 17470 Revello Dr (4) DR4856 Permanent Work Project: Stretto Way & Castellammare Dr (5) DR4856 Permanent Work Project: 15205 Via de las Olas
Debris Basins	Basin 69's functional capacity is effectively exhausted; the apparent void above the crest is hydraulically ineffective for debris retention. Damage assessments report bent standpipe, debris in debris basins causing standing water, and damaged perimeter fences. See Appendix B.	Damage assessment reported that CAL OES installed compost filter socks and sandbags around City owned catch basins within the Palisades Burn area to prevent sediment and toxic runoff from entering the catch basins. Once installed, ongoing maintenance and replacement is the responsibility of the agencies.	(1) DR4856 Permanent Work Project: Debris Basins (2) LASAN Damage Assessment: W of Palisades Dr (1200 Block) - DB70 (3) LASAN Damage Assessment: Calle de Palermo (17790) - SW - DB61 and DB63 (4) LASAN Damage Assessment: W of Palisades Dr N of Sea Ridge N Entrance - SW (5) LASAN Damage Assessment: Palisades Drive (6) LASAN Damage Assessment: Compost filter socks and sandbags (7) LASAN Damage Assessment: E of Palisades Dr - SW (8) LASAN Damage Assessment: 637 Jacon Way
Storm Drains	Damage assessment mentioned storm drain corrugated discharge pipe to culvert is heavily damaged and compromised.	Most up-to-date information available was from the immediate post-Fire report.	(1) DR4856 Permanent Work Project: Storm Drains (2) Proposed Project: Chautauqua Blvd Storm Drain - Catch Basin Construction (3) Proposed Project: Via De La Olas and Via De La Paz Drainage - Resurfacing and grading, new catch basin, and stormdrain construction (4) LASAN Damage Assessment: 17333 Castellammare Dr
Pumping Plants	Damage assessments reported that Plant 739 experienced total loss of above-grade equipment due to the Fire, and that pump cable insulation may have suffered heat damage. No direct fire damage was reported for other pumping plants listed below.	The immediate post-Fire damage assessment represents recent documented field information available for Plant 739. Interim operational measures and emergency actions may have occurred; permanent restoration activities have not yet been completed.	The projects listed below represent discrete facilities and restoration or resilience scopes associated with the stormwater pumping plant system and are not intended to imply one-to-one correspondence with individual damage observations. (1) Project: PP 730 Palisades Park LFD (2) Project: PP 734 Temescal Canyon Stormwater LFD (3) Project: PP 736 Temescal Canyon Stormwater BMP (4) Project: PP 739 Bay Club Stormwater LFD (5) Project: PP 604 (6) Project: PP 632 (7) Project: PP 634 (8) Project: PP 638 (9) Project: PP 639 (10) DR4856 Permanent Work Project: Pumping Plants (11) LASAN Damage Assessment: 230 Arno Way (12) LASAN Damage Assessment: 500 Pacific Coast Highway

General Asset	Reported Fire Damage (if applicable)	Most Up-to-Date Status of Asset (if applicable)	Any Related Projects (refer to Table F.1 for expanded project description)
Temescal Canyon Park	Not reported	DR4856 reports at Temescal Park, infiltration media will be replaced and underdrains jetted and flushed to restore capacity losses exceeding 80%.	(1) DR4856 Permanent Work Project: Temescal Canyon Park
Palisades Rec Center	DR4856 reports that the wildfire engulfed the Palisades Rec Center.	DR4856 reports that 0% work has been completed for the new recreation center.	(1) DR4856 Permanent Work Project: Palisades Rec Center (RAPID - Destroyed Buildings) (2) DR4856 Permanent Work Project: Palisades Rec Center (Park) (3) DR4856 Permanent Work Project: Palisades Rec Center (Old Recreation Center) (4) DR4856 Permanent Work Project: Palisades Rec Center (Contents)
George Wolfberg Park	Not reported	Not reported	(1) DR4856 Permanent Work Project: George Wolfberg Park at Potrero Canyon
Palisades Branch Library	DR4856 reports that the wildfire engulfed the Palisades Branch Library.	DR4856 reports that 0% work has been completed for the new Palisades Branch Library.	(1) DR4856 Permanent Work Project: Palisades Branch Library (RAPID) (2) DR4856 Permanent Work Project: Palisades Branch Library (Contents)
Dewatering Wells	DR4856 reports that the Fire burned dewatering well electrical components, conduit and wiring.	Most up-to-date information available was from the immediate post-Fire report.	(1) DR4856 Permanent Work Project: Dewatering Wells
Sewer Pipe	LASAN reports that there was no direct damage to the sewer pipes.	Most up-to-date information available was from the immediate post-Fire report.	(1) Project: 505 North Bienveneda Ave Sewer Pipe
Water Main	LADWP reports that there was no direct damage to the water mains.	Most up-to-date information available was from the immediate post-Fire report.	(1) All projects under Palisades Water Main Betterment Projects Phase 1 (2) All projects under Palisades Water Main Betterment Projects Phase 2
Street Lights	DR4856 and City field observations reported fire-related damage to street lighting infrastructure, including burned luminaires, damaged wiring, and compromised poles at multiple locations within the Palisades Burn Area.	Fire-related damage has been documented; permanent restoration and replacement activities are pending and will be implemented as part of the DR4856 permanent work program.	(1) Public Assistance Project (Not Already Included in DR4856 List): Street Lights
Street Trees	Of the trees and stumps analyzed following the fire, 4,681 were identified as needing removal, maintenance, or monitoring.	Hazardous tree* removal completed: 776 Tree pruning completed: 950 Stump removal completed: 389	(1) Public Assistance Project (Not Already Included in DR4856 List): Tree Replacement
Charred Streets, Curbs & Sidewalks	DR4856 reports that burned cars at multiple locations resulted in the charring of 122 asphalt streets, 122 concrete gutters, 122 concrete curbs, 29 concrete sidewalks, and 13 concrete driveway approach aprons.	The number of identified damaged street segments increased from 122 to 203 for our most recent data set provided by StreetsLA in October 2025. Refer to Section 1.5.2.2 for count of street segments, gutters, curbs, sidewalks, driveways, and streetlights provided by StreetsLA in October 2025 and BSL in March 2025.	(1) DR4856 Permanent Work Project: Charred Streets, Curbs & Sidewalks (2) 150 projects reported by StreetsLA
Street Signage	LADOT assessed traffic signs for fire-related damage.	LADOT reports that all signs have been restored.	(1) Public Assistance Project: Street Signage
Street Segments	Street segments have been reported to need deep repairs.	StreetsLA has received these service requests from community members for roadway, pavement, or related street repairs.	(1) 16545 W SUNSET BLVD (2) 678 N Baylor St (3) 1001 WILL ROGERS STATE PARK RD (4) Sunset Boulevard in the Palisades (5) Sunset and Las Casas (6) Muskingum Avenue (7) Castellammare (Tramonto bulkhead and Porta Marino bulkhead) (8) 504 Marquette and 506 Las Casas (9) Akron 16315/16301 near Bienveneda Ave (10) 16900 Block of Livorno Drive (11) Next to 14601 Whitfield Ave

Notes:
1. Previously completed damage assessments are included to document known post-Fire conditions and work completed to date. Their inclusion does not imply that future projects represent duplicate scope.
2. Where noted, the immediate post-Fire damage assessment represents documented field information available at the time of this IRP. This does not imply that asset conditions have remained unchanged, nor that interim inspections, temporary stabilization, or emergency actions have not occurred.
3. The number of related projects listed may exceed the number of damaged assets because projects can represent discrete scopes, locations or system-wide improvements, and are not necessarily one-to-one with individual damage observations.

Restoration work needs to be sequenced strategically to align with housing, commercial, and civic rebuilding schedules, ensuring that infrastructure recovery supports community redevelopment rather than delaying it. To minimize conflicts between overlapping projects, no-build or access-restricted windows should be clearly defined, allowing each sector to complete work efficiently without cross-scope interference. In parallel, coordination with permitting and inspection timelines will streamline project execution, reducing administrative bottlenecks and ensuring that restoration phases progress smoothly from design to completion. Together, these measures promote a synchronized, phased approach that maximizes efficiency, minimizes disruption, reduces costs, and accelerates the overall pace of community recovery.

To manage the impact of rebuilding efforts within Pacific Palisades and reduce the volume of repeat work performed by different agencies and franchise utilities, the City could consider an integrated, cross-agency scheduling process. The technical approach to this has been described by several City departments as the one pave approach and, in general, consists of relieving each commodity agency of the need to complete full street restoration for their work, and adding (or scheduling) a single City project delivered by BOE or StreetsLA at the end of the sequence of improvements to capture all needed paving and streetscape repairs and improvements.

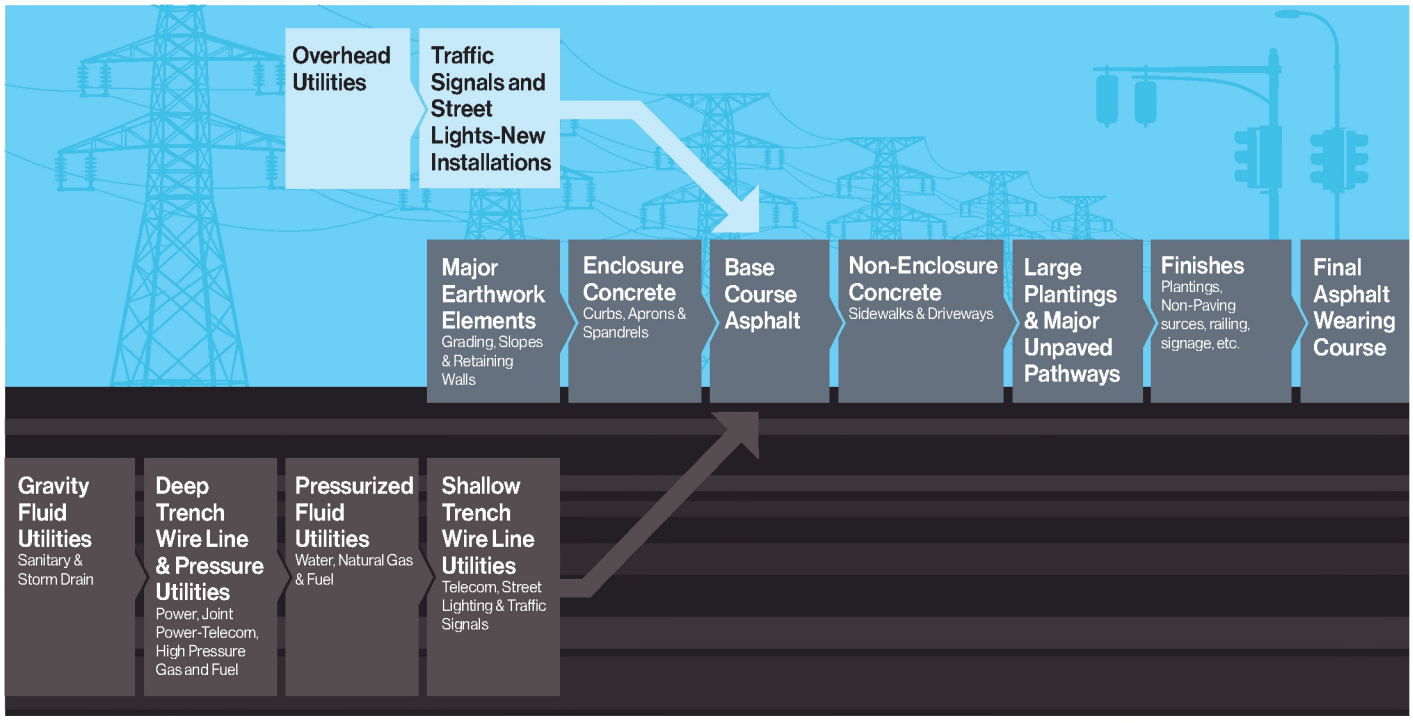


The most effective strategy for this approach on streets where power and telecommunications are currently overhead and are being converted to underground is to follow the typical sequence for installation of utility systems shown in Figure 3.5. Under this strategy, the City would sequence projects on each street or group of streets in the following order:

1. **Gravity wet utilities**
   - Sanitary sewers
   - Storm sewers
2. **Deep trench wire-line systems and Pressure utilities (These require trenches deeper than typical potable water installation)**
   - Power lines
   - Joint power and telecommunication trenching
   - High pressure gas and fuel
3. **Pressurized fluid utilities**
   - Potable and reclaimed water
   - Natural gas
   - Fuel lines
4. **Shallow-trench wire-line systems**
   - Telecommunications
   - Street lighting
   - Traffic signals

Overhead facilities can be worked on at any time prior to final pavement installation. Once these utilities are installed, the streetscape improvements can begin, starting with major grading projects (grade changes in the street, slope restoration / significant earthmoving), followed immediately by compaction-enclosing concrete (curbs, curb ramps, driveway aprons, and spandrels); followed then by base-course asphalt, then large plantings (trees), then non-enclosure concrete (sidewalks and driveways), then landscape finishing and small plantings, along with railings, unpaved walkways, and similar work; and finally a final asphalt wearing course and/or full-street Portland Cement Concrete (PCC) paving. This sequence recognizes that there are existing streets, hardscapes, and buildings which remain in service in the neighborhood which will be subject to modification, and differs from the sequence that would be expected in a greenfield construction arrangement.

Figure 3.5: Infrastructure construction preferred order of operations



The sequencing of permanent restoration establishes a structured approach to rebuild infrastructure efficiently while aligning with long-term community recovery goals. This construction approach is one that results in underground utilities, surface works, and property connections being completed in an order that minimizes rework and service disruption. The process emphasizes coordinated planning across water, power, and telecommunications systems, integrating upgrades where possible to prevent redundant construction. Permanent restoration also includes the transition from temporary emergency repairs to durable, permanent improvements, supported by documentation, quality verification, and continuous improvement reviews. Finally, the sequencing framework provides a clear mechanism for reconnecting individual properties as they are rebuilt, a process by which service restoration proceeds smoothly and in step with neighborhood redevelopment.

The section below examines how project timing and sequencing align across the Pacific Palisades recovery area to support efficient, coordinated infrastructure restoration. It looks at where multiple projects—spanning water, power, sewer, and street systems—converge on the same streets and whether their construction phases are properly sequenced to avoid rework. The analysis also reviews project distribution patterns, identifies areas with no planned work, and highlights existing structures that could be affected by upcoming construction. In addition, recurring keywords and maintenance cycles are assessed to anticipate future projects and ensure continuity beyond the current recovery window. Together, these findings provide a clear view of how restoration efforts overlap, connect, and evolve across the community.

This sequence was designed to avoid construction conflicts between installations, with the consideration of using large machines to excavate for planting large items (i.e. 36”-48”-60” box trees) or doing heavy grading of non-pavement spaces in PROW parway areas, where crossing a new sidewalk or private driveway would result in damage/ reconstruction of the newly installed concrete.

This construction sequence considers the likely scenario that the City will have completed its infrastructure and right-of-way restoration work long before all private buildings have been reconstructed, and, as such, presents certain elements, including tree planting, as a coordinated effort by City forces. If the City is not responsible for a certain element of the streetscape, such as a tree planting, and that task is instead delegated to the private developer at that lot, those elements will be performed after all other work by the City in accordance with the City’s rules, regulations, and standards for new infill construction which are uniform throughout the City. (Note that this assumption is based on the fact that the City does not have a capital planting program currently planned for Pacific Palisades, so tree planting locations will be the responsibility of the developer).

Interactions between tree planting and root growth and underground utilities installations is a significant concern of both the utility asset operators (City Departments and Bureaus: LADWP, LASAN; Private Companies: SoCalGas, Various Telecommunications Firms), as tree root intrusion poses a risk to the utility installation, and subsequent repairs to root intrusions may damage trees. The common practice when new developments are being constructed is for the placement of large plantings, including trees to be developed in coordination with utility placements to limit the risk of interference between trees and utilities. When working in a redevelopment scenario, the presence of existing utility routes and building positioning relative to the property lines limits the number of locations for both utility and tree installations. Development should consider the need to support future street tree installations and other potential conflicts, and seek to route proposed underground installations so as to maximize the future use of the right-of-way for street trees and other purposes not specified or discussed herein. Generally speaking, utility operators both within and external to the City have standard procedures for avoiding damage to existing trees. These standards should be maintained in the context of infrastructure redevelopment as a part of disaster recovery. As noted in this report, in order to facilitate conflict avoidance, it is recommended that new trees and other large plantings should be installed after underground utilities. This approach allows for the Department, Bureau, or private entity which is installing the new plantings to select the placement of plantings so as to avoid interference with utilities.

Because the placement of individual utility service laterals crossing the City’s parkway areas is determined primarily by the building placement within the lot, and private developers may construct new buildings many years after the City intends to complete restoration within the PROW, care should be taken to provide spacing between trees which is sufficient to allow for the installation of utility piping within the operating standards of the various utility asset owners. Clearance requirements vary by utility type, tree type, and ground conditions. Ultimately, it will be the responsibility of the property owners and developers to plan their construction within the utility requirement, considering the trees which have been installed as of the time of permitting or which may be required or planned to be installed at a later date for each building. (Note: Large trees can only be planted where parkway width allows).

This sequencing is based on the assumption that the City will conclude the City's public right-of-way restoration work long before all residential buildings are completed.

3.2.1. Distribution of Projects

The dataset that was gathered during the development of the IRP includes 263 infrastructure projects in the Pacific Palisades recovery and improvement program, categorizedby "Dry Utilities," "Wet Utilities," "Public Buildings, Parks, and Other City Facilities," and "Streets, Hardscapes, and Walls":

- **Dry Utilities:** Managed primarily by LADWP Power, these include undergrounding and corridor hardening, Distribution Station 29, mostly in proposed status. LADWP is also planning for a systemwide Advanced Metering Infrastructure (AMI) program.
- **Wet Utilities:** Projects in this utility group are led by LADWP Water, LASAN, and BOE. The projects include Pacific Palisades Betterment Projects in Phases 1 and 2, DR4856 Permanent Work, and Damage Assessments. Several additional efforts—such as Recovery Support Strategy (RSS) plans—are in planned or proposed status, reflecting early coordination and design stages.
- **Public Buildings, Parks, and Other City Facilities:** Projects in this group are led by Library and RAP. These planned projects are from the DR4856 Permanent Work Projects list.
- **Streets, Hardscapes, and Walls:** Led by StreetsLA, Street Lighting, and LADOT, this category captures roadway and surface restoration, including 150 patchwork repairs in burned scar areas, coordinated StreetsLA (Bureau of Street Services) segments, and a small number of DR4856 and public assistance projects. Most street-related work remains planned and aligned with post-utility restoration sequencing.

The dataset highlights a complex, multi-agency recovery portfolio where LADWP leads both power and water system upgrades, while LASAN, BOE, and StreetsLA support surface and environmental restoration across overlapping timelines.

Patchwork projects are generally a collection of small, localized pavement repairs done only in the specific areas damaged by fire, utility work, debris removal, or heavy equipment—not a full resurfacing or reconstruction of the entire street.

The patchworks are usually spot repairs, often irregular in shape and scattered along the roadway. They usually include grinding and replacing small pavement sections rather than the full width, as well as filling potholes, cracks, and surface failures caused by emergency vehicles, burned vegetation removal, or heat stress.

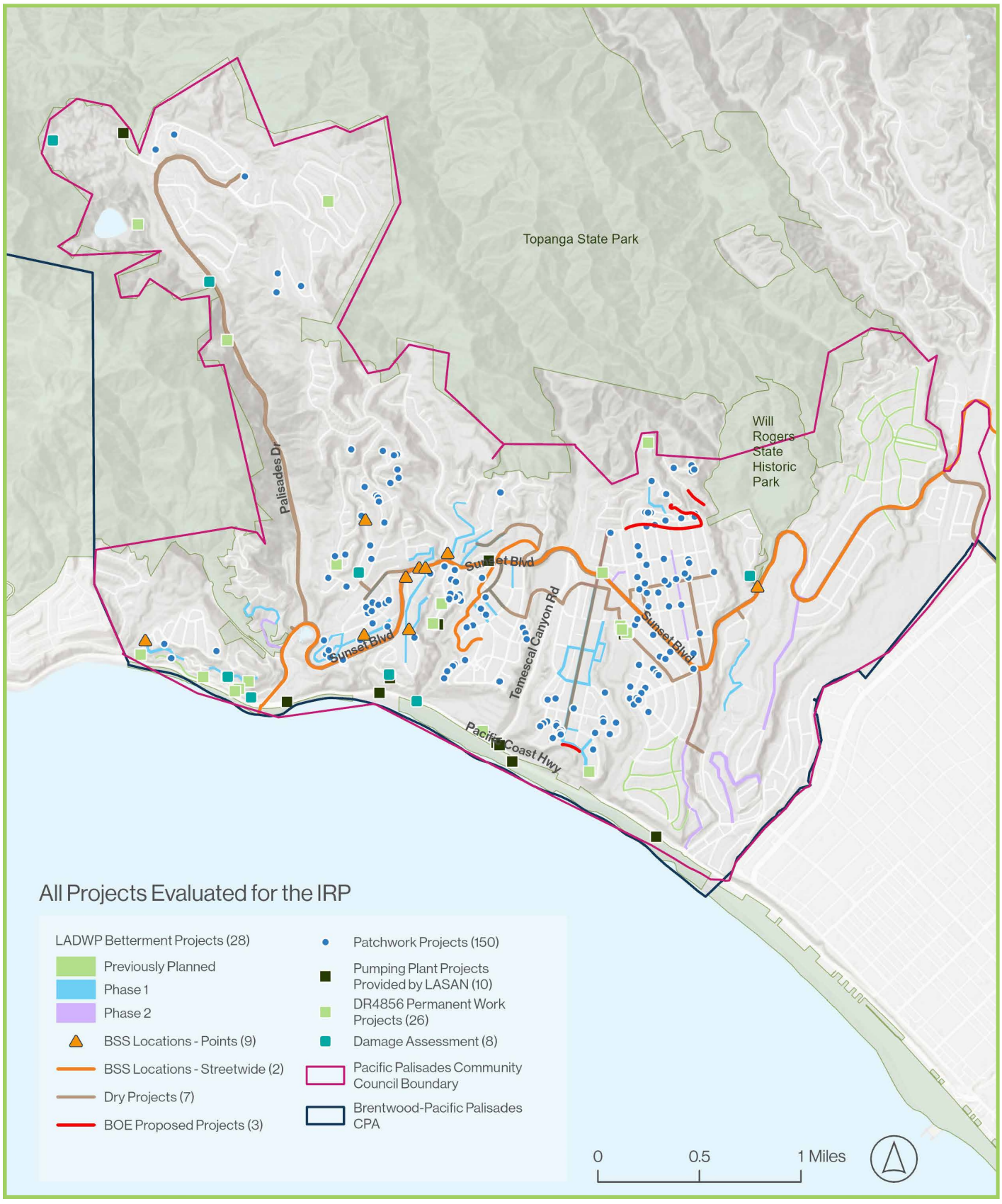
The map in Figure 3.6 shows the following:

- **LADWP Betterment Projects —** Projects are shown in three status bands (Previously Planned, Phase 1, Phase 2), indicating LADWP electrical/utility upgrade corridors and where sequencing of work is planned.
- **StreetsLA Locations —** Point symbols mark individual StreetsLA locations; a separate symbol or line marks the streetwide StreetsLA projects. These are projects where StreetsLA has received service requests for roadway, pavement, or related street repairs.
- **Dry Projects —** Linear segments (orange-brown lines) show specific dry-weather or dry improvement corridors.
- **BOE Proposed Projects —** Short red segments show stormwater/water-quality projects that are proposed but not yet approved for implementation.
- **Pumping Plant Projects Provided by LASAN —** Square symbols (dark green) represent resilience or hazard-reduction projects.
- **DR4856 Permanent Work Projects —**Light green squares indicate permanent repairs under DR4856 (disaster recovery) work.
- **Damage Assessment —** Small symbols are used to show sites where assessments were performed.
- **Patchwork Projects —** Many small blue dots within the Pacific Palisades Community Council boundary represent localized patch repairs (pavement/restoration/utility patches).
- **Community Boundaries —** A pink outline marks the Pacific Palisades Community Council boundary; a darker border shows the Brentwood–Pacific Palisades CPA.
- **Map Aids —** Aids include hillshade/contours for topography, a scale bar (0–1 mile), and a north arrow for orientation. Parks such as Topanga State Park and Will Rogers State Historic Park are labeled on the hill areas.

The spatial analysis of current and planned infrastructure projects reveals specific patterns. First, a high density of localized repairs appears across the neighborhood, particularly along the coastal corridor and denser residential streets, where numerous small-scale restoration efforts have occurred. In contrast, corridor-focused utility projects—notably LADWP betterment efforts and StreetsLA segments—follow the main transportation and utility alignments, signaling larger, coordinated upgrades to major roads and transmission corridors.

Disaster recovery and resilience projects, including FEMA and DR4856 efforts, are more dispersed but concentrated in areas historically affected by flooding, erosion, or wildfire, reflecting a focus on permanent hazard mitigation. A small number of BOE-led stormwater projects (noted in red in Figure 3.6) highlight remaining funding and prioritization needs for LASAN's drainage work. Finally, topography plays a defining role, as many projects are clustered on the coastal plain and lower slopes, where access and constructability are easier. Fewer projects occur on steep hillsides.

Figure 3.6: Map of all prcjects evaluated for the IRP



3.2.1.1. Key Highlights of the Spatial Analysis

- The investment represents a significant undertaking in the improvement of municipal infrastructure, with power infrastructure accounting for the majority of funding.
- There is a prevalence of improvements to address deteriorated infrastructure nearing end of useful life, and the Fire response presents an opportunity to bring these improvements to the forefront.
- The 2028 Olympics deadline is mentioned in notes and descriptions for 7% of the projects, creating pressure for accelerated timelines while maintaining quality standards.
- Coordination between multiple agencies (particularly water and power systems) will be critical to avoid conflicts and minimize disruption to the community.
- The phased approach spanning nearly a decade (2025-2033) reflects the complexity and scale of rebuilding modern, resilient infrastructure while maintaining service to residents.

3.2.1.2. Main Recommendations

- Establish a coordinated project management office to oversee inter-agency dependencies.
- Develop a comprehensive community communication strategy to manage expectations around timeline and disruption.
- Prioritize projects based on public safety, 2028 Olympics requirements, and infrastructure criticality.
- Implement continuous monitoring of project progress to identify delays or coordination issues early.

3.2.2. Analysis of Street Segments with Projects

The purpose of Appendix F.1, which provides a table of all projects and comprehensive descriptions with exact windows and full project names for interagency forward planning.

For every point, dates were standardized to a common window (Start–Finish) and projects were mapped to their full names and flagged as to whether their location is on or adjacent to an active StreetsLA paving segment. This allows the City to see not just what is planned, but where and when overlaps create delivery risk.

In contrast, to support corridor-level construction project coordination in Pacific Palisades, Tables 3.6 through 3.8 were compiled from LADWP Betterment Program schedules which include backbone (the primary high-voltage lines forming the core of the grid), feeder (distribution circuits extending from substations to neighborhoods), and service or secondary lines that provide the final connection to customers as well as FEMA DR4856 permanent-work scope, LASAN drainage/assessment items, and StreetsLA paving locations.

3.2.2.1. Phase Designations

Project phases have been assigned to each project, as shown below, to ensure a logical sequence of work and to minimize redundancy in trenching activities.

Phase 1: Deepest Sub-Surface Utilities

The project begins at the lowest elevation, with the utilities that must be installed deepest in the ground.

1. **Gravity Fluid Utilities:** The first items installed are sanitary and storm drains. These must go in first because their function is dependent on a precise, continuous downward slope (gravity-fed), setting the foundational depth for all other systems.
2. **Deep & Pressurized Utilities:** Following the gravity lines, crews install the next layers of utilities, moving from deepest to shallowest. This includes deep trench wireline (like joint power/telecom), high-pressure gas lines, and other pressurized fluid utilities (water, natural gas).
3. **Shallow Utilities:** The final sub-surface step is the shallow trench wireline. This layer contains conduits for telecom, street lighting, and traffic signals. This work is completed last so it sits above all other systems, allowing for easier access in the future without disturbing deeper, more critical infrastructure.

Phase 2: Surface Foundation & Integration

Once all underground work is complete and the trenches are backfilled, work begins on building the surface level.

1. **Earthwork & Concrete Forms:** The sequence starts with major earthwork (grading, slopes) and building retaining walls. This establishes the new ground level. This is immediately followed by pouring enclosure concrete, such as curbs and aprons, which create the frame for the new roadway and sidewalks.
2. **Base Asphalt & System Integration:** This is a critical integration point. The Base Course Asphalt (the structural layer of the road) is laid down. As shown by the arrows in the diagram, this step must be coordinated with two other workstreams:
    - **Overhead Utilities**: Foundations for new traffic signals and streetlights are installed.
    - **Shallow Utilities**: The conduits from the shallow trenches are stubbed up and connected to these new foundations before the final concrete and asphalt are placed.

Phase 3: Final Surfaces & Finishes

With all infrastructure (below-ground and above-ground) installed and connected, the project moves to the final finishes.

1. **Adjacent Surfaces:** Non-roadway elements are completed. This includes large plantings, unpaved pathways, and non-enclosure concrete (sidewalks and driveways). This work is done after the base course is in, as it can be formed up against the new curbs.
2. **Final Finishes:** Aesthetic and functional details like smaller plantings, railings, and signage are installed.
3. **Final Asphalt Wearing Course:** The very last step is to apply the final, smooth layer of asphalt. This wearing course is laid only after 100% of the other work is complete, ensuring a pristine, final surface that won't need to be cut or trenched for any other part of the project.

3.2.2.2. Schedule and Order of Work

Table 3.6 through Table 3.8 show the sequencing of overlapping projects in three different ways:

Conflict Schedule – (Table 3.6) – Identifies where and what overlaps occur.

Multiple-Phase Summary – (Table 3.7) – Verifies in what sequence activities are scheduled.

Concurrent-with-StreetsLA Summary – (Table 3.8) – Isolates the conflicts that directly affect the StreetsLA paving.

Together, these tables form a structured workflow for project coordination—starting from the master map, checking and correcting illogical phase orders, and protecting StreetsLA paving schedules by locking joint-trench windows.

Conflict Schedule

Table 3.6 inventories all locations where two or more projects overlap in time or space—such as Sunset Boulevard segments that combine LADWP power projects with FEMA/LASAN storm-drain or DR4856 recovery work. Each record represents a unique conflict point (street segment or intersection). The analysis shows Sunset Boulevard as the corridor with the highest density of conflicts between 2025 and 2029, with additional clusters near Via De La Paz/Antioch, the Amalfi–Capri–Sorrento neighborhood grid, and Allenford/San Vicente on the eastern approach.

Table 3.6: Conflict Schedules on Street Intersections

ID	Streets	Intersection	Overlap windows (Start–Finish)	Conflicting projects (full names)
23405	CASTELLAMMARE	SUNSET, STRETTO	2025-01-26 - 2026-07-08	DR4856 Permanent Work Project: Stretto Way & Castellammare Dr LASAN Damage Assessment: 17333 Castellammare Dr
23425	PASEO MIRAMAR	VIA FLORENCE, VIA NICOLAS	2027-07-01 - 2027-09-30	LADWP Palisades Betterment P1, #8: Paseo Miramar and Via Lucia - 1,200 LF STL replacement LADWP Palisades Betterment P2, e: 420 LF STL Replacement and 870 LF STL Installation
23468	CHAUTAUQUA	WHITFIELD, PASKENTA	2026-01-01 - 2026-07-08	1365 Marinette Road Next to 14601 Whitfield Ave Proposed Project: Chautauqua Blvd Storm Drain - Catch Basin Construction
23474	BESTOR	GALLOWAY, FISKE, WHITFIELD	2026-01-01 - 2026-07-08	1176 Fiske Ave 14900 Bestor Blvd/1100 Galloway Proposed Project: Chautauqua Blvd Storm Drain - Catch Basin Construction
23483	SUNSET	NAPOLI, CAPRI	Projects Never Completely Overlap	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade LADWP Palisades Betterment P1, #3: 2,260 LF ERP replacement LADWP Palisades Betterment P2, a: 3,380 LF ERP Replacement
23488	ALCIMA	EL MEDIO, LAS LOMAS	2027-04-01 - 2027-12-31	12kV UG - Feeder Segments to Areas 3 & 4 LADWP Palisades Betterment P1, #17: Las Lomas Avenue and Alcima Ave - 5,148 LF ERP Replacement
23507	SUNSET	LAS LOMAS, BIENVENEDA	Projects Never Completely Overlap	12kV UG - DS 29-DS-99; Backbone Segments on Sunset 12kV UG - Feeder Segments to Areas 1 & 2 12kV UG - Feeder Segments to Areas 3 & 4 StreetsLA Locations LADWP Palisades Betterment P1, #11: Sunset Blvd and Las Casas Ave - 2,537 LF ERP replacement
23508	SUNSET	LAS LOMAS, NORTHFIELD	Projects Never Completely Overlap	12kV UG - DS 29-DS-99; Backbone Segments on Sunset 12kV UG - Feeder Segments to Areas 1 & 2 12kV UG - Feeder Segments to Areas 3 &4 StreetsLA Locations LADWP Palisades Betterment P1, #11: Sunset Blvd and Las Casas Ave - 2,537 LF ERP replacement

ID	Streets	Intersection	Overlap windows (Start–Finish)	Conflicting projects (full names)
23517	SUNSET	VIA DE LA PAZ, SWARTHMORE	Projects Never Completely Overlap	12kV UG - Feeder Segments to Areas 1 & 2 12kV UG - Feeder Segments to Areas 3 &4 12kV UG - Feeder Segments to Areas 5 & 6 12kV UG - Feeder Segments to Areas 7 & 8 34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DR4856 Permanent Work Project: Distribution Station 29 - Restoration of Services DS 29 Expansion and Upgrade LADWP Palisades Betterment P1, #1: Via De La Paz/ Sunset Blvd Regulator Station Rehab LADWP Palisades Betterment P2, f: Via De La Paz (1,500 LF), Sunset Blvd (1,335 LF), Swarthmore Ave (512 LF), Antioch St (460 LF) ERP Replacements
23521	JACON	LACHMAN, VIA SANTA YNEZ, EL ORO	2025-05-27 - 2026-07-08	734 Jacon Way 841 Jacon Way StreetsLA Locations LASAN Damage Assessment: 637 Jacon Way
23522	MARQUEZ	BOLLINGER, EDGAR	2027-07-01 - 2027-12-31	12kV UG - Feeder Segments to Areas 3 & 4 LADWP Palisades Betterment P1, #9: Marquez Ave and Ida St - 880 LF DI replacement
23523	BASHFORD	GALLOWAY, HARTZELL	2026-07-01 - 2026-07-08	12kV UG - Feeder Segments to Areas 5 & 6 959 Galloway St
23525	BASHFORD	EMBURY, FISKE	2026-07-01 - 2026-07-08	12kV UG - Feeder Segments to Areas 5 & 6 15000 Bashford St/1000 Embury St (5)
23529	BASHFORD	EMBURY, MONUMENT	2026-07-01 - 2026-07-08	12kV UG - Feeder Segments to Areas 5 & 6 955 or 957 Embury St (4)
23530	MARQUEZ	JACON, EDGAR	2027-07-01 - 2027-12-31	12kV UG - Feeder Segments to Areas 3 &4 LADWP Palisades Betterment P1, #9: Marquez Ave and Ida St - 880 LF DI replacement
23532	MARQUEZ	JACON, IDA	2027-07-01 - 2027-12-31	12kV UG - Feeder Segments to Areas 3 &4 LADWP Palisades Betterment P1, #9: Marquez Ave and Ida St - 880 LF DI replacement
23533	LAS CASAS	BAYLOR, SUNSET	Projects Never Completely Overlap	670 n. Las Casas Av. StreetsLA Locations LADWP Palisades Betterment P1, #11: Sunset Blvd and Las Casas Ave - 2,537 LF ERP replacement LADWP Palisades Betterment P1, #15: Las Casas Ave and Marquette St - 3,772 LF ERP Replacement
23556	MIAMI	ALMAR, MUSKINGUM	Projects Never Completely Overlap	16009 Miami Way 16037 Miami Way LADWP Palisades Betterment P1, #14: Muskingum Ave and Temecula St - 4,539 LF ERP Replacement
23565	SUNSET	FISKE, CAREY, EMBURY	Projects Never Completely Overlap	12kV UG - Feeder Segments to Areas 7 & 8 34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade

ID	Streets	Intersection	Overlap windows (Start–Finish)	Conflicting projects (full names)
23574	SUNSET	FISKE, GALLOWAY, DRUMMOND	Projects Never Completely Overlap	12kV UG - Feeder Segments to Areas 7 & 8 34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade
23580	CARTHAGE	VIA DE LA PAZ, SWARTHMORE	2030-04-01 -2030-06-30	LADWP Palisades Betterment P1, #12: Via De La Paz and Radcliffe Ave - 5,642 LF STL Replacement LADWP Palisades Betterment P1, #13: Hampden Place and Swarthmore Ave - 4,838 LF ERP Replacement
23582	SUNSET	MARQUEZ, SALERNO	Projects Never Completely Overlap	114 Marquez Pl. 12kV UG - DS 29-DS-99; Backbone Segments on Sunset 12kV UG - Feeder Segments to Areas 1 & 2 StreetsLA Locations
23583	SUNSET	HARTZELL, GALLOWAY, DRUMMOND	Projects Never Completely Overlap	12kV UG - Feeder Segments to Areas 7 & 8 34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade
23606	FRIENDS	BEIRUT, VIA DE LA PAZ	2025-01-08 - 2026-07-08	319 Via De La Paz 325 Via De La Paz 350 Beirut Ave 400 Beirut on Friends St
23614	VIA DE LAS OLAS	VIA DE LA PAZ, SWARTHMORE	2029-01-01 -2030-06-30	LADWP Palisades Betterment P1, #12: Via De La Paz and Radcliffe Ave - 5,642 LF STL Replacement Proposed Project: Via De La Olas and Via De La Paz Drainage - Resurfacing and grading, new catch basin, and stormdrain construction
23617	VIA DE LAS OLAS	LOMBARD, SWARTHMORE	2029-01-01 -2030-06-30	LADWP Palisades Betterment P1, #12: Via De La Paz and Radcliffe Ave - 5,642 LF STL Replacement Proposed Project: Via De La Olas and Via De La Paz Drainage - Resurfacing and grading, new catch basin, and stormdrain construction
23631	PACIFIC COAST	TEMESCAL CANYON	2026-01-01 - 2033-12-31	Project: PP 634 Project: PP 734 Temescal Canyon Stormwater LFD
23636	AMALFI	CAPRI, SAN REMO	2025-10-06 - 2026-12-31	LADWP Palisades Betterment P1, #4: 9,297 LF ERP replacement LADWP Palisades Betterment P1, #5: 8,600 LF ERP replacement
23641	SORRENTO	SAN REMO, CAPRI	2025-10-06 - 2026-12-31	LADWP Palisades Betterment P1, #4: 9,297 LF ERP replacement LADWP Palisades Betterment P1, #5: 8,600 LF ERP replacement
23655	CAPRI	MONACO, SORRENTO, D'ESTE	2025-10-06 - 2026-12-31	LADWP Palisades Betterment P1, #4: 9,297 LF ERP replacement LADWP Palisades Betterment P1, #5: 8,600 LF ERP replacement

ID	Streets	Intersection	Overlap windows (Start–Finish)	Conflicting projects (full names)
23667	CAPRI	ROMANY, MONACO, D'ESTE	2026-10-01 - 2026-12-31	LADWP Palisades Betterment P1, #3: 2,260 LF ERP replacement LADWP Palisades Betterment P1, #4: 9,297 LF ERP replacement
23687	SUNSET	MONACO, CAPRI	Projects Never Completely Overlap	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade LADWP Palisades Betterment P1, #3: 2,260 LF ERP replacement
23693	CHAUTAUQUA	PASKENTA, BEREA	2026-01-01 - 2026-07-08	14611 Whitfield Ave Proposed Project: Chautauqua Blvd Storm Drain - Catch Basin Construction
23704	MCKENDREE	GOUCHER, BESTOR, EMBURY	2025-01-08 - 2026-07-08	14925 Whitfield Ave 14929 Whitfield Ave Across From 14907 Whitfield Ave
23722	VIA DE LA PAZ	BESTOR, CHARM ACRES	2026-10-01 - 2027-06-30	12kV UG - Feeder Segments to Areas 5 & 6 LADWP Palisades Betterment P2, f: Via De La Paz (1,500 LF), Sunset Blvd (1,335 LF), Swarthmore Ave (512 LF), Antioch St (460 LF) ERP Replacements
23735	VIA DE LA PAZ	ALBRIGHT, CHARM ACRES	2026-10-01 - 2027-06-30	12kV UG - Feeder Segments to Areas 5 & 6 LADWP Palisades Betterment P2, f: Via De La Paz (1,500 LF), Sunset Blvd (1,335 LF), Swarthmore Ave (512 LF), Antioch St (460 LF) ERP Replacements
23739	SUNSET	MUSKINGUM, WILDOMAR	Projects Never Completely Overlap	12kV UG - DS 29-DS-99; Backbone Segments on Sunset 12kV UG - Feeder Segments to Areas 1 & 2 12kV UG - Feeder Segments to Areas 3 &4 StreetsLA Locations LADWP Palisades Betterment P1, #11: Sunset Blvd and Las Casas Ave - 2,537 LF ERP replacement
23741	SUNSET	WILDOMAR, ALMAR	Projects Never Completely Overlap	12kV UG - DS 29-DS-99; Backbone Segments on Sunset 12kV UG - Feeder Segments to Areas 1 & 2 12kV UG - Feeder Segments to Areas 3 &4 StreetsLA Locations LADWP Palisades Betterment P1, #11: Sunset Blvd and Las Casas Ave - 2,537 LF ERP replacement
23742	VIA DE LA PAZ	ALBRIGHT	2026-10-01 - 2027-06-30	12kV UG - Feeder Segments to Areas 5 & 6 LADWP Palisades Betterment P2, f: Via De La Paz (1,500 LF), Sunset Blvd (1,335 LF), Swarthmore Ave (512 LF), Antioch St (460 LF) ERP Replacements
23744	SUNSET	EL MEDIO, ALMAR	Projects Never Completely Overlap	12kV UG - DS 29-DS-99; Backbone Segments on Sunset 12kV UG - Feeder Segments to Areas 1 & 2 12kV UG - Feeder Segments to Areas 3 & 4 StreetsLA Locations LADWP Palisades Betterment P1, #11: Sunset Blvd and Las Casas Ave - 2,537 LF ERP replacement LADWP Palisades Betterment P1, #14: Muskingum Ave and Temecula St - 4,539 LF ERP Replacement

ID	Streets	Intersection	Overlap windows (Start–Finish)	Conflicting projects (full names)
23749	SUNSET	LAS CASAS, BIENVENEDA	Projects Never Completely Overlap	12kV UG - DS 29-DS-99; Backbone Segments on Sunset 12kV UG - Feeder Segments to Areas 1 & 2 12kV UG - Feeder Segments to Areas 3 & 4 StreetsLA Locations LADWP Palisades Betterment P1, #11: Sunset Blvd and Las Casas Ave - 2,537 LF ERP replacement
23751	SUNSET	MUSKINGUM, NORTHFIELD	Projects Never Completely Overlap	12kV UG - DS 29-DS-99; Backbone Segments on Sunset 12kV UG - Feeder Segments to Areas 1 & 2 12kV UG - Feeder Segments to Areas 3 &4 StreetsLA Locations Project: PP 604 LADWP Palisades Betterment P1, #11: Sunset Blvd and Las Casas Ave - 2,537 LF ERP replacement
23752	ENCHANTED	EL ORO	2025-01-08 - 2026-07-08	662 Enchanted Way 729 Enchanted Way DR4856 Permanent Work Project: Dewatering Wells -2
23758	VIA DE LA PAZ	SUNSET, ALBRIGHT	Projects Never Completely Overlap	12kV UG - Feeder Segments to Areas 5 & 6 LADWP Palisades Betterment P1, #1: Via De La Paz/ Sunset Blvd Regulator Station Rehab LADWP Palisades Betterment P2, f: Via De La Paz (1,500 LF), Sunset Blvd (1,335 LF), Swarthmore Ave (512 LF), Antioch St (460 LF) ERP Replacements
23773	VIA DE LA PAZ	SUNSET, ANTIOCH	Projects Never Completely Overlap	12kV UG - Feeder Segments to Areas 5 & 6 LADWP Palisades Betterment P1, #1: Via De La Paz/ Sunset Blvd Regulator Station Rehab LADWP Palisades Betterment P1, #12: Via De La Paz and Radcliffe Ave - 5,642 LF STL Replacement LADWP Palisades Betterment P2, f: Via De La Paz (1,500 LF), Sunset Blvd (1,335 LF), Swarthmore Ave (512 LF), Antioch St (460 LF) ERP Replacements
23774	ANTIOCH	HAVERFORD, VIA DE LA PAZ, RADCLIFFE	Projects Never Completely Overlap	12kV UG - Feeder Segments to Areas 5 & 6 LADWP Palisades Betterment P1, #12: Via De La Paz and Radcliffe Ave - 5,642 LF STL Replacement LADWP Palisades Betterment P2, f: Via De La Paz (1,500 LF), Sunset Blvd (1,335 LF), Swarthmore Ave (512 LF), Antioch St (460 LF) ERP Replacements
23785	JACON	MARQUEZ	2027-07-01 - 2027-12-31	12kV UG - Feeder Segments to Areas 3 & 4 LADWP Palisades Betterment P1, #9: Marquez Ave and Ida St - 880 LF DI replacement
23789	SUNSET	AMALFI, SPEZIA	Projects Never Completely Overlap	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade LADWP Palisades Betterment P2, a: 3,380 LF ERP Replacement LADWP Palisades Betterment P2, b: Amalfi Dr & Toulon Dr Divider - 8,688 LF ERP Replacement

ID	Streets	Intersection	Overlap windows (Start–Finish)	Conflicting projects (full names)
23793	SUNSET	LA CRUZ, ANTIOCH	Projects Never Completely Overlap	12kV UG - Feeder Segments to Areas 5 & 6 12kV UG - Feeder Segments to Areas 7 & 8 34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade LADWP Palisades Betterment P2, f: Via De La Paz (1,500 LF), Sunset Blvd (1,335 LF), Swarthmore Ave (512 LF), Antioch St (460 LF) ERP Replacements
23815	EMBURY	BASHFORD, CAREY	Projects Never Completely Overlap	12kV UG - Feeder Segments to Areas 5 & 6 12kV UG - Feeder Segments to Areas 7 & 8 906 Embury St 946 Embury St (3)
23823	VIA DE LA PAZ	ANTIOCH, BOWDOIN	Projects Never Completely Overlap	12kV UG - Feeder Segments to Areas 5 & 6 LADWP Palisades Betterment P1, #12: Via De La Paz and Radcliffe Ave - 5,642 LF STL Replacement LADWP Palisades Betterment P2, f: Via De La Paz (1,500 LF), Sunset Blvd (1,335 LF), Swarthmore Ave (512 LF), Antioch St (460 LF) ERP Replacements
23829	BIENVENEDA	LAS LOMAS	2026-01-01 - 2026-07-08	DR4856 Permanent Work Project: 505 Bienveneda Ave DR4856 Permanent Work Project: 505 N Bienveneda Ave Sewer Pipe DR4856 Permanent Work Project: 559 Bienveneda Ave Project: 505 North Bienveneda Ave Sewer Pipe
23834	ALMA REAL	LA CRUZ, TOYOPA	2026-07-01 - 2026-07-08	12kV UG - Feeder Segments to Areas 5 & 6 DR4856 Permanent Work Project: George Wolfberg Park at Potrero Canyon DR4856 Permanent Work Project: Palisades Branch Library (Contents) DR4856 Permanent Work Project: Palisades Branch Library (RAPID) DR4856 Permanent Work Project: Palisades Rec Center (Park) DR4856 Permanent Work Project: Private Property Debris Removal (PPDR) Damages
23840	ILIFF	CAREY, DRUMMOND	2026-07-01 - 2026-07-08	12kV UG - Feeder Segments to Areas 5 & 6 14641 Drummond St (3)
23849	ALMA REAL	TOYOPA, OCAMPO	2026-07-01 - 2026-07-08	12kV UG - Feeder Segments to Areas 5 & 6 DR4856 Permanent Work Project: Palisades Rec Center (Contents) DR4856 Permanent Work Project: Palisades Rec Center (Old Recreation Center) DR4856 Permanent Work Project: Palisades Rec Center (**RAPID - Destroyed Buildings**)
23850	ERSKINE	MIAMI, BOWDOIN	2025-01-08 - 2026-07-08	614 Erskine Dr 620 Erskine Dr

ID	Streets	Intersection	Overlap windows (Start–Finish)	Conflicting projects (full names)
23854	VIA DE LA PAZ	BOWDOIN, CARTHAGE	Projects Never Completely Overlap	12kV UG - Feeder Segments to Areas 5 & 6 LADWP Palisades Betterment P1, #12: Via De La Paz and Radcliffe Ave - 5,642 LF STL Replacement LADWP Palisades Betterment P1, #13: Hampden Place and Swarthmore Ave - 4,838 LF ERP Replacement
23871	CHAUTAUQUA	SUNSET, DRUMMOND	2025-04-01 -2026-06-30	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) DS 29 Expansion and Upgrade
23890	VIA DE LA PAZ	DE PAUW, CARTHAGE	Projects Never Completely Overlap	12kV UG - Feeder Segments to Areas 5 & 6 LADWP Palisades Betterment P1, #12: Via De La Paz and Radcliffe Ave - 5,642 LF STL Replacement LADWP Palisades Betterment P1, #13: Hampden Place and Swarthmore Ave - 4,838 LF ERP Replacement
23891	DE PAUW	VIA DE LA PAZ, MOUNT HOLYOKE	2030-04-01 -2030-06-30	LADWP Palisades Betterment P1, #12: Via De La Paz and Radcliffe Ave - 5,642 LF STL Replacement LADWP Palisades Betterment P1, #13: Hampden Place and Swarthmore Ave - 4,838 LF ERP Replacement
23897	DE PAUW	VIA DE LA PAZ, SWARTHMORE	2030-04-01 -2030-06-30	LADWP Palisades Betterment P1, #12: Via De La Paz and Radcliffe Ave - 5,642 LF STL Replacement LADWP Palisades Betterment P1, #13: Hampden Place and Swarthmore Ave - 4,838 LF ERP Replacement
23915	VIA DE LA PAZ	DE PAUW, EARLHAM	Projects Never Completely Overlap	12kV UG - Feeder Segments to Areas 5 & 6 500 Via De La Paz LADWP Palisades Betterment P1, #12: Via De La Paz and Radcliffe Ave - 5,642 LF STL Replacement LADWP Palisades Betterment P1, #13: Hampden Place and Swarthmore Ave - 4,838 LF ERP Replacement
24085	ALLENFORD	PONTOON, BRINKLEY	2025-04-01 -2026-06-30	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) DS 29 Expansion and Upgrade
24109	ALLENFORD	PONTOON	2025-04-01 -2026-06-30	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) DS 29 Expansion and Upgrade
24530	ALLENFORD	SUNSET, LONGWORTH	2025-04-01 -2026-06-30	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) DS 29 Expansion and Upgrade
24532	ALLENFORD	BRINKLEY, LONGWORTH	2025-04-01 -2026-06-30	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) DS 29 Expansion and Upgrade
24742	LIVORNO	MARQUEZ, BOLLINGER	Projects Never Completely Overlap	17035 Livorno Dr 17046 Livorno Dr 17047 Livorno Dr LADWP Palisades Betterment P1, #16: Las Casas Ave and Marquette St - 4,133 LF ERP Replacement

ID	Streets	Intersection	Overlap windows (Start–Finish)	Conflicting projects (full names)
35084	SUNSET	MARQUEZ, LAS CASAS	Projects Never Completely Overlap	12kV UG - DS 29-DS-99; Backbone Segments on Sunset 12kV UG - Feeder Segments to Areas 1 & 2 12kV UG - Feeder Segments to Areas 3 &4 StreetsLA Locations
67179	PALISADES	SECTION 1	Projects Never Completely Overlap	12kV UG - DS 29-DS-99; Backbone Segments on Sunset 12kV UG - Feeder Segments to Areas 1 & 2 1433 Monte Grande Pl
70399	ARNO	TRINO, BAY CLUB	2026-01-01 - 2033-12-31	Project: PP 739 Bay Club Stormwater LFD LASAN Damage Assessment: 230 Arno Way
70401	PACIFIC COAST	BAY CLUB, SEAVIEW	2026-01-01 - 2033-12-31	Project: PP 639 LASAN Damage Assessment: 500 Pacific Coast Highway
70468	SUNSET	NAPOLI, MINORCA	Projects Never Completely Overlap	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade LADWP Palisades Betterment P2, a: 3,380 LF ERP Replacement
70470	SUNSET	MINORCA, SPEZIA	Projects Never Completely Overlap	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade LADWP Palisades Betterment P2, a: 3,380 LF ERP Replacement
70471	SUNSET	AMALFI, RESEDA	Projects Never Completely Overlap	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade LADWP Palisades Betterment P2, b: Amalfi Dr & Toulon Dr Divider - 8,688 LF ERP Replacement
70474	SUNSET	CHAUTAUQUA, BROOKTREE	Projects Never Completely Overlap	12kV UG - Feeder Segments to Areas 7 & 8 34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade LADWP Palisades Betterment P2, b: Amalfi Dr & Toulon Dr Divider - 8,688 LF ERP Replacement
70475	SUNSET	ANTIOCH, SWARTHMORE	Projects Never Completely Overlap	12kV UG - Feeder Segments to Areas 5 & 6 12kV UG - Feeder Segments to Areas 7 & 8 34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade LADWP Palisades Betterment P2, f: Via De La Paz (1,500 LF), Sunset Blvd (1,335 LF), Swarthmore Ave (512 LF), Antioch St (460 LF) ERP Replacements

ID	Streets	Intersection	Overlap windows (Start–Finish)	Conflicting projects (full names)
70476	SUNSET	LA CRUZ, MONUMENT	Projects Never Completely Overlap	12kV UG - Feeder Segments to Areas 7 & 8 34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade LADWP Palisades Betterment P2, f: Via De La Paz (1,500 LF), Sunset Blvd (1,335 LF), Swarthmore Ave (512 LF), Antioch St (460 LF) ERP Replacements
70478	SUNSET	CAREY, MONUMENT, EMBURY	Projects Never Completely Overlap	12kV UG - Feeder Segments to Areas 7 & 8 34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade
78974	PALISADES	SECTION 2	Projects Never Completely Overlap	12kV UG - DS 29-DS-99; Backbone Segments on Sunset 12kV UG - Feeder Segments to Areas 1 & 2 DR4856 Permanent Work Project: Santa Ynez Reservoir
78976	PALISADES	SECTION 3	Projects Never Completely Overlap	12kV UG - DS 29-DS-99; Backbone Segments on Sunset 12kV UG - Feeder Segments to Areas 1 & 2 LASAN Damage Assessment: W of Palisades Dr (1200 Block)
79073	SAN VICENTE	GRETNA GREEN, CARMELINA	2025-04-01 -2026-06-30	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) DS 29 Expansion and Upgrade
79076	SAN VICENTE	CARMELINA, ANITA	2025-04-01 -2026-06-30	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) DS 29 Expansion and Upgrade
79082	SAN VICENTE	CANYON VIEW, ANITA	2025-04-01 -2026-06-30	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) DS 29 Expansion and Upgrade
79088	SAN VICENTE	CANYON VIEW, CLIFFWOOD	2025-04-01 -2026-06-30	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) DS 29 Expansion and Upgrade
79094	SAN VICENTE	CLIFFWOOD, BRISTOL	2025-04-01 -2026-06-30	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) DS 29 Expansion and Upgrade
79100	SAN VICENTE	BURLINGAME, BRISTOL	2025-04-01 -2026-06-30	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) DS 29 Expansion and Upgrade
79106	SAN VICENTE	BURLINGAME	2025-04-01 -2026-06-30	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) DS 29 Expansion and Upgrade
79112	SAN VICENTE	MORENO, BURLINGAME	2025-04-01 -2026-06-30	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) DS 29 Expansion and Upgrade
79118	SAN VICENTE	MORENO, AVONDALE	2025-04-01 -2026-06-30	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) DS 29 Expansion and Upgrade

ID	Streets	Intersection	Overlap windows (Start–Finish)	Conflicting projects (full names)
79132	SUNSET	CHAUTAUQUA, PAMPAS RICAS	Projects Never Completely Overlap	12kV UG - Feeder Segments to Areas 7 & 8 34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade
79133	SUNSET	CHAUTAUQUA, ILIFF	2025-04-01 - 2026-06-30	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade
79134	SUNSET	ILIFF, CHAUTAUQUA	2025-04-01 - 2026-06-30	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade
79138	SUNSET	PAMPAS RICAS, HARTZELL, CHAUTAUQUA	Projects Never Completely Overlap	12kV UG - Feeder Segments to Areas 7 & 8 14820 Pampas Ricas Blvd 34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade
79139	SUNSET	EL MEDIO, TEMESCAL CANYON	Projects Never Completely Overlap	12kV UG - DS 29-DS-99; Backbone Segments on Sunset 12kV UG - Feeder Segments to Areas 1 & 2 12kV UG - Feeder Segments to Areas 3 &4 StreetsLA Locations
79143	SUNSET	VIA DE LA PAZ, TEMESCAL CANYON	Projects Never Completely Overlap	12kV UG - DS 29-DS-99; Backbone Segments on Sunset 12kV UG - Feeder Segments to Areas 1 & 2 12kV UG - Feeder Segments to Areas 3 &4 StreetsLA Locations
81384	PALISADES	SECTION 4	Projects Never Completely Overlap	12kV UG - DS 29-DS-99; Backbone Segments on Sunset 12kV UG - Feeder Segments to Areas 1 & 2 DR4856 Permanent Work Project: Debris Basins
81975	REVELLO	SECTION 1	Projects Never Completely Overlap	DR4856 Permanent Work Project: Storm Drains LADWP Palisades Betterment P1, #7: Revello Dr and Tramonto Dr - 1,400 LF ERP replacement LASAN Damage Assessment: Revello Dr
81995	SUNSET	ALLENFORD	2025-04-01 - 2026-06-30	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade
81996	SUNSET	MONACO	Projects Never Completely Overlap	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade LADWP Palisades Betterment P1, #3: 2,260 LF ERP replacement
86891	SAN VICENTE	AVONDALE	2025-04-01 - 2026-06-30	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) DS 29 Expansion and Upgrade

ID	Streets	Intersection	Overlap windows (Start–Finish)	Conflicting projects (full names)
96540	SUNSET	WILL ROGERS STATE PARK, RUSTIC	Projects Never Completely Overlap	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade LADWP Palisades Betterment P2, b: Amalfi Dr & Toulon Dr Divider - 8,688 LF ERP Replacement
100067	SUNSET	RESEDA, EVANS	Projects Never Completely Overlap	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade LADWP Palisades Betterment P2, b: Amalfi Dr & Toulon Dr Divider - 8,688 LF ERP Replacement
100068	SUNSET	EVANS, RUSTIC	Projects Never Completely Overlap	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade LADWP Palisades Betterment P2, b: Amalfi Dr & Toulon Dr Divider - 8,688 LF ERP Replacement
101026	SUNSET	WILL ROGERS STATE PARK, RUSTIC CREEK	Projects Never Completely Overlap	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade LADWP Palisades Betterment P2, b: Amalfi Dr & Toulon Dr Divider - 8,688 LF ERP Replacement
104461	SUNSET	RIVAS CANYON, BROOKTREE	Projects Never Completely Overlap	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade LADWP Palisades Betterment P2, b: Amalfi Dr & Toulon Dr Divider - 8,688 LF ERP Replacement
104462	SUNSET	RIVAS CANYON, RUSTIC CREEK	Projects Never Completely Overlap	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade LADWP Palisades Betterment P2, b: Amalfi Dr & Toulon Dr Divider - 8,688 LF ERP Replacement

Multiple-Phase Summary

Table 3.7 audits the logical order of project phases at each conflict location (e.g., Phase 1 = backbone, Phase 2 = feeder, Phase 3 = service or ERP). Each street segment was reviewed to confirm whether the phase sequence is valid. The project dates and corresponding phase order shown in the Current Order column indicate that the initial schedules are out of logical construction order. The Suggested Order column adjusts dates to reflect this corrected sequencing and proposes postponements as needed. These recommendations ensure that underground utility work precedes surface work and reduces rework or conflicts. Finally, the table identifies the agencies that must coordinate closely to execute the revised schedule—primarily LADWP Power, LADWP Water, LASAN, BOE, and StreetsLA— depending on which utilities or street segments are affected. This coordination is essential to avoid schedule overlap, manage dependencies, and implement phased construction efficiently.

Table 3.7: Recommended Adjustments to Project Sequencing and Inter-Agency Coordination

ID	Streets	Intersection	Current Order	Suggested Order	Agencies Coordinating
23582	SUNSET	MARQUEZ, SALERNO	**Phase 3**: 114 Marquez Pl.** (**1/8/2025 - 7/8/2026**) **Phase 1**: 12kV UG - DS 29-DS-99; Backbone Segments on Sunset (**1/1/2026 - 6/30/2027**) **Phase 1**: 12kV UG - Feeder Segments to Areas 1&2 (**10/1/2027 - 9/30/2028**) **Phase 1**: StreetsLA Locations* (project date not available)	**Phase 1 (LADWP Power)**: 12kV UG - DS 29-DS-99; Backbone Segments on Sunset (**1/1/2026 - 6/30/2027**) **Phase 1 (LADWP Power)**: 12kV UG - Feeder Segments to Areas 1&2 (**10/1/2027 - 9/30/2028**) **Phase 1 (StreetsLA)**: StreetsLA Locations (establish project date and complete before 9/30/2028) **Phase 3 (StreetsLA)**: 114 Marquez Pl. (postpone until 9/30/2028)	LADWP Power and StreetsLA
23474	BESTOR	GALLOWAY, FISKE, WHITFIELD	**Phase 3**: 1176 Fiske Ave** (**1/8/2025 - 7/8/2026**) **Phase 3**: 14900 Bestor Blvd/1100 Galloway** (**1/8/2025 - 7/8/2026**) **Phase 1**: Proposed Project: Chautauqua Blvd Storm Drain - Catch Basin Construction (**1/1/2026 - 12/31/2033**)	**Phase 1 (BOE)**: Proposed Project: Chautauqua Blvd Storm Drain - Catch Basin Construction (**1/1/2026 - 12/31/2033**) **Phase 3 (StreetsLA)**: 1176 Fiske Ave (postpone until 12/31/2033) **Phase 3 (StreetsLA)**: 14900 Bestor Blvd/1100 Galloway (postpone until 12/31/2033)	BOE and StreetsLA
67179	PALISADES	SECTION 1	**Phase 3**: 1433 Monte Grande Pl** (**1/8/2025 - 7/8/2026**) **Phase 1**: 12kV UG - DS 29-DS-99; Backbone Segments on Sunset (**1/1/2026 - 6/30/2027**) **Phase 1**: 12kV UG - Feeder Segments to Areas 1&2 (**10/1/2027 - 9/30/2028**)	**Phase 1 (LADWP Power)**: 12kV UG - DS 29-DS-99; Backbone Segments on Sunset (**1/1/2026 - 6/30/2027**) **Phase 1 (LADWP Power)**: 12kV UG - Feeder Segments to Areas 1&2 (**10/1/2027 - 9/30/2028**) **Phase 3 (StreetsLA)**: 1433 Monte Grande Pl (postpone until 9/30/2028)	LADWP Power and StreetsLA
78974	PALISADES	SECTION 2	**Phase 3**: DR4856 Permanent Work Project: Santa Ynez Reservoir (**1/8/2025 - 7/8/2026**) **Phase 1**: 12kV UG - DS 29-DS-99; Backbone Segments on Sunset (**1/1/2026 - 6/30/2027**) **Phase 1**: 12kV UG - Feeder Segments to Areas 1&2 (**10/1/2027 - 9/30/2028**)	**Phase 1 (LADWP Power)**: 12kV UG - DS 29-DS-99; Backbone Segments on Sunset (**1/1/2026 - 6/30/2027**) **Phase 1 (LADWP Power)**: 12kV UG - Feeder Segments to Areas 1&2 (**10/1/2027 - 9/30/2028**) **Phase 3 (LADWP Water)**: DR4856 Permanent Work Project: Santa Ynez Reservoir (postpone until 9/30/2028)	LADWP Power and LADWP Water (same agency)

Notes:

* StreetsLA Locations are deeper repair projects on the specified street segment, provided to us by StreetsLA

** The Phase 3 projects by StreetsLA are patchwork projects at those street addresses.

ID	Streets	Intersection	Current Order	Suggested Order	Agencies Coordinating
78976	PALISADES	SECTION 3	**Phase 1**: 12kV UG - DS 29-DS-99; Backbone Segments on Sunset (**1/1/2026 - 6/30/2027**) **Phase 3**: LASAN Damage Assessment: W of Palisades Dr (1200 Block) (**1/1/2026 - 12/31/2033**) **Phase 1**: 12kV UG - Feeder Segments to Areas 1&2 (**10/1/2027 - 9/30/2028**)	**Phase 1 (LADWP Power)**: 12kV UG - DS 29-DS-99; Backbone Segments on Sunset (**1/1/2026 - 6/30/2027**) **Phase 1 (LADWP Power)**: 12kV UG - Feeder Segments to Areas 1&2 (**10/1/2027 - 9/30/2028**) **Phase 3 (LASAN)**: LASAN Damage Assessment: W of Palisades Dr (1200 Block) (postpone until 9/30/2028)	LADWP Power and LASAN
81384	PALISADES	SECTION 4	**Phase 3**: DR4856 Permanent Work Project: Debris Basins (**1/8/2025 - 7/8/2026**) **Phase 1**: 12kV UG - DS 29-DS-99; Backbone Segments on Sunset (**1/1/2026 - 6/30/2027**) **Phase 1**: 12kV UG - Feeder Segments to Areas 1&2 (**10/1/2027 - 9/30/2028**)	**Phase 1 (LADWP Power)**: 12kV UG - DS 29-DS-99; Backbone Segments on Sunset (**1/1/2026 - 6/30/2027**) **Phase 1 (LADWP Power)**: 12kV UG - Feeder Segments to Areas 1&2 (**10/1/2027 - 9/30/2028**) **Phase 3 (LASAN)**: DR4856 Permanent Work Project: Debris Basins (postpone until 9/30/2028)	LADWP Power and LASAN



ID	Streets	Intersection	Current Order	Suggested Order	Agencies Coordinating
23517	SUNSET	VIA DE LA PAZ, SWARTHMORE	**Phase 2**: DR4856 Permanent Work Project: Distribution Station 29 - Restoration of Services (**1/8/2025 - 6/30/2029**) **Phase 1**: 34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) (**4/1/2025 - 6/30/2026**) **Phase 1**: DS 29 Expansion and Upgrade (**4/1/2025 - 6/30/2029**) **Phase 1**: LADWP Palisades Betterment P1, #1: Via De La Paz/Sunset Blvd Regulator Station Rehab (**11/1/2025 - 4/1/2026**) **Phase 1**: 12kV UG - Feeder Segments to Areas 5 & 6 (**7/1/2026 - 6/30/2027**) **Phase 1**: LADWP Palisades Betterment P2, f: Via De La Paz (1,500 LF), Sunset Blvd (1,335 LF), Swarthmore Ave (512 LF), Antioch St (460 LF) ERP Replacements (**10/1/2026 - 9/30/2027**) **Phase 1**: 12kV UG - Feeder Segments to Areas 3 &4 (**4/1/2027 - 12/31/2027**) **Phase 1**: 12kV UG - Feeder Segments to Areas 1&2 (**10/1/2027 - 9/30/2028**) **Phase 1**: 12kV UG - Feeder Segments to Areas 7&8 (**7/1/2028 - 6/30/2029**) **Phase 1**: StreetsLA Locations* (project date not available)	**Phase 1 (LADWP Power)**: 34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) (**4/1/2025 - 6/30/2026**) **Phase 1 (LADWP Power)**: DS 29 Expansion and Upgrade (**4/1/2025 - 6/30/2029**) **Phase 1 (LADWP Water)**: LADWP Palisades Betterment P1, #1: Via De La Paz/Sunset Blvd Regulator Station Rehab (**11/1/2025 - 4/1/2026**) **Phase 1 (LADWP Power)**: 12kV UG - Feeder Segments to Areas 5 & 6 (**7/1/2026 - 6/30/2027**) **Phase 1 (LADWP Water)**: LADWP Palisades Betterment P2, f: Via De La Paz (1,500 LF), Sunset Blvd (1,335 LF), Swarthmore Ave (512 LF), Antioch St (460 LF) ERP Replacements (**10/1/2026 - 9/30/2027**) **Phase 1 (LADWP Power)**: 12kV UG - Feeder Segments to Areas 3 &4 (**4/1/2027 - 12/31/2027**) **Phase 1 (LADWP Power)**: 12kV UG - Feeder Segments to Areas 1&2 (**10/1/2027 - 9/30/2028**) **Phase 1 (LADWP Power)**: 12kV UG - Feeder Segments to Areas 7&8 (**7/1/2028 - 6/30/2029**) **Phase 1 (StreetsLA)**: StreetsLA Locations (establish project date and complete before 6/30/2029) **Phase 2 (LADWP Power)**: DR4856 Permanent Work Project: Distribution Station 29 - Restoration of Services (postpone until 6/30/2029)	LADWP Power, LADWP Water, StreetsLA
23523	BASHFORD	GALLOWAY, HARTZELL	**Phase 3**: 959 Galloway St** (**1/8/2025 - 7/8/2026**) **Phase 1**: 12kV UG - Feeder Segments to Areas 5 & 6 (**7/1/2026 - 6/30/2027**)	**Phase 1 (LADWP Power)**: 12kV UG - Feeder Segments to Areas 5 & 6 (**7/1/2026 - 6/30/2027**) **Phase 3 (StreetsLA)**: 959 Galloway St (postpone until 6/30/2027)	LADWP Power and StreetsLA
23525	BASHFORD	EMBURY, FISKE	**Phase 3**: 15000 Bashford St/1000 Embury St (5)** (**1/8/2025 - 7/8/2026**) **Phase 1**: 12kV UG - Feeder Segments to Areas 5 & 6 (**7/1/2026 - 6/30/2027**)	**Phase 1 (LADWP Power)**: 12kV UG - Feeder Segments to Areas 5 & 6 (**7/1/2026 - 6/30/2027**) **Phase 3 (StreetsLA)**: 15000 Bashford St/1000 Embury St (5) (postpone until 6/30/2027)	LADWP Power and StreetsLA

ID	Streets	Intersection	Current Order	Suggested Order	Agencies Coordinating
23529	BASHFORD	EMBURY, MONUMENT	**Phase 3**: 955 or 957 Embury St (4)** (**1/8/2025 - 7/8/2026**) **Phase 1**: 12kV UG - Feeder Segments to Areas 5 & 6 (**7/1/2026 - 6/30/2027**)	**Phase 1 (LADWP Power)**: 12kV UG - Feeder Segments to Areas 5 & 6 (**7/1/2026 - 6/30/2027**) **Phase 3 (StreetsLA)**: 955 or 957 Embury St (4) (postpone until 6/30/2027)	LADWP Power and StreetsLA
23815	EMBURY	BASHFORD, CAREY	**Phase 3**: 906 Embury St** (**1/8/2025 - 7/8/2026**) **Phase 3**: 946 Embury St (3)** (**1/8/2025 - 7/8/2026**) **Phase 1**: 12kV UG - Feeder Segments to Areas 5 & 6 (**7/1/2026 - 6/30/2027**) **Phase 1**: 12kV UG - Feeder Segments to Areas 7&8 (**7/1/2028 - 6/30/2029**)	**Phase 1 (LADWP Power)**: 12kV UG - Feeder Segments to Areas 5 & 6 (**7/1/2026 - 6/30/2027**) **Phase 1 (LADWP Power)**: 12kV UG - Feeder Segments to Areas 7&8 (**7/1/2028 - 6/30/2029**) **Phase 3 (StreetsLA)**: 906 Embury St (postpone until 6/30/2029) **Phase 3 (StreetsLA)**: 946 Embury St (3) (postpone until 6/30/2029)	LADWP Power and StreetsLA
23834	ALMA REAL	LA CRUZ, TOYOPA	**Phase 2**: DR4856 Permanent Work Project: George Wolfberg Park at Potrero Canyon (**1/8/2025 - 7/8/2026**) **Phase 2**: DR4856 Permanent Work Project: Palisades Branch Library (Contents) (**1/8/2025 - 7/8/2026**) **Phase 2**: DR4856 Permanent Work Project: Palisades Branch Library (RAPID) (**1/8/2025 - 7/8/2026**) **Phase 2**: DR4856 Permanent Work Project: Palisades Rec Center (Park) (**1/8/2025 - 7/8/2026**) **Phase 1**: DR4856 Permanent Work Project: Private Property Debris Removal (PPDR) Damages (**1/8/2025 - 7/8/2026**) **Phase 1**: 12kV UG - Feeder Segments to Areas 5 & 6 (**7/1/2026 - 6/30/2027**)	**Phase 1 (StreetsLA)**: DR4856 Permanent Work Project: Private Property Debris Removal (PPDR) Damages (**1/8/2025 - 7/8/2026**) **Phase 1 (LADWP Power)**: 12kV UG - Feeder Segments to Areas 5 & 6 (**7/1/2026 - 6/30/2027**) **Phase 2 (RAP)**: DR4856 Permanent Work Project: George Wolfberg Park at Potrero Canyon (postpone until 6/30/2027) **Phase 2 (RAP)**: DR4856 Permanent Work Project: Palisades Branch Library (Contents) (postpone until 6/30/2027) **Phase 2 (RAP)**: DR4856 Permanent Work Project: Palisades Branch Library (RAPID) (postpone until 6/30/2027) **Phase 2 (RAP)**: DR4856 Permanent Work Project: Palisades Rec Center (Park) (postpone until 6/30/2027)	StreetsLA, LADWP Power, RAP
23840	ILIFF	CAREY, DRUMMOND	**Phase 3**: 14641 Drummond st (3)** (**1/8/2025 - 7/8/2026**) **Phase 1**: 12kV UG - Feeder Segments to Areas 5 & 6 (**7/1/2026 - 6/30/2027**)	**Phase 1 (LADWP Power)**: 12kV UG - Feeder Segments to Areas 5 & 6 (**7/1/2026 - 6/30/2027**) **Phase 3 (StreetsLA)**: 14641 Drummond st (3) (postpone until 6/30/2027)	LADWP Power and StreetsLA

ID	Streets	Intersection	Current Order	Suggested Order	Agencies Coordinating
23849	ALMA REAL	TOYOPA, OCAMPO	**Phase 1**: 12kV UG - Feeder Segments to Areas 5 & 6 (**7/1/2026 - 6/30/2027**) **Phase 2**: DR4856 Permanent Work Project: Palisades Rec Center (Contents) (**1/8/2025 - 7/8/2026**) **Phase 2**: DR4856 Permanent Work Project: Palisades Rec Center (Old Recreation Center) (**1/8/2025 - 7/8/2026**) **Phase 2**: DR4856 Permanent Work Project: Palisades Rec Center (**RAPID - Destroyed Buildings**) (**1/8/2025 - 7/8/2026**) **Phase 2**: Rec & Parks - Tree Replacement (project date not available)	**Phase 1 (LADWP Power)**: 12kV UG - Feeder Segments to Areas 5 & 6 (**7/1/2026 - 6/30/2027**) **Phase 2 (RAP)**: DR4856 Permanent Work Project: Palisades Rec Center (Contents) (postpone until 6/30/2027) **Phase 2 (RAP)**: DR4856 Permanent Work Project: Palisades Rec Center (Old Recreation Center) (postpone until 6/30/2027) **Phase 2 (RAP)**: DR4856 Permanent Work Project: Palisades Rec Center (**RAPID - Destroyed Buildings**) (postpone until 6/30/2027) **Phase 2 (RAP)**: Rec & Parks - Tree Replacement (establish project date and begin after 6/30/2027)	LADWP Power and RAP
23915	VIA DE LA PAZ	DE PAUW, EARLHAM	**Phase 3**: 500 Via De La Paz** (**1/8/2025 - 7/8/2026**) **Phase 1**: 12kV UG - Feeder Segments to Areas 5 & 6 (**7/1/2026 - 6/30/2027**) **Phase 1**: LADWP Palisades Betterment P1, #12: Via De La Paz and Radcliffe Ave - 5,642 LF STL Replacement (**1/1/2029 - 6/30/2030**) **Phase 1**: LADWP Palisades Betterment P1, #13: Hampden Place and Swarthmore Ave - 4,838 LF ERP Replacement (**4/1/2030 - 6/30/2031**)	**Phase 1 (LADWP Power)**: 12kV UG - Feeder Segments to Areas 5 & 6 (**7/1/2026 - 6/30/2027**) **Phase 1 (LADWP Water)**: LADWP Palisades Betterment P1, #12: Via De La Paz and Radcliffe Ave - 5,642 LF STL Replacement (**1/1/2029 - 6/30/2030**) **Phase 1 (LADWP Water)**: LADWP Palisades Betterment P1, #13: Hampden Place and Swarthmore Ave - 4,838 LF ERP Replacement (**4/1/2030 - 6/30/2031**) **Phase 3 (StreetsLA)**: 500 Via De La Paz (postpone until 6/30/2031)	LADWP Power, LADWP Water, StreetsLA

ID	Streets	Intersection	Current Order	Suggested Order	Agencies Coordinating
79138	SUNSET	PAMPAS RICAS, HARTZELL, CHAUTAUQUA	**Phase 3**: 14820 Pampas Ricas Blvd** (**1/8/2025 - 7/8/2026**) **Phase 1**: 34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) (**4/1/2025 - 6/30/2026**) **Phase 1**: DS 29 Expansion and Upgrade (**4/1/2025 - 6/30/2029**) **Phase 1**: 12kV UG - Feeder Segments to Areas 7&8 (**7/1/2028 - 6/30/2029**) **Phase 1**: StreetsLA Locations* (project date not available)	**Phase 1 (LADWP Power)**: 34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) (**4/1/2025 - 6/30/2026**) **Phase 1 (LADWP Power)**: DS 29 Expansion and Upgrade (**4/1/2025 - 6/30/2029**) **Phase 1 (LADWP Power)**: 12kV UG - Feeder Segments to Areas 7&8 (**7/1/2028 - 6/30/2029**) **Phase 1 (StreetsLA)**: StreetsLA Locations (establish project date and complete before 6/30/2029) **Phase 3 (StreetsLA)**: 14820 Pampas Ricas Blvd (postpone until 6/30/2029)	LADWP Power and StreetsLA
23468	CHAUTAUQUA	WHITFIELD, PASKENTA	**Phase 3**: 1365 Marinette Road** (**1/8/2025 - 7/8/2026**) **Phase 3**: Next to 14601 Whitfield Ave** (**1/8/2025 - 7/8/2026**) **Phase 1**: Proposed Project: Chautauqua Blvd Storm Drain - Catch Basin Construction (**1/1/2026 - 12/31/2033**)	**Phase 1 (BOE)**: Proposed Project: Chautauqua Blvd Storm Drain - Catch Basin Construction (**1/1/2026 - 12/31/2033**) **Phase 3 (StreetsLA)**: 1365 Marinette Road (postpone until 12/31/2033) **Phase 3 (StreetsLA)**: Next to 14601 Whitfield Ave (postpone until 12/31/2033)	BOE and StreetsLA
23696	GOUCHER	MCKENDREE	**Phase 3**: 1372 Goucher** (**1/8/2025 - 7/8/2026**) **Phase 1**: LADWP Palisades Betterment P1, #19: Goucher St and McKendree Avenue - 890 LF ERP Replacement (**7/1/2028 - 12/31/2028**)	**Phase 1 (LADWP Water)**: LADWP Palisades Betterment P1, #19: Goucher St and McKendree Avenue - 890 LF ERP Replacement (**7/1/2028 - 12/31/2028**) **Phase 3 (StreetsLA)**: 1372 Goucher (postpone until 12/31/2028)	LADWP Water and StreetsLA
23693	CHAUTAUQUA	PASKENTA, BEREA	**Phase 3**: 14611 Whitfield Ave** (**1/8/2025 - 7/8/2026**) **Phase 1**: Proposed Project: Chautauqua Blvd Storm Drain - Catch Basin Construction (**1/1/2026 - 12/31/2033**)	**Phase 1 (BOE)**: Proposed Project: Chautauqua Blvd Storm Drain - Catch Basin Construction (**1/1/2026 - 12/31/2033**) **Phase 3 (StreetsLA)**: 14611 Whitfield Ave (postpone until 12/31/2033)	BOE and StreetsLA
23766	HARTZELL	BASHFORD, ALBRIGHT	**Phase 3**: 14800 Bashford St/ 1000 Galloway St** (**1/8/2025 - 7/8/2026**) **Phase 1**: LADWP Palisades Betterment P2, g: South of Hartzell & Bester Regulatory Station - 2,380 LF STL Replacement (**1/1/2030 - 9/30/2030**)	**Phase 1 (LADWP Water)**: LADWP Palisades Betterment P2, g: South of Hartzell & Bester Regulatory Station - 2,380 LF STL Replacement (**1/1/2030 - 9/30/2030**) **Phase 3 (StreetsLA)**: 14800 Bashford St/ 1000 Galloway St (postpone until 9/30/2030)	LADWP Water and StreetsLA

ID	Streets	Intersection	Current Order	Suggested Order	Agencies Coordinating
23803	HARTZELL	BASHFORD, CAREY	**Phase 3**: 14800 Carey St (corner house) (3)** (**1/8/2025 - 7/8/2026**) **Phase 1**: LADWP Palisades Betterment P2, g: South of Hartzell & Bester Regulatory Station - 2,380 LF STL Replacement (**1/1/2030 - 9/30/2030**)	**Phase 1 (LADWP Water)**: LADWP Palisades Betterment P2, g: South of Hartzell & Bester Regulatory Station - 2,380 LF STL Replacement (**1/1/2030 - 9/30/2030**) **Phase 3 (StreetsLA)**: 14800 Carey St (corner house) (3) (postpone until 9/30/2030)	LADWP Water and StreetsLA
23556	MIAMI	ALMAR, MUSKINGUM	**Phase 3**: 16009 Miami Wy.** (**1/8/2025 - 7/8/2026**) **Phase 3**: 16037 Miami Wy.** (**1/8/2025 - 7/8/2026**) **Phase 1**: LADWP Palisades Betterment P1, #14: Muskingum Ave and Temecula St - 4,539 LF ERP Replacement (**1/1/2028 - 12/31/2028**)	**Phase 1 (LADWP Water)**: LADWP Palisades Betterment P1, #14: Muskingum Ave and Temecula St - 4,539 LF ERP Replacement (**1/1/2028 - 12/31/2028**) **Phase 3 (StreetsLA)**: 16009 Miami Wy. (postpone until 12/31/2028) **Phase 3 (StreetsLA)**: 16037 Miami Wy. (postpone until 12/31/2028)	LADWP Water and StreetsLA
23546	TEMECULA	MUSKINGUM, ALMAR, WILDOMAR	**Phase 3**: 16055 Temecula St.** (**1/8/2025 - 7/8/2026**) **Phase 1**: LADWP Palisades Betterment P1, #14: Muskingum Ave and Temecula St - 4,539 LF ERP Replacement (**1/1/2028 - 12/31/2028**)	**Phase 1 (LADWP Water)**: LADWP Palisades Betterment P1, #14: Muskingum Ave and Temecula St - 4,539 LF ERP Replacement (**1/1/2028 - 12/31/2028**) **Phase 3 (StreetsLA)**: 16055 Temecula St. (postpone until 12/31/2028)	LADWP Water and StreetsLA
23566	LIVORNO	IDA, SALERNO	**Phase 3**: 16818 LIVORNO DR.** (**1/8/2025 - 7/8/2026**) **Phase 1**: LADWP Palisades Betterment P1, #16: Las Casas Ave and Marquette St - 4,133 LF ERP Replacement (**10/1/2027 - 9/30/2028**)	**Phase 1 (LADWP Water)**: LADWP Palisades Betterment P1, #16: Las Casas Ave and Marquette St - 4,133 LF ERP Replacement (**10/1/2027 - 9/30/2028**) **Phase 3 (StreetsLA)**: 16818 LIVORNO DR. (postpone until 9/30/2028)	LADWP Water and StreetsLA
23577	LIVORNO	MARQUEZ, SALERNO	**Phase 3**: 16918 LIVORNO DR.** (**1/8/2025 - 7/8/2026**) **Phase 1**: LADWP Palisades Betterment P1, #16: Las Casas Ave and Marquette St - 4,133 LF ERP Replacement (**10/1/2027 - 9/30/2028**) **Phase 1**: StreetsLA Locations* (project date not available)	**Phase 1 (LADWP Water)**: LADWP Palisades Betterment P1, #16: Las Casas Ave and Marquette St - 4,133 LF ERP Replacement (**10/1/2027 - 9/30/2028**) **Phase 1 (StreetsLA)**: StreetsLA Locations (establish project date and complete before 9/30/2028) **Phase 3 (StreetsLA)**: 16918 LIVORNO DR. (postpone until 9/30/2028)	LADWP Water and StreetsLA

ID	Streets	Intersection	Current Order	Suggested Order	Agencies Coordinating
24742	LIVORNO	MARQUEZ, BOLLINGER	**Phase 3**: 17035 LIVORNO DR.** (**1/8/2025 - 7/8/2026**) **Phase 3**: 17046 LIVORNO DR.** (**1/8/2025 - 7/8/2026**) **Phase 3**: 17047 LIVORNO DR** (**1/8/2025 - 7/8/2026**) **Phase 1**: LADWP Palisades Betterment P1, #16: Las Casas Ave and Marquette St - 4,133 LF ERP Replacement (**10/1/2027 - 9/30/2028**)	**Phase 1 (LADWP Water)**: LADWP Palisades Betterment P1, #16: Las Casas Ave and Marquette St - 4,133 LF ERP Replacement (**10/1/2027 - 9/30/2028**) **Phase 3 (StreetsLA)**: 17035 LIVORNO DR. (postpone until 9/30/2028) **Phase 3 (StreetsLA)**: 17046 LIVORNO DR. (postpone until 9/30/2028) **Phase 3 (StreetsLA)**: 17047 LIVORNO DR (postpone until 9/30/2028)	LADWP Water and StreetsLA
65487	BOLLINGER	MARQUEZ, LIVORNO	**Phase 3**: 17047 BOLLINGER DR.** (**1/8/2025 - 7/8/2026**) **Phase 1**: LADWP Palisades Betterment P1, #16: Las Casas Ave and Marquette St - 4,133 LF ERP Replacement (**10/1/2027 - 9/30/2028**)	**Phase 1 (LADWP Water)**: LADWP Palisades Betterment P1, #16: Las Casas Ave and Marquette St - 4,133 LF ERP Replacement (**10/1/2027 - 9/30/2028**) **Phase 3 (StreetsLA)**: 17047 BOLLINGER DR. (postpone until 9/30/2028)	LADWP Water and StreetsLA
23394	PORTO MARINA	LECCO	**Phase 3**: 1708 PORTO MARINA WAY** (**1/8/2025 - 7/8/2026**) **Phase 1**: LADWP Palisades Betterment P1, #6: Porto Marina Way and Breve Way - 900 LF STL Replacement (**1/1/2027 - 6/30/2027**)	**Phase 1 (LADWP Water)**: LADWP Palisades Betterment P1, #6: Porto Marina Way and Breve Way - 900 LF STL Replacement (**1/1/2027 - 6/30/2027**) **Phase 3 (StreetsLA)**: 1708 PORTO MARINA WAY (postpone until 6/30/2027)	LADWP Water and StreetsLA
23942	VIA DE LA PAZ	FRIENDS, VIA DE LAS OLAS	**Phase 3**: 315 Via De La Paz** (**1/8/2025 - 7/8/2026**) **Phase 1**: LADWP Palisades Betterment P1, #12: Via De La Paz and Radcliffe Ave - 5,642 LF STL Replacement (**1/1/2029 - 6/30/2030**)	**Phase 1 (LADWP Water)**: LADWP Palisades Betterment P1, #12: Via De La Paz and Radcliffe Ave - 5,642 LF STL Replacement (**1/1/2029 - 6/30/2030**) **Phase 3 (StreetsLA)**: 315 Via De La Paz (postpone until 6/30/2030)	LADWP Water and StreetsLA
23752	ENCHANTED	EL ORO	**Phase 1**: DR4856 Permanent Work Project: Dewatering Wells -2 (**1/8/2025 - 7/8/2026**) **Phase 3**: 662 ENCHANTED WAY** (**1/8/2025 - 7/8/2026**) **Phase 3**: 729 ENCHANTED WAY** (**1/8/2025 - 7/8/2026**)	**Phase 1 (StreetsLA)**: DR4856 Permanent Work Project: Dewatering Wells -2 (**1/8/2025 - 7/8/2026**) **Phase 3 (StreetsLA)**: 662 ENCHANTED WAY (postpone until 7/8/2026) **Phase 3 (StreetsLA)**: 729 ENCHANTED WAY (postpone until 7/8/2026)	All StreetsLA Projects

ID	Streets	Intersection	Current Order	Suggested Order	Agencies Coordinating
23533	LAS CASAS	BAYLOR, SUNSET	**Phase 3**: 670 n. Las Casas Av.** (**1/8/2025 - 7/8/2026**) **Phase 1**: LADWP Palisades Betterment P1, #11: Sunset Blvd and Las Casas Ave - 2,537 LF ERP replacement (**7/1/2026 - 12/31/2026**) **Phase 1**: LADWP Palisades Betterment P1, #15: Las Casas Ave and Marquette St - 3,772 LF ERP Replacement (**10/1/2028 - 6/30/2029**) **Phase 1**: StreetsLA Locations* (project date not available)	**Phase 1 (LADWP Water)**: LADWP Palisades Betterment P1, #11: Sunset Blvd and Las Casas Ave - 2,537 LF ERP replacement (**7/1/2026 - 12/31/2026**) **Phase 1 (LADWP Water)**: LADWP Palisades Betterment P1, #15: Las Casas Ave and Marquette St - 3,772 LF ERP Replacement (**10/1/2028 - 6/30/2029**) **Phase 1 (StreetsLA)**: StreetsLA Locations (establish project date and complete before 6/30/2029) **Phase 3 (StreetsLA)**: 670 n. Las Casas Av. (postpone until 6/30/2029)	LADWP Water and StreetsLA
23521	JACON	LACHMAN, VIA SANTA YNEZ, EL ORO	**Phase 3**: 734 JACON WAY** (**1/8/2025 - 7/8/2026**) **Phase 3**: 841 JACON WAY** (**1/8/2025 - 7/8/2026**) **Phase 2**: LASAN Damage Assessment: 637 Jacon Way (**5/27/2025 - 12/31/2033**) **Phase 1**: StreetsLA Locations* (project date not available)	**Phase 1 (StreetsLA)**: StreetsLA Locations (establish project date) **Phase 2 (LASAN)**: LASAN Damage Assessment: 637 Jacon Way (postpone until Phase 1 is completed) **Phase 3 (StreetsLA)**: 734 JACON WAY (postpone until Phase 2 is completed) **Phase 3 (StreetsLA)**: 841 JACON WAY (postpone until Phase 2 is completed)	StreetsLA and LASAN
23440	REVELLO	TRAMONTO	**Phase 2**: DR4856 Permanent Work Project: 17470 Revello Dr (**1/8/2025 - 7/8/2026**) **Phase 1**: LADWP Palisades Betterment P1, #7: Revello Dr and Tramonto Dr - 1,400 LF ERP replacement (**10/1/2030 - 12/31/2030**)	**Phase 1 (LADWP Water)**: LADWP Palisades Betterment P1, #7: Revello Dr and Tramonto Dr - 1,400 LF ERP replacement (**10/1/2030 - 12/31/2030**) **Phase 2 (BOE)**: DR4856 Permanent Work Project: 17470 Revello Dr (postpone until 12/31/2030)	LADWP Water and BOE
23621	VIA DE LAS OLAS	LOMBARD, FRIENDS	**Phase 2**: DR4856 Permanent Work Project: 15205 Via de las Olas (**1/8/2025 - 7/8/2026**) **Phase 1**: LADWP Palisades Betterment P1, #12: Via De La Paz and Radcliffe Ave - 5,642 LF STL Replacement (**1/1/2029 - 6/30/2030**)	**Phase 1 (LADWP Water)**: LADWP Palisades Betterment P1, #12: Via De La Paz and Radcliffe Ave - 5,642 LF STL Replacement (**1/1/2029 - 6/30/2030**) **Phase 2 (BOE)**: DR4856 Permanent Work Project: 15205 Via de las Olas (postpone until 6/30/2030)	LADWP Water and BOE

ID	Streets	Intersection	Current Order	Suggested Order	Agencies Coordinating
23829	BIENVENEDA	LAS LOMAS	**Phase 2**: DR4856 Permanent Work Project: 505 Bienveneda Ave (**1/8/2025 - 7/8/2026**) **Phase 1**: DR4856 Permanent Work Project: 505 N Bienveneda Ave Sewer Pipe (**1/8/2025 - 7/8/2026**) **Phase 2**: DR4856 Permanent Work Project: 559 Bienveneda Ave (**1/8/2025 - 7/8/2026**) **Phase 1**: Project: 505 North Bienveneda Ave Sewer Pipe (**1/1/2026 - 12/31/2033**)	**Phase 1 (LASAN)**: DR4856 Permanent Work Project: 505 N Bienveneda Ave Sewer Pipe (**1/8/2025 - 7/8/2026**) **Phase 1 (LASAN)**: Project: 505 North Bienveneda Ave Sewer Pipe (**1/1/2026 - 12/31/2033**) **Phase 2 (BOE)**: DR4856 Permanent Work Project: 505 Bienveneda Ave (postpone until 12/31/2033) **Phase 2 (BOE)**: DR4856 Permanent Work Project: 559 Bienveneda Ave (postpone until 12/31/2033)	LASAN and BOE
23405	CASTELLAMMARE	SUNSET, STRETTO	**Phase 2**: DR4856 Permanent Work Project: Stretto Way & Castellammare Dr (**1/8/2025 - 7/8/2026**) **Phase 1**: LASAN Damage Assessment: 17333 Castellammare Dr (**1/26/2025 - 12/31/2033**)	**Phase 1 (LASAN)**: LASAN Damage Assessment: 17333 Castellammare Dr (**1/26/2025 - 12/31/2033**) **Phase 2 (BOE)**: DR4856 Permanent Work Project: Stretto Way & Castellammare Dr (postpone until 12/31/2033)	LASAN and BOE

Concurrent with StreetsLA Summary

Table 3.8 highlights the subset of conflict points that coincide with active or planned StreetsLA paving. These represent the highest-risk coordination zones, where pavement restoration requirements and moratoria could delay or constrain underground work. Many of these locations occur along Sunset Boulevard (e.g., Napoli–Monument–Embury, Chautauqua nodes) and within the Via De La Paz village grid. The intent is to provide StreetsLA and utility partners with an actionable list for joint scheduling, temporary moratoria exceptions (if justified), or coordinated full-depth restorations.

Table 3.8: Prcjects Concurrent with StreetsLA (more than one prcject and at least one of them is StreetsLA)

ID	Streets	Intersection	Conflicting projects (full names)
23392	CASTELLAMMARE	REVELLO, TRAMONTO, PORTO MARINA	StreetsLA Locations LADWP Palisades Betterment P1, #20: Castellammare Dr and Tramonto Dr - 1,300 LF STL Replacement
23483	SUNSET	NAPOLI, CAPRI	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade LADWP Palisades Betterment P1, #3: 2,260 LF ERP replacement LADWP Palisades Betterment P2, a: 3,380 LF ERP Replacement
23495	AKRON	CHATTANOOGA, BIENVENEDA	12kV UG - Feeder Segments to Areas 3 &4 StreetsLA Locations
23507	SUNSET	LAS LOMAS, BIENVENEDA	12kV UG - DS 29-DS-99; Backbone Segments on Sunset 12kV UG - Feeder Segments to Areas 1 & 2 12kV UG - Feeder Segments to Areas 3 &4 StreetsLA Locations LADWP Palisades Betterment P1, #11: Sunset Blvd and Las Casas Ave - 2,537 LF ERP replacement

ID	Streets	Intersection	Conflicting projects (full names)
23508	SUNSET	LAS LOMAS, NORTHFIELD	12kV UG - DS 29-DS-99; Backbone Segments on Sunset 12kV UG - Feeder Segments to Areas 1 & 2 12kV UG - Feeder Segments to Areas 3 & 4 StreetsLA Locations LADWP Palisades Betterment P1, #11: Sunset Blvd and Las Casas Ave - 2,537 LF ERP replacement
23509	SUNSET	MARQUEZ, BAYLOR	12kV UG - DS 29-DS-99; Backbone Segments on Sunset 12kV UG - Feeder Segments to Areas 1 & 2 StreetsLA Locations
23517	SUNSET	VIA DE LA PAZ, SWARTHMORE	12kV UG - Feeder Segments to Areas 1 & 2 12kV UG - Feeder Segments to Areas 3 &4 12kV UG - Feeder Segments to Areas 5 & 6 12kV UG - Feeder Segments to Areas 7 & 8 34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DR4856 Permanent Work Project: Distribution Station 29 - Restoration of Services DS 29 Expansion and Upgrade LADWP Palisades Betterment P1, #1: Via De La Paz/Sunset Blvd Regulator Station Rehab LADWP Palisades Betterment P2, f: Via De La Paz (1,500 LF), Sunset Blvd (1,335 LF), Swarthmore Ave (512 LF), Antioch St (460 LF) ERP Replacements
23521	JACON	LACHMAN, VIA SANTA YNEZ, EL ORO	734 Jacon Way 841 Jacon Way StreetsLA Locations LASAN Damage Assessment: 637 Jacon Way
23533	LAS CASAS	BAYLOR, SUNSET	670 N Las Casas Av. StreetsLA Locations LADWP Palisades Betterment P1, #11: Sunset Blvd and Las Casas Ave - 2,537 LF ERP replacement LADWP Palisades Betterment P1, #15: Las Casas Ave and Marquette St - 3,772 LF ERP Replacement
23565	SUNSET	FISKE, CAREY, EMBURY	12kV UG - Feeder Segments to Areas 7 & 8 34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade
23574	SUNSET	FISKE, GALLOWAY, DRUMMOND	12kV UG - Feeder Segments to Areas 7 & 8 34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade
23577	LIVORNO	MARQUEZ, SALERNO	16918 Livorno Dr. StreetsLA Locations LADWP Palisades Betterment P1, #16: Las Casas Ave and Marquette St - 4,133 LF ERP Replacement
23582	SUNSET	MARQUEZ, SALERNO	114 Marquez Pl. 12kV UG - DS 29-DS-99; Backbone Segments on Sunset 12kV UG - Feeder Segments to Areas 1&2 StreetsLA Locations
23583	SUNSET	HARTZELL, GALLOWAY, DRUMMOND	12kV UG - Feeder Segments to Areas 7 & 8 34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade

ID	Streets	Intersection	Conflicting projects (full names)
23584	SUNSET	MARQUEZ	12kV UG - DS 29-DS-99; Backbone Segments on Sunset 12kV UG - Feeder Segments to Areas 1 & 2 StreetsLA Locations
23687	SUNSET	MONACO, CAPRI	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade LADWP Palisades Betterment P1, #3: 2,260 LF ERP replacement
23739	SUNSET	MUSKINGUM, WILDOMAR	12kV UG - DS 29-DS-99; Backbone Segments on Sunset 12kV UG - Feeder Segments to Areas 1 & 2 12kV UG - Feeder Segments to Areas 3 & 4 StreetsLA Locations LADWP Palisades Betterment P1, #11: Sunset Blvd and Las Casas Ave - 2,537 LF ERP replacement
23741	SUNSET	WILDOMAR, ALMAR	12kV UG - DS 29-DS-99; Backbone Segments on Sunset 12kV UG - Feeder Segments to Areas 1 & 2 12kV UG - Feeder Segments to Areas 3 &4 StreetsLA Locations LADWP Palisades Betterment P1, #11: Sunset Blvd and LasCasas Ave - 2,537 LF ERP replacement
23744	SUNSET	EL MEDIO, ALMAR	12kV UG - DS 29-DS-99; Backbone Segments on Sunset 12kV UG - Feeder Segments to Areas 1 & 2 12kV UG - Feeder Segments to Areas 3 &4 StreetsLA Locations LADWP Palisades Betterment P1, #11: Sunset Blvd and Las Casas Ave - 2,537 LF ERP replacement LADWP Palisades Betterment P1, #14: Muskingum Ave and Temecula St - 4,539 LF ERP Replacement
23749	SUNSET	LAS CASAS, BIENVENEDA	12kV UG - DS 29-DS-99; Backbone Segments on Sunset 12kV UG - Feeder Segments to Areas 1 & 2 12kV UG - Feeder Segments to Areas 3 & 4 StreetsLA Locations LADWP Palisades Betterment P1, #11: Sunset Blvd and Las Casas Ave - 2,537 LF ERP replacement
23751	SUNSET	MUSKINGUM, NORTHFIELD	12kV UG - DS 29-DS-99; Backbone Segments on Sunset 12kV UG - Feeder Segments to Areas 1 & 2 12kV UG - Feeder Segments to Areas 3 & 4 StreetsLA Locations Project: PP 604 LADWP Palisades Betterment P1, #11: Sunset Blvd and Las Casas Ave - 2,537 LF ERP replacement
23789	SUNSET	AMALFI, SPEZIA	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade LADWP Palisades Betterment P2, a: 3,380 LF ERP Replacement LADWP Palisades Betterment P2, b: Amalfi Dr & Toulon Dr Divider - 8,688 LF ERP Replacement
23793	SUNSET	LA CRUZ, ANTIOCH	12kV UG - Feeder Segments to Areas 5 & 6 12kV UG - Feeder Segments to Areas 7 & 8 34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade LADWP Palisades Betterment P2, f: Via De La Paz (1,500 LF), Sunset Blvd (1,335 LF), Swarthmore Ave (512 LF), Antioch St (460 LF) ERP Replacements

ID	Streets	Intersection	Conflicting projects (full names)
23796	MUSKINGUM	WILDOMAR, MIAMI, TEMECULA	12kV UG - Feeder Segments to Areas 3 & 4 StreetsLA Locations LADWP Palisades Betterment P1, #14: Muskingum Ave and Temecula St - 4,539 LF ERP Replacement
23817	MUSKINGUM	MIAMI, AIGLON	12kV UG - Feeder Segments to Areas 3 & 4 StreetsLA Locations LADWP Palisades Betterment P1, #14: Muskingum Ave and Temecula St - 4,539 LF ERP Replacement
23846	MUSKINGUM	TAHQUITZ, AIGLON	StreetsLA Locations LADWP Palisades Betterment P1, #14: Muskingum Ave and Temecula St - 4,539 LF ERP Replacement
24745	SUNSET	PALISADES, MARQUEZ	12kV UG - DS 29-DS-99; Backbone Segments on Sunset 12kV UG - Feeder Segments to Areas 1 & 2 StreetsLA Locations
70465	SUNSET	PALISADES, PASEO MIRAMAR	12kV UG - Feeder Segments to Areas 1 & 2 StreetsLA Locations
70466	SUNSET	LOS LIONES, PASEO MIRAMAR	12kV UG - Feeder Segments to Areas 1 & 2 StreetsLA Locations
70467	SUNSET	PACIFIC COAST, CASTELLAMMARE	12kV UG - Feeder Segments to Areas 1 & 2 StreetsLA Locations
70468	SUNSET	NAPOLI, MINORCA	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade LADWP Palisades Betterment P2, a: 3,380 LF ERP Replacement
70470	SUNSET	MINORCA, SPEZIA	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade LADWP Palisades Betterment P2, a: 3,380 LF ERP Replacement
70471	SUNSET	AMALFI, RESEDA	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade LADWP Palisades Betterment P2, b: Amalfi Dr & Toulon Dr Divider - 8,688 LF ERP Replacement
70472	SUNSET	LIVORNO, BAYLOR	12kV UG - DS 29-DS-99; Backbone Segments on Sunset 12kV UG - Feeder Segments to Areas 1 & 2 StreetsLA Locations
70474	SUNSET	CHAUTAUQUA, BROOKTREE	12kV UG - Feeder Segments to Areas 7 & 8 34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade LADWP Palisades Betterment P2, b: Amalfi Dr & Toulon Dr Divider - 8,688 LF ERP Replacement
70475	SUNSET	ANTIOCH, SWARTHMORE	12kV UG - Feeder Segments to Areas 5 & 6 12kV UG - Feeder Segments to Areas 7 & 8 34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade LADWP Palisades Betterment P2, f: Via De La Paz (1,500 LF), Sunset Blvd (1,335 LF), Swarthmore Ave (512 LF), Antioch St (460 LF) ERP Replacements

ID	Streets	Intersection	Conflicting projects (full names)
70476	SUNSET	LA CRUZ, MONUMENT	12kV UG - Feeder Segments to Areas 7 & 8 34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade LADWP Palisades Betterment P2, f: Via De La Paz (1,500 LF), Sunset Blvd (1,335 LF), Swarthmore Ave (512 LF), Antioch St (460 LF) ERP Replacements
70478	SUNSET	CAREY, MONUMENT, EMBURY	12kV UG - Feeder Segments to Areas 7 & 8 34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade
74304	SUNSET	LOS LIONES, CASTELLAMMARE	12kV UG - Feeder Segments to Areas 1 & 2 StreetsLA Locations
79132	SUNSET	CHAUTAUQUA, PAMPAS RICAS	12kV UG - Feeder Segments to Areas 7 & 8 34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade
79133	SUNSET	CHAUTAUQUA, ILIFF	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade
79134	SUNSET	ILIFF, CHAUTAUQUA	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade
79137	SUNSET	HARTZELL, CHAUTAUQUA	StreetsLA Locations DS 29 Expansion and Upgrade
79138	SUNSET	PAMPAS RICAS, HARTZELL, CHAUTAUQUA	12kV UG - Feeder Segments to Areas 7 & 8 14820 Pampas Ricas Blvd 34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade
79139	SUNSET	EL MEDIO, TEMESCAL CANYON	12kV UG - DS 29-DS-99; Backbone Segments on Sunset 12kV UG - Feeder Segments to Areas 1 & 2 12kV UG - Feeder Segments to Areas 3 & 4 StreetsLA Locations
79143	SUNSET	VIA DE LA PAZ, TEMESCAL CANYON	12kV UG - DS 29-DS-99; Backbone Segments on Sunset 12kV UG - Feeder Segments to Areas 1 & 2 12kV UG - Feeder Segments to Areas 3 & 4 StreetsLA Locations
81983	SUNSET	LIVORNO	12kV UG - DS 29-DS-99; Backbone Segments on Sunset 12kV UG - Feeder Segments to Areas 1 & 2 StreetsLA Locations
81984	SUNSET	SALERNO	12kV UG - DS 29-DS-99; Backbone Segments on Sunset 12kV UG - Feeder Segments to Areas 1 & 2 StreetsLA Locations
81995	SUNSET	ALLENFORD	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade
81996	SUNSET	MONACO	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade LADWP Palisades Betterment P1, #3: 2,260 LF ERP replacement

ID	Streets	Intersection	Conflicting projects (full names)
96540	SUNSET	WILL ROGERS STATE PARK, RUSTIC	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade LADWP Palisades Betterment P2, b: Amalfi Dr & Toulon Dr Divider - 8,688 LF ERP Replacement
100067	SUNSET	RESEDA, EVANS	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade LADWP Palisades Betterment P2, b: Amalfi Dr & Toulon Dr Divider - 8,688 LF ERP Replacement
100068	SUNSET	EVANS, RUSTIC	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade LADWP Palisades Betterment P2, b: Amalfi Dr & Toulon Dr Divider - 8,688 LF ERP Replacement
100829	MARQUETTE	GRENOLA	StreetsLA Locations LADWP Palisades Betterment P1, #15: Las Casas Ave and Marquette St - 3,772 LF ERP Replacement
101026	SUNSET	WILL ROGERS STATE PARK, RUSTIC CREEK	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade LADWP Palisades Betterment P2, b: Amalfi Dr & Toulon Dr Divider - 8,688 LF ERP Replacement
104461	SUNSET	RIVAS CANYON, BROOKTREE	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade LADWP Palisades Betterment P2, b: Amalfi Dr & Toulon Dr Divider - 8,688 LF ERP Replacement
104462	SUNSET	RIVAS CANYON, RUSTIC CREEK	34.5/12kV Combo Package on Sunset Blvd. (6.5 Miles) StreetsLA Locations DS 29 Expansion and Upgrade LADWP Palisades Betterment P2, b: Amalfi Dr & Toulon Dr Divider - 8,688 LF ERP Replacement

Figure 3.7 and Figure 3.8 illustrate these relationships graphically: Figure 3.7 maps all street sections in Pacific Palisades with overlapping projects, while Figure 3.8 shows the total number of projects per segment—visually identifying the corridors most in need of joint coordination.

Figure 3.7: Map of street sections with conflicting projects

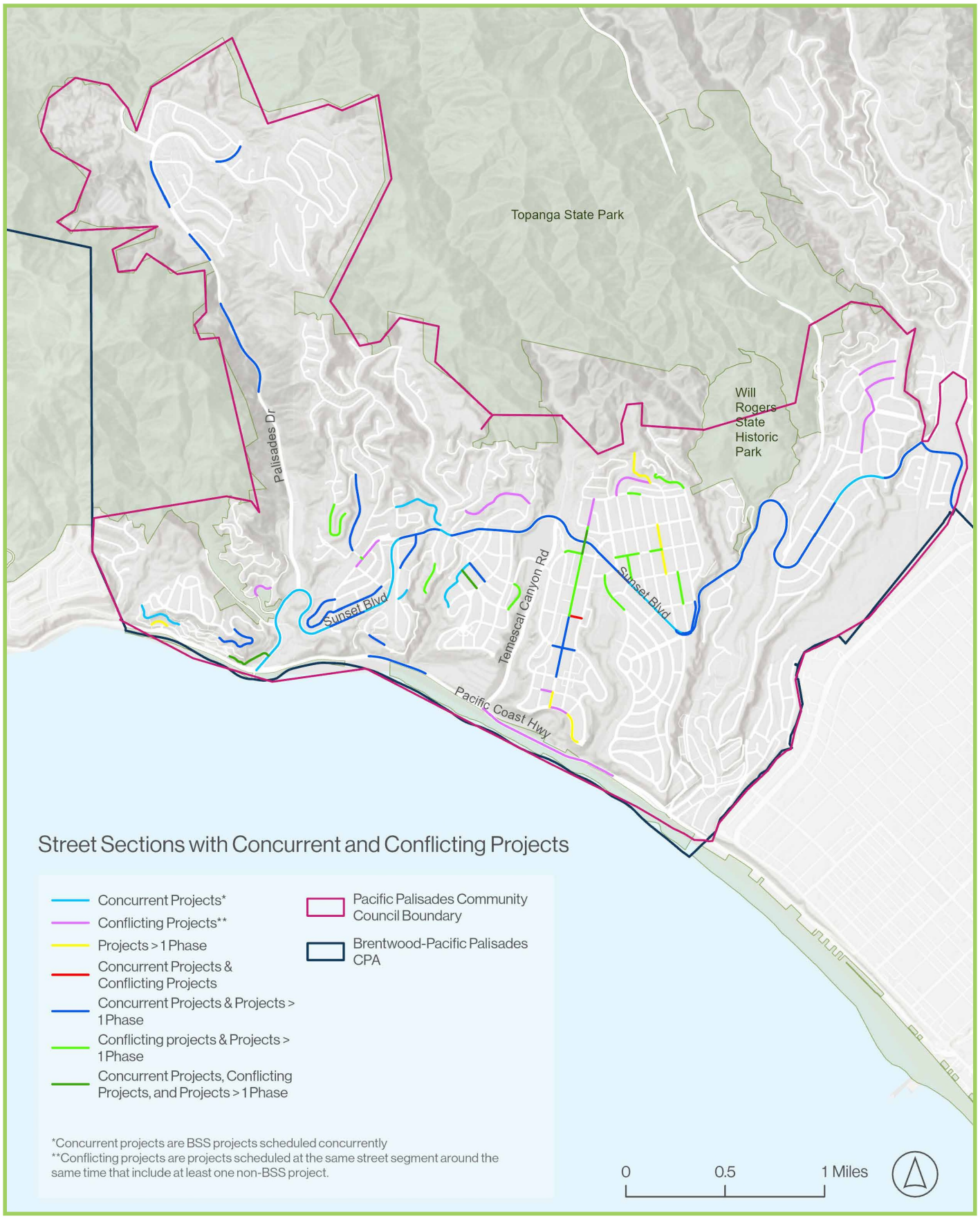
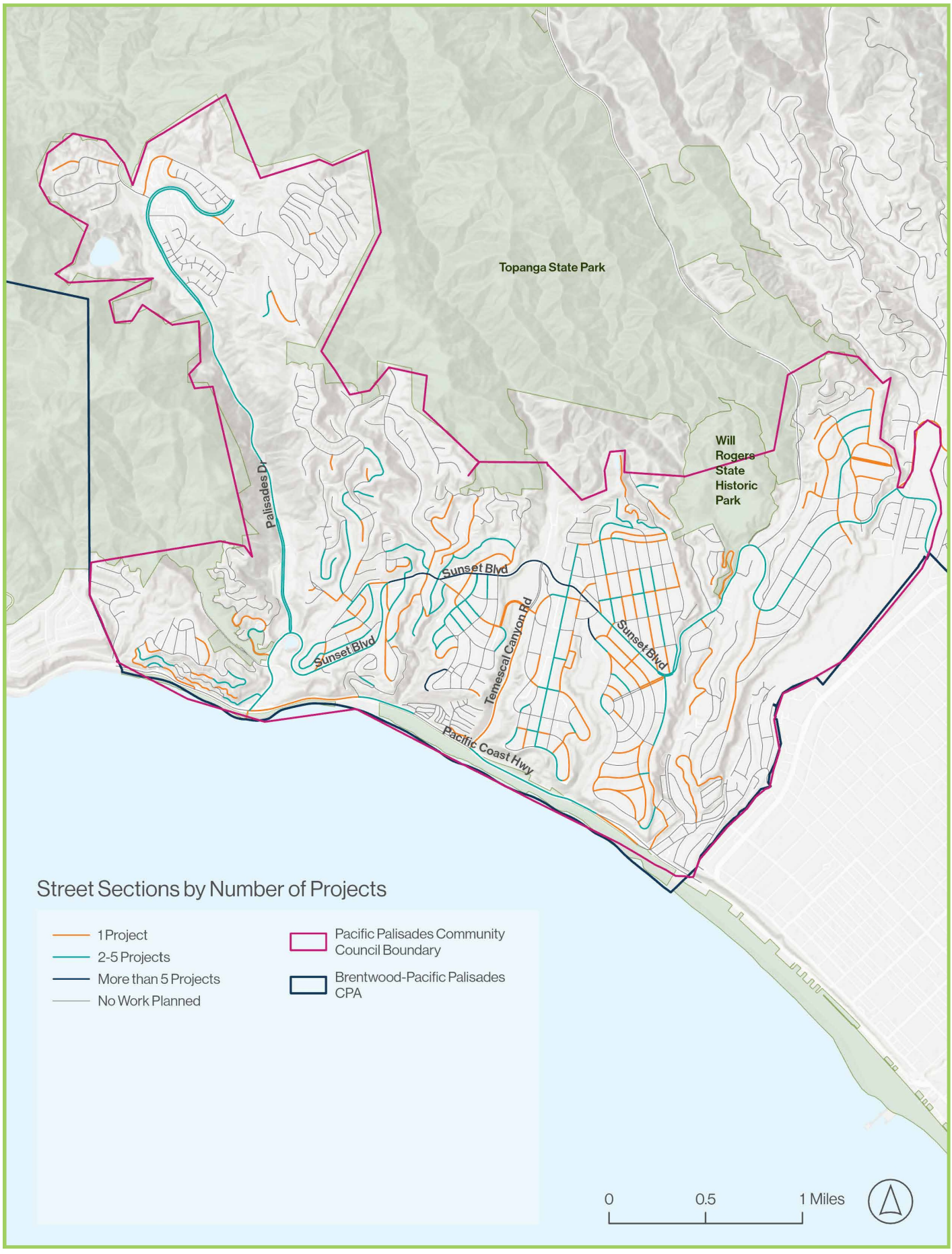


Figure 3.8: Map of street sections by number of projects



3.2.2.3. Summary of Projects in Street Segments

- 756 total street segments with projects across six distinct sources: Power, Betterment, Patchwork, StreetsLA, Wet Utilities, and Sanitation
- Three main categories of projects: Dry, Wet, and Streets
- Project timelines span from January 2025 to December 2033
- Five primary agencies are involved with projects: LADWP Power, LADWP Water, StreetsLA, LASAN, and BOE

3.2.2.4. Street Segments with Projects by Category

For the purposes of discussion within this document, "Street Segment Projects" refers to all of the projects that have been recorded and studied for the street segments that are part of this study. See Appendix F.1 for details.

The main categories include:

- **Dry:** Power infrastructure projects including undergrounding and substation upgrades
- **Wet:** Water main replacements, sanitation infrastructure, and related utilities
- **Streets:** Road paving, burn scar repairs, and work (mainly paving) by StreetsLA

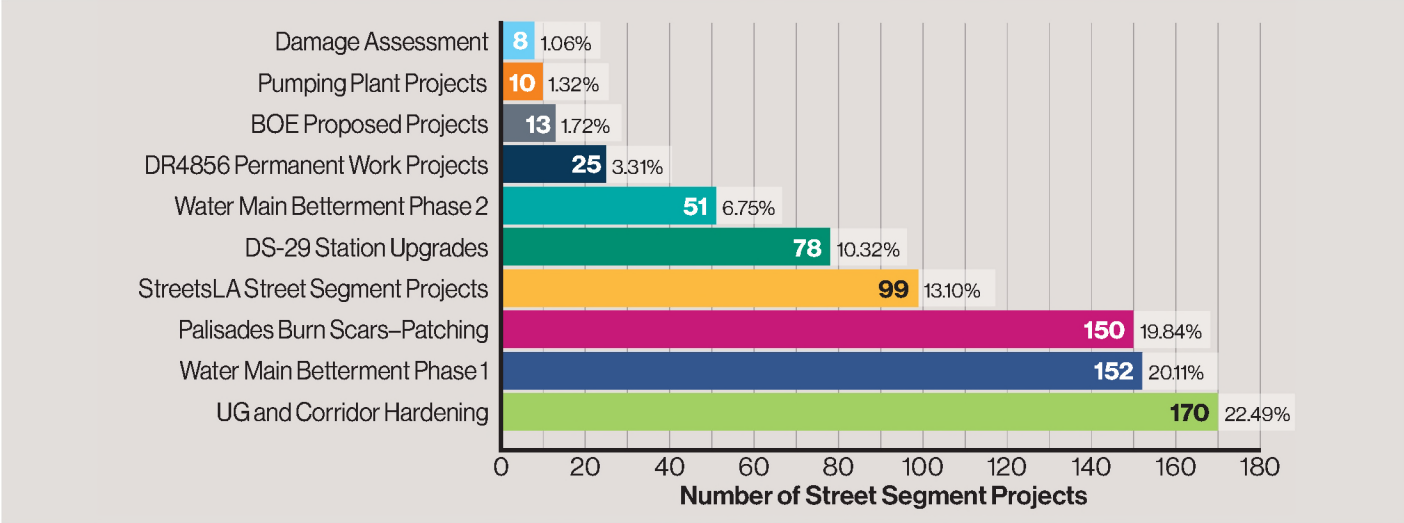
Each project category is active in approximately one-third of the street segments, as shown in the Table 3.9.

Table 3.9: Summary of Street Segment Projects by Work Type

Category	Street Segments with Projects	Percentage
Dry (Power Infrastructure)	248	32.8%
Wet (Water & Sanitation)	256	33.8%
Streets (Paving & Repair)	252	33.3%

Projects are further divided into ten subcategories (see Figure 3.9), with UG and Corridor Hardening representing the largest group. See Appendix F.1 for details.

Figure 3.9: Summary of street projects by project identification source



3.2.2.5. Financial Information

All of the projects discussed within this report are subject to the City's project approval process, including the funding process, feasibility studies, engineering, design, and permitting, and related regulatory approvals. The reader is cautioned that any project discussed here may not yet be funded, approved, or designed, and may be changed or cancelled at any stage of the development process.

The financial analysis of 756 street segment projects in Pacific Palisades reveals a well-organized portfolio of infrastructure improvements. The project portfolio demonstrates clear organizational structures with distinct sources, categories, and subcategories aligned with agency responsibilities. All costs described in this Plan were developed by the Department responsible for the project. Costs are preliminary estimates which are subject to change during the approval process. Readers should consider these costs to be representative of a Class O estimate.

The tables and figures in this subsection provide a financial analysis that is based on currently available information and that does not include projects without estimated values, such as most StreetsLA projects. Figure 3.10 and Figure 3.11 are simply visual representations of budgets for various project types across different categories.

As shown in Table 3.10 and Figure 3.10, Dry projects represent the largest share among all sources, driven primarily by LADWP's plan to convert its 4.8 kV overhead distribution lines to 12 kV lines, underground most of these lines concurrently, and upgrade DS-29 to be compatible with the new distribution voltage. In Table 3.10, Wet Utilities summarizes the total cost of wet utility-related projects sourced from the BOE Proposed Projects, DR4856 Permanent Work Projects, and Pumping Plant Projects from LASAN.

Table 3.10: Estimated Prcject Cost Distribution by Source

Category	Cost Estimate
Dry	$700,478,616
Wet	$150,253,604
Public Buildings, Parks, and Other City Facilities	$52,267,473
Streets, Hardscapes, and Walls	$74,179,248

Note: Financial analysis was based on currently available information shared by agencies.

Figure 3.10: Summary of Street Segment Prcjects by Source

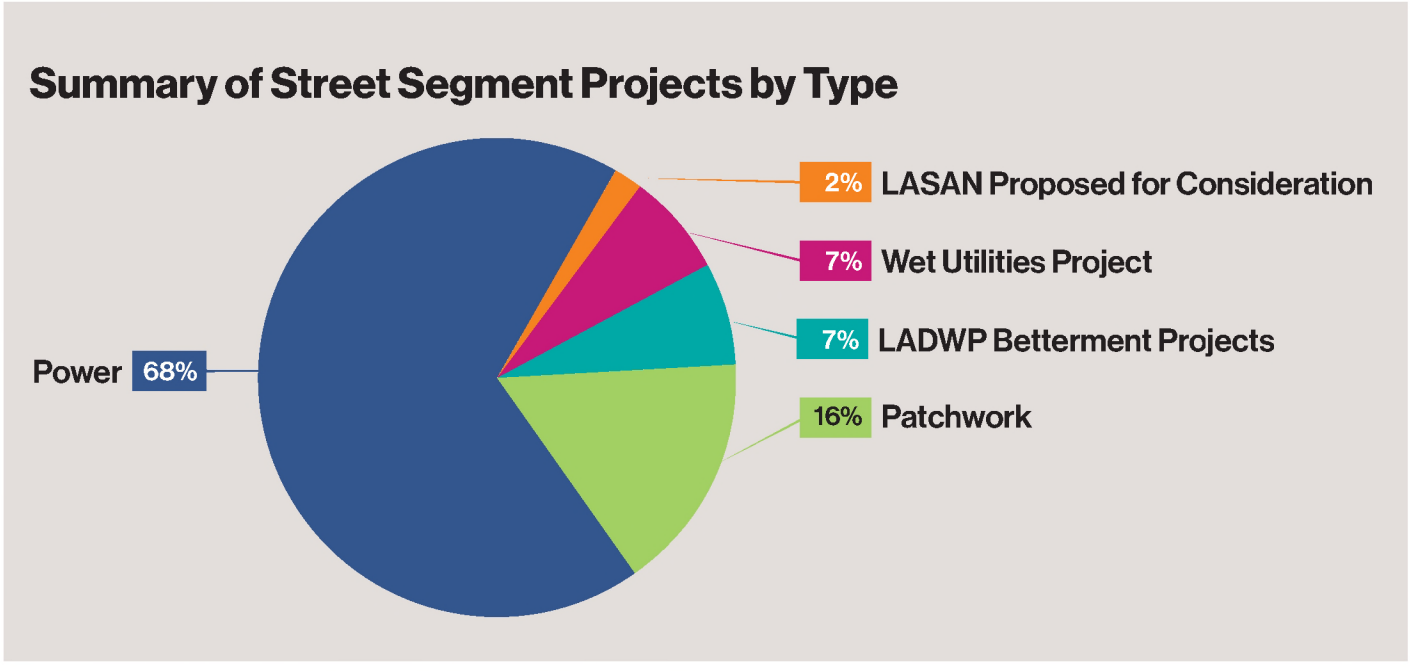


Figure 3.11: Estimated cost distribution by category

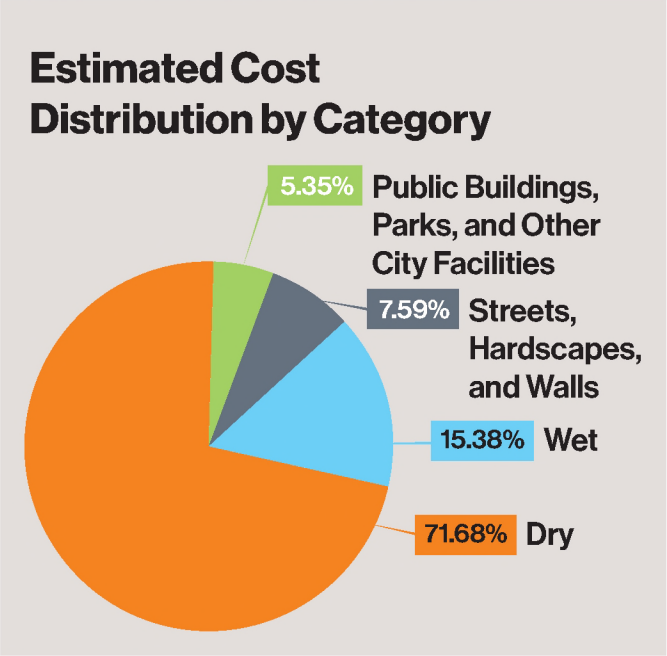


Table 3.11: Estimated Cost Distribution by Project Identification Source

Source	Cost Estimate
DR4856 Permanent Work Projects	$152,843,932
Pumping Plant Projects Provided by LASAN	$5,859,465
LADWP	$699,000,000
Palisades Water Main Betterment Projects Phase 1	$51,070,000
Palisades Water Main Betterment Projects Phase 2	$25,240,000
BOE Proposed Projects	$4,970,800

Table 3.11 is a summary of estimated costs, organized by project source.

3.2.2.6. Timeline for Street Projects

Street projects are scheduled to be implemented over an 8-year period from January 2025 through December 2033. Table 3.12 is a summary of the average project duration, which varies by source, and durations are listed in business days. Figure 3.12 illustrates the project timeline by source.

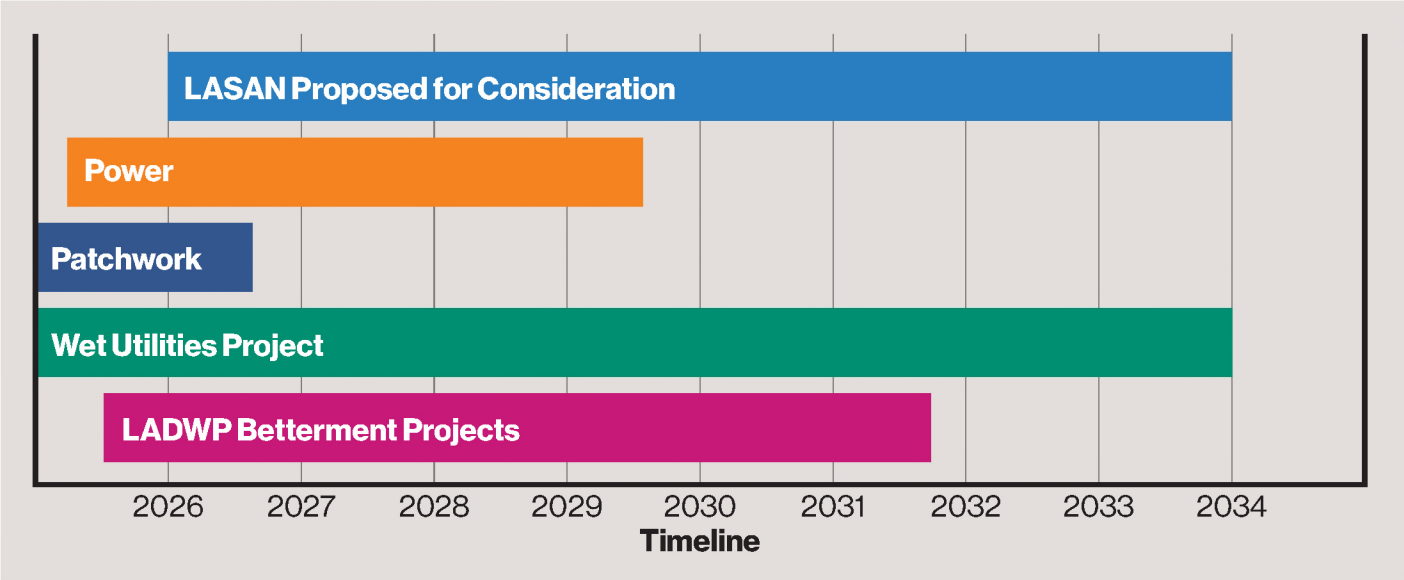
Table 3.12: Project Timeline by Source with Average Project Durations

Source	First Start	Last Finish	Average Duration
Patchwork	Jan 2025	Jul 2026	391 days
Power	Apr 2025	Jun 2029	410 days
LADWP Betterment	Jul 2025	Sep 2031	273 days
Wet Utilities Project	Jan 2025	Dec 2033	1,144 days
LASAN	Jan 2026	Dec 2033	2,087 days

Many projects began in January 2025, immediately following the Fire. The following are some observations on the timeline in Table 3.12.

- Patchwork projects are short-term (average 13 months), completing by mid-2026.
- Power projects span 4 years with relatively consistent duration (average 13.5 months).
- Water projects (LADWP Betterment) average 9 months duration over 6 years.
- Long-term projects (Wet Utilities, LASAN) extend through 2033 with multi-year durations.

Figure 3.12: Prcject timeline organized by source



3.2.2.7. Agency Responsibility

Projects are managed by six City of Los Angeles agencies. LADWP-Power and LADWP-Water have the largest portfolios, as shown in Table 3.13.

Table 3.13: Street Segment Prcjects Responsibility by Agency

Agency	Street Segments with Projects	Percentage
LADWP - Power	249	32.9%
LADWP - Water	206	27.2%
Bureau of Street Services (StreetsLA)	252	33.3%
Bureau of Sanitation (LASAN)	21	2.8%
Bureau of Engineering	20	2.6%
Recreation and Parks (RAP) and Libraries	8	1.1%

3.2.3. Standing Structures and Planned Work Impacts

This section provides an analysis of 166 standing and undamaged structures in Pacific Palisades and the infrastructure improvement projects planned on their streets. The analysis reveals significant infrastructure investment planned across five major project categories. In total 264 street segment (out of 756 street segments) containing standing structures currently have projects planned. Because these projects can directly impact residents living in these structures, coordination efforts with property owners and occupants in these corridors must be prioritized to minimize disruptions and support efficient implementation.

A list of affected structures and their associated project assignments is provided in Appendix F.3.

3.2.3.1. Infrastructure Categories

Five major categories of infrastructure projects are planned across the area:

Betterment Projects

Betterment projects to enhance overall area infrastructure and resilience represent the most comprehensive category, affecting the street segments of 78 of 166 structures. These projects typically involve upgrades to existing infrastructure, including road improvements, utility enhancements, and modernization of aging systems.

Patchwork Projects

Patchwork projects (street surface restoration and repair of Fire-damaged infrastructure) address localized infrastructure needs through targeted repairs and improvements. 66 street segments with standing structures will be impacted by patchwork projects.

Power 12kV/Undergrounding Projects

Power infrastructure modernization affects 60 street segments

with standing structures. The conversion of 4.8kV overhead distribution lines to modern 12kV systems and the undergrounding of power lines concurrently are major power distribution and electrical grid upgrade initiatives.

StreetsLA Projects

Paving and related projects by StreetsLA affect 31 street segments with standing structures.

Wet Projects

Water and sewer infrastructure projects affect 29 street segments with standing structures, addressing critical water distribution and wastewater management needs in the area.

3.2.3.2. Analysis

The 166 standing and undamaged structures are distributed across 81 unique streets. The concentration varies, with major thoroughfares showing higher structure counts (see the streets listed in Table 3.14).

Table 3.14: Streets with High Structure Counts

Major Street	Number of Standing Structures
SUNSET BOULEVARD	24
PALISADES DRIVE	10
CHAUTAUQUA BOULEVARD	9
AMALFI DRIVE	6
TOYOPA DRIVE	6
LAS LOMAS AVENUE	5
ALMA REAL DRIVE	4
SWARTHMORE AVENUE	3
PACIFIC COAST HIGHWAY	3
VIA DE LA PAZ	3
LAS PULGAS ROAD	3
DE PAUW STREET	3
BOLLINGER DRIVE	3
EL MEDIO AVENUE	3

The number of projects planned within street segments containing standing structures also varies. Table 3.15 identifies the street segments with standing structures that have the highest number of planned projects. Coordination efforts with standing structures residents in these areas will therefore need to be prioritized.



Table 3.15: Street Segments with Number of Planned Projects

Street	Intersections	Total Projects Planned for Segment
ALMA REAL DRIVE	EL CERCO	5
SUNSET BOULEVARD	MUSKINGUM, NORTHFIELD	4
SUNSET BOULEVARD	VIA DE LA PAZ, SWARTHMORE	4
JACON WAY	LACHMAN, VIA SANTA YNEZ, EL ORO	4
LIVORNO DRIVE	MARQUEZ, BOLLINGER	4
GLENHAVEN DRIVE	LACHMAN, MERIVALE	4
ORACLE PLACE	MARINETTE	4
ALMA REAL DRIVE	TOYOPA, OCAMPO	4
ILIFF STREET	BASHFORD, ALBRIGHT	4
BIENVENEDA AVENUE	LAS LOMAS	4
SUNSET BOULEVARD	EL MEDIO, ALMAR	3
SUNSET BOULEVARD	CHAUTAUQUA, BROOKTREE	3
SUNSET BOULEVARD	MARQUEZ, SALERNO	3
SUNSET BOULEVARD	AMALFI, RESEDA	3
SUNSET BOULEVARD	LA CRUZ, ANTIOCH	3
PACIFIC COAST HIGHWAY	BAY CLUB, SEAVIEW	3
SUNSET BOULEVARD	WILL ROGERS STATE PARK, RUSTIC	3
SUNSET BOULEVARD	RESEDA, EVANS	3
SUNSET BOULEVARD	EVANS, RUSTIC	3
SUNSET BOULEVARD	WILL ROGERS STATE PARK, RUSTIC CREEK	3
SUNSET BOULEVARD	RIVAS CANYON, BROOKTREE	3
MCKENDREE AVENUE	GOUCHER, BESTOR, EMBURY	3
TELLEM DRIVE	DONAIRE, LACHMAN	3
ENCHANTED WAY	EL ORO	3

3.2.3.3. Recommendations

Project Coordination and Stakeholder Engagement

Property owners and residents of structures at affected streets must receive timely, comprehensive information regarding project types, construction schedules, anticipated timelines, and potential service disruptions (including temporary water or power disconnections). Clear communication of resident responsibilities and expectations will be essential. Therefore, the following actions are recommended to minimize disruption and maintain community support throughout the implementation phase:

- Develop coordinated execution strategies for streets with multiple overlapping projects.
- Establish clear communication protocols for residents affected by concurrent projects.
- Create a comprehensive information portal for residents to track multiple projects.
- Establish regular community forums focused on Sunset Boulevard infrastructure improvements.

Resource Allocation

- Focus initial resources on high-concentration areas for maximum impact.
- Consider phased implementation starting with streets having single project types.
- Bundle projects geographically to reduce overall disruption and cost.

Monitoring and Evaluation

- Implement tracking systems for projects affecting structures with multiple project types.
- Create quarterly progress reports highlighting completion rates by street and project type.
- Implement adaptive strategies that implement lessons learned from initial projects.

3.2.4. Street Segments Without Planned Work

The City of Los Angeles and Los Angeles County are planning comprehensive street paving operations throughout Pacific Palisades in the near future. Considering the significant number of agencies and utility companies with concurrent work plans in various parts of the neighborhood, careful coordination is essential to avoid redundant work, minimize disruption to residents, and ensure efficient use of public resources.

This section analyzes street segments where no infrastructure improvements beyond pavement work have been scheduled (see Figure 3.13). A list of these street segments is provided in Appendix F.4.

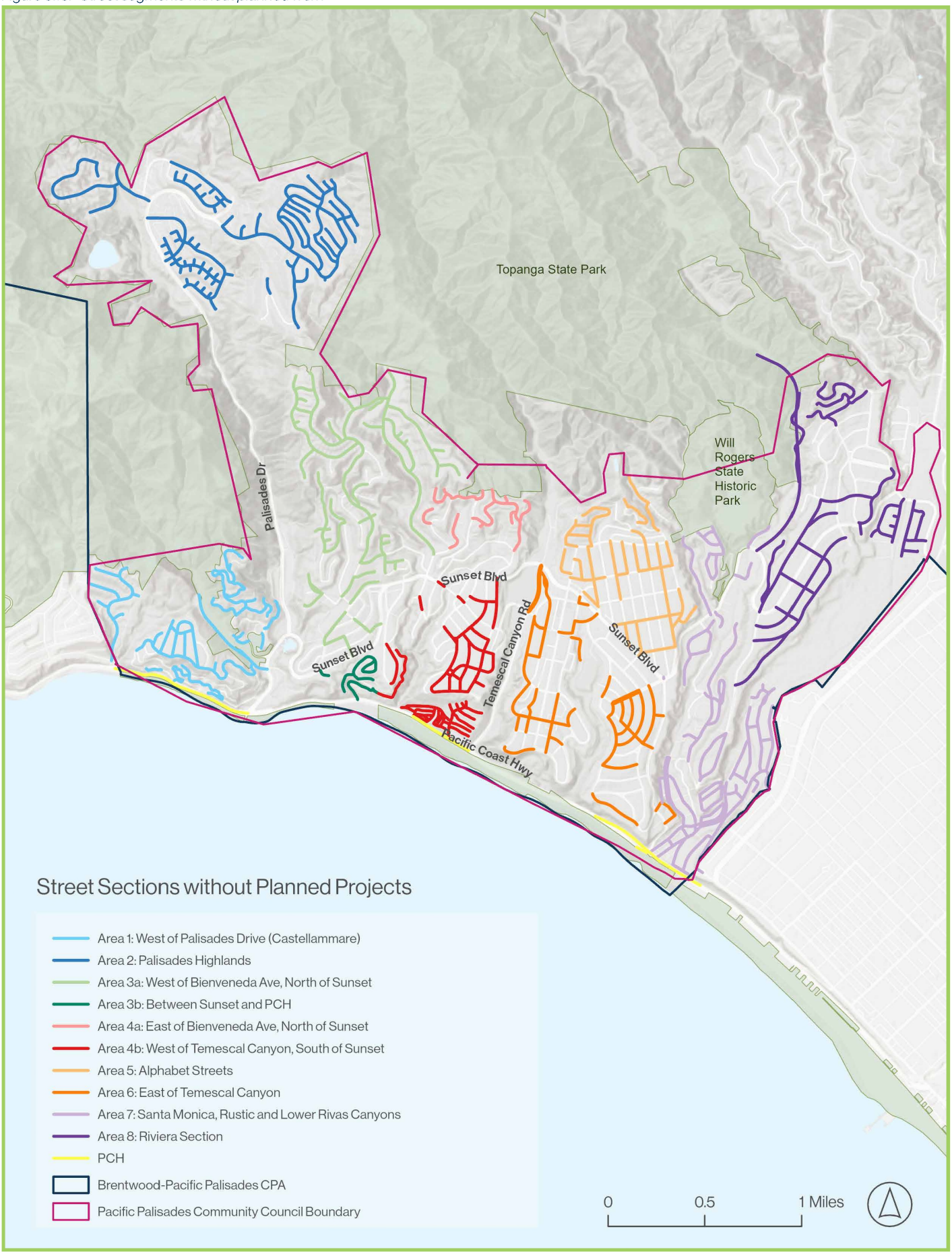
The assessment includes an inventory of 711 street segments and strategic recommendations for coordinating future paving operations with ongoing utility and agency work throughout the neighborhood. The street segments, which represent a substantial portion of the Pacific Palisades street network, include:

- Major thoroughfares (Sunset Boulevard, PCH, Mulholland Drive, San Vicente Boulevard)
- Residential streets across all neighborhoods
- Canyon roads (Mandeville Canyon, Rustic Canyon, Temescal Canyon)
- Hillside access routes
- Local connector streets

The street segments without planned work (Figure 3.13) are distributed across all areas of Pacific Palisades, including:

- **Canyon Areas:** Mandeville Canyon Road, Rustic Canyon Road, Temescal Canyon Road, and Will Rogers State Park Road
- **Coastal Zone:** PCH segments, Sunset Boulevard western sections
- **Central Residential:** Numbered Helena Drives, Carmelina Avenue segments
- **Eastern Boundary:** Sepulveda Boulevard, Getty Center Drive areas
- **Northern Hillsides:** Mulholland Drive, various canyon access roads
- **Palisades Village Core:** Streets surrounding the commercial district

Figure 3.13: Street segments without planned work



3.2.4.1. Estimate of Cuts per Corridor with No Work

In addition to the utility operator's planned and future work, additional work will be required to support building reconstruction, as street cuts will be required to reconnect newly reconstructed buildings to the utility systems with new laterals. The majority of these street cuts for new private utility service laterals will be performed by the landowner's contractor during the construction of the buildings. This will result in an extended schedule of installation, which impacts the City's ability to complete street repairs consistently.

Table 3.16 estimates the expected number of utility trench cuts across the Pacific Palisades study area where no infrastructure improvements beyond pavement work appears in the available plans for these street segments, normalized per 1,000 linear feet (1kLF) to provide a consistent basis for comparison among corridors of varying length and density. The 1kLF unit was selected because it approximates a typical residential block (about 20 lots at 50 feet each) and aligns with standard construction and estimating practices, where trenching, traffic control, and paving are often planned in 1,000-foot increments.

Each corridor group was assigned a cut density (number of cuts per 1kLF) for gas, water, sewer, and power/telecom systems, based on parcel spacing, slope, and the degree of undergrounding. Densities are highest (20 cuts/kLF) in dense 50-foot-lot grids near Sunset Boulevard and Via de la Paz, where nearly every parcel connects to multiple utilities. Medium-density corridors such as Alma Real, Marquez, and Bollinger use moderate values (10–15 cuts/kLF), while steep hillside or canyon areas drop to 5–8 cuts/kLF, reflecting fewer laterals and more selective undergrounding.

Multiplying each corridor's length (in kLF) by the assigned densities yields the total number of expected cuts per utility and per corridor group. The resulting pattern shows higher cut counts clustered in the Sunset-adjacent grids and fewer in hillside or canyon segments. Overall, the 105.6 kLF network length corresponds to roughly 3,700 total cuts—an average of about 35 cuts per 1kLF—providing an order-of-magnitude benchmark for construction coordination, trench restoration, and paving impact assessment.

Table 3.16: Utility Trench Cut Density and Totals by Corridor for Corridors with No Planned Work

Street Section Area / Corridor	Pacific Palisades Community Council Areas	Description	Terrain / Parcel Context	Length (ft)	Length (klf)	Cut Density (number of cuts per klf)				Number of cuts per corridor				Total number of cuts per corridor
						Gas	Water	Sewer	Power Telecom	Gas	Water	Sewer	Power Telecom	
Corridor 1	Area 1	Castellammare, Paseo Miramar, Pacific View Estates, Los Liones Park, the Self Realization Fellowship Temple, the Malibu Village mobile home park, and Sunset Boulevard from Pacific Coast Highway to Palisades Drive	Steep coastal terrain with winding roads and limited access; narrow rights-of-way along bluffs and canyon ridges; deep trenching and slope stabilization required.	33,370	33	10	15	10	15	334	501	334	501	1,335
Corridor 2	Area 2	The Highlands, including Palisades Drive, the Santa Ynez Reservoir, Santa Ynez Canyon Park	HOA-style hillside development with broad cul-de-sacs and underground utilities; gently sloping benches between canyon ridges; predominantly underground joint trench corridors.	51,906	52	12	20	15	20	23	1,038	779	1,038	2,855

Street Section Area / Corridor	Pacific Palisades Community Council Areas	Description	Terrain / Parcel Context	Length (ft)	Length (klf)	Cut Density (number of cuts per klf)				Number of cuts per corridor				Total number of cuts per corridor
						Gas	Water	Sewer	Power Telecom	Gas	Water	Sewer	Power Telecom	
Corridor 3a (North of Sunset)	Area 3	Marquez Knolls and both sides of Sunset Boulevard from Palisades Drive to Bienveneda Avenue, Saint Matthew's School, and the Bel Air Bay Club	Medium-density grid along Sunset; rolling topography with mix of residential and institutional parcels; moderate trench depths and consistent underground utility presence.	45,465	45	20	25	20	30	909	1,137	909	1,364	3,410
Corridor 3b (South of Sunset)	Area 3	Marquez Knolls and both sides of Sunset Boulevard from Palisades Drive to Bienveneda Avenue, Saint Matthew's School, and the Bel Air Bay Club	Medium-density grid along Sunset; rolling topography with mix of residential and institutional parcels; moderate trench depths and consistent underground utility presence.	5,084	5	18	22	18	28	92	112	92	142	346
Corridor 4a (North of Sunset)	Area 4	North and south of Sunset Boulevard from Bienveneda Avenue to Temescal Canyon Road, the Palisades Bowl and Tahitian Terrace mobile home parks at Pacific Coast Highway, Palisades Charter High School, and the westerly portion of Temescal Canyon Park	Mixed terrain with residential and school frontage; localized slope conditions and moderate trenching; coordination required with school and mobile home access points	9,169	9	15	20	15	25	138	183	138	229	550
Corridor 4b (South of Sunset)	Area 4	North and south of Sunset Boulevard from Bienveneda Avenue to Temescal Canyon Road, the Palisades Bowl and Tahitian Terrace mobile home parks at Pacific Coast Highway, Palisades Charter High School, and the westerly portion of Temescal Canyon Park	Mixed terrain with residential and school frontage; localized slope conditions and moderate trenching; coordination required with school and mobile home access points	28,706	29	12	18	12	22	344	517	344	632	1,493
Corridor 5	Area 5	North side of Sunset Boulevard from Temescal Canyon Road to Rivas Canyon Road and portions of Topanga State Park	Transitional zone between urban edge and open space; moderate slope with high vegetation sensitivity; scattered residences and utility crossings through canyon mouths.	27,569	28	10	15	10	18	276	414	276	496	1,185

Street Section Area / Corridor	Pacific Palisades Community Council Areas	Description	Terrain / Parcel Context	Length (ft)	Length (klf)	Cut Density (number of cuts per klf)				Number of cuts per corridor				Total number of cuts per corridor
						Gas	Water	Sewer	Power Telecom	Gas	Water	Sewer	Power Telecom	
Corridor 6	Area 6	Temescal Canyon Road from the Pacific Ocean to Sunset Boulevard including the easterly portion of Temescal Canyon Park; east to the east side of Chautauqua Boulevard; Chautauqua Boulevard both sides south to the Vance/ Corona del Mar Drive intersection; Chautauqua Boulevard to the Pacific Ocean.	Steep canyon grade with curving alignments and constrained ROW; storm drain crossings and slope stabilization key; limited access corridors linking to PCH.	33,369	33	8	12	8	15	267	400	267	501	1,168
Corridor 7	Area 7	Santa Monica, Rustic and Lower Rivas Canyons, Rivas Canyon Park, Will Rogers State Park, and Rustic Canyon Recreation Center	Large-lot canyon estates with sparse development; partial overhead utilities; rugged terrain limits trench access and requires selective undergrounding coordination.	55,988	56	5	8	5	10	280	448	280	560	1,288
Corridor 8	Area 8	Riviera sections North and south of Sunset Boulevard up to Allenford Avenue, the Paul Revere Middle School grounds, and the Riviera Country Club	Wide streets and large residential parcels; gently rolling topography; broad ROWs support efficient trenching and potential for integrated joint-trench upgrades.	43,756	44	15	20	15	25	656	875	656	1,094	2,625
PCH				9,528	10	8	12	8	18	76	114	76	171	362
Totals				**343,911**	**344**	**133**	**187**	**136**	**226**	**3,995**	**5,739**	**4,150**	**6,728**	**16,617**

3.2.4.2. Recommendations

Although no work currently appears in the available plans for these street segments, it is unlikely—given the condition of the area—that no utility work is actually required. The key recommendation is to ensure that all necessary work, especially utility-related activities, is identified and completed before any pavement work is planned or executed. Generally, street paving should occur only after all other dirt-disturbing projects have been completed. Paving of the 711 street segments should be deferred until all planned utility and infrastructure work by various agencies is completed or until a comprehensive assessment confirms no future work is planned for each specific segment.

General Paving Recommendations

- **Avoid Redundant Excavation:** Paving streets before utility work is completed will result in newly paved surfaces being excavated, wasting resources and causing additional neighborhood disruption.
- **Plan for Cost Efficiency:** Coordinating work sequences will reduce overall project costs.
- **Minimize Community Impact:** Consolidated work periods will reduce the total duration of construction-related disruptions.
- **Surface Integrity:** Allowing utilities to complete work first will result in paving surfaces remain intact longer.
- **Perform Quality Assurance:** Post-utility work allows for quality monitoring of the work, proper settlement and base preparation before final paving.

Phase 1: Work Inventory Recommendations

- **Survey All Planned Work:** Contact all utility companies, city departments, and county agencies to identify planned work locations and schedules.
- **Update the Interactive Map:** Update the existing GIS with all discovered planned work by location and timeline.
- **Identify Conflict Zones:** Determine which street segments have overlapping work plans.
- **Establish Priority Rankings:** Categorize streets by urgency, condition, and work schedule clarity.

Phase 2: Coordination and Scheduling Recommendations

- **Stakeholder Meetings:** Convene all agencies to establish coordinated work sequences.
- **Master Timeline Development:** Create integrated schedule showing optimal work order.
- **Traffic Management Plan:** Design comprehensive plan minimizing cumulative impacts.
- **Community Communication:** Develop resident notification and feedback system.

Phase 3: Staged Implementation Recommendations

- **Implementation:** Implement work in accordance with recommended sequence, and proceed to paving streets with confirmed no future work first.
- **Post-Utility Segments:** Pave streets immediately following utility work completion.
- **Quality Monitoring:** Inspect and verify all pre-paving work completion.

If coordination measures are not implemented, several negative consequences could arise. Financially, the City could face unnecessary spending due to redundant paving and repeated excavations. Logistically, residents and businesses would experience extended disruption as streets undergo multiple rounds of construction instead of a single, coordinated effort. Newly paved surfaces could deteriorate prematurely from repeated trenching, undermining the quality of recent investments. These conditions would likely heighten community frustration, leading to increased complaints and potential reputational damage.

3.2.5. Likelihood of Additional Projects Due to Maintenance Cycles

Appendix F.2 outlines how agencies such as LADWP, LASAN, StreetsLA, and Caltrans use time-based and condition-based systems to plan resurfacing, bridge inspections, and utility replacements. It also highlights the use of asset management frameworks and capital improvement programs to prioritize investment, maintain infrastructure condition, and extend asset life. Together, these cycles underscore that additional projects will inevitably emerge over time, reinforcing the need for coordinated scheduling and long-term.

Table 3.17 provides a summary of how the intent, scope, and level of detail varies across Tiers and should be used as a reference when reviewing Sections 3.3 through 3.5.

Table 3.17: Overview of Tiers

	Tier 1	Tier 2	Tier 3
Intent	Immediate life-safety, emergency access, and stabilization	Restore safe, functional service and habitability	Long-term recovery, rebuilding, and resilience
Purpose	Document post-Fire emergency actions and critical needs	Describe ongoing restoration required to return systems to normal operation	Identify permanent improvements and capital programs
Approach	Selective focus on assets and corridors that affect emergency response	System-specific restoration varies by infrastructure and jurisdiction	Consistent, asset-based planning across systems
Typical Content	Emergency access routes, critical facilities, rapid stabilization	Reservoirs, wastewater conveyance, stormwater systems, streets	Comprehensive asset groupings, upgrades, and hardening
Level of Detail	Variable by system (driven by life-safety needs)	Moderate, varies by system dependencies	Highest and most consistent
Geographic Scope	Areas affecting emergency operations	May extend beyond City limits for regional systems	Defined planning area
Why Content Varies	Emergency priorities differ by asset type	Recovery drivers differ by system configuration	Planning maturity enables uniform detail
What It Is Not	Not a full asset inventory	Not a comprehensive rebuild plan	Not emergency response

3.3. Tier 1 - Immediate Life-Safety and Emergency Access Needs

Intent: Document the immediate post-Fire actions taken to stabilize critical infrastructure, support first responders, and re-establish essential lifeline services.

Purpose: Provide a cross-sector account of rapid field assessments, emergency repairs, temporary stabilization measures, and access restoration across dry utilities, wet utilities, streets, and natural infrastructure.

Approach: Each subsection (3.3.1–3.3.4) summarizes the emergency response activities, the critical facilities and populations supported, and the short-term actions completed to protect public safety and enable continued emergency operations.

Tier 1 content is uneven across infrastructure systems because emergency response priorities differ by asset type. Tier 1 focuses on immediate life-safety risks, emergency access, and stabilization needs, rather than comprehensive asset inventories. As a result, subsections emphasize the specific facilities, corridors, or system components that directly affected emergency response and public safety following the fire.

Table 3.18 summarizes the short-term recovery priorities focused on immediate life-safety and emergency access needs. It highlights critical dry utilities, wet utilities, street trees and surface infrastructure, and natural infrastructure assets that require early stabilization or restoration to support firefighting, emergency response, and safe community access. For a list of critical facilities and their statuses, please see Table 3.2.

Table 3.18: Tier 1 Assets - Sample of Immediate Life-Safety and Emergency Access Needs Assets

Tier 1 – Immediate life-safety and emergency access needs	**Dry Utilities**		
	Power	**Gas**	**Telecom**
	• Palisades Elementary Charter School service point • Plant #739 Stormwater station	• Critical valves near fire zone • High-pressure transmission mains	• Emergency communication for first responders • Cellular towers serving schools and shelters
	Wet Utilities		
	Potable Water	**Wastewater**	**Stormwater**
	• Fire Stations – FS 069 and FS 023 • Water Utility Tanks, Reservoirs, and Pumping Stations	• Sewer pump stations • Emergency bypass connections • Septic systems in burn area	• Debris Basins 69, 70, 71 • Critical culverts at PCH and Sunset corridors
	Street Trees and Surface Infrastructure		**Natural Infrastructure**
	Street Trees and Surface Infrastructure		**Natural Infrastructure and Vegetation**
	• Sunset Boulevard and Pacific Coast Highway (primary evacuation routes) • Temescal Canyon Road and Chautauqua Boulevard (secondary routes) • Hazardous street tree[1] removal and tree trimming to mitigate hazards of fallen limbs		• Hillside slopes above Temescal and Santa Ynez Canyons • Burned hillsides adjacent to roads • Vegetated slopes near PCH and Sunset corridors

1 Note that trees identified as hazardous by UFD have been removed and UFD is continuing to monitor impacted trees throughout Pacific Palisades.

3.3.1. Dry Utilities

3.3.1.1. Post-Fire Response Efforts and Status

Immediate Response Efforts

The strategy for Tier 1 restoration was to restore services to all standing (No Damage) structures (businesses and homes). LADWP electric crews worked 16 hour shifts, 7 days a week, to safely restore electric service to the Pacific Palisades area, focusing their efforts on areas with the least damage to power distribution infrastructure. Crews patrolled all circuits and cleaned equipment affected by fire retardant before power could be restored). Services were restored to 4,018 No Damage structures by April 10, 2025.

Status of Critical Infrastructure

The status of the critical infrastructure identified is presented in Table 3.2.

Since primary electric distribution services had been restored, it was recommended that building contractors coordinate directly with the LADWP Unified Utilities Rebuild Operations Center (UUROC) to establish temporary power solutions to support future construction for critical facilities, as shown in Figure 3.2.

The pump station identified as Plant #739 sustained significant structural and operational damage, rendering it out of service. This facility plays a critical role in maintaining system reliability and supporting downstream infrastructure.

3.3.1.2. Critical Gas and Telecommunications Infrastructure

Although public information is not available regarding the status of specific critical gas and telecommunications infrastructure damaged in the Fire– such as storage facilities, cell sites, power nodes, or critical valves – SoCalGas and telecommunications companies (e.g., AT&T, Verizon, T-Mobile, Spectrum) have generally indicated in their public statements that all critical infrastructure has been restored since the Fire.

AT&T's Emergency Response and Community Support

AT&T's announced response to the Palisades Fire was characterized by the rapid deployment of technologically advanced temporary assets, a focus on supporting public safety through its FirstNet network, and a package of financial and community support.

AT&T's immediate actions were centered on its public-private partnership with the First Responder Network Authority. The company announced that it prioritized the emergency communications needs of public safety agencies, deploying a suite of dedicated network assets to support their critical operations on the front lines. This response served the dual purpose of providing essential connectivity while simultaneously demonstrating the unique capabilities of the FirstNet platform in a real-world crisis scenario.

A key element of this response was the announced deployment of its Drones & Robotics team's Flying COWs (Cells on Wings). These drone-based mobile cell sites offered significant tactical flexibility compared to ground-based assets. AT&T announced specific strategic deployments within Pacific Palisades to maximize their effectiveness:

- **Riviera Neighborhood:** A Flying COW was positioned here to utilize higher elevation, extending its mobile signal across a wider swath of the impacted area.
- **Palisades-Brentwood Neighborhood:** This location served as a crucial staging area for 40 firetrucks entering the active fire in Mandeville Canyon, and a Flying COW was deployed for reliable communications for these units.
- **Huntington Palisades Neighborhood:** As a central and severely impacted area, this neighborhood also received support from a Flying COW to restore critical wireless service.

These assets were announced to be connecting approximately 90 users at any given time and transmitting data at 4 GB per hour, with average download speeds of 170 Mbps. In addition to aerial assets, AT&T deployed ground-based **Super COWs** (**Cell on Wheels**), which generate ten times the capacity of a normal antenna, to public safety incident command posts to support the high-density communication needs of the unified command.

Spectrum's Emergency Response and Community Support

To address the immediate connectivity needs of residents and first responders, Spectrum announced it had opened its network of more than 35,000 out-of-home Wi-Fi access points across Southern California for free use by the public, regardless of whether they were Spectrum customers. The company also lifted authentication requirements for its Spectrum News 1 SoCal channel, making its fire coverage accessible to all residents via its app and website.

For its direct customers, Spectrum announced it would proactively issue daily bill credits for the time they were without service after commercial power was restored, and it assured customers they would not be charged for any equipment that was damaged or destroyed in the fires. The company also provided support to relief organizations on the front lines by offering free upgrades to 1 GB internet service to several Red Cross and other service locations and offering the same free high-speed service

through the end of February to other relief organizations that were not current subscribers.

Verizon's Emergency Response and Community Support

To support public safety operations, Verizon announced the deployment of its Verizon Frontline Crisis Response Team. This specialized unit, composed largely of former first responders, provided on-demand, emergency assistance to public safety agencies on the front lines. The team responded to 33 requests from 15 different agencies, delivering 75 mission-critical communications solutions, including mobile hotspots, routers, smart devices, and a Satellite Picocell on a Trailer (SPOT). For displaced residents, Verizon announced it had set up free Wi-Fi and device charging stations at several American Red Cross shelters and public locations, including the Westwood Recreation Center, El Camino Real Charter High School, and Oxnard College.

3.3.2. Wet Utilities

This section describes the Tier 1 restoration efforts related to potable water, wastewater, and stormwater.

3.3.2.1. Potable Water

Tier 1 restoration efforts focused on re-establishing critical infrastructure such as firefighting and hospital water supply through the flushing, isolation, and repair of damaged distribution lines and pumping stations. Tier 1 restoration efforts have been completed, focusing on the immediate re-establishment of critical infrastructure such as firefighting and hospital water supply. These actions included the flushing, isolation, and repair of damaged distribution lines and pumping stations to restore essential service continuity following the Fire.

Immediate Response Efforts

On January 15, 2025, LADWP immediately deployed 19 water tankers, each holding 2,000 to 4,000 gallons, to support the firefighting. These water tankers serve as mobile fire hydrants and can continuously supply water to firefighters. The Encino, Lower Stone Canyon, and Hollywood Reservoirs, with 6 billion gallons of water, were fully available and were a critical part of firefighting efforts (LADWP, 2025a).

LADWP field crews worked to restore water pressure in Pacific Palisades, turning off all accessible services while doing so. By January 15, restoration of water pressure in four out of five zones was completed, but access was restricted in the area surrounding Temescal Tank. Water pressure was restored in areas served by the Marquez Knolls Tank and the Trailer Tank after the field crews repaired leaks from damaged properties, addressed distribution system issues, and closed any open fire hydrants. On January 14, 2025, the Marquez Knolls Tank, one of the three tanks that supply water to Pacific Palisades, was filled to capacity with 1 million gallons of water and pressurized (LADWP, 2025a).

LADWP announced on June 26, 2025, that the Santa Ynez Reservoir was returned to service after months of extensive repairs to the floating cover. The Santa Ynez Reservoir is a critical part of the drinking water distribution system, so it must remain covered to meet State and Federal regulations (LADWP, 2025e).

Emergency Executive Order No. 5 was issued on March 21, 2025, by Mayor Karen Bass regarding water system resilience. The order stated that within 90 days, LADWP should evaluate potential measures to improve the resilience of its water supply and management in the face of future wildfire events. The evaluation includes an assessment of the City's water distribution, storage capacity, support for aerial and other firefighting operations, pump capacity, and possible upgrades, all within the constraints of urban water systems (City of Los Angeles, 2025c). This order also references long-term resilience, which will be discussed in a later section.

Testing, Flushing and Disinfection Completed

After the wildfire, LADWP carried out extra water sampling and testing in the Brentwood area. Results from samples collected through January 17, 2025, show that the water continued to comply with all drinking water standards. No benzene or unusual levels of volatile organic compounds, nor other fire-related contaminants, have been found (LADWP, 2025g).

LADWP crews worked 7 days a week to flush and test water pipes in coordination with the state to accelerate the lifting of the Do Not Drink notice. Mayor Karen Bass lifted the Do Not Drink notice on March 7, 2025, months ahead of expectations. As part of the emergency response, residents were instructed to thoroughly flush their plumbing systems before resuming normal use. This process included removing aerators and faucet screens, bypassing filters and softeners, and flushing outdoor faucets for about 10 minutes until water ran clear. Inside the home, cold water faucets were to be flushed in sequence from closest to the water line to farthest, followed by all toilets and urinals. Hot water systems required draining and refilling the tank to remove sediment. Additional steps included running empty rinse cycles on dishwashers and washing machines, discarding several batches of ice, and then resuming ice maker use. Once flushing was complete, residents were advised to clean and reinstall faucet screens, restore filters, and reset water-softening devices to ensure safe drinking water throughout their homes (LADWP, 2025f).

Water Meter Cleanup and Replacement

On June 28, LADWP staff and contract crews initiated meter box

cleaning in the Pacific Palisades area to remove dust and fire debris. Crews accessed meter boxes located along sidewalks and curbs at each property and performed necessary cleanup. The effort was estimated to require 6 to 8 weeks to complete. These repair and cleaning activities did not affect the quality of the water provided by LADWP. The water meters and their boxes are fully self-contained, ensuring water remains safe to drink (LADWP, 2025c).

3.3.2.2. Wastewater

Emergency Response

The emergency system presented in Tier 1 prevented overflows and maintained basic pump station operation through bypass systems. The goal of the Tier 1 emergency response was to prevent raw sewage discharges, contain leaks, and reroute flows if necessary. Caps or plugs were used to isolate damaged segments and prevent debris and contamination discharge.

Emergency Executive Order No. 2 on Watershed Protection was issued on January 21, 2025, by Mayor Karen Bass and covers sewer protection measures. The Order instructed the City to seal damaged home sewer connections with caps or plugs to prevent debris and contaminants from entering the City's sewer system. This was done to prevent accumulated debris from causing sanitary sewer overflows that could have entered nearby catch basins and discharged to the ocean (City of Los Angeles, 2025b).

Damage Assessment

The goal of the Tier 1 damage assessment was to identify broken sewer pipes, blocked lines, and compromised septic systems.

Field Inspections by City, utility, or public health engineers were conducted. Camera inspections of sewer lines and inspections of septic tanks, leach fields, manholes, pipes, and pump stations were also conducted.

Cleaning, Flushing, and Debris Removal

The goal of the Tier 1 cleaning, flushing, and debris removal was to clear ash, sediment, debris, and charred materials from pipes and system components.

After the Palisades Fire, debris removal became one of the most critical early steps in recovery for Pacific Palisades and nearby Los Angeles County communities. The process is essential not just for clearing damaged properties, but for protecting public health, preventing water and sewer pollution, and preparing sites for rebuilding. Wildfire debris often contains toxic materials such as heavy metals, asbestos, lead, and other hazardous substances that are released when buildings and vehicles burn. Because of these risks, cleanup is conducted in two coordinated phases under strict environmental oversight.

The first phase, led by the U.S. EPA and California's Department of Toxic Substances Control (DTSC), involved the identification and removal of household hazardous waste (HHW) items such as propane tanks, pesticides, batteries, solvents, and electronic waste. Removing these materials first prevented them from leaching into soil or stormwater during later cleanup. Once Phase 1 was complete, Phase 2 began under the joint management of LACDPW and USACE. This second phase addressed the remaining ash, metal, concrete, contaminated soil, and burned vegetation. Crews used heavy equipment to demolish unstable remnants, segregate recyclable materials, and scrape away fire ash and affected soil to reach clean layers.

During Phase 2, water trucks and soil stabilizers were used to keep ash from becoming airborne, while fiber rolls and silt fences prevented runoff from entering storm drains and nearby waterways such as Temescal Canyon Creek or Santa Monica Bay. These debris removal activities were closely coordinated with wastewater management efforts to prevent contamination of sanitary and stormwater systems from ash-laden runoff or infiltration of debris into collection infrastructure. After debris removal, soil samples were collected and tested to ensure that contaminant levels meet state health and safety standards. Only after the site passes this confirmation testing does the County issue a clean closure letter, allowing property owners to begin the rebuilding permit process.

As of August 2025, the debris removal process has been substantially completed.

Temporary or Interim Treatment/ Disposal

The goal of the Tier 1 temporary or interim treatment/disposal was to provide temporary wastewater treatment measures if the area with full treatment had been damaged. Portable treatment units, temporary leach field bypass, and holding tanks were provided. In addition, if necessary, waste was trucked to treatment plants.

Temporary treatment and disposal were provided, if necessary.

3.3.2.3. Stormwater

Tier 1 emergency actions cleared inlets and culverts to prevent flooding and debris blockage along evacuation routes. Following the Fire, the stormwater system faced elevated sediment, debris, and runoff pressures that required immediate operational readiness before each storm cycle. The immediate objective was to restore the protective and conveyance capacity of the stormwater network. This included (1) cleaning out all debris basins and chokepoints, (2) re-establishing monitoring and operational thresholds to guide pre-storm actions, and (3) hardening the most failure-prone culvert and inlet segments with temporary, fire-resilient measures until permanent projects were funded and constructed (City of Los Angeles, 2025b; County of Los Angeles and City of Los Angeles, 2025). Table 3.19 summarized priority stormwater and drainage restoration sites, outlining each facility's role in protecting life and infrastructure, the post-Fire issues affecting performance, and the required near-term (0–12 month) actions needed to restore function and reduce risk.

Table 3.19: Prioritized Cleanout Matrix (0–12 Months)



Tier	Facility / Location	Protects (life, access, infrastructure)	Current Issue	Required Action (0–12 mo)
1	Debris Basins 69–71 (Palisades/Topanga)	PCH, Sunset Blvd, canyon WUI homes	High sediment loads; partial capacity	Full cleanout of design sump; rack repair; restored access roads
1	Temescal Canyon mouth outfalls & LFD tie-ins	Beach access, PCH, storm-ocean discharge	Sand/ash plugging; LFD interference	Jet/vac; re-established ocean outfall; configured LFD bypass for storms
1	Chautauqua Blvd. trunk & canyon laterals	Evacuation route; steep WUI blocks	Undersized inlets; debris plugging	Inlet rebuild/temporary racks; hot-spot cleaning every storm
1	Via de la Paz / Via de la Olas (sump)	Neighborhood life safety; access	Ponding, sediment deposition	Raised grate capacity; added bypass curb openings; frequent cleanouts
2	Marinette Rd. corridor	Local access; pavement integrity	Subgrade saturation; no subdrain	Surface drainage restoration; temporary underdrain to nearest inlet
2	Santa Ynez & Los Liones canyon crossings	Local streets, utilities	Woody debris; culvert blockage	Boom logs/debris racks; channel desilting at aprons
2	BMP galleries (Temescal, Bay Club)	Water-quality benefits; nuisance flooding	>80% infiltration loss	Media replacement; underdrain flushing; isolate during peaks

Debris Basin Cleanouts

Debris basins formed the first line of defense for the post-Fire stormwater system in Pacific Palisades, and they anchored the operational readiness strategy of the LA County Flood Control District. Debris basins provided the primary control on sediment and woody-debris loads mobilized from hydrophobic, fire-affected slopes, preventing downstream surges that could quickly overwhelm inlets and culverts. Field thresholds developed by the Watershed Emergency Response Team (WERT) guided both timing and prioritization of these operations to ensure capacity was restored before forecast exceedance events.

Immediate work focused on complete cleanouts of all basins draining Temescal, Santa Ynez, Los Liones, and Topanga canyons, with Tier 1 priority given to facilities protecting life safety, primary access, and critical infrastructure—particularly those upstream of PCH, Sunset Boulevard, Palisades Drive, and residential canyons. Consequently, Basins 69, 70, and 71 remain Tier 1 priorities. Each should be cleaned to design sump inverts, with trash racks, low-flow outlets, and access roads fully restored (California Geological Survey, 2024).

A rolling pre-storm protocol is recommended: inspect at T-72 hours, clean to 90–100% available volume at T-48 hours when WERT rainfall thresholds are forecast to be exceeded and reinspect at T-12 hours and post-peak for debris pull-back. Documentation of removed volumes, residual capacity, and downstream conditions should be maintained for FEMA Category A reimbursement and 404/406 mitigation planning (California Geological Survey and CAL FIRE, 2024; GEER, 2025). As part of this effort, the memo 'Pre-Storm Readiness Assessment for Basin 69: Palisades, City of Los Angeles' was developed and submitted to the city. The memo is included in this document in Appendix B.

Network Chokepoints

With debris basins serving as upstream controls, the next tier of vulnerability lies within the urban conveyance network where capacity and structural deficiencies concentrate storm impacts. Post-Fire reconnaissance documented melted plastic laterals, cracked concrete V-ditches, and sediment-plugged catch basins along Palisades Drive, Chautauqua Boulevard, and Sunset Boulevard. Runoff volumes exceeded pre-Fire design flows by an estimated five- to ten-fold, consistent with other Southern California post-Fire hydrologic responses (GEER, 2025; California Geological Survey, 2024).

Many of these same corridors were chronic problem areas prior to the Fire, as identified in the BOE Capital Improvement Program (CIP) reports—particularly the Chautauqua Boulevard Storm Drain (2009), Via De La Paz / Via De Las Olas Drainage (2007), and Marinette Road Subdrain System (2015) projects. Short-term recovery efforts should prioritize inlet and pipe cleanouts along these streets to restore conveyance and maintain emergency access. Key actions include restoring grate capacity, replacing

heat-damaged laterals, and installing temporary debris racks or inlet screens upstream of known constrictions (BOE and AECOM, 2025).

Downstream, coastal outfalls and low-flow diversion (LFD) tie-ins require sand- and ash-removal, flap-gate restoration, and temporary bypass configuration to prevent backwater interference during major storms (City of Los Angeles, 2025b).

BMP and Low-Flow Diversion Systems

Beyond debris basins and conveyance chokepoints, the post-Fire recovery effort must also restore the City's stormwater Best Management Practice (BMP) and low-flow diversion (LFD) systems, which protect coastal water quality. Post-Fire inspections under the Enhanced Watershed Management Program (EWMP) confirm that infiltration galleries at the Temescal and Bay Club Diversions are offline due to ash and fine sediment accumulation, resulting in more than 80% loss of infiltration capacity (Akin et al., 2025). Loss of function in these BMP systems not only limits infiltration and groundwater recharge but also risks bypassing untreated stormwater to ocean outfalls during moderate storms.

Temporary Protective Works

Where permanent drainage capacity remains under repair, short-term protective works provide the final defense against debris-flow impacts along roads and structures. These interim measures are essential to maintain life-safety access and protect public infrastructure at canyon mouths, sump streets, and low-lying crossings during the 2025–2026 storm seasons.

Protective elements include K-rails or jersey barriers to divert debris, super-sacks and sandbag berms for localized flow control, rock armor at eroding outlets, and temporary plunge-pool grading or apron repair where scour or cover was lost. Deployment should coincide with the County's pre-storm readiness cycle—installed when WERT rainfall thresholds (≥ 0.3 in / 15 min or ≥ 0.6 in / hr) are forecast and removed once flow velocities subside to minimize obstruction risk.

These measures reduce debris-flow consequences by approximately 30% to 40% under design-storm conditions and are eligible for FEMA Category A/B and Measure W O&M reimbursement as temporary, protective actions (BOE and AECOM, 2025).

3.3.3. Street Trees and Surface Infrastructure

The purpose of this section is to document the efforts related to Immediate Life-Safety and Emergency Access Needs for the infrastructure within the Rebuild subject areas. The reader will note that the work undertaken in these categories which meets the Tier 1 standard of "stopping the emergency condition" is both limited in nature and already completed. This Report does not identify any additional Tier 1 work for these asset classes which remains for the City to consider.

3.3.3.1. Street Trees

Trees within the public right-of-way were assessed to determine their condition following the fire as destroyed and damaged trees can create hazardous conditions. If a tree or a branch falls, it could injure someone, obstruct the right-of-way, or cause other damage. Following the Fire, the focus was to remove hazardous street trees whenever necessary for life safety. However, for street trees that were not deemed a life safety hazard, StreetsLA is maintaining and monitoring street trees to support their safe recovery whenever possible.

Removal of Hazardous Trees

Trees have been identified and removed through a number of different assessments conducted by EPA, USACE, and StreetsLA UFD, using various processes since the fire. Note that each of these agencies used their own specific definition of hazardous tree during their assesment and removal process. The EPA[2] completed an early tree assessment following the fire, primarily assessing trees on private property, although some street trees were captured in its assessment. USACE[3] assessed trees on private property during the Phase 2 debris removal and removed those posing a threat to the public right-of-way (StreetsLA, 2025).

Trees not identified by EPA or USACE within the right-of-way were not removed and left for further assessment by UFD. UFD conducted an independent assessment of fire-damaged trees in the burn area (distinct from EPA and USACE assessments). UFD's assessment provided local expertise of the City's arborists, who are committed to long-term tree preservation and resilience of the

2 The EPA identified "dangerous" or "high hazard" trees as trees "considered to have an imminent likelihood of failure during the specified time frame of the assessment that would likely be rated as an Extreme Risk for failure onto a structure" and also identified hazardous branches when branches only "pose a hazard and the tree itself is not at risk of failure or falling" (StreetsLA, 2025)

3 USACE identified hazardous trees as a tree that "presents an immediate threat to lives, public health and safety, or improved property; this includes trees that present a risk to the safety of hazardous material and debris removal crews" (StreetsLA, 2025).

urban forest. UFD's assessment determined that only a few affected trees required removal, while many others could be preserved and monitored for potential recovery (StreetsLA, 2025). Residents also have the option to hire a certified arborist to make an assessment and submit it to UFD (StreetsLA, 2025). As of fall 2025, 776 hazardous trees and 389 stumps have been removed.

Maintenance and Monitoring

Mature trees remaining in the burn area require supplemental watering to support their recovery. As of mid-September 2025, trees were watered through a partnership between the Council District 11, the community, StreetsLA, and Tracy Price of American Growers Company (Park, 2025b).

The City has been monitoring trees in the burn area through post-Fire assessments and will continue to monitor them. Regular assessments support UFD's efforts to identify trees that need maintenance or to mitigate tree emergencies that occur due to damage from weather events, trees that have not recovered from fire damage, or trees or limbs that fall and block roadways or impact structures, posing immediate safety issues and concerns. As of fall 2025, 950 trees have been pruned.

3.3.3.2. Surface Infrastructure

This section addresses the general asset class of Surface Infrastructure, which, as previously stated, should be understood to include all pedestrian and vehicular pavement owned by the City; curbs and gutters; street lights, traffic signals, and street signage; engineered slopes on public lands and right-of-ways; as well as other miscellaneous assets which are categorically similar to those described herein.

The Tier 1 Infrastructure Restoration Plan focused on re-establishing emergency access routes to provide critical mobility and safety. This included temporary patching methods and removal of debris. These actions helped facilitate and grant access and reopened roads for emergency routes and services in the Pacific Palisades area.

The fire damaged or destroyed a high volume of street signs, street lights, and traffic signals in the Palisades. As a part of the Tier 1 response and restoration effort, StreetsLA, the Los Angeles Department of Transportation, and other Departments and Bureaus removed damaged components which could have posed additional hazards to the public, and replaced lights, signs, and signals with new, permanent to remain components following removal of debris and re-establishment of traffic access to the impacted streets. StreetsLA reported in October 2025 that 577 signs and 188 posts were replaced. LADOT does not maintain an asset database for these assets, but has reported that all impacted assets have either been restored to normal operating condition or permanently removed from service during the Tier 1 response effort.

Similarly, most vehicle and pedestrian paving damage was remediated to an acceptable operating condition during the Tier 1 response. The remaining repairs noted in the project analysis, while required to restore a completely undamaged condition, are not preventing the normal use of these assets and are, therefore, not Tier 1 work.

Both of these restoration efforts contain elements of both Tier 1 and Tier 2 activity, representing the Tier 1 standard of "stopping the emergency condition," but also the Tier 2 standard of "restoring normal operating condition to the assets." For the purpose of this report, we have considered these efforts in the Tier 1 section as they have been fully completed and were so considered by the Departments and Bureaus which own the assets.

The most significant task for the Tier 1 period in this infrastructure category was the removal of debris, and the re-establishment of vehicle travel along the roadways.

Street Debris Cleanup and Restoration of Traffic

Sunset Boulevard and Pacific Coast Highway (PCH)/Caltrans Highway CA-1, which is not owned by the City, were two corridors that experienced significant post-Fire impacts. These impacts left existing damage to street pavement and conditions in the Pacific Palisades area. The drainage systems and slope stability also faced significant post-Fire impacts. To address these concerns, temporary measures such as sandbags and K-rails were deployed along both corridors. However, these interventions were estimated to reduce debris-flow risk by only 30% to 40% under design storm conditions. These corridors were recognized as primary evacuation routes and were prioritized for reopening so emergency vehicles could reach affected areas.

The PCH was severely impacted by post-Fire conditions, including sediment accumulation, debris flows, and erosion from the canyon. To reopen and restore access to emergency routes in the Pacific Palisades area, debris basins were prioritized for cleaning out. Los Angeles County maintenance crews conducted seasonal basin cleanouts to remove the existing sediment and debris accumulation.

Traffic signals, regulatory signage, and pavement striping are fundamental components of the City's transportation control system and are critical to maintaining life-safety immediately following the event. Post-incident the City identified damage to multiple elements caused by extreme heat exposure and outages. In response, the City rapidly mobilized crews to conduct rapid field diagnostics, replace compromised equipment and install temporary systems were necessary. These accelerated repairs ensured safe traffic flow, re-established access routes for first responders and utility teams, and enabled residents to navigate safely during the early phases of community recovery.

3.3.4. Natural Infrastructure

This section describes the Tier 1 restoration efforts related to natural infrastructure (slopes) and vegetation, including vegetation on slopes.

3.3.4.1. Slopes and Erosion

Tier 1 stabilization used emergency erosion-control measures, such as sandbags, wattles, and mulch, to secure burned slopes and prevent landslides from threatening roads or utilities. While this subsection focuses on slopes and erosion, Tier 1 natural-infrastructure actions also addressed post-Fire drainage function, debris/sediment movement, and vegetation loss that drive downstream risk to streets and utilities (see cross-references below).

Hazard maps are presented in Appendix G and can be used to focus initial efforts in areas of higher anticipated risk. Other natural infrastructure addressed under Tier 1 included debris and sediment management in drainages and canyon mouths (e.g., debris basins/culverts), post-Fire runoff controls to reduce pollutant transport, and initial vegetation/groundcover stabilization to reduce runoff and erosion risk. These topics are discussed in related sections (see Section 1.6 for natural-setting and hazard context and the wet utilities/stormwater sections for debris basin and drainage system actions). Mapping and staffing have been called out in the Recovery Support Strategy Plan (County of Los Angeles and City of Los Angeles, 2025) as priority objectives in the short term to improve response time and accuracy.

Once identified, areas were assessed on a site-specific basis, and Tier 1 protective measures were implemented. Common approaches to short-term protective measures included various types of erosion control and barriers. Straw wattles, compost socks, plastic sheeting, and erosion control blankets were employed to slow erosion in areas experiencing soil loss or slope movement. Temporary barriers such as sandbags, K-rails, and gabion baskets were used at the bottom of slopes and drainages to protect roads and infrastructure from erosion and small-scale land movement. Rail and timber structures were installed at critical sites. Heavy engineering equipment was deployed to clear access and remove debris at critical locations.

An important aspect of the short-term response to erosion and slope hazards was the restocking and distribution of supplies and the maintenance of existing BMP systems.

3.4. Tier 2 - Restoration of Essential Residential and Commercial Corridors

Intent: Describe the ongoing restoration work needed to return infrastructure systems to safe and functional operating conditions for residents, businesses, schools, and essential community services.

Purpose: Present the medium-term restoration phase, detailing system-level repairs, regulatory and permitting considerations, and coordinated work across dry utilities, wet utilities, streets, and natural infrastructure that support habitability and economic recovery.

Approach: Each subsection (3.4.1–3.4.5) organizes current restoration activities by infrastructure type, highlighting integration with community rebuilding timelines, coordination between agencies, and the restoration sequencing needed to bring each system back to its normal operational state.

Tier 2 restoration activities are organized around restoring habitability and functional service to residential and commercial areas. The level of detail and geographic extent varies by infrastructure system depending on system configuration, jurisdictional boundaries, and recovery dependencies (e.g., regional wastewater conveyance, watershed-scale stormwater systems).

Table 3.20: Tier 2 Assets - Sample of Restoration of Essential Residential and Commercial Corridors

Tier 2 – Restoration of essential residential and commercial corridors	**Dry Utilities**		
	Power	**Gas**	**Telecom**
	• Temporary service meters/ connections • Residential power distribution lines	• Automatic shut-off valves (geohazard zones) • Fiber-optic sensing conduits over pipelines	• 72-hr backup power systems at nodes • Mobile cell sites, hotspots, routers, and smart devices
	Wet Utilities		
	Potable Water	**Wastewater**	**Stormwater**
	• Santa Ynez Reservoir cover rehab	• Local sewer mains • Sewer laterals and manholes	• BMP/LFD systems: Temescal Park and Bay Club • Topanga debris-management facilities
	Street Trees and Surface Infrastructure		**Natural Infrastructure**
	Street Trees and Surface Infrastructure		**Natural Infrastructure and Vegetation**
	• Pavement rehab corridors: Chautauqua, Via de la Paz, Via de la Olas, and Marinette Road • Sunset Boulevard joint-trench/undergrounding • Maintain existing tree canopy		• Jute netting and biodegradable erosion-control for slope stability • Vegetative reinforcement

3.4.1. Regulatory Environment and Restoration

The Evolving Governmental and Regulatory Landscape

On March 27, 2025, Governor Gavin Newsom signed an executive order designed to accelerate the rebuilding process for the fire-damaged communities.The order suspends certain permitting and review requirements, including aspects of the California Environmental Quality Act (CEQA) and the California Coastal Act, to expedite the repair and replacement of utility infrastructure, explicitly including electric, gas, water, and sewer systems.

Home Rebuilding and Permitting Process

A new permitting pathway called 'Rebuild and Recovery' has been established to allow reconstruction in burned areas. The County and City have established 'One-Stop Rebuild Centers' where property owners can file for building, grading, septic, and utility permits in one location.

Owners who want to rebuild on the same footprint may qualify for a like for like permit, which expedites review while still requiring proof that the septic or sewer connections are operational. Homes that change size, add bedrooms, or alter drainage patterns must submit new civil and geotechnical plans, which include wastewater design reviews.

During this phase, agencies emphasize building codes that enhance resilience like:

- Using fire-resistant materials for foundations and lateral sewer connections.
- Undergrounding of utilities where possible.

Rebuilding Efforts- LADWP UUROC

The Los Angeles Department of Water and Power Unified Utilities Rebuild Operations Center (UUROC) was created to support the rebuilding effort in Pacific Palisades following the January 2025 wildfire. At this center, customers and contractors can coordinate directly with LADWP on the rebuilding and restoration of water and power services to homes and properties in Pacific Palisades (City of Los Angeles, 2025).

For rebuilding, property owners must verify access to a potable water source through a local water utility such as a service confirmation letter or past water bill. If the potable water source is a well, approval from Public Health and a yield test are required before reconnecting the pump to power and determining if water storage tanks are necessary (LA County Public Works, 2025).

Coordination of Funding

The medium-term rebuilding and restoration efforts are supported by a combination of FEMA Public Assistance grants, state recovery funds, and local infrastructure bonds. Collaboration between multiple agencies and stakeholders will be essential.

3.4.2. Dry Utilities

This section describes Tier 2 recovery efforts for electric power, natural gas, and communications utilities.

3.4.2.1. Electric Power Utility Systems

This report recognizes that the final component of infrastructure construction is the connection of service laterals to newly reconstructed buildings. Because the timing of reconstruction of individual buildings is outside the control of the City, the infrastructure in the public right-of-way will be restored to normal operating conditions before all building service connections are completed. Reconstruction of building service laterals is an important part of rebuilding, but is considered as a schedule element of the private building construction, rather than infrastructure restoration, as the utility operators do not generally provide utility service to properties where buildings have not yet been constructed. As a part of the City's ongoing coordination effort, the schedules are considered when building permits are issued, and future projects are conceived by various asset-owning departments.

Following the restoration of power to all standing (no damage) structures, LADWP's restoration moved to the temporary rebuild stage, which restored power distribution lines by June 30. Approximately 8,000 structures have energized distribution power lines in the front or rear of the property; however, power is not being delivered, as customers have not requested temporary or permanent services. LADWP classifies these damaged structures without power as non-restorable.

To support full recovery and reliability of service, the following actions are recommended:

- **Temporary Installations:** Conduct a thorough inspection of all temporary connections and meters to confirm whether a property is ready for permanent service.
- **Transition to Permanent Infrastructure:** Develop a phased plan to replace temporary connections and meters with permanent service connections, prioritizing properties based on vulnerability and community impact.

- **Customer Communication and Coordination:** Engage with property owners to provide clear timelines and expectations for permanent restoration, including any necessary permitting or access requirements.
- **Resource Allocation:** Make sure adequate staffing and material resources are available to support the transition, minimizing delays and service interruptions.
- **Monitoring and Reporting:** Establish a tracking mechanism to monitor progress and report on connection count, ensuring transparency and accountability throughout the recovery process.

To accelerate the transition from temporary to permanent service, a coordinated approach involving field operations, customer outreach, and permitting authorities is recommended. This effort should focus on:

- Identifying barriers to permanent reconnection, such as incomplete structural repairs or pending inspections.
- Engaging property owners or contractors to understand timelines and provide guidance on utility requirements and standards.
- Streamlining LADWP internal processes to prioritize reconnection work, once sites are ready.

Taking proactive action based on a focused restoration strategy will help promote faster restoration of full service to customers affected by the Fire and optimization of resource allocation across field operations.

3.4.2.2. Natural Gas Utility Systems

SoCalGas, a private company which provides utility service under a franchise agreement with the City indicated that no known damage occurred to any aboveground components of pressure regulating stations within the fire zone. SoCalGas has deactivated natural gas service to all buildings that were destroyed or deemed uninhabitable by closing the Service to Main Connection valve and severing and capping the service lateral to prevent unintended gas migration. The utility plans to restore service to reconstructed buildings in accordance with its standard new business service protocols, once service requests are initiated by property owners.

3.4.2.3. Telecommunications Utilities

Before the fires, Pacific Palisades had a relatively good cellular coverage but few local towers. Although no major carrier-owned towers were located in much of the Palisades, they relied on distant macro sites and in-building antennas. According to crowd-sourced coverage maps, Verizon's network generally covered over 95% of the Palisades area, outpacing AT&T (~75%) and T-Mobile (~74%). In practice, cell reception varied block-to-block due to terrain, with great or good signal reported over most of the community. All three carriers had overlapping LTE/5G coverage, though Verizon was often judged best for reliability and AT&T and T-Mobile somewhat patchy in steep canyons.

The CPUC developed mandates for telecommunications companies to build more resilient networks. A key CPUC directive, outlined in *Decision 21-02-029*, is the establishment of a 72-hour backup power requirement for all facilities-based wireline providers' equipment located in Tier 2 and Tier 3 High Fire Threat Districts (HFTDs), a designation that includes Pacific Palisades. This rule directly addresses a primary point of failure observed during PSPS events, where cell sites and network nodes went dark after their limited-duration batteries were depleted. The mandate requires providers to make significant investments in generators and other long-duration power sources, ensuring that a baseline of communication service can be maintained even during extended grid outages.

Furthermore, the CPUC now requires all wireline and wireless providers to file comprehensive Communications Resilience Plans. These plans must detail a company's ability to maintain a minimum level of service during a disaster, outlining strategies that include not only backup power but also network hardening, physical redundancy of critical lines, the use of temporary facilities, and coordination protocols with emergency responders. These plans force providers to move from a reactive posture to a proactive one, systematically analyzing their vulnerabilities and articulating concrete steps to mitigate them.

Finally, the CPUC enforces a set of consumer protections that are automatically triggered by a governor's declaration of a state of emergency. These rules require telecommunication companies to waive certain fees for installation and reconnection at temporary or new homes and to discontinue billing for customers whose properties have been destroyed and are incapable of receiving service. The announced customer relief packages from the providers are, in part, a fulfillment of these standing regulatory obligations. Together, these CPUC mandates create a regulatory framework that compels providers to invest in a more robust and reliable network, ensuring that the rebuilding of Pacific Palisades is guided by principles of resilience and public safety.

Table 3.21 provides a summary of telecommunications companies' completed initiatives and those planned for future implementation. Each provider's actions are discussed in more detail below the table.

The City has no direct control over the operations of these companies, and this discussion is descriptive only.

Table 3.21: Summary of Improvement Plans Announced by Telecommunications Companies

Provider	Asset Type	Announced Deployment Location/Purpose
AT&T	Flying COW (Cell on Wings)	Riviera Neighborhood: To leverage higher elevation for broader signal coverage.
	Flying COW (Cell on Wings)	Palisades-Brentwood Neighborhood: To support a staging area for 40 firetrucks.
	Flying COW (Cell on Wings)	Huntington Palisades Neighborhood: To provide coverage in a severely impacted area.
	Super COW (Cell on Wheels)	Deployed to public safety incident command posts for high-capacity connectivity.
Spectrum	Temporary Fiber Optic Lines	Fire Department Stations 23 and 69: To restore critical services expediently.
	Temporary Fiber Optic Lines	Placed near Pacific Coast Highway as part of a rerouting effort.
Verizon	Temporary Mobile Cell Site	Deployed to replace a macro cell site destroyed by the fire in Pacific Palisades.
	Temporary Mobile Cell Site	Palisades Command Center: To support emergency command operations.
	Temporary Mobile Cell Site	Palisades Lutheran Church: To support increased capacity needs in a shelter area.
	Satellite Picocell on a Trailer (SPOT)	Deployed as part of the Verizon Frontline Crisis Response Team's support for public safety.
T-Mobile	Satellite Cell on Light Truck (SatCOLT)	Deployed at Los Angeles Fire Department Station 69 in Pacific Palisades.

AT&T's Restoration and Rebuilding Efforts: In its public communications, AT&T acknowledged that its wireless and wireline networks experienced impacts from the fires but stated that its teams worked quickly to restore service in affected areas (AT&T Connects, 2025). A key part of this effort was the deployment of backup power generators throughout the affected communities to keep sites operational amidst commercial power outages.

By late January 2025, the company announced that its restoration efforts had achieved significant progress. Its overall wireless network in the Greater Los Angeles area was reported to be operating at more than 99% of normal capacity. For cell sites specifically impacted by the fires, more than 91% had been restored.

Announced Improvements and Network Hardening: A central pillar of AT&T's long-term strategy is the expansion and upgrading of its physical network with more resilient technology. The company has announced that its wildfire preparedness includes fiber upgrades and boosting wireless capacity in high-risk areas to handle surges in traffic during emergencies. This aligns with a national initiative AT&T has undertaken to overhaul its network. The company is implementing a large program to deploy thousands of miles of new fiber, with an announced goal of reaching more than 30 million customer locations by the end of 2025 and approximately 60 million by 2030. This fiber-first strategy strengthens the network's backhaul for wireless traffic and increases broadband capacity, forming the foundation for a more robust and scalable network in rebuilt areas.

Furthermore, AT&T has announced it is fundamentally rebuilding its core network infrastructure, shifting from legacy hardware to a more agile, cloud-native, and software-defined model. This modernization effort, while not specific to Pacific Palisades, improves overall network reliability and dramatically accelerates the company's ability to roll out new services and updates, which will benefit the restored and rebuilt network in the fire-affected community.

Spectrum's Restoration and Rebuilding Efforts: By the end of January 2025, Spectrum's teams had completed the construction of more than 30 miles of new fiber and coaxial plant, reconnecting thousands of homes and businesses that had lost service. In the most heavily damaged areas of Pacific Palisades, where utility poles and both aerial and underground fiber were destroyed, crews implemented temporary solutions to restore services as expediently as possible. An example of this was the restoration of connectivity to Fire Department Stations 23 and 69 in Pacific Palisades. A Spectrum construction coordinator described how crews, finding their fiber-to-pole systems completely devastated, rerouted fiber lines onto different poles and placed temporary fiber near the PCH to bring these vital public safety facilities back online.

This phased approach (prioritizing temporary restoration for critical services while beginning the longer process of a permanent rebuild) yielded significant progress. By May 2025,

Spectrum announced that it had already restored service, either permanently or temporarily, to more than 75% of the affected homes in the fire areas. The company noted that the remaining 25% of properties would require a complete new utility infrastructure rebuild and that it was coordinating with other utility providers on this complex, multi-party effort.

Announced Long-Term Improvements and Modernization: Spectrum's public statements have distinguished between immediate, temporary fixes and the company's commitment to a full, permanent infrastructure rebuild. Wally Bakare, Spectrum's Regional Vice President for the West, acknowledged, We have a long road to go in the recovery efforts of our system, but emphasized that his teams were delivering both immediate and long-term solutions for restoring services (Charter Communications, 2025). This signals an announced plan to transition fully from temporary fiber runs to a completely new, permanent network infrastructure.

A publicly available video from June 2025 showed utility crews actively installing new communication lines onto newly erected utility poles along Swarthmore Avenue in Pacific Palisades. The report accompanying the footage described these new poles as part of regional fire recovery infrastructure upgrades and noted they would carry both electrical and communication lines to support restored and modernized services for residents and businesses. This work represents the execution phase of the announced long-term plan, moving beyond temporary patches to the installation of a new, more resilient physical network in collaboration with other utilities. The rebuilding process itself, which will replace decades-old infrastructure with brand-new fiber and coax plant, constitutes a significant modernization of the network serving the community.

Verizon's Restoration and Rebuilding Efforts: The Palisades Fire caused direct and severe damage to Verizon's physical network. The company announced that one of its macro cell sites in Pacific Palisades was destroyed by the fire. In response, Verizon engineers announced they had quickly deployed a temporary mobile cell site to provide connectivity for the community in its place. This action was crucial for restoring a baseline of wireless service to the immediate area.

In addition to replacing the destroyed site, Verizon announced the deployment of other temporary mobile assets to support the emergency response infrastructure. Mobile cell sites were established at the Palisades Command Center and the Palisades Lutheran Church, which was serving as a shelter, to handle the increased capacity needs in these critical areas.

The fire also damaged the terrestrial wireline network that connects cell sites and provides internet service. Verizon announced that its crews were working closely with our partners and local agencies to repair burned fiber in the area. To mitigate the impact of these fiber cuts, particularly in areas that were not yet safe for repair crews to access, Verizon announced it was leveraging satellite backhaul across its network. This use of a non-terrestrial data link to connect cell sites to the wider network is a key element of a multi-layered resilience strategy, ensuring that a single point of failure on the ground does not lead to a total loss of service. By late January, the company announced it had restored approximately 90% of the macro cell sites that had been impacted across the region by the combination of fires, windstorms, and PSPS events.

Announced Improvements and Resilience Strategy: Verizon's public statements regarding long-term improvements frame them as an extension of an existing, deeply integrated network philosophy centered on resilience and redundancy. The company has announced that its network is engineered for resilience, with extensive redundancy measures and backup power solutions across critical sites. The response in Pacific Palisades served as a real-world application of this announced strategy.

The company's long-term plan for handling future disasters relies on its large and diverse fleet of deployable assets. Verizon has stated it maintains a fleet of over 550 mobile assets (such as COWs and mobile cell sites) and nearly 300 satellite-based assets ready for rapid deployment. This indicates that a core component of its future improvement and resilience plan is not necessarily the hardening of every single physical site against all possible threats, but rather the guaranteed ability to rapidly deploy alternative solutions to maintain service continuity when a site is inevitably compromised.

Based on its long-term strategy and philosophy, Verizon met the destruction of the macro cell with a temporary mobile site, and the severing of fiber lines with a satellite backhaul. With this hybrid approach, combining ground-based assets with aerial and satellite technologies, Verizon is creating a resilient communications ecosystem. While materials provided by the company do not detail specific, permanent new infrastructure projects for Pacific Palisades beyond the necessary replacement of the destroyed cell site and repair of burned fiber, the company's announced strategy is one of systemic resilience through technological diversity and rapid response capabilities.

Undergrounding: A Foundational Resilience Strategy

The most impactful long-term infrastructure improvement being considered for Pacific Palisades is the coordinated effort to move overhead utility lines underground.

Governor Newsom's March 27, 2025, executive order suspended regulations to expedite the rebuilding of utility and telecommunication infrastructure, including the undergrounding of equipment. California Senate Bill 884 (SB 884), signed into law in 2022, requires that when an electric utility's plan to underground its facilities is approved, any telecommunications provider using the same utility poles must cooperate with the electrical corporation to underground its own infrastructure as part of the project.

3.4.3. Wet Utilities

This section compares the pre-Fire and post-Fire wet utility plans and describes Tier 2 recovery efforts for wet utilities (potable water, wastewater, and stormwater utilities).

3.4.3.1. General Plans

The pre-Fire plans represent the long-term baseline conditions that were in place prior to the disaster. These include cornerstone documents such as the One Water LA 2040 Plan (2018), the LADWP Urban Water Management Plan (2020), and the City's Sewer System Management Plan (LASAN, 2019). Collectively, these plans provided the foundation for integrated water resource management, wastewater operations, stormwater capture, and water conservation. They reflect the City and County's broader sustainability and resilience goals and establish the regulatory and operational baseline against which fire impacts and recovery needs can be measured. Relevant pre-Fire wet utility plans are shown in Table 3.22.

The post-Fire plans, by contrast, highlight the immediate and strategic responses developed after the Palisades Fire. These include the LADWP Wildfire Mitigation Plan (2025), the City of Los Angeles FY 24–25 Watershed Investment Strategic Plan (2025), and the Mayor's Executive Order on Resilient Rebuilding (2025). Technical resources such as the USGS Post-Wildfire LIDAR Assessment and the GEER Post-Fire Technical Report provide data-driven guidance for infrastructure siting, debris flow management, and system hardening. Together, these post-Fire plans demonstrate a pivot from long-term planning to crisis-driven recovery and resilience building, aligning regulatory frameworks with on-the-ground needs in watershed restoration, storm drain rehabilitation, and water supply protection. Table 3.22 and Table 3.23 show examples of pre-Fire and post-Fire wet utility plans, respectively.



Table 3.22: Examples of Pre-Fire Wet Utilities Plans

Date	Institution	Plan Title	Relevance to Infrastructure Recovery
2018-04	City of LA	One Water LA 2040 Plan (Vol. 1)	Long-term integrated water management; provides foundation for coordinated stormwater, wastewater, and reuse projects
2024	LA County	LA County Water Plan	Countywide water resilience framework; aligns local and regional strategies for recovery
2022-12	City of LA	Sustainable City pLAn (GND Annual Report 2022)	Broader sustainability framework; includes water resilience and equity targets
2019	LASAN	Sewer System Management Plan (SSMP)	Asset management and O&M for sewer systems; baseline for identifying vulnerabilities
2024-10	LASAN	Wet Weather Plan 2024–2025	Guidance for managing stormwater and debris basins; relevant to post-Fire sediment flows
2020	LADWP	Urban Water Management Plan (UWMP)	Long-term water supply reliability strategy; critical for resilience in post-Fire recovery
2023-08	LADWP	Water Conservation Study	Demand reduction strategies; can ease strain on systems during recovery
2024	LADWP	Stormwater Capture Master Plan	Identifies capture projects that can be integrated into recovery and rebuilding efforts

Table 3.23: Examples of Post-Fire Wet Utilities Plans

Date	Institution	Plan Title	Relevance to Infrastructure Recovery
2025-03	City of LA	FY 24–25 Watershed Investment Strategic Plan, Measure W	Prioritizes investments in watershed protection and recovery
2025-03	City of LA Mayor's Office	Emergency Executive Order – Resilient Rebuilding	Immediate policy directive for rebuilding after fire
2025-01	LADWP	Wildfire Mitigation Plan	Direct response to wildfire threats to (or impacts on) LADWP infrastructure
2025	LADWP	PWLA Final Master Plan (Post-Fire Update)	Updates water infrastructure master planning to reflect wildfire impacts
2025-04	LA County Watershed TF	Watershed Recovery & Resilience Submission	Identifies urgent watershed priorities post-Fire
2025-06	Resilient Cities Network	Los Angeles Resilience Strategy (updated)	Post-Fire resilience strategy including water infrastructure
2025-06	GEER Association	LA Fires Post-Fire Technical Report	Engineering-focused assessment of fire impacts on water systems
2025-06	USGS	Post-Wildfire LiDAR & Debris Flow Modeling	Informs siting/design of rebuilt infrastructure

3.4.3.2. Potable Water

Tier 2 restoration efforts focus on restoring service zone by zone, replacing contaminated or damaged laterals, and ensuring adequate pressure across neighborhoods.

Santa Ynez Reservoir Rehabilitation

LADWP is working to replace the floating cover at the Santa Ynez Reservoir. According to a Town Hall record on August 27, 2025, led by Councilwoman Traci Park, LADWP is replacing the existing floating cover because of repeated tears and repairs. A cover is required to meet State and Federal safe drinking water regulations. LADWP needs specialized services to design and install this cover and are currently working on preliminary planning and conceptual design for this replacement. As of August 26, 2025, the Board of Water and Power Commissioners approved a contract for a design company to design a new floating cover. The design company will begin work in September, with design completion expected by the end of the year. Following that, LADWP plans to secure a contract for installing the new floating cover. The process will involve draining the reservoir, removing the existing floating cover, installing and testing the new cover, refilling the reservoir, and decontaminating and testing the water. If all goes according to schedule, LADWP expects the reservoir to be back in service by August 2026 (Park, 2025).

LADWP is also exploring long-term, permanent solutions for the Santa Ynez Reservoir cover issue (Park, 2025) and is studying these four alternatives:

- Replace Santa Ynez Reservoir floating cover with a fixed cover (either an aluminum roof or concrete slab.
- Replace Santa Ynez Reservoir with a tank(s).
- Construct a new tank(s) in an area adjacent to the Santa Ynez Reservoir.
- Convert Santa Ynez Reservoir to an open-air reservoir and construct a new water treatment plant downstream of the Santa Ynez Reservoir.

3.4.3.3. Wastewater

In the wake of the Palisades Fire, Malibu officials are actively pursuing a significant upgrade to their sewer infrastructure, which will have direct implications for Pacific Palisades. The proposed installation of a new sewer line along Pacific Coast Highway (PCH) aims to replace aging sewer system. The $124 million project, which is expected to take over five years to complete, will connect to the Hyperion Treatment Plant, thereby enhancing water quality not only in Malibu but also in neighboring Pacific Palisades.

3.4.3.4. Stormwater

Tier 2 restoration efforts focus on transitioning from emergency cleanouts to systematic repair, replacement, and resilience upgrades that enable the canyon watersheds in Pacific Palisades—Temescal, Santa Ynez, Los Liones, and Topanga—to safely pass debris-laden design events while restoring offline BMP systems and eliminating long-standing chokepoints. The program integrates WERT hazard thresholds, GEER field findings, and City-County recovery frameworks to guide both capital investments and operational readiness (California Geological Survey and CAL FIRE, 2024; GEER, 2025; City of Los Angeles, 2025a; County of Los Angeles and City of Los Angeles, 2025).

Debris-Management Capacity

The recurring basin cleanout cycle will be replaced by permanent, engineered capacity. This includes expanding and optimizing debris basins, increasing sump volumes, and hardening spillways and outlet structures. Basins 69–71 and nearby Topanga facilities should be upgraded with armored aprons, trash-rake guides, sacrificial traps, and all-weather access pads to support rapid mobilization. Operations will remain tied to WERT rainfall thresholds, with drawdowns scheduled in advance of exceedance forecasts. As new local gauge data are collected over years 2 to 3, thresholds will be refined to calibrate risk models and optimize cleaning cycles (California Geological Survey and CAL FIRE, 2024; LACDPW, 2025).

Culverts and Crossings

Medium-term work will replace heat-damaged or undersized culverts with reinforced concrete pipe (RCP), fiberglass-reinforced pipe (FRP), or lined box sections, designed to handle post-Fire sediment loads. Energy dissipation, debris deflectors, and parallel relief culverts will be added where grade allows, ensuring access is maintained if one barrel becomes obstructed. Priority corridors include Chautauqua Boulevard, Via de la Paz/Via de la Olas, and Marinette Road, all of which exhibited chronic pre-Fire flooding and post-Fire blockage. Beach outfalls will be reconstructed with armored aprons, tide and backwater controls, and bypass routes that isolate low-flow diversion equipment during major storms (BOE and AECOM, 2025; GEER, 2025; City of Los Angeles, 2025a).

Channel and Slope Stabilization in Burn-Impacted Canyons

Targeted stabilization to address erosion, incision, and slope movement within the burned canyons. This includes construction of grade-control and check structures, localized bank protection at bends and outfalls, and revegetation using deep-rooted native species to re-establish slope strength. Along Marinette Road, a longitudinal subdrain will intercept perched groundwater and stabilize the pavement section, supported by new underdrains and edge protection to prevent further failures (BOE and AECOM, 2025; GEER, 2025). These efforts are described in Section 3.4.5.1.

Restoration of BMP and Low-Flow Diversion Systems

BMP and LFD systems damaged or clogged during the fire will be rehabilitated for dual functionality—maintaining water-quality performance while ensuring hydraulic reliability during storm events. At Temescal Park and the Bay Club, infiltration media will be replaced and underdrains jetted and flushed to restore capacity losses exceeding 80%. Upgraded pretreatment (screening vaults, hydrodynamic separators) and offline bypasses will allow peak flows to divert without blinding media or flooding adjacent streets. Systems will operate in seasonal bypass mode during extreme events, while performance monitoring verifies drawdown and infiltration recovery (Akin et al., 2025; County of Los Angeles and City of Los Angeles, 2025).

Monitoring, Threshold Refinement, and Early-Warning

Much of the monitoring, threshold, and alerting work described in this section builds upon systems already in place through the City's Adverse Weather Plan and coordination among Emergency Management, the LA City Watershed Task Force, LA County Public Works, and other operational partners. The goal is to strengthen these existing systems using the insights gained from post-Fire conditions in the Palisades.

Based on recent storm behavior and debris-flow patterns, several targeted improvements should be considered as part of long-term recovery. These include installing selective telemetered rainfall and flow sensors at canyon mouths and key crossings, integrating visual monitoring at known bottlenecks, and refining WERT rainfall thresholds to reflect the steep slopes and short response times of the Palisades watershed. These refinements can improve the precision of watches, warnings, and operational triggers, and they support faster, more coordinated responses across emergency services.

Because debris basins and drainage facilities are operated by multiple entities, any new monitoring or data-sharing enhancements would apply only to facilities managed by participating operators. The recommended improvements focus on higher-risk canyons where recurring debris loading, limited evacuation routes, and steep topography create the greatest challenges during adverse weather.

A regional, real-time debris basin capacity dashboard has been discussed conceptually. Developing such a tool is outside the scope of this report and would require extensive technical, operational, and interagency evaluation. However, post-Fire recovery presents an important opportunity to identify the long-term monitoring and alerting upgrades that would most benefit the Palisades. As recovery progresses, the City, County, and Emergency Management Department may wish to explore whether a basin-capacity dashboard or similar situational-awareness tools could support a more resilient build-back-better strategy, particularly in canyons where early detection of debris accumulation would improve emergency response.

3.4.4. Street Trees and Surface Infrastructure

3.4.4.1. Street Trees

Until significant numbers of homes are rebuilt or the City will continue to maintain existing street trees in Pacific Palisades and is continuing to trim street trees and clear dead street trees, as needed. As private property owners chose to rebuild, and if Executive Emergency Orders waiving permitting requirements expire, they will be required to file street tree permits to replant trees in their parkway. As the City publishes information to assist property owners with the rebuilding process, it will be important to include information about permitting requirements and timing and sequencing of planting.

Permitting

Requiring tree permits assists the City in keeping its tree inventory up-to-date, prevents the removal of healthy or healing street trees or damage to street trees during construction, and allows the City to provide guidance for species selection. However, as per discussions with StreetsLA and OFM staff, and due to the staggered nature of the rebuilding process and a variety of different homeowner approaches, some street trees are being replaced without permits.

Although multiple agencies and nonprofit partners work to plant trees throughout the City, including City Plants (a public/private partnership funded by the LADWP Tree Planting Initiative), and LASAN, funding for these programs is limited and property owners often apply for permits to plant street trees in the public right-of-way in front of their property. Once a no-fee Tree Planting Permit is obtained, trees may be planted at the applicant's own

expense (StreetsLA, n.d.c). Street trees are controlled by the City and pruned on a 17-year cycle by UFD, LADWP, and LAFD (DUDEK, 2018). Property owners may also apply for a no-fee permit for tree pruning to perform pruning themselves. Once approved, pruning must follow the industry standards outlined in the American National Standards Institute (ANSI) or the International Society of Arboriculture (ISA) Best Management Practices (StreetsLA, n.d.d-e). A Tree Removal permit is required for removal of a street tree or a native/protected tree. The permit includes a fee associated with the application/permit and tree replacement (StreetsLA, n.d.d).

3.4.4.2. Surface Infrastructure

This section addresses the general asset class of Surface Infrastructure, which, as previously stated, should be understood to include all pedestrian and vehicular pavement owned by the City; curbs and gutters; street lights, traffic signals, and street signage; and engineered slopes on public lands and right-of-ways; as well as other miscellaneous assets which are categorically similar to those described herein. Street lights, signage, and traffic signals have been restored to pre-Fire operating conditions or removed from service permanently in accordance with the appropriate Bureau's operating standards as a part of the Tier 1 restoration effort, already concluded. As a result, the City does not have significant Tier 2 project work covering the Surface Infrastructure assets.

Other Surface Infrastructure Capital Improvements Aligned with Tier 2

This report recognizes that the City, through its various departments, will complete certain capital improvement efforts in the Palisades concurrently with the rebuilding of private buildings. Some of these capital improvements, including street rehabilitation following utility installations related to the disaster, are properly categorized in the Tier 2 section, as they are intended to maintain or establish the normal operating condition of these assets. Projects included in this category cover vehicle and pedestrian pavement replacements, upgrades, and other work which seeks to replace an operable or functioning asset in place and kind. The remainder of this section discusses this category of work in general terms. These assets generally require periodic renewal due to the high degree of use and weathering exposure, and the City Departments and Bureaus which operate these assets have not yet developed detailed capital improvement plans beyond the current time period.

Tier 2 restoration efforts in Pacific Palisades prioritize coordinated resurfacing of local streets alongside the implementation of newly managed utility trenching plans. Corridors such as Chautauqua Boulevard, Via de la Paz, Via de la Olas, and Marinette Road have been designated for pavement rehabilitation. This is due to post-Fire roadway degradation, sediment/debris accumulation, and persistent drainage challenges.

LADWP began underground utility conversion along Sunset Boulevard in March 2025 as part of its Distribution System Plan for Pacific Palisades. This initiative includes upgrading the electrical grid from 4.8 kV to 12 kV and coordinating joint trenching with other utilities. The plan emphasizes the need for detailed sequencing to avoid repeated pavement disruption and street cut fees, especially in corridors undergoing restoration.

Pavement rehabilitation has been planned for Chautauqua Boulevard, Via de la Paz, and Via de la Olas and Marinette Road. These roads have been identified as urgent priorities due to post-Fire sediment loads and drainage vulnerabilities. Until construction advances, temporary measures such as sandbags, K-rails and seasonal basin cleanouts have been deployed to reduce debris-flow risk, though their effectiveness is limited to 30% to 40% under design storm conditions.

3.4.5. Natural Infrastructure

This section describes proposed Tier 2 restoration mitigations related to natural infrastructure (slopes) and vegetation, including vegetation on slopes.

3.4.5.1. Slopes and Erosion

Tier 2 mitigations for erosion and geologic hazards can include various methods of slope stabilization and continued assessments. A geotechnical assessment similar to those performed by WERT should be conducted following significant rain events, defined as 24 mm/hr. or higher, for the burn areas. Also, a geotechnical assessment is usually needed to support Tier 2 actions. To address slope instability, walls are often necessary to protect infrastructure if deeper seated slope instabilities are present. Walls can be employed at the Tier 2 stage for some situations, but larger walls in complex settings are more likely a Tier 3 action. Revegetation is the most important action in a broad sense, other actions are more dependent on the site-specific assessment of the problem. Slope mitigation includes surficial stabilization with soil nails and mesh for soil and cable net drapery for rock slopes. Grading and benching are often employed to stabilize slopes and promote revegetation of sleep slopes. Steps involved in revegetation could include:

- **Weed Removal:** Targeted removal of invasive species via a combination of mechanical removal and selective herbicide applications.
- **Site and Soil Preparation:** Light scarification of compacted soils to improve infiltration and seed-to-soil contact. Erosion control measures, including biodegradable jute netting and fiber rolls, could be installed on steep slopes to reduce runoff velocity and protect germinating seeds.
- **Irrigation:** If funding is available, it is recommended that supplemental irrigation be provided during the first 2 to 3 years of establishment. Irrigation could then be reduced annually, with the goal of transitioning to fully self-sustaining dryland vegetation by year 3.
- **Seed Mixes:** A Seed Zone 995-certified native seed mix for ecological integrity and adaptation to local conditions could be considered, grouped into functional groups including grasses, shrubs and subshrubs, forbs and wildflowers, and early nurse species. Container plants could complement the seed mix to accelerate restoration of the chaparral structure. The City recognizes that slopes and other natural infrastructure features often cross multiple land ownership boundaries, and that project development for slopes which extend from the PROW onto private properties, or which cross multiple Agencies ownership will require coordination and approvals for future projects. Solutions to be implemented are influenced by many operational concerns of the landowners and Agencies Having Jurisdiction, and the precise scope of possible future projects were not considered herein.

Areas near the Palisades Recreation Center and the Palisades Branch Library could be considered for Tier 2 re-vegetation efforts, given City ownership and ongoing rebuilding efforts in the area.

3.5. Tier 3 - Long-Term Recovery and Rebuilding

Intent: Identify the permanent improvements needed to enhance system capability, capacity, and resilience to future wildfire, seismic, and hydrologic hazards.

Purpose: Define the long-term capital programs and modernization strategies that transition Pacific Palisades from post-Fire recovery to a resilient, future-ready infrastructure system.

Approach: Each subsection (3.5.1–3.5.4) outlines long-term reconstruction principles, major capital investments, and system-hardening measures that extend beyond Tier 2 repairs and establish a foundation for the resilience upgrades described in Section 4.

Tier 3 reflects long-term rebuilding and resilience investments that can be planned comprehensively across infrastructure systems. Accordingly, Tier 3 subsections use a more consistent asset-based structure and provide greater detail on system upgrades, modernization, and resilience measures.

Table 3.24 outlines the third phase of post-Fire recovery priorities, which focus on long-term infrastructure hardening, system modernization, and climate resilience. Table 3.24 highlights investments in dry utilities, wet utilities, street trees and surface infrastructure, and natural infrastructure. These investments are aimed at improving reliability, reducing future hazard risks, and enhancing operational flexibility, all of which will strengthen the community's ability to withstand and recover from future wildfire, seismic, and climate-related events.

Table 3.24: Tier 3 Assets - Sample of Long-Term Recovery and Rebuilding

Tier 3 – Long-term recovery and rebuilding	**Dry Utilities**		
	Power	**Gas**	**Telecom**
	• 12 kV distribution modernization • Supporting stations (RS-K and DS-99) expansion • Conduit and cable corridors • Advanced Metering Infrastructure (AMI) and Intelligent Electronic Devices (IEDs)	• Joint-trench corridors with power and telecom utilities • Earthquake resistant shut-off valves and distribution mains	• System-wide RF communications network for smart metering and telemetry • Joint-trench integration with power and gas corridors
	Wet Utilities		
	Potable Water	**Wastewater**	**Stormwater**
	• Water Main Betterment Projects • Reservoir, tank, and pumping plant restoration/upgrades	• Sewer main rehabilitation • Sewer pumping plant upgrades • Septic to sewer	• Debris basin expansion • Resilient storm-drain and subdrain networks
	Street Trees and Surface Infrastructure		**Natural Infrastructure**
	Street Trees and Surface Infrastructure		**Natural Infrastructure and Vegetation**
	• Asphalt segments, curbs, gutters, sidewalks, and driveways rehab • Street tree planting following utility trenching, major grading and enclosure concrete • Maintain and protect existing tree canopy during construction		• Slope or bench drain systems • Soldier pile retaining walls • Steel netting and rock bolts • Riprap and bank protection

3.5.1. Dry Utilities

The long-term redevelopment period for Pacific Palisades presents a unique opportunity to transition from short-term restoration of dry utilities to a long-term modernization framework aligned with the City's broader recovery and resilience objectives. The post-Fire period coincides with a systemwide transformation of the City's dry utility infrastructure, particularly the LADWP's transition from its legacy 4.8 kV network to a modern 12.47 kV distribution platform. This transition is being implemented as part of the Pacific Palisades Rebuild Project to be completed by 2030. Additional details are provided in Section 4.

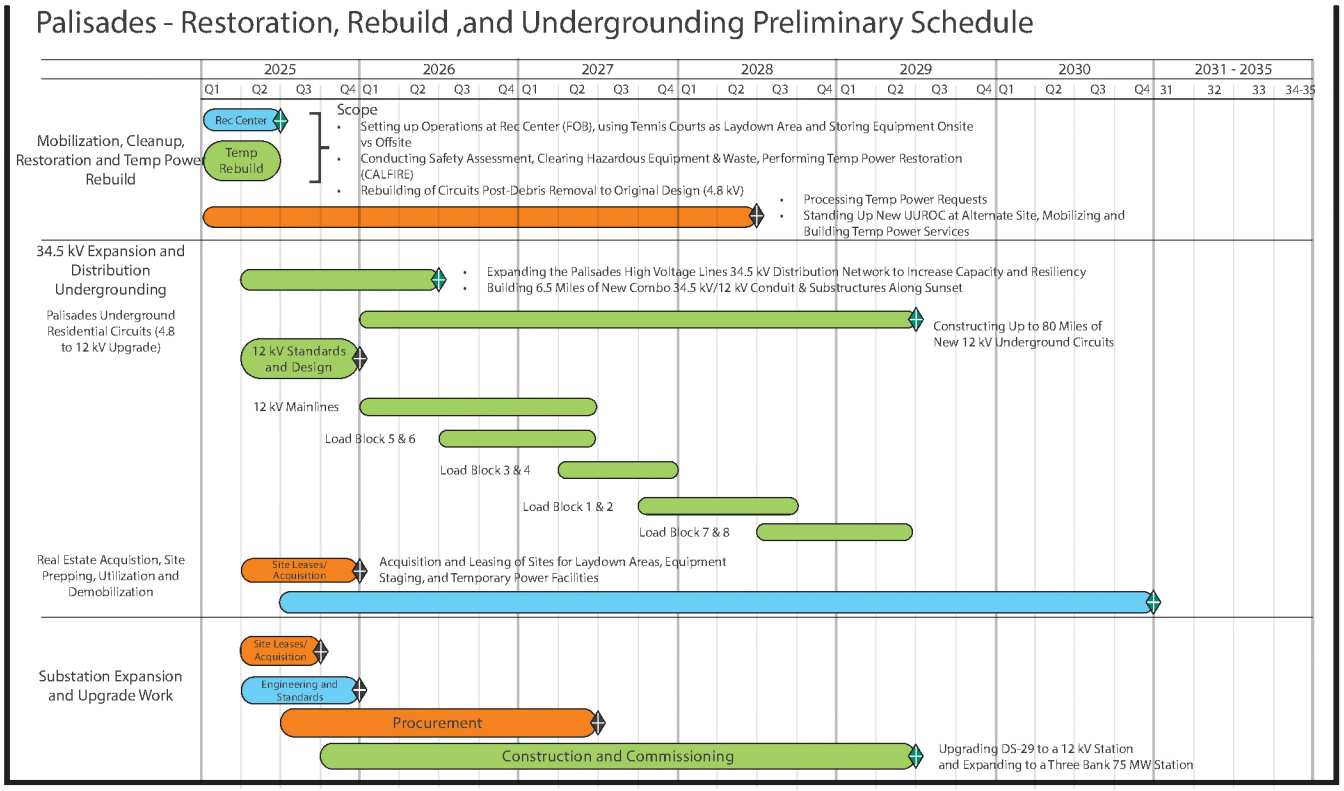
LADWP has prepared a comprehensive 12 kV Distribution System Plan that anchors the City's post-Fire infrastructure recovery strategy. This plan directly supports redevelopment phasing established under the BOE's multi-agency restoration framework and integrates land-use constraints and growth potential described in the Brentwood–Pacific Palisades Community Plan.

3.5.1.1. Power Distribution System Upgrades

LADWP's proposed Distribution System Plan for the Pacific Palisades area would provide system upgrades from 4.8 kV to 12 kV, along with targeted undergrounding and facility reconstruction, at distribution stations DS-29, DS-99, and DS-66.

LADWP's plan began with underground conversion along Sunset Boulevard in April 2025 and is intended to conclude in late 2030. This general schedule is summarized in DWP's memorandum dated March 18, 2025, as shown in Figure 3.14.

Figure 3.14: LADWP's Preliminary general scheduled for electric system upgrades as of October 1, 2025



While the Distribution System Plan and the general schedule in Figure 3.14 align with the City's resilience objectives, additional coordination and detailed scheduling will be required to sequence the effort with concurrent public and private rebuilding activities across the affected neighborhoods.

The 12 kV Distribution System Plan includes both substation and distribution-level upgrades that re-establish core service while accommodating new load growth associated with residential reconstruction, ADUs, and commercial reinvestment.

Converting to 12 kV Wye offers multiple engineering advantages over the old 4.8 kV Delta system.

Key benefits include:

- **Increased capacity:** Higher voltage greatly increases feeder capacity. LADWP's studies and peer utilities note that a 12 kV feeder can carry roughly 2.5 times the load of a 4.8 kV feeder with the same conductors. This means larger total loads can be served on fewer circuits. LADWP explicitly observes that many areas of the city will require upgrades as EV charging loads grow because the existing 4.8 kV system limits their ability to host large loads (Walton et al., 2021). Raising feeders to 12 kV (and building out 34.5 kV spines) allows much higher power transfer per feeder, enabling modernization (e.g. electric vehicle fast chargers) with smaller equipment.
- **Improved voltage regulation:** Higher distribution voltages reduce voltage drop on feeders. For the same power, currents are lower at 12 kV than at 4.8 kV, so voltage profiles stay flatter. Field experience (e.g., at DTE Energy) shows new 13.2 kV circuits hold voltage within standards better under heavy load. In practice, this means customers see steadier service, and transformers are less often overloaded.
- **Grounded neutral and fault isolation:** A four-wire WYE system has a grounded neutral, unlike the old ungrounded delta. The grounded neutral provides a stable reference and allows single-phase faults to clear via fuses or relays. In a WYE system, line-to-neutral faults generate currents that trip breakers/fuses quickly, improving fault isolation.
- **Modern grid compatibility:** A 12 kV WYE network is compatible with modern smart-grid components and distributed energy resources (DERs). For example, studies note that higher-voltage feeders vastly expand hosting capacity for EV chargers, solar, and storage. Converting to 12 kV with WYE configuration would also standardize equipment, making it easier to deploy modern regulators, reclosers, and automation devices (most contemporary distribution gear is designed for 12–15 kV service), while also making it easier to maintain the system over the long term.

Other major upgrades include:

- **DS-29 Station Rebuild and 12 kV Conversion:** DS-29 will be rebuilt as an indoor/outdoor hybrid station with firm capacity of 75MVA. Replacement of the legacy 4.8 kV equipment with three 34.5/12 kV–30 MVA transformer banks, installation of twelve 12 kV feeder positions, and modernization of control and protection systems to align with LADWP's 12 kV standards
- **Expansion of Supporting Stations:**
  - *RS-K (Olympic Receiving Station)* – Two new 34.5 kV line positions and upgraded protection relays for mirrored-bit fast protection to DS-29, DS-66, and DS-99
  - *DS-99 (Monte Grande)* – Addition of a 30 MVA transformer and a new high-side switch rack with three 34.5 kV line positions.
- **Conduit and Cable Corridors:** Approximately 59,000 ft of new 34.5 kV conduit and 68,000 ft of 34.5 kV cable installed along Sunset Boulevard, Palisades Drive, Bundy Drive, and San Vicente Boulevard, forming a hardened backbone interconnecting DS-29, DS-66, DS-99, and RS-K.
- **Undergrounding:** Placing power lines underground is one of the most effective methods for protecting them from the primary causes of outages: extreme weather and vegetation contact. Data consistently shows that underground systems are far more reliable than their overhead counterparts. During Hurricane Irma in Florida, for example, underground systems experienced a 4% outage rate, compared to a 24% rate for unhardened overhead systems. Studies also indicate a near-elimination of ignition risk from those lines. For example, one analysis by energy.gov notes that putting distribution lines underground can almost completely reduce the risk of those lines sparking fires, and in California, estimates show buried lines cut ignition risk by roughly 98–99%. Although this enhanced reliability comes at a higher initial cost, most utilities throughout the U.S. that have been challenged by extreme weather and wildfire risks have either been conducting undergrounding in the past few years or considering it as a potential solution, especially by targeting the most vulnerable and outage-prone segments of the network.

- **Automation and Smart Grid Integration:** Deployment of Distribution Automation and Intelligent Electronic Devices (IEDs) for real-time monitoring, fault isolation, and load balancing—critical for post-Fire service restoration and integration of future distributed energy resources (DERs) and microgrids.

Collectively, these power distribution upgrades enable the City to rebuild an adaptive, scalable grid system that supports redevelopment phasing across residential hillside zones, coastal commercial corridors, and critical facilities such as schools, pumping stations, and fire stations.

3.5.1.2. Natural Gas Utility Systems

Most of SoCalGas's announced plans for Pacific Palisades focus on restoration and rebuilding. However, the company has also stated that it has developed broader strategies for safety and system resilience. These forward-looking strategies, combined with an evolving governmental and regulatory landscape, aim to provide context for the company's long-term approach to operating in high-risk areas. The City has no direct control over the operations of these companies, and this discussion is descriptive only.

Technological and Operational Enhancements for High-Risk Areas: In company documents on general system resilience, SoCalGas has outlined the forward-looking technological and operational enhancements it is considering, which include increasing the frequency of shut-off valves in its pipeline network, particularly in geohazard areas such as those prone to landslides or located near fault lines. This would allow for more precise and selective isolation of smaller segments of the system during an emergency, minimizing the number of customers impacted by a precautionary shutdown.

Furthermore, SoCalGas is deploying advanced technologies to enhance its monitoring capabilities. A key example is the use of fiber-optic sensing technologies installed in conduits through debris flow areas above its pipelines. This technology enables real-time monitoring of outside force threats (such as ground movement) and can help identify any potential leaks in these vulnerable areas, facilitating a swift and targeted response.

Other technologies that are part of the company's resilience toolkit include pressure sensors that can detect dramatic pressure drops and trigger automatic valve shutoffs, as well as the use of drones and satellite imagery for post-disaster damage assessment, especially in areas inaccessible to ground crews.

3.5.1.3. Redevelopment Coordination Framework

During the redevelopment period (2025–2033), coordination between LADWP, BOE, StreetsLA, and utility companies is essential to synchronize undergrounding, road reconstruction, and vertical rebuilding schedules. Key coordination principles include:

Sequenced Rebuilding with Land-Use Phasing

The 12 kV feeder deployment aligns with the City's phased reconstruction corridors, starting with essential public facilities and residential clusters along Sunset Boulevard and Marquez Avenue, followed by hillside and coastal neighborhoods.

Joint-Trench and Cross-Utility Integration:

The City's redevelopment design guidelines promote co-location of dry utilities (power, telecom, gas) within joint trenches where feasible, reducing surface disruption and supporting concurrent road reconstruction.

Design for Future Growth and Resilience:

The 12 kV conversion provides additional capacity for electrification initiatives, including electric vehicle (EV) charging infrastructure, fire-hardening circuits, and undergrounding expansions consistent with SB 884-aligned resilience programs.

Temporary Power and Service Continuity:

To maintain reliability during phased redevelopment, LADWP will use mobile transformer units and reclosers for temporary cutovers, ensuring residents and construction crews have consistent service throughout the rebuild process.

3.5.1.4. Alignment with City Planning Objectives

The post-Fire redevelopment period supports the City's strategic objectives, which are outlined in the Brentwood-Pacific Palisades Community Plan, Resilient Los Angeles, and LADWP's Power Strategic Long-Term Resource Plan. Collectively, these plans prioritize:

- Transitioning to modernized infrastructure that is resilient to climate and wildfire risk
- Integrating distributed energy and advanced grid management systems
- Improving reliability and power quality in hillside and coastal zones
- Coordinating with zoning updates and community plan overlays so that rebuilt areas reflect sustainable density and hazard-mitigation goals

The 12 kV rebuild thus represents a foundational investment underpinning long-term redevelopment in Pacific Palisades and bridging immediate restoration with a forward-looking, climate-resilient urban framework.

LADWP is advancing an AMI program to replace legacy electric and water meters with smart meters. The utility has completed AMI and distribution-automation pilots, and has already deployed a system-wide RF communications network and a back-office metering platform. As smart-meter installation gets underway, data will begin flowing into the new systems and enable operational and customer-facing capabilities.

The following benefits are expected from the AMI system:

- **Improved reliability and responsiveness:** Automated, near-real-time telemetry shortens outage detection and isolation times and supports faster restoration.
- **Operational efficiency and cost reduction:** Remote reads, connect/disconnect, and diagnostics will reduce manual field work and lower operating cost and safety risk.
- **Enhanced system visibility and planning:** High-resolution data improves situational awareness, asset management, load forecasting, and DER integration.
- **Customer empowerment and service:** Customers gain near-real-time usage data, faster dispute resolution, and access to new rate options (e.g., time-of-use).
- **Loss reduction and program enablement:** Better detection of leaks, tampering, and non-revenue losses; AMI also enables demand response and other decarbonization programs.

3.5.2. Wet Utilities

This section provides an overview of infrastructure and public service wet utilities projects aimed at improving the resilience, functionality, and sustainability of critical systems across various regions. These projects, led by a diverse group of agencies such as LADWP, LASAN, and other City and County departments, address a wide range of needs, including water main upgrades, disaster recovery, and damage assessments. With a mix of planned and proposed initiatives, Appendix F.1 highlights the collaborative efforts of multiple agencies to tackle pressing infrastructure challenges, and enhance the quality of life for communities in the region. Each category represents a unique focus area, reflecting the strategic priorities and long-term vision for regional development and resilience.

Pacific Palisades Water Main Betterment Projects (Phase 1)

This category encompasses 20 projects aimed at improving the water main infrastructure in the Pacific Palisades area. Led by LADWP, these projects are divided into two statuses: six projects are in the planning stage, where detailed strategies and designs are being finalized, while 14 projects are still in the proposal phase. Project scope and details are shown in Appendix F.1. The focus of Phase 1 is to address end-of-useful-life infrastructure and provide reliable water supply to the community.

Pacific Palisades Water Main Betterment Projects (Phase 2)

Phase 2 builds upon the foundation laid in Phase 1, with eight projects exclusively in the proposed stage. These projects are also spearheaded by LADWP and aim to further enhance the water distribution system in the Pacific Palisades area. The proposed status indicates that these projects are conceptual and require further evaluation and approval before moving forward. Project scope and details for Phase 2 are shown in Appendix F.1.

DR4856 Permanent Work Projects

This category includes projects designed to provide permanent solutions to infrastructure challenges caused by disasters or other disruptions. These projects are led by multiple agencies, including LADWP Water, BOE, LASAN, Library, and RAP. The collaborative effort across agencies highlights the complexity and importance of these initiatives in restoring and improving public infrastructure. All projects are currently in the planned stage, meaning they are actively being developed and prepared for execution. These projects aim to restore reservoirs, tanks, storm drains, pumping plants, debris basins, parks, and libraries to their pre-disaster design, capacity, and function within existing footprints. Detailed descriptions for each project are shown in Appendix F.1.

BOE Proposed Projects

This category includes three projects proposed by BOE. They represent potential opportunities for infrastructure improvements but require further prioritization and alignment with city budgets and strategic goals. These projects address drainage and roadway deficiencies in Pacific Palisades: constructing new catch basins and storm drains along Chautauqua Boulevard, installing a subdrain system and repaving Marinette Road to mitigate groundwater damage, and improving drainage, grading, and resurfacing along Via De La Olas and Via De La Paz to prevent slope instability and flooding. Further project details are outlined in Appendix F.1.

Pumping Plant Projects Provided by LASAN

A total of 10 stormwater and sewer projects fall under this category, led by LASAN. These projects are proposed as part of FEMA-related initiatives to address infrastructure needs and disaster recovery efforts and are detailed in Appendix F.1. The projects involve repairing fire- and power-related damage to multiple stormwater and wastewater facilities following the Palisades Fire, including replacement of pumps, generators, electrical systems, and sewer pipes, as well as addressing several sanitary sewer overflows while facilities operate on temporary power.

Recovery Support Strategy (RSS) Plan

This category has nine relevant stormwater and wastewater projects led by the City. Project details are shown in Appendix F.1. The RSS Plan outlines City initiatives to strengthen stormwater, wastewater, and debris management systems, expanding green infrastructure, hardening pumping plants and conveyance systems, connecting damaged parcels to sewers, and increasing debris basin capacity. These projects are a mix of planned and proposed projects, reflecting the RSS Plan's broad scope of work.

Damage Assessment

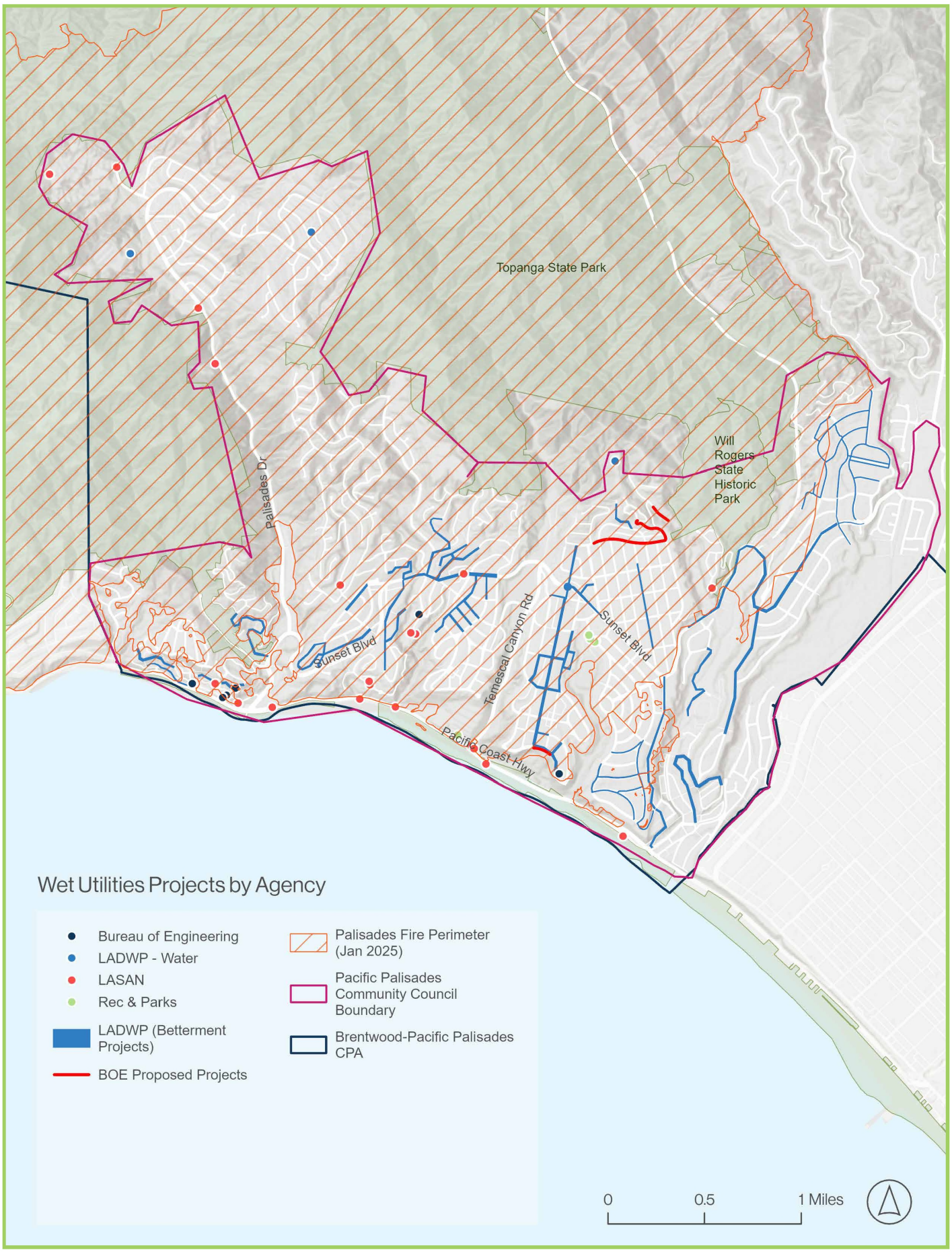
This category includes 12 stormwater and sewer projects led by LASAN to assess and address damage to infrastructure. These projects are currently in the proposed stage, where evaluations are being conducted to determine the scope of repairs and improvements needed. Details of these projects are shown in Appendix F.1. The emphasis is on restoring functionality and mitigating future risks.

Appendix F.1 outlines projects across various categories, with diverse scopes, lead agencies, and statuses. These projects collectively represent a significant investment in infrastructure, disaster recovery, and public services, showcasing the collaborative efforts of multiple agencies to improve the quality of life for residents in the region.

The projects presented here represent a strategic effort by various agencies to address critical infrastructure needs, enhance public services, and improve regional resilience. From water main betterment initiatives in Pacific Palisades to FEMA-supported disaster recovery projects and regional stormwater system plans, each category underscores the commitment to sustainable development and community well-being. While some projects are already in the planning stages, others remain in the proposal phase, highlighting the need for continued collaboration, and prioritization to bring these initiatives to fruition. Together, these projects demonstrate the region's proactive approach to addressing challenges to build a stronger, more sustainable future for its residents.

Figure 3.14 shows a map of all planned and proposed wet utility projects, classified by lead agency.

Figure 3.15: Map of wet utilities planned and proposed prcjects



3.5.3. Street Trees and Surface Infrastructure

3.5.3.1. Street Trees

Utility Installation and Street Design and Placement

Street trees, both existing and newly planted, can be damaged during infrastructure installation and rebuilding. Planting trees following all construction and utility installation may avoid tree damage or conflicts between trees and rebuilding efforts. If planted earlier, trees could compete for space in parkways with lateral or gas hookups and conflict with other rebuilding activities. Changes to driveways or other construction activities could cause damage to street trees or the need to remove newly planted street trees if they conflict with necessary infrastructure installation.

To mitigate critical conflicts between street trees and infrastructure rebuilding, planting can be phased to follow utility trenching, major grading, and enclosure concrete. Based on the rebuilding efforts and plans so far, utility trenches would be created when new homes are built, so property owners and contractors would be able to decide where to locate new lateral cuts in the streets. Planting new trees after utility plans are finalized and work is complete can mitigate the possibility that a newly planted tree is damaged. Although many new trees may be planted by individual property owners, if the City initiates street tree planting in particular areas, the City could coordinate with permitting and utility teams to time the tree planting so that it follows the rebuilding of a significant number of homes on a given street.

However, as it is anticipated that residents of Pacific Palisades will be rebuilding and returning at different rates, phasing street tree planting earlier in the rebuilding process, even though it might increase risk of damage in the future, can support neighborhood character and provide shade and other benefits to the community. Particularly in areas where new utilites or construction is not anticipated, such as corridors with buildings that were not damaged, replanting could happen earlier in the rebuilding process. Further discussion of coordination between utility installation and tree planting is discussed in Section 3.2 Sequence Analysis for Infrastructure Restoration.

Establish a Tree Protection Zone

Tree roots are critical to tree health and must be treated with care during infrastructure and property rebuilding. Generally, the roots within the drip line are considered structural and critical to tree health and need to be protected, while beyond the tree's dripline, or a specified offset from the perimeter of a tree's canopy, fine tree roots can be cut away with minimal impact to tree health.

For existing trees that are not slated for removal during rebuilding or new trees that may be planted prior to construction efforts, establishing a TPZ is essential so trees are not damaged. The City of Los Angeles determines TPZs by either measuring 5 feet out from the dripline (end of longest branch) or 15 feet from the tree trunk. In this zone, vehicles should not be driven or parked, and no construction materials, dumpsters, or other equipment should be placed (BOE, n.d.). BOE permitting guidance requires that trees within construction zones are protected from damage through the implementation of a TPZ by the contractor/permittee. If TPZ requirements are not followed, the City may implement citations and fines (BOE, n.d.).

Expanding Street Tree Canopy

The City is working to expand canopy coverage throughout Los Angeles. Prior to the Fire, Pacific Palisades had a robust tree canopy. Council District 11, where Pacific Palisades is located, had a tree canopy 14.80% higher than the City of Los Angeles average canopy coverage (TreePeople, n.d.). While shorter-term actions, such as maintenance and watering can support the recovery and health of existing street trees, identifying new opportunity sites for tree plantings in the future can contribute to the area's canopy.

Healthy street tree canopies can have many benefits, including providing consistent shade, which can mitigate the urban heat island effect, and lowering temperature at the street level. The City could consider prioritizing street tree plantings nearby transit stops and along transit routes, such as Metro's 602 bus line and the Big Blue Bus route 9, both of which run along Sunset Boulevard in the Pacific Palisades. Although Metro bus line 134 runs along the Pacific Coast Highway (PCH) between Santa Monica and Malibu, PCH is owned by the state, so the City does not have control over trees along the PCH.

Coordination Efforts

Street tree restoration focuses on rebuilding a healthy, climate-resilient canopy. Collaboration with and coordination between property owners, developers, environmental nonprofits, LACP, and LADPW can support street tree restoration and rebuilding goals. Coordination with utilities could minimize the potential for damage to existing or future trees, while longterm funding and monitoring mechanisms can support the sustainability of longer-term street tree goals.

3.5.3.2. Surface Infrastructure

Tier 3 recovery and rebuilding work primarily focuses on extending rebuilding to new improvements which reduce the likelihood or severity of future disasters, harden assets against damage from those disasters, or improve the level of service those assets provide during future disasters. It includes completion of

repairs to damages which did not impede the operations of the assets, but which do degrade their overall quality. This includes such work as removing and replacing discolored or burned pavements, repainting appurtenances, and similar work.

Based on FEMA documentation and the City of Los Angeles project records, Project #951278 (Charred Streets, Curbs & Sidewalks) addresses widespread pavement degradation across Pacific Palisades (FEMA, 2025). Restoration efforts for Project #951278 will be completed using contracted services to return all components to pre-disaster design, function, and capacity.

This effort could include street tree maintenance and targeted structural pruning to reduce accumulated fuel loads along essential corridors such as Sunset Boulevard, Palisades Drive, and Chautauqua Boulevard. Recovery actions will align with the City plan and local goals by restoring canopy coverage with climate-resilient, fire-resistant, and regionally appropriate species that support long-term shade, habitat value, and neighborhood character. Additionally, streetscape assets and street furniture should be studied for replacement of non-combustible or fire-resistant materials that can withstand coastal exposure and high-wind ember environments. To improve long-term resilience, an annual monitoring program benefits from measure of vegetation survival, fuel-load reduction, and asset condition, as well as adaptive maintenance practices and sustained recovery across the community.

The event caused significant damage to the roadway network, including widespread asphalt deterioration, potholes, weakened pavement bases, and issues related to emergency underground utility repairs. While much of the visible damage occurred on the pavement surface, the extreme heat, movement of heavy emergency equipment, and failures in underground utilities created conditions that require a coordinated, long-term recovery approach. The restoration effort will rely on LADOT and StreetsLA repair methods to return the roadway to full structural strength and safe operation, while allowing flexibility for future improvements. Most of the damage in the affected area consists of potholes and surface-level asphalt wear. To address this, repair crews will use standard pothole repair methods, which include removing damaged material, applying a tack coat, placing hot-mix asphalt, and compacting it to match the surrounding surface. These repairs help restore drivability, improve safety, and prevent water from seeping into the pavement structure. In locations where the heat caused more extensive cracking or raveling of the roadway, a traditional grind-and-pave resurfacing will be completed to restore a smooth and durable driving surface.

An important consideration in the long-term recovery effort is the repair and replacement of underground utilities. These systems should complete their emergency and permanent repairs before major roadway reconstruction occurs. Close coordination with local utility departments is essential to determine the timing and extent of these improvements. Once utilities have finished their work, traditional pavement restoration standards can be used to rebuild the roadway and pavement treatments or the use of more fire-resistant materials may also be applied.

This coordinated approach helps prevent premature pavement failures and avoids situations in which newly reconstructed roadway sections would need to be reopened for additional utility work. Effective collaboration among utility agencies and roadway restoration teams is critical to achieving a consistent roadway surface, maintaining public access, reducing impacts to residents, and reconstruction occurs in a timely and orderly manner.

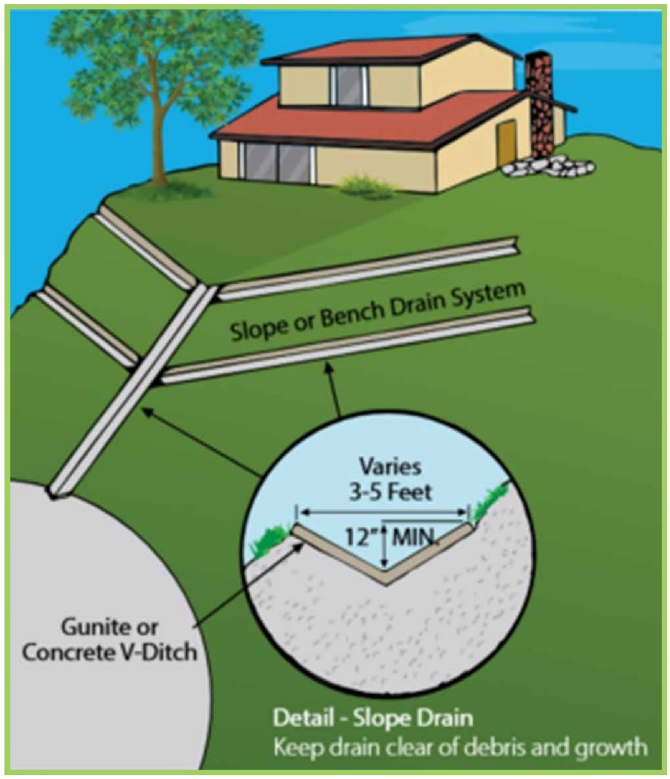
3.5.4. Natural Infrastructure

The City of Los Angeles and Los Angeles County have both published documents addressing the mitigation of erosion and slope failures. Water infiltrating into and flowing over the faces of slopes is a major contribution to soil slips, mudslides, debris

flows, and landslides (LACDPW, 2018). An assessment by WERT should be conducted following significant rain events, defined as 24 mm/hr. or higher, for the burn areas.

Mitigation measures recommended by LACDPW include slope or bench drain systems (LACDPW, 2018). See Figure 3.16. Planting groundcover plants with burlap mats can reduce erosion. For mitigation of bank erosion along natural watercourses, concrete or riprap should be used.

Figure 3.16: Slope or bench drain system (LACDPW, 2018)



The City of Los Angeles Department of Building and Safety published its Information Bulletin/Public-Building Code, P/BC 2024-154, Mitigation of Slope Failure, with mitigation measures against landslides that include soldier pile retaining walls (see Figure 3.17). Landslides typically cover a large area and require moving large volumes of soil during grading.

Figure 3.17: Soldier pile retaining wall with tie-back anchors (LADBS)



The use of steel netting and soil anchors or rock bolts on steep, rocky slopes steeper than 45 degrees can mitigate rock falls. See Figure 3.18.

Figure 3.18: Steel netting with rock bolts





4. Recommended Resilience Upgrades

Relationship Between Section 3 (Tiered Restoration) and Section 4 (Resilience Upgrades)

Section 3 and **Section 4** serve complementary but distinct purposes within the overall recovery and rebuilding framework.

Section 3 describes the tiered restoration pathway—the work required to return Pacific Palisades to safe, reliable, and fully functional operating condition after the Fire:

> **Tier 1** focuses on stabilizing critical infrastructure to support emergency response, protect public safety, and restore essential lifeline services for first responders and vulnerable populations.
>
> **Tier 2** expands restoration beyond critical facilities to the broader community, addressing habitability, mobility, and economic activity while completing the work needed to return each infrastructure component to its normal operating condition.
>
> **Tier 3** implements permanent infrastructure improvements needed to restore system capability, address damage-related deficiencies, and improve long-term operating conditions, capacity, and disaster resilience. Tier 3 represents the final stage of required recovery work—it identifies what must be rebuilt, where, and in what sequence, to complete long-term restoration.

Section 4 identifies resilience upgrades that extend beyond required recovery. These are enhancements the City may choose to undertake in addition to Tier 3 work to strengthen assets against future wildfire, seismic, climate, or hydrologic hazards. These upgrades focus on system hardening, modernization, and long-term risk reduction, and are not required to return infrastructure to pre-Fire function. These recommendations should undergo comprehensive feasibility studies before implementation to ensure technical viability and cost-effectiveness.

Disclaimer: Many projects identified in this Plan are currently in a preliminary stage of the project development process, and have not yet received Department, Board, or Council Approval, funding determinations, or permitting. All projects are subject to change in scope, schedule, and cost until they are fully approved. Projects could also be cancelled as a result of this process.

In Summary:

Section 3 = Required recovery work needed to restore damaged systems to safe, functional, and reliable operating condition.

Section 4 = Optional resilience improvements that enhance performance, reduce risk, and modernize infrastructure beyond what is required for recovery.

Section 4 presents the resilience upgrade strategies for dry utilities, wet utilities, street trees and surface infrastructure, and natural infrastructure. These strategies are intended to promote the future resilience of the Pacific Palisades area. They position the City to transition from short-term recovery to long-term adaptation.

By combining administrative actions, engineering design, and coordinated implementation across dry utilities, wet utilities, and street trees and surface infrastructure, and natural infrastructure, the City can continue to move beyond restoring what was lost to creating infrastructure that performs better under future stress.

The strategies outlined here provide both a technical roadmap and a governance framework for sustained resilience — one that links ongoing maintenance, adaptive management, and equitable reinvestment to the City's broader climate and recovery goals.

In contrast to the previous Section 3, which detailed the City's existing plans to restore service and make incremental improvements to infrastructure to enable reconstruction of buildings within the neighborhood, Section 4 presents resilience upgrades that go beyond restoration—actions the City may choose to add on top of Tier 3 to make infrastructure more fire-resistant, climate-resilient, or future-ready. These are enhancements, not required recovery work, and include system hardening, modernization strategies, and long-term risk-reduction measures.

Many projects identified in this document are currently in preliminary stages of the project development process, and may still be pending funding, final approvals, and/or permitting. All projects are subject to change in scope, schedule, and cost until they are fully approved. Some of the projects, strategies, and efforts described in this report may not be possible for the City to complete without additional funding from the Federal and State governments as well as philanthropy, which may or may not be forthcoming.

4.1. Dry Utilities

This section presents the City's integrated approach to restoring and strengthening dry utility systems (electric, gas, and telecommunications utilities) across Pacific Palisades following the Fire. The section is structured around administrative and engineering strategies for achieving long-term improvements to promote service continuity and enhance continuity planning. Together, these strategies provide a cohesive roadmap for reliable, resilient, redundant, and future-ready dry utility systems for the Pacific Palisades community.

4.1.1. Recommended Administrative Strategies

Administrative strategies for service continuity focus on continuity planning by utilities to enhance customer experience and improve service reliability by adjusting their standard operating procedures.

4.1.1.1. Service Continuity Strategies and Planning

Utilities achieve service continuity through comprehensive continuity planning that includes risk assessment and mitigation strategies, emergency response protocols with clear communication channels and restoration priorities, investment in infrastructure hardening and modernization, and coordination with government agencies and other utilities for mutual aid during major events.

The key features of service continuity are:

- **Reliability:** The system consistently delivers the service at the expected quality and capacity.
- **Resilience:** The system can withstand and quickly recover from disturbances, such as storms, wildfires, equipment faults, or cyber incidents.
- **Redundancy and backup:** Alternative pathways, backup systems, or spare capacity exist to maintain service when primary components fail.
- **Minimized downtime:** Planned or unplanned interruptions are kept as brief as possible.

Electricity service continuity might involve switching customers to backup feeders during an outage. For gas, service continuity could mean rerouting supply to maintain pressure during a pipeline outage. For telecommunications, it could involve rerouting calls or data traffic through redundant network paths.

The ultimate goal of service continuity planning is to minimize both the frequency and duration of service interruptions while maintaining service quality standards that meet regulatory requirements and customer expectations. This is particularly critical for essential services that support public health, safety, and economic activity.

4.1.1.2. Guide to Continuity Planning

Service continuity planning is essential for all utilities. Table 4.1 provides a seven-phase guide to establishing a continuity plan, and a complete 18-step guide is provided in Appendix D. The provided list outlines the key characteristics of a strong continuity plan. Agencies are encouraged to review and benchmark their existing plans against these guidelines to identify gaps or opportunities for improvement. For agencies that do not currently have a continuity plan, these guidelines can serve as a foundation for developing one.

Table 4.1: Guide to Continuity Planning for Utilities

Phase	Key Steps	Expected Outcome
Phase 1: Foundation and Governance	■ Form continuity team with cross-functional representatives and designate Chief Resilience Officer ■ Define critical services, establish Recovery Time Objectives (RTOs) and Recovery Point Objectives (RPOs), and determine regulatory requirements	Continuity team, governance framework, RTOs/RPOs
Phase 2: Risk Assessment and Analysis	■ Conduct Business Impact Analysis mapping critical functions and maximum tolerable downtimes ■ Assess risks including natural hazards, technical failures, cyber-attacks, and supply chain disruptions ■ Inventory critical infrastructure and identify single points of failure and key dependencies	Risk register, critical asset inventory, dependency maps
Phase 3: Strategy Development	■ Develop prevention, mitigation, response, and recovery strategies with cost-benefit analysis ■ Design network redundancy with N-1/N-2 standards, backup control centers, and mobile equipment reserves	Prevention/mitigation plans, redundancy architecture
Phase 4: Plan Development	■ Create tiered response plans: Immediate (0-24 hours), Short-term (1-7 days), Long-term (1+ week) ■ Establish communication protocols for internal teams, customers, media, and stakeholders ■ Develop resource management plans for human, physical, technology, and financial resources	Tiered response plans (0-24 hours, 1-7 days, 1 week+), contact lists
Phase 5: Implementation	■ Build Emergency Operations Centers with incident management systems and mass notification capabilities ■ Deploy comprehensive training programs including role-specific, technical, and cross-training ■ Establish mutual aid agreements with utilities, contractors, and emergency management agencies	EOCs, notification systems, training curriculum, agreements
Phase 6: Testing and Improvement	■ Execute quarterly tabletop exercises, semi-annual functional tests, and annual full-scale simulations ■ Test notification procedures, backup systems, and coordination with external partners ■ Maintain plans with annual reviews incorporating lessons learned and infrastructure changes	Exercise schedule (quarterly/ semi-annual/annual), test reports
Phase 7: Performance Management	■ Track KPIs including service availability, Mean Time To Repair (MTTR), customer minutes interrupted, and exercise participation ■ Implement continuous improvement through after-action reviews, benchmarking, and emerging threat research	Performance dashboards, after-action reports, benchmarks

4.1.2. Recommended Engineering Strategies

Engineering strategies for long-term improvements to dry utilities (electric, gas, and telecommunications utilities) focus on system hardening and reliability upgrades.

Two notes should be considered regarding the strategies presented in this section. First, some of these strategies were previously identified as Long-Term Recovery and Rebuilding projects. Their inclusion here, under Recommended Resilience Upgrades, is intended to demonstrate how these same approaches can be further advanced to the next level by the utility to maximize their impact on improving system resilience.

Second, it is understood that the implementation of these recommended solutions by each agency will depend on the availability of resources, their assessment of risk and return on investment for each option, and their holistic approach to system improvement.

4.1.2.1. System Hardening and Reliability Upgrades

System hardening and reliability upgrades are key components of the long-term strategy to strengthen dry utilities (electric, gas, and telecommunications) and enhance their reliability and resilience. Table 4.2 summarizes the primary hardening recommendations for electric and gas utilities:

Table 4.2: Primary Hardening Recommendations for Electric and Gas Utilities

Mitigation Category	Electric Utility Practice (WMP)	Gas Utility Practice (G-WMP)
Infrastructure Hardening	Replace bare wire with covered conductor; replace wood poles with steel/composite poles; strategic undergrounding of power lines.	Replace legacy pipe with modern coated steel/ polyethylene; harden/enclose regulator stations and valves; strategic undergrounding of critical aboveground nodes.
Vegetation Management	Systematic right-of-way (ROW) clearing; enhanced pole clearing; hazard tree removal program outside of ROW.	Formal ROW clearing programs for all assets; creation of defensible space around facilities; hazard tree removal program to protect above ground equipment.
Situational Awareness	Network of weather stations; high-definition cameras with AI detection; predictive risk modeling.	Integration of weather/fire data; deployment of geohazard (fiber-optic) and pressure sensors; predictive risk modeling for gas assets.

Electric Utility Strategies

Eleven strategies for improving the hardening and reliability of the electric system are recommended and described below.

Strategy 1: Voltage Conversion from 4.8 kV to 12 kV

LADWP is planning to convert the 4.8 kV, Delta-connected distribution system into a 12.47 kV Wye-connected system.

Here are a few recommendations to take this effort to the next level:

a) Run pilots to monitor impact

Pick 2–3 pilot areas with different characteristics (EV hub / dense commercial / aging residential overhead). For each pilot collect baseline metrics and run a before/after evaluation on:

- Feeder capacity and peak relief
- Hosting capacity for PV/EV/Storage
- Power quality, line losses
- Cost per MVA of capacity gained
- Reliability (SAIDI/SAIFI)

Use pilots to validate construction methods (convert in place vs reconductor), test protection & coordination, and refine specs.

b) Standardize design and procurement

Create a 12 kV "kit" of standard equipment (transformers, switchgear, insulators, pole/topology standards, secondary equipment, cable types, pre-qualified vendors). Standardization reduces spares, simplifies training, and speeds construction. Several utilities use this to control costs during system voltage changes.

c) Plan for DER and EV hosting

Create hosting-capacity maps pre- and post-conversion and implement updated interconnection limits and streamlined processes for DERs and EV chargers. Conversion can materially increase local MVA capacity, which can be quantified and publicized for developers/operators.

Strategy 2: Undergrounding

Approximately 34.5% of LADWP's distribution lines—3,883 miles out of a total 11,263 miles—are already underground. The utility plans to expand its undergrounding efforts as part of its wildfire mitigation strategy, particularly in Pacific Palisades, where LADWP has publicly announced upcoming undergrounding projects.

Figure 4.1 shows crews trenching for an undergrounding project.

Figure 4.1: Crews trenching for an undergrounding prcject (SDG&E, 2025)



Beyond reducing ignitions, undergrounding dramatically improves service reliability. Because underground cables are not exposed, they fail far less often from storms or vegetation incidents. Utilities measure reliability with metrics like System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency Index (SAIFI) Index. Industry studies consistently show underground networks yield far lower outage rates. For instance, a Stanford University analysis found that a 10% increase in underground line miles correlated with a 14% reduction in annual outage durations. In Wisconsin, converting overhead distribution to buried cable produced a 95% improvement in SAIDI (a 137-minute reduction per customer during storms). Florida Power & Light reported that during Hurricane Irma (2017), only 4% of its underground distribution feeders lost power versus 24% of comparable overhead feeders. Likewise, Virginia Electric and Power's project of undergrounding distribution lines yielded a 99% improvement in SAIFI (almost eliminating customer interruptions) plus a 27% faster system restoration in a severe winter storm. These real-world cases show that buried systems suffer far fewer and shorter outages, boosting average reliability metrics.

These reliability gains also translate to improved resilience: the grid's ability to withstand and recover from disruptions. U.S. Department of Energy (DOE) analysis emphasizes that underground lines greatly reduce vulnerability to extreme weather and wildfires, "by preventing initial ignition" and avoiding storm damage. In effect, buried feeders do not fall in winds or spark in heat, so large-area outages and cascading failures are far less likely. For example, DOE reports that undergrounding is "well accepted" as a way to reduce wind and hurricane damage to grid assets.

Here are a few recommendations to take this effort to the next level:

- Build extra conduit capacity (spare ducts sized for future upsizing.)
- Use trenchless methods (HDD, auger boring, micro-trenching) where surface disruption must be minimized or for long crossings (railways, highways).
- Deploy cable-health monitoring: distributed temperature sensing (DTS), sheath/insulation monitoring, partial-discharge (PD) sensors in vaults/manholes and cable joint monitoring to detect incipient failures.
- Remote manhole/vault sensors (water level, CO, temperature, humidity) and automated alarms to avoid surprise flooding and unsafe manhole conditions.

Strategy 3: Covered Conductor

In some areas, undergrounding overhead powerlines may not be feasible due to terrain or other constraints. In these cases, the overhead lines in high fire risk areas will need to be hardened using alternative methods. One effective option is covered conductor – an overhead wire insulated with a protective polymer jacket. Covered conductor (also called "tree wire" in the U.S.) consists of the normal aluminum phase conductor wrapped in layers of semi-conductive and insulating material. Modern designs typically have a multi-layer cover (e.g. an inner semiconducting layer, a solid insulation layer, and a tough Ultraviolet (UV)-resistant outer jacket) that is generally 30–150 mils thick. Figure 4.2 shows a covered conductor on an overhead pole. The gray outer sheath keeps tree limbs and debris from directly touching the live aluminum core.

Figure 4.2: Crews connecting covered conductor (Tsirikis, 2022)



A covered conductor is distinguished from bare overhead wire by the insulating cover. It is not fully insulated for high voltage, but it dramatically reduces flashover when a branch or tool falls between conductors.

A covered conductor directly reduces wildfire ignition risk by preventing common fault arcs. If a tree limb or balloon contacts a covered phase, the insulating jacket stops a dead short – any flashover is far less likely. According to Southern California Edison (SCE), replacing bare lines with covered conductor "significantly reduces the chance" of arcing or sparks from contact with branches. Utility studies have quantified this, finding that installing covered conductors in high-fire zones can cut ignition drivers by roughly 60% to 90% compared to bare wire.

Beyond fire ignition, covered conductors also improve service reliability. By eliminating many tree-contact faults, they reduce outages and blinks. In North America, utilities have observed fewer outages on covered lines. According to the Rocky Mountain

Power (PacifiCorp) wildfire program, replacing key spans with tree wire (covered conductor) helps "reduce wildfire risks because the lines will no longer be able to come in contact with vegetation" (Rocky Mountain Power, 2025). At the same time, this replacement strategy strengthens reliability.

LADWP has already installed covered conductors on approximately 20 miles of its distribution feeders and, according to its 2025 Wildfire Mitigation Plan, is evaluating the implementation of additional covered conductors across its overhead distribution network.

Strategy 4: Ground Level Distribution System (GLDS)

Figure 4.3 is an example of a Ground Level Distribution System (GLDS), an innovative technology that is ideal for areas where traditional underground conversions present challenges, including rocky terrain, environmentally sensitive regions, or difficult field conditions. GLDS technology uses durable aboveground trays containing distribution conductors encased in epoxy resin concrete for enhanced resilience.

The Electric Power Research Institute (EPRI) is actively conducting technical evaluations of this technology. To stay at the forefront of industry innovation, it is recommended that LADWP join EPRI's evaluation team.

Pacific Gas & Electric (PG&E) has recently deployed GLDS technology in selected parts of its service territory with positive results. LADWP is encouraged to engage with PG&E to review the project and learn from its experience.

Figure 4.3: A completed GLDS (Energy Connect Corp, 2025)



Strategy 5: Replacement of Wood Poles

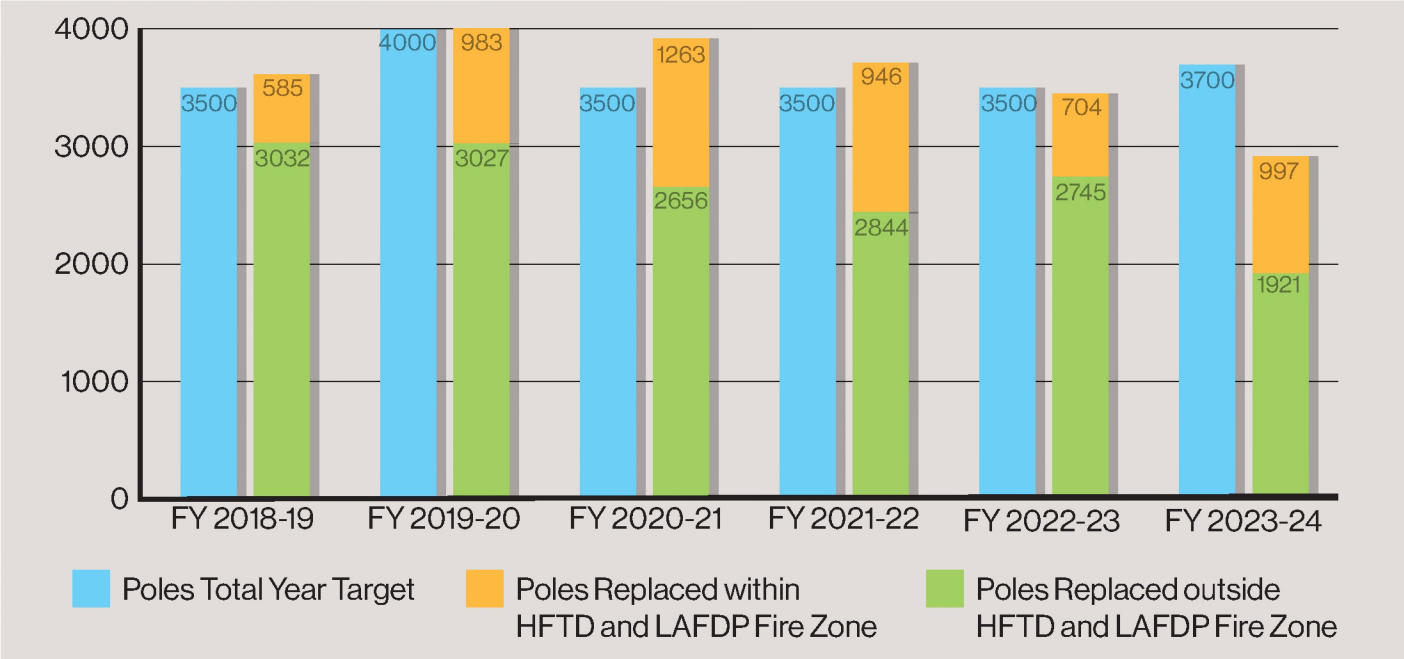
Although LADWP is considering undergrounding a majority of the overhead powerlines in the Pacific Palisades area, in some areas the overhead system will remain intact. For such areas, LADWP has several alternative materials to consider:

- **Galvanized Steel**. 100% recyclable; has 50 to 80 years of service life.
- **Spun Concrete**. Durable, long-lasting; has around 75 years of service life.
- **Composite**. Lightweight, rot-proof; has more than 80 years of service life.

While traditional wood poles have been the industry standard for decades, they are inherently vulnerable to rot, insect damage, and mechanical failure under the stress of high winds and ice loading. The replacements can be conducted by making the aging or damaged poles a priority.

As part of its Power System Reliability Program, LADWP has replaced a significant number of wood poles with steel, concrete, or ductile over the past decade, particularly in areas with elevated wildfire risk. Figure 4.4 from LADWP's 2025 Wildfire Mitigation Plan illustrates the extent of these efforts since 2018:

Figure 4.4: Replacement of wood poles



Strategy 6: Advanced Conductors

Overhead conductors present a critical opportunity for hardening and modernization. Traditional Aluminum Conductor Steel Reinforced (ACSR) cables have operational limits determined by the thermal properties of their steel core. Under high electrical loads or high ambient temperatures, the core heats up, expands, and causes the line to sag, which reduces its power-carrying capacity and increases the risk of the line contacting trees or the ground.

Advanced conductors address this limitation by replacing the steel core with lighter, stronger composite materials like carbon fiber. This innovation, known as "advanced reconductoring," will benefit the grid by increasing capacity by up to twice as much, reducing thermal sag by up to 50%, and improving efficiency by up to 40%.

Strategy 7: Advanced Vegetation Management

Vegetation remains a leading cause of outages and is an ignition source for utility-related wildfires. Traditional vegetation management programs, based on manual inspections and cyclical trimming schedules, are often inefficient and reactive. A modern, hardened grid requires a more intelligent and proactive approach, leveraging technology to identify and mitigate risks before they cause a failure.

This new approach, which is recommended for deployment in Pacific Palisades, integrates multiple data sources and advanced analytical tools such as Light Detection and Ranging (LiDAR) and satellite imagery to monitor utilities' entire service territories. Utilities are also using artificial intelligence (AI) to analyze the data generated by LiDAR and satellite imagery to classify vegetation types and predict future growth patterns, so they can create comprehensive plans to manage the vegetation.

Although LADWP has a well-organized vegetation management program that maintains vegetation across the city on a structured schedule, the utility could -potentially enhance its effectiveness through more targeted approaches that leverage advanced technologies such as imaging and data processing.

LADWP's Utility Vegetation Management (UVM) performs the following vegetation management activities for the power system:

- Patrols the clearances between conductors and vegetation of its transmission and distribution lines annually to ensure no vegetation encroachment occur within the conductor's respective clearance distance.
- Performs line clearance tree trimming within the City during the annual cycle encroachments into the minimum vegetation radial clearance distances.

All services are patrolled for a second time during the pruning cycle using a "mid-cycle" approach to ensure compliance and eliminate encroachments into the minimum vegetation radial clearance distances. As LADWP's conductors traverse many private properties, LADWP coordinates with the owners of the properties

to ensure appropriate clearance distances between vegetation and conductors are met.

These activities support LADWP's brush clearance/vegetation work to comply with LAFD's brush clearance requirements (LAMC 57.4906.5.2). LAFD has a brush clearance unit that inspects parcels throughout the City, including LADWP's.

Strategy 8: Substations Upgrades, Physical and Environmental Protection

Substations are the nerve centers of the grid, and their failure can lead to widespread, cascading blackouts. Hardening these critical nodes requires a multi-layer strategy that addresses both environmental and malicious physical threats. To support LADWP's plan to convert 4.8KV to 12.47KV distribution system, the substations listed in Table 4.3 will also be upgraded.

Table 4.3: LADWP Substation Upgrades

Substation	Key Scope
Palisades DS-29	Install 3 new 34.5/12KV transformers
Olympic RS-K	Add new 34.5KV line positions
Monte Grande DS-99	Install new switch rack and 1 new transformer

In addition to the ongoing upgrades and improvements within the LADWP system, the following improvements are recommended to add to the long-term resilience of the system:

Environmental and Structural Reinforcement: Critical substation components like transformers, switchgear, and control buildings must be physically reinforced with stronger foundations and more robust materials to withstand extreme weather. In areas prone to flooding, like Pacific Palisades, a few mitigation measures can be useful, such as elevating critical equipment on concrete platforms or steel stilts, or constructing permanent flood walls around the perimeter. Custom-fit, high-strength flood panels can be deployed to provide a watertight seal around vulnerable areas, and the panels can be installed quickly when a flood threat is imminent.

Physical Security Enhancements: Considering LADWP's extensive work over the past decade in both physical and cybersecurity, the utility is expected to already be in full compliance with the applicable requirements. This recommendation is therefore included for informational purposes.

As required by North American Electric Reliability Corporation (NERC) CIP-014, utilities must implement a comprehensive security plan to deter, detect, delay, and respond to physical threats to better protect critical assets such as substations, as summarized below.

NERC CIP-014 requires electric utilities to identify and protect critical transmission substations and control centers whose loss could result in widespread instability, uncontrolled separation, or cascading outages. To comply, utilities must perform a risk-based assessment of their transmission assets to determine which facilities are critical to the Bulk Electric System. Once identified, the assessments must be independently verified, and the results shared with appropriate reliability coordinators. This ensures that only substations and control centers with genuine system-wide impact are subject to the heightened security measures mandated by the standard.

For those critical facilities, utilities must then develop and implement physical security plans that address potential threats, vulnerabilities, and mitigation strategies. These plans typically include layers of security, such as perimeter fencing, surveillance, access controls, intrusion detection, and coordination with local law enforcement. Utilities are also required to periodically review and update their physical security plans to reflect changing conditions, emerging threats, and lessons learned from incidents. In essence, NERC CIP-014 pushes utilities to take a proactive, risk-based approach to securing their most critical infrastructure from physical attacks that could jeopardize grid reliability.

Strategy 9: Technological and Operational Modernization

While physical hardening creates a more robust foundation, the true leap forward in grid resilience comes from layering intelligence and automation onto the physical infrastructure. The smart grid is not a single technology, but an ecosystem of sensors, software, and advanced operational concepts that transform the traditional one-way power delivery system into a dynamic, responsive, and self-healing network. This section explores a few technological advancements that enable the grid to anticipate, isolate, and respond to disruptions. Considering that LADWP has already implemented a telecommunications network throughout its service territory, implementation of advanced technologies can be considered achievable in the near future.

Advanced Sensing Technology: A diverse array of sensors serves as the grid's nervous system. These include deployment of smart meters, advanced line sensors that monitor voltage and current flow on distribution circuits, and high-speed Phasor Measurement Units (PMUs) on the transmission system that provide synchronized, system-wide snapshots of grid stability. Newer technologies like Distributed Fiber Optic Sensing (DFOS) can use fiber-optic cables to continuously monitor temperature, physical strain, and acoustic vibrations along a power line and to

detect hotspots, mechanical stress, or third-party intrusion. These sensors collect vast amounts of data on everything from power quality and equipment health to faulty locations, enabling a host of advanced applications.

LADWP is already planning to implement smart electric and water meters throughout its service territory through a comprehensive Advanced Metering Infrastructure (AMI) program.

Distribution Automation: Distribution Automation (DA) technology uses data from sensors to automate grid control functions. DA systems encompass the automated switches, processors, and communication networks that allow a utility to collect, analyze, and act on data to improve the operational efficiency of the distribution system. This automation is the key to improving the speed, cost, and accuracy of processes such as fault detection, feeder switching, and outage management.

LADWP conducted a DA pilot program a few years ago and successfully tested several automated controllers and line monitors. One of the most powerful applications of distribution automation is the creation of "self-healing" networks. The core technology enabling this capability is Fault Location, Isolation, and Service Restoration (FLISR). A FLISR system represents a paradigm shift in outage response, replacing a manual, multi-hour process with an automated sequence that takes place in minutes or even seconds.

Strategy 10: Leveraging AI and Digital Tools

Modernization extends beyond automated response to proactive prediction. Following completion of the priority work – which is rebuilding the impacted areas in Palisades area – digital technologies such as AI, machine learning (ML), and digital twin technologies can be considered. In the long term, these technologies will have multiple benefits, including the following:

Predictive Analytics for Asset Management: AI and ML algorithms analyze vast datasets – including data from sensors, smart meters, historical failure records, weather data, equipment specifications – to identify subtle patterns that precede a failure. This allows the system to forecast the probability of failure for individual assets like transformers or circuit breakers in advance. This proactive approach allows utilities to schedule repairs before an asset fails, which reduces costly unplanned downtime, cuts overall maintenance costs, and improves safety.

Digital Twin Technology: A digital twin is a detailed, dynamic virtual model of a physical grid asset, a substation, or even an entire distribution network. This virtual replica is not static; it is continuously updated with real-time data from the physical grid's sensors, creating a faithful mirror of the system's current state. This technology provides a powerful "sandbox" for operators and planners to simulate the impact of various events and test different response strategies without posing any risk to the live grid.

The utilities in Table 4.4 are examples of ones that have successfully integrated digital technologies and advanced vegetation management strategies with their operation and maintenance practices.



Table 4.4: Utilities with Advanced Vegetation Management

Utility / Org	Scope	Sensors & Data Sources Used	Vendors / Platforms Reported	Reported Outcomes / Benefits
Pacific Gas & Electric (PG&E)	Distribution & transmission across PG&E's network; building an enterprise digital twin.	Airborne LiDAR + high-resolution red, green, and blue (RGB) aerial imagery (periodic sorties to build 3D models).	Sharper Shape's CORE platform (multi-year agreement to ingest/ process LiDAR + imagery).	Created a digital twin to prioritize inspections and maintenance, reduce unnecessary field visits, and produce AI-driven trim/inspection prescriptions and forecasts.
Southern California Edison (SCE)	~48k miles of distribution and ~12k miles of transmission (~60k circuit miles total). Transitioning large portions of vegetation inspection to remote sensing.	Airborne LiDAR, satellite imagery, aerial orthophotos; integration into asset GIS.	Neara (platform used to conflate LiDAR/imagery with SCE GIS); SCE is also evaluating multiple remote sensing technologies (e.g., use of images and satellite).	Moving from time-based ground inspections toward remote sensing automated trim prescriptions, forecasting of future work, fewer routine ground inspections and better prioritization.
Duke Energy	Transmission and distribution corridors across Duke territories; company-level remote-sensing transformation project.	LiDAR point clouds and aerial imagery combined with GIS and Machine Learning (ML) models.	Combination of internal and third-party analytics.	Shift from calendar-based trimming to risk-based, targeted trimming. Improved prioritization of high-risk spans.
Transpower (New Zealand)	National transmission network. Survey of ~11,000 km of transmission lines.	Helicopter/aircraft LiDAR surveys + orthophotography; integration into ArcGIS/ Image Server for analysis.	Flight/ LiDAR capture contractors, and Esri ArcGIS stack for imagery.	High-resolution corridor models and vegetation inventory enabling targeted trimming, better situational awareness, and improved safety planning.

Strategy 11: Resilience through Virtual Power Plants

A Virtual Power Plant (VPP) is a software-driven aggregation of distributed energy resources (DERs) such as rooftop solar, behind-the-meter batteries, EV chargers, smart thermostats and flexible loads. Resources such as DERs are centrally coordinated so the whole collection can be dispatched and managed like a single power plant.

Utilities gain several concrete resilience benefits from VPPs. By pooling many small, geographically distributed resources, a utility can access fast, dispatchable capacity during heat waves, outages, or other system stress events without having to build new fossil plants to meet the peak demand. VPPs also provide frequency and voltage support, reduce peak loading on distribution feeders, and enable more predictable emergency responses because operators can call on known blocks of capacity rather than relying only on physical generation.

A few real-world examples show how utilities and system operators are already benefiting. AGL Energy Limited (Australia) has scaled up and acquired large residential VPP assets that supply system capacity and customer credits. Origin Energy's "Origin Loop" is another very large VPP program that aggregates batteries, hot-water controllers and other DERs to provide grid services at scale. In California, programs that let aggregators (including Tesla's Powerwall VPP efforts) participate in state and

utility dispatch events have been used to shore up capacity during peak events. National Grid and other large utilities are also piloting or partnering on VPP initiatives to make buildings and fleets act as flexible, resilient assets for local grids.

As for LADWP, although the utility is implementing the concept of VPP while not using that term, there are still opportunities to grow this concept throughout their service territory. LADWP already runs and is participating in programs that use aggregated customer storage and vehicle-to-grid functionality (for example, the state Demand Side Grid Support Program participation pathway and LADWP's CES2G pilot), which are the building blocks of a VPP. Expanding enrollment, refining contracts with aggregators, and integrating Distributed Energy Resource Management System (DERMS) controls would let LADWP capture more of the resilience and peak-capacity value across more neighborhoods.

Gas Utility Strategies

To build resilience against future climate-driven threats, SoCalGas could adopt a comprehensive, multi-pillar strategy. Such a framework would support a shift from reactive restoration to proactive hardening, technological advancement, and operational innovation. Gas utility planning could then draw on the mature, regulator-approved best practices established in the Wildfire Mitigation Plans (WMPs) of California's electric utilities while adapting them to the unique characteristics of a natural gas system.

This section outlines six recommended strategies for addressing the gas utility network, some of which SoCalGas may already be in the process of implementing. The City has no direct control over the operations of these companies, and this discussion is descriptive only.

Strategy 1: Accelerated Replacement of At-Risk Pipelines

SoCalGas currently manages the integrity of its vast network through established programs like the Pipeline Safety Enhancement Plan (PSEP), which was initiated in 2014 to address transmission lines, and the Distribution Integrity Management Program (DIMP), which was initiated in 2010, focuses on distribution mains and services. These programs systematically identify and replace aging or non-state-of-the-art (NSOA) pipelines.

To enhance wildfire resilience, it is recommended to strategically accelerate these programs to prioritize the replacement of any remaining legacy materials (e.g., older, uncoated steel or cast iron) within designated HFTDs such as Pacific Palisades. Modern materials, including state-of-the-art coated steel and high-grade polyethylene (PE) pipes, offer superior resistance to corrosion and greater flexibility to withstand ground movement, making them essential components of a hardened grid.

Strategy 2: Hardening of All Aboveground Infrastructure

This strategy directly targets the exposure of above ground assets. A multi-layered defense is required:

Defensible Space: It is recommended that SoCalGas establish a program for creating non-combustible, defensible space around all critical aboveground infrastructure. This includes regulator stations, mainline valve assemblies, and other key facilities. Following best practices, this involves clearing flammable vegetation and applying ground cover such as gravel to create a firebreak that prevents direct flame impingement and reduces radiant heat exposure.

Fire-Resistant Materials and Enclosures: For new installations and during the replacement of existing components, SoCalGas should mandate the use of materials with the highest fire-resistance ratings. This includes specifying robust materials like black steel for service risers and meter sets in HFTDs. Furthermore, where feasible, critical assets like regulator stations should be housed within fire-resistant enclosures or buildings to provide a robust physical barrier against the fire front.

Thermal Protection Systems: For critical, exposed pipelines or components that cannot be easily enclosed, SoCalGas should evaluate and deploy advanced passive fire protection materials. Technologies such as endothermic wraps (e.g., 3M Interam Endothermic Mat) and intumescent fireproof coatings are proven in industrial and refinery settings to insulate steel from extreme heat, chemically releasing water to cool the surface and significantly delaying the time to structural failure.

Strategy 3: Strategic Undergrounding of Critical Nodes

While much of the distribution network is already underground, this strategy calls for the targeted burial of selected aboveground facilities that are situated in hazardous locations. Small regulator stations or critical sectionalizing valves located in narrow, brush-choked canyons or on unstable slopes are prime candidates for this intensive hardening measure.

SoCalGas has already incorporated this objective into its Pipeline Safety Enhancement Plan (PSEP), although the extent of completion is not clear from the available data. PG&E has also adopted this strategy as one of the objectives in its Wildfire Mitigation Plan.

Strategy 4: Deployment of Smart Sensor Networks

Smart sensor networks include AMI, geohazard monitoring, pressure and flow monitoring, and advanced methane detection, all of which are described below.

AMI: The deployment of smart meters reduces the need for property visits and enhances system reliability through continuous monitoring. SoCalGas's plan to implement AMI on approximately 6 million gas meters was approved by the CPUC in 2010, and the company began the project in 2012 by retrofitting existing meters with communication modules and installing Data Collector Units (DCU) on poles to receive data from meters and backhaul to the utility. However, the program was not completed due to various challenges. In its 2024–2027 rate case, SoCalGas has proposed expanding smart meter deployment, and it is recommended that the company continue this effort to bring the project to completion.

Geohazard Monitoring: The deployment of fiber-optic sensing technology along pipeline routes in the canyons and hillsides of Pacific Palisades should be expanded. This technology, which SoCalGas has already used in other debris flow zones, acts as a distributed nerve system for the pipeline, providing continuous, real-time data on ground movement, strain, and temperature changes, offering an early warning of potential geohazard impacts while also serving as a highly sensitive leak detection system.

Following a successful pilot project, SoCalGas is implementing fiber-optic monitoring systems selectively on pipeline segments that stand to benefit most – based on factors such as sensitivity and terrain. According to a 2023 article (SoCalGas, 2023), "the Optical Pipeline Safety Monitoring System is currently installed on 8 miles of pipeline within SoCalGas territory ... with plans to expand" The technology is primarily intended for new and replacement pipeline segments that are 12 inches in diameter or larger and at least 1 mile in length.

SoCalGas's regulatory filings indicate that while fiber-optic sensing can be cost-effective when pipelines are exposed – such as during replacement or relocation projects – retrofitting existing buried pipelines may not always be practical or economically justified.

Pressure and Flow Monitoring: Although the gas company is currently using this technology, the density of pressure sensors across the distribution grid should be increased. A denser network of sensors allows for the rapid detection of anomalous pressure drops that signify a line break, enabling control room operators to pinpoint the location of a rupture far more quickly than relying on customer calls.

Advanced Methane Detection: Existing leak survey programs, which include mobile and aerial methane mapping, should be augmented with a network of stationary methane sensors at critical facilities like regulator stations. This provides continuous monitoring at key pressure points in the system, offering immediate alerts for any loss of containment.

Although SoCalGas's recent Compliance and Gas Safety Plan documents discuss methane monitoring, successful pilot programs, and investments in technologies such as LiDAR, sensors, and sensor-to-network integration, no plans for the widespread implementation of these technologies have been announced to date.

Strategy 5: System Segmentation via Automated and Remote-Control Valves

For a modern gas grid, adoption of a segmented system to isolate problems and minimize customer impact is recommended. Other recommendations include:

- Accelerate the PSEP program, which includes provisions for upgrading mainline valves with remote or automatic capabilities.
- SoCalGas could consider installing a grid of automated sectionalizing valves that can be operated remotely from a central control room. This technology is transformative, enabling operators to isolate a damaged pipeline segment in minutes rather than the hours it might take to dispatch a crew to a manual valve, especially when fire blocks road access.
- SoCalGas could consider (and pilot) the installation of thermally activated shutoff valves (TAS/FSVs). These self-contained mechanical devices are installed at the meter or just upstream of a regulator and are designed to automatically close when exposed to the high heat of a fire. This simple, passive safety measure prevents gas from feeding a fire.

Strategy 6: Predictive Risk Modeling and Situational Awareness

SoCalGas could develop a dynamic risk modeling platform that serves as a digital twin of its infrastructure in HFTDs. This platform would integrate real-time data from multiple sources, including localized weather station networks, satellite-derived fuel moisture indices, and fire-spread simulation models developed by agencies such as CAL FIRE. By continuously applying these dynamic hazard layers onto SoCalGas's existing GIS asset database, the platform could provide near real-time visibility into which specific components are most at risk during Red Flag Warnings.

This intelligence would enable proactive measures – such

as pre-positioning crews, staging equipment, and making data-driven decisions on targeted system isolation – ultimately improving system resilience and reducing response times during wildfire events. Table 4.5 provides a summary of technologies recommended for consideration.

Table 4.5: Summary of Gas Utility Monitoring and Control Technologies for Enhanced Safety and Reliability

Technology	Application Area	Primary Risk Mitigated	Key Benefit
Automated Sectionalizing Valves	Distribution mains, particularly in canyons and remote areas.	Widespread service disruption from localized damage.	Rapid, remote isolation of leaks/ruptures; minimizes customer impact.
Thermally Activated Shutoff Valves (TAS/FSV)	Customer meters and regulators in HFTDs.	Structure fires being fed by an active gas line.	Automatically stops fuel flow to a burning structure; enhances firefighter and public safety.
Fiber Optic Sensing	Pipeline segments on slopes and in potential geohazard zones.	Pipeline rupture from landslides, debris flow, or seismic activity.	Continuous, real-time monitoring of ground movement and pipe strain; early warning of impending threats.
Advanced Pressure Sensors	Throughout the distribution grid.	Delayed detection of pipeline ruptures or major leaks.	Immediate detection of anomalous pressure drops, enabling faster response and more accurate location of incidents.

Telecommunications Infrastructure Strategies

The shortcomings of the telecommunications network during the Palisades Fire, such as communication blackouts, now mandate that telecommunications providers shift from incremental upgrades to a comprehensive, long-term strategy rooted in resilience and based on the existing service landscape and underlying architecture of each provider. Table 4.6, which is based on available public information is a summary and comparison of these providers.

Table 4.6: Comparison of Telecommunications Providers

Provider	Primary Technology	Advertised Max Speed	Estimated Coverage %	Key Architectural Dependency
Spectrum	Cable (HFC)	1-2 Gbps	98-100%	Aerial Coaxial/Fiber on Utility Poles
Frontier	Fiber (FTTH), DSL	1-7 Gbps	99.2%	Aerial Fiber/Copper on Utility Poles
EarthLink	Fiber, DSL	5 Gbps	94.6%	Resells Frontier/ Spectrum Infrastructure
AT&T	5G Home Internet, Fiber	300 Mbps - 1 Gbps	7.4-83.7% (Varies)	Cell Tower with Fiber Backhaul; Aerial Fiber
T-Mobile	5G Home Internet	245-415 Mbps	50-52.7%	Cell Tower with Fiber Backhaul
Verizon	5G Home Internet	300 Mbps	7.4-42%	Cell Tower with Fiber Backhaul
Viasat	Satellite (GEO)	150 Mbps	99.9%	Ground Terminal Dependent on Local Power
Hughesnet	Satellite (GEO)	100 Mbps	100%	Ground Terminal Dependent on Local Power
Starlink	Satellite (LEO)	300 Mbps	99%	Ground Terminal Dependent on Local Power

To improve the long-term resilience of the telecommunications network in Pacific Palisades, four strategies are recommended and described in this section.

Strategy 1: A Prioritized, Risk-Based Undergrounding Program

The most fundamental element of resilience is protecting the physical assets of the network from direct harm. For Pacific Palisades, this requires a two-pronged approach: systematically removing infrastructure from the path of danger and aggressively hardening what remains exposed. Undergrounding the lines removes power and communication cables from direct exposure to flames, embers, and high winds; enhances day-to-day service reliability; and reduces the long-term operational costs associated with vegetation management and storm damage repair.

Considering the scale of the undertaking, a phased implementation is recommended. The program can be prioritized based on risk and criticality. The highest priority should be given to undergrounding the utility corridors along primary and secondary evacuation routes, as identified by community safety plans, to ensure these critical arteries remain open and functional during an emergency.

Based on available information, Frontier and Verizon are the leaders for new buried fiber construction in Los Angeles, followed by Spectrum (Charter) and AT&T for project-driven undergrounding. T Mobile is expanding its buried footprint through partnerships, and EarthLink primarily leverages third party buried infrastructure.

Table 4.7 lists the main telecommunications providers in Los Angeles and summarizes the status of their undergrounding plans (buried cables and fiber).

Table 4.7: Status of Undergrounding Plans by Telecom Companies

Carrier	Current Underground Plant Presence in Los Angeles	Recent / Ongoing Underground & Fiber Activity in LA	Near-term Plans to Expand Undergrounding	Typical Deployment Approach	Notes / Implications
Frontier	Significant and growing buried fiber in newly built and upgraded service areas; active in trenching and conduit installs where deploying fiber to the home (FTTH).	Aggressive fiber expansion programs across California, including LA-area builds and participation in public-private grant projects.	Continues multi-year fiber rollouts that prioritize buried installs in new developments and replacements; expected continued buried construction.	Own-build civil construction and trenching for FTTH; often installs buried conduit and fiber for new passings.	Frontier is one of the primary drivers of new buried fiber installs in LA; suitable partner for neighborhood-level undergrounding initiatives.
Verizon	Substantial fiber footprint with both buried and aerial segments in urban LA; in-ground backbone and distribution in many neighborhoods.	Ongoing urban fiber builds and replacements; uses buried fiber for reliability in dense corridors.	Continuing national/regional fiber acceleration programs that translate to additional buried installs in targeted urban areas.	Mix of own construction and contractors; chooses buried vs aerial based on cost, permits, and reliability needs.	Large-scale builder with capability to accelerate undergrounding where strategic; active on commercial and municipal projects.
Spectrum (Charter)	Mixed aerial and underground plans across LA; underground installed where local conditions or projects require it.	Local network expansions and neighborhood rebuilds include underground construction when warranted by permit and design.	Ongoing incremental expansion—buried construction performed selectively (new builds, replacements, city projects).	Primarily own operations and contracted civil crews for underground construction when deployed.	Charter/Spectrum conducts targeted undergrounding for expansions; responsive to municipal pole removal or redevelopment projects.

Carrier	Current Underground Plant Presence in Los Angeles	Recent / Ongoing Underground & Fiber Activity in LA	Near-term Plans to Expand Undergrounding	Typical Deployment Approach	Notes / Implications
AT&T	Extensive legacy copper and fiber networks with both buried and aerial components; underground vault infrastructure present in many service areas.	Modernization and fiber upgrades in urban LA use a mix of buried and aerial methods; underground vault operations are a material part of the asset base.	Will perform undergrounding selectively as part of modernization, city-driven conversion programs, and where economics support it; no single-city full conversion program announced.	Large incumbent with broad field workforce; uses buried installs for modernization and where required by local authorities.	Incumbent scale enables undergrounding where required, but deployment is tactical and driven by project-level factors and municipal coordination.
T-Mobile	Historically a wireless operator relying on third-party fiber; more active in buried installs recently via T-Mobile fiber initiatives and partnerships.	Newer market entry into fiber (consumer broadband) and partnerships for buried fiber and small-cell backhaul in urban areas.	Incremental buried builds through partnerships and targeted fiber deployments; growth expected but on a smaller scale than major fiber builders.	Relies on partnerships (e.g., third-party neutral fiber builders) and targeted own builds for last-mile/backhaul in small-cell projects.	Growing presence in buried fiber driven by strategic fiber product rollouts and wireless backhaul needs.
EarthLink	Present in LA as an internet service provider; typically uses third-party or wholesale buried fiber rather than owning large civil footprints.	Market activity focused on service availability using existing buried fiber and wholesale agreements rather than large new trenching programs.	Expansion primarily through wholesale access, indefeasible right of use (IRUs), and service agreements; limited direct underground construction expected.	Wholesale/IRU-based access to buried fiber and transport; minimal direct trenching activity.	EarthLink is primarily a service-layer operator in LA; not a primary driver of new underground construction.

Strategy 2: Harden Essential Aerial Assets

Recognizing that undergrounding a complete network will take a long time or may not be feasible everywhere, an interim strategy is crucial. Hardening essential aerial assets is recommended to reduce the vulnerability of the parts of the network that will remain above ground.

Fire-retardant wraps, such as Hexion's ArmorBuilt Wildfire Shield, can be applied to existing wooden utility poles. When exposed to extreme heat, these wraps use an intumescent process to swell and form a protective, heat-insulating barrier around the pole. Similarly, fire-retardant coatings like FIRESHELL Utility Guard can be painted onto poles to prevent ignition and structural damage. Along with protective coatings, a systematic pole replacement program is also recommended, as described under "Electric Utility Strategies."

Pole fire-hardening (pole wraps and intumescent coatings) in the Los Angeles region has been implemented and planned through electric utility wildfire mitigation programs (e.g., LADWP and SCE programs). Telecommunications carriers (e.g., Spectrum/Charter, Frontier, EarthLink, AT&T, Verizon, T-Mobile) principally coordinate with pole owners. However, they may also pursue independent network resilience measures (mobile cells, backup power, satellite direct-to-cell).

Strategy 3: Implement True Path and Technology Diversity

It is recommended that the telecommunications network move beyond a model of simple redundancy (often denoted as N+1, where a single backup exists) to one of real diversity, where alternative communications paths are physically and technologically separate from the primary route.

First, this requires diverse fiber routing. New and rebuilt fiber networks should be designed in a ring or mesh topology, not a linear or hub-and-spoke model. It is critical that the primary and secondary fiber paths connecting major network nodes should be physically disparate. For example, if a primary fiber trunk is undergrounded along Sunset Boulevard, a diverse secondary trunk should be routed along a completely different corridor, such as the PCH. This ensures that a single localized event–a fire, a landslide, or even a construction accident–cannot sever both primary and backup connectivity.

Second, the network should integrate "technologically diverse backhaul." This involves establishing strategic partnerships with fixed wireless providers to create a resilient, high-capacity data network that overlays the terrestrial fiber grid. As recommended by the Federal Communications Commission (FCC) for ensuring business continuity, fixed wireless systems can bypass damaged fiber segments, providing a crucial secondary data path for cell sites and neighborhood nodes.

Finally, for the most critical network hubs, 'satellite backhaul' should be a permanent, pre-provisioned feature, not an emergency afterthought. Key macro cell sites and central office/headend facilities should be equipped with permanently installed and tested satellite terminals, using both geostationary (GEO) satellites like Viasat for stability and low-Earth orbit (LEO) constellations like Starlink for high-speed, low-latency performance. The reactive deployment of very small aperture terminals (VSATs) by providers after the fire demonstrated the viability of this technology; a proactive strategy would ensure this capability is available instantaneously when terrestrial links are cut, keeping the core of the network online.

Strategy 4: Exceed the CPUC 72-Hour Backup Power Mandate

The Fire demonstrated that a major vulnerability of the modern telecommunications network is its dependence on the commercial power grid. Therefore, achieving energy independence at critical network facilities is arguably the most important step toward meaningful resilience.

The CPUC has established rules requiring telecommunication providers to maintain a minimum of 72 hours of backup power for facilities located in Tier 2 and Tier 3 HFTDs, including Pacific Palisades. However, this mandate should be treated as a floor, not a ceiling.

To improve resilience, providers are encouraged to deploy a mix of advanced power technologies, as summarized in Table 4.8.

Table 4.8: Comparison of Backup Power Technologies and Their Suitability for Post-Fire Conditions

Technology	Estimated Runtime (without refueling)	Maintenance Requirements	Fuel/Logistics Risk	Suitability for Palisades Environment
Diesel Generator	24-72 hours (fuel dependent)	High (regular servicing)	High (refueling access critical)	**Low**: Fails to address post-Fire access risk.
Battery Only	8-24 hours	Low	N/A	**Low**: Insufficient runtime for extended outages.
Solar + Battery	72+ hours (sun dependent)	Low	Low (sunlight is the fuel)	**High**: Provides extended autonomy and energy independence.
Hydrogen Fuel Cell	100-500+ hours	Very Low	Low (large on-site fuel supply)	**Very High**: Optimal for critical hubs requiring maximum runtime.

4.1.3. Recommended Implementation Strategy: Joint-Trench Opportunities

This strategy focuses on a coordinated framework for long-term restoration of dry and wet utility systems in Pacific Palisades. Joint-trench or co-trenching opportunities, where dry utilities (electric, gas, and telecommunications) and wet utilities (water, sewer, stormwater) share underground corridors, are a central component of this framework, which aims to enhance resilience and reduce surface disruption but also lowers construction costs, improves coordination among agencies, and supports long-term maintenance efficiency. By aligning restoration priorities across utility types and hazard criteria, this implementation framework ensures that reconstruction investments deliver durable, adaptable, and future-ready infrastructure.

The Pacific Palisades rebuilding effort represents an ideal opportunity to pursue coordinated undergrounding and utility co-location. Co-trenching (i.e., electric, gas, and fiber/telecommunications infrastructure share a single trench) offers a compelling path to lower costs, minimizes repeated disruptions, and accelerates modernization. By conducting one coordinated excavation instead of many separate ones, stakeholders can reduce traffic impacts, shorten project schedules, and cut restoration and construction costs.

Co-trenching also supports smarter long-term asset management. A formal agreement among stakeholders should clearly define roles and responsibilities across planning, design, construction, operation, and maintenance — including ownership of ducts and conduits, capacity allocation, access rights, emergency response procedures, and cost-sharing for future repairs or upgrades. Technical standards and contractual frameworks (joint drawings, required separations, grounding and cathodic protection where applicable) are essential to protect safety, ensure interoperability, and make maintenance and future expansions predictable.



4.2. Wet Utilities

This section presents the City's integrated approach to restoring and strengthening potable water, wastewater, and stormwater systems across Pacific Palisades following the Fire. Building on the lessons of recent disasters and coordinated directives under Emergency Executive Order No. 5, this section connects immediate recovery needs with long-term resilience objectives through integrated planning, co-construction opportunities, and infrastructure protection measures. It outlines strategies that enhance emergency water supply, operational readiness, and adaptive management under future climate and hazard stressors such as wildfire, drought, flooding, and seismic events. The section is structured around administrative and engineering strategies—from accelerating capital plans and reallocating resilience funding to increasing the use of fire- and earthquake-resistant materials, smart monitoring systems, and nature-based design features. Together, these strategies provide a cohesive roadmap that aligns operations, funding, and technical innovation to achieve sustainable, reliable, and future-ready wet utility systems for the Pacific Palisades community. Completed assessments have been included in this section to provide the reader with a comprehensive understanding of the overall scope of work and the level of effort involved, as well as to explain the rationale behind the strategies that were ultimately adopted.

4.2.1. Recommended Administrative Strategies

Administrative strategies for restoring and strengthening wet utility systems include accelerating capital plans and reallocating funds for resilience.

4.2.1.1. Accelerate Capital Plans

Post-Fire recovery experience shows that delays often stem from infrastructure that are damaged or nearing end of useful life. After the Paradise Fire (2018), restoration was slowed by deferred replacements, while the Blue-Ribbon Commission (2025) emphasized front-loading investments in high-risk areas. For Pacific Palisades, accelerating LADWP and LASAN capital plans and prioritizing local pipeline and facility upgrades would reduce the community's vulnerability before the next fire event.

4.2.1.2. Reallocate Funds for Resilience

The Lahaina Fire (2023) in Hawaii demonstrated how quickly shifting funds enabled system interconnections and safer siting of facilities. For Pacific Palisades, reallocating available resources toward resilience upgrades—such as fire- and seismic-hardening of mains, storage, and pumps—can prevent budget competition from delaying critical improvements.

4.2.2. Recommended Engineering Strategies

Engineering strategies to strengthening wet utility systems—potable water, wastewater, and stormwater—across the Pacific Palisades area emphasize system-wide upgrades, improved coordination across City departments, and integration of nature-based and engineered solutions to reduce risk and enhance sustainability. This section translates short-term response actions into long-term resilience measures that ensure reliable service, climate adaptability, and regulatory compliance. This approach completes the continuum of recovery and resilience linking immediate firefighting readiness with durable infrastructure that supports both emergency response and everyday community needs.

4.2.2.1. Monitoring, Thresholds, and Alerts

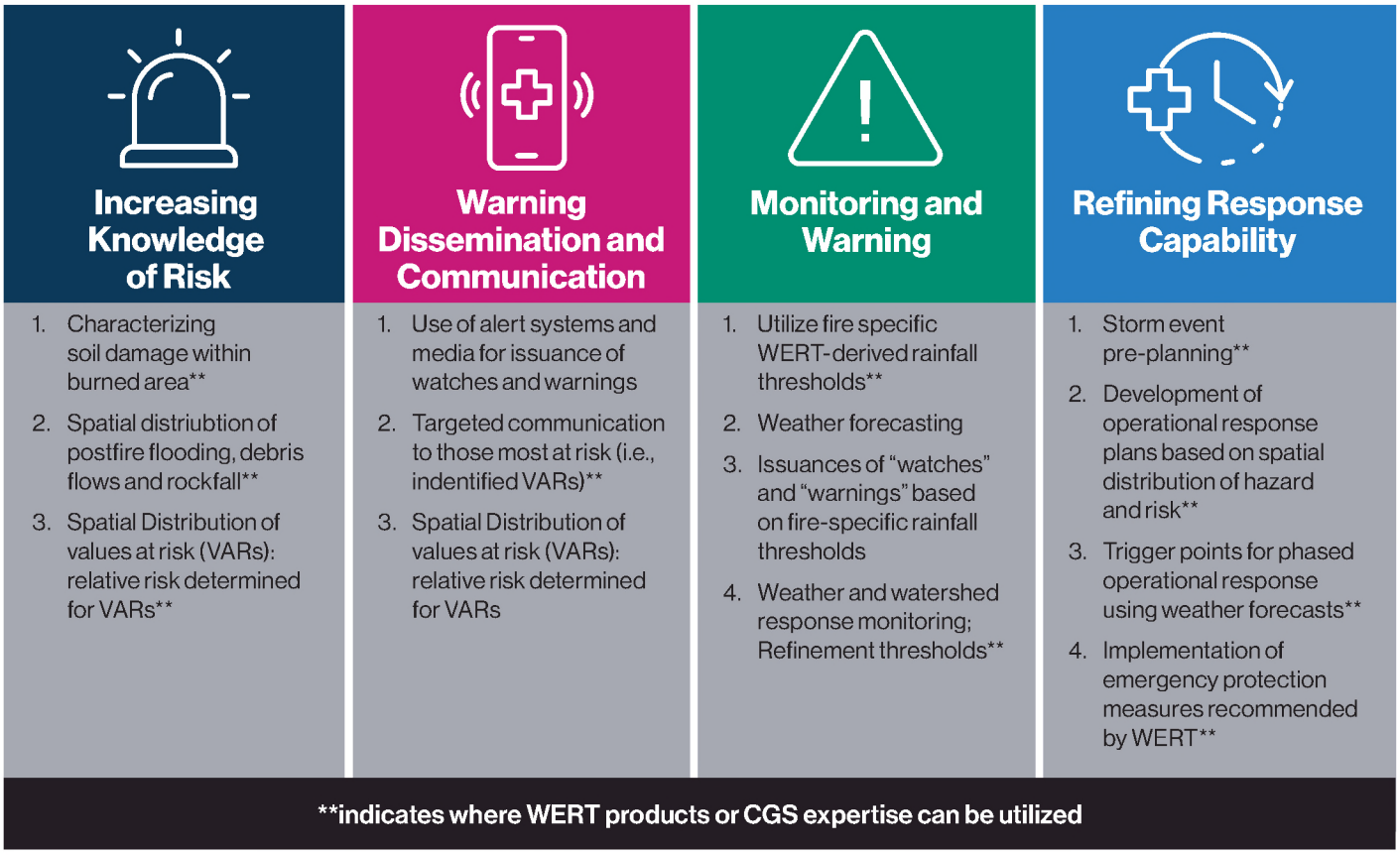
Effective monitoring and communication are the backbone of operational readiness in the post-Fire environment to make sure that rainfall and flow thresholds directly trigger pre-storm inspections and emergency protective actions. Moderate-to-high burn severity across roughly 40% to 50% of the slopes in the Pacific Palisades burn area has produced hydrophobic soil conditions and shortened times of concentration, leading to rapid and flashy runoff responses. The Palisades Fire destroyed or disabled most legacy Automated Local Evaluation in Real Time (ALERT) and tipping-bucket gauges in Temescal Canyon and Santa Ynez Canyon, leaving blind spots for flood and debris-flow warnings (Akin et al., 2025; GEER, 2025).

Portable rain and flow gauges should be redeployed in Temescal, Santa Ynez, Los Liones, and Topanga Canyons, with telemetry linked to City–County networks. WERT-derived rainfall thresholds (≥ 0.3 in / 15 min or ≥ 0.6 in / hr) should serve as operational triggers for initiating watch, warning, and pre-storm inspection protocols (California Geological Survey and CAL FIRE, 2024).

A unified communications plan should define responsible agencies for issuing localized alerts, install signage at hazard-prone canyon mouths, and ensure that National Weather Service (NWS) warnings automatically cascade to City emergency management, homeowner associations, and schools. A shared City–County–State Parks GIS dashboard should display live debris basin capacity, inlet status, road closures, and resource assignments to overcome jurisdictional fragmentation. The system should be maintained under a joint governance framework involving LADWP, LASAN, Cal OES, and LACDPW (County of Los Angeles and City of Los Angeles, 2025).

Figure 4.5 provides a summary of the post-Fire WERT recommendations and operational applications for the Palisades Fire burn area.

Figure 4.5: WERT post-Fire recommendations and operational applications for the Palisades Fire area



4.2.2.2. Water Supply

Resilience upgrades are an engineering strategy aimed at modernizing potable distribution networks with Earthquake Resistant Ductile Iron Pipe (ERDIP) pipelines, smart sensors, additional tanks, and expanded fire-dedicated storage. LADWP considers several factors such as leak history, age of pipe, operating pressure, soil conditions, risk of service interruption and community disruption, and other projects for replacing water mains. LADWP may select one of several pipe material options (ERDIP, ductile iron, and steel pipe) based on these factors. ERDIPs should only be considered under operating pressure less than 200 psi. LADWP uses steel pipes when the operating pressure exceeds 200 psi. Parallel efforts address non-potable water systems, which play a critical role in firefighting and emergency response. This section builds upon and complements the firefighting water supply strategies developed under WS3, which focus on emergency operations, tactical readiness, and near-term interventions such as establishing emergency fill points, backup power, and direct firefighting water sources. Expanding those same principles, WS2's engineering strategies focus on building a long-term resilience and infrastructure modernization framework.

The overlap between both workstreams is deliberate. Each addresses the same underlying vulnerabilities in water conveyance, storage, and supply reliability, but through different lenses. WS3 identifies immediate actions needed to protect lives and property during active fire events, while WS2 institutionalizes those actions through capital planning, regulatory alignment, and engineering upgrades that enhance durability and adaptability. Together, WS2 and WS3 provide a planning spectrum from emergency response to long-term resilience ensuring that tactical lessons explored in WS3 inform the permanent system improvements, funding strategies, and implementation pathways detailed in WS2.

Table 4.9 summarizes the specific recommendations for ensuring a long-term supply of potable water. All recommendations are subject to a feasibility analysis.

Table 4.9: Summary of Long-Term Potable Water Recommendations

Administrative Strategies		■ Accelerate the Capital Plans (LASAN, DWP). ■ Prioritize the Pacific Palisades. ■ Reallocate Funds.
Engineering Strategies to be evaluated or considered where appropriate	Potential Strategies to Enhance Conveyance Capacity	■ Evaluate the advantages of increased pump station capacity under high demand conditions. ■ Augment system with additional backbone piping to enhance hydraulic capacity and reliability.
	Potential Strategies to Enhance Water Supply	■ Identify opportunities to use seawater for firefighting. ■ Identify opportunities to combine non-potable water storage opportunities with environmental enhancement or recreational opportunities. ■ Identify opportunities for additional potable water storage while maintaining water quality. ■ Identify opportunities to increase water supply reliability through interconnections with neighboring water systems.
	Potential Strategies to Enhance Water System Reliability	■ Replace water pipes nearing end of useful life. ■ Develop a capital improvement program to upgrade backbone water system pipes with earthquake-resistant pipes as replacement is warranted under LADWP's existing standards.
	Potential Strategies to Assist First Responders	■ Add pressure monitoring system, live stream data to fire trucks. ■ Add remote operated isolation valves at key locations to reduce system water loss at damaged locations. ■ Automatic meter shutoff valves at customer service points to discontinue service in emergencies

Table 4.10 summarizes the existing and potential water supply infrastructure serving the Pacific Palisades area, including reservoirs, tanks, and private water bodies, with details on storage capacities, operational status, managing entities, and whether the water is potable.

Table 4.10: Existing and Potential Water Supply Infrastructure with Capacities and Status

Reservoir/Tank Name	Capacities	Status	Potable?
Santa Ynez Reservoir	117 million gallons Operational band: ~22 million gal under normal limits (LADWP, 2025b).	Active – managed by LADWP	Yes
Pacific Palisades Reservoir	6+ million gallons (≈20 acre-feet) (Circling the News, 2025). Operational band: ~1.75 million gallons when it was in service (LADWP, 2025b).	Inactive	Yes
Self-Realization Fellowship (SRF) Lake	Estimated 12 million gallons (~2.5 acres and ~15 feet average depth) (Wikipedia, 2025).	Active – owned and managed by the Self-Realization Fellowship organization	No
Marquez Knolls Tank	1,018,502 gallons (LADWP, 2025b).	Active – managed by LADWP	Yes
Trailer Tank	972,118 gallons (LADWP, 2025b).	Active – managed by LADWP	Yes
Temescal Tank	972,118 gallons (LADWP, 2025b).	Active – managed by LADWP	Yes
Encino Reservoir	~3.2 billion gallons (9,789 acre feet) (California DSOD, 2025).	Inactive – maintained by LADWP for emergency use	No
Lower Stone Canyon Reservoir	3.4 billion gallons (LADWP, 2011)	Inactive – maintained by LADWP for emergency use	No
Hollywood Reservoir	~1.3 billion gallons (4,036 acre feet) (California DSOD, 2025).	Inactive – maintained by LADWP for emergency use	No

This augmentation could use a separate water source, which could be non-potable water, and could operate separately or in coordination with LADWP's existing facilities serving the neighborhood.

The Pacific Palisades community faces combined threats from wildfire, seismic activity, and end-of-useful-life infrastructure. Lessons from recent disasters in California, Colorado, and Hawaii, as well abroad demonstrate that resilience is best achieved through a layered approach: accelerating investments, strengthening system durability, and expanding water supply options to ensure firefighting capacity.

In response to these risks, Emergency Executive Order No. 5 directed LADWP to evaluate distribution, storage capacity, and pumping infrastructure to improve system resilience. The order also emphasized supporting aerial and ground-based firefighting operations, minimizing service disruptions during emergencies, and ensuring the system can adapt to the growing impacts of climate-related disasters (City of Los Angeles, 2025c).

These strategies are grounded in case study evidence and tailored to local conditions. By connecting external lessons to LADWP's and LASAN's existing programs, these recommendations highlight not only what can be done, but also how proven methods can be adapted to Pacific Palisades.

Potential Strategies to Enhance Conveyance Capacity Strategies

The following items are potential strategies which the City could consider for future implementation, following appropriate evaluation and determination of need and feasibility.

Augment system with additional backbone piping to enhance hydraulic capacity and reliability.

Firefighting water demands and leakage from the system can result in increased flow and associated high head losses in the water system. This in turn reduces the pressure available for firefighting. One means of improving water pressure is to augment system capacity by increasing the size of pipelines or the number of pipelines within the water system for fire-resistant conditions. Backbone pipe networks can provide additional capacity and may also concurrently provide seismic resilience. Increases in system conveyance capacity must be strategically located to avoid impacts to water quality during normal operating conditions.

Evaluate the advantages of increased pump station capacity under high-demand conditions.

The extreme variation in elevations creates significant hydraulic challenges for the water systems serving the Pacific Palisades community. Evaluation of potential opportunities to enhance pump station hydraulic functions and capacity under high-demand/low-pressure conditions may provide additional firefighting water supplies during extreme emergencies.

Potential Strategies to Enhance Water Supply

This report does not include, and should not be interpreted as providing, any assessment of whether the Santa Ynez Reservoir (SYR) or any other water sources would have been available or effective in supplying water to firefighters during the referenced fire event. We recommend that a separate, comprehensive water system assessment be performed to verify whether sufficient pressure, capacity, and operational conditions would be available to meet the demands associated with an event of this magnitude.

Identify opportunities to use seawater for firefighting.

Following San Francisco's example, a seawater pump station could provide an emergency source to refill Santa Ynez Reservoir during extended wildfires, ensuring firefighting capacity when local supplies run low. Also, explore opportunities to adapt coastal infrastructure to draw and distribute seawater for emergency firefighting. This strategy would provide a resilient backup supply during prolonged wildfire events and reduce dependence on limited freshwater reserves.

Identify opportunities to combine non-potable water storage opportunities with environmental enhancement or recreational opportunities

Co-locate non-potable water reservoirs with parks, wetlands, or habitat restoration projects. These dual-use facilities can provide emergency supply and environmental or recreational value, supporting long-term community resilience.

Identify opportunities for additional potable water storage while maintaining water quality

Pursue new or expanded storage facilities that increase potable water reserves while maintaining strict water quality standards. Although LADWP already has emergency water supply infrastructure and capacity as shown in Table 4.10, additional capacity would buffer against supply interruptions and enhance firefighting readiness.

Identify opportunities to increase water supply reliability through interconnections with neighboring water systems

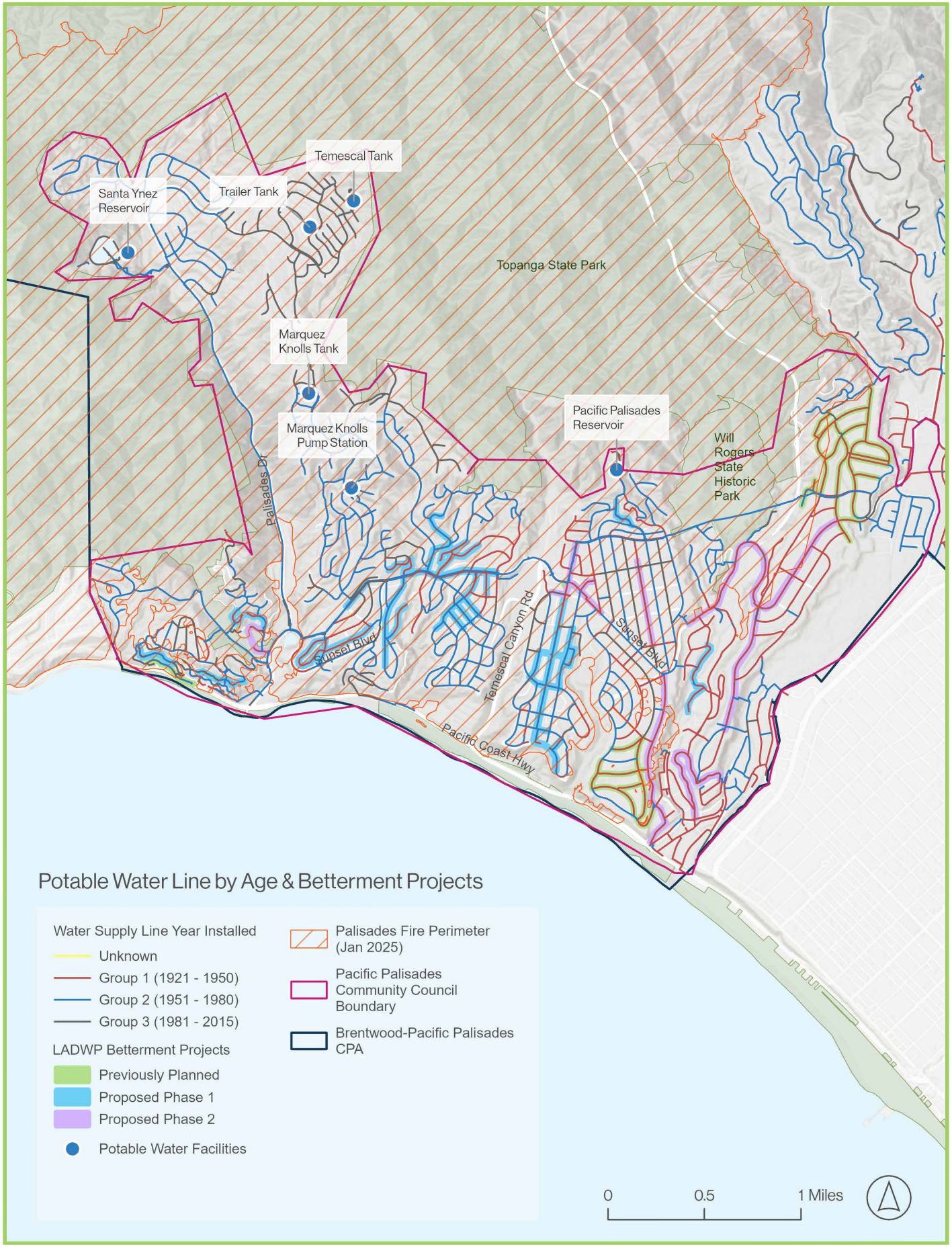
Develop interties and cooperative agreements with neighboring water systems to enable mutual aid during fire or drought emergencies. Enhanced regional connectivity ensures redundancy and improves reliability across the Pacific Palisades network.

Water System Reliability Strategies

Consider Restoring Pacific Palisades Reservoir

The Pacific Palisades Reservoir, which had been offline for about 10 years and had a capacity of roughly 1.75 million gallons, was ultimately deemed unsuitable for operation due to existing water quality deficiencies and the need for structural repairs (LADWP, 2025d). Rehabilitating the Pacific Palisades Reservoir or provide an additional reservoir capacity in the vicinity could provide valuable supplemental capacity to support hillside pressure zones and maintain operational flexibility during planned maintenance or emergencies affecting the Santa Ynez Reservoir. This would strengthen the City's capacity to maintain continuous service under both routine and post-disaster conditions. All engineering recommendations are subject to a feasibility analysis.

Figure 4.6: Map of potable water tiered age and betterment prcjects



Replace Water and Sewer Pipes Nearing End of Useful Life

Pipelines approaching end of useful life are highly vulnerable to fire-related contamination and failure. After the Paradise Fire (2018), extensive sampling and replacements were required, while the Iron Mountain Mine project (2022) showed that fire-resistant pipe materials reduced risk in fire corridors. For Pacific Palisades, replacing pipes nearing end of useful life would mitigate failures and align with existing sewer replacement tiers.

Figure 4.6 shows Pacific Palisades water lines by age and Betterment Projects. The period from 1921 through 1950 is classified as Group 1; 1951 through 1980 is Group 2; and 1981 through 2015 is Group 3.

Upgrade Reservoirs to Fire-Resistant Designs

Geomembrane-lined reservoirs can fail under wildfire heat and embers. In Pollock Pines (2023), upgrades replaced linings with concrete tanks, ensuring storage integrity. Pacific Palisades can strengthen long-term capacity by converting lined reservoirs to fire-resistant designs.

Install Remote-Controlled Isolation Valves

Rapid isolation prevents system depletion and contamination. The Marshall Fire (2021) and San Francisco's Emergency Firefighting Water System (EFWS) (2021) show the value of remote shutoff valves. Pacific Palisades could adopt similar valves at key points to preserve pressure and maintain firefighting supply.

Implement Backflow Prevention and Zoning

Post-Fire backflow contamination is common, as confirmed by the Water Research Foundation (2025). Installing backflow devices and using network zoning would allow Pacific Palisades to confine risks and speed potable water restoration.

Adopt Seismic-Resilient Piping (ERDIP)

LADWP's ERDIP pilots demonstrate how flexible, segmented joints withstand earthquakes, landslides, and soil instability without rupturing. Expanding ERDIP use in Pacific Palisades would address both seismic and wildfire-related ground stresses, extending asset life and system reliability. Examples of applications of ERDIP are provided in Appendix C.1.3.

First Responder Support Strategies

First responder support is based on availability of utility power and telecommunication networks being operational during the emergency, where applicable.

Deploy Pressure Monitoring Systems

Real-time pressure tracking, as used in San Francisco's EFWS (2021), would prevent "dry hydrants." Live data streamed to fire crews can help ensure water availability throughout the network during emergencies.

Remote-Controlled Isolation for Fire Support

Building on the Marshall (2021) and San Francisco (2021) experiences, remote isolation valves can preserve pressure and limit contamination by quickly sectioning off damaged areas.

Enhance Real-Time Monitoring (iHydrant)

iHydrant devices provide live pressure and temperature data from hydrants, giving early warning of pressure drops. Coupled with isolation valves, they create a smart firefighting support system that reduces response time and prevents water loss.

Construct New Potable Tanks

The Paradise Fire (2018) in California and the Lahaina Fire (2023) in Hawaii showed the risks of limited storage. New tanks, placed outside fire-prone zones, would add redundancy and help maintain water service during and after wildfires.

The engineering and water supply strategies described above and summarized in Figure 4.7 are most effective when implemented together rather than applied as stand-alone measures. For example, ERDIP addresses long-term seismic and soil stability risks, while iHydrant provides real-time visibility for operators to react quickly. Dividing and repurposing Santa Ynez Reservoir protects potable water storage, and when paired with a seawater pump station, creates a replenishable firefighting supply. Similarly, combining pressure monitoring with remote-controlled isolation valves offers both early warning and immediate response, ensuring hydrants remain operable during wildfire events.

Figure 4.7: Crosswalk of case studies and research/policy studies with potable water strategies

Strategy	Marshall Fire (CO, 2021)	Lahaina Fire (HI, 2023)	Paradise Fire (CA, 2018)	Woolsey Fire (CA, 2021)	Dixie Fire (CA, 2021)	Tubbs Fire (CA, 2017)	Carr Fire (CA, 2018)	Valley Fire (CA, 2015)	SFPUC EFWS (CA, 2021)	Vancouver Dedicated Fire Protection System (Canada, 2014)	Japan World Bank Case Study (Japan, 2018)	Water Research Foundation (CA Fires, 2025)	Blue Ribbon Commission (CA, 2025)
Consider Accelerating Capital Plans Where Appropriate		✓	✓	✓	✓	✓	✓	✓			✓		✓
Consider Reallocating Funds for Resilience Where Appropriate		✓			✓	✓	✓	✓		✓	✓		
Consider Replacing Water & Sewer Pipes Nearing End of Useful Life Where Appropriate			✓	✓		✓	✓	✓	✓		✓		
Consider Upgrading Reservoirs to Fire-Resistant Designs Where Appropriate					✓	✓							
Consider Installing Remote-Controlled Isolation Valves Where Appropriate	✓								✓	✓			
Consider Implementing Backflow Prevention and Zoning Where Appropriate					✓							✓	
Consider the use of additional Earthquake-Resistant Ductile Iron Pipes (ERDIP) Where Appropriate			✓						✓		✓		
Consider Repurposing Santa Ynez Reservoir		✓											
Consider Dividing Santa Ynez Reservoir									✓				
Consider Adding Seawater Pump Station Where Appropriate		✓							✓	✓			
Consider Constructing New Potable Tanks Where Appropriate		✓	✓	✓			✓	✓					
Consider Deploying Pressure Monitoring Systems Where Appropriate	✓								✓		✓		
Consider the use of Remote-Controlled Isolation for Fire Support Where Appropriate	✓								✓				
Consider the use of iHydrant (Smart Monitoring) Where Appropriate	✓								✓			✓	

Table 4.11 is a summary of potential combinations of strategies that can create more robust resilience packages for Pacific Palisades. All recommendations are subject to a feasibility analysis. These strategies are proposed for future use by the City following appropriate evaluation for need and feasiblity.

Table 4.11: Combined Water Supply Strategies for Pacific Palisades

Combination	Strategies Involved	Rationale for Combination
Multipurpose Reservoir Operations	Repurpose Santa Ynez Reservoir + Divide Santa Ynez Reservoir	Repurposing allows helicopter dipping and firefighting access; dividing ensures potable water remains protected. Together, they create a dual-use system that supports emergency firefighting without compromising drinking water supply.
Augmented Supply Loop	Divide Santa Ynez Reservoir + Add Seawater Pump Station	A divided reservoir gains extra resilience if seawater can be pumped in to refill the firefighting side during extended events, ensuring continuous firefighting capacity.
Expanded Storage Redundancy	Construct New Potable Tanks + Divide Santa Ynez Reservoir	Tanks outside the fire zone provide redundancy if Santa Ynez Reservoir is compromised. Combined with divided reservoir operations, they ensure both firefighting and potable needs are met.
Smart Firefighting Support	Deploy Pressure Monitoring + Remote-Controlled Isolation	Real-time hydrant pressure data helps detect weak spots; remote valves then allow isolation of damaged sections, preserving pressure where needed. Together, they directly prevent "dry hydrants."
Integrated Fire Supply Network	Repurpose Santa Ynez Reservoir + Seawater Pump Station + Pressure Monitoring	Helicopter/fire truck access supported by seawater refills is reinforced with live pressure data to ensure flows reach where needed, preventing simultaneous depletion across the network.
Seismic + Wildfire Resilience Package	Construct New Potable Tanks + Remote-Controlled Isolation	If tanks provide redundancy outside the fire zone and valves isolate failures, the system can withstand both fire-related damage and seismic impacts while maintaining supply.

Rather than a set of stand-alone measures, these combined packages can help reinforce system resilience across multiple dimensions. For example, dividing Santa Ynez Reservoir only achieves its full value when paired with seawater pumping as a replenishment source; likewise, pressure monitoring gains real strength when matched with remote-controlled isolation to prevent "dry hydrants." Similarly, ERDIP strengthens the backbone of distribution networks against seismic shifts, while iHydrant provides the operational visibility needed to manage fire-related stress in real time.

ERDIP uses ductile iron designed to flex and maintain integrity during seismic movement, making it ideal for fault crossings. The Kubota Corp. pioneered the development of ERDIP in Japan in the 1970s, becoming the first company to engineer ductile iron pipelines specifically for seismic resilience. HRDIP is a Kubota-coined term that stands for Hazard Resistant Ductile Iron Pipe. With over 50 years of expertise and extensive field performance data, Kubota's technology has set the global standard for earthquake-resistant water infrastructure. Seismic Steel Pipe (SPF) provides high-strength, welded steel construction for maximum resistance to ground deformation and large fault displacements. Table C.2 in Appendix C is a summary of various North American and international seismic-resilient pipeline projects that use ERDIP, HRDIP, and SPF. LADWP already uses ERDIP and similar products at other locations within the service territory where appropriate during planned pipeline betterment and replacmeent projects.

These combinations, drawn from case study evidence in Paradise, Lahaina, and San Francisco, and from international examples, form a menu of resilience packages that Pacific Palisades can adopt and scale. By linking each package to proven lessons, this menu ensures that implementation is both credible and context-specific.

Finally, WS2 presents the packages as discrete options, they can be sequenced into a roadmap or layered into a broader resilience framework. Administrative measures establish priorities and direct resources; engineering upgrades provide the durable backbone; and water supply packages ensure redundancy and firefighting readiness. Integrated in this way, the strategies not only accelerate recovery but have the potential to transform Pacific Palisades into a model of long-term adaptation to wildfire, seismic, and climate risks.

4.2.2.3. Wastewater

Wastewater efforts prioritize building adaptive systems by replacing mains nearing end of useful life, adding standby power, and integrating decentralized treatment capacity.

Sewer/wastewater reliability and resilience strategies are measures that strengthen a system's ability to function during disruptions. For an area like Pacific Palisades, terrain, replace with "sewer infrastructure nearing end of useful life, and natural disasters create vulnerability. Therefore, it is important to focus on resilience.

Wastewater utilities can use the EPA's Resilient Strategies Guide to identify their planning priorities, vulnerable assets, potential adaptation strategies, and available funding sources (EPA, 2025). While typically considered a capital improvement, sewer main replacement in post-Fire conditions is a resilience and recovery action. Wildfire impacts can accelerate failure of pipes nearing end of useful life, and long-term resilience requires infrastructure that is both fire and earthquake resistant. Replacing sewer mains while streets are already excavated for post fire utility work reduces costs, minimizes disruption, and avoids repeated roadway impacts.

One Water L.A. used the EPA's Climate Resilience Evaluation and Awareness Tool (CREAT) to assess the city's infrastructure, revealing that nearly half of its stormwater and wastewater systems are at risk from various climate threats. By increasing capital investment by just 10%, Los Angeles can prevent up to 90% of future costs and damages associated with climate-related impacts (Garcetti, 2018).

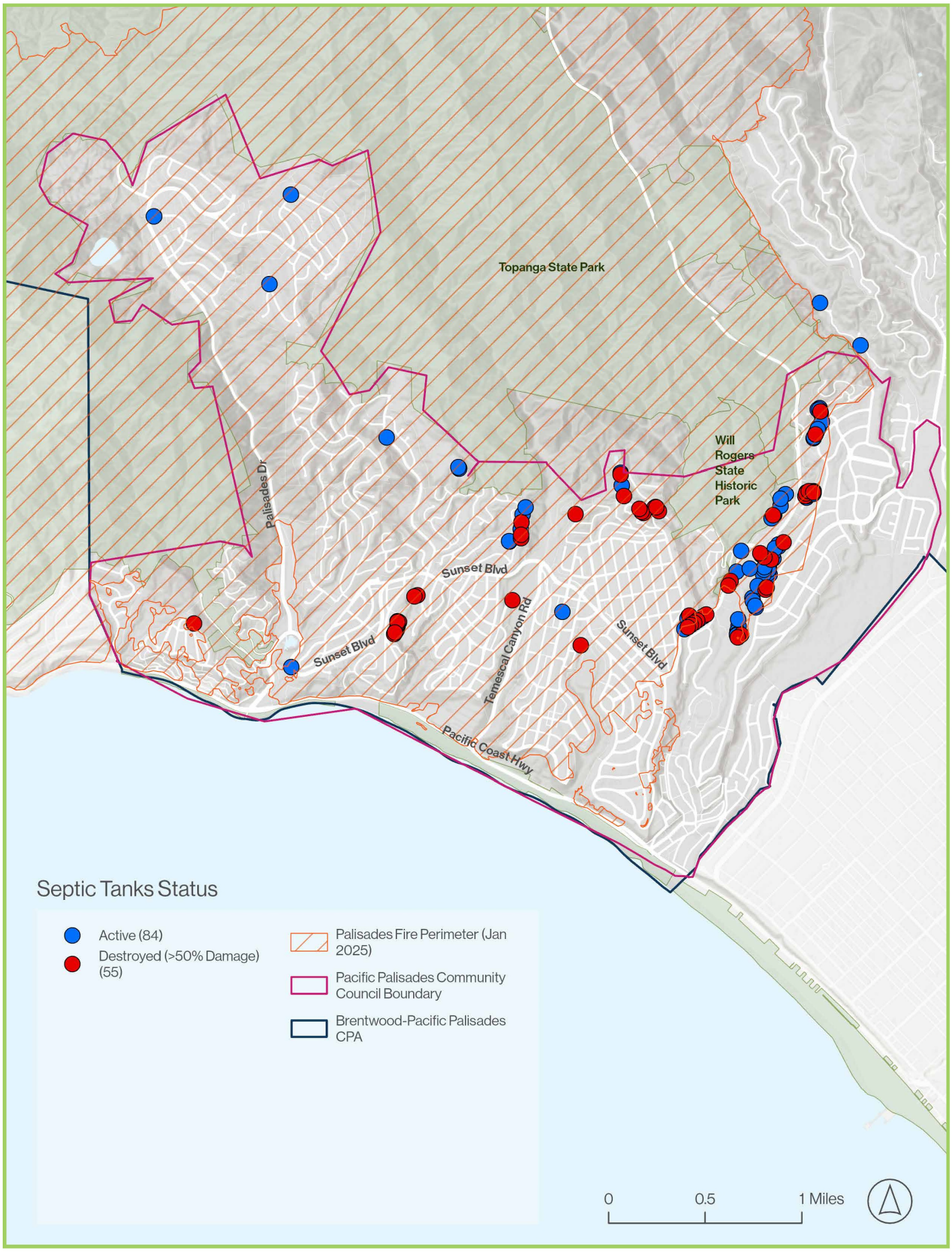
Expanding Sewer Service to Formerly Septic Neighbourhoods

Expanding sewer service to neighborhoods with septic systems could be considered. In collaboration with LASAN, Figure 4.8 was developed showing the distribution and condition of the 139 impacted septic tank systems within the Pacific Palisades burn area following the Fire. Of the 139 identified systems, 84 remain active (blue), while 55 with over 50% damage (red) were identified as "Destroyed." These septic systems could be investigated, as the damage to the septic system on a property correlates with damage to the house.

Approaches for existing septic systems would focus on connection to public sewer systems where sewer service is available. Regulatory mechanisms could include ordinances requiring sewer connections when public sewer is available for each sewer discharge, as well as building permit requirements that mandate connection to the public sewer system for rebuilding or new structures. Federal and State funding programs may be available to support these conversions. Development of septic to sewer programs would include planning efforts to establish funding of the public improvements. Public outreach would be needed to educate property owners on the need to replace septic systems with public sewer connections. Septic systems require higher homeowner-paid maintenance, and system failures are the responsibility of the property owner. Damaged systems or those nearing end of useful life can contaminate groundwater or discharge to storm drains, potentially resulting in enforcement actions. Connection to the public sewer system provides more reliable wastewater disposal and lower homeowner maintenance, with the sewer authority responsible for collection beyond the property line. It avoids increasingly strict septic regulations and reduces the risk of costly septic system replacement.

From procedural and government constraints, a feasibility study and cost analysis are needed. The project will compete against other citywide priorities before it can be considered as a CIP. From an infrastructure perspective, public agency requirements would include expanding or extending public sewer lines within rights-of-way to serve properties not currently connected, installing wye stubs in new sewer lines at each address for future private connections, and, where topography does not allow gravity connections, creating separate sewer sheds draining to new sewer pumping stations. Private homeowner requirements would include constructing new sewer connections from structures to the public sewer at the property line using open trenching or trenchless methods as needed, and properly closing existing septic systems through removal of residual waste and removal or abandonment of septic tanks. Where gravity sewer extensions are not feasible, low-pressure or vacuum collection systems may be considered, with public agencies installing mains and homeowners installing on-site components.

Figure 4.8: Fire impacts on Pacific Palisades OWTS



Sewer Pipes Nearing End of Useful Life

Table 4.12: Sewer Pipe Length and Year of Installation (Groups)

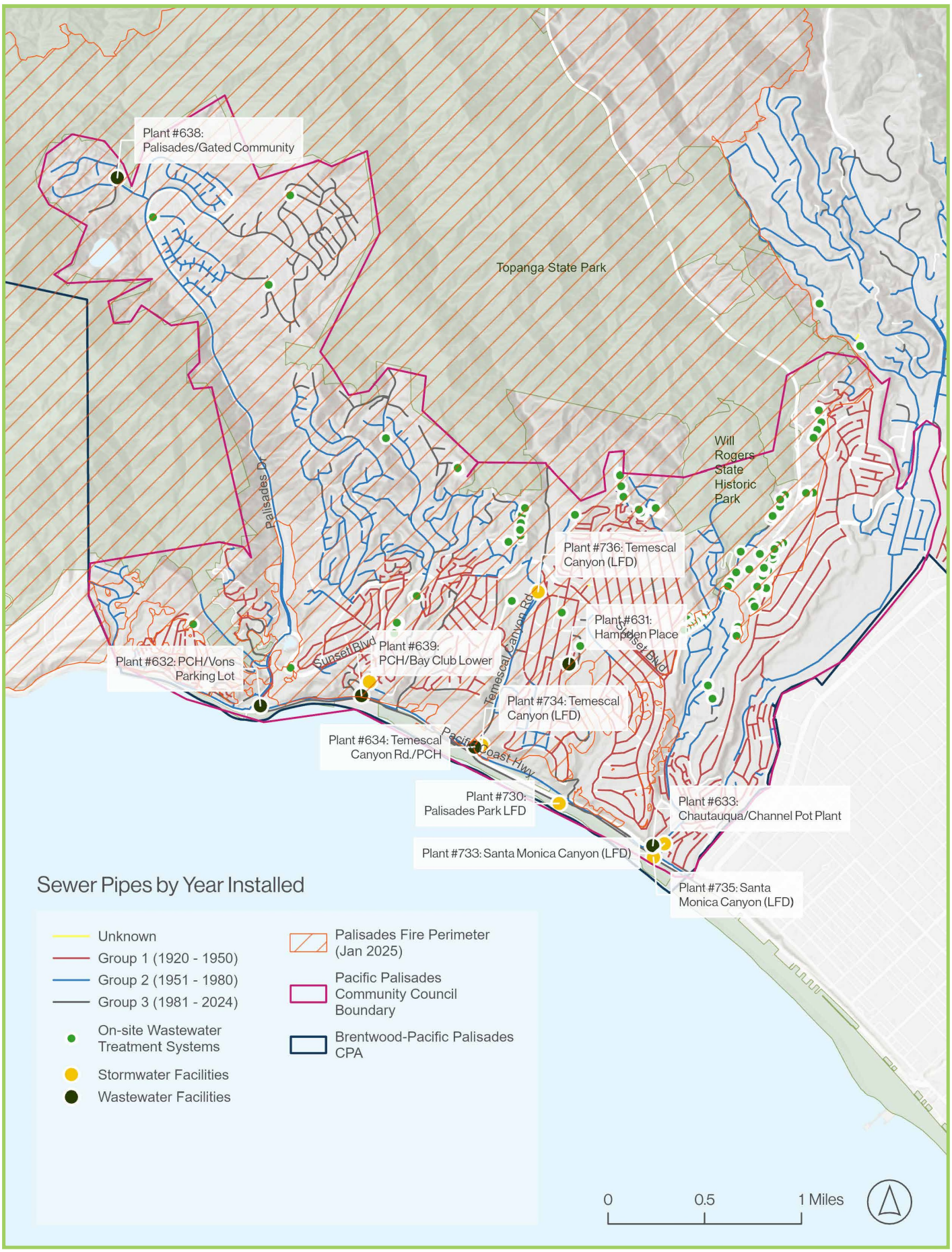
Year of Installation	Pipe Length (ft)	Percentage
Group 1 (1920 - 1950)	663,987	47%
Group 2 (1951 - 1980)	513,626	36%
Group 3 (1981 - 2025)	237,946	17%
Unknown	9,217	1%
Total	**1,424,775**	**100%**

Figure 4.9 illustrates the sewer network within the City of Palisades, highlighting the pipes categorized by their years of installation. It shows that most of the pipes were built between 1920 and 1980. Table 4.12 shows that nearly half of the sewer pipe network, about 664,000 feet or 47%, was installed between 1920 and 1950 (Group 1), while another 514,000 feet, or 36%, was built between 1951 and 1980 (Group 2). Only 17% of the system consists of newer pipes that were installed after 1981. The substantial proportion of Group 1 and Group 2 pipelines indicates that more than 80% of the system is over 45 years old and approaching or exceeding its expected service life, making it more prone to failure.

To support long-term reliability, it is recommended that Group 1 pipes be prioritized for replacement or rehabilitation within the next 5 to 10 years, focusing first on burned areas where the pipes already need to be replaced, and pipes with frequent maintenance issues. While the Group 2 pipes are newer, they should be assessed and upgraded in a second phase over the following 10 to 15 years. This phasing strategy allows capital costs to be distributed over time and enables coordination with other infrastructure projects.



Figure 4.9: Pacific Palisades sewer pipes with year of installation



Upgrading Sewer Pipe Materials

Figure 1.6 in Section 1.4.1.2 illustrates the sewer network within the City of Palisades, highlighting the pipes categorized by pipe materials. It shows that most of the pipes are Vitrified Clay pipe (about 80%). It is recommended that corrosion resistant materials such as Polyvinyl Chloride (PVC) or High-Density Polyethylene (HDPE) be used while upgrading the pipes nearing end of useful life discussed in earlier sections.

Additional Recommendations:

- Install flexible joints and seismic resistant fittings to prevent sewer pipe breaks during ground movement
- Enclose pump stations, manholes and electrical panels to protect them from fire or debris flow
- Add redundancy such as parallel pipes or dual pumps so that the service can continue even if certain components fail
- Equip pump stations, monitoring sites, and treatment plants with generators or battery backups to ensure continuous operation during power outages

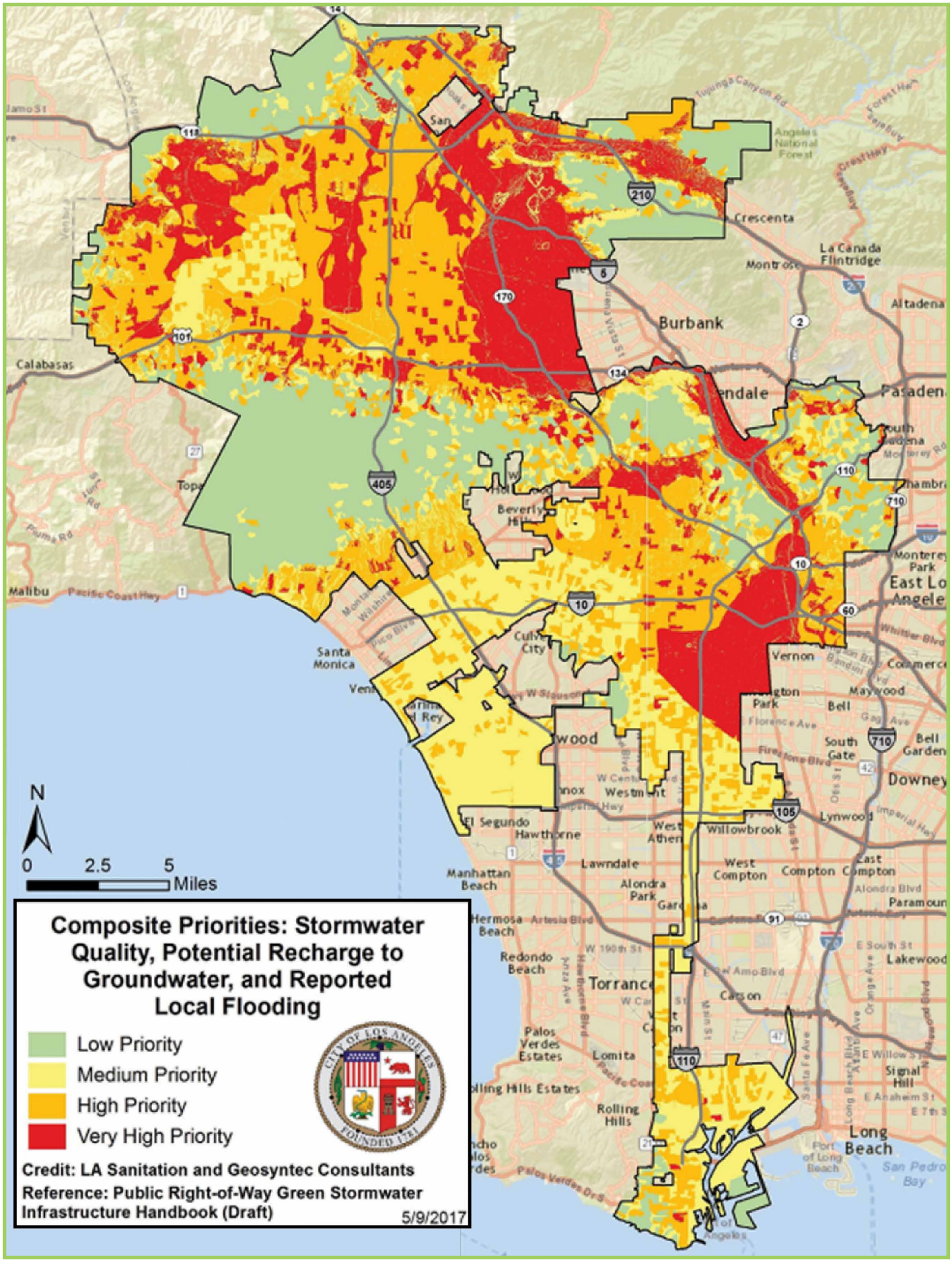
4.2.2.4. Stormwater

Stormwater restoration efforts focus on enhancing flood resilience through retrofits with green infrastructure and sediment capture systems.

Building on the City's Emergency Executive Order No. 2 and the recovery roadmap, the long-term program shifts from restoring basic functions to hardening the stormwater system against recurrent fire–flood cycles and climate-driven extremes. Key pillars are (i) reliable ocean-outfall and low-flow diversion (LFD) operations for water-quality protection, (ii) durable debris management and conveyance capacity in coastal canyons, and (iii) distributed capture that turns damaging runoff into a supply asset where feasible (City of Los Angeles, 2025b; County of Los Angeles and City of Los Angeles, 2025).

Figure 4.10 highlights where green stormwater is most beneficial for water-quality improvement, local flood mitigation, and potential groundwater recharge. In these high-priority bands, projects should range from right-of-way bioswales and parkway basins to larger offline, modular infiltration galleries beneath key streets/alleys and public spaces, sequenced with pavement or utility work to control cost and disruption (Garcetti, 2018).

Figure 4.10: Composite priorities: stormwater quality, potential recharge to groundwater, and reported local flooding (Garcetti, 2018)



Core Stormwater Upgrade Strategies

- Harden ocean outfalls and LFDs. Rebuild/retrofit LFD pump stations with standby power, corrosion/heat-resistant appurtenances, and remote telemetry, ensuring diversions resume after fires and that peak storm bypasses do not backwater canyon flows. Restore and protect outfall aprons against littoral sand plugging and high-energy discharges (City of Los Angeles, 2025b).
- Debris and conveyance capacity built for post-Fire loads. Expand or reconfigure debris basins (e.g., upstream of the PCH and Sunset Boulevard) with increased storage, armored spillways, and debris racks; and add redundant relief culverts and debris deflectors at canyon crossings where single points of failure remain. Configure size to post-Fire sediment and woody-debris regimes and to updated rainfall intensities and embed WERT thresholds into O&M manuals for pre-storm drawdowns (California Geological Survey, 2024).
- Upgrade channel and slope stabilization in burn-impacted reaches. Install grade-control/check structures, reconstruct eroded aprons and banks, and pair with deep-rooted native revegetation to shorten recovery time and reduce sediment yield in Temescal, Santa Ynez, Los Liones, and Topanga canyons. Where groundwater undermines pavements (e.g., Marinette), add longitudinal subdrains and edge protection as part of full-depth reconstruction (GEER, 2025; BOE and AECOM, 2025).
- Distributed capture for multi-benefit reliability. In the high-priority areas flagged in Figure 4.10, implement street-scale bioswales, parkway bioretention, and underground galleries to attenuate peaks, reduce pollutant loads, and bank water for beneficial uses (irrigation, fire-fighting reserves, potential potable augmentation pending treatment), and coordinate with USACE/LACFCD watershed programs (Garcetti, 2018).
- Emergency readiness should be baked into design. Standardize by-passable/offline configurations to capture all BMP systems so extreme events route around media and specify sacrificial pretreatment (screens/hydrodynamic separators) and crane-friendly access for rapid post-event turnaround. Maintain mobile pumps and debris-clearance contracts in designated staging areas to protect life safety and keep the PCH and Sunset Boulevard open during recovery (GEER, 2025).

Figure 4.11 shows a map of the LASAN-led projects with available addresses, classified by source and by type (wastewater and/or stormwater).

Figure 4.11: Map of LASAN-led prcjects classified by source and type



Integrated delivery and governance

Adopt integrated planning and co-construction. Every roadway/utility capital project in Pacific Palisades should include a screened "green-gray" alternative (e.g., culvert upsizing plus gallery plus curb-level bioretention). Measure W (SCWP) should be used to co-fund the stormwater elements in post-Fire priority zones (Los Angeles County Flood Control District, 2025). Formalize a rolling 5-year stormwater resilience plan (updated annually) and a shared City–County–LADWP–USACE governance structure to synchronize standards, permits, and construction sequencing (City of Los Angeles, 2018; Los Angeles County Flood Control District, 2025).

Expected outcomes

Together, these upgrades will (1) maintain conveyance through debris-prone canyon outlets, (2) reduce localized flooding at sump streets and ocean outfalls, (3) improve water quality via reliable LFDs and distributed treatment, and (4) capture stormwater for beneficial reuse, aligning the Pacific Palisades implementation with the Resilient Los Angeles objective to leverage investments for both flood protection and supply (City of Los Angeles, 2018; Garcetti, 2018).

4.2.3. Recommended Implementation Strategy

The resilience actions for wet utilities that are recommended in this section can be integrated into a long-term resilience planning process. The sequence of steps can be used to identify and evaluate the objectives and gaps in the performance of these resilience actions.

This implementation strategy provides a step-by-step framework for developing a wet utility resilience strategy that aligns with the broader IRP. It begins by identifying key hazard or issue areas—such as wildfire, earthquake, storm-induced flooding, drought, or infrastructure nearing end of useful life—that could affect water and wastewater systems. Once the primary hazards are established, the process defines performance objectives, focusing on both system capacity and reliability under stress conditions.

Next, the existing system's performance is evaluated to identify performance gaps, which inform targeted improvement concepts. These concepts draw directly from recommendations within the Infrastructure Restoration Plan and aim to enhance system resilience, reliability, and adaptability. The framework then assesses whether proposed improvements can be integrated with existing plans—for instance, ongoing capital programs or other resilience initiatives. If integration is feasible, the concepts are coordinated across plans to ensure consistency and efficiency. If not, stand-alone strategies are developed for implementation.

The process culminates in the development of a wet utility strategy that synthesizes performance goals, resilience measures, and implementation pathways. A wet utility strategy ensures that improvements are both technically robust and aligned with the City's long-term resilience objectives—bridging hazard mitigation, infrastructure modernization, and sustainable resource management.Sae nonse perro berae excepere re



4.3. Street Trees and Surface Infrastructure

4.3.1. Street Trees

The City is in the process of finalizing an Urban Forest Management Plan (UFMP). This document will provide long-term guidance for managing the urban forest, including street trees, throughout Los Angeles. The City has already completed a number of the initial steps recommended in the First Step UFMP (DUDEK, 2018). These initial steps by the City, summarized in Table 4.13, will also contribute to the long-term resilience of street trees in Pacific Palisades and to urban forest strategies for the area. In addition to these initial steps, the First Step UFMP recommends a variety of other strategies including updates to the City's existing street tree maintenance cycle to shorten it to every five to seven years and to identify funding to support this effort. The First Step UFMP also recommends that species selection guidance takes into consideration climate change, biodiversity, and sustainability goals (DUDEK, 2018).

Table 4.13: Status of Initial Steps toward an Urban Forest Management Plan (LADPW, n.d.).

Steps	
Hire an urban foresty coordinator	Complete
Increase funding for urban forestry management	Complete
Complete an Urban Forestry Financing Plan	Pending Release
Complete a comprehensive tree inventory	Complete
Implement a tree management software program	Complete
Launch a public outreach campaign	Complete
Develop and implement an Urban Forest Management Plan	Release date TBD

4.3.1.1. Street Tree Species

The City's Street Tree Selection Guide offers guidance for trees permitted in the City. The guide includes a list of species and their associated characteristics including tree type, height, crown spread, spacing, appropriate parkway size, drought tolerance, and if the tree is native. The City is currently working to develop an updated list that will be included in the UFMP when it is published.

Research related to street tree wildfire resilience or tolerance indicates that specific tree characteristics are important to consider when identifying optimal trees for a particular area. Additionally, tree condition and maintenance can be just as important as species when considering fire resilience. Characteristics to consider include types of foliage and whether foliage is retained year-round, branching patterns, leaf litter and texture type, and bark type (Susskind, 2023). Some research splits the characteristics into four categories – ignitability (how long it takes for a material to ignite, temperature at which it ignites, critical heat flux), combustibility (how rapidly consumed during combustion), consumability (how much material consumed during consumption), and sustainability (how likely to sustain combustion and continue to consume once ignited) (University of California Agriculture and Natural Resources and USDA Forest Service, 2025).

Research related to the fire-resistance of particular plant species, defined by the Fire Safe Council of San Diego County as plants that "do not readily ignite from a flame or other ignition sources" is ongoing (Fire Safe Council of San Diego, n.d.). Organizations such as the Theodore Payne Foundation, the Arbor Day Foundation, and the Santa Barbara Botanic Garden identify characteristics (including bark, moisture content, and leaf characteristics) of California native plants, such as Oak trees, which make them particularly fire resistant. Continuing to monitor fire-related species research could factor into the City's development of future species recommendation lists or guidance shared with the public for selecting appropriate tree species.

Moisture content is also frequently cited as a critical factor to consider in tree species selection. Some studies have found that flammability is driven by moisture content, so the ability for trees to retain moisture can be a particularly important characteristic to consider. Los Angeles County Fire Department (LACoFD) guidance for defensible space includes a list of example plants, including street trees, that may be appropriate for specific defensible space zones, taking into consideration some of the mentioned characteristics, including moisture content, leaf litter production, size, and chemical composition. However, the list is caveated as providing just "representative samples"; more specific choices may need to be made based on a variety of factors, including climate (LACoFD, 2020).

4.3.1.2. Maintenance and Care

Following the establishment period, the City's street tree pruning cycle is approximately every 17 years and pruning is performed by contractors, except in the case of emergency pruning. The City does not perform root pruning (Bureau of Street Services, n.d.-c). Expanding funding for maintenance and care could support a longer window of or more frequent City-supported tree care including watering, weeding, and mulching. Required maintenance by commercial property owners (currently 3 years) could be expanded to a longer period to be established for the proper care of street trees on commercial properties. The City is looking into shortening the maintenance cycle to be every five to seven years, which could support healthy, well-maintained trees which can promote fire resilience.

4.3.1.3. Sidewalk Design, Structural Soil, and Soil Cells

As the City rebuilds, there is an opportunity to improve street tree planting techniques, which can help create a healthy environment for restoring the tree canopy that existed before the fire in the Pacific Palisades. One challenge that can arise from trees planted in the public right-of-way is the potential for tree roots to cause uplifted sidewalks. When sidewalk repairs are made, it can be challenging to preserve the tree given the potential damage that could occur. To mitigate sidewalk damage from street tree roots in the first place, various strategies can be implemented including root pruning, meandering the sidewalk, creating curb bulbs, and enlarging tree wells. However, other than root pruning, depending on the site, these strategies may not be feasible (DUDEK, 2018). Consideration of street tree spacing and placing when replanting trees could potentially decrease the need for root pruning or tree removals in the future as they mature. To mitigate sidewalk damage from tree roots, the City includes guidelines for root barriers in its standard plans. Root barriers are installed to protect roots from growing under adjacent sidewalks and roadways. Although this can decrease sidewalk damage, it can have the side effect of limiting the size of a tree's root system and the mature size of the tree.

There are several potential impediments to healthy street tree canopies in urban environments such as contaminated, compressed, or compacted soil, poor soil quality, limited tree root space, and other environmental factors. The soil that street trees have access to is often not nutrient-rich and has been altered by influences from the urban environment. Soil can be contaminated from a variety of different substances and compacted or compressed from human or vehicle traffic moving over the soil. Compacted soil can reduce root growth and make it more challenging for trees to obtain water. Contamination and compaction can negatively impact tree health and growth (TreePeople, 2021). Providing street trees with soil that is uncompacted and with space to grow supports trees that are larger and healthier.

To address restricted room for tree roots and soil compaction from sidewalks, many cities have begun to use structural soil or soil cells that are installed under the sidewalk at the time of planting. Structural soil is a particular soil mix of loamy soil and gravel that supports nutrient and water absorption and healthy root growth (River Sand Incorporated, n.d.), while soil cells are pavement support systems providing a soil volume that allows tree roots to expand (DeepRoot, n.d.). While there is a greater cost associated with these methods, phased rebuilding plans may provide an opportunity to integrate structural soil or soil cells when planting to help restore the tree canopy in Pacific Palisades. Restoring the tree canopy would increase shade, contribute to overall tree health, and potentially mitigate the need for tree maintenance. Soil cells and structural soil can also support other climate goals, such as stormwater capture and management (DeepRoot, n.d.)

4.3.1.4. Public Education and Outreach

Over 90% of the City's urban forest is on private property (DUDEK, 2018), so public education campaigns and working with residents and property owners to support the maintenance of trees on private property are essential to grow the City's urban canopy. The City and partner organizations currently have education and outreach programs, although it is recommended that streamlining these efforts would support clear, aligned communications, which could minimize confusion and build understanding and support for the benefits of trees and the urban canopy (DUDEK, 2018). Coordination with the community and community organizations that participate in tree care and planting (e.g., the Palisades Forestry Committee and Palisades Beautiful) can also help to support short-and-long-term recovery approaches, align approaches to tree care and replanting, and promote ongoing community involvement. Public education campaigns could also include information about how to care for trees following events such as wildfires, share information about regulations and care for protected tree species, and provide guidance for landscaping, species, and tree care to promote mitigation of wildfire risk.

4.3.2. Surface Infrastructure

Resilience upgrades for street pavement improvements focus on long-term resilience strategies that go beyond immediate recovery and restoration. These include the implementation of resilient pavement upgrades, and integration of green street design elements for long-term sustainability. These improvements are designed to reduce wildfire impacts and provide longevity to these newly constructed streets.

Resilient pavement upgrades should focus on rebuilding roadways and sidewalks using fire- and heat-resistant materials. Materials such as polymer-modified asphalt and fiber-reinforced concrete can play a key role. In addition, medium-term work will replace heat-damaged or undersized culverts with reinforced concrete pipe (RCP), fiberglass-reinforced pipe (FRP), or lined box sections, designed to handle post-Fire sediment loads.

4.3.2.1. Surface Infrastructure Recommendations

Green street design elements are a long-term sustainability plan. There are opportunities to integrate green and permeable street designs to manage run-off and reduce sediment discharge. Green stormwater systems such as bioswales, rain gardens, and infiltration trenches will be deployed to capture and treat stormwater. There are also opportunities to reconnect and

restore natural drainage channels to improve hydrologic function, and replant burned slopes with native vegetation or new trees.

Due to the wildfire impacts discussed above, the burn area experienced a wide range of pavement damage and degradation. The rehabilitation of the existing pavements will be dependent on whether the damage is isolated to the pavement surfaces or whether the underlying pavement base and subbase have been structurally compromised. There are several methods that can be used to reuse the degraded pavement materials by implementing rehab methods such as Full Depth Reclamation (FDR) or Cold in Place Recycling (CIPR). These time-tested methods, which are used throughout Southern California and the United States, can reduce costs and the impact of truck traffic impacts. Table 4.14 is a summary of the pros and cons of different pavement rehabilitation methods that could be used.

Full Depth Reclamation is a method that pulverizes the existing pavement and underlying base materials. Mixing them with stabilizing agents will create a new durable base layer. FDR reduces the need for hauling materials, lowers costs, and minimizes truck traffic. Cold In-Place Recycling involves milling the top layer of damaged asphalt and mixing it with recycling agents. Once this is done, the material is then laid back down without removing it from the site. R&R is a traditional removal and replacement rehabilitation strategy. This is a long-term rehabilitation designed for 20-plus years of life. This process is the most disruptive, requiring extensive haul away, traffic impacts, and high cost. Table 4.14 summarizes these pavement rehabilitation methods, comparing their relative costs, benefits, and implementation challenges.

Table 4.14: Comparison of Surface Infrastructure Rehabilitation Alternatives

Rehabilitation Alternative	Pros	Cons
1. R&R: Traditional removal and replacement	Long-term solution (20+ year design life), removals could be recycled.	Expensive, disruptive to traffic, maximum haul away impacts.
2. FDR: Full Depth Reclamation with pulverize existing AC/AB and utilize as base and place new AC surface course.	Medium cost long-term solution, minimizes haul away cost and related truck traffic, re-uses existing materials, recycling credits (AB 939), environmentally friendly.	Ideally requires minimum existing AC/AB thickness and adequate subgrade material (Good R-Value) to be effective.
3. FDR-Cement Treat: Full Depth Reclamation with cement - treat and place new AC surface course.	Medium cost long-term solution, can supplement FDR process with subgrade to meet base thickness demand by adding cement, minimizes haul away costs and related truck traffic, re-uses existing materials, recycling credits (AB 939).	Requires multiple construction steps to allow cement base to cure that require traffic lane closures.
4. CIPR & CPR: Cold In-Place Recycling (for collectors) and cold Central Plant Recycling (residential) and subsequent AC overlay.	Low-cost solution, minimizes haul away cost and related truck traffic, environmentally friendly, recycling credits (AB 939), resists reflective cracking, minimal impacts to traffic.	Ideally requires competent sub-grade (Good R-value, even if AC surface is failing) thus requiring localized AC dig-outs, requires good weather and experienced contractor, quality control is critical.

The project for StreetsLA – Charred Streets, Curbs & Sidewalks (Project #951278) serves as a critical foundation for integrating resilience principles into the City's long-term recovery framework. The $1.1 million project addresses damage from the Palisades Fire, which burned vehicles throughout the community and caused widespread degradation to streets, curbs, gutters, sidewalks, and driveway aprons. Beyond restoring asphalt street segments and associated concrete infrastructure to their pre-disaster condition, this project underscores the need to rebuild using resilient and sustainable design standards. Applying lessons from FEMA's hazard mitigation and resilience guidance, future pavement restoration should incorporate fire- and heat-resistant materials, recycled pavement technologies such as Full Depth Reclamation (FDR) and Cold In-Place Recycling (CIPR), and green street elements to manage runoff, reduce sediment discharge, and enhance urban cooling. As part of a broader resilience strategy, these measures transform a standard restoration project into an opportunity for adaptive recovery, aligning with FEMA's long-term resilience goals and the City's commitment to sustainable, climate-ready infrastructure.

4.4. Natural Infrastructure

4.4.1. Natural Infrastructure

Resilience upgrades for natural infrastructure focus on securing long-term slope and watershed health through permanent stabilization, native reforestation, and fuel-break vegetation management. The goal is to transition from temporary erosion control to sustainable, nature-based systems that reinforce the landscape, restore hydrologic function, and reduce the risk of future slope failures or debris flows.

Key objectives include:

- **Stabilize high-risk slopes** through structural and vegetative methods that integrate with the surrounding topography.
- **Restore natural drainage patterns** to improve infiltration, reduce concentrated runoff, and protect downstream infrastructure.
- **Re-establish native plant communities** that provide root reinforcement, improve soil structure, and restore ecological function.
- **Integrate fuel-management zones** and defensible space buffers to reduce wildfire vulnerability while maintaining habitat continuity.

Recommended actions include long-term erosion control and watershed stabilization measures such as revegetation with deep-rooted native species, contour wattles and check dams, bioengineered retaining structures, and adaptive maintenance of stormwater conveyance systems. Previous examples of hard-engineered erosion control may not be as effective or visually compatible as modern, nature-based approaches—such as those compiled by FEMA (FEMA, 2022). See Figure 4.12 through Figure 4.14.

The City recognizes that slopes and other natural infrastructure features often cross multiple land ownership boundaries, and that project development for slopes which extend from the Public ROW onto private properties, or which cross multiple Agencies ownership will require coordination and approvals for future projects. Solutions to be implemented are influenced by many operational concerns of the landowners and Agencies Having Jurisdiction, and the precise scope of possible future projects were not considered herein.

Nature-based solutions use both living and non-living materials to protect slopes and enhance resilience. Fascines and wattles—bundled living branches installed along contour lines—trap sediment and reduce surface runoff. The root systems of live plantings reinforce soils, while vegetated stakes and brush mats improve slope stability and visual integration. These methods (Figure 4.12–Figure 4.14) demonstrate how restoration can merge structural performance with ecological function, creating long-lasting, self-sustaining landscapes.

4.4.2. Vegetation

Resilience upgrades for vegetation efforts prioritize establishing low-flammability, climate-resilient species, and permanent erosion-control measures.

Habitat restoration can support returning degraded areas of the Pacific Palisades to functional and resilient native habitat communities dominated by Southern Mixed Chaparral and Ventura Coastal Sage Scrub. Monitoring could occur through an initial post-installation assessment, followed by annual monitoring. Often, an initial assessment would include site photographs, planting maps, and species lists; while annual monitoring would measure survival, native cover, species richness, and invasive suppression. If these standards are not met, contingency measures such as reseeding, replanting, or increased irrigation could be applied.

Table E.1 in Appendix E presents recommended native seed mixes for Pacific Palisades, and it shows Seed Zone 995, including species composition and ecological functions. Figure E.1 lists the recommended lower-growing restoration seed mix for the Pacific Palisades area, including native Ventura and Los Angeles County species with corresponding seeding rates per acre.

Figure 4.12: Erosion control on slopes, using vegetated stakes alone or in combination with brush mats (NRCS, 2021)

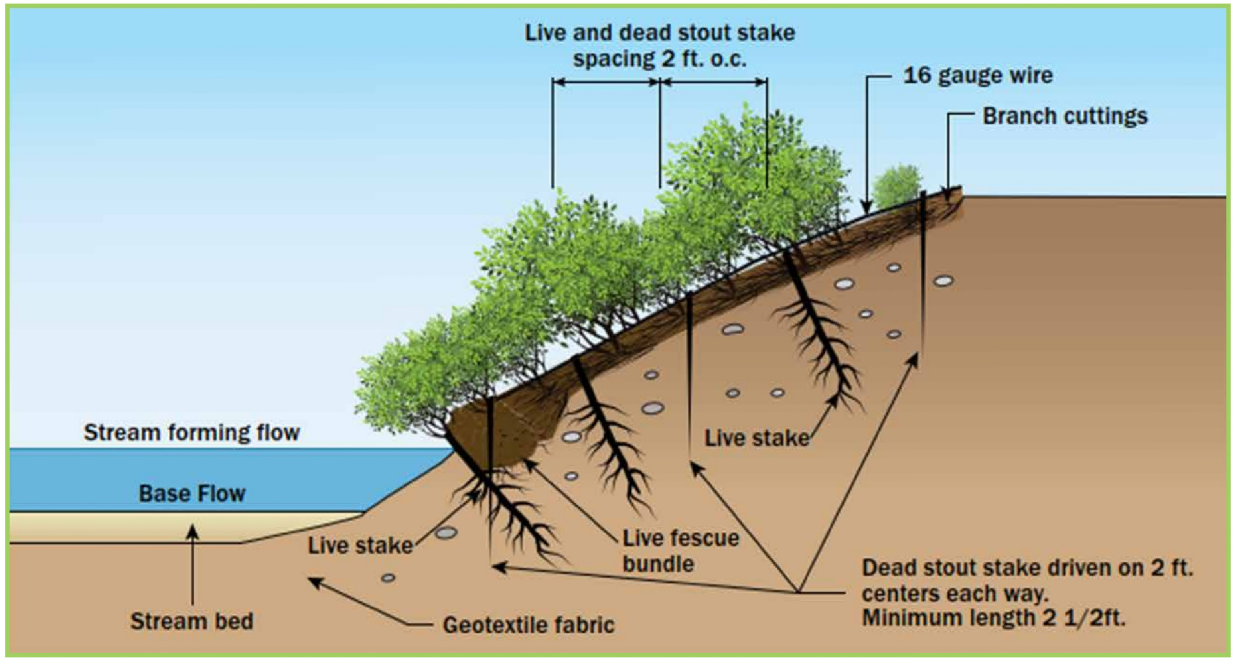


Figure 4.13: Erosion control using live fascine bundles and stakes (USDA Forest Service, 2006)

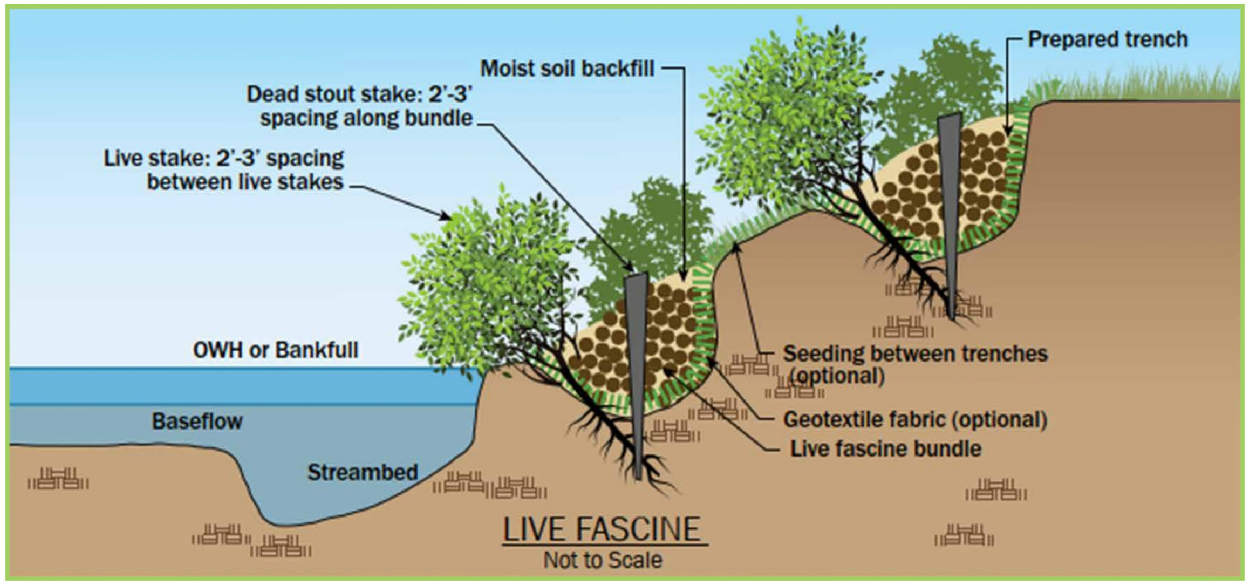
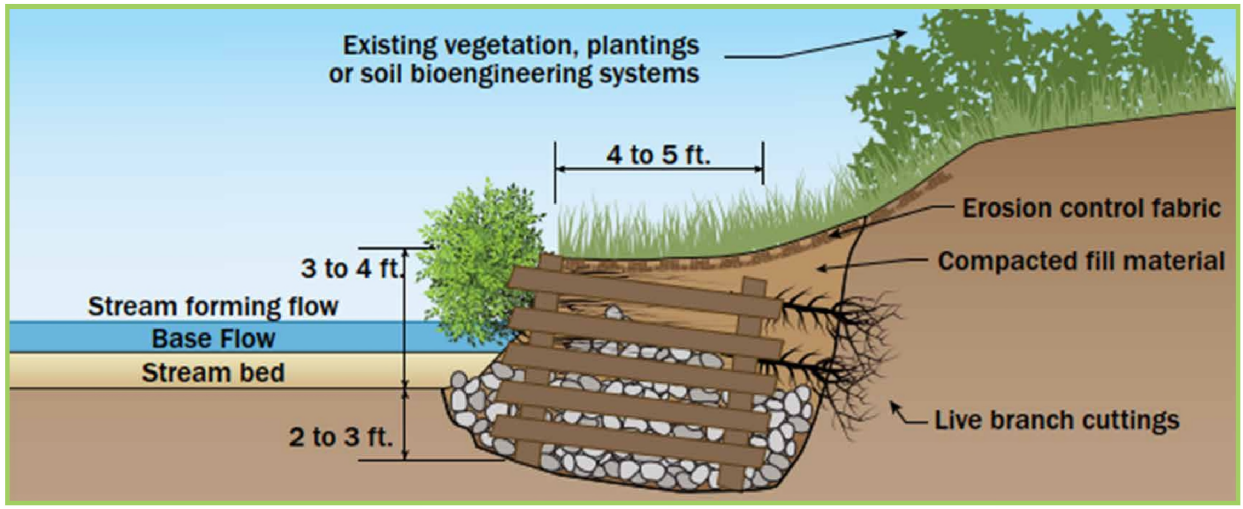


Figure 4.14: Live crib walls for slope stabilization and erosion control (NRCS, 2021)





5. Summary and Recommendation

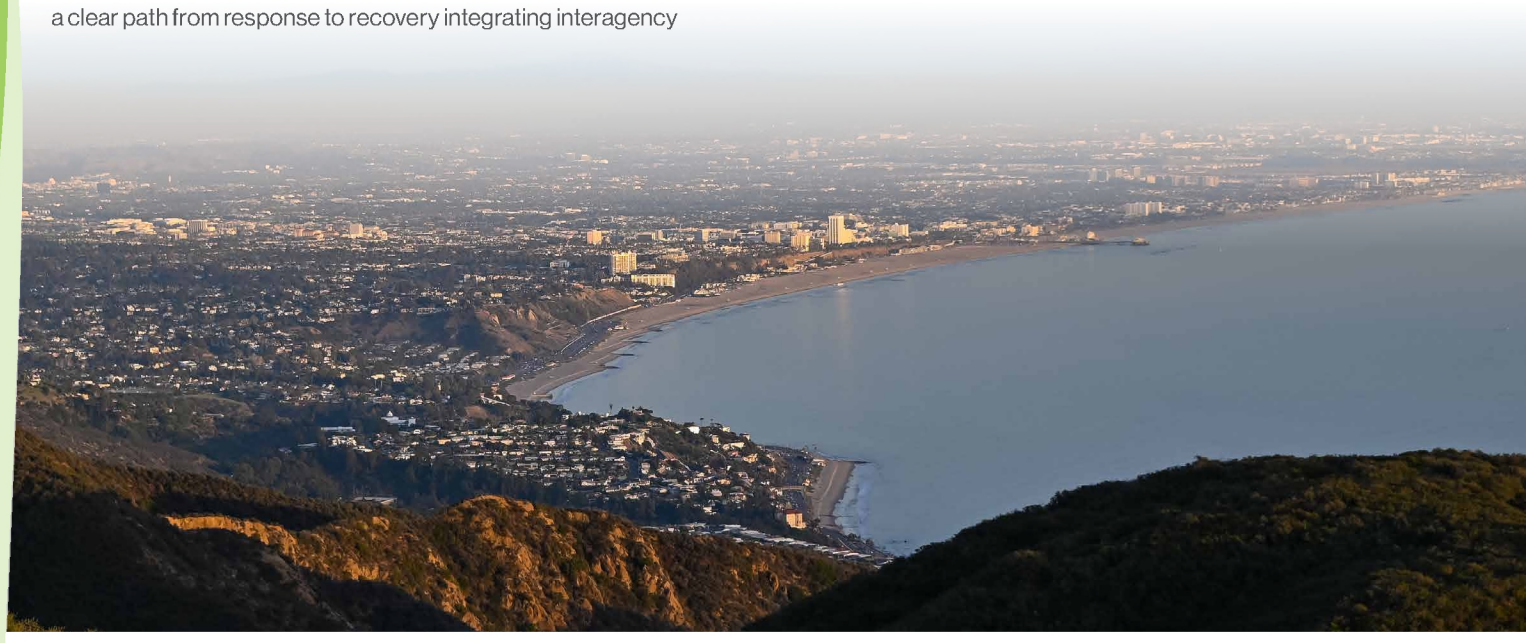
The Pacific Palisades IRP (IRP) provides a comprehensive, multi-agency framework for rebuilding Pacific Palisades. Grounded in a detailed assessment of existing post-Fire conditions, the IRP integrates physical, institutional, and regulatory contexts across infrastructure systems in Los Angeles. It aligns local, state, and federal policy guidance—including zoning, land-use, and resilience mandates from key departments such as BOE, LADWP, LASAN, and StreetsLA into a unified restoration approach. Because BOE, LASAN, and StreetsLA are all bureaus within the City's Department of Public Works, the IRP organizes their projects part of a coordinated Public Works-led recovery strategy. It aligns local, state, and federal projects by translating requirements into the sequencing logic used in the GIS-based restoration analysis—such as identifying overlapping project locations, correcting illogical phase orders, and prioritizing work in corridors to identify overlaps and constraints. Through this integration, the IRP provides a structured pathway to restore each system from potable water to streetscape vegetation in a manner consistent with citywide and statewide resilience objectives and federally supported recovery frameworks.

Building on this foundation, the IRP's tiered restoration framework prioritizes immediate life-safety and access (Tier 1), coordinated community recovery and utility restoration (Tier 2), and long-term infrastructure modernization (Tier 3). The recommended resilience upgrades consolidate administrative, engineering, and implementation strategies across dry and wet utilities, streets, and natural systems to sustain investment and resilience over time. Together, these coordinated efforts chart a clear path from response to recovery integrating interagency efforts, policy alignment, community coordination, and climate adaptation. Ultimately, the IRP serves as a recovery blueprint for Pacific Palisades and as a replicable model for communities across California facing the dual challenges of wildfire recovery and climate resilience.

As implementation advances, the IRP emphasizes a phased and data-driven approach to sequencing projects, leveraging shared corridors for joint trenching and aligning schedules across agencies to reduce construction conflicts and community disruption. The integration of geospatial planning, asset management, and risk assessment tools ensures that limited public funds are directed toward the most critical vulnerabilities where interventions can deliver the highest resilience return. Transparent communication and stakeholder collaboration remain central, ensuring that local residents, agencies, and utilities participate in shaping an equitable and forward-looking recovery.

Looking ahead, the IRP provides a living framework that will evolve with new data, technology, and climate projections. Its value extends beyond physical reconstruction: it strengthens governance capacity, sets new standards for cross-sector collaboration, and embeds resilience into the City's long-term capital planning.

Through continued coordination and investment, the lessons of the Pacific Palisades wildfire recovery will inform how Los Angeles and other California communities prepare for and adapt to the realities of a changing climate, transforming recovery from a reactive process into a proactive pathway toward sustainability and resilience.





6. References

Akin, I.D., Guerra, J.C., Zhang, S., Tirkes, S., Sahin, A., Stapleton, J., et al. 2025. *Reconnaissance of the Geotechnical and Infrastructure Impacts of Los Angeles Area Wildfires and Subsequent Storms*. GEER Association (Report - 85). https://doi.org/10.18118/G6X37N.

Allen, E.B., Williams, K., Beyers, J.L., Phillips, M., Ma, S., and D'Antonio, C.M. 2018. *Chaparral Restoration*. Springer International Publishing.

AT&T Connects. 2025. "Keeping Communities Connected: AT&T California's Response to the Los Angeles Fires." https://www.attconnects.com/keeping-communities-connected-att-californias-response-to-the-los-angeles-fires/.

BOE (Los Angeles Bureau of Engineering). "B Permit Notice to Contractors Notes." https://permitmanual.engineering.lacity.gov/b-permits/checklists-and-sample-documents/b-permit-notice-contractors-notes.

BSL (Bureau of Street Lighting). 2025. "Status of City-Owned Street Lighting Infrastructure That May or May Not Have Been Impacted by the January 2025 Fires." https://cityclerk.lacity.org/onlinedocs/2025/25-0006-s23_rpt_bsl_03-18-2025.pdf

CAL FIRE. 2025a. "Fire Hazard Severity Zones." https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones?itid=lk_inline_enhanced-template.

CAL FIRE (California Department of Forestry and Fire Protection). 2025b. "Palisades Fire." https://www.fire.ca.gov/incidents/2025/1/7/palisades-fire.

CAL FIRE and California Department of Conservation. 2025. *Watershed Emergency Response Team (WERT) 2025 Palisades Fire*.

California Board of Forestry and Fire Protection. 2025a. "Defensible Space Zones - 0, 1, and 2." https://bof.fire.ca.gov/projects-and-programs/defensible-space-zones-0-1-and-2?_hsenc=p2ANqtz-9b5pUdp8hPfFijhXtg3pdfzbAUB44FK4V4iOcNGTYC99bpTTJWSYcfOx2hSlGTtS-h3txR.

California Board of Forestry and Fire Protection. 2025b. "Frequently Asked Questions about Zone 0." September 17. https://34c031f8-c9fd-4018-8c5a-4159cdff6b0d-cdn-endpoint.azureedge.net/-/media/bof-website/projects-and-programs/defensible-space-zones-0-1-2/previous-public-workshops-and-materials/2025/sept-22/fire-safety-zone-zero-faq-sept-17-2025.pdf?rev=125d54dcf03047fe8d3cd4fbd77b5481&hash=BDA4C50FB1267A5B124B8181B611A261.

California Board of Forestry and Fire Protection. n.d. "Defensible Space." https://www.fire.ca.gov/dspace.

California DSOD (Department of Water Resources Division of Safety of Dams). *Dams Within Jurisdiction of the State of California*.

Charter Communications. 2025. "Spectrum Teams Make Progress Restoring Service After Southern California Wildfires." https://corporate.charter.com/newsroom/spectrum-teams-make-progress-restoring-service-after-california-wildfires.

California Department of Water Resources. 2012. *State Water Project Seismic Loading Criteria Report*. https://cawaterlibrary.net/document/state-water-project-seismic-loading-criteria-report/.

California SWRCB (California State Water Resources Control Board). 2008. *Overview of California Water Quality Law*. https://www.waterboards.ca.gov/board_reference/docs/wq_law.pdf.

California SWRCB. 2023. "General Order for Sanitary Sewer Systems." https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2022/wqo_2022-0103-dwq.pdf.

California SWRCB. 2025. "Water Resiliency - Prepare." May 30. https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/water_resiliency/prepare.html.

California SWRCB and Division of Drinking Water. 2017. *California Regulations Related to Drinking Water*. https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/lawbook/dwregulations-2017-04-10.pdf.

Circling the News. 2025. "Pacific Palisades Réservoir, aka Chautauqua Reservoir, Drained June 2024." https://www.circlingthenews.com/pacific-palisades-reservoir-aka-chautauqua-reservoir-drained-june-2024/.

City of Los Angeles. 1998. *Brentwood-Pacific Palisades Community Plan*.

City of Los Angeles. 2025. *LA Strong Return & Rebuild*.

City of Los Angeles. n.d.-a. "Hyperion Water Reclamation Plant: Hyperion 2035 Program." https://www.ladwp.com/sites/default/files/documents/LASAN_Hyperion_2035_Program_Fact_Sheet.pdf.

County of Los Angeles. n.d. OA Emergency Response Plan. https://www.ceo.lacounty.gov/wp-content/uploads/OEM/OAERP/SECTION%204.%20%20MUTUAL%20AID.pdf.

County of Los Angeles and City of Los Angeles. 2025. *Recovery Support Strategy Plan. 2025 Los Angeles Wildfires.*

DeepRoot. n.d. "Silva Cells: Green Infrastructure at Work." https://www.deeproot.com/products/silva-cell/.

Department of Homeland Security Federal Emergency Management Agency. 2025. "DR4856 Permanent Work Projects: Uncompleted."

Department of Public Works. 2025. "Office of Forest Management Post-Fire Tree Information." https://dpw.lacity.gov/office-forest-management-post-Fire-tree-information.

DUDEK. 2018. *First Step: Developing an Urban Forest Management Plan for the City of Los Angeles.* https://www.cityplants.org/wp-content/uploads/2018/12/10939_LA-City-Plants_FirstStep_Report_FINAL_rev12-7-18.pdf.

Energy Connect Corp. 2025. "GLDS - Energy Connect Corp." https://energyconnectcorp.com/glds/.

EPA (U.S. Environmental Protection Agency). 2025. "Resilient Strategies Guide for Water Utilities." https://www.epa.gov/waterutilityresponse/resilient-strategies-guide-water-utilities-0#/?region=101&utilityType=4&utilitySize=1315&assets=&priorities=&strategies=&fundingSources=.

EPA Office of Water. 2023. *Power Resilience: Guide for Water and Wastewater Utilities.* https://www.epa.gov/system/files/documents/2023-05/PowerResilienceGuide_2023_508c.pdf.

Farber, Gail. 2009. "Habitat Restoration Agreement Between the Mountains Restoration Trust and the County of Los Angeles to Fund 2.2 Acres of Off-Site Environmental Mitigation and Plant 60 Oak Trees for Road Repair Projects in the Santa Monica Mountains." June 30.

FEMA (Federal Emergency Management Agency). 2025. *Restoration and Recovery: Guide for Private-Public Partnerships.*

FEMA. 2022. *Fact Sheet 5.3: Earth Slope Stabilization.*

Fire Safe Council of San Diego County. n.d. "*Sustaining Native Plant Communities.*" https://firesafesdcounty.org/wp-content/uploads/2017/05/Comprehensive-Fire-Resistant-Plant-List.pdf

Garcetti, Eric. 2018. "Resilient Los Angeles." https://resilientcitiesnetwork.org/downloadable_resources/Network/Los-Angeles-Resilience-Strategy-English.pdf.

Haggerty, N. 2025. "Why Zone Zero Is Mired in Delay." Los Angeles Times Investigates Delays in Zone Zero Wildfire Program.

HCD (California Department of Housing and Community Development). 2021. "Updated Streamlined Ministerial Approval Process Government Code Section 65913.4 Guidelines." March 30. https://www.hcd.ca.gov/policy-research/docs/sb-35-guidelines-update-final.pdf.

Holmes, Katherine A, Veblen, Kari E., Young, Truman P., Berry, Alison M. (US Forest Service). N.d. "*California Oaks and Fire: A Review and Case Study.* https://www.fs.usda.gov/psw/publications/documents/psw_gtr217/psw_gtr217_551.pdf

Kosmala-Dahlbeck, Kasia, Diya Grover Kandhra, and Ken Alex. 2025. *A Cost-Effective, Fast, and Sustainable Fire Recovery in Los Angeles.* https://www.law.berkeley.edu/wp-content/uploads/2025/04/A-Cost-Effective-Fast-and-Sustainable-Fire-Recovery-in-LA_4.21.25.pdf.

LACoFD (Los Angeles County Fire Department). 2025a. "Fuel Modification Plan Notes. https://fire.lacounty.gov/wp-content/uploads/2025/06/Approved-Plan-Notes.pdf.

LACoFD. 2020. "Plant Selection Guidelines for Defensible Space." https://fire.lacounty.gov/wp-content/uploads/2020/05/Plant-Selection-Guidelines.pdf.

LA County. 2025. *LA County Forward: Blueprint for Rebuilding.* LA County. https://file.lacounty.gov/SDSInter/lac/1189434_202508BlueprintForRebuildingvSF2.pdf.

LA County Public Works. 2023. "Los Angeles County Water Plan." December. https://lacountywaterplan.org/.

LA County Public Works. 2025. "Road to Rebuilding After the Palisades Fire." https://www.pw.lacounty.gov/rebuild/palisades/design.

Mullin, Megan, Sophie Katz, and Julia Stein. 2025. *Final Commission Recommendations and Action Plans for the Resilient and Sustainable Rebuilding of Los Angeles*.

LACP (Los Angeles City Planning). 2016. Mobility Plan 2035: An Element of the General Plan. https://planning.lacity.gov/odocument/523f2a95-9d72-41d7-aba5-1972f84c1d36/Mobility_Plan_2035.pdf.

LADPW (Los Angeles Department of Public Works). n.d. Office of Forest Management. https://dpw.lacity.gov/commissioners-boardroom/office-city-forest-management.

LADPW. 2018. *Homeowner's Guide for Flood, Debris, Erosion Control*.

LADWP (Los Angeles Department of Water and Power). 2011. *Upper Stone Canyon Reservoir Water Quality Improvement Project*. https://www.ladwp.com/sites/default/files/2024-04/Draft%20Environmental%20Impact%20Report.pdf.

LADWP. 2024a. "Stormwater Capture Master Plan." https://www.ladwp.com/who-we-are/water-system/sources-supply/stormwater-capture-master-plan.

LADWP. 2025a. "8AM JANUARY 15, 2025 UPDATE." January 15. https://www.ladwpnews.com/8am-january-15-2025-update/.

LADWP. 2025b. *2025 Wildfire Mitigation Plan*. https://www.ladwp.com/sites/default/files/2025-07/LADWP%202025%20Wildfire%20Mitigation%20Plan.pdf.

LADWP. 2025c. "LADWP Begins Cleaning Water Meter Boxes in Pacific Palisades." July. https://www.ladwpnews.com/ladwp-begins-cleaning-water-meter-boxes-in-pacific-palisades/.

LADWP. 2025d. "LADWP Palisades Fire Water System Preliminary Report – July 3, 2025." July 3. https://www.ladwpnews.com/ladwp-palisades-fire-water-system-preliminary-report-july-3-2025/.

LADWP. 2025e. "LADWP's Santa Ynez Reservoir Returns to Service." June 26. https://www.ladwpnews.com/ladwps-santa-ynez-reservoir-returns-to-service/.

LADWP. 2025f. "Mayor Bass Announces Water Is Now Safe In Palisades Homes, Highlighting Record Efficiency of Rebuild Two Months After Fires." March 6. https://www.ladwpnews.com/mayor-bass-announces-water-is-now-safe-in-palisades-homes-highlighting-record-efficiency-of-rebuild-two-months-after-fires/.

LADWP. 2025g. "Update on Water Quality – Pacific Palisades & Adjacent Areas." January 19. https://www.ladwpnews.com/update-on-water-quality-pacific-palisades-adjacent-areas/.

LASAN (Department of Public Works, Bureau of Sanitation). 2019. Sewer System Management Plan.

Miet, Hannah. 2025. "After the Fires: A Blueprint for Los Angeles Infrastructure Recovery." June 9. https://urbanland.uli.org/resilience-and-sustainability/after-the-fires-a-blueprint-for-los-angeles-infrastructure-recovery.

Mullin, Megan, Sophie Katz, and Julia Stein. 2025. *Blue Ribbon Commission on Climate Action and Fire-Safe Recovery: UCLA Research Context and Considerations Informing Resilient Rebuilding from the January 2025 Los Angeles Fires*. June 20. https://escholarship.org/uc/item/39z0h8dk.

NRCS (Natural Resources Conservation Service). 2021. *Chapter 16 Soil Bioengineering for Streambank and Shoreline Protection*.

Pacific Palisades Historical Society. 2024. "Shopping in the Palisades: A Tale of Two Blocks." https://static1.squarespace.com/static/5d79bf7da6a2504ccd3dd75c/t/66dfbc5e45f0166576a1a6e5/1725938786364/PPHS-Fun-Fact-June-2024.pdf.

Park, Traci, dir. 2025a. *LADWP Builder Virtual Town Hall: Pacific Palisades*. https://www.youtube.com/live/Yjt5EM0fFn4.

Park, Traci. 2025b. "Pacific Palisades Update – 9/13/2025." September 12. https://cd11.lacity.gov/news/pacific-palisades-update-9132025.

Pierce, Gregory, Will Callan, Leo Blain, et al. 2025. How Have the LA Fires Affected Water Systems in LA County? https://innovation.luskin.ucla.edu/wp-content/uploads/2025/06/How-have-the-LA-Fires-affected-water-systems-in-LA-County.pdf.

Rainey, James. 2025. "A Sewer in Malibu? January Firestorm Has Coastal City Pondering the Once-Unthinkable." Los Angeles Times, May 11.

Ritter, Matt. 2025. "Trees That Performed Well in the Palisades Fire." February 19. https://www.selectree.calpoly.edu/list/304.

River Sand Incorporated (n.d.). "Structural Soil." https://riversandinc.com/soil/structural-soil/.

Rocky Mountain Power. 2025. "Carbon County system resiliency." https://www.rockymountainpower.net/outages-safety/wildfire-safety/reducing-risks/grid-price-carbon-counties.html.

SDG&E (San Diego Gas and Electric Company). 2025. "Strategic Undergrounding Program." https://www.sdge.com/undergrounding-overhead-powerlines.

SCAG. 2024. "Regional Growth Forecasting." https://scag.ca.gov/data-tools-forecasting.

SoCalGas. 2023. "SoCalGas' Innovative Optical Pipeline Safety Monitoring System Set to Expand After Successful Pilot Program." https://www.socalgas.com/newsroom/stories/socalgas-innovative-optical-pipeline-safety-monitoring-system-set-to-expand-after.

SoCalGas. n.d. "Gas Transmission Pipeline Interactive Map - Los Angeles." https://socalgas.maps.arcgis.com/apps/webappviewer/index.html?id=c85ced1227af4c8aae9b19d677969335.

State of California. 2023. 2022 California Building Code, Title 24, Part 2.

StreetsLA (Bureau of Street Services). n.d.-a. "BSS-UFD Street Tree Selection Guide." https://streetsla.lacity.org/bss-ufd-street-tree-selection-guide.

StreetsLA. n.d.-b. "Policies and Guidelines." https://streets.lacity.gov/resources/policies-and-guidelines#trees-and-landscaping.

StreetsLA. n.d-c. "Tree Planting Permit." https://losangelesca.portal.opengov.com/categories/1076/record-types/6465 .

StreetsLA. n.d-d. "Tree Removal Permit." https://losangelesca.portal.opengov.com/categories/1076/record-types/6467.

StreetsLA. n.d-e. "Tree Trimming Permit." https://losangelesca.portal.opengov.com/categories/1076/record-types/6463.

StreetsLA. n.d.-f. "Urban Forestry FAQs." https://streetsla.lacity.org/faqs-ufd.

StreetsLA. 2023. "Parkway Landscaping Guidelines." September 5. https://streetsla.lacity.org/sites/default/files/PARKWAY%20LANDSCAPING%20GUIDELINES.pdf.

StreetsLA (City of Los Angeles StreetsLA). 2023. "Neighborhood Council District Street Tree Summary: Pacific Palisades." November 1. https://www.streetsla.lacity.org/sites/default/files/Pacific%20Palisades%2020231101.pdf.

StreetsLA. n.d. "Policies and Guidelines." https://streets.lacity.gov/resources/policies-and-guidelines#trees-and-landscaping

StreetsLA. 2025. "Urban Forestry Division." August 5. https://storymaps.arcgis.com/collections/5a26afc56a0a4cec839fea34a0f2d9be?item=2.

Susskind, Jonah. 2023. *Playbook for the Pyrocene: Design Strategies for Fire-Prone Communities*. https://www.swagroup.com/wp-content/uploads/2023/10/Playbook-for-the-Pyrocene-SWA.pdf.

SWCA Environmental Consultants. 2019. "Tribal Cultural Resources Assessment for the 17346 Sunset Boulevard Project, City of Los Angeles, California." https://planning.lacity.gov/odocument/bf613b49-3682-4712-bb3b-0a8109edae7e/ENV-2018-505-J.pdf.

Szabo, Matthew. 2025. *Initial Cost Estimates for January Fire and Windstorm Event*. https://cityclerk.lacity.org/onlinedocs/2025/25-0006-s18_rpt_cao_1-21-25.pdf.

TreePeople. 2021. "Los Angeles Urban Soil." https://www.treepeople.org/wp-content/uploads/2021/03/LA-Urban-Soil-Toolkit-English.pdf.

TreePeople. n.d. "Los Angeles County Tree Canopy Map Viewer." https://treepeople.org/los-angeles-county-tree-canopy-map-viewer/

Tsirikis, Dimitrios. 2022. "United Energy in Australia Takes Action to Minimize Bushfire Risk." May 18. https://www.tdworld.com/wildfire/article/21241255/united-energy-in-australia-takes-action-to-minimize-bushfire-risk.

ULI Los Angeles, UCLA Ziman Center for Real Estate, and USC Lusk Center for Real Estate. 2025. *Prcject Recovery: Rebuilding Los Angeles after the January 2025 Wildfires*. https://www.anderson.ucla.edu/sites/default/files/document/2025-03/ULI-UCLA-USC-Project-Recovery_Rebuilding-LA-After-January2025-Wildfires.pdf.

United States Environmental Protection Agency. 2025. "Water Utilities Preparedness and Resilience." https://www.epa.gov/arc-x/water-utilities-preparedness-and-resilience#construct.

University of California Agriculture and Natural Resources and USDA Forest Service. 2025. "Post-Fire Restoration and Recovery Manual for Western Urban Forests." https://34c031f8-c9fd-4018-8c5a-4159cdff6b0d-cdn-endpoint.azureedge.net/-/media/CAL FIRE-website/what-we-do/grants/urban-and-community-forestry/updates-resources/post-Fire-urban-forest-manual-draft-feb-28.pdf?rev=334c61fa769444b39e7343b40cb42c72&hash=075984A9B74D686ED3C2DF4DD3ABFA53.

Urban Forestry Division. 2023. "Tree Spacing Guidelines." February. https://engpermits.lacity.org/bpermits/bdocs/bss_docs/BSS_TREE_SPACING_GUIDELINES.pdf.

U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration. n.d. "National Pipeline Mapping System." https://pvnpms.phmsa.dot.gov/PublicViewer/#:~:text=The%20National%20Pipeline%20Mapping%20System,811%20before%20any%20digging%20occurs.

Walton, R., Penrod E., Plautz, J., and Voorhis, S.V. 2021. 'A long way to go': How ConEd, Xcel and 4 other utilities are helping cities meet big EV goals. https://www.utilitydive.com/news/a-long-way-to-go-how-coned-xcel-and-4-other-utilities-are-helping-citie/610293/

Wiersema, Inge. 2018. *One Water LA 2040 Plan*. https://planning.lacity.gov/eir/Sunset_Wilcox/deir/deir_reference_docs/water-supply/City%20of%20Los%20Angeles%20-%20One%20Water%20LA%202040%20Plan,%20Volume%201,%20Summary%20Report,%20April%202018.pdf.

Codes and Orders

California State Legislature. 2016. California Code, *WAT 10632.5*. https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=WAT&sectionNum=10632.

California State Legislature. 2017. "California Code, HSC 116555." https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=116555.&lawCode=HSC.

City of Los Angeles. n.d.-b. "Los Angeles Municipal Code: Sec. 12.22. Exceptions." https://codelibrary.amlegal.com/codes/los_angeles/latest/lamc/0-0-0-114455.

City of Los Angeles, 2025a. EMERGENCY EXECUTIVE ORDER NO. 1 Return and Rebuild. https://mayor.lacity.gov/sites/g/files/wph2066/files/2025-03/EO%201%20REVISED%20-%20Emergency%20Executive%20Order%20%20Expedited%20Community%20Rebuilding%20and%20Recovery_0.pdf

City of Los Angeles. 2025b. EMERGENCY EXECUTIVE ORDER NO. 2 Watershed Protection. https://mayor.lacity.gov/news/ahead-possible-rain-mayor-bass-issues-emergency-order-shore-burn-areas-protect-watershed-and.

City of Los Angeles. 2025c. "EMERGENCY EXECUTIVE ORDER NO. 5 Return and Rebuild." March 21. https://mayor.lacity.gov/sites/g/files/wph2066/files/2025-03/EO%205%20-%20Emergency%20Executive%20Order%20-%20Resilient%20Rebuilding.pdf.

City of Los Angeles. 2025d. "EMERGENCY EXECUTIVE ORDER NO. 9 Return and Rebuild." July 30. https://mayor.lacity.gov/news/mayor-bass-issues-emergency-executive-order-prohibit-sb-9-applications-within-palisades-burn.

City of Los Angeles. 2025e. "Los Angeles Municipal Code Sec 57.507.3." September 15. https://codelibrary.amlegal.com/codes/los_angeles/latest/lamc/0-0-0-346877.



Appendix A:
Methodology, Assumptions, and Limitations

A.1. Assumptions

Key assumptions guiding this analysis included:

- Restoration work would remain within existing right-of-way and previously disturbed areas.
- All durations are preliminary estimates subject to refinement as project designs advance.
- Regulatory compliance with CEQA, FEMA, and State of California emergency recovery guidelines was assumed.
- Asset ownership and maintenance responsibilities remained consistent with pre-Fire conditions.
- Infrastructure systems were assumed to be restored to equal or better pre-disaster functionality.

Collected datasets were reviewed, compared, and analyzed to identify:

- Infrastructure damage extent across utilities and public facilities.
- Restoration priorities and dependencies across workstreams.
- Opportunities for resilience upgrades, including nature-based solutions and system redundancies.
- GIS analysis and cross-agency schedule mapping supported the sequencing of restoration projects and conflict identification across overlapping infrastructure corridors.

Data Gathering Procedures – Within the City and External Agencies

Data for the Infrastructure Restoration Plan (IRP) were collected through a combination of existing City records, interdepartmental coordination, and targeted outreach to external utilities and agencies.

- Internal City Sources included Bureau of Engineering (BOE) GIS datasets, LADWP water and power asset records, LASAN stormwater and wastewater infrastructure inventories, StreetsLA pavement management data, and FEMA Project Worksheets (PWs) related to the 2025 Palisades Fire (Disaster 4856DR).
- External Agencies and Utilities included SoCal Gas, AT&T, Charter Spectrum, and the California Department of Transportation (Caltrans).
- Supplemental Data were gathered from regional studies such as the Los Angeles County Sustainability Plan, FEMA's Restoration and Recovery Guide for Private-Public Partnerships (2025), and existing environmental datasets (LiDAR, USGS, NRCS soils, and LANDFIRE vegetation).

While the City's internal datasets were comprehensive, several limitations were identified:

- Incomplete private utility data
- Temporal inconsistency.
- Limited field verification.
- Restricted proprietary data

A complete list of technical references and datasets is included in the References sections.



A.2. Participating Agencies, Stakeholders, and Community Representatives Contact List.

These data were primarily drawn from FEMA, LADWP, LASAN, and BOE records, supplemented by environmental datasets (e.g., NOAA, NRCS, USGS).

The following entities participated in the development of the IRP:

- City of Los Angeles: Los Angeles Bureau of Engineering (BOE), LADWP, LASAN, StreetsLA, Department of Recreation and Parks (RAP), Department of City Planning (LACP).
- Regional and State Partners: Cal OES, FEMA Region IX, and Los Angeles County Department of Public Works (LACDPW).
- Private Utilities: SoCal Gas, Charter Spectrum, AT&T, Southern California Edison (advisory role).
- Community and Environmental Organizations: Pacific Palisades Community Council, TreePeople, and local watershed nonprofits.

This report includes a series of supporting figures and maps:

- Damage and restoration maps by utility
- Tiered restoration framework maps
- Streets and vegetation restoration priority areas
- Cross-agency sequencing map and schedule overlays

All maps were developed using City of Los Angeles GIS basemaps, supplemented by FEMA geospatial damage data and satellite imagery.



A.2.1. Data Sources

Note: All data was collected post-Fire through November 2025.

Table A.1: List of data acquired from external agencies

Team	Institution	Data
Wet Utilities	LADWP	Pacific Palisades Water Main Betterment Projects – Phase 1 and Phase 2
		Santa Ynez Reservoir Fact Sheet – Drinking Water and Fire Safety
		LADWP and LAFD Announce 100% Completion of Citywide Fire Hydrant Inspections and Maintenance
		DR4856 Permanent Work Projects - Uncompleted
		Jan 2025 Fires Preliminary Damage Assessment
		Palisades Outages
	LASAN	List of Palisades OWTS
		2025 Palisades Maps
		2024-2025 Wet Weather Plan
		County RSS Submission
		Early Stage Proposed FCIPs in Palisades Fire Zone
		All Debris Basins
		LA City Debris Basins
		DB61 and DB63 As-Builts
		DB70 to DB78 As-Builts
		Damage Assessment
		Stormwater Pumping Plants
		Storm Drain
		Project Prioritization System
		BOE Proposed Projects
		Disposal Sites
		PP Data Sheets
		FEMA Updated Project List – PP
		FEMA Updated Project List – Sewer
Dry Utilities	LADWP	Distribution Rebuild Plan for Pacific Palisades
		Jan 2025 Fires Preliminary Damage Assessment
		Palisades Circuit Map
		Distribution GIS Files
		Electric Service Requirements Manual
		PP Emergency Restoration and Rebuild Timeline
		Jan 2025 Fires Prem Damage Assessment SP Meter SA Acct Info
		Outages for Damaged Premises That Requested Restoration
		Palisades Outage Report
		Pacific Palisades Rebuild Program Draft
		DS-29 12kV Mainlines – kmz
		Pacific Palisades Load Block Map
		Pacific Palisades Load Block Map – kmz



Appendix B:
Technical Memo

AECOM
999 Town and Country Road
Orange, CA 92868
aecom.com

Project name: Pre-Storm Readiness Assessment – Debris Basin 69 (Santa Ynez Canyon, Pacific Palisades)

Project ref:

To: Arsen Voserchyan (LA BOE)
Micheal Scaduto (LA SAN)

CC: Marc Damikolas (AECOM)
Christopher Burns (AECOM)

From: Joseph Dluzak, PE
AECOM – Water Resources

Date:
October 14, 2025

Memo

Pre-Storm Readiness Assessment for Basin 69: Palisades, City of Los Angeles

Executive Summary

Debris Basin 69 is located at the outlet of Santa Ynez Canyon, just west of Palisades Drive and Avenida de Santa Ynez in Pacific Palisades, California. It is one of several basins built in the Santa Monica Mountains foothills to intercept debris flows before they reach residential neighborhoods. The basin protects homes along Palisades Drive, the Avenida de Santa Ynez tract, and downstream conveyances that ultimately discharge toward Sunset Boulevard and Pacific Coast Highway.

The immediate upstream basin captures runoff from a steep 0.52 mi² watershed (333 acres) that originates in the Santa Monica Mountains and drains northward into Santa Ynez Canyon. Terrain slopes drop rapidly from 1,600 ft ridgelines to 500 ft at the basin outlet, producing short, flashy drainage paths. Because of this steep topography and fractured bedrock, the canyon naturally produces high sediment yields during intense rainfall. An additional ~3.65 mi² of headwater terrain is conditionally routed through the Vereda de la Montura culvert, increasing the effective contributing area to ~4.16 mi² when unobstructed

The drainage area above Basin 69 was burned in the January 2025 Palisades Fire. Post-fire assessments show that more than half the slopes in the Santa Ynez Canyon watershed burned at moderate severity, leaving them vulnerable to soil erosion and debris flow initiation.

Analysis of the January 2025 USGS post-wildfire LiDAR indicates a basin-wide sediment surface near El. 513 ft (NGVD29). Field observations on October 2, 2025, show a narrow trench cut through deposits to an upstream low-flow standpipe inlet that is not at the as-built location. The standpipe top is ~El. 509.0 ft, matching the spillway crest; surrounding sediment at the dam at least to the spillway sill (El. 507.1 ft) locally, and—accounting for mounded deposits and mature trees upstream—the area-weighted debris surface averages near El. 509 ft or higher. Because this trench is spatially limited and does not re-establish a basin-wide depression below the crest, the basin has no functional debris-capture storage below the spillway crest and is effectively operating in through-flow. The only remaining void is surcharge storage above the crest, approximately ~24 ac-ft between El. 509.0 ft and the upper side-walls at the basin (El. 519.5 ft), which provides no debris-retention benefit.

The limited remaining volume between El. 509 ft and the top of the spillway walls El. 519.5 ft represents only about 24 acre-feet (ac-ft) of temporary surcharge storage—water temporarily stored

above the control crest while the spillway is actively discharging that provides no debris-retention benefit. In effect, all of the original debris-storage capacity has been lost, leaving the basin incapable of intercepting additional debris flows before the upcoming rainy season.

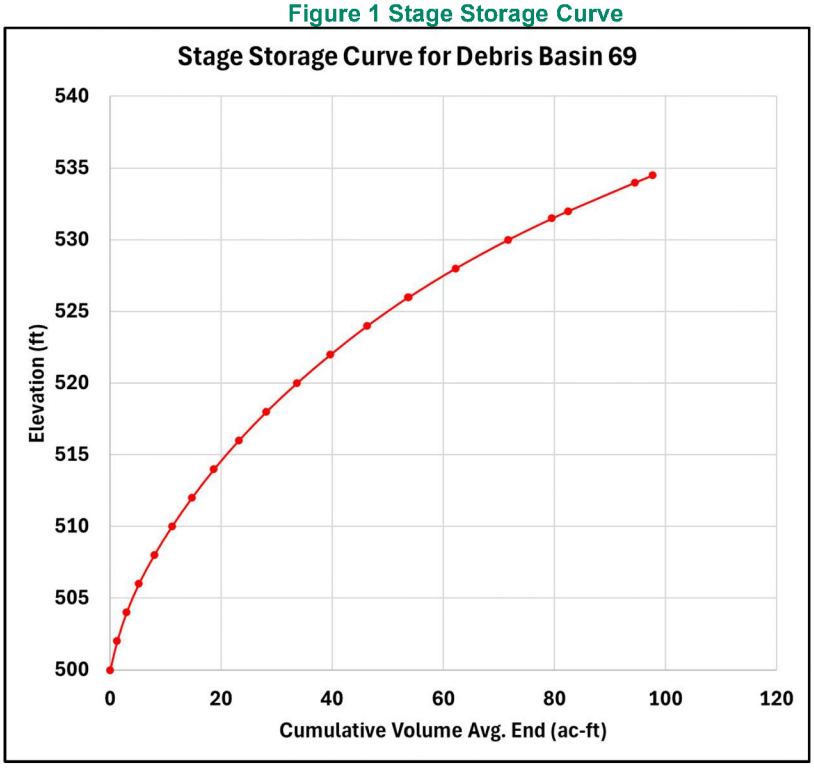
Modeled debris inflows from U.S. Geological Survey (USGS) regression equations [Cannon et al., 2010; Gartner et al., 2014; Staley et al., 2017] and the Palisades 2025 Post-Fire Assessment Dataset (USGS, Version 1.1, January 15 2025) dataset predict a median value of approximately 7.9 ac-ft of debris for a 0.94 in/hr storm, 10.6 ac-ft for a 1.26 in/hr storm, and 13 ac-ft for more intense storms in the 1.4–1.6 in/hr range. With current surcharge only storage limited to less than 24 ac-ft, even a single moderate storm is expected to fill or exceed the remaining basin capacity, while larger events could surpass it several times over.

Basin Capacity and Remaining Storage

January 2025 USGS post-wildfire LiDAR indicates a basin-wide sediment surface near El. 513 ft (NGVD29). Field conditions on October 2, 2025 show a localized trench cut to an upstream standpipe with a top at ~El. 509.0 ft (spillway crest); surrounding deposits are ≥ El. 507.1 ft locally and ~El. 509 ft on average across the basin floor. Because El. 509.0 ft equals the spillway crest, there is no remaining functional storage below the crest—any inflow immediately engages the spillway, bypassing the debris-capture zone. The only void is surcharge storage above the crest, approximately 24.1 ac-ft between El. 509.0 and El. 519.5 ft, which is not credited as operational debris-interception capacity.

- Spillway sill (upstream invert/approach): El. 507.1 ft
- Spillway Control elevation (crest): El. 509.0 ft
- Training-wall/chute confining walls top: El. 513.3 ft
- Upper channel/side walls at basin: El. 519.5 ft
- Dam crest: El. 534.5 ft

Figure 1 Stage Storage Curve



Although approximately 24.1 ac-ft of void remains between the sediment surface and the upper side-wall elevations, this is surcharge storage, i.e., transient water stored above the spillway crest while the control is discharging. Consistent with the LACDPW Sedimentation Manual (2006), surcharge is not credited toward operational debris-interception capacity. In practical terms, Basin 69's functional capacity is effectively exhausted; the apparent void above the crest is hydraulically ineffective for debris retention.



Figure 2 Site Photos October 2nd, 2025

Table 1. Debris Basin 69 — Stage–Storage and Remaining Void from El. 509.0 ft (Spillway Crest), NGVD29

Reference Elevation (ft, NGVD29)	Cumulative Storage (ac-ft)	Remaining Void from El. 509 (ac-ft)
507.1 (Spillway sill)	6.5	0 (buried)
509 (Spillway crest; ~current sediment at inlet)	9.5	0 (buried)
513	16.7	7.2
516	23.2	13.7
518	28.1	18.6
519.5 (upper sidewalls at basin)	33.6	24.1
522	39.7	30.2
534.5 (Dam Crest)	97.7	88.2

Notes: (1) The training-wall tops are ~El. 513.3 ft, which confine surcharge within the spillway chute up to that level; this is a hydraulic detail and does not change basin storage accounting. (2) Original as-builts reference NGVD29; DEM source is NAVD88. A vertical transformation (National Geodetic Survey VERTCON; site-specific offset ~2.48 ft) was applied so all elevations and volumes shown above are in NGVD29. (3) An upstream low-flow standpipe inlet (not at the as-built location) was observed on October 2, 2025, with a narrow trench cut to it. The standpipe top is ~El. 509.0 ft (spillway crest); its plan area is small relative to the basin, so any incremental sub-crest volume is negligible and—per LACDPW practice—not credited as functional storage

Data & Methods

The watershed draining to Debris Basin 69 (Santa Ynez Canyon, Pacific Palisades) was delineated in Hydrologic Engineering Center – Hydrologic Modeling System (HEC-HMS) using the 2025 USGS Post-Wildfire LiDAR Digital Elevation Model (DEM) (0.5 m resolution, NAVD88; NOAA Digital Coast InPort ID 77762) and confirmed against the LACDPW Hydrologic Trace Network.

The immediate contributing drainage to Basin 69 encompasses approximately 0.52 square miles (333 acres). However, field review and the LACDPW trace network indicate that an additional 3.65 square miles of steep, burned headwater terrain drains through the Vereda de la Montura culvert, which discharges directly into Basin 69. If this culvert conveys flow without major deposition or blockage, the effective contributing drainage area increases to roughly 4.16 square miles.

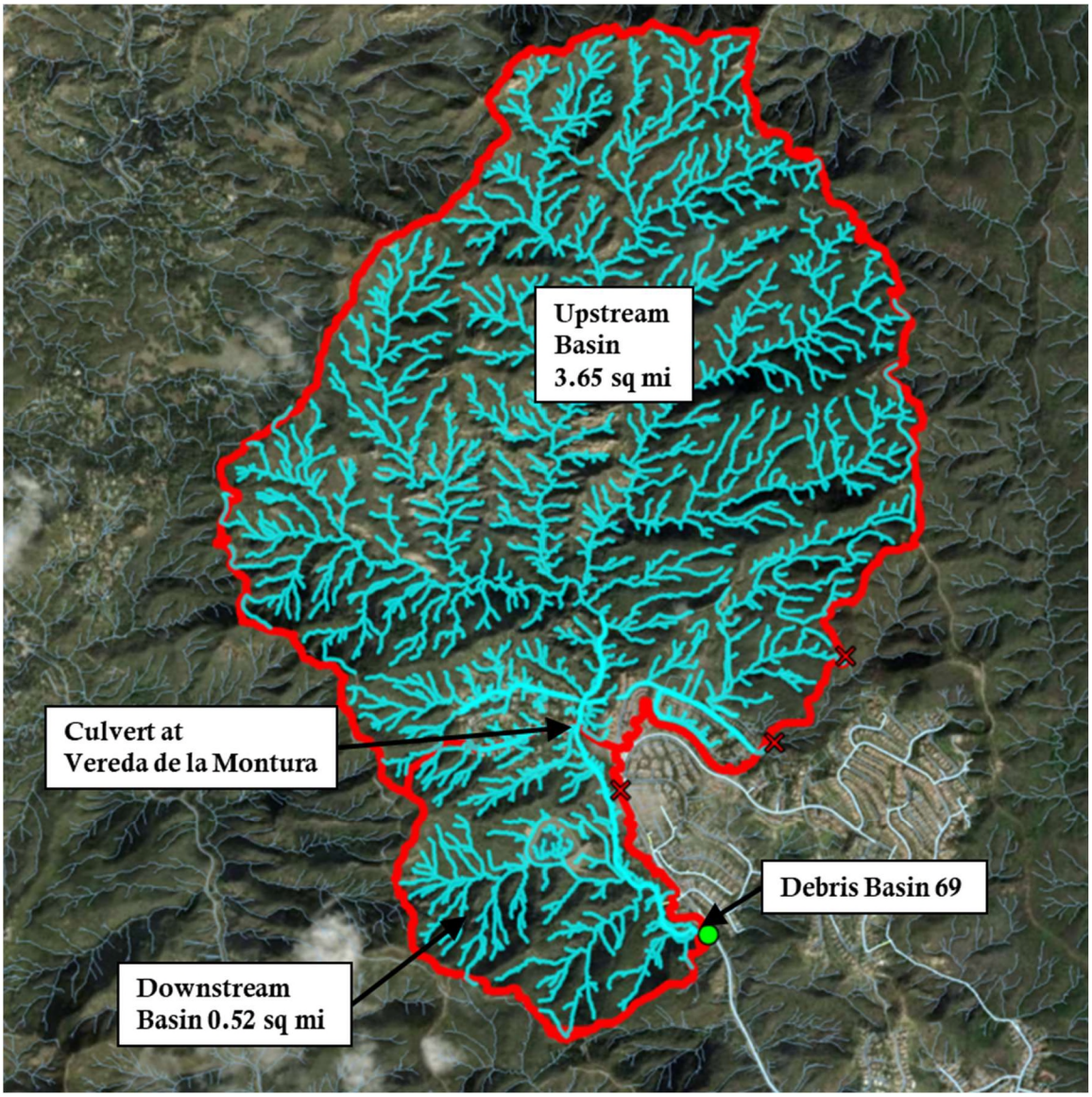


Figure 3 Upstream and Downstream Watershed Contributions to Basin 69

The Vereda de la Montura crossing upstream of Basin 69 is cataloged by Los Angeles City Bureau of Engineering (BOE) as a debris basin, but review and as-builts indicate it is a multi-plate culvert with headwalls, not a purpose-built debris basin. While the configuration does provide some incidental storage and debris interception immediately upstream of the culvert inlet, it lacks a defined spillway, stage–storage design, or cleanout history. Accordingly, its function is more accurately characterized as a culvert crossing with incidental capacity. Based on current conditions, the area upstream of the culvert appears to have already accumulated significant sediment—potentially filling the shallow depression above the invert to near the culvert crown elevation.

Because this culvert discharges directly into Basin 69, the upstream watershed cannot be considered hydraulically independent. Under normal, unobstructed conditions, most debris-laden flow from the upper watershed is conveyed through the culvert to Basin 69. Under partial blockage or overtopping, temporary impoundment and subsequent release could deliver a debris surge once flow re-establishes through or over the crossing. For conservative assessment, this analysis treats the entire upstream system as hydraulically connected to Basin 69.

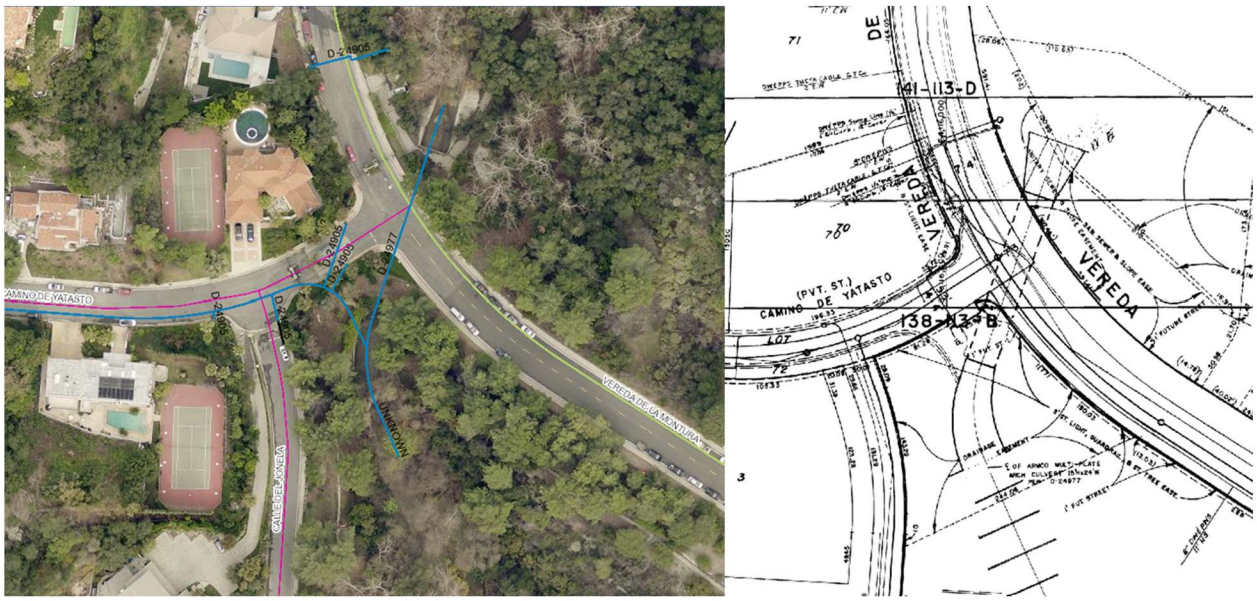


Figure 4 Vereda de la Montura crossing upstream of Basin 69

Burn severity mapping from the January 2025 Palisades Fire (California Governor's Office of Emergency Services [Cal OES] / U.S. Forest Service [USFS] Burned Area Emergency Response [BAER], 2025) indicates that more than 50 percent of the watershed burned at moderate-to-high severity, substantially reducing infiltration, stripping vegetative cover, and increasing debris-flow initiation probability.

The LACDPW Sedimentation Manual (2nd Edition, 2006) classifies mountain watersheds into Debris Production Areas (DPAs) from Zone 1 (low yield) to Zone 4 (very high yield). Santa Ynez Canyon lies in DPA Zone 4, reflecting steep, fire-prone slopes underlain by fractured bedrock and colluvium. Zone 4 basins generate the highest debris yields in Los Angeles County, commonly equivalent to approximately 6.2–12.4 ac-ft per square mile per storm event under post-fire conditions. Applying LACDPW Sedimentation Manual (2006) Zone 4 event yields to the 4.16 mi² contributing area gives a theoretical debris volume of ≈26–52 ac-ft per storm under post-fire conditions, consistent with USGS post-fire modeled ranges.

The Sedimentation Manual also establishes an operational benchmark: when more than 50 percent of a basin's functional storage—the volume below the spillway control (crest) has been lost to sedimentation, the basin should be scheduled for cleanout. This is because Zone 4 debris inflows can rapidly consume the remaining void during even a moderate storm event, leading to spillway engagement, bypassing, or downstream sediment deposition. These criteria remain the standard engineering basis for sediment-management decisions in post-fire basins across Los Angeles County.

Storm Frequency and Debris-Flow Response

Rainfall intensity–duration–frequency (IDF) values are from NOAA National Weather Service (NWS) Atlas 14, Precipitation Frequency Data Server (PFDS). For post-fire terrain, debris-flow initiation is governed primarily by short-duration intensity thresholds, not traditional design-storm return periods. Screening thresholds relevant to Basin 69 include 15-min intensities near 1.0–1.6 in/hr; these are typical of sub-seasonal bursts that commonly occur during Pacific winter storms. Where return periods are needed, site-specific PFDS quantiles for the basin coordinate should be used and reported separately (15-min and 1-hr).

Field reconnaissance and post-event syntheses (USGS; Geotechnical Extreme Events Reconnaissance [GEER] Association, 2025) show that in burned terrain, ~0.5–1.0 in/hr (15-min) can initiate debris flows—well below pre-fire thresholds.

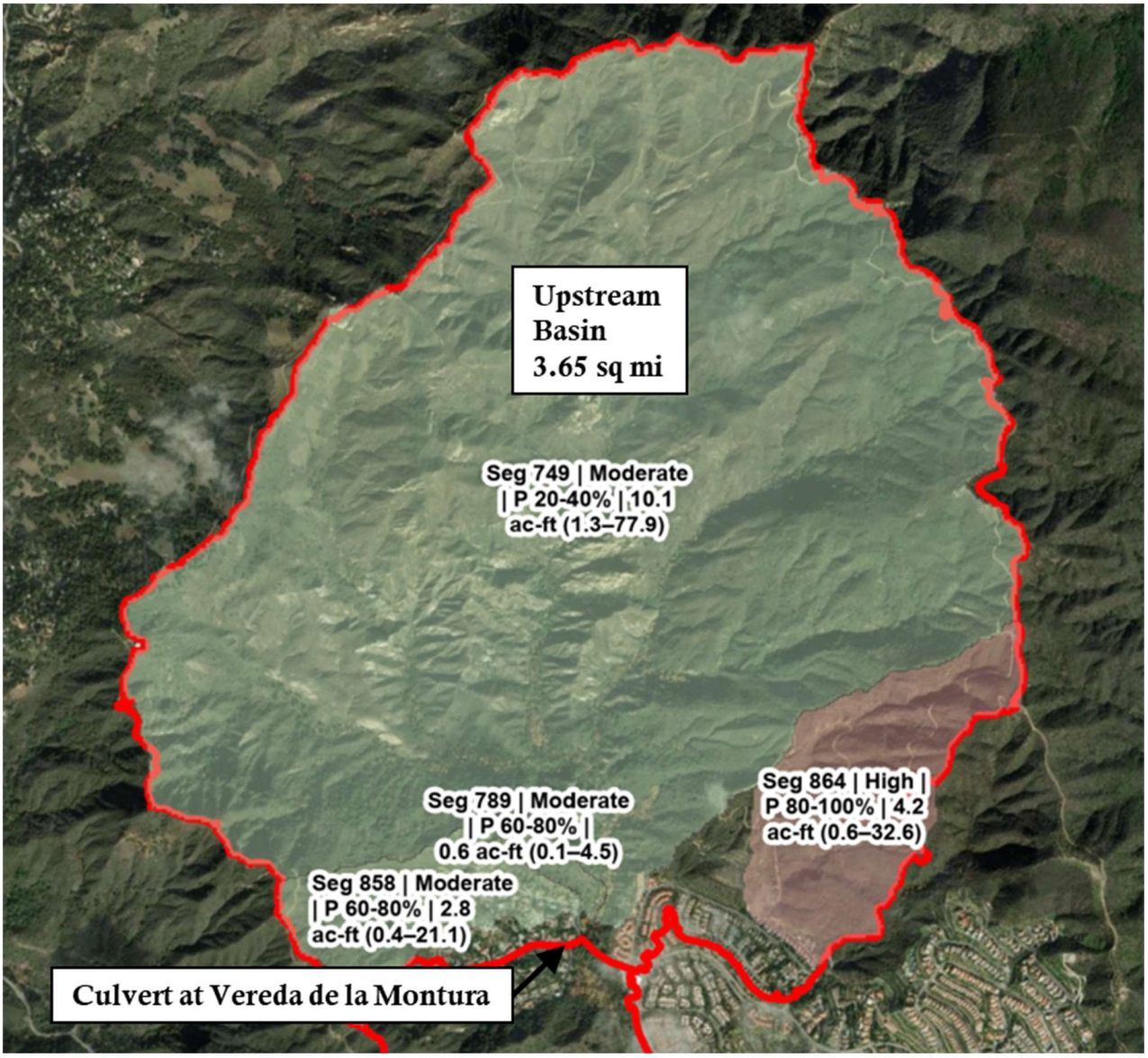


Figure 5 Upper Watershed USGS 2025 Post-Fire Debris-Flow Hazard Assessment (1.26 in/hr, 15-min intensity). Modeled debris-flow likelihood and volume ranges for contributing polygons within the Basin 69 watershed

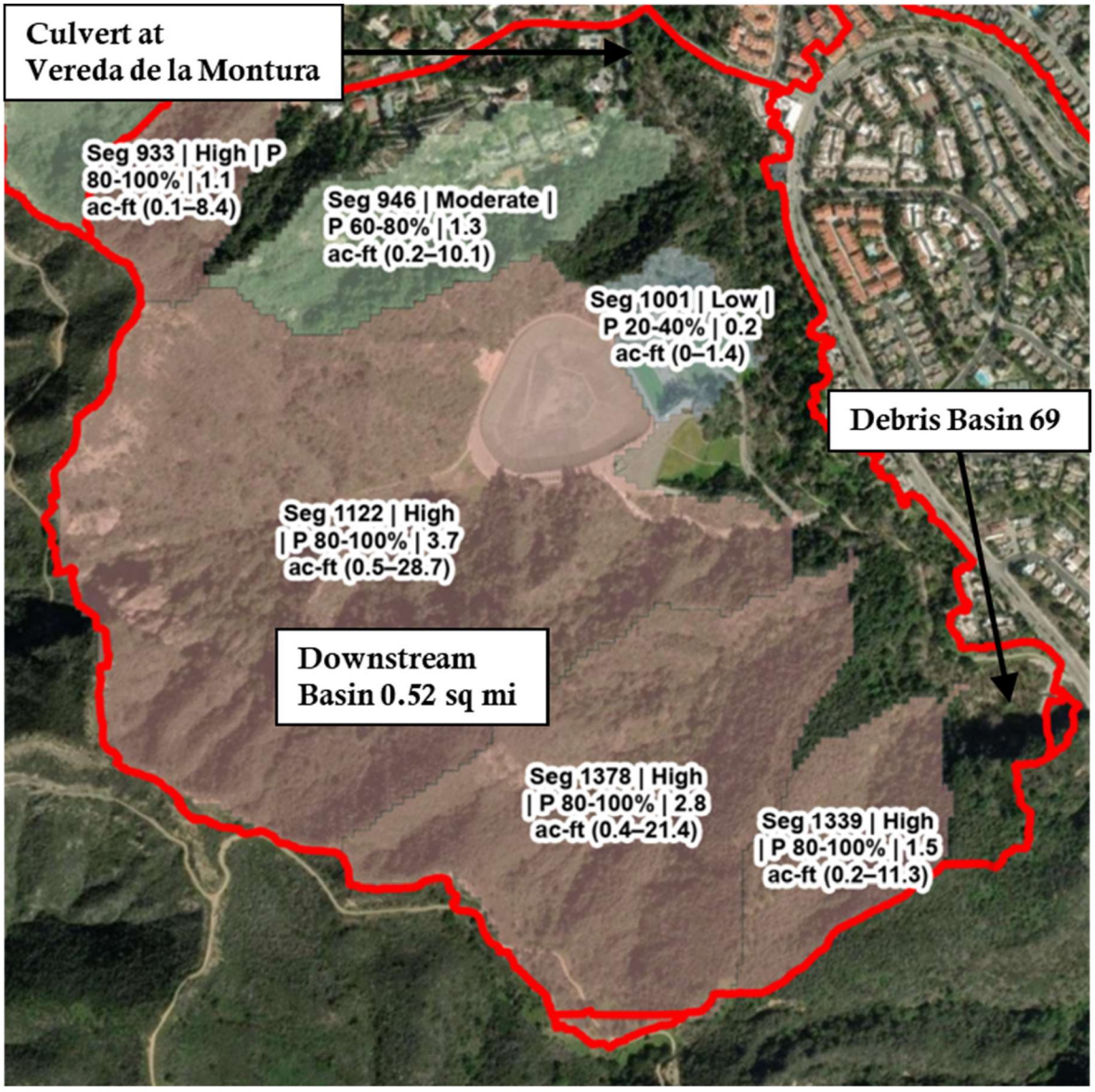


Figure 6 Lower Watershed USGS 2025 Post-Fire Debris-Flow Hazard Assessment (1.26 in/hr, 15-min intensity). Modeled debris-flow likelihood and volume ranges for contributing polygons within the Basin 69 watershed

Debris-flow likelihoods and potential sediment volumes for the Palisades Fire area were derived from the USGS Palisades 2025 Post-Fire Assessment Dataset (v1.1, January 15, 2025). Each modeled stream segment reports predicted debris volumes (V, Vmin, Vmax) for 15-minute rainfall intensities ranging from 0.63 to 1.57 in/hr, based on the USGS post-fire debris-flow regression equations (Cannon et al., 2010; Gartner et al., 2014; Staley et al., 2017).

The USGS Palisades 2025 Post-Fire Assessment Dataset (v1.1, Jan 15, 2025) indicates that the polygons draining toward the Vereda de la Montura culvert—immediately upstream of Basin 69—can generate substantial debris-flow volumes under post-fire conditions. Estimated median and cumulative debris volumes, derived from 15-minute rainfall intensities ranging from 0.94 to 1.6 inches per hour (in/hr), are summarized as follows:

Aggregating all polygons routed to the basin outlet (inclusive contributing area ~4.16 mi²), estimated cumulative median debris volumes for 15-minute rainfall intensities are:

- 0.94 in/hr (15 min): ~21.1 ac-ft cumulative median *(Vmin–Vmax ~2.7–161.7 ac-ft)*.
- 1.26 in/hr (15 min): ~28.3 ac-ft cumulative median *(Vmin–Vmax ~3.8–226.0 ac-ft)*.
- 1.4–1.6 in/hr (15 min): ~32.4–36.8 ac-ft cumulative median *(Vmin–Vmax ~4.2–281.9 ac-ft).*

If the culvert continues to function without major obstruction, much of this debris will be routed through to Basin 69 as bedload and suspended load. Under plugging or overtopping, however, the resulting debris surge can readily exceed Basin 69's 24 ac-ft surcharge-only void, forcing spillway engagement and increasing the likelihood of downstream deposition or damage to adjacent infrastructure and residences.

Consequently, the true range of potential inflows is broader than the median values shown, and high-end outcomes could exceed modeled expectations by a factor of two or more.

Decision Framework

As described above, Basin 69 retains only about 24 ac-ft of surcharge storage, with no functional debris-capture volume remaining below the spillway crest (El. 509 ft). The current debris surface lies near the standpipe crest, meaning that any additional inflow will immediately engage the spillway, bypassing the basin's intended debris-interception zone.

Rainfall statistics from NOAA Atlas 14, combined with USGS post-fire debris-flow regression results for the Palisades Fire area, indicate that early-season, short-duration bursts typical of Pacific storms can readily produce debris-flow volumes on the order of—or exceeding—the remaining 24 ac-ft. The USGS regression volumes represent total debris-flow material (water + sediment); while reported as median estimates, realized inflows often exceed medians under clustered or successive storms, a common first post-fire pattern.

Further uncertainty involves the Vereda de la Montura culvert upstream of Basin 69. Although listed by the LACBOE as a debris basin, it functions primarily as a roadway culvert. Under blockage or overtopping conditions, this structure could redirect concentrated debris surges directly into Basin 69, compounding downstream loading.

The implications extend beyond the basin footprint. Downstream conveyances, energy dissipation structures, and private storm-drain systems were not designed to accommodate debris-laden flows of this magnitude. Plugging of storm drains, blockage of culverts along Palisades Drive, or conveyance of coarse debris into the lower Santa Ynez Channel could result in localized flooding, road closures, and potential structural damage to downstream infrastructure. If spillway flows were to continue unchecked, sediment deposition could also elevate hydraulic grades, reducing channel capacity and increasing flood risk to nearby residential properties and the coastal outlet system near Sunset Boulevard.

Given the loss of functional capacity in Basin 69, high likelihood of debris-flow–triggering storms during the first post-fire season, and uncertainty of upstream hydraulic controls, pre-season cleanout of Basin 69 is strongly warranted.

Immediate restoration to original design capacity would reduce the probability of spillway engagement, downstream blockages, and infrastructure damage while restoring a buffer for protecting adjacent residential and roadway assets during early storm events.

References

1. Los Angeles County Department of Public Works (LACDPW). *Sedimentation Manual*, 2nd ed. 2006.
2. California Governor's Office of Emergency Services (Cal OES) and U.S. Forest Service (USFS). *Burned Area Emergency Response* (BAER) – *Palisades Fire Burn Severity Map and Report. January 2025*.
3. U.S. Geological Survey (USGS). *Post-Fire Debris-Flow Hazard Assessment Dataset for the 2025 Palisades Fire Area* (Pal 2025 v1.1). January 15, 2025.
4. Cannon, S.H., et al. 2010. Debris-flow initiation processes in Southern California post-fire environments. *Geological Society of America Bulletin*.
5. Gartner, J.E., et al. 2014. *Prediction models for post-fire debris-flow volumes in the western United States*. U.S. Geological Survey Scientific Investigations Report 2014-5131.
6. Staley, D.M., Negri, J.A., Kean, J.W., Laber, J.L., Tillery, A.C., and Youberg, A.M. 2016. *Updated logistic regression equations for the calculation of post-fire debris-flow likelihood in the western United States. U.S. Geological Survey Open-File Report* 2016-1106.
7. Geotechnical Extreme Events Reconnaissance (GEER) Association. *2025 Los Angeles Area Wildfires and Subsequent Storms*. GEER Report GEER-085. June 13, 2025. https://doi.org/10.18118/G6X37N
8. National Oceanic and Atmospheric Administration (NOAA), National Weather Service (NWS). *NOAA Atlas 14, Volume 6: Precipitation-Frequency Atlas of the United States* (California). 2011–present; PFDS web interface (accessed October 6, 2025).
9. U.S. Army Corps of Engineers, Hydrologic Engineering Center. *HEC-HMS User's Manual*, Version 4.13. July 2025.
10. NOAA Office for Coastal Management (OCM). *2025 USGS LiDAR DEM*: Los Angeles Post-Wildfire, CA. NOAA Digital Coast InPort Item 77762. 2025.
11. National Geodetic Survey (NGS). *The VERTCON 3.0 Prcject*. NOAA Technical Report NOS NGS 68. 2019.





Appendix C:
Potable Water Appendices

C.1. System Coverage and Reliability

LADWP reported the following sources of local water supply for 2016-2020: 48% of local water was from the Los Angeles Aqueduct from the eastern Sierra Nevada Mountains; 41% was purchased by the City from the Metropolitan Water District of Southern California; 9% was from groundwater; and 2% was from recycled water. The location of these primary water supply sources is shown in Figure C.2 (City of Los Angeles, 2024).

Figure C.15: Primary Water Supply Sources in California



The LADWP Water System owns approximately 7,500 acres of water storage, transmission, and treatment properties in the Los Angeles Metropolitan area. LADWP maintains potable water facilities, such as tanks and reservoirs (Los Angeles Department of Water & Power, 2025a).

LADWP's pump stations are typically equipped with internal combustion engine-driven pumps that automatically activate, ensuring that at least one pump remains operational during a power outage. Additionally, when there is a loss of utility power, portable generators can be connected to switchgears at the pump stations to provide backup power (Los Angeles Department of Water & Power, 2025a). Power loss was not the cause of pump stations in the Palisades shutting down.

All issues reported to LADWP about hydrants in the Palisades before the fire had been addressed. LADWP works with the LAFD, which oversees the inspection of fire hydrants across the city. LADWP has repaired all hydrants identified as needing attention by LAFD inspectors (Los Angeles Department of Water and Power, 2025a).

C.1.1. Fire-Damaged Assets

The City submitted its Initial Damage Estimate (IDE) to FEMA, via the county and state, of $358 million in estimated post-wildfire costs specifically for Pacific Palisades. Of the $358 million damage estimate, $6.6 million was from emergency response, $350 million was from infrastructure/structural damage to City facilities and equipment, and $1.2 million was from debris removal (Szabo, 2025).

Table C.1 below shows the types of infrastructure damaged as well as the responsible departments and their corresponding estimated damage costs. The IDE reflects costs reported in the initial days of the Palisades Fire, from January 7 to January 10, 2025 (Szabo, 2025).

Table C.1: Summary of post-wildfire infrastructure damage costs

Types of Infrastructure Damaged	Cost
LADWP	**$75,804,596**
Distribution stations damaged including equipment, wiring, etc (3 locations)	$2,330,000
Distribution System Failures - misc $1-$2k responses for circuits, relays, etc. (system wide)	$30,274,336
Distribution System in mobile home park was destroyed by the fire	$25,143,260
LADWP-Owned street and outdoor lights (approximately 7,000 in various locations)	$18,057,000
Los Angeles Library	**$55,188,455**
Pacific Palisades Library (structure and contents) was destroyed in the fire	$55,000,000
Smoke, ashes, and dust in the HVAC filters; 73 libraries affected, required charcoal and primary filters	$188,455
LASAN	**$47,871,121**
Emergency measures to keep facilities operation (vactor pumping, fence replacement, equipment for power outages	$428,924
Full replacement of stormwater structures (2 locations: Old Oak Road and Temescal Canyon)	$13,000,000
Pumping plants (11 locations: full replacements to minor damage but field assessments needed)	$34,442,197
BSL	**$15,707,300**
Street lights damaged/destroyed due to winds and fire (number unknown; includes cost of banners)	$15,707,300
RAP	**$155,680,000**
Recreation centers (2 damaged, both facilities and park amenities: Palisades and Rustic Canyon)	$122,500,000
Park amenities (12 parks)	$32,180,000

Source: https://cityclerk.lacity.org/onlinedocs/2025/25-0006-s18_rpt_cao_1-21-25.pdf

The January 2025 IDE report and the planned and proposed project cost estimates from Table 3.9 in Section 3.2.2.5 differ in both magnitude and scope of damages. The IDE reflects documented damage costs from the immediate post-Fire assessments, whereas the planned and proposed project cost estimates summarized earlier represent forward-looking investments intended to restore, harden, and modernize infrastructure. These costs are orders of magnitude higher because of their focus on resilience beyond basic repair.

C.1.2. "Do Not Drink" Advisories

The loss of pressure in distribution systems and the plumbing on private premises allowed wildfire contaminants like ash, soot, and smoke to infiltrate the water supply through damaged pipes and open hydrants. Additionally, there was the potential for burned or melted water infrastructure to release dangerous levels of volatile organic compounds (VOCs) into the drinking water supplies (Pierce et al., 2025).

LADWP first issued a Do Not Drink notice on January 10, 2025. According to a report from LADWP posted on January 15, 2025, LADWP Water Quality staff have further refined the boundaries adjacent to the 90272 zip code. The Do Not Drink notice applies to the 90272 zip code and the areas immediately south of the 90272 zip code that lie north of San Vicente Boulevard, with a northeast boundary that skirts the area just south of Brentwood (LADWP, 2025a). Over the first 4 months after the Palisades wildfire, nine Los Angeles County water utilities issued a variety of "Boil Water," "Do Not Drink," or "Do Not Use" advisories (Pierce et al., 2025). Public notice signage was observed around the Palisades burn areas during the February site visit (Akin et al., 2025).

C.1.3. ERDIP Example Applications

Table C.2: Seismically Resilient Pipe Projects

Type	Case Study	Year	Region
ERDIP	Hayward Fault Seismic Retrofit Pipeline Project	2020-2021	Northern California
HRDIP (Kubota-Specific)	Penitencia Pipeline Seismic Retrofit	2018	Northern California
	EFWS – Emergency Firefighting Water System	2022–ongoing	
	Mission Hills Earthquake-Resistant Pipeline	Fall 2019–Winter 2020	Southern California
	Western Trunk Line Project	Planned into 2027	
	Reseda Boulevard Project	2014	
	Northridge Hospital Project	2015	
	Foothill Trunk Line Fault Crossing	2022	
	City Trunk Line North	2024–ongoing	
	Casa Loma Siphon Barrel #1	2022	
	Jackson Avenue Pilot	2015	Vancouver, BC
	New Hospital Development	2021-2022	
	Mid-Town Water Supply Upgrade	2022-2023	Nanaimo, BC
	South Park Drainage & Roadway Partnership	2022	Seattle, WA
	North Jantzen Ave Replacement	2023	Portland, OR
	Davis Aqueduct Reach 1	2024-2025	Utah
	Alpine Aqueduct Reach 1	2025-ongoing	
Seismic Steel Pipe for Crossing Fault (SPF)	JFE Engineering Corporation SPF Project	2020	Metro Vancouver

C.2. LASAN Prioritization Approach

The Department of Public Works, Bureau of Sanitation (LASAN) uses a structured prioritization system to rank and select infrastructure restoration projects (see Table C.3). The system evaluates multiple dimensions of risk and benefit to ensure that resources are allocated where they can achieve the greatest resilience, safety, and service reliability.

C.2.1. Street and Traffic Impacts

Projects are prioritized if deficiencies cause direct hazards to the public right-of-way. Criteria include undermined road or bridge supports, erosion of parkways or shoulders, history of accidents, flooding hazards, or conditions such as high-velocity flows or sheeting across streets that endanger both vehicles and pedestrians.

C.2.2. Property Access and Critical Facilities

Special weight is given to projects where flooding or drainage problems impair access to critical facilities such as fire stations, police stations, or schools. Non-critical property access issues are also considered, but carry lower weight.

C.2.3. Flooding and Property Damage LASAN Storm Drain System Impacts

Priority is given to projects that replace deteriorated drains, improve hydraulic capacity, or are prerequisites for other planned capital improvements. Ensuring downstream systems can accommodate flows is a critical factor.

C.2.4. Quality and Community Benefit

LASAN also considers water quality, public health, and cost-effectiveness. High-priority projects include those that:

- Remove FEMA "Special Flood Hazard Area" designations
- Deliver strong cost-benefit ratios relative to population served
- Eliminate recurring maintenance issues such as cross gutters or frequent cleanouts
- Address community complaints or repetitive drainage problems
- Resolve septic odor, algae growth, or mosquito breeding concerns

Based on this, LASAN prioritizes projects by evaluating the physical state of assets (deteriorated drains, inadequate hydraulic capacity), their role in the larger system, and the likelihood of failure. Projects that remove immediate hazards are given highest priority. This reflects the need to address infrastructure where the combination of poor conditions and system criticality creates disproportionate risks.

LASAN uses its prioritization results to stage projects logically in a phased approach that balances urgent needs with strategic investments, using cost-benefit analysis and size of population served as key filters for sequencing the work. This integration and sequencing sets the stage for the disaster-to-rebuilding framework and allows projects to move from addressing immediate safety hazards to supporting community recovery, and ultimately to long-term resilience building. LASAN's phased approach includes:

- **Immediate Actions:** Projects that address hazards to streets, safety, and access.
- **Short-Term Projects:** Projects that remove repetitive flooding and improve drainage at recurrent complaint sites.
- **Long-Term Investments:** Projects that enhance overall resilience (e.g., FEMA floodplain removal, capacity upgrades tied to capital improvements).

The LASAN prioritization criteria (Table C.3) ensure that infrastructure restoration after a disaster is systematic, equitable, and resilience-focused. By ranking assets on condition and risk, emphasizing protection of critical facilities, addressing impacts to occupiable structures, and staging projects within a phased roadmap, LASAN provides a tested model that can inform the tiered restoration framework.

Table C.3: LASAN prioritization method for infrastructure restoration after disaster.

LASAN Criteria for Project Prioritization	Restoration Framework Tier	Application
Asset condition, hydraulic adequacy, and risk of failure	1. Ranking of assets based on condition, criticality, and risk of failure	Prioritize replacement of deteriorated storm drains or undersized culverts before they fail.
Proximity to hospitals, fire/ police stations, schools, and emergency routes	2. High-risk areas serving critical facilities	Elevate drainage improvements for routes providing access to Cedars-Sinai or local fire stations.
Documented property damage, repetitive loss areas, and occupiable structures	3. Existing occupiable structures and critical facilities	Accelerate repairs in neighborhoods with repeated flood complaints or threatened housing.
Complaint history, cost-effectiveness, and number of beneficiaries	4. Phased restoration map and schedule	Stage projects addressing highest volume of community impacts first; use cost-benefit to guide sequencing.



Appendix D:
Dry Utilities - 18-Step Continuity Plan

Phase 1: Foundation and Governance

Step 1: Establish Continuity Management Structure

- Form a continuity planning team with representatives from operations, engineering, IT, customer service, and executive leadership
- Designate a Chief Resilience Officer or continuity program manager
- Define roles, responsibilities, and decision-making authority
- Secure executive sponsorship and budget allocation
- Create a steering committee for oversight and strategic guidance

Step 2: Define Scope and Objectives

- Identify all critical services and service delivery components
- Establish continuity objectives and performance metrics (RTOs, RPOs, availability targets)
- Determine regulatory requirements and compliance obligations
- Define geographic and operational boundaries for the plan
- Set planning horizons (immediate response, short-term recovery, long-term restoration)

Phase 2: Risk Assessment and Analysis

Step 3: Conduct Business Impact Analysis (BIA)

- Map all critical business functions and their interdependencies
- Identify maximum tolerable downtimes for each service
- Quantify financial, operational, and reputational impacts of service disruptions
- Prioritize services based on criticality to public safety and essential operations
- Document resource requirements for each critical function

Step 4: Perform Comprehensive Risk Assessment

- Natural hazards: floods, hurricanes, earthquakes, ice storms, wildfires, extreme temperatures
- Technical failures: equipment malfunction, infrastructure nearing end of useful life
- Human-caused events: cyber-attacks, vandalism, terrorism, human error
- External dependencies: supplier failures, transportation disruptions, workforce availability
- Calculate risk scores using probability × impact methodology
- Create risk heat maps and prioritization matrices

Step 5: Identify Critical Assets and Dependencies

- Inventory all critical infrastructure components (substations, pipelines, cell towers, switching centers)
- Map single points of failure in the network
- Document interdependencies with other utilities and critical services
- Identify key suppliers and vendor dependencies
- Assess workforce critical skills and succession vulnerabilities

Phase 3: Strategy Development

Step 6: Develop Continuity Strategies

- Prevention strategies: Infrastructure hardening, redundant systems, preventive maintenance programs
- Mitigation strategies: Backup power systems, alternative routing, inventory management
- Response strategies: Emergency operations procedures, mutual aid agreements, mobile resources
- Recovery strategies: Restoration prioritization, temporary service options, rebuild standards
- Evaluate cost-benefit of each strategy option
- Select optimal strategy mix based on risk tolerance and resources

Step 7: Design Network Redundancy

- Implement N-1 or N-2 redundancy standards for critical components
- Create alternative supply paths and loop configurations
- Establish backup control centers and data systems
- Deploy mobile and temporary equipment reserves
- Plan for graceful degradation capabilities during partial outages

Phase 4: Plan Development

Step 8: Create Response and Recovery Plans

- Immediate Response Plan (0-24 hours)
  - Activation triggers and notification procedures
  - Initial damage assessment protocols
  - Life safety priorities and emergency communications
  - Command structure activation
- Short-term Recovery Plan (1-7 days)
  - Resource mobilization procedures
  - Restoration prioritization schemes
  - Customer communication protocols
  - Coordination with emergency management
- Long-term Restoration Plan (1 week+)
  - Rebuild strategies and standards
  - Supply chain management
  - Financial recovery procedures
  - Lessons learned processes

Step 9: Establish Communication Protocols

- Internal communication cascades and emergency notification systems
- Customer communication channels and messaging templates
- Media relations protocols and designated spokespersons
- Stakeholder engagement plans (regulators, government, major customers)
- Social media monitoring and response procedures

Step 10: Develop Resource Management Plans

- Human resources: Staffing plans, mutual aid agreements, contractor pre-positioning
- Physical resources: Emergency inventory, mobile equipment deployment, fuel supplies
- Technology resources: Backup systems, cybersecurity incident response, data recovery
- Financial resources: Emergency procurement procedures, insurance activation, cost tracking

Phase 5: Implementation

Step 11: Build Supporting Infrastructure

- Establish Emergency Operations Centers (EOCs) with backup locations
- Deploy incident management systems and common operating pictures
- Implement mass notification and crisis communication systems
- Create document management systems for plans and procedures
- Install monitoring and early warning systems

Step 12: Develop Training Programs

- Role-specific training for all continuity team members
- Annual awareness training for all employees
- Specialized technical training for critical operations
- Cross-training programs to ensure backup capabilities
- Leadership and decision-making training for crisis conditions

Step 13: Create Mutual Aid Frameworks

- Establish formal agreements with neighboring utilities
- Join regional mutual assistance groups
- Develop contractor and vendor emergency agreements
- Coordinate with government emergency management agencies
- Create information sharing protocols with sector partners

Phase 6: Testing and Improvement

Step 14: Design Exercise Program

- Tabletop exercises (quarterly): Discussion-based scenario reviews
- Functional exercises (semi-annually): Test specific capabilities
- Full-scale exercises (annually): Comprehensive multi-day simulations
- Component testing (ongoing): Regular testing of backup systems
- Document exercise objectives, scenarios, and evaluation criteria

Step 15: Conduct Regular Testing

- Test notification and activation procedures
- Verify backup system functionality
- Validate restoration time objectives
- Test coordination with external partners
- Evaluate decision-making processes under stress

Step 16: Maintain and Update Plans

- Schedule regular plan reviews (minimum annually)
- Update plans based on lessons learned from incidents and exercises
- Incorporate changes in infrastructure, technology, and regulations
- Refresh risk assessments and BIAs
- Track and implement corrective actions from tests and actual events

Phase 7: Performance Management

Step 17: Establish Metrics and KPIs

- Service availability percentages
- Mean time to restore (MTTR)
- Customer minutes interrupted
- Exercise participation and performance rates
- Plan maintenance and currency metrics
- Cost of disruptions vs. continuity investments

Step 18: Continuous Improvement Process

- Conduct after-action reviews for all incidents and exercises
- Benchmark against industry best practices
- Participate in sector-specific information sharing
- Research emerging threats and technologies



Appendix E:
Vegetation

E.1. Summary of Palisades Weeds

- Nonnative species
- *Acacia saligna* – Golden wattle
- *Ailanthus altissima* – tree of heaven**
- Anagallis arvensis – scarlet pimpernel
- *Arundo donax* – giant reed
- *Avena barbata* – slender wild oats**
- *Brassica nigra* – black mustard
- *Bromus diandrus* – ripgut brome
- *Bromus hordeaceus* – soft brome**
- Bromus madritensis ssp. rubens red brome**
- *Bromus tectorum* – cheatgrass
- *Carduus pycnocephalus* – Italian thistle**
- *Centaurea melitensis* – tocolate
- *Chondrilla juncea* – rush skeletonweed
- *Cirsium vulgare* – bull thistle**
- *Cortaderia selloana* – pampas grass**
- *Eucalyptus polyanthemos* silver dollar gum**
- *Euphorbia esula* – leafy spurge
- *Ficus carica* – common fig
- *Hirschfeldia* – incana wild mustard**
- *Galium aparine* – common bedstraw
- *Lactuca serriola* – prickly wild lettuce
- *Lantana camara* – common lantana
- *Marrubium vulgare* horehound
- *Melilotus indicus* – yellow sweetclover
- *Pennisetum setaceum* – fountain grass
- *Piptatherum miliaceum* smilo grass
- *Polygonum argyrocoleon* silversheath knotweed
- *Rubus spectabilis* – trailing blackberry
- *Rumex crispus* – curly dock
- *Salvia aethiopis* – Mediterranean sage
- *Silybum marianum* – milk thistle**
- *Vinca major* – periwinkle

** marks field observation 10/02

E.2. Recommended Native Seed Mixes for Pacific Palisades Restoration

Table E.1: Recommended Seed Mix for Pacific Palisades (Seed Zone 995 – Santa Monica Mountains)

Functional Group	Species (Scientific Name)	Common Name	% of Mix (by weight)	Notes / Function
Native Perennial Grasses (30–40%)	*Stipa pulchra*	Purple needlegrass	15%	State grass of California, deep-rooted, erosion control, low flashy fuel load
	Elymus glaucus	Blue wildrye	10%	Quick establishment, stabilizes slopes, early cover
	Festuca californica	California fescue	5–10%	Provides patchy cover, drought tolerant
Shrubs & Subshrubs (30–40%)	*Eriogonum fasciculatum*	California buckwheat	15%	Long-lived, pollinator habitat, slope stabilizer
	Acmispon glaber (Lotus scoparius)	Deerweed	10%	Early successional shrub, nitrogen fixer
	Encelia californica	Bush sunflower	5–10%	Quick germination, erosion control, bright seasonal cover
Forbs & Wildflowers (20–25%)	*Eschscholzia californica*	California poppy	10%	Quick seasonal cover, culturally significant species
	Phacelia tanacetifolia / P. cicutaria	Phacelia	5%	Pollinator-friendly, early soil cover
	Lupinus bicolor	Miniature lupine	5–10%	Nitrogen fixer, improves soil for later natives
	Clarkia spp.	Clarkia	2–3%	Late-spring flowering, supports pollinators
Nurse / Early Cover (5–10%)	*Festuca microstachys*	Small fescue (native annual)	5–10%	Germinates quickly, short-term erosion control, fades as perennials establish

Figure E.1: Pacific Palisades area lower growing restoration mix

S&S SEEDS

Quote #723091

Carpinteria, CA 93014-1275 - USA
Tel. 805-684-0436 * Fax 805-684-2798

Palisades Area Lower Growing Restoration Mix

Species	Common Name	Bulk Lbs/Acre
Acmispon glaber	Deerweed	3.00
Achillea millefolium	Yarrow	1.00
Bromus carinatus	California Brome	6.00
Clarkia bottae	Punchbowl Godetia	1.00
Chenopodium californicum	Goosefoot	0.50
Diplacus longiflorus	Southern Bush Monkeyflower	1.50
Eriogonum cinereum	Ashyleaf Buckwheat	4.00
Eriophyllum confertiflorum	Golden Yarrow	1.50
Eschscholzia californica	California Poppy	2.00
Festuca microstachys	Pacific Fescue	6.00
Lasthenia californica	California Goldfields	0.50
Muhlenbergia microsperma	Little Muhly	2.00
Phacelia tanacetifolia	Tansyleaf Phacelia	1.00
Poa secunda	Pine Bluegrass	4.00
Stipa pulchra	Purple Needlegrass	3.00
Stipa lepida	Foothill Needlegrass	1.00
Trifolium ciliolatum	Foothill Clover	3.00

All species in this mix are native to Ventura/Los Angeles County and make effective cover once established. Irrigation is recommended.



Appendix F:
Supplemental Material for Project Sequencing

F.1. List of Projects and Project Descriptions

Table F.1: All Dry Utilities, Wet Utilities, and Streets Projects

* Project was not included in analysis.These 20 projects were not mapped and evaluated because they lacked the defined geographic coordinates or street-level details necessary for spatial analysis.

Many projects identified in this document are currently in preliminary stages of the project development process, and may still be pending funding, final approvals, and/or permitting. All projects are subject to change in scope, schedule, and cost until they are fully approved. Some of the projects, strategies, and efforts described in this report may not be possible for the City to complete without additional funding from the Federal and State governments as well as philanthropy, which may or may not be forthcoming.

Category	Source	Lead Agency	Project Title	Project Scopes	Location (if applicable)	Start Date	End Date	Cost Estimates (if applicable)
Dry	LADWP	LADWP - Power	Develop 12kV Design Standards*	Develop technical design standards for 12kV systems to enable future projects.	N/A	4/1/2025	12/31/2025	$0.00
Dry	LADWP	LADWP - Power	34.5/12kV Combo Package on Sunset Blvd. First Segment Constructed (6.5 Miles)	Install undergrond duct bank along Sunset Blvd. in order to provide make ready construction that will support future 12kV undergrounding projects which extend from DS-29 to other areas in the Palisades.	GIS Derived	4/1/2025	6/30/2026	$142,000,000.00
Dry	LADWP	LADWP - Power	12kV UG - DS 29-DS-99; "Backbone Segments" on Sunset	Install undergrond duct bank along Sunset Blvd. in order to provide make ready construction that will support future 12kV undergrounding projects which extend from DS-29 to DS-99, supporting other areas in the Palisades.	GIS Derived	1/1/2026	6/30/2027	$102,000,000.00
Dry	LADWP	LADWP - Power	12kV UG - Feeder Segments to Areas 5 & 6	Construct duct bank to the areas designated to provide 12kV underground feed to the subject load block area. This project provides limited underground conversion in the noted area.	GIS Derived	7/1/2026	6/30/2027	$105,000,000.00
Dry	LADWP	LADWP - Power	12kV UG - Feeder Segments to Areas 3 &4	Construct duct bank to the areas designated to provide 12kV underground feed to the subject load block area. This project provides limited underground conversion in the noted area.	GIS Derived	4/1/2027	12/31/2027	$105,000,000.00
Dry	LADWP	LADWP - Power	12kV UG - Feeder Segments to Areas 1&2	Construct duct bank to the areas designated to provide 12kV underground feed to the subject load block area. This project provides limited underground conversion in the noted area.	GIS Derived	10/1/2027	9/30/2028	$105,000,000.00
Dry	LADWP	LADWP - Power	12kV UG - Feeder Segments to Areas 7&8	Construct duct bank to the areas designated to provide 12kV underground feed to the subject load block area. This project provides limited underground conversion in the noted area.	GIS Derived	7/1/2028	6/30/2029	$105,000,000.00
Dry	DR4856 Permanent Work Projects	LADWP - Power	DR4856 Permanent Work Project: Communication Equipment on Power Poles*	953180 – 637 - F – Communication Restore communication equipment on power poles back to pre-disaster design, capacity and function and capacity (in-kind) within the existing footprint.	N/A	1/8/2025	7/8/2026	$193,821.00

Category	Source	Lead Agency	Project Title	Project Scopes	Location (if applicable)	Start Date	End Date	Cost Estimates (if applicable)
Dry	LADWP	LADWP - Power	DS 29 Expansion and Upgrade	Expand and upgrade DS-29 from 34.5kV-4.8kV to 34.5kV-12kV-4.8kV capable substation with bays for 12kV circuit segments.	GIS Derived	4/1/2025	6/30/2029	$35,000,000.00
Dry	DR4856 Permanent Work Projects	LADWP - Power	DR4856 Permanent Work Project: Distribution Station 29	953181-638 – F – Distribution Station 29 Restore Distribution Station 29 back to its pre-disaster design, function and capacity (in-kind) within the existing footprint.	15345 Sunset Blvd, Pacific Palisades, CA 90272	1/8/2025	6/30/2029	$1,478,616.00
Dry	LADWP	LADWP - Power	AMI Implementation in Palisades*	Install advanced metering devices at all meters for power utilities.	N/A	10/1/2026	3/31/2027	$36,000,000.00
Wet	Palisades Water Main Betterment Projects Phase 1	LADWP - Water	LADWP Palisades Betterment P1, #1: Via De La Paz/Sunset Blvd Regulator Station Rehab	Via De La Paz/Sunset Blvd Regulator Station rehabilitation due to age. Replace in-kind all underground piping inside and outside concrete vault	Via De La Paz/ Sunset Blvd Regulator Station	Nov-25	Apr-26	$1,380,000.00
Wet	Palisades Water Main Betterment Projects Phase 1	LADWP - Water	LADWP Palisades Betterment P1, #2: Potrero - 8,700 LF ERP replacement	Replace 8,700 LF of 6 main with 6 ERP Remarks: Leaky segment, within geological fault zone. 2028 Olympics	GIS Derived	Jul-25	Q3 2026	$5,520,000.00
Wet	Palisades Water Main Betterment Projects Phase 1	LADWP - Water	LADWP Palisades Betterment P1, #3: 2,260 LF ERP replacement	Replace 2,260 LF of 6/8 main with 6/8 ERP. Remarks: 2028 Olympics. 1 leak.	GIS Derived	Q4 2026	Q1 2027	$1,640,000.00
Wet	Palisades Water Main Betterment Projects Phase 1	LADWP - Water	LADWP Palisades Betterment P1, #4: 9,297 LF ERP replacement	Replace 9,297 LF of 6 main with 6 ERP Remarks: Leaky segment. 2028 Olympics	GIS Derived	Oct-25	Q4 2026	$5,760,000.00
Wet	Palisades Water Main Betterment Projects Phase 1	LADWP - Water	LADWP Palisades Betterment P1, #5: 8,600 LF ERP replacement	Replace 8,600 LF of 6 main with 6 ERP Remarks: Leaky segment (5). 2028 Olympics	GIS Derived	Q4 2025	Q4 2026	$5,310,000.00
Wet	Palisades Water Main Betterment Projects Phase 1	LADWP - Water	LADWP Palisades Betterment P1, #6: Porto Marina Way and Breve Way - 900 LF STL Replacement	Replace approximately 900 LF of 8 main with 8 STL and 500' of 6 main with 8 STL. Remarks: Leaky segment. HMG determined segment of main could be upgraded from 6 to 8 as part of their hydraulic study	Porto Marina Way and Breve Way	Q1 2027	Q2 2027	$1,100,000.00
Wet	Palisades Water Main Betterment Projects Phase 1	LADWP - Water	LADWP Palisades Betterment P1, #7: Revello Dr and Tramonto Dr - 1,400 LF ERP replacement	Replace 1,400 LF of 6 main with 6 ERP Remarks: Leaky segment (16), susceptible to landslides, BOE will need to stabilize road before replacing main. Portion of 4 STL to be replaced with 6 ERP.	Revello Dr and Tramonto Dr (Palisades)	Q3 2030	Q4 2030	$1,000,000.00
Wet	Palisades Water Main Betterment Projects Phase 1	LADWP - Water	LADWP Palisades Betterment P1, #8: Paseo Miramar and Via Lucia - 1,200 LF STL replacement	Replace 1,200 LF of 8 main with 8 STL Remarks: Leaky Segment (6). Creates redundancy. 140 ft of new pipe. 522' abandoned	Paseo Miramar and Via Lucia (Palisades)	Q2 2027	Q3 2027	$910,000.00

Category	Source	Lead Agency	Project Title	Project Scopes	Location (if applicable)	Start Date	End Date	Cost Estimates (if applicable)
Wet	Palisades Water Main Betterment Projects Phase 1	LADWP - Water	LADWP Palisades Betterment P1, #9: Marquez Ave and Ida St - 880 LF DI replacement	Replace 880 LF of 4 main with 6 DI Remarks: Leaky (31) and aging segment. Segment of main could be upgraded from 4 to 6	GIS Derived	Q3 2027	Q4 2027	$630,000.00
Wet	Palisades Water Main Betterment Projects Phase 1	LADWP - Water	LADWP Palisades Betterment P1, #10: Chattanooga Place and Castac Place - 1,328 LF ERP replacement	Replace 1,328 LF of 4/8 main with 8 ERP Remarks: Leaky segment. Replaces a portion of 4 CI main.	Chattanooga Place and Castac Place	Q4 2028	Q1 2029	$1,160,000.00
Wet	Palisades Water Main Betterment Projects Phase 1	LADWP - Water	LADWP Palisades Betterment P1, #11: Sunset Blvd and Las Casas Ave - 2,537 LF ERP replacement	Replace 2,537 LF of 4/8 main with 8 ERP Remarks: Leaky segment. 500' of main should be upgraded from 4 to 8. Coordination with Power.	GIS Derived	Q3 2026	Q4 2026	$2,760,000.00
Wet	Palisades Water Main Betterment Projects Phase 1	LADWP - Water	LADWP Palisades Betterment P1, #12: Via De La Paz and Radcliffe Ave - 5,642 LF STL Replacement	Replace 5,642 LF of 2/4/6/8 main with 6/8 STL Remarks: Replaces a portion of 4 with 6 main feeding nearby FHs. Leaky segment (17). Creates redundancy	Via De La Paz and Radcliffe Ave (Palisades)	Q1 2029	Q2 2030	$4,290,000.00
Wet	Palisades Water Main Betterment Projects Phase 1	LADWP - Water	LADWP Palisades Betterment P1, #13: Hampden Place and Swarthmore Ave - 4,838 LF ERP Replacement	Replace 4,838 LF of 6 main with 6 ERP Remarks: Leaky segment (6). Replaces AC with ERP. New 6 Install along Carthage St	Hampden Place and Swarthmore Ave (Palisades)	Q2 2030	Q2 2031	$3,500,000.00
Wet	Palisades Water Main Betterment Projects Phase 1	LADWP - Water	LADWP Palisades Betterment P1, #14: Muskingum Ave and Temecula St - 4,539 LF ERP Replacement	Replace 4,539 LF of 6 main with 6 ERP Remarks: Leaky segment (21). Replaced AC with ERP. Segment also to be replaced along Almar Ave. Connected to Wildomar & Sunset Reg station.	Muskingum Ave and Temecula St (Palisades)	Q1 2028	Q4 2028	$3,150,000.00
Wet	Palisades Water Main Betterment Projects Phase 1	LADWP - Water	LADWP Palisades Betterment P1, #15: Las Casas Ave and Marquette St - 3,772 LF ERP Replacement	Replace 3,772 LF of 6/8 main with 6/8 ERP Remarks: Leaky segment and replaces AC pipe with ERP. 8 ML connected to Las Casas & Sunset Reg Station. 760' segment of 6 main should be upgraded from 6 to 8.	GIS Derived	Q4 2028	Q2 2029	$2,810,000.00
Wet	Palisades Water Main Betterment Projects Phase 1	LADWP - Water	LADWP Palisades Betterment P1, #16: Las Casas Ave and Marquette St - 4,133 LF ERP Replacement	Replace 4,133 LF of 6/8 main with 6/8 ERP Remarks: Leaky Segment (22) and replaces a portion of AC pipe with ERP. Project to replace segments of C rated pipe connected to leaky and F rated pipe on both sides.	Livorno Drive and Marquez Ave (Palisades)	Q4 2027	Q3 2028	$3,150,000.00
Wet	Palisades Water Main Betterment Projects Phase 1	LADWP - Water	LADWP Palisades Betterment P1, #17: Las Lomas Avenue and Alcima Ave - 5,148 LF ERP Replacement	Replace 5,148 LF of 4/6/8 main with 6/8 ERP Remarks: Leaky Segment (25) and replaces a portion of 4 main with 6 main. Segments of C rated pipe connect to leaky D rated pipe on both sides.	Las Lomas Avenue and Alcima Ave (Palisades)	Q1 2027	Q1 2028	$3,430,000.00
Wet	Palisades Water Main Betterment Projects Phase 1	LADWP - Water	LADWP Palisades Betterment P1, #18: Brooktree Road and Ranch Ln - 2,417 LF ERP Replacement	Replace 2,417 LF of 4/6/8 main with 6/8 ERP Remarks: Leaky segment (9). Within liquefaction zone. Approximately 1,300 LF of C-rated pipe is between leaky D-rated pipe.	Brooktree Road and Ranch Ln (Palisades)	Q2 2029	Q4 2029	$1,820,000.00
Wet	Palisades Water Main Betterment Projects Phase 1	LADWP - Water	LADWP Palisades Betterment P1, #19: Goucher St and McKendree Avenue - 890 LF ERP Replacement	Replace 890 LF of 6 CI main with 6 ERP Remarks: Leaky (16) and aging segment.	Goucher St and McKendree Avenue (Palisades)	Q3 2028	Q4 2028	$760,000.00

Category	Source	Lead Agency	Project Title	Project Scopes	Location (if applicable)	Start Date	End Date	Cost Estimates (if applicable)
Wet	Palisades Water Main Betterment Projects Phase 1	LADWP - Water	LADWP Palisades Betterment P1, #20: Castellammare Dr and Tramonto Dr - 1,300 LF STL Replacement	Replace approximately 1,300 LF of 6 main with 6 STL Remarks: Leaky segment. Replaces a portion of 4 with 6 feeding a FH. South of Tramonto and Castellammare Regulatory Station.	Castellammare Dr and Tramonto Dr (Palisades)	Q4 2026	Q1 2027	$990,000.00
Wet	Palisades Water Main Betterment Projects Phase 2	LADWP - Water	LADWP Palisades Betterment P2, a: 3,380 LF ERP Replacement	Replace 3,380 LF of 8 main with 8 ERP Remarks: Aging pipeline, requires coordination with Power System.	GIS Derived	Q4 2027	Q2 2028	$2,910,000.00
Wet	Palisades Water Main Betterment Projects Phase 2	LADWP - Water	LADWP Palisades Betterment P2, b: Amalfi Dr & Toulon Dr Divider - 8,688 LF ERP Replacement	Replace 8,688 LF of 8 main with 8 ERP Remarks: Connects to Amalfi Dr & Toulon Dr Divider. Aging Pipeline, requires coordination with Power System	Connects to Amalfi Dr & Toulon Dr Divider	Q2 2028	Q1 2030	$7,370,000.00
Wet	Palisades Water Main Betterment Projects Phase 2	LADWP - Water	LADWP Palisades Betterment P2, c: North of Corona De Mar & Chautauqua Regulatory Station - 3,650 LF ERP Replacement	Replace 3,650 LF of 8 main with 8 ERP Remarks: Aging pipeline, North of Corona De Mar & Chautauqua Regulatory Station	North of Corona De Mar & Chautauqua Regulatory Station	Q4 2029	Q3 2030	$3,170,000.00
Wet	Palisades Water Main Betterment Projects Phase 2	LADWP - Water	LADWP Palisades Betterment P2, d: South of Corona De Mar & Chautauqua Regulatory Station - 1,307 ERP Replacement	Replace 1,307 LF of 6/8 main with 12 ERP Remarks: Aging pipeline, South of Corona De Mar & Chautauqua Regulatory Station. Upsizing segment of main.	GIS Derived	Q3 2030	Q4 2030	$2,100,000.00
Wet	Palisades Water Main Betterment Projects Phase 2	LADWP - Water	LADWP Palisades Betterment P2, e: 420 LF STL Replacement and 870 LF STL Installation	Replace 420 LF of 8 main with 8 STL and 870 LF of new 8 STL Remarks: Leaky segment (4), creates redundancy, and improve system reliability. Along steep hill, 225 LF of decommissioned pipe.	GIS Derived	Q3 2027	Q4 2027	$1,050,000.00
Wet	Palisades Water Main Betterment Projects Phase 2	LADWP - Water	LADWP Palisades Betterment P2, f: Via De La Paz (1,500 LF), Sunset Blvd (1,335 LF), Swarthmore Ave (512 LF), Antioch St (460 LF) ERP Replacements	Replace 1,500 LF of 8 main with 8 ERP on Via De La Paz, 1,335 LF of 8 main with 8 ERP on Sunset Blvd, 512 LF of 6 main with 6 ERP on Swarthmore Ave and 460 LF of 6 main with 8 ERP on Antioch St. Remarks: Leaky segment (11). Upsize 460' of 6 main to 8.	GIS Derived	Q4 2026	Q3 2027	$3,250,000.00
Wet	Palisades Water Main Betterment Projects Phase 2	LADWP - Water	LADWP Palisades Betterment P2, g: South of Hartzell & Bester Regulatory Station - 2,380 LF STL Replacement	Replace 2,380 LF of 6/8 main with 8 STL Remarks: Aging pipeline, South of Hartzell & Bester Regulatory Station.	South of Hartzell & Bester Regulatory Station	Q1 2030	Q3 2030	$2,290,000.00
Wet	Palisades Water Main Betterment Projects Phase 2	LADWP - Water	LADWP Palisades Betterment P2, h: Amalfi & Upper Mesa Regulatory Station - 3,810 LF STL Replacement	Replace 3,810 LF of 6 main with 8 STL Remarks: Leaky (1) and aging pipe, connects to the Amalfi & Upper Mesa Regulatory Station.	Amalfi & Upper Mesa Regulatory Station	Q4 2030	Q3 2031	$3,100,000.00
Wet	DR4856 Permanent Work Projects	LADWP - Water	DR4856 Permanent Work Project: Water Tanks	953183 – 640 - F – Water Tanks Restore Trailer, Marquez Knolls, and Temescal Tanks back to pre-disaster design, capacity and function and capacity (in-kind) within the existing footprint.	16709 Calle Arbolada, Pacific Palisades, CA 90272	1/8/2025	7/8/2026	$339,042.82
Wet	DR4856 Permanent Work Projects	LADWP - Water	DR4856 Permanent Work Project: Pacific Palisades Reservoir	953188 – 642 – D – Pacific Palisades Reservoir Restore Pacific Palisades Reservoir back to its pre-disaster design, function and capacity (in-kind) within the existing footprint.	34.05743, -118.52271	1/8/2025	7/8/2026	$28,930.60

Category	Source	Lead Agency	Project Title	Project Scopes	Location (if applicable)	Start Date	End Date	Cost Estimates (if applicable)
Wet	DR4856 Permanent Work Projects	LADWP - Water	DR4856 Permanent Work Project: Santa Ynez Reservoir	953182 – 639 – D – Santa Ynez Reservoir Restore Santa Ynez Reservoir back to its pre-disaster design, function, and capacity (in-kind) within the existing footprint.	1351 Palisades Dr, Pacific Palisades, California 90272	1/8/2025	7/8/2026	$508,094.67
Streets, Hardscapes, and Walls	DR4856 Permanent Work Projects	BOE	DR4856 Permanent Work Project: 559 Bienveneda Ave	951200 -328 – C - 559 Bienveneda Ave Repair the retaining wall at 559 Bienveneda Ave to its pre-disaster function utilizing current locally adopted codes and standards identified under Los Angeles City Municipal Code: 91.2304.12.2.8. Wood Used in Retaining Walls and Cribs.	559 Bienveneda Ave, Pacific Palisades, California 90272	1/8/2025	7/8/2026	$922,200.00
Streets, Hardscapes, and Walls	DR4856 Permanent Work Projects	BOE	DR4856 Permanent Work Project: 505 Bienveneda Ave	951201 – 329 – C - 505 Bienveneda Ave Repair the retaining wall at 505 Bienveneda Ave to its pre-disaster function utilizing current locally adopted codes and standards identified under Los Angeles City Municipal Code: 91.2304.12.2.8. Wood Used in Retaining Walls and Cribs	505 Bienveneda Ave, Pacific Palisades, California 90272	1/8/2025	7/8/2026	$366,914.00
Streets, Hardscapes, and Walls	DR4856 Permanent Work Projects	BOE	DR4856 Permanent Work Project: 17470 Revello Dr	951202 – 330 – C - 17470 Revello Dr Repair the retaining wall at 17470 Revello Drive to its pre-disaster function utilizing current locally adopted codes and standards identified under Los Angeles City Municipal Code: 91.2304.12.2.8. Wood Used in Retaining Walls and Cribs.	17470 Revello Dr, Pacific Palisades, California 90272	1/8/2025	7/8/2026	$260,045.00
Streets, Hardscapes, and Walls	DR4856 Permanent Work Projects	BOE	DR4856 Permanent Work Project: 17632 Castellammare Dr	951203 – 331 – C - 17632 Castellammare Dr Repair Bulkhead near 17632 Castellammare Drive to restore this facility back to pre-disaster function, use, and capacity. Work was completed within the right-of-way, within the existing footprint, utilizing an alternate method of repair.	17632 Castellammare Dr, Pacific Palisades, CA 90272	1/8/2025	7/8/2026	$533,222.00
Streets, Hardscapes, and Walls	DR4856 Permanent Work Projects	BOE	DR4856 Permanent Work Project: Stretto Way & Castellammare Dr	951204 – 332 – C - Stretto Way & Castellammare Dr Repair the Stretto Way & Castellammare Dr retaining wall to its pre-disaster function utilizing current locally adopted codes and standards identified under Los Angeles City Municipal Code: 91.2304.12.2.8. Wood Used in Retaining Walls and Cribs	34.03955, -118.55802	1/8/2025	7/8/2026	$404,000.00
Streets, Hardscapes, and Walls	DR4856 Permanent Work Projects	BOE	DR4856 Permanent Work Project: 17432 Posetano Road	951207 – 333 – C - 17432 Posetano Road Restore facilities at 17432 Posetano Road back to pre-disaster function and capacity within the existing footprint using the Applicant provided Method of Repair (MOR).	17432 Posetano Road, Pacific Palisades, California 90272	1/8/2025	7/8/2026	$4,633,782.00
Streets, Hardscapes, and Walls	DR4856 Permanent Work Projects	BOE	DR4856 Permanent Work Project: 15205 Via de las Olas	951208 – 334 – C - 15205 Via de las Olas Repair 15205 Via de las Olas retaining wall to restore this facility back to its pre-disaster design, function, and capacity (in-kind) within the existing footprint.	15205 Via de la Olas, Pacific Palisades, California 90272	1/8/2025	7/8/2026	$514,498.00
Wet	DR4856 Permanent Work Projects	LASAN	DR4856 Permanent Work Project: Debris Basins	951558 - 357 - D - Debris Basins Restore Debris Basin 70 back to pre-disaster design, capacity and function (in-kind) within the existing footprint	34.06459, -118.55885	1/8/2025	7/8/2026	$64,783.52
Wet	DR4856 Permanent Work Projects	LASAN	DR4856 Permanent Work Project: Storm Drains	951582 - 358 - D - Storm Drains Restore storm drains at 17526 Revello, 1000 N Villa Grove Dr, and 17333 Castellemmare Dr back to its pre-disaster design, function and capacity (in-kind) within the existing footprint.	34.04057, -118.55871	1/8/2025	7/8/2026	$201,541.61

Category	Source	Lead Agency	Project Title	Project Scopes	Location (if applicable)	Start Date	End Date	Cost Estimates (if applicable)
Wet	DR4856 Permanent Work Projects	LASAN	DR4856 Permanent Work Project: Pumping Plants	951587- 359 – F - Pumping Plants Restore Pumping Plants back to their pre-disaster design, function and capacity (in-kind) within the existing footprint per applicable Codes & Standards.	Pacific Palisades California 90272	1/8/2025	7/8/2026	$1,946,741.14
Wet	DR4856 Permanent Work Projects	LASAN	DR4856 Permanent Work Project: 505 N Bienveneda Ave Sewer Pipe	951590 – 361 – F - 505 N Bienveneda Ave Sewer Pipe Restore 505 N Bienveneda Ave to pre-disaster design, function, use, and capacity. Work was completed within the right-of-way, within the existing footprint, and with in-kind repairs.	505 N Bienveneda Ave Pacific Palisades, CA 90272	1/8/2025	7/8/2026	$85,600.00
Public Buildings, Parks, and Other City Facilities	DR4856 Permanent Work Projects	RAP	DR4856 Permanent Work Project: Temescal Canyon Park	951501 - 351 – G - Temescal Canyon Park Restore Temescal Canyon Park to its pre-disaster design, function and capacity (in-kind) within the existing footprint.	15900 Pacific Coast Hwy Pacific Palisades, California 90272	1/8/2025	7/8/2026	$459,072.56
Public Buildings, Parks, and Other City Facilities	DR4856 Permanent Work Projects	RAP	DR4856 Permanent Work Project: Palisades Rec Center (RAPID - Destroyed Buildings)	951282 - 339 - E - Palisades Rec Center (RAPID - Destroyed Buildings) Restore Palisades Recreation Center to its pre-disaster design, function and capacity (in-kind) within the existing footprint.	851 N. Alma Real Dr., Pacific Palisades, California 90272	1/8/2025	7/8/2026	$16,234,272.07
Public Buildings, Parks, and Other City Facilities	DR4856 Permanent Work Projects	RAP	DR4856 Permanent Work Project: Palisades Rec Center (Park)	951289 -342 – G - Palisades Rec Center (Park) Restore Palisades Rec & Parks Center Complex back to its pre-disaster design, function, and capacity (in-kind) within the existing footprint.	851 N Alma Real Dr, Pacific Palisades, California 90272	1/8/2025	7/8/2026	$394,910.00
Public Buildings, Parks, and Other City Facilities	DR4856 Permanent Work Projects	RAP	DR4856 Permanent Work Project: Palisades Rec Center (Old Recreation Center)	951281 -338 – E -Palisades Rec Center (Old Recreation Center) Restore Palisades Rec Center Old Recreation Center back to its pre-disaster design, function and capacity (in-kind) within the existing footprint	852 N Alma Real Dr, Pacific Palisades, California 90272	1/8/2025	7/8/2026	$27,758.81
Public Buildings, Parks, and Other City Facilities	DR4856 Permanent Work Projects	RAP	DR4856 Permanent Work Project: Palisades Rec Center (Contents)	951287 -340 – E -Palisades Rec Center (Contents) Restore Palisades Rec Center (Contents) back to pre-disaster design, capacity and function within the existing footprint with in-kind materials.	853 N Alma Real Dr, Pacific Palisades, California 90272	1/8/2025	7/8/2026	$167,207.35
Public Buildings, Parks, and Other City Facilities	DR4856 Permanent Work Projects	RAP	DR4856 Permanent Work Project: George Wolfberg Park at Potrero Canyon	951493 -350 – G -George Wolfberg Park at Potrero Canyon Restore George Wolfberg Park back to pre-disaster design, capacity and function (in-kind) within the existing footprint.	851 N Alma Real Dr, Pacific Palisades, California 90272	1/8/2025	7/8/2026	$228,765.18
Public Buildings, Parks, and Other City Facilities	DR4856 Permanent Work Projects	Library	DR4856 Permanent Work Project: Palisades Branch Library (RAPID)	951197 -325 -E -Library - Palisades Branch Library (RAPID) Restore Palisades Branch Library back back to its pre-disaster design, function and capacity (in-kind) within the existing footprint, per applicable codes and standards. RAPID Project: Scope of Work (SOW) and Cost Estimate developed through FEMA's Rapid Assessment with Public Infrastructure Data (RAPID). This Subgrant application will require version(s) that document the actual scope of work for FEMA review and approval and Environmental and Historic Preservation (EHP) compliance review prior to initiating construction work	861 Alma Real Drive, Los Angeles CA 90272	1/8/2025	7/8/2026	$33,327,247.35

Category	Source	Lead Agency	Project Title	Project Scopes	Location (if applicable)	Start Date	End Date	Cost Estimates (if applicable)
Public Buildings, Parks, and Other City Facilities	DR4856 Permanent Work Projects	Library	DR4856 Permanent Work Project: Palisades Branch Library (Contents)	951198 -326 - E - Library - Palisades Branch Library (Contents) Restore Palisades Library (Contents) back to its pre-disaster design, function and capacity (in-kind) within the existing footprint.	861 Alma Real Drive, Pacific Palisades CA	1/8/2025	7/8/2026	$1,428,240.12
Wet	DR4856 Permanent Work Projects	StreetsLA	DR4856 Permanent Work Project: Dewatering Wells	951280 - 337 - F - Dewatering Wells Restore dewatering wells back to its pre-disaster design, function, and capacity (in-kind) within the existing footprint	Site 1: 34.04212, -118.56608; Site 2: 34.04861, -118.54934	1/8/2025	7/8/2026	$36,470.71
Streets, Hardscapes, and Walls	Public Assistance Projects (Not Already Included in DR4856 List)	LASAN	Public Assistance Projects (Not Already Included in DR4856 List): Revetments*	LASAN - Revetments	N/A	N/A	N/A	N/A
Streets, Hardscapes, and Walls	Public Assistance Projects (Not Already Included in DR4856 List)	RAP	Public Assistance Projects (Not Already Included in DR4856 List): Tree Replacement*	RAP - Tree Replacement	N/A	N/A	N/A	N/A
Wet	BOE Proposed Projects	BOE	BOE Proposed Project: Chautauqua Blvd Storm Drain - Catch Basin Construction	Chautauqua Blvd Storm Drain: Construct catch basins at Chautauqua Boulevard and Berea Place. Install 1700 feet of 18 RCP to connect to an existing storm drain system at Bestor Boulevard and Monument Street.	GIS Derived	N/A	N/A	$3,510,300.00
Wet	BOE Proposed Projects	BOE	BOE Proposed Project: Marinette Rd. way Southern terminus Subdrain System - Construction of pipe, 2 access points, and new asphalt pavement	Marinette Rd. way Southern terminus Subdrain System: Marinette Road way (1300 block) has been damaged for the past many years (approximately since 2005) due to existence of high groundwater. As a result of high groundwater, existing asphalt pavement has been severely cracked and is in very unsafe driving conditions. In order to eliminate this condition a construction of a sub-drain system and reconstruction of the roadway with the new asphalt pavement is necessary. Additional Comments: The scope of proposed work is from Marinette Road Southern terminus (1300 block) to approximately 500' North West of existing catch basin. Proposed sub-drain system consists of construction of 835 LF of 8" DIA perforated pipe, construction of 2 access points, and construction of new asphalt pavement.	GIS Derived	N/A	N/A	$401,600.00

Category	Source	Lead Agency	Project Title	Project Scopes	Location (if applicable)	Start Date	End Date	Cost Estimates (if applicable)
Wet	BOE Proposed Projects	BOE	BOE Proposed Project: Via De La Olas and Via De La Paz Drainage - Resurfacing and grading, new catch basin, and stormdrain construction	Via De La Olas and Via De La Paz Drainage: Due to past earth movement, the closed portion of Via De Las Olas is at a flatter grade. Sediments and debris from areas tributary to this location are deposited in the swale on Via De Las Olas. As the debris builds up, surface flows are further obstructed. Dry weather flows keep the area continually wet and likely contributes to the deterioration of the asphalt. Further deterioration of the asphalt will increase the permeability and therefore might increase the possibility of a slope failure. Additional Comments: Project scope - Resurfacing and grading of a portion of Via De Las Olas, a new catch basin, and the construction of an 18 dia. stormdrain (550-ft), will alleviate the current sump condition. The new stormdrain will connect to the existing catch basin located on Via De Las Olas and Lombard Ave.	GIS Derived	N/A	N/A	$1,058,900.00
Wet	Pumping Plant Projects Provided by LASAN	LASAN	FEMA Project: PP 730 Palisades Park LFD	PP 730 Palisades Park LFD Pump discharge hoses for 2 of 4 pumps need repair and replacement. Full assessment TBD (PP is operational on utility).	15100 Pacific Coast Hwy	N/A	N/A	$800,000.00
Wet	Pumping Plant Projects Provided by LASAN	LASAN	FEMA Project: PP 734 Temescal Canyon Stormwater LFD	PP 734 Temescal Canyon Stormwater LFD Plant sustained fire damage as a result of the Palisades fire to above grade electrical lines and instrumentation. Both main power feed, instrumentation and back up power generation impacted.	15733 1/2 Pacific Coast Hwy	N/A	N/A	$800,000.00
Wet	Pumping Plant Projects Provided by LASAN	LASAN	FEMA Project: PP 736 Temescal Canyon Stormwater BMP	PP 736 Temescal Canyon Stormwater BMP Plant sustained fire damage as a result of Palisades Fire. Upon utility reconnection Above ground cabinet incoming electrical feeder to power conditioner, and various electrical component within the treatment building experienced arc flash/failure. Water intrusion into electrical components/disconnects caused additional damage. Full assessment pending.	200 N Temescal Canyon Rd	N/A	N/A	$800,000.00
Wet	Pumping Plant Projects Provided by LASAN	LASAN	FEMA Project: PP 739 Bay Club Stormwater LFD	PP 739 Bay Club Stormwater LFD Plant sustained fire damage as a result of the Palisades fire; plant requires a full replacement of above grade equipment. All conduit. wiring. panels. electrical controls, feeds. Automatic Transfer Switch (ATS), generator equipment, instrumentation. communication, lighting, to be replaced.	230 1/2 Arno Way	N/A	N/A	$800,000.00
Wet	Pumping Plant Projects Provided by LASAN	LASAN	FEMA Project: PP 604	PP 604	2264 N Highbury Ave	N/A	N/A	$525,530.38
Wet	Pumping Plant Projects Provided by LASAN	LASAN	FEMA Project: PP 632	PP 632 Per LASAN Facilities, plant is currently operational. Request reimbursement for pump removed for rebuild (date of failure: 2/26/2025).	17267 Pacific Coast Hwy	N/A	N/A	$525,530.38

Category	Source	Lead Agency	Project Title	Project Scopes	Location (if applicable)	Start Date	End Date	Cost Estimates (if applicable)
Wet	Pumping Plant Projects Provided by LASAN	LASAN	FEMA Project: PP 634	PP 634 Per LASAN Facilities, plant is operational. Plant lost utility power due to Palisades fire. As a result of sudden power loss and disruption, generator failed causing an exciter malfunction. Plant sustained fire damage as a result of the Palisades fire to above grade electrical lines and instrumentation.	15733 Pacific Coast Hwy	N/A	N/A	$800,000.00
Wet	Pumping Plant Projects Provided by LASAN	LASAN	FEMA Project: PP 638	PP 638 Plant lost utility power due to Palisades fire. As a result of sudden power loss and disruptions to the area, the Automatic Transfer Switch (ATS) failed and needs replacement. Facility has been operating on temporary onsite power via EOC supplied generator until permanent power is restored to the area. Facility continues to experience power bumps while utility power is restored to the area. Full facility assessment pending emergency sewer contractor. Cat III SSO (748 gallons) on 3/1/2025 due to DWP discharge	17407 Vereda De La Montura	N/A	N/A	$670,404.00
Wet	Pumping Plant Projects Provided by LASAN	LASAN	FEMA Project: PP 639	PP 639 Plant lost utility power due to Palisades fire. As a result of sudden power loss and disruptions to the area, the facility has been operating on stationary generator that has taken damage due to continual and extended usage. This damage resulted in a Cat IV Sanitary Sewer Overflow. EOC supplied generator until permanent power is restored to the area. Recommend removing.	16765 Pacific Coast Hwy	N/A	N/A	$22,000.00
Wet	Pumping Plant Projects Provided by LASAN	LASAN	FEMA Project: 505 North Bienveneda Ave Sewer Pipe	Sewer Pipe ID 5210901052109266 HDPE pipe sustained fire damage. Damage resulted in a Cat II sanitary sewer overflow of 75,280 gallons. 100% recovered via LA county LFD.	505 North Bienveneda Ave	N/A	N/A	$116,000.00
Wet	RSS Plan	City of LA	RSS Plan #1.11: Expand green stormwater capture infrastructure*	Increase amount of green, stormwater capture infrastructure during recovery. Implement a capital project for the standby feasibility study Rustic Canyon Landscaping & Accessibility Project (Rustic Canyon Regional Stormwater Capture)	N/A	mid term		$8,000,000.00
Wet	RSS Plan	City of LA	RSS Plan #1.12: Harden pumping plants for climate resiliency*	Enforce hardening of pumping plants for climate resiliency. Upgrades for pump station vulnerabilities experienced because of Palisades Fire (Bay Club Low Flow Diversion (LFD), Temescal LFD)	N/A	mid term		$500,000.00
Wet	RSS Plan	City of LA	RSS Plan #1.13: Repair and harden Temescal BMP project*	Repair and harden the damaged Prop O stormwater capture project: Temescal Canyon Park BMP. Install upgrade pump station and BMP vulnerabilities experienced because of Palisades fire.	N/A	mid term		$3,000,000.00
Wet	RSS Plan	City of LA	RSS Plan #1.14: Manage watershed debris and soil runoff*	Manage watershed debris and soil runoff for life and safety protection. Secure additional revetments / fortification of existing revetments for climate resiliency (timber and rail).	N/A	mid term		$10,000,000.00
Wet	RSS Plan	City of LA	RSS Plan #1.23: Replace combustible conveyance infrastructure*	Enforce hardening of conveyance infrastructure for climate resiliency. • Replacement of combustible pipes (storm and sewer). • Storm: $20M. • Sewer: $50M.	N/A	long term		$70,000,000.00

Category	Source	Lead Agency	Project Title	Project Scopes	Location (if applicable)	Start Date	End Date	Cost Estimates (if applicable)
Wet	RSS Plan	City of LA	RSS Plan #1.24: Connect destroyed parcels to sewer mains*	Transition destroyed parcels septic systems to permanent connections. Approximately 1,000 feet of new sewer main. • Install permanent sewer to ensure future development connections to sewer, removing the need for onsite wastewater septic systems	N/A	long term		$15,000,000.00
Wet	RSS Plan	City of LA	RSS Plan #1.25: Enlarge Santa Ynez debris basin*	Increase capacity at debris basins. • Implement Santa Ynez Debris Basin Enlargement Project.	N/A	long term		$10,000,000.00
Wet	RSS Plan	City of LA	RSS Plan #2.5: Haul debris from 18 city basins*	Increase capacity at debris basins. • Post fire debris hauling from 18 City of Los Angeles debris basins.	N/A	short term		$5,000,000.00
Wet	RSS Plan	City of LA	RSS Plan #4.2: Remove debris from 18 city basins*	Increased capacity at debris basins. • Post fire debris hauling from 18 City of Los Angeles debris basins	N/A	short term		$5,000,000.00
Wet	Damage Assessment	LASAN	LASAN Damage Assessment: W of Palisades Dr N of Sea Ridge N Entrance - SW*	Repave ramp entrance to basin: A) Repave ramp and sides of debris basin B) Infiltration of ground water	N/A	N/A	N/A	N/A
Wet	Damage Assessment	LASAN	LASAN Damage Assessment: Palisades Drive*	Replace standpipe. Remove all debris within debris basin. Restore perimeter fence.	N/A	1/21/2025	N/A	N/A
Wet	Damage Assessment	LASAN	LASAN Damage Assessment: W of Palisades Dr (1200 Block)	Assess/fix standpipes, remove boulder, assess and fix fence perimeter, and remove debris at Debris Basin #70. Clean and haul away all debris in the Santa Ynez Debris Basin located at the cross streets of Palisades Dr. and Santa Ynez Rd.	W OF PALISADES DR (1200 BLOCK)	N/A	N/A	N/A
Wet	Damage Assessment	LASAN	LASAN Damage Assessment: Revello Dr	Repair the connector per D-23208 (CLM 52212463131066). Set up bypass for the upcoming rain event. Assess and bypass the culvert (CLM 52212463131064 to 52212463131065) as needed.	REVELLO DR (17526)	N/A	N/A	N/A
Wet	Damage Assessment	LASAN	LASAN Damage Assessment: 17333 Castellammare Dr	Storm drain corrugated discharge pipe to culvert from CLM# 52212461111047 is heavily damaged and compromised. Location is not accessible based on property gated and locked.	17333 Castellammare Dr.	1/26/2025	N/A	N/A
Wet	Damage Assessment	LASAN	LASAN Damage Assessment: 230 Arno Way	Low Flow Diversion-Stormwater Plant 739 is a 3 pump plant with PLC control, level control, telemetry to Venice Pumping Plant, and an emergency generator hookup. Plant requires a full replacement of above grade equipment. All conduit, wiring, panels, electrical controls, feeds, ATS, generator equipment, instrumentation, communication, lighting to be replaced. All pumps to removed by contractor and electrically tested, including cabling back to panels. Replace pumps and cabling as required based on electrical testing results.	230 Arno Way, Pacific Palisades	2/4/2025	N/A	N/A
Wet	Damage Assessment	LASAN	LASAN Damage Assessment: 500 Pacific Coast Highway	Low Flow Diversion Plant 734 - Replace conduit and wires from Sewage Plant 634 MCC to main breaker that feeds Low Flow Diversion Plant 734.	500 Pacific Coast Highway, Pacific Palisades	2/4/2025	N/A	N/A
Wet	Damage Assessment	LASAN	LASAN Damage Assessment: Calle de Palermo (17790) - SW	Remove the debris from the Debris Basin #61 and #63.	CALLE DE PALERMO (17790) - SW	N/A	N/A	N/A

Category	Source	Lead Agency	Project Title	Project Scopes	Location (if applicable)	Start Date	End Date	Cost Estimates (if applicable)
Wet	Damage Assessment	LASAN	LASAN Damage Assessment: Compost filter socks and sandbags*	CAL OES installed compost filter socks and sandbags around City owned catch basins within the Palisades Burn area to grevet sediment and toxic runoff from entering the catch basins. Once installed CAL OES notified the agencies that ongoing maintenance and reglacement is the responsibility of the agencies. LASAN request support in inspecting city owned catch basins and re-installing and/or replacing the compost filter socks and sandbags located around each catch basins until the end of the rainy season, April 1, 2025.	N/A	2/25/2025	4/1/2025	N/A
Wet	Damage Assessment	LASAN	LASAN Damage Assessment: E of Palisades Dr - SW*	Haul away the LASAN stored fire debris collected from the debris basins. LASAN crews removed debris from the debris basins in response to the Palisades Fire. For the health and safety of the public. The debris is stored between DB #74 and #78.	N/A	N/A	N/A	N/A
Wet	Damage Assessment	LASAN	LASAN Damage Assessment: 1000 Villa Grove Dr.	Storm drain pipe liner has been damaged, possibly from the heat of the fire. Damage to liner begins at approximately 210' from 52107461111001. There is a break at 26' from 52107461111067. A few sections of the pipe are deformed, please assess and repair as necessary	1000 Villa Grove Dr.	3/1/2025	N/A	N/A
Wet	Damage Assessment	LASAN	LASAN Damage Assessment: 637 Jacon Way	The top of the storm drain structure is broken (sidewalk), and needs to be repaired. This was maintained by CWCD earlier this year and had no damage. This damage could possibly be from heavy equipment USACE phase II lot cleanups or private vendor lot cleanups.	637 Jacon Way	5/27/2025	N/A	N/A
Streets, Hardscapes, and Walls	DR4856 Permanent Work Projects	BSL	DR4856 Permanent Work Project: Street Lights*	951277 - 335 - C - Street Lights	N/A	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	DR4856 Permanent Work Projects	StreetsLA	DR4856 Permanent Work Project: Charred Streets, Curbs & Sidewalks	951278 - 336 - C - Charred Streets, Curbs & Sidewalks Restore charred streets, curbs, and sidewalks to their pre-disaster design, function, and capacity (in kind) within existing footprint.	Multiple points - data received from Streets LA	1/8/2025	7/8/2026	$1,111,711.82
Streets, Hardscapes, and Walls	DR4856 Permanent Work Projects	StreetsLA	DR4856 Permanent Work Project: Private Property Debris Removal (PPDR) Damages	961682 - 983 - C - Private Property Debris Removal (PPDR) Damages	851 Alma Real Dr, Pacific Palisades, CA, 90272	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Public Assistance Projects (Not Already Included in DR4856 List)	LADOT	Public Assistance Projects (Not Already Included in DR4856 List): Street Signage*	LADOT - Street Signage	N/A	N/A	N/A	N/A
Streets, Hardscapes, and Walls	Palisades StreetsLA Street Segment Projects	StreetsLA	16545 W SUNSET BLVD	List of locations reported by the community for StreetsLA repairs Service Request: #00898381	16545 W SUNSET BLVD	N/A	N/A	N/A
Streets, Hardscapes, and Walls	Palisades StreetsLA Street Segment Projects	StreetsLA	678 N Baylor St	List of locations reported by the community for StreetsLA repairs Service Request: #00010685 Location: BAYLOR ST & SUNSET BLVD	678 N Baylor St	N/A	N/A	N/A

Category	Source	Lead Agency	Project Title	Project Scopes	Location (if applicable)	Start Date	End Date	Cost Estimates (if applicable)
Streets, Hardscapes, and Walls	Palisades StreetsLA Street Segment Projects	StreetsLA	1001 WILL ROGERS STATE PARK RD	List of locations reported by the community for StreetsLA repairs Service Request: #00304895	1001 WILL ROGERS STATE PARK RD	N/A	N/A	N/A
Streets, Hardscapes, and Walls	Palisades StreetsLA Street Segment Projects	StreetsLA	847 N. Jacon Way	List of locations reported by the community for StreetsLA repairs El Oro Lane (Near 847 N. Jacon Way)	847 N. Jacon Way	N/A	N/A	N/A
Streets, Hardscapes, and Walls	Palisades StreetsLA Street Segment Projects	StreetsLA	Sunset Boulevard in the Palisades	List of locations reported by the community for StreetsLA repairs Service Request: #01034748	Sunset Boulevard in the Palisades	N/A	N/A	N/A
Streets, Hardscapes, and Walls	Palisades StreetsLA Street Segment Projects	StreetsLA	Sunset and Las Casas	List of locations reported by the community for StreetsLA repairs Service Request: #01054062	Sunset and Las Casas	N/A	N/A	N/A
Streets, Hardscapes, and Walls	Palisades StreetsLA Street Segment Projects	StreetsLA	Muskingum Avenue	List of locations reported by the community for StreetsLA repairs	Muskingum Avenue	N/A	N/A	N/A
Streets, Hardscapes, and Walls	Palisades StreetsLA Street Segment Projects	StreetsLA	Castellammare (Tramonto bulkhead and Porta Marino bulkhead)	List of locations reported by the community for StreetsLA repairs	Castellammare (Tramonto bulkhead and Porta Marino bulkhead)	N/A	N/A	N/A
Streets, Hardscapes, and Walls	Palisades StreetsLA Street Segment Projects	StreetsLA	504 Marquette and 506 Las Casas	List of locations reported by the community for StreetsLA repairs	504 Marquette and 506 Las Casas	N/A	N/A	N/A
Streets, Hardscapes, and Walls	Palisades StreetsLA Street Segment Projects	StreetsLA	Akron 16315/16301 near Bienveneda Ave	List of locations reported by the community for StreetsLA repairs Sr Number 00683544	Akron 16315/16301 near Bienveneda Ave	N/A	N/A	N/A
Streets, Hardscapes, and Walls	Palisades StreetsLA Street Segment Projects	StreetsLA	16900 Block of Livorno Drive	List of locations reported by the community for StreetsLA repairs	16900 Block of Livorno Drive	N/A	N/A	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	Next to 14601 Whitfield Ave	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	Next to 14601 Whitfield Ave	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	Across From 14907 Whitfield Ave	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	Across From 14907 Whitfield Ave	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	Across from 14643 Whitfield Ave	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	Across from 14643 Whitfield Ave	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	A/F 1161 Cumbre Alta Ct.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	A/F 1161 Cumbre Alta Ct.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	959 Galloway St	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	959 Galloway St	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	955 or 957 Embury St (4)	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	955 or 957 Embury St (4)	1/8/2025	7/8/2026	N/A

Category	Source	Lead Agency	Project Title	Project Scopes	Location (if applicable)	Start Date	End Date	Cost Estimates (if applicable)
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	946 Embury St (3)	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	946 Embury St (3)	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	938 Fiske Ave	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	938 Fiske Ave	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	918 GLENHAVEN DR.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	918 GLENHAVEN DR.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	906 Embury St	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	906 Embury St	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	881 Toyopa Dr	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	881 Toyopa Dr	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	880 Toyopa Dr	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	880 Toyopa Dr	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	841 JACON WAY	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	841 JACON WAY	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	838 Toyopa Drive	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	838 Toyopa Drive	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	760 Toyopa Dr	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	760 Toyopa Dr	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	760 Ocampo Dr (Drummond St)	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	760 Ocampo Dr (Drummond St)	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	757 Toyopa Drive	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	757 Toyopa Drive	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	738 Chapala Dr	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	738 Chapala Dr	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	734 JACON WAY	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	734 JACON WAY	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	732 Hartzell Ave	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	732 Hartzell Ave	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	729 ENCHANTED WAY	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	729 ENCHANTED WAY	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	726 Chapala Dr	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	726 Chapala Dr	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	720 Chapala Dr	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	720 Chapala Dr	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	719 Alma Real Dr	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	719 Alma Real Dr	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	679 Benveneda Av.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	679 Benveneda Av.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	670 n. Las Casas Av.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	670 n. Las Casas Av.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	669 Los Lomas Av.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	669 Los Lomas Av.	1/8/2025	7/8/2026	N/A

Category	Source	Lead Agency	Project Title	Project Scopes	Location (if applicable)	Start Date	End Date	Cost Estimates (if applicable)
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	667 LACHMAN LANE	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	667 LACHMAN LANE	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	665 VIA SANTA YNEZ	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	665 VIA SANTA YNEZ	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	662 ENCHANTED WAY	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	662 ENCHANTED WAY	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	655 Alma Real Dr	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	655 Alma Real Dr	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	649 Los Lomas Av.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	649 Los Lomas Av.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	646 Los Lomas Av.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	646 Los Lomas Av.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	640 El Cerco Dr	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	640 El Cerco Dr	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	635 El Cerco Pl	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	635 El Cerco Pl	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	633 Alma Real Dr	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	633 Alma Real Dr	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	626 n. Palmera Av.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	626 n. Palmera Av.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	625 n. Palmera Av.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	625 n. Palmera Av.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	622 Alma Real Dr	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	622 Alma Real Dr	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	621 Erskine Dr	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	621 Erskine Dr	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	620 Erskine Dr	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	620 Erskine Dr	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	619 n. Palmera Av.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	619 n. Palmera Av.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	616 Los Lomas Av.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	616 Los Lomas Av.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	615 Los Lomas Av.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	615 Los Lomas Av.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	615 Alma Real Dr	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	615 Alma Real Dr	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	614 Erskine Dr	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	614 Erskine Dr	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	614 Alma Real Dr	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	614 Alma Real Dr	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	609 Los Lomas Av.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	609 Los Lomas Av.	1/8/2025	7/8/2026	N/A

Category	Source	Lead Agency	Project Title	Project Scopes	Location (if applicable)	Start Date	End Date	Cost Estimates (if applicable)
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	575 n. Tahquitz Pl.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	575 n. Tahquitz Pl.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	575 Almoloya Dr	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	575 Almoloya Dr	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	563 n. Tahquitz Pl.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	563 n. Tahquitz Pl.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	519 Beriut Ave	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	519 Beriut Ave	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	511 Mount Holyoke	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	511 Mount Holyoke	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	500 Via De La Paz	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	500 Via De La Paz	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	465 Puerto Del Mar	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	465 Puerto Del Mar	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	445 Puerto Del Mar	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	445 Puerto Del Mar	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	441 Puerto Del Mar	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	441 Puerto Del Mar	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	429 Puerto Del Mar	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	429 Puerto Del Mar	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	425 Puerto Del Mar	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	425 Puerto Del Mar	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	421 Puerto Del Mar	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	421 Puerto Del Mar	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	409 Puerto Del Mar	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	409 Puerto Del Mar	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	400 Mount Holyoke	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	400 Mount Holyoke	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	400 Lombard Ave	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	400 Lombard Ave	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	400 Beirut on friends st	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	400 Beirut on friends st	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	380 n. Grenola St	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	380 n. Grenola St	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	365 Mount Holyoke	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	365 Mount Holyoke	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	355 Mount Holyoke	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	355 Mount Holyoke	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	350 Beirut Ave	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	350 Beirut Ave	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	325 Via De La Paz	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	325 Via De La Paz	1/8/2025	7/8/2026	N/A

Category	Source	Lead Agency	Project Title	Project Scopes	Location (if applicable)	Start Date	End Date	Cost Estimates (if applicable)
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	319 Via De La Paz	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	319 Via De La Paz	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	315 Via De La Paz	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	315 Via De La Paz	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	215 QUADRO VECCHIO DR.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	215 QUADRO VECCHIO DR.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	17850 VICINO WAY	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	17850 VICINO WAY	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	17298 Avenida de la Herradura	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	17298 Avenida de la Herradura	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	1708 PORTO MARINA WAY	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	1708 PORTO MARINA WAY	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	17047 LIVORNO DR	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	17047 LIVORNO DR	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	17047 BOLLINGER DR.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	17047 BOLLINGER DR.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	17046 LIVORNO DR.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	17046 LIVORNO DR.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	17035 LIVORNO DR.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	17035 LIVORNO DR.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	16924 DONNA YNEZ LANE	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	16924 DONNA YNEZ LANE	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	16918 LIVORNO DR.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	16918 LIVORNO DR.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	16832 BOLLINGER DR.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	16832 BOLLINGER DR.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	16820 EDGAR ST.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	16820 EDGAR ST.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	16818 LIVORNO DR.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	16818 LIVORNO DR.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	16811 EDGAR ST.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	16811 EDGAR ST.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	16808 EDGAR ST.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	16808 EDGAR ST.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	16795 EDGAR ST. (ON THE IDA STREET SIDE)	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	16795 EDGAR ST. (ON THE IDA STREET SIDE)	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	16790 EDGAR ST.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	16790 EDGAR ST.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	16763 BOLLINGER DR.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	16763 BOLLINGER DR.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	16755 BOLLINGER DR.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	16755 BOLLINGER DR.	1/8/2025	7/8/2026	N/A

Category	Source	Lead Agency	Project Title	Project Scopes	Location (if applicable)	Start Date	End Date	Cost Estimates (if applicable)
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	16743 Monte Hermoso DR.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	16743 Monte Hermoso DR.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	16613 PEQUENO PLACE	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	16613 PEQUENO PLACE	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	16612 PEQUENO PLACE	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	16612 PEQUENO PLACE	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	16105 Northfield St.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	16105 Northfield St.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	16055 Temecula St.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	16055 Temecula St.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	1605 Michael Lane	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	1605 Michael Lane	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	16037 Miami Wy.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	16037 Miami Wy.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	16009 Miami Wy.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	16009 Miami Wy.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	15871 Asilomar Bl	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	15871 Asilomar Bl	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	15425 Via De Las Olas	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	15425 Via De Las Olas	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	15396 Bestor Blvd	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	15396 Bestor Blvd	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	15313 De Pauw St	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	15313 De Pauw St	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	15257 Earlham St	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	15257 Earlham St	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	15250 Friends St	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	15250 Friends St	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	15241 Earlham St	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	15241 Earlham St	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	15232 De Pauw St	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	15232 De Pauw St	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	15217 Earlham St	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	15217 Earlham St	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	15000 Bashford St/1000 Embury St (5)	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	15000 Bashford St/1000 Embury St (5)	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	14929 Whitfield Ave	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	14929 Whitfield Ave	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	14925 Whitfield Ave	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	14925 Whitfield Ave	1/8/2025	7/8/2026	N/A

Category	Source	Lead Agency	Project Title	Project Scopes	Location (if applicable)	Start Date	End Date	Cost Estimates (if applicable)
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	14900 Carey St (corner house) (4)	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	14900 Carey St (corner house) (4)	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	14900 Bestor Blvd/1100 Galloway	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	14900 Bestor Blvd/1100 Galloway	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	14900 Bashford St/1000 Fiske St (4)	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	14900 Bashford St/1000 Fiske St (4)	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	14820 Pampas Ricas Blvd	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	14820 Pampas Ricas Blvd	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	14800 Carey St (corner house) (3)	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	14800 Carey St (corner house) (3)	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	14800 Bashford St/ 1000 Galloway St	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	14800 Bashford St/ 1000 Galloway St	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	14757 Oracle Pl	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	14757 Oracle Pl	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	14727 Whitfield Ave	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	14727 Whitfield Ave	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	14707 Oracle Pl	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	14707 Oracle Pl	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	14706 Oracle Pl	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	14706 Oracle Pl	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	14700 Oracle Pl	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	14700 Oracle Pl	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	14700 Bashford St/ Iliff St (corner house)	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	14700 Bashford St/ Iliff St (corner house)	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	14641 Drummond st (3)	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	14641 Drummond st (3)	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	14611 Whitfield Ave	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	14611 Whitfield Ave	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	14600 Bashford St /1001 Chautaugua St	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	14600 Bashford St /1001 Chautaugua St	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	1433 Monte Grande Pl	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	1433 Monte Grande Pl	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	1372 Goucher	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	1372 Goucher	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	1365 Marinette Road	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	1365 Marinette Road	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	1323 Berea Pl	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	1323 Berea Pl	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	1208 TURQUESA LANE	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	1208 TURQUESA LANE	1/8/2025	7/8/2026	N/A

Category	Source	Lead Agency	Project Title	Project Scopes	Location (if applicable)	Start Date	End Date	Cost Estimates (if applicable)
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	1176 Fiske Ave	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	1176 Fiske Ave	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	11615 PEQUENO PLACE	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	11615 PEQUENO PLACE	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	114 Marquez Pl.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	114 Marquez Pl.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	1131 TELLEM DR.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	1131 TELLEM DR.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	1131 DONAIRE WAY	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	1131 DONAIRE WAY	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	1130 Embury St	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	1130 Embury St	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	1123 TELLEM DR.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	1123 TELLEM DR.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	1120 LAS LOMAS AVE.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	1120 LAS LOMAS AVE.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	1116 Cumbre Alta Ct.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	1116 Cumbre Alta Ct.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	1110 Embury St	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	1110 Embury St	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	1054 GLENHAVEN DR.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	1054 GLENHAVEN DR.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	1054 Galloway St	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	1054 Galloway St	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	1047 Fiske Ave	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	1047 Fiske Ave	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	1046 Iliff St	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	1046 Iliff St	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	1036 Iliff St	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	1036 Iliff St	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	1023 Embury St	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	1023 Embury St	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	1020 GLENHAVEN DR.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	1020 GLENHAVEN DR.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	1014 GLENHAVEN DR.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	1014 GLENHAVEN DR.	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	1011 Iliff St	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	1011 Iliff St	1/8/2025	7/8/2026	N/A
Streets, Hardscapes, and Walls	Palisades Burned Scars (Patchwork)	StreetsLA	1000 GLENHAVEN DR.	951278 - 336 - C - Charred Streets, Curbs & Sidewalks	1000 GLENHAVEN DR.	1/8/2025	7/8/2026	N/A

F.2. Likelihood of Additional Projects Due to Maintenance Cycles

Considering the routine maintenance cycles conducted by the City of Los Angeles, Los Angeles County, and other public agencies, it is likely that additional projects or maintenance activities will be planned within the identified areas of Pacific Palisades. These concurrent efforts should be taken into account when developing the overall project schedule.

Although the Pacific Palisades area is currently undergoing a rebuilding process, it is anticipated that it will eventually return to the regular cyclical maintenance programs managed by the City and County of Los Angeles.

This section provides an analysis of the maintenance cycles, inspection schedules, and asset management strategies employed by the multitude of public agencies operating within Los Angeles.

F.2.1. The Philosophy of Modern Asset Management

The City and County of Los Angeles have formally adopted asset management frameworks that support proactive, data-driven decision-making for the planning, maintenance, and lifecycle management of their infrastructure assets. The Los Angeles County 2020 Strategic Asset Management Plan (SAMP) outlines a clear goal: "to advance investment in County of Los Angeles assets based on comprehensive data analyses and strategic decision-making." This strategic approach is intended to extend the life of assets and produce long-term cost savings.

The core objectives of these plans are consistent across jurisdictions:

- Maintain an accurate asset inventory.
- Extend the useful life of owned assets.
- Optimize the real estate portfolio.
- Guide strategic investment and funding strategies.

F.2.2. From Plan to Project: The Capital Improvement Program (CIP)

The Capital Improvement Program (CIP) is the primary mechanism for funding and executing the goals of strategic asset management. The City of Los Angeles, under Executive Directive No. 9 (ED9), initiated a reform of its CIP process, acknowledging the prior system was "costly and inefficient," with departments holding "inconsistent priorities" that failed to achieve common goals. The reformed CIP aims to centralize and score projects to invest in the highest-need assets.

Similarly, the LA County CIP is being developed to accompany area plans, outlining "infrastructure needs, project priorities, and potential funding sources" for unincorporated areas, with a new emphasis on mitigating climate change risks.

F.2.2.1. Surface Infrastructure: Roads, Sidewalks, and Bridges

Pavement Preservation Programs

The maintenance of the region's vast road network has been divided between the City and County of Los Angeles.

City of Los Angeles (StreetsLA): The Time-Based Cycle

StreetsLA manages a Pavement Preservation Program for its 23,000 lane miles of streets and 800 miles of alleys. This program relies on a straightforward, time-based resurfacing schedule:

- **Select Streets (Major/Arterial):** Resurfaced on average every 15 to 20 years.
- **Local Streets (Residential):** Resurfaced on average every 25 to 30 years.

This primary resurfacing cycle is supplemented by preventative maintenance. Approximately 3 to 5 years after a street is resurfaced, a "slurry seal" application is applied. This treatment is designed to prevent water penetration and oxidation, thereby "extending the serviceable life of the street" and reducing the need for costly repaving. Project schedules for resurfacing and slurry seals are planned annually and made publicly available through maps.

County of Los Angeles (Public Works): The Condition-Based Cycle

DPWLAC embraces the preservation approach: "right treatment, on the right road, at the right time". The County's program is built on a Pavement Management System (PMS), known as "RoadMatrix," which enables a data-driven, condition-based approach.

The key metric is the Pavement Condition Index (PCI), a 0-100 score that rates a road's health. This PCI score is the primary trigger for maintenance. The PMS uses a "decision tree" model—a logical flow chart—to select the most cost-effective treatment. This logic analyzes the PCI, the severity of cracking, traffic loads, and structural adequacy.

The treatment plan is tiered based on this analysis:

- **High PCI (typically >60–70):** Triggers low-cost Preventive Maintenance, such as crack sealing, fog seals, or slurry seals, to keep good roads in good condition.
- **Mid-Range PCI (50–69):** Triggers Rehabilitation, such as a grind and overlay of the asphalt.
- **Low PCI (below 25):** Triggers Full Reconstruction, the costliest treatment.

This condition-based model is designed to optimize limited funds by catching roads before they fail.

Table F.2: Comparative Pavement Maintenance (City and County)

Agency	System Name	Primary Trigger	Arterial Road Cycle	Local Road Cycle	Maintenance Model
StreetsLA (City)	Pavement Preservation Program (PPP)	Time (Years)	15-20 Years	25-30 Years	Time-Based Replacement
LA County DPW	Pavement Management System (PMS)	Pavement Condition Index (PCI)	Condition-Based (PCI Score)	Condition-Based (PCI Score)	Condition-Based Preservation

F.2.2.2. Bridge Inspection and Maintenance: A Federally Mandated Framework

Bridge maintenance takes place based on a federal mandate as well as oversight and maintenance plans by the State and the City.

The Federal Mandate (FHWA)

The Federal Highway Administration's (FHWA) National Bridge Inspection Standards (NBIS) govern the inspection of all 26,000+ bridges in California, whether owned by the State or by local agencies.

- **Standard Cycle:** All bridges must be inspected at intervals not to exceed 24 months.
- **Underwater Cycle:** Bridges with underwater components rated in "serious or worse" condition must also undergo underwater inspections at intervals not to exceed 24 months.
- **Extended Cycle:** An extended 48-month cycle is possible only with explicit FHWA approval and if the bridge meets strict criteria, such as being built after 1978 and remaining in satisfactory condition.

State Oversight (Caltrans)

Caltrans' Structure Maintenance and Investigations (SM&I) division is responsible for executing and managing the NBIS inspection program for all bridges in the state, including those owned by the City and County of Los Angeles. The Caltrans Office of Structure Investigations - South, located in Los Angeles, manages the investigation, evaluation, and documentation for all Southern California.

Local Agency Maintenance (City of LAos Angeles, County of Los Angeles)

Local agencies use the data from Caltrans inspections to schedule their own preventative maintenance. The Los Angeles Bureau of Engineering (BOE), which is the primary caretaker of 516 city-owned bridges, operates in accordance with a Bridge Strategic Plan. This plan outlines the city's own cyclical maintenance schedule, which is in addition to the federal inspection mandate:

- **Every 1 Year:** Clean/Wash Bridge Deck, Clean and Flush Drains, Clean Joints.
- **Every 5 Years:** Deck/Parapet/Rail Sealing.

LACDPW runs a similar Bridge Preventive Maintenance Program (BPMP) to group and fund minor repairs and maintenance to extend the life of its bridge inventory.

Bridge Painting Cycles (Caltrans)

Bridge painting is not performed on a time-based cycle but isa condition-based intervention. The Caltrans Office of Bridge Asset Management manages the statewide "Paint Program" as a component of its "Major Maintenance program for bridges (HM3)". Painting projects are prioritized based on inspection data that assess the "current paint condition" and the level of steel corrosion. Caltrans coordinates this work for over 800 state steel bridges.

F.2.2.3. Utility Infrastructure: Water, Power, and Gas

Utilities such as LADWP and SoCalGas, which are often self-funding and/or regulated by the California Public Utilities Commission (CPUC), exhibit the most sophisticated and well-defined maintenance cycles.

Los Angeles Department of Water and Power (LADWP) - Water

Water Mainline Replacement

The "Water Infrastructure Plan" (WIP) governs the replacement of LADWP's water system, which includes 7,341 miles of mainlines. A challenge is that over 30% of these mainlines are more than 80 years old. To address this, LADWP has adopted a long-term goal known as the "150-Year Replacement Cycle", which is a capital replacement plan based on achieving and maintaining a target replacement rate of 240,000 feet of mainline pipe per fiscal year. This target creates a sustainable, long-range program for the complete generational turnover of the entire water distribution system.

Fire Hydrant Inspection (LADWP/LAFD)

The maintenance of the City's 61,000 public fire hydrants is a shared responsibility between LADWP and the Los Angeles Fire Department (LAFD), and the maintenance is governed by a mandated cycle.

- **Cycle:** Annual (1-year) inspection.
- **Agency Roles:** LAFD performs the annual inspection of every hydrant in the city. LADWP receives the inspection reports from LAFD and is responsible for conducting all necessary maintenance, repairs, and replacements.

Los Angeles Department of Water and Power (LADWP) - Power

Mandated Inspection Cycles (CPUC G.O. 165)

CPUC's General Order 165 establishes a multi-tiered inspection program for all urban electric distribution facilities. This risk-based framework mandates specific maximum intervals for different types of inspections:

- **Patrol Inspection:** A visual check for obvious structural problems and hazards.
- **Detailed Inspection:** A careful visual and diagnostic examination of individual equipment.
- **Intrusive Inspection:** Involves diagnostic tools, sampling, or soil movement, particularly for wood poles.

Table F.3: LADWP Power System Inspection Cycles (CPUC G.O. 165)

Inspection Type	Definition	Max Interval (Urban) - Overhead Transformers, Switches	Max Interval (Urban) - Underground Facilities	Max Interval - Wood Poles (>15 years old)
Patrol	Visual inspection for obvious hazards.	1 Year	1 Year	1 Year
Detailed	Careful visual and diagnostic examination.	5 Years	3 Years	N/A (*See Intrusive*)
Intrusive	Involving soil movement, sampling, diagnostics.	N/A	N/A	10 Years (or 20 if passed prior)

Asset Replacement Cycles (Power Infrastructure Plan - PIP)

Separate from mandated inspections, LADWP's internal Power Infrastructure Plan (PIP) sets annual replacement goals based on asset management criteria (age, performance, location). The annual replacement goals are:

- **Poles:** 4,000 per year.
- **Crossarms:** 13,900 per year.
- **Distribution Transformers:** 1,404 per year.

SoCalGas (Natural Gas)

Mandated Inspection Cycle (CPUC)

SoCalGas is required by the CPUC to conduct comprehensive safety meter inspections every 5 years for its residential and commercial customers.

Pipeline Safety Enhancement Plan (PSEP)

In addition to cyclical inspections, SoCalGas is executing the Pipeline Safety Enhancement Plan (PSEP). This is a large program mandated by the CPUC to address legacy infrastructure. PSEP's goal is to identify all pipeline sections throughout the system that do not have a sufficient record of a pressure test and to either pressure-test or replace them, effectively modernizing the entire transmission system to a verified standard.

Environmental Infrastructure: Sanitation, Storm Drains, and Urban Forestry

F.2.2.4. Wastewater and Sewer Systems (LASAN and LACSD)

City of Los Angeles (LASAN)

LASAN operates its wastewater collection system under a Sewer System Management Plan (SSMP). This plan outlines an intelligent, asset-tiered cleaning schedule. The maintenance cycle is determined by the pipe's diameter, which serves as a proxy for its capacity and risk level.

Cleaning Frequency:

- **Pipes < 16 inches diameter:** Cleaned on a 3-year cycle.
- **Pipes 16-30 inches diameter:** Cleaned on a 5- to 6-year cycle.
- **Pipes > 30 inches diameter:** Cleaned as needed (condition-based).

This schedule is modified by performance. Pipes in known "problem areas," particularly those with a history of blockages from fats, oils, and grease, are cleaned at a higher frequency than the standard cycle.

County of Los Angeles (DPW/LACSD)

The LA County Sanitation Districts (LACSD) and DPW operate a similar preventative maintenance program for their 4,600 miles of sewers. A key component of their program is condition assessment. The County performs closed-circuit television (CCTV) inspections of approximately 500 miles of sewer infrastructure each year. This inspection allows crews to rate the structural integrity and maintenance condition of the pipes, enabling a data-driven approach to prioritizing repairs and cleaning.

Stormwater Systems (LASAN)

Storm drain maintenance works are seasonal, and event-driven. LASAN's operations are governed by an annual "Wet Weather Preparedness and Operations Plan."

- **Frequency:** All critical elements of the storm drainage system, including debris basins, drains, and gutters, are inspected and maintained annually in anticipation of the rainy season.
- **Response:** Areas known for chronic flooding are inspected during heavy rains to ensure proper operation.

The Urban Forest

The tree maintenance programs are defined by the jurisdiction of the ground in which a tree is planted. This policy makes four different agencies responsible for maintenance (mainly trimming) of trees, as indicated in Table F-4:

Table F.4: Comparative Urban Tree Pruning Cycles

Agency	Jurisdiction	Pruning Cycle
LADWP	Trees interfering with high-voltage power lines.	12 Months (1 Year)
LA County Parks	Trees in County parks and unincorporated areas.	2-year cycle (palms), 3-year cycle (fast growth), 6-year cycle (slow growth)
StreetsLA (City)	~700,000 street trees along public right-of-way.	~17 Years.
LA City Parks (RAP)	~1 million trees in City parks.	No Specified Cycle.

F.2.2.5. Public Facilities: Schools, Parks, and Municipal Buildings

Los Angeles Unified School District (LAUSD)

Health & Safety Inspections

The LAUSD Office of Environmental Health and Safety (OEHS) has been conducting "routine health and safety inspections" at all schools since 2001 to assess compliance with federal, state, and local regulations.

Mandated Specific Cycles

While no standard routine inspection frequency is specified for most materials, a mandated inspection cycle applies to high-risk materials—such as known asbestos-containing materials—which require visual surveillance every 6 months, conducted by the Facilities Environmental Technical Unit (FETU).

General Facility Maintenance

- **HVAC:** District policy mandates that "periodic preventative maintenance" be performed on all HVAC systems. However, the specific time frames are not publicly listed.
- **Roofs:** The district employs Roofing Inspectors and Roofing Inspection Supervisors. Their primary function is to inspect roofing work in progress performed by contractors to ensure compliance.

F.2.2.6. Parks and Recreation (LA City RAP & LA County Parks)

Playground Safety Inspections

- **State Mandate (Initial):** California law requires an initial safety audit by a Certified Playground Safety Inspector (CPSI) for all new public playgrounds before they are opened to the public.
- **Standard of Care (Routine):** No state law mandates a frequency for routine inspections. This frequency is a "standard of care" issue, and maintaining inspection logs is critical for limiting liability.
- **Agency Execution:** This task is a core function of park maintenance staff. LA City RAP's Maintenance Operations personnel are responsible for inspecting playground equipment and maintaining complete records of these inspections.

Park Facility Maintenance by Recreation and Park (RAP)

For other high-use park assets, the cycles are more frequent. LA City RAP's public restrooms are cleaned "thoroughly at least once per day" and are "inspected, sanitized...and restocked two (2) additional times throughout the day".

F.2.2.7. Municipal Buildings (GSD) and Fire Stations (LAFD)

City of LA (General Services Department [GSD])

The LAPD, whose facilities are managed by GSD, designates a Building Services Coordinator (BSC) at its sites. These BSCs conduct "regular inspections" and are required to hold a monthly meeting with the Facilities Management Division (FMD) to coordinate maintenance needs and follow up on requests.

Los Angeles Fire Department (LAFD) Facilities

The Fire Facilities Section administers the maintenance program. However, maintenance is largely driven by end-of-life replacement of "life expectancy systems" (like air conditioning) or emergency repairs.

F.3. Street Segments with Standing Structures

Table F.5: Street Segments with Standing Structures

Segment ID	TDIR	STNAME	STSFX	Intersection	Wet Projects	Patchwork	Betterment Projects	StreetsLA Project	Power 12kV/UG Projects	Total Projects
23744	W	SUNSET	BLVD	EL MEDIO, ALMAR	0	0	1	1	1	3
23392	W	CASTELLAMMARE	DR	REVELLO, TRAMONTO, PORTO MARINA	0	0	1	1	0	2
74304	W	SUNSET	BLVD	LOS LIONES, CASTELLAMMARE	0	0	0	1	1	2
79143	W	SUNSET	BLVD	VIA DE LA PAZ, TEMESCAL CANYON	0	0	0	1	1	2
23751	W	SUNSET	BLVD	MUSKINGUM, NORTHFIELD	1	0	1	1	1	4
81983	W	SUNSET	BLVD	LIVORNO	0	0	0	1	1	2
79139	W	SUNSET	BLVD	EL MEDIO, TEMESCAL CANYON	0	0	0	1	1	2
73896	N	WILL ROGERS STATE PARK	ROAD	SUNSET, VILLA VIEW	0	0	0	1	0	1
24745	W	SUNSET	BLVD	PALISADES, MARQUEZ	0	0	0	1	1	2
70466	W	SUNSET	BLVD	LOS LIONES, PASEO MIRAMAR	0	0	0	1	1	2
23517	W	SUNSET	BLVD	VIA DE LA PAZ, SWARTHMORE	1	0	1	1	1	4
70465	W	SUNSET	BLVD	PALISADES, PASEO MIRAMAR	0	0	0	1	1	2
23565	W	SUNSET	BLVD	FISKE, CAREY, EMBURY	0	0	0	1	1	2
81984	W	SUNSET	BLVD	SALERNO	0	0	0	1	1	2
70474	W	SUNSET	BLVD	CHAUTAUQUA, BROOKTREE	0	0	1	1	1	3
79132	W	SUNSET	BLVD	CHAUTAUQUA, PAMPAS RICAS	0	0	0	1	1	2
23495	W	AKRON	ST	CHATTANOOGA, BIENVENEDA	0	0	0	1	1	2
79137	W	SUNSET	BLVD	HARTZELL, CHAUTAUQUA	0	0	0	1	1	2
70467	W	SUNSET	BLVD	PACIFIC COAST, CASTELLAMMARE	0	0	0	1	0	1
23582	W	SUNSET	BLVD	MARQUEZ, SALERNO	0	1	0	1	1	3
70471	W	SUNSET	BLVD	AMALFI, RESEDA	0	0	1	1	1	3
23768	N	MUSKINGUM	AVE	NORTHFIELD, SUNSET	0	0	0	1	0	1
23793	W	SUNSET	BLVD	LA CRUZ, ANTIOCH	0	0	1	1	1	3
23521	N	JACON	WAY	LACHMAN, VIA SANTA YNEZ, EL ORO	1	2	0	1	0	4
70401	W	PACIFIC COAST	HWY	BAY CLUB, SEAVIEW	2	0	0	1	0	3
96540	W	SUNSET	BLVD	WILL ROGERS STATE PARK, RUSTIC	0	0	1	1	1	3
100067	W	SUNSET	BLVD	RESEDA, EVANS	0	0	1	1	1	3
100068	W	SUNSET	BLVD	EVANS, RUSTIC	0	0	1	1	1	3
101026	W	SUNSET	BLVD	WILL ROGERS STATE PARK, RUSTIC CREEK	0	0	1	1	1	3
23738	N	MUSKINGUM	AVE	SUNSET, EL MEDIO	0	0	0	1	0	1
104461	W	SUNSET	BLVD	RIVAS CANYON, BROOKTREE	0	0	1	1	1	3

Segment ID	TDIR	STNAME	STSFX	Intersection	Wet Projects	Patchwork	Betterment Projects	StreetsLA Project	Power 12kV/UG Projects	Total Projects
23660	N	DONAIRE	WAY	TELLEM	0	1	0	0	0	1
23823	N	VIA DE LA PAZ		ANTIOCH, BOWDOIN	0	0	1	0	1	2
23890	N	VIA DE LA PAZ		DE PAUW, CARTHAGE	0	0	1	0	1	2
23947	N	TOYOPA	DR	CAMAROSA, ALVA	0	0	1	0	0	1
71459	N	CALLE PATRICIA		CALLE ARBOLADA, CALLE JERMAINE	1	0	0	0	0	1
67175	N	PALISADES	DR	AVENIDA DE SANTA YNEZ	0	0	0	0	1	1
82000	N	AMALFI	DR	CAPRI	0	0	1	0	0	1
23518	N	WILDOMAR	ST	SUNSET, JUNALUSKA	0	0	1	0	1	2
24743	W	DONNA YNEZ	LANE	VIA SANTA YNEZ	0	1	0	0	0	1
23421	N	PASEO MIRAMAR		VIA LUCIA, VIA NICOLAS	0	0	1	0	0	1
72876	N	HIGHTREE	ROAD	BROOKTREE	0	0	1	0	0	1
23530	S	MARQUEZ	AVE	JACON, EDGAR	0	0	1	0	1	2
23548	W	NORTHFIELD	ST	ALMAR, EL MEDIO, ERSKINE	0	0	0	0	1	1
23728	E	OREO	PL	LAS LOMAS	0	0	1	0	0	1
78958	W	BOWDOIN	ST	TEMESCAL CANYON, ERSKINE	0	0	0	0	1	1
23664	W	ROMANY	DR	FERMO, AMALFI	0	0	1	0	0	1
67182	N	PALISADES	DR	SECTION 1	0	0	0	0	1	1
79003	N	OCAMPO	DR	PAMPAS RICAS, DRUMMOND	0	0	0	0	1	1
23663	N	FERMO	DR	ROMANY	0	0	1	0	0	1
23385	W	VICINO	WAY	TRAMONTO, MONTE GRIGIO	0	1	0	0	0	1
23580	W	CARTHAGE	ST	VIA DE LA PAZ, SWARTHMORE	0	0	1	0	0	1
23727	N	EL MEDIO	AVE	ALCIMA, MUSKINGUM	0	0	0	0	1	1
23704	W	MCKENDREE	AVE	GOUCHER, BESTOR, EMBURY	0	3	0	0	0	3
23854	N	VIA DE LA PAZ		BOWDOIN, CARTHAGE	0	0	1	0	1	2
23557	W	BOLLINGER	DR	IDA, SALERNO	0	1	0	0	0	1
23456	N	AMALFI	DR	ROMANY, SORRENTO	0	0	1	0	0	1
24742	W	LIVORNO	DR	MARQUEZ, BOLLINGER	0	3	1	0	0	4
72888	N	MESA	ROAD	SYCAMORE, LATIMER, UPPER MESA	0	0	1	0	0	1
23811	N	SWARTHMORE	AVE	ANTIOCH, LA CRUZ	0	0	0	0	1	1
23740	N	EMBURY	ST	BESTOR, ALBRIGHT, MCKENDREE	0	2	0	0	0	2
23891	W	DE PAUW	ST	VIA DE LA PAZ, MOUNT HOLYOKE	0	0	1	0	0	1
79129	N	ILIFF	ST	SUNSET, DRUMMOND	0	0	0	0	1	1
78970	N	PALISADES	DR	SECTION 2	0	0	0	0	1	1
67159	W	CAMINO DE YATASTO		VEREDA DE LA MONTURA, CALLE DE ESTRIBO	1	0	0	0	0	1
23776	N	ALMAR	AVE	JUNALUSKA, SUNSET	0	0	1	0	0	1
23909	N	CHAUTAUQUA	BLVD	PAMPAS RICAS, BORGOS, SUNSET	0	0	1	0	1	2
23883	N	AMALFI	DR	TOULON, NAPOLI	0	0	1	0	0	1
78959	W	BOWDOIN	ST	TEMESCAL CANYON, ERSKINE	0	0	0	0	1	1
23760	N	CHAUTAUQUA	BLVD	ALBRIGHT, BASHFORD	0	1	0	0	0	1
23804	E	LAS LOMAS	AVE	PALMERA, BIENVENEDA	0	1	0	0	0	1
23881	N	LAS CASAS	AVE	GRENOLA	0	0	1	0	0	1
67177	N	PALISADES	DR	VEREDA DE LA MONTURA	0	0	0	0	1	1

Segment ID	TDIR	STNAME	STSFX	Intersection	Wet Projects	Patchwork	Betterment Projects	StreetsLA Project	Power 12kV/UG Projects	Total Projects
23848	N	SWARTHMORE	AVE	HAMPDEN, PATTERSON	0	0	1	0	0	1
23887	W	DE PAUW	ST	RADCLIFFE, HAVERFORD, MOUNT HOLYOKE	0	0	1	0	0	1
23682	N	GLENHAVEN	DR	LACHMAN, MERIVALE	0	4	0	0	0	4
23631	W	PACIFIC COAST	HWY	TEMESCAL CANYON	2	0	0	0	0	2
23452	W	ORACLE	PL	MARINETTE	0	4	0	0	0	4
23458	W	PEQUENO	PL	TELLEM	0	2	0	0	0	2
72879	N	TEMESCAL CANYON	ROAD	BOWDOIN, PACIFIC COAST	1	0	0	0	0	1
72850	W	POSETANO	ROAD	STRETTO	1	0	0	0	0	1
23627	N	ALMA REAL	DR	LA CUMBRE, CORONA DEL MAR, ALTATA	0	0	1	0	0	1
23677	N	LAS LOMAS	AVE	ANOKA	0	1	0	0	0	1
23940	N	CHAUTAUQUA	BLVD	BORGOS, ALMOLOYA	0	0	1	0	1	2
23472	W	WHITFIELD	AVE	BESTOR, MCKENDREE, FISKE	0	1	0	0	0	1
75552	N	AMALFI	DR	CORSICA	0	0	1	0	0	1
81389	N	PALISADES	DR	SUNSET	0	0	0	0	1	1
81388	N	PALISADES	DR	SUNSET	0	0	0	0	1	1
23958	N	TOYOPA	DR	RAMOS, LA CUMBRE	0	0	1	0	0	1
23831	N	AMALFI	DR	TOULON, CORSICA	0	0	1	0	0	1
67174	N	MICHAEL	LANE	VEREDA DE LA MONTURA, AVENIDA DE LA HERRADURA	0	1	0	0	0	1
23625	W	RAMOS	PL	TOYOPA, ALTATA	0	0	1	0	0	1
23849	N	ALMA REAL	DR	TOYOPA, OCAMPO	3	0	0	0	1	4
23952	N	CHAUTAUQUA	BLVD	LA CUMBRE, ALMOLOYA	0	0	1	0	0	1
23963	N	CHAUTAUQUA	BLVD	LA CUMBRE, CORONA DEL MAR	0	0	1	0	0	1
23934	W	EARLHAM	ST	DE PAUW, LOMBARD	0	1	0	0	0	1
23448	N	TURQUESA	LANE	CHARMEL	0	1	0	0	0	1
23967	N	CHAUTAUQUA	BLVD	VANCE	0	0	1	0	0	1
78971	N	PALISADES	DR	SECTION 3	0	0	0	0	1	1
23532	S	MARQUEZ	AVE	JACON, IDA	0	0	1	0	1	2
23941	N	TOYOPA	DR	ALMOLOYA, ALVA	0	0	1	0	0	1
23620	W	LA CUMBRE	DR	TOYOPA, ALMA REAL	0	0	1	0	0	1
70397	W	PACIFIC COAST	HWY	BAY CLUB, SUNSET	1	0	0	0	0	1
23912	N	ALMA REAL	DR	EL CERCO	0	5	0	0	0	5
23830	N	EL MEDIO	AVE	NORTHFIELD, TEMECULA, ERSKINE	0	1	0	0	0	1
23440	S	REVELLO	DR	TRAMONTO	1	0	1	0	0	2
71489	W	MONTE HERMOSO	DR	PIEDRA MORADA, CUMBRE ALTA	0	1	0	0	0	1
23434	N	QUADRO VECCHIO	DR	TRAMONTO, BELLINO	0	1	0	0	0	1
23487	N	LAS LOMAS	AVE	OREO, ANOKA	0	0	1	0	0	1
23513	W	BASHFORD	ST	KAGAWA, CHAUTAUQUA	0	0	0	0	1	1
67179	N	PALISADES	CT	SECTION 1	0	1	0	0	1	2
67179	N	PALISADES	CT	SECTION 2	0	1	0	0	1	2
72854	S	UMEO	ROAD	CAPRI	0	0	1	0	0	1
23721	N	LAS LOMAS	AVE	OREO, ALCIMA	0	0	1	0	0	1
23953	N	TOYOPA	DR	LA CUMBRE, CAMAROSA	0	0	1	0	0	1

Segment ID	TDIR	STNAME	STSFX	Intersection	Wet Projects	Patchwork	Betterment Projects	StreetsLA Project	Power 12kV/UG Projects	Total Projects
77690	W	CORONA DEL MAR		CHAUTAUQUA	0	0	1	0	0	1
23506	N	LAS LOMAS	AVE	SUNSET, ALCIMA	0	0	1	0	0	1
23765	N	ILIFF	ST	BASHFORD, ALBRIGHT	0	4	0	0	0	4
78999	W	PAMPAS RICAS	BLVD	OCAMPO, TOYOPA	0	0	0	0	1	1
66383	W	VIA SANTA YNEZ		DULCE YNEZ, LACHMAN, JACON	0	1	0	0	0	1
67160	W	CALLE DE PALERMO		CAMINO DE YATASTO	1	0	0	0	0	1
70448	N	CHAUTAUQUA	BLVD	SECTION 1	1	0	0	0	0	1
23501	N	EL MEDIO	AVE	SUNSET, MUSKINGUM	0	0	0	0	1	1
23766	N	HARTZELL	ST	BASHFORD, ALBRIGHT	0	1	1	0	0	2
23968	N	TOYOPA	DR	RAMOS, CORONA DEL MAR	0	0	1	0	0	1
72856	N	LAS PULGAS	ROAD	LAS LOMAS	0	0	1	0	0	1
81999	N	AMALFI	DR	SORRENTO	0	0	1	0	0	1
78977	N	PALISADES	DR	SECTION 4	0	0	0	0	1	1
23973	E	TELLEM	DR	DONAIRE, LACHMAN	0	3	0	0	0	3
35067	W	LA CRUZ	DR	SWARTHMORE, ALMA REAL	0	0	0	0	1	1
71488	N	CUMBRE ALTA	CT	MONTE HERMOSO	0	2	0	0	0	2
23955	N	ALMA REAL	DR	LA CUMBRE, CAMAROSA	0	0	1	0	0	1
23864	N	HAMPDEN	PL	SWARTHMORE	0	0	1	0	0	1
81976	S	REVELLO	DR	POSETANO	0	0	1	0	0	1
72857	N	LAS PULGAS	ROAD	MARONEY	0	0	1	0	0	1
78974	N	PALISADES	DR	SECTION 5	1	0	0	0	1	2
78973	N	PALISADES	DR	VEREDA DE LA MONTURA	0	0	0	0	1	1
23403	W	PORTO MARINA	WAY	PACIFIC COAST, BREVE	0	0	1	0	0	1
100830	N	MARQUETTE	ST	BIENVENEDA	0	0	1	0	0	1
23616	W	ALVA	DR	TOYOPA, ALMA REAL	0	0	1	0	0	1
23488	W	ALCIMA	AVE	EL MEDIO, LAS LOMAS	0	0	1	0	1	2
23626	W	ALTATA	DR	ALMA REAL, RAMOS, CORONA DEL MAR	0	0	1	0	0	1
70399	N	ARNO	WAY	TRINO, BAY CLUB	2	0	0	0	0	2
29892	N	SAN REMO	DR	AMALFI, CASALE	0	0	1	0	0	1
23774	W	ANTIOCH	ST	HAVERFORD, VIA DE LA PAZ, RADCLIFFE	0	0	1	0	1	2
77691	W	CORONA DEL MAR		TOYOPA	0	0	1	0	0	1
23632	W	ALTATA	DR	CORONA DEL MAR, RAMOS	0	0	1	0	0	1
65487	W	BOLLINGER	DR	MARQUEZ, LIVORNO	0	1	1	0	0	2
23544	W	BOLLINGER	DR	IDA, MARQUEZ	0	2	0	0	0	2
23405	W	CASTELLAMMARE	DR	SUNSET, STRETTO	2	0	0	0	0	2
23829	N	BIENVENEDA	AVE	LAS LOMAS	4	0	0	0	0	4
23904	W	DE PAUW	ST	SWARTHMORE, LOMBARD	0	1	0	0	0	1
23693	N	CHAUTAUQUA	BLVD	PASKENTA, BEREA	0	1	0	0	0	1
23752	N	ENCHANTED	WAY	EL ORO	1	2	0	0	0	3
23468	N	CHAUTAUQUA	BLVD	WHITFIELD, PASKENTA	0	2	0	0	0	2
23902	N	EL CERCO	PL	ALMA REAL, PAMPAS RICAS	0	1	0	0	0	1
23858	N	TOYOPA	DR	DRUMMOND, CAREY	0	1	0	0	0	1
23460	W	ROMANY	DR	FERMO	0	0	1	0	0	1
23420	N	PASEO MIRAMAR		VIA LUCIA, ESPERA	0	0	1	0	0	1

Segment ID	TDIR	STNAME	STSFX	Intersection	Wet Projects	Patchwork	Betterment Projects	StreetsLA Project	Power 12kV/UG Projects	Total Projects
72858	N	LAS PULGAS	ROAD	MARONEY, BIENVENEDA	0	0	1	0	0	1
23546	W	TEMECULA	ST	MUSKINGUM, ALMAR, WILDOMAR	0	1	1	0	0	2
23807	W	NORTHFIELD	ST	ALMAR, WILDOMAR	0	0	1	0	1	2
23395	W	PORTO MARINA	WAY	CASTELLAMMARE, TRAMONTO, LECCO	1	0	0	0	0	1
104990	N	SWARTHMORE	AVE	MONUMENT, PALISADES VILLAGE	0	0	1	0	0	1
104991	N	MONUMENT	ST	SUNSET, PALISADES VILLAGE	0	0	0	0	1	1
72406	W	AVENIDA DE LA HERRADURA		MICHAEL, PASEO LOS POCITOS	0	1	0	0	0	1

F.4. Street Segments without Planned Work

Table F.6: Street Segments without Planned Work

ID	TDIR	STNAME	STSFX	Intersection	Shape_Length (Ft)
23502	N	VILLA GROVE	DR	VILLA VIEW	708.77
23534	W	CAREY	ST	CHAUTAUQUA, KAGAWA	338.07
23564	S	MARQUEZ	AVE	BOLLINGER, EDGAR	448.93
23684	N	PALISAIR	PL	EL MEDIO	418.54
23762	N	KAGAWA	ST	BASHFORD, ALBRIGHT	669.95
23393	W	LOS LIONES	DR	SUNSET, TRAMONTO	444.99
23447	W	EL HITO	PL	SECTION 1	187.89
67194	N	LUCERO	AVE	SECTION 1	157.26
71469	N	CHASTAIN	PKWY	CALLE JERMAINE, CALLE VICTORIA	571.14
71490	N	PIEDRA MORADA	DR	MONTE HERMOSO	175.51
72373	N	AVENIDA DE CORTEZ		PASEO MARIPOSA, PASEO PALOMA	117.48
70404	W	SEAVIEW	DR	SHORE, PACIFIC COAST, DRIFTWOOD	80.27
70413	N	SHORE	DR	DRIFTWOOD, SEAVIEW	120.65
72351	N	PASEO DE LOS ARBOLES		AVENIDA DE SANTA YNEZ	158.75
81974	W	POSETANO	ROAD	STRETTO	182.69
23398	W	REVELLO	DR	CASTELLAMMARE, POSETANO	603.29
79002	N	OCAMPO	DR	PAMPAS RICAS	50.00
79146	N	TEMESCAL CANYON	ROAD	SUNSET, HAVERFORD	162.96
72867	N	WILL ROGERS STATE PARK	ROAD	VILLA WOODS	524.70
23640	N	EL HITO	CIR	BIENVENEDA	708.90
23930	N	SWARTHMORE	AVE	FRIENDS, EARLHAM	417.48
23971	E	ENTRADA	DR	CHANNEL, MESA	268.50
23980	N	ALMAR	AVE	JUNALUSKA, NORTHFIELD	550.64
23435	E	STRETTO	WAY	POSETANO, CASTELLAMMARE	395.25
23455	W	ROMANY	DR	MONACO, SAN REMO	468.96
23467	N	RIMMER	AVE	WHITFIELD, MCKENDREE	321.42
72353	N	AVENIDA DE CORTEZ		AVENIDA DE SANTA YNEZ, PASEO BRILLANTE	162.65
69489	N	RESEDA	BLVD	RUSTIC CANYON	2080.51
71487	W	MONTE HERMOSO	DR	CUMBRE ALTA	436.34
70400	N	BAY CLUB	DR	PACIFIC COAST, ARNO	1,301.33
70439	N	SAMOA	WAY	TAHITI	603.71
23910	N	RADCLIFFE	AVE	HAVERFORD, MOUNT HOLYOKE, DE PAUW, EARLHAM	1,127.14

ID	TDIR	STNAME	STSFX	Intersection	Shape_Length (Ft)
24587	N	BRINKLEY	AVE	PONTOON, NIMROD	301.06
23527	N	RAVOLI	DR	AMALFI	1,879.31
23538	W	CAREY	ST	ILIFF, HARTZELL	309.97
23555	W	BOWDOIN	ST	VIA DE LA PAZ, SWARTHMORE	371.79
23610	N	ALMOLOYA	DR	OCAMPO, TOYOPA	296.91
23732	N	HARTZELL	ST	BESTOR, ALBRIGHT	747.60
23924	N	BEIRUT	AVE	FRIENDS, EARLHAM	416.89
23309	N	CHARMEL	LANE	GLYNN	408.71
23442	N	COPERTO	DR	TRAMONTO	240.83
75550	N	AMALFI	DR	MINORCA	811.33
79005	W	PAMPAS RICAS	BLVD	OCAMPO, CHAPALA	293.25
79011	W	PAMPAS RICAS	BLVD	FRONTERA, CHAPALA	257.84
71481	W	VIA LA COSTA		AVENIDA ASHLEY, CALLE DEL CIELO, VIA LAS PALMAS	888.96
72367	N	PASEO DE LOMAS ALTAS		AVENIDA DE CORTEZ	159.36
72375	N	PASEO DEL PAJARO		PASEO DE LA PAZ, AVENIDA DE CORTEZ	157.07
67164	W	VEREDA DE LA MONTURA		CAMINO DE YATASTO	150.97
67171	W	CAMINO DE YATASTO		CALLE DE PALERMO, CALLE DEL JONELA	2,961.69
70493	N	SAN LORENZO	ST	ALISAL	190.09
23698	W	WHITFIELD	AVE	RIMMER, MONUMENT	616.01
23747	W	ALBRIGHT	ST	CHARM ACRES, VIA DE LA PAZ	329.83
23748	W	ALBRIGHT	ST	CHARM ACRES, MONUMENT	314.45
23772	N	FISKE	ST	BASHFORD, ALBRIGHT	669.93
23818	N	EL MEDIO	AVE	NORTHFIELD, JUNALUSKA, ERSKINE	715.00
23866	N	ERSKINE	DR	EL MEDIO, MIAMI, WYNOLA	809.11
23886	N	ALMA REAL	DR	CHAPALA, FRONTERA	319.28
23932	N	SAN LORENZO	ST	ESPARTA, MESITA	417.62
23378	W	SABBIADORO	WAY	BELLINO, NOTTEARGENTA	217.88
23383	W	TRAMONTO	DR	CASTELLAMMARE, VICINO, PORTO MARINA	282.18
73933	N	RUSTIC CANYON	ROAD	RESEDA	477.38
72362	N	AVENIDA DE CORTEZ		PASEO DE LOMAS ALTAS, PASEO DE LA LORA	218.30
72392	N	MICHAEL	LANE	AVENIDA DE LA HERRADURA, PASEO DEL PUERTO	378.08
67161	W	VEREDA DE LA MONTURA		PALISADES, MICHAEL	211.62
35149	E	SAGE	LANE	WEST CHANNEL	895.44
72881	N	EAST CHANNEL	ROAD	ATTILLA, DRYAD	1,011.36
72405	W	AVENIDA DE LA HERRADURA		PASEO LOS POCITOS, PASEO LAS LOMAS	229.89
71500	N	BIENVENEDA	AVE	VIA FLORESTA	902.48
70403	W	TERRACE	DR	SEAVIEW	266.09
70421	N	WESTVIEW	LANE	TERRACE	404.44
72379	N	PASEO PUERTO BELLO		AVENIDA DE CORTEZ	151.88

ID	TDIR	STNAME	STSFX	Intersection	Shape_Length (Ft)
72380	N	PASEO DE LA RISA		AVENIDA DE CORTEZ	151.88
23371	W	PACIFIC COAST	HWY	CHAUTAUQUA, WEST CHANNEL	21.62
67087	W	PACIFIC COAST	HWY	SUNSET	29.99
23965	N	ENTRADA	DR	AMALFI, OCEAN	703.74
23575	W	CARTHAGE	ST	HAVERFORD, RADCLIFFE	355.03
23588	W	YSIDRO	PL	ARBRAMAR, WYNOLA	284.04
23592	W	ASILOMAR	BLVD	ALMAR, WYNOLA	504.29
23666	W	ROMANY	DR	MONACO, CAPRI	537.31
67905	N	VANCE	ST	CHAUTAUQUA	251.50
23771	N	HAVERFORD	AVE	RADCLIFFE, ANTIOCH	277.00
23894	N	EL MEDIO	AVE	ASILOMAR, SEABEC	342.47
23938	N	ALMA REAL	DR	CHAPALA, OCAMPO	287.08
24744	W	DULCE YNEZ	LANE	VIA SANTA YNEZ	641.72
72894	N	WILL ROGERS STATE PARK	ROAD	VILLA WOODS, VILLA VIEW	309.28
66379	N	VIA SANTA YNEZ		DONNA YNEZ	203.18
23978	S	SHADOW MOUNTAIN	DR	VIA ANITA, BIENVENEDA	1,826.50
82001	E	VIA FLORESTA		FLORESTA, BELLA OCEANA VISTA	837.41
29888	E	CHARMEL	PL	SECTION 1	262.82
29910	N	JONESBORO	DR	LONGWORTH	1,055.88
69491	N	RESEDA	BLVD	RUSTIC CANYON	519.64
23573	W	GALLOWAY	ST	SUNSET, DRUMMOND	117.60
82875	N	CHASTAIN	PKWY	PALISADES, PASEO DE ORO	995.20
67167	W	AVENIDA DE SANTA YNEZ		AVENIDA DE CORTEZ, CALLE DE SEVILLA	535.64
67181	N	CALLE DE MADRID		AVENIDA DE SANTA YNEZ	217.95
72886	N	EAST CHANNEL	ROAD	AMALFI	211.52
71479	N	CALLE DEL CIELO		CALLE MONTECITO, CALLE BELLEVISTA	195.47
70402	W	TERRACE	CIR	SECTION 1	136.34
72365	N	PASEO DE LA FORTUNA		AVENIDA DE CORTEZ	156.54
70494	W	ALISAL	LANE	SAN LORENZO	192.24
23536	W	CAREY	ST	ILIFF, KAGAWA	309.94
23609	W	MESITA	WAY	SAN LORENZO, KINGMAN	320.02
24573	N	BRINKLEY	AVE	PONTOON, BECKWITH	841.40
23782	W	MARQUEZ	TER	JACON	1031.37
23790	N	CHAUTAUQUA	BLVD	CAREY, BASHFORD	676.84
23820	N	KAGAWA	ST	CAREY, CHAUTAUQUA	366.85
23500	W	LINDA	TER	LACHMAN	607.16
23734	N	GALLOWAY	ST	BESTOR, ALBRIGHT	871.31
23788	N	AMALFI	DR	RAVOLI, SUNSET	267.79
23972	N	CHANNEL	LANE	ENTRADA, WEST CHANNEL	325.34
23414	N	PASEO MIRAMAR		LUCERO, CATALONIA	120.98
23707	W	VILLA WOODS	DR	WILL ROGERS STATE PARK	542.21
73935	N	RUSTIC CANYON	ROAD	RESEDA	668.07

ID	TDIR	STNAME	STSFX	Intersection	Shape_Length (Ft)
35154	E	ENTRADA	DR	SHORT, OCEAN	400.62
67162	W	PALISADES	CIR	AVENIDA DE SANTA YNEZ, AVENIDA DE CORTEZ	508.59
70445	N	EL MEDIO	AVE	SUNSET, JUNALUSKA	648.33
35152	E	ENTRADA	DR	CHANNEL, OCEAN	70.52
35161	W	LECCO	LANE	PORTO MARINA	429.00
71491	N	MONTE GRANDE	PL	PALISADES	391.14
72360	N	AVENIDA DE CORTEZ		PASEO DE LAS FLORES, PASEO DE LA FORTUNA	199.98
78992	N	TOYOPA	DR	PAMPAS RICAS, BORGOS	774.21
70406	W	DRIFTWOOD	DR	SEAVIEW, SHORE	234.09
72369	N	PASEO MARIPOSA		AVENIDA DE CORTEZ	128.37
67158	W	CAMINO DE YATASTO		CALLE DE PALERMO, CALLE DE ESTRIBO	615.66
71482	W	VIA LA COSTA		VIA LAS PALMAS	335.13
72400	N	PASEO DE MONCLOVA		AVENIDA DE LA HERRADURA	174.92
23520	N	LACHMAN	LANE	VIA SANTA YNEZ, JACON, LINDA	631.62
23550	N	NAPOLI	DR	SPEZIA, TOULON	362.36
23777	W	JUNALUSKA	WAY	EL MEDIO, ALMAR	285.08
23781	N	MONUMENT	ST	BASHFORD, SWARTHMORE	489.92
23375	W	SANDY CAPE	DR	SURFVIEW	1,023.08
23402	W	BREVE	WAY	PORTO MARINA, CASTELLAMMARE	278.45
23463	N	MONACO	DR	SUNSET, SAN REMO	101.26
29891	N	LACHMAN	LANE	GLYNN, LUNA VISTA	697.36
23695	W	SCENIC	PL	ENCHANTED	158.05
35145	N	CHAUTAUQUA	BLVD	BEREA	965.08
23976	S	SHADOW MOUNTAIN	DR	VIA CRESTA	280.12
72391	N	MICHAEL	LANE	PASEO DEL PUERTO, AVENIDA DE LA HERRADURA	1,403.14
73069	N	ALTA MURA	ROAD	CASALE, SAN ONOFRE	135.43
72865	N	MARINETTE	ROAD	ORACLE, PASKENTA	522.34
73898	N	WEST RUSTIC	ROAD	HILLSIDE, EAST RUSTIC	605.22
70396	W	CALLE HALEIGH		CHASTAIN	714.26
70414	W	TERRACE	DR	SHORE	828.80
70424	W	TERRACE	PL	WESTVIEW, OCEAN	103.82
72348	N	PASEO ANTIGUO		AVENIDA DE SANTA YNEZ	155.06
70490	N	LATIMER	ROAD	BROOKTREE, HALDEMAN	773.36
70491	N	LATIMER	ROAD	HALDEMAN	329.97
70496	N	ALISAL	CT	SECTION 1	143.63
23913	N	BEIRUT	AVE	EARLHAM, MOUNT HOLYOKE	306.48
66376	N	EL MEDIO	AVE	PALISAIR	260.75
23569	W	MIAMI	WAY	EL MEDIO, ARBRAMAR	494.30
23844	N	EL MEDIO	AVE	MIAMI, TEMECULA	340.17
23853	N	HAVERFORD	AVE	CARTHAGE, BOWDOIN	785.88

ID	TDIR	STNAME	STSFX	Intersection	Shape_Length (Ft)
23872	E	MARQUEZ	PL	SUNSET	299.30
23391	W	TRAMONTO	DR	BELLINO, QUADRO VECCHIO	148.63
23407	N	ALONDRA	DR	PASEO MIRAMAR	155.93
23416	N	LUCERO	AVE	PASEO MIRAMAR	762.13
24108	N	BRINKLEY	AVE	NIMROD	158.86
23432	N	SURFVIEW	DR	SEABREEZE	1,176.67
23408	N	PASEO MIRAMAR		ALONDRA, VISTA PACIFICA	667.21
23469	N	MONUMENT	ST	WHITFIELD, MCKENDREE	279.92
23449	W	VIA CRESTA		SHADOW MOUNTAIN	726.25
82002	E	VIA FLORESTA		LACHMAN, FLORESTA	883.53
35158	N	ADERNO	WAY	ARNO	82.74
67163	W	PALISADES	CIR	AVENIDA DE CORTEZ	234.00
71493	N	EL BOSQUE	CT	PALISADES	375.34
72852	N	NOTTEARGENTA	ROAD	TRAMONTO, SABBIADORO	685.72
72882	N	EAST CHANNEL	ROAD	ATTILLA	177.64
72385	W	AVENIDA DE SANTA YNEZ		PASEO DE LA VIDA, PASEO VISTA HERMOSA	220.20
70427	W	PACIFIC COAST	HWY	TAHITI, TEMESCAL CANYON	670.13
23436	W	PACIFIC COAST	HWY	PORTO MARINA	2,253.33
71480	N	CALLE DEL CIELO		CALLE MONTECITO, AVENIDA ASHLEY, VIA LA COSTA	135.48
70410	W	DRIFTWOOD	DR	SHORE	272.57
23528	W	NORTHFIELD	ST	MUSKINGUM, WILDOMAR	233.39
24069	N	LONGWORTH	DR	HANEY, DOBBINS	279.99
24087	N	LONGWORTH	DR	JONESBORO	145.40
23480	N	CHATTANOOGA	AVE	CHALET	409.38
23560	W	TEMECULA	ST	EL MEDIO, ALMAR	596.22
23563	W	BOLLINGER	DR	MARQUEZ, SALERNO	580.71
23629	E	AMALFI	DR	ENTRADA	258.38
23639	W	BIENVENEDA	PL	SECTION 1	561.53
24064	N	LONGWORTH	DR	HANEY, JONESBORO	297.87
23658	N	EL HITO	CIR	BIENVENEDA	871.46
23791	N	CORSICA	DR	SPEZIA, MINORCA	859.91
23399	W	TRAMONTO	DR	COPERTO, REVELLO	508.88
23900	N	ALMA REAL	DR	FRONTERA, EL CERCO	271.65
23426	N	GIARDINO	WAY	TRAMONTO	444.78
23691	N	AMALFI	DR	ROMANY, PAVIA	839.53
23809	W	SPEZIA	PL	CORSICA, NAPOLI	341.52
23810	W	LA CRUZ	DR	SUNSET, ALMA REAL	319.37
23847	N	GALLOWAY	ST	CAREY, DRUMMOND	860.06
23931	N	KINGMAN	AVE	MESITA	927.58
24540	N	BRINKLEY	AVE	ALLENFORD, BECKWITH	249.89
23411	N	RESOLANO	DR	PASEO MIRAMAR	1,046.01

ID	TDIR	STNAME	STSFX	Intersection	Shape_Length (Ft)
72873	N	GREENTREE	ROAD	RANCH, BROOKTREE	918.20
67193	N	MONTE GRIGIO	DR	SABBIADORO	167.49
71473	W	CALLE DE SARAH		CHASTAIN, CALLE DEL CIELO, CALLE DE MARISA	1417.55
70429	N	TAHITI	AVE	PACIFIC COAST, VISTA	224.11
70435	W	COPRA	LANE	KONTIKI, TAHITI	705.71
70495	W	ALISAL	LANE	SECTION 1	417.27
23492	W	ALBRIGHT	ST	ILIFF, KAGAWA	309.99
23737	N	FISKE	ST	ALBRIGHT, BESTOR, WHITFIELD	955.83
23838	N	CHAUTAUQUA	BLVD	KAGAWA, DRUMMOND	504.59
23876	E	TRINO	WAY	ARNO	418.30
23920	N	LOMBARD	AVE	EARLHAM, DE PAUW	535.57
23409	N	SURFVIEW	DR	BLUE SAIL	325.28
71470	W	CALLE JERMAINE		CHASTAIN, CALLE PATRICIA	1009.15
71498	N	CHASTAIN	PKWY	CALLE HALEIGH, CALLE BRITTANY	234.75
23406	N	CHARMEL	LANE	LUNA VISTA	468.07
71496	N	CHASTAIN	PKWY	VIA LAS PALMAS, CALLE BRITTANY	861.55
67169	W	PALISADES	CIR	AVENIDA DE SANTA YNEZ	1518.89
72889	N	SYCAMORE	ROAD	MESA, EAST RUSTIC	1,538.34
82876	N	CHASTAIN	PKWY	PASEO DE ORO, CALLE ARBOLADA	286.09
35150	E	ENTRADA	DR	SHORT, PACIFIC COAST	564.83
74031	N	BROOKTREE	ROAD	LATIMER, HIGHTREE	213.37
72361	N	AVENIDA DE CORTEZ		PASEO DE LA LORA, PASEO DE LA FORTUNA	22.29
72384	W	AVENIDA DE SANTA YNEZ		PALISADES, PASEO DE LA VIDA	145.73
70418	W	TERRACE	DR	SECTION 1	138.60
70425	W	TERRACE	PL	OCEAN, PACIFIC	164.60
72366	N	PASEO DE LA LORA		AVENIDA DE CORTEZ	161.68
70438	W	COCO	PL	TAHITI, ALOHA	155.91
70440	W	KONTIKI	WAY	TAHITI, COPRA	251.01
70441	N	TAHITI	AVE	COCO, PUERTO DEL MAR, KIKI, BALI, ALOHA	187.45
70446	N	EL MEDIO	PL	SECTION 1	590.51
70393	W	CALLE DE MARISA		CHASTAIN, CALLE DE SARAH	653.51
72358	N	PASEO DE LAS FLORES		AVENIDA DE CORTEZ	154.98
70431	N	TAHITI	AVE	VISTA, PARK	97.72
70485	N	HALDEMAN	ROAD	BROOKTREE	1,358.52
73932	N	RUSTIC CANYON	ROAD	RESEDA	484.47
67909	W	PACIFIC COAST	HWY	WEST CHANNEL	398.53
23672	N	TELLEM	DR	LACHMAN, PEQUENO	391.07
23792	W	SPEZIA	PL	SUNSET, CORSICA	380.02
23813	E	GALLAUDET	PL	CHAUTAUQUA	714.20
23387	W	TRAMONTO	DR	NOTTEARGENTA, TRANQUILLO	354.53

ID	TDIR	STNAME	STSFX	Intersection	Shape_Length (Ft)
23879	N	RADCLIFFE	AVE	HAVERFORD, CARTHAGE, DE PAUW	837.29
23444	S	VIA LUCIA		PASEO MIRAMAR	953.17
35146	N	VILLA VIEW	DR	VILLA GROVE	963.01
72880	N	LATIMER	ROAD	HILLTREE, MESA, UPPER MESA	669.97
79147	N	TEMESCAL CANYON	ROAD	BOWDOIN, HAVERFORD	1219.35
81377	N	MONTE GRIGIO	DR	SABBIADORO	710.00
70408	N	DRIFTWOOD	PL	SHORE	209.94
72374	N	PASEO DE LA PAZ		AVENIDA DE CORTEZ, PASEO DEL PAJARO	155.06
70489	N	HALDEMAN	ROAD	LATIMER	743.31
23837	N	FISKE	ST	SUNSET, CAREY	621.36
24740	E	CHARMEL	CT	SECTION 1	134.98
23428	N	VIA NICOLAS		PASEO MIRAMAR	421.14
23493	W	ALBRIGHT	ST	HARTZELL, ILIFF	309.99
24065	W	HANEY	PL	LONGWORTH	129.93
23568	W	DRUMMOND	ST	ILIFF, HARTZELL	310.01
23615	W	VIA DE LAS OLAS		BEIRUT, MOUNT HOLYOKE	585.38
23653	W	CHARMEL	LANE	LACHMAN, TURQUESA	874.55
23702	N	AMALFI	DR	NAPOLI, PAVIA	485.39
23703	N	ENCHANTED	WAY	SCENIC	336.54
23715	W	NAPOLI	DR	SUNSET, AMALFI	439.90
69487	W	PACIFIC COAST	HWY	CHAUTAUQUA	369.57
23680	W	ANOKA	DR	LAS LOMAS	318.29
23683	N	JACON	WAY	EL ORO	835.16
23723	W	LAS CASAS	PL	CHATTANOOGA, CASTAC	213.24
23756	W	MINORCA	DR	CORSICA, SUNSET	380.07
23475	W	ENCHANTED	PL	SECTION 1	182.62
35153	N	SHORT	ST	ENTRADA, WEST CHANNEL	226.79
72378	N	AVENIDA DE CORTEZ		PASEO DE LA RISA	173.22
72396	W	AVENIDA DE LA HERRADURA		PASEO DE LAS CASADAS, PASEO DE LOS LAGOS	476.58
79000	N	OCAMPO	DR	PAMPAS RICAS, ALMOLOYA	1,259.09
72352	N	PASEO BRILLANTE		AVENIDA DE CORTEZ	158.11
70411	N	SHORE	DR	DRIFTWOOD	157.96
72386	N	PASEO DE LA VIDA		AVENIDA DE SANTA YNEZ	193.27
70442	W	BALI	LANE	PUERTO DEL MAR, KIKI, TAHITI	480.89
70444	N	PUERTO DEL MAR		KIKI, TAHITI, BALI	166.08
23485	N	ENCHANTED	WAY	EL ORO	296.47
23489	N	LACHMAN	LANE	MERIVALE, AKRON	1,333.80
23561	E	TOULON	DR	NAPOLI, AMALFI	1,033.92
23571	E	RANCH	LANE	GREENTREE, BROOKTREE	506.05
23600	W	EARLHAM	ST	RADCLIFFE, BEIRUT, MOUNT HOLYOKE	272.52
23650	N	LACHMAN	LANE	CHARMEL, TELLEM	261.89
23710	W	CHALET	TER	CHATTANOOGA	231.97

ID	TDIR	STNAME	STSFX	Intersection	Shape_Length (Ft)
23718	N	CHATTANOOGA	AVE	AKRON, CHALET	295.33
23726	N	CHAUTAUQUA	BLVD	BESTOR, ALBRIGHT	659.25
24578	W	PONTOON	PL	BECKWITH, ALLENFORD	291.66
23821	N	HAVERFORD	AVE	RADCLIFFE, BOWDOIN, ANTIOCH	846.79
66372	N	SAN LORENZO	ST	SECTION 1	300.31
81973	W	POSETANO	ROAD	REVELLO	750.09
23427	W	TRAMONTO	DR	GIARDINO, VICINO	380.43
81990	W	CHATTANOOGA	PL	LAS CASAS	295.86
23671	N	CHAUTAUQUA	BLVD	BEREA	238.02
67172	N	CALLE DE SEVILLA		AVENIDA DE SANTA YNEZ	349.93
71462	N	PALISADES	DR	CALLE ARBOLADA, PIEDRA MORADA, CHASTAIN	658.76
67903	N	AMALFI	DR	SPOLETO	433.93
72866	N	PASKENTA	ROAD	MARINETTE, CHAUTAUQUA	873.64
72350	W	AVENIDA DE SANTA YNEZ		PASEO DE LOS ARBOLES, PASEO ANTIGUO	229.47
72397	W	AVENIDA DE LA HERRADURA		PASEO DE LAS CASADAS, PASEO LOS MONTEROS	272.89
79010	W	PAMPAS RICAS	BLVD	CHAPALA, FRONTERA	258.06
79017	W	PAMPAS RICAS	BLVD	FRONTERA, EL CERCO	271.99
71475	W	CALLE MONTECITO		CALLE DEL CIELO	298.55
70394	W	CALLE DE CATALINA		CHASTAIN	818.64
72389	N	PASEO DE LA SUERTE		AVENIDA DE SANTA YNEZ	154.90
72401	N	PASEO DE LAS CASADAS		AVENIDA DE LA HERRADURA	184.95
70492	N	SAN LORENZO	ST	ALISAL	80.08
23611	W	FRIENDS	ST	SWARTHMORE, LOMBARD	415.26
23669	N	ORLON	AVE	EL MEDIO	194.45
23755	N	CORSICA	DR	MINORCA, NAPOLI	960.04
23865	N	ALMAR	AVE	MUSKINGUM	557.23
81978	E	WYNOLA	ST	ARBRAMAR, ALMAR	423.68
23388	W	LOS LIONES	DR	SECTION 1	305.61
23386	W	TRAMONTO	DR	VICINO, TRANQUILLO, MONTE GRIGIO	363.93
23761	W	DONNA YNEZ	LANE	VIA SANTA YNEZ	72.72
23380	W	SABBIADORO	WAY	MONTE GRIGIO, TRANQUILLO, BELLINO	230.63
23433	N	BELLINO	DR	TRAMONTO, QUADRO VECCHIO	759.99
23466	N	MONACO	DR	SUNSET	228.52
23613	W	VIA DE LAS OLAS		VIA DE LA PAZ, BEIRUT	333.34
29911	W	JONESBORO	PL	LONGWORTH	476.36
69488	N	RESEDA	BLVD	RUSTIC CANYON, SUNSET	3,349.15
23867	N	ALMAR	AVE	PUERTO DEL MAR	135.19
23673	N	LACHMAN	LANE	TELLEM, GLENHAVEN	459.91
71463	N	PIEDRA MORADA	DR	PALISADES, MONTE ALTO	350.92

ID	TDIR	STNAME	STSFX	Intersection	Shape_Length (Ft)
71495	N	CHASTAIN	PKWY	CALLE DE SARAH, CALLE DE MARISA, CALLE DE CATALINA	173.54
73925	N	EAST RUSTIC	ROAD	WEST CHANNEL, WEST RUSTIC	806.90
72356	N	AVENIDA DE CORTEZ		PASEO DEL CASTILLO, PASEO DE LA ESTRELLA	164.96
70409	N	SHORE	DR	DRIFTWOOD	75.44
67173	N	CALLE DE ESTRIBO		CAMINO DE YATASTO	371.59
23484	N	EL ORO	LANE	JACON, ENCHANTED	1,123.70
23490	W	AKRON	ST	LACHMAN, CHATTANOOGA	717.76
23505	N	CHARM ACRES	PL	ALBRIGHT, VIA DE LA PAZ	678.86
23730	N	ILIFF	ST	ALBRIGHT, BESTOR, MCKENDREE	677.17
23862	E	WYNOLA	ST	ERSKINE, EL MEDIO, ARBRAMAR	356.61
24536	N	LONGWORTH	DR	ALLENFORD, JONESBORO	228.39
23981	W	JUNALUSKA	WAY	WILDOMAR, ALMAR	463.35
23552	S	MARQUEZ	AVE	IDA, EDGAR	629.07
23628	N	ENTRADA	DR	AMALFI, STASSI	622.18
23822	W	BOWDOIN	ST	HAVERFORD, RADCLIFFE	486.53
23824	N	SWARTHMORE	AVE	BOWDOIN, LA CRUZ	330.78
23935	N	TOYOPA	DR	ALMOLOYA, BORGOS	848.50
23951	N	SAN LORENZO	ST	ENTRADA, MESITA	848.87
23861	N	EL MEDIO	AVE	ERSKINE, MIAMI, WYNOLA	521.02
67196	W	SCENIC	PL	ENCHANTED	262.97
69490	N	RESEDA	BLVD	RUSTIC CANYON	405.78
35157	N	OCEAN	WAY	ENTRADA, MABERY	1,128.78
67166	W	VEREDA DE LA MONTURA		MICHAEL, CAMINO DE YATASTO	747.36
71464	W	MONTE ALTO	PL	PIEDRA MORADA	251.52
74032	N	LATIMER	ROAD	HILLTREE	149.68
70436	N	TAHITI	AVE	COCO, KONTIKI, COPRA, ALOHA	189.07
79008	N	CHAPALA	DR	PAMPAS RICAS, ALMOLOYA	895.22
79141	N	TEMESCAL CANYON	ROAD	BOWDOIN, SUNSET	1,370.50
70407	N	SHORE	DR	SEAVIEW, DRIFTWOOD	398.02
70415	N	SHORE	DR	TERRACE, SEAVIEW	108.57
72368	N	PASEO MALAGUENA		AVENIDA DE CORTEZ	152.27
72382	N	PASEO VISTA HERMOSA		AVENIDA DE SANTA YNEZ	162.53
23601	W	EARLHAM	ST	BEIRUT, VIA DE LA PAZ	309.61
23491	W	ALBRIGHT	ST	CHAUTAUQUA, KAGAWA	315.18
23497	W	ALBRIGHT	ST	GALLOWAY, FISKE	309.96
23510	W	NORTHFIELD	ST	SUNSET, PALMERA	212.33
23646	W	EL HITO	CT	SECTION 1	129.82
23676	W	MERIVALE	LANE	LACHMAN	145.89
23712	N	MONUMENT	ST	WHITFIELD, BESTOR	273.51
23875	N	ARBRAMAR	AVE	YSIDRO, WYNOLA	417.27
23949	N	KINGMAN	AVE	MESITA, ENTRADA	912.53

ID	TDIR	STNAME	STSFX	Intersection	Shape_Length (Ft)
23457	N	LAS LOMAS	PL	SECTION 1	341.03
71455	N	PALISADES	DR	CHASTAIN, CUESTA LINDA	1030.47
67904	N	AMALFI	DR	SPOLETO	1093.54
72363	N	AVENIDA DE CORTEZ		PASEO DE LOMAS ALTAS, PASEO MALAGUENA	93.17
72381	W	AVENIDA DE SANTA YNEZ		PASEO VISTA HERMOSA, CALLE DE MADRID	1117.14
72344	W	AVENIDA DE SANTA YNEZ		PASEO ALLEGRE, PASEO AGUA AZUL	188.90
70412	W	SEAVIEW	DR	SHORE, TERRACE	572.55
67170	W	CAMINO DE YATASTO		VEREDA DE LA MONTURA, CALLE DEL JONELA	167.44
23545	W	IDA	ST	BOLLINGER, EDGAR	289.96
23764	W	MINORCA	DR	CORSICA, NAPOLI	319.94
23851	N	RADCLIFFE	AVE	BOWDOIN, CARTHAGE	1016.51
23903	N	MOUNT HOLYOKE	AVE	DE PAUW, BEIRUT	541.22
23540	W	CAREY	ST	GALLOWAY, FISKE	309.82
23969	E	ENTRADA	DR	EAST CHANNEL, MESA	651.45
23572	W	MIAMI	WAY	EL MEDIO, ERSKINE	280.27
23598	W	BORGOS	PL	TOYOPA, CHAUTAUQUA	262.55
23668	W	ROMANY	DR	AMALFI, CAPRI	462.16
23377	W	SEABREEZE	DR	SURFVIEW	324.96
23477	N	RIMMER	AVE	WHITFIELD, BESTOR	277.37
23888	N	ALMAR	AVE	ASILOMAR, PUERTO DEL MAR	645.47
23443	W	LOS LIONES	DR	SECTION 2	2250.61
71471	N	CALLE PATRICIA		CHASTAIN, CALLE DEL CIELO, CALLE JERMAINE	880.98
72851	N	TRANQUILLO	ROAD	TRAMONTO, SABBIADORO, BELLINO	677.96
72875	N	MANTUA	ROAD	ARNO	686.36
72347	W	AVENIDA DE SANTA YNEZ		PASEO ANTIGUO, PASEO ALLEGRE	229.00
71485	N	VIA LAS PALMAS		CHASTAIN, VIA PACIFICA	211.48
72346	N	PASEO ALLEGRE		AVENIDA DE SANTA YNEZ	155.06
72354	N	PASEO DEL CASTILLO		AVENIDA DE CORTEZ	157.15
23923	N	MOUNT HOLYOKE	AVE	RADCLIFFE, FRIENDS, EARLHAM	416.98
23567	W	DRUMMOND	ST	CHAUTAUQUA, ILIFF	314.86
23604	W	ESPARTA	WAY	SAN LORENZO, EAST CHANNEL	295.86
23607	N	ALMOLOYA	DR	OCAMPO, CHAPALA	296.60
23685	N	LAS PULGAS	PL	<Null>	662.50
23689	W	MCKENDREE	AVE	MONUMENT, RIMMER	461.02
23725	W	LAS CASAS	PL	CHATTANOOGA, CASTAC	282.16
23746	W	MINORCA	DR	AMALFI, SUNSET	409.83
23852	N	SALERNO	DR	LIVORNO, SUNSET	310.05
23859	N	ARBRAMAR	AVE	WYNOLA, MIAMI	688.62
23925	E	CHAPALA	DR	ALMA REAL, ALMOLOYA	375.82

ID	TDIR	STNAME	STSFX	Intersection	Shape_Length (Ft)
23454	N	SAN REMO	DR	ROMANY, LUCCA	492.89
23418	E	ESPERA	AVE	PASEO MIRAMAR	1002.95
67195	N	LUCERO	PL	SECTION 1	478.17
72870	N	GREENTREE	ROAD	BROOKTREE	345.97
23437	E	PASEO MIRAMAR		SECTION 1	945.51
23651	E	VIA ANITA		SHADOW MOUNTAIN	343.77
35147	N	SPOLETO	DR	AMALFI	1574.91
65546	E	DOBBINS	PL	LONGWORTH	154.90
71457	N	CHASTAIN	PKWY	CALLE DEL CIELO, CALLE DE SARAH, CALLE DE MARISA, CALLE PATRICIA	907.66
71497	N	CHASTAIN	PKWY	CALLE HALEIGH, CALLE JERMAINE	153.47
73899	N	EAST RUSTIC	ROAD	WEST RUSTIC, SYCAMORE	699.33
72890	N	EAST CHANNEL	ROAD	AMALFI, ENTRADA	871.81
72372	N	AVENIDA DE CORTEZ		PALISADES, PASEO DE LA PAZ, PASEO DEL PAJARO	153.27
72388	W	AVENIDA DE SANTA YNEZ		PALISADES, PASEO DE LA SUERTE	128.43
72394	W	AVENIDA DE LA HERRADURA		PASEO LA VALLE, PASEO DE MONCLOVA	15.03
70428	W	PACIFIC COAST	HWY	TAHITI, SEAVIEW	1120.98
71486	W	VIA PACIFICA		VIA LAS PALMAS	736.42
70486	N	HALDEMAN	ROAD	BROOKTREE	90.81
78642	W	TRAMONTO	DR	LOS LIONES	1460.00
78644	W	TRAMONTO	DR	COPERTO	200.00
71474	W	CALLE BELLEVISTA		CALLE DEL CIELO	680.62
23959	N	AMALFI	CT	SECTION 1	199.09
23652	W	CHARMEL	LANE	TURQUESA, VISTAGRANDE	522.30
23373	W	PACIFIC COAST	HWY	ENTRADA, WEST CHANNEL	231.10
23819	N	CHAUTAUQUA	BLVD	KAGAWA, GALLAUDET	293.99
23880	N	GRENOLA	ST	LAS CASAS, PINTORESCA	1013.34
23893	N	ARBRAMAR	AVE	YSIDRO, ASILOMAR	310.07
23919	N	SAN LORENZO	ST	ESPARTA	601.64
23390	W	TRAMONTO	DR	NOTTEARGENTA, BELLINO	470.13
66378	N	VIA SANTA YNEZ		SECTION 1	266.12
71466	W	CUMBRE VERDE	CT	PIEDRA MORADA	603.48
70422	W	TERRACE	PL	PACIFIC	149.70
70432	W	PARK	AVE	TAHITI	596.40
23694	N	ENCHANTED	WAY	SCENIC	1608.26
23310	W	GLYNN	DR	CHARMEL, LACHMAN	554.41
23374	W	BLUE SAIL	DR	SURFVIEW	711.08
23389	W	LOS LIONES	DR	TRAMONTO	203.69
23482	N	MARONEY	LANE	LAS PULGAS	1098.08
23729	N	KAGAWA	ST	ALBRIGHT, BESTOR	657.08
23987	N	VANCE	ST	HILLSIDE, CHAUTAUQUA	310.72
81376	N	MONTE GRIGIO	DR	VICINO, TRAMONTO	67.79

ID	TDIR	STNAME	STSFX	Intersection	Shape_Length (Ft)
23905	N	EL CERCO	PL	PAMPAS RICAS, ALMOLOYA	249.05
23918	N	SWARTHMORE	AVE	EARLHAM, DE PAUW	786.90
23960	E	AMALFI	DR	EAST CHANNEL	290.77
67906	N	VANCE	ST	HILLSIDE	605.34
77692	W	CORONA DEL MAR		ALTATA	1300.00
23724	N	CHATTANOOGA	AVE	AKRON, LAS CASAS	230.04
23459	N	EL MEDIO	AVE	ANOKA	330.16
23470	W	VILLA WOODS	PL	SECTION 1	318.02
71472	N	CHASTAIN	PKWY	VIA LAS PALMAS, CALLE DEL CIELO, CALLE PATRICIA	612.64
71467	N	PIEDRA MORADA	DR	MONTE HERMOSO, CUMBRE VERDE	1140.49
72855	W	LAS CANOAS	ROAD	LAS PULGAS	810.76
72860	W	ATTILLA	ROAD	EAST CHANNEL, DRYAD	347.65
72377	N	AVENIDA DE CORTEZ		PASEO PUERTO BELLO, PASEO DE LA RISA	229.99
72404	W	AVENIDA DE LA HERRADURA		PASEO LOS MONTEROS, PASEO LAS LOMAS	364.52
77693	W	CORONA DEL MAR		ALMA REAL, ALTATA	123.04
70416	W	TERRACE	DR	SHORE	103.60
70417	W	TERRACE	DR	WESTVIEW	129.54
72403	N	PASEO LOS MONTEROS		AVENIDA DE LA HERRADURA	223.03
72408	N	PASEO LOS POCITOS		AVENIDA DE LA HERRADURA	225.10
23618	W	CAMAROSA	DR	TOYOPA, ALMA REAL	957.02
23681	W	MERIVALE	LANE	GLENHAVEN, LACHMAN	338.13
23716	N	EL MEDIO	AVE	ALCIMA	847.66
24575	W	PONTOON	PL	BRINKLEY, BECKWITH	285.50
23753	N	MONUMENT	ST	ALBRIGHT, SWARTHMORE	180.00
23763	N	NAPOLI	DR	MINORCA, CORSICA	1188.17
23802	N	RADCLIFFE	AVE	BOWDOIN	37.43
23962	N	HILLSIDE	LANE	WEST RUSTIC, VANCE	821.88
69486	W	PACIFIC COAST	HWY	SECTION 1	1409.11
29886	E	VIA FLORESTA		BIENVENEDA, BELLA OCEANA VISTA	190.75
29889	N	CHARMEL	LANE	LUNA VISTA	244.83
23778	N	SWARTHMORE	AVE	SUNSET, ANTIOCH	171.86
23410	N	PASEO MIRAMAR		ALONDRA, RESOLANO	395.86
67165	W	VEREDA DE LA MONTURA		CAMINO DE YATASTO	423.39
66061	N	SAN ONOFRE	DR	ALTA MURA	1091.57
71465	N	PIEDRA MORADA	DR	MONTE ALTO, CUMBRE VERDE	395.57
72863	N	LAS PULGAS	ROAD	LAS CANOAS	150.26
72359	N	AVENIDA DE CORTEZ		PASEO DE LAS FLORES, PASEO DE LA ESTRELLA	65.05
72387	W	AVENIDA DE SANTA YNEZ		PASEO DE LA SUERTE, PASEO SANTA YNEZ	215.57
72395	W	AVENIDA DE LA HERRADURA		PASEO LA VALLE, PASEO DE LOS LAGOS	213.06

ID	TDIR	STNAME	STSFX	Intersection	Shape_Length (Ft)
23644	N	DUENDE	LANE	LACHMAN	642.27
23948	N	ALMA REAL	DR	CAMAROSA, ALVA	369.15
23424	N	BELLINO	DR	SABBIADORO, QUADRO VECCHIO	271.61
29887	N	CHARMEL	LANE	GLYNN	255.71
66371	N	SAN LORENZO	ST	SECTION 2	301.56
23877	N	EL MEDIO	AVE	ERSKINE, WYNOLA, SEABEC	338.52
71494	N	CHASTAIN	PKWY	CALLE DE CATALINA, CALLE ARBOLADA	171.67
23554	W	IDA	ST	BOLLINGER, LIVORNO	260.52
72343	W	AVENIDA DE SANTA YNEZ		PALISADES, PASEO AGUA AZUL	118.01
67180	N	MICHAEL	LANE	AVENIDA DE LA HERRADURA, PALISADES	206.29
72884	N	EAST CHANNEL	ROAD	AMALFI	116.11
72349	W	AVENIDA DE SANTA YNEZ		PASEO DE LOS ARBOLES, CALLE DE SEVILLA	100.40
72357	N	AVENIDA DE CORTEZ		PASEO DEL CASTILLO, PASEO BRILLANTE	65.15
70395	W	CALLE BRITTANY		CHASTAIN	720.20
70419	W	TERRACE	DR	WESTVIEW	136.58
72390	N	CALLE DEL JONELA		CAMINO DE YATASTO	1161.54
72399	N	PASEO LA VALLE		AVENIDA DE LA HERRADURA	169.99
70434	N	TAHITI	AVE	KONTIKI, SAMOA, COPRA	247.69
70443	N	KIKI	PL	PUERTO DEL MAR, TAHITI, BALI	134.62
71483	N	VIA LAS PALMAS		VIA LA COSTA, VIA PACIFICA	242.30
71478	N	CALLE DEL CIELO		CALLE DE SARAH, CALLE BELLEVISTA	163.51
21779	N	LACHMAN	LANE	GLYNN	508.76
70426	W	OCEAN	VIEW	TERRACE	157.88
72345	N	PASEO AGUA AZUL		AVENIDA DE SANTA YNEZ	153.98
72370	N	PASEO PALOMA		AVENIDA DE CORTEZ	179.28
23570	W	DRUMMOND	ST	GALLOWAY, HARTZELL	310.26
23906	E	ALMOLOYA	DR	EL CERCO, ALMA REAL	78.50
23603	W	EARLHAM	ST	LOMBARD, SWARTHMORE	475.67
23624	N	STASSI	LANE	ENTRADA	462.80
23643	W	LACHMAN	LANE	DUENDE, VIA FLORESTA	148.91
24083	N	BECKWITH	AVE	BRINKLEY, PONTOON	1107.33
23688	N	MONUMENT	ST	MCKENDREE	1525.86
23784	W	ANTIOCH	ST	SWARTHMORE, SUNSET	265.65
23945	N	ALMA REAL	DR	OCAMPO, ALVA	304.10
23446	N	CAPRI	DR	UMEO, AMALFI	252.98
23464	N	RIMMER	AVE	MCKENDREE	143.31
78994	N	TOYOPA	DR	PAMPAS RICAS	50.00
23512	N	HAVERFORD	AVE	SECTION 1	341.22
67168	W	AVENIDA DE SANTA YNEZ		AVENIDA DE CORTEZ, CALLE DE MADRID	263.34
71492	N	PALISADES	DR	MONTE GRANDE, EL BOSQUE	628.43
72877	N	EAST CHANNEL	ROAD	ESPARTA, DRYAD	324.01
72898	N	MESA	ROAD	ENTRADA, WEST CHANNEL	174.74

ID	TDIR	STNAME	STSFX	Intersection	Shape_Length (Ft)
72376	N	AVENIDA DE CORTEZ		PALISADES, PASEO PUERTO BELLO	152.79
79004	W	PAMPAS RICAS	BLVD	OCAMPO, CHAPALA	293.42
79016	W	PAMPAS RICAS	BLVD	FRONTERA, EL CERCO	270.57
70420	W	TERRACE	PL	WESTVIEW	529.18
72355	N	PASEO DE LA ESTRELLA		AVENIDA DE CORTEZ	155.17
67086	W	PACIFIC COAST	HWY	SUNSET, PORTO MARINA	1597.58
35151	N	OCEAN	AVE	ENTRADA, MABERY	655.35
23539	W	CAREY	ST	HARTZELL, GALLOWAY	310.27
23602	W	EARLHAM	ST	VIA DE LA PAZ, SWARTHMORE	336.93
23808	N	NAPOLI	DR	SPEZIA, MINORCA	864.43
23816	N	ALMAR	AVE	TEMECULA, NORTHFIELD	286.03
23828	E	TAHQUITZ	PL	ALMAR, AIGLON	106.03
23419	N	SURFVIEW	DR	SEA REEF, SEABREEZE	369.12
35067	W	LA CRUZ	DR	SWARTHMORE, ALMA REAL	355.40
81980	N	WYNOLA	ST	ALMAR, YSIDRO	64.62
70447	N	EL MEDIO	PL	SECTION 2	175.78
71454	N	CUESTA LINDA	DR	PALISADES	585.49
71468	N	CHASTAIN	PKWY	CALLE VICTORIA, CALLE ARBOLADA, PALISADES	289.77
72862	N	MARINETTE	ROAD	ORACLE	411.36
72874	N	GREENTREE	ROAD	RANCH	858.38
72883	N	DRYAD	ROAD	ATTILLA, EAST CHANNEL	1127.09
78645	W	TRAMONTO	DR	QUADRO VECCHIO	109.49
71484	W	VIA PACIFICA		VIA LAS PALMAS	605.50
70405	W	SEAVIEW	DR	SHORE, TERRACE, DRIFTWOOD	50.92
72383	N	PASEO SANTA YNEZ		AVENIDA DE SANTA YNEZ	188.41
72398	N	PASEO DEL PUERTO		MICHAEL	192.50
72402	N	PASEO DE LOS LAGOS		AVENIDA DE LA HERRADURA	167.01
70433	N	TAHITI	AVE	SAMOA, PARK	141.36
70423	W	PACIFIC	PL	TERRACE	145.82
23537	N	CHAUTAUQUA	BLVD	CAREY, GALLAUDET	195.49
23553	W	LIVORNO	DR	SUNSET, IDA	379.48
23690	W	PAVIA	PL	AMALFI, CAPRI	921.42
23713	W	BESTOR	BLVD	MONUMENT	113.10
23795	N	KAGAWA	ST	BASHFORD, CAREY	665.07
23839	N	SALERNO	DR	BOLLINGER, LIVORNO	290.00
23944	N	SWARTHMORE	AVE	FRIENDS, VIA DE LAS OLAS	431.72
23843	N	GRENOLA	ST	MARQUETTE, PINTORESCA	198.29
23885	W	SEABEC	CIR	EL MEDIO	280.16
23381	W	VIA MARIA		VIA FLORENCE	122.12
23422	W	SABBIADORO	WAY	NOTTEARGENTA, TRANQUILLO, BELLINO	227.16
23926	N	ALMA REAL	DR	CHAPALA	531.51
81979	N	WYNOLA	ST	ASILOMAR, ALMAR	428.27

ID	TDIR	STNAME	STSFX	Intersection	Shape_Length (Ft)
72872	N	BROOKTREE	ROAD	GREENTREE, RANCH	632.24
73934	N	RUSTIC CANYON	ROAD	RESEDA	1088.59
35085	N	BIENVENEDA	AVE	VIA FLORESTA, SHADOW MOUNTAIN	184.90
71461	N	PALISADES	DR	CHASTAIN, PIEDRA MORADA	315.05
72859	N	EAST CHANNEL	ROAD	ESPARTA	569.41
72371	N	AVENIDA DE CORTEZ		PASEO DE LA PAZ, PASEO DEL PAJARO, PASEO PALOMA	211.75
72393	W	AVENIDA DE LA HERRADURA		MICHAEL, PASEO DE MONCLOVA	139.97
73153	N	MABERY	ROAD	OCEAN	1335.32
75551	N	AMALFI	DR	NAPOLI	150.00
24741	N	VISTAGRANDE	DR	CHARMEL	954.59
23977	S	SHADOW MOUNTAIN	DR	VIA ANITA, VIA CRESTA	431.42
71453	N	PALISADES	DR	EL BOSQUE, CUESTA LINDA	447.16
24078	N	LONGWORTH	DR	JONESBORO, DOBBINS	281.37
23504	W	ALBRIGHT	ST	EMBURY, MONUMENT	321.89
70487	N	BROOKTREE	ROAD	LATIMER, HALDEMAN	271.58
35148	E	SUMAC	LANE	AMALFI	861.73
23745	N	MONUMENT	ST	ALBRIGHT, BESTOR	906.45
71477	N	CALLE DEL CIELO		CALLE DE SARAH, CHASTAIN, CALLE PATRICIA	248.09
23376	W	SEA REEF	DR	SURFVIEW	332.50
23700	W	VILLA WOODS	DR	SECTION 1	223.97
66375	N	HAVERFORD	AVE	SECTION 2	335.37
72364	N	AVENIDA DE CORTEZ		PASEO MARIPOSA, PASEO MALAGUENA	126.60
79014	N	FRONTERA	DR	PAMPAS RICAS, ALMOLOYA	574.78
23526	N	AMALFI	DR	RAVOLI, MINORCA	947.52
23662	N	LACHMAN	LANE	GLENHAVEN, TELLEM	1409.28
23471	W	MCKENDREE	AVE	GOUCHER, WHITFIELD	405.54
24100	W	NIMROD	PL	BRINKLEY	430.47
23542	W	CAREY	ST	EMBURY, FISKE	316.05
82003	N	FLORESTA	PL	VIA FLORESTA	586.37
87555	N	ADELAIDE	DR	OCEAN	92.86
87604	S	ENTRADA	DR	SECTION 1	61.30
93125	W	PACIFIC COAST	HWY	SECTION 2	406.41
93126	W	PACIFIC COAST	HWY	ENTRADA	1019.22
93127	N	OCEAN	AVE	ADELAIDE	99.14
93128	N	OCEAN	AVE	MABERY	660.38
99286	N	PATTERSON	PL	SWARTHMORE	815.21
100066	W	EVANS	ROAD	SUNSET	854.82
100219	N	ALMAR	AVE	AIGLON, MUSKINGUM	185.58
100220	N	ALMAR	AVE	AIGLON, TAHQUITZ	133.79
100864	N	VISTA PACIFICA		PASEO MIRAMAR	390.53
100887	N	NAPOLI	DR	AMALFI, TOULON	2130.78

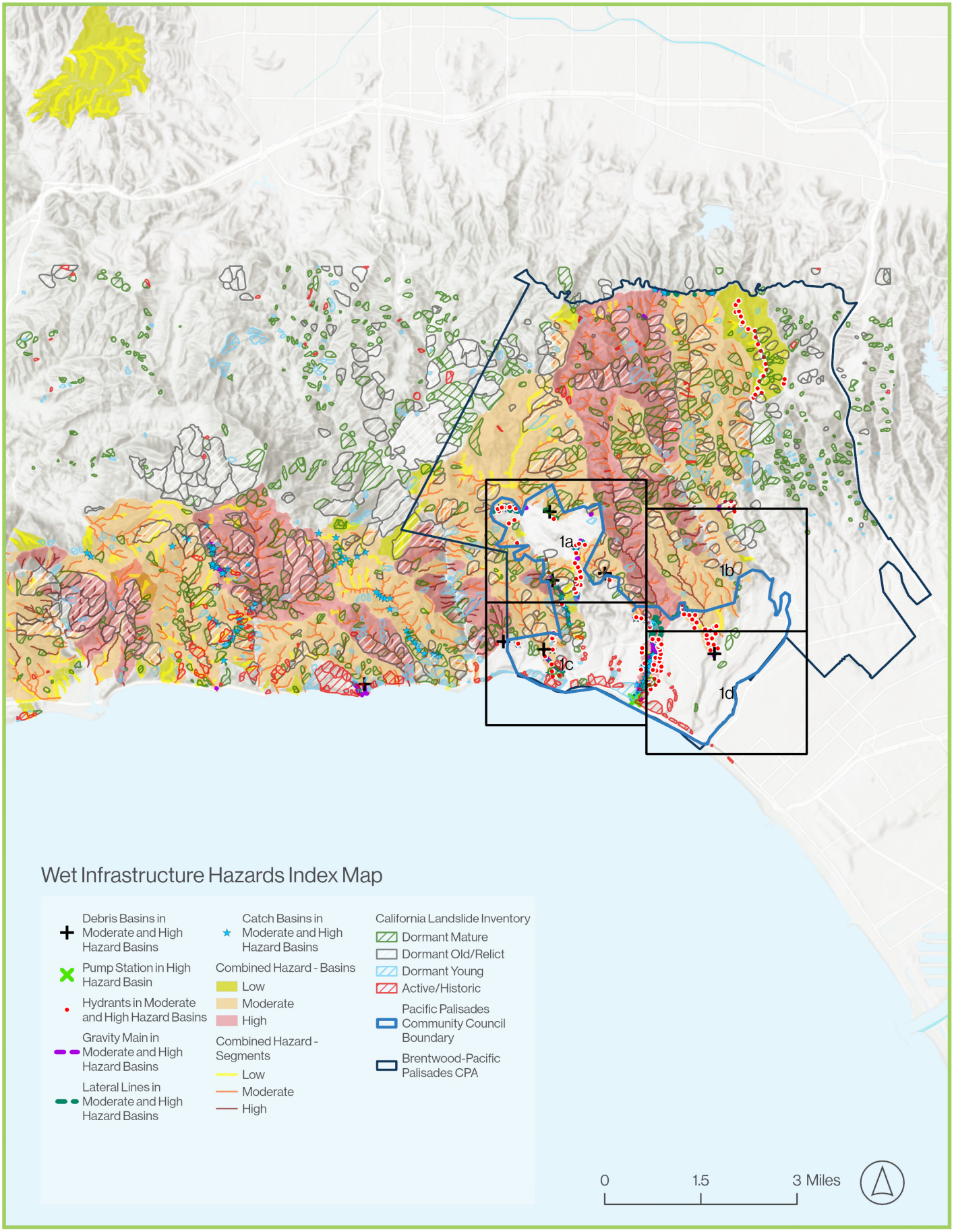
ID	TDIR	STNAME	STSFX	Intersection	Shape_Length (Ft)
101025	W	RUSTIC CREEK	LANE	SUNSET	513.60
23731	N	CASTAC	PL	CHATTANOOGA, LAS CASAS	202.41
101702	W	SURFVIEW	LANE	SECTION 1	185.35
23870	N	ARNO	WAY	ADERNO, MANTUA	798.58
78957	W	ALMAR	PZ	WYNOLA, PUERTO DEL MAR	139.73
23825	N	ALMAR	AVE	MIAMI, TEMECULA	279.95
23462	N	SAN REMO	DR	ROMANY, MONACO	929.53
29908	N	SAN REMO	DR	LUCCA, D'ESTE	596.46
78956	W	ALMAR	PZ	WYNOLA	140.49
23465	W	ANOKA	DR	EL MEDIO	1062.09
23692	N	ANOKA	PL	SECTION 1	152.06
23827	N	ALMAR	AVE	MIAMI, TAHQUITZ	203.45
23922	N	ALMOLOYA	DR	CHAPALA, FRONTERA	264.24
72455	W	CORONA DEL MAR		TOYOPA, ALTATA	103.72
23736	W	ALBRIGHT	ST	VIA DE LA PAZ	862.16
23975	N	ARNO	WAY	TRINO, MANTUA	171.23
70398	N	ARNO	WAY	BAY CLUB, PINTORESCA	206.71
23558	W	AIGLON	ST	TAHQUITZ, MUSKINGUM	390.40
35144	N	ADERNO	WAY	SECTION 1	1119.64
73071	N	ALTA MURA	ROAD	SAN ONOFRE	2048.62
96538	W	RUSTIC	LANE	SUNSET	778.79
100221	W	AIGLON	ST	TAHQUITZ, ALMAR	170.50
24746	N	LUNA VISTA	DR	LACHMAN, CHARMEL	507.04
66060	N	BELLA OCEANA VISTA		VIA FLORESTA	524.75
71476	W	AVENIDA ASHLEY		VIA LA COSTA, CALLE DEL CIELO	282.35
72407	N	PASEO LAS LOMAS		AVENIDA DE LA HERRADURA	220.02
23415	N	SURFVIEW	DR	SANDY CAPE, SEA REEF	367.74
81987	N	SURFVIEW	DR	SANDY CAPE	423.23
81988	N	SURFVIEW	DR	BLUE SAIL	640.90
71499	W	CALLE VICTORIA		CHASTAIN	75.81
81971	W	CASTELLAMMARE	DR	STRETTO	425.18
23984	W	BESTOR	BLVD	RIMMER, VIA DE LA PAZ	304.42
73070	N	CASALE	ROAD	ALTA MURA, CAPRI	739.58
23591	W	ASILOMAR	BLVD	ARBRAMAR, WYNOLA	290.45
23635	N	CAPRI	DR	UMEO, CASALE	114.02
23412	N	CATALONIA	AVE	PASEO MIRAMAR	301.81
23895	W	ASILOMAR	BLVD	EL MEDIO, ARBRAMAR	212.31
73072	N	CASALE	ROAD	ALTA MURA, SAN REMO	585.77
23379	N	BELLINO	DR	SABBIADORO, TRANQUILLO	747.86
23400	W	CASTELLAMMARE	DR	BREVE, REVELLO	441.10
72853	N	CASALE	ROAD	CAPRI	700.39
82877	E	PASEO DE ORO		CHASTAIN, CALLE ARBOLADA	1323.73

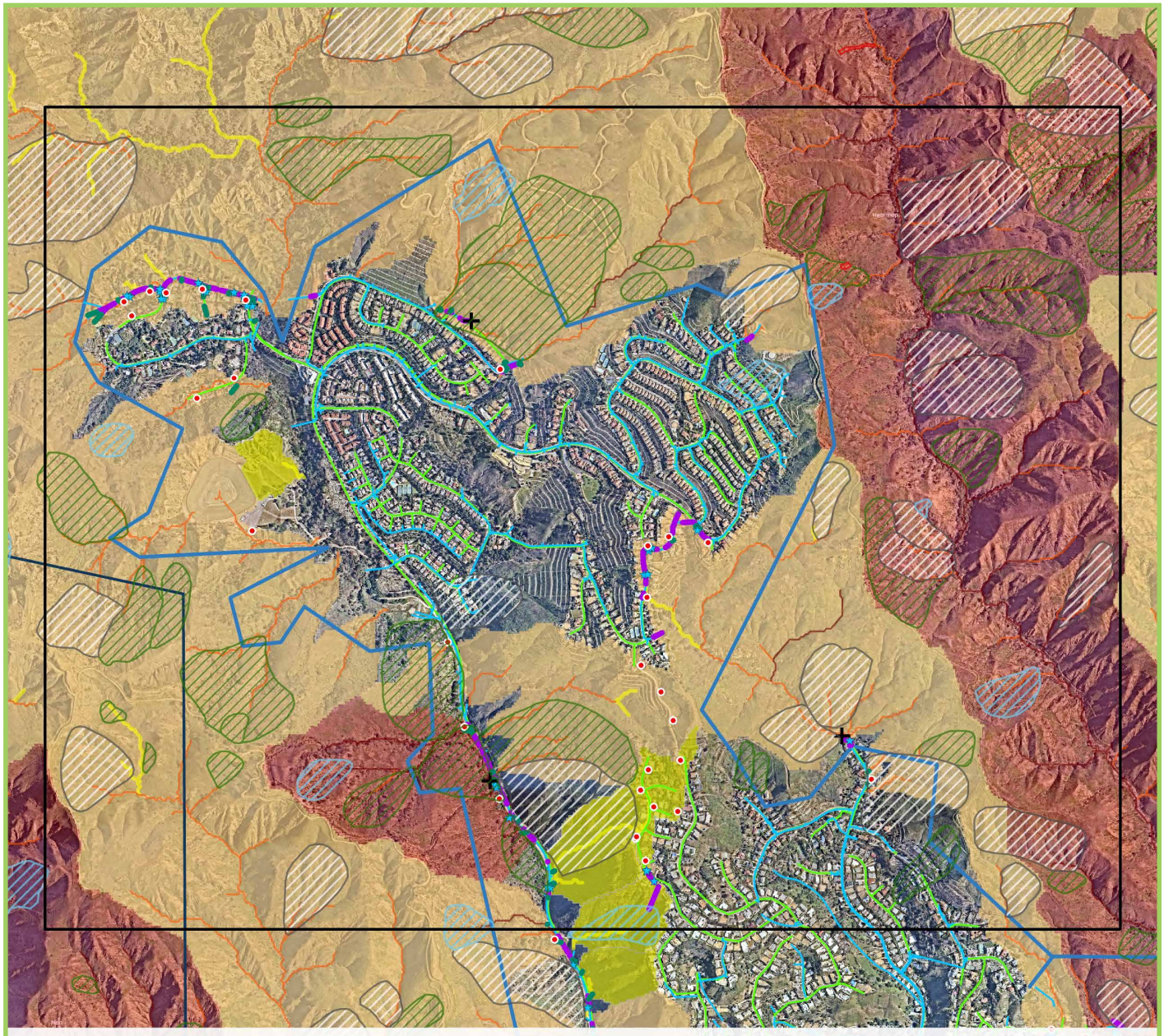
ID	TDIR	STNAME	STSFX	Intersection	Shape_Length (Ft)
72892	N	WEST CHANNEL	ROAD	EAST RUSTIC, CHANNEL	67.95
72897	N	WEST CHANNEL	ROAD	SAGE, MESA	162.30
73152	N	WEST CHANNEL	ROAD	PACIFIC COAST, SHORT	619.39
73151	N	WEST CHANNEL	ROAD	CHANNEL, SHORT	484.21
72899	N	WEST CHANNEL	ROAD	EAST RUSTIC, MESA	329.34
23445	N	BIENVENEDA	AVE	EL HITO, SHADOW MOUNTAIN	387.86
23659	N	BIENVENEDA	AVE	EL HITO	1471.08
23638	N	BIENVENEDA	AVE	EL HITO	208.36
23787	N	BIENVENEDA	AVE	LAS LOMAS, MARQUETTE	361.43
23486	N	BIENVENEDA	AVE	EL HITO, LAS PULGAS	2645.99
70437	W	ALOHA	DR	COCO, TAHITI	515.95
23630	N	AMALFI	DR	EAST CHANNEL, SUMAC	1298.86
23961	N	AMALFI	DR	SUMAC	790.55
72861	W	ATTILLA	ROAD	DRYAD	99.18
23543	N	CORSICA	DR	SPEZIA, AMALFI	993.31
23647	N	EL HITO	CIR	SECTION 1	272.32
24747	W	CHARMEL	LANE	VISTAGRANDE	945.03
79013	N	FRONTERA	DR	PAMPAS RICAS	50.00
23670	N	EL MEDIO	AVE	ORLON, ANOKA	346.39
79135	N	CHAUTAUQUA	BLVD	PAMPAS RICAS, SUNSET	40.97
23675	N	EL MEDIO	AVE	ORLON, PALISAIR	489.97
23954	N	ENTRADA	DR	SAN LORENZO, STASSI	298.17
79006	N	CHAPALA	DR	PAMPAS RICAS	50.00
23966	N	ENTRADA	DR	EAST CHANNEL, OCEAN	263.36
23950	N	ENTRADA	DR	SAN LORENZO, KINGMAN	143.58
23719	N	CORSICA	DR	CAPRI, NAPOLI	854.00
79142	N	HAVERFORD	AVE	TEMESCAL CANYON	192.72
23956	N	ENTRADA	DR	KINGMAN	504.36
23665	N	LAS LOMAS	AVE	LAS PULGAS	734.52
72864	N	LAS PULGAS	ROAD	LAS CANOAS, LAS LOMAS	185.40
23986	N	VILLA VIEW	DR	WILL ROGERS STATE PARK, VILLA GROVE	162.32
23562	W	MIAMI	WAY	ALMAR, ARBRAMAR	263.56
23439	N	PASEO MIRAMAR		RESOLANO	220.07
23417	N	PASEO MIRAMAR		LUCERO, ESPERA	348.49
23382	N	VIA FLORENCE		VIA MARIA, PASEO MIRAMAR	409.55
23720	N	NAPOLI	DR	SUNSET, CORSICA	380.13
72848	W	POSETANO	ROAD	REVELLO	337.75
23438	N	PASEO MIRAMAR		RESOLANO	505.96
71458	W	CALLE ARBOLADA		CALLE PATRICIA, CHASTAIN	1087.58
23937	N	OCAMPO	DR	ALMA REAL, ALMOLOYA	610.18
81977	N	WYNOLA	ST	ALMAR, YSIDRO	72.41
23413	N	PASEO MIRAMAR		RESOLANO, CATALONIA	660.46

ID	TDIR	STNAME	STSFX	Intersection	Shape_Length (Ft)
23461	N	LACHMAN	LANE	TELLEM, MERIVALE	454.99
23648	N	LACHMAN	LANE	DUENDE, LUNA VISTA	1458.10
23911	N	ALMA REAL	DR	ALMOLOYA	100.59
23645	N	LACHMAN	LANE	CHARMEL, VIA FLORESTA	367.32
82874	W	CALLE ARBOLADA		CALLE PATRICIA, PASEO DE ORO	233.17
23661	N	TELLEM	DR	DONAIRE, PEQUENO	552.10
23384	W	TRAMONTO	DR	VICINO, GIARDINO, MONTE GRIGIO	256.63
23697	N	JONESBORO	DR	SECTION 1	280.38
23479	W	MCKENDREE	AVE	WHITFIELD, BESTOR, ILIFF	184.03
23423	N	VIA FLORENCE		VIA MARIA	235.89
82873	W	CALLE ARBOLADA		PALISADES, CHASTAIN, PASEO DE ORO	857.90
66382	N	VIA SANTA YNEZ		DONNA YNEZ, DULCE YNEZ	249.24
23612	N	ALMOLOYA	DR	CHAUTAUQUA, TOYOPA	300.20
72887	N	WEST RUSTIC	ROAD	EAST RUSTIC, HILLSIDE	742.64
72878	W	HILLTREE	ROAD	LATIMER	412.03
73897	N	EAST RUSTIC	ROAD	WEST RUSTIC, SYCAMORE	542.33
104987	W	PALISADES VILLAGE	LANE	SWARTHMORE, MONUMENT	570.86
70488	N	LATIMER	ROAD	BROOKTREE	2264.68
104459	N	RIVAS CANYON	ROAD	SUNSET	2384.38
106113	S	PINTORESCA	DR	ARNO	1958.76
78643	W	TRAMONTO	DR	REVELLO	156.86
23372	N	OCEAN	AVE	ADELAIDE	385.72
66380	N	VIA SANTA YNEZ		DONNA YNEZ	191.01
66381	N	VIA SANTA YNEZ		DULCE YNEZ, DONNA YNEZ	234.07
67191	N	OCEAN	WAY	MABERY	163.82
106968	N	WEST CHANNEL	ROAD	SAGE	401.78
106967	N	WEST CHANNEL	ROAD	SAGE	537.95
				Total (Ft)	**343911.49**



Appendix G:
Mapbook Wet Infrastructure Hazards Index


1a
1b
1c
1d
Wet Infrastructure Hazards Index Map
Debris Basins in Moderate and High Hazard Basins
Pump Station in High Hazard Basin
Hydrants in Moderate and High Hazard Basins
Gravity Main in Moderate and High Hazard Basins
Lateral Lines in Moderate and High Hazard Basins
Catch Basins in Moderate and High Hazard Basins
Combined Hazard - Basins
Low
Moderate
High
Combined Hazard - Segments
Low
Moderate
High
California Landslide Inventory
Dormant Mature
Dormant Old/Relict
Dormant Young
Active/Historic
Pacific Palisades Community Council Boundary
Brentwood-Pacific Palisades CPA
0
1.5
3 Miles



Wet Infrastructure Hazards Index Map - 1a

- Debris Basins in Moderate and High Hazard Basins
- Pump Station in High Hazard Basin
- Hydrants in Moderate and High Hazard Basins
- Catch Basins in Moderate and High Hazard Basins
- Lateral Lines in Moderate and High Hazard Basins
- Gravity Main in Moderate and High Hazard Basins
- Sewer Pipes
- Storm Pipes

Combined Hazard - Basins

- Low
- Moderate
- High

Combined Hazard - Segments

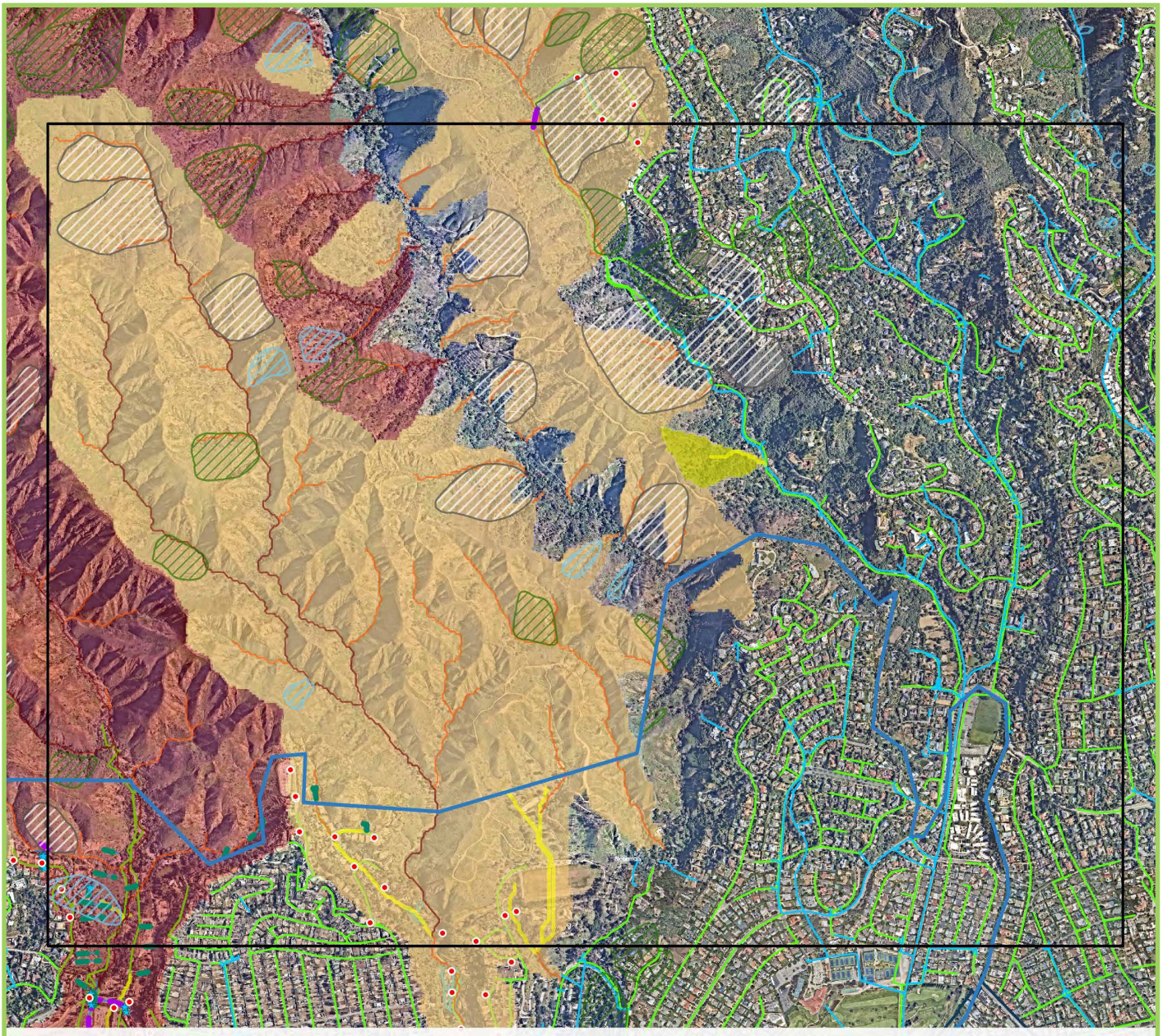
- Low
- Moderate
- High

California Landslide Inventory

- Dormant Mature
- Dormant Old/Relict
- Dormant Young
- Active/Historic

- Pacific Palisades Community Council Boundary
- Brentwood-Pacific Palisades CPA

0 0.25 0.5 Miles



Wet Infrastructure Hazards Index Map - 1b

- Debris Basins in Moderate and High Hazard Basins
- Pump Station in High Hazard Basin
- Hydrants in Moderate and High Hazard Basins
- Catch Basins in Moderate and High Hazard Basins
- Lateral Lines in Moderate and High Hazard Basins
- Gravity Main in Moderate and High Hazard Basins
- Sewer Pipes
- Storm Pipes

Combined Hazard - Basins

- Low
- Moderate
- High

Combined Hazard - Segments

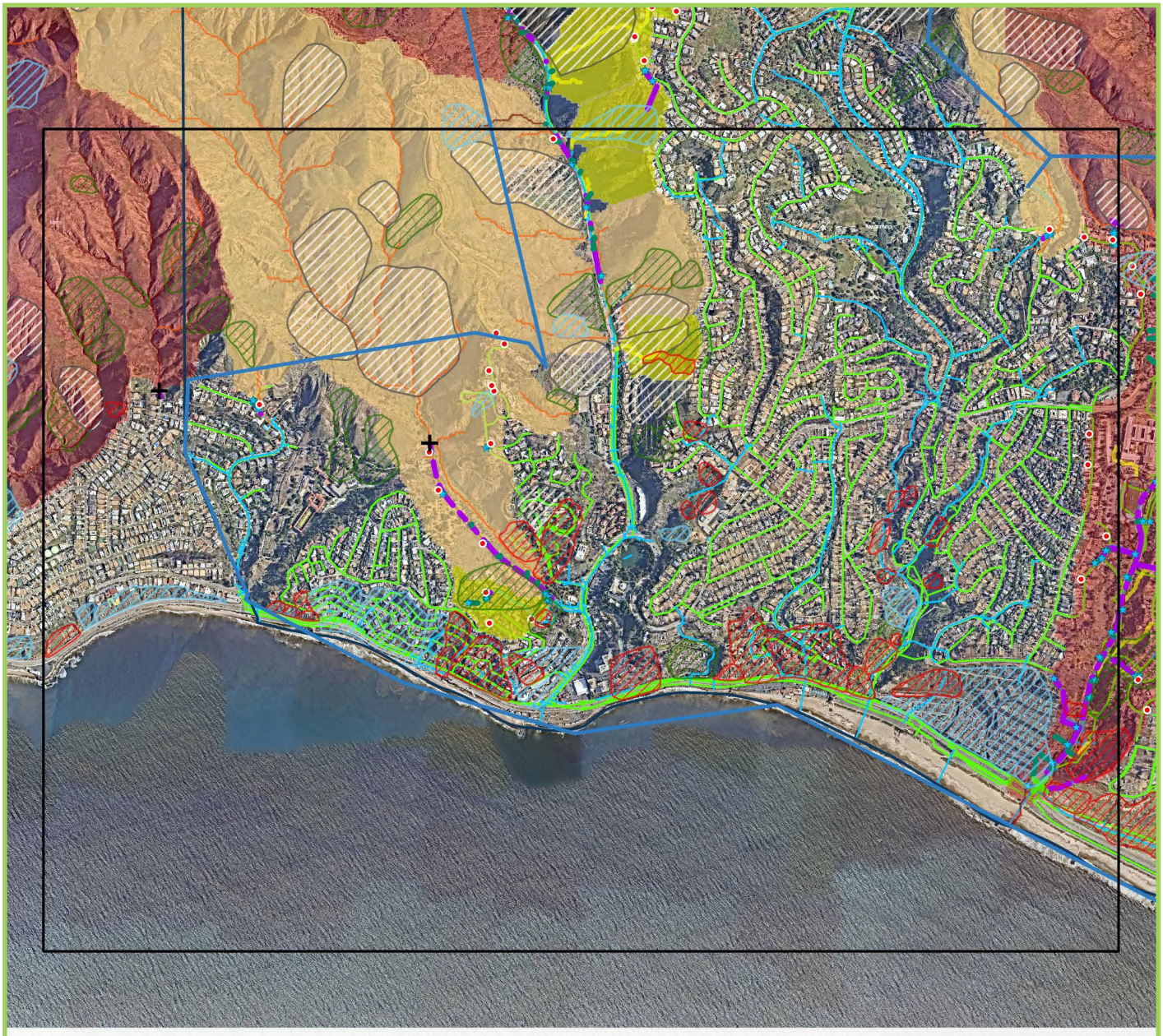
- Low
- Moderate
- High

California Landslide Inventory

- Dormant Mature
- Dormant Old/Relict
- Dormant Young
- Active/Historic

- Pacific Palisades Community Council Boundary
- Brentwood-Pacific Palisades CPA

0 0.25 0.5 Miles



Wet Infrastructure Hazards Index Map - 1c

- Debris Basins in Moderate and High Hazard Basins
- Pump Station in High Hazard Basin
- Hydrants in Moderate and High Hazard Basins
- Catch Basins in Moderate and High Hazard Basins
- Lateral Lines in Moderate and High Hazard Basins
- Gravity Main in Moderate and High Hazard Basins
- Sewer Pipes
- Storm Pipes

Combined Hazard - Basins

- Low
- Moderate
- High

Combined Hazard - Segments

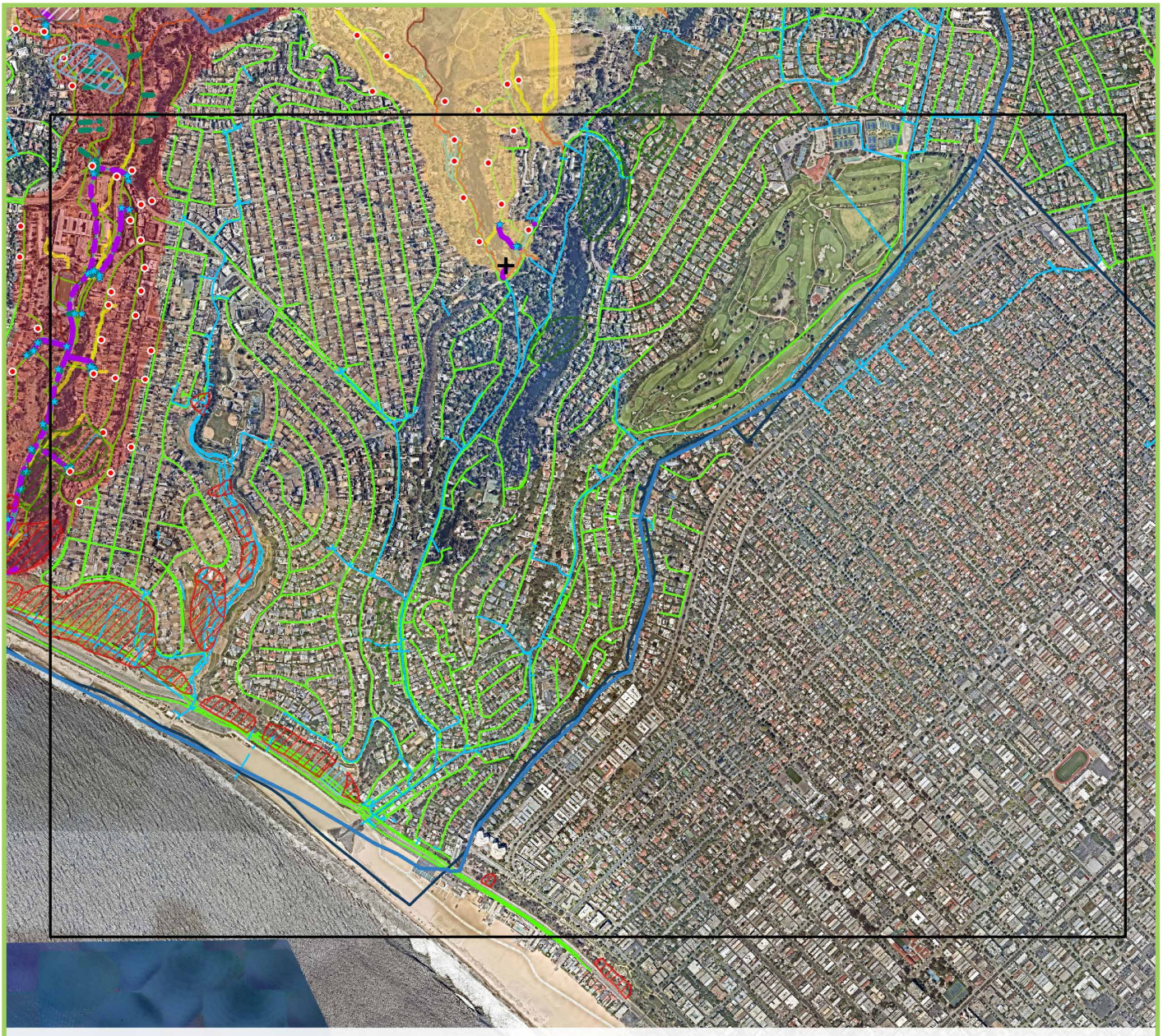
- Low
- Moderate
- High

California Landslide Inventory

- Dormant Mature
- Dormant Old/Relict
- Dormant Young
- Active/Historic

- Pacific Palisades Community Council Boundary
- Brentwood-Pacific Palisades CPA

0 0.25 0.5 Miles



Wet Infrastructure Hazards Index Map - 1d

- Debris Basins in Moderate and High Hazard Basins
- Pump Station in High Hazard Basin
- Hydrants in Moderate and High Hazard Basins
- Catch Basins in Moderate and High Hazard Basins
- Lateral Lines in Moderate and High Hazard Basins
- Gravity Main in Moderate and High Hazard Basins
- Sewer Pipes
- Storm Pipes

Combined Hazard - Basins

- Low
- Moderate
- High

Combined Hazard - Segments

- Low
- Moderate
- High

California Landslide Inventory

- Dormant Mature
- Dormant Old/Relict
- Dormant Young
- Active/Historic

- Pacific Palisades Community Council Boundary
- Brentwood-Pacific Palisades CPA

0 0.25 0.5 Miles



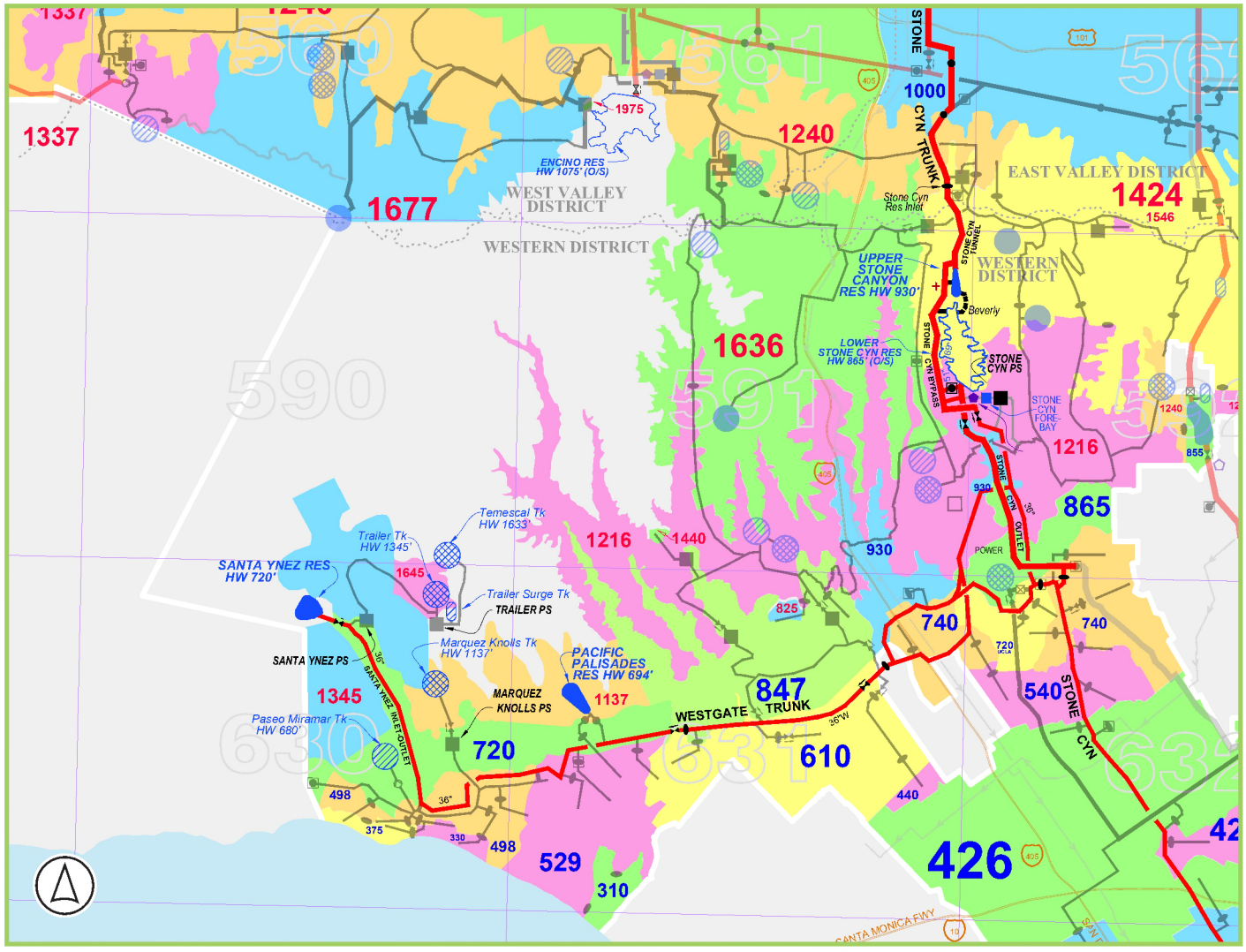
Appendix H:
Wet Utilities

H.1. Wet Utilities

H.1.1. Potable Water

The flow of potable water into Pacific Palisades begins in the Upper Stone Canyon Reservior at the north end of the City and is then released into trunk lines, or large pipes, that run through the City. The trunk lines connect to smaller pipes that deliver water to homes, businesses, and fire hydrants. The Westgate Trunk Line brings water from the east into and through Pacific Palisades. All water that runs through the system, including hydrants, is potable (LADWP, 2025d).

Figure H.1: Westgate trunk line through Pacific Palisades (LADWP, 2025a)



Water flows through the trunk line into pressure zones divided by elevation. Low-elevation zones, indicated in blue text in Figure H.1, receive water primarily by gravity, while high-elevation zones, marked in red text, are served by pumping stations that push water uphill (LADWP, 2025d).

H.1.1.1. Pumping Stations

The Pacific Palisades area has three pumping stations: Marquez Knolls, Santa Ynez, and Trailer, depicted as black squares in zones 720, 1345, and 1645, respectively, in Figure H.1 above. The stations pump water into tanks for storage and distribution into their corresponding zone. The pumps require sufficient water pressure to function properly. Without it, they lose suction and shut down to prevent cavitation (LADWP, 2025d).

Potable water flows from the Westgate Trunk Line and is pumped into the three tanks. The Marquez Knolls Pump Station pumps water into the Marquez Knolls Tank, the Santa Ynez Pump Station pumps into the Trailer Tank, and the Trailer Pump Station pumps into the Temescal Tank (LADWP, 2025d).

When active and connected to the potable water network, the Santa Ynez Reservoir can store excess water from the Westgate Trunk Line for later use, providing additional system redundancy. The Pacific Palisades Reservoir, which is located on the hill at the northernmost end of Chautauqua Boulevard, was not available during the Fire, as it was taken out of service in 2013 due to water quality concerns (LADWP, 2025d).

The capacities and materials of the Santa Ynez Reservoir, the Pacific Palisades Reservoir, and the three water tanks are summarized in Table H.1.

Table H.1: Summary of Reservoir and Water Tank Capacities and Materials

Reservoir/Tank Name	Capacities	Materials
Santa Ynez Reservoir	117 million gallons Operational band: ~22 million gallons under normal limits (LADWP, 2025d).	Concrete-lined, compacted-earth reservoir; covered by a floating membrane cover made of synthetic rubber (James, 2025).
Pacific Palisades Reservoir	6+ million gallons (≈20 acre-feet) (Circling the News, 2025). Operational band: ~1.75 million gallons when it was in service (LADWP, 2025d).	Cement structure (Circling the News, 2025).
Marquez Knolls Tank	1,018,502 gallons (LADWP, 2025d).	Steel or concrete tank (LADWP, 2024a).
Trailer Tank	972,118 gallons (LADWP, 2025d).	Steel or concrete tank (LADWP, 2024a).
Temescal Tank	972,118 gallons (LADWP, 2025d).	Steel or concrete tank (LADWP, 2024a).

H.1.1.2. Santa Ynez Reservoir

The Santa Ynez Reservoir was out of service at the time of the Fire due to work needed on its floating cover (Akin et al., 2025). It had been offline since early 2024, as a significant tear in its cover required repair for compliance with drinking water regulations. Rainwater buildup expanded the tear to about 100 feet, making repairs difficult, as drainage needed to occur before work could commence (LADWP, 2025e). Santa Ynez Reservoir was returned to service on June 26, 2025 after completion of repairs.

The Santa Ynez Reservoir has 22 million gallons of normal operational band through the water system because all reservoirs cannot practicably be operated above and below certain levels. The Santa Ynez Reservoir cannot be filled higher than 705 feet above sea level due to the risk of nitrification and water quality issues, and it cannot drop below 670 feet because there would not be sufficient pressure to push water into the distribution system (LADWP, 2025d).

H.1.1.3. Pacific Palisades Reservoir

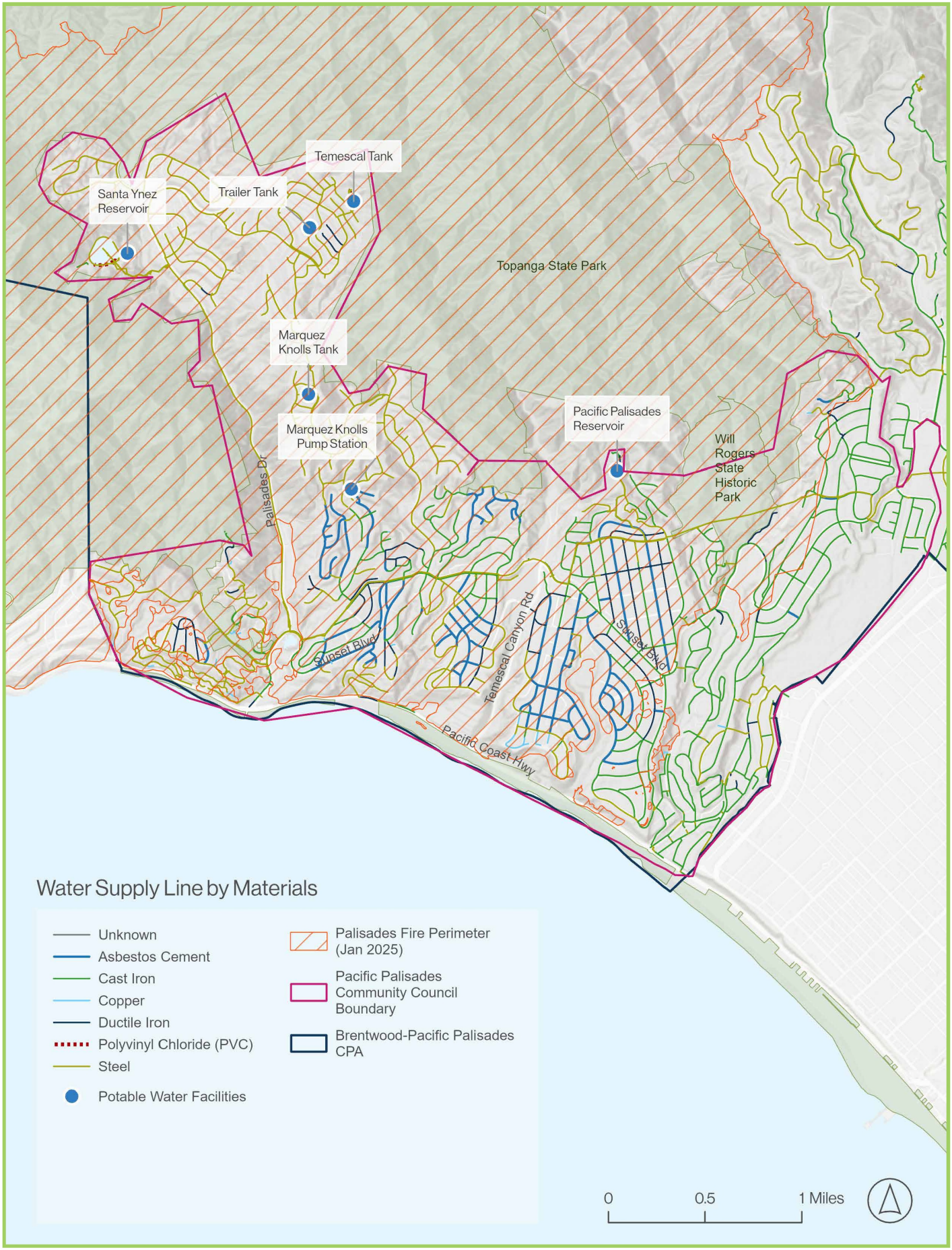
The Pacific Palisades Reservoir was taken out of service in 2013 because it suffered from pervasive water quality concerns and leaks, and the reservoir was not needed to satisfy system demands. The Pacific Palisades Reservoir has a stated capacity of 6 million gallons. However, when it was in use, it had an operational band of approximately 1.75 million gallons (LADWP, 2025d).

H.1.1.4. Palisades Potable Water Infrastructure

Figure H.2 shows the potable water distribution lines that run throughout Pacific Palisades classified by material. Critical potable water infrastructure, such as the Santa Ynez Reservoir, Pacific Palisades Reservoir, the three water tanks, and Marquez Knolls Pump Station, are also shown in Figure H.2.



Figure H.2: Map of Pacific Palisades water distribution system



Sources: City of LA; AECOM, 2025

The Pacific Palisades water supply is provided by LADWP. Water is imported from different regional sources, including the Los Angeles Aqueduct, Metropolitan Water District supplies from the Colorado River and State Water Project, and local groundwater, then treated and sent into the city's distribution network. For the Pacific Palisades area, water is delivered through a major transmission pipeline, the 36-inch Westgate trunk line, which brings water from the Stone Canyon Reservoir system. From there, LADWP distributes it into different pressure zones to serve neighborhoods at varying elevations. Pump stations are then used to move water uphill to storage tanks. These tanks and pipelines are all owned, operated, and maintained by LADWP, making it the main utility responsible for delivering potable water to Pacific Palisades.

Table H.2 summarizes the percent distribution of potable water mains in the water system by pipe diameter. The data indicates that nearly half of the total pipe (49.2%) consists of small diameter pipes between 0.75 and 6 inches, which are usually used for local distribution within residential areas. Medium-sized mains, ranging from about 6 to 14 inches, make up 37% of the system and are commonly used to move water within neighborhoods and between different distribution zones. Therefore, about 86% of Palisades water distribution pipes have diameters less than 15 inches. Larger pipes between 15 and 22 inches account for 8% of the system, while very large transmission mains from 24 to 32 inches represent only 1.7% of the system. Pipes in the 34 to 60 inches range make up 4.1% of the system.

To summarize, the GIS-based data in Table H.2 show that the potable water system in Pacific Palisades is dominated by smaller distribution pipes, as large-diameter water mains are only a small percentage of the system.

Table H.2: Potable Water Pipe Diameters and Percent by Length in Pacific Palisades (GIS Data)

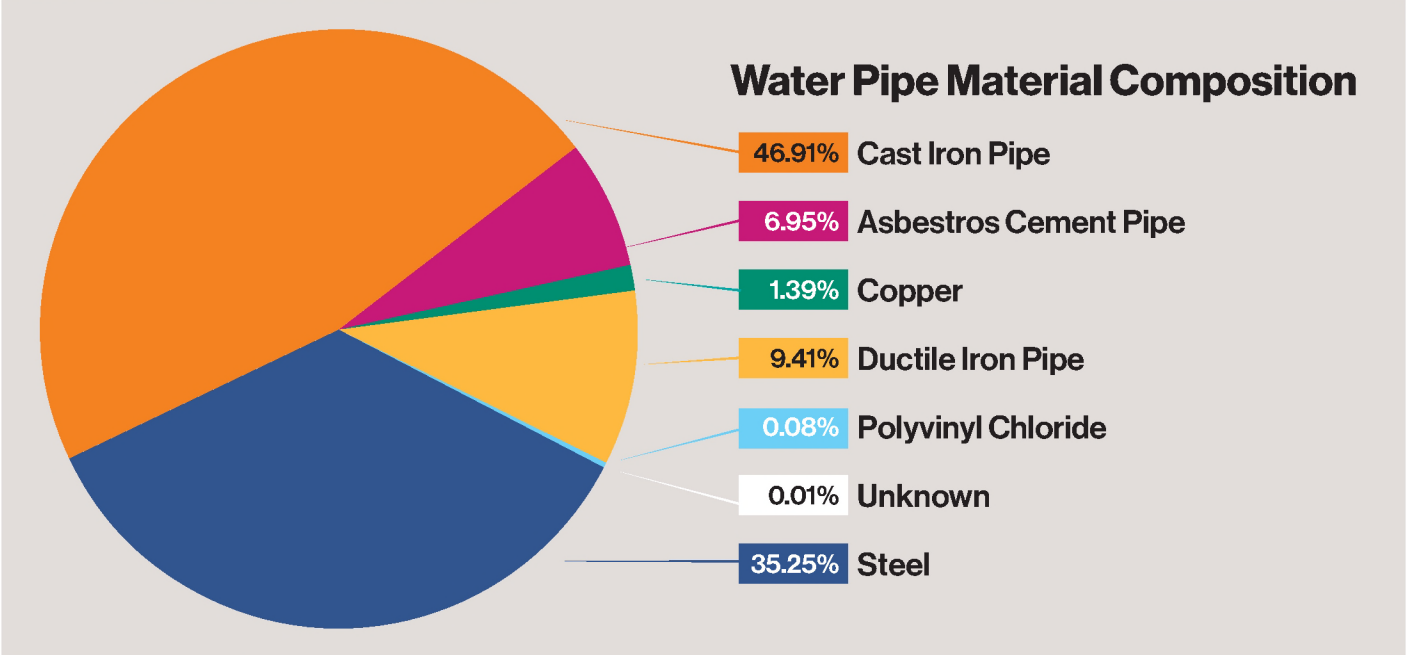
Water Pipe Diameter (inch)	Percent of Pipe Length
0.75 - 6	49.2%
6.1 - 14	36.7%
15 - 22	8.3%
24 - 32	1.7%
34 - 42	4%
44 - 60	0.1%
Total	**100%**

Figure H.3 shows the material composition of the pipes in the water distribution system. Steel pipes are the second most common pipe material used, accounting for 35% of the total network. Ductile iron pipes make up 9.4 % of the system. A small portion of the network, about 6.9%, consists of asbestos cement.

Materials like copper (1.4 %) and polyvinyl chloride (PVC) (0.08 %) account for only a small fraction of the pipes in the system. An extremely small percentage (0.01%) of the pipes fall into the "Unknown" category, mostly because records for them are missing or outdated.

Overall, Figure H.3 indicates that the water system is dominated by cast iron and steel pipe.

Figure H.3: Water pipe material distribution (GIS data)

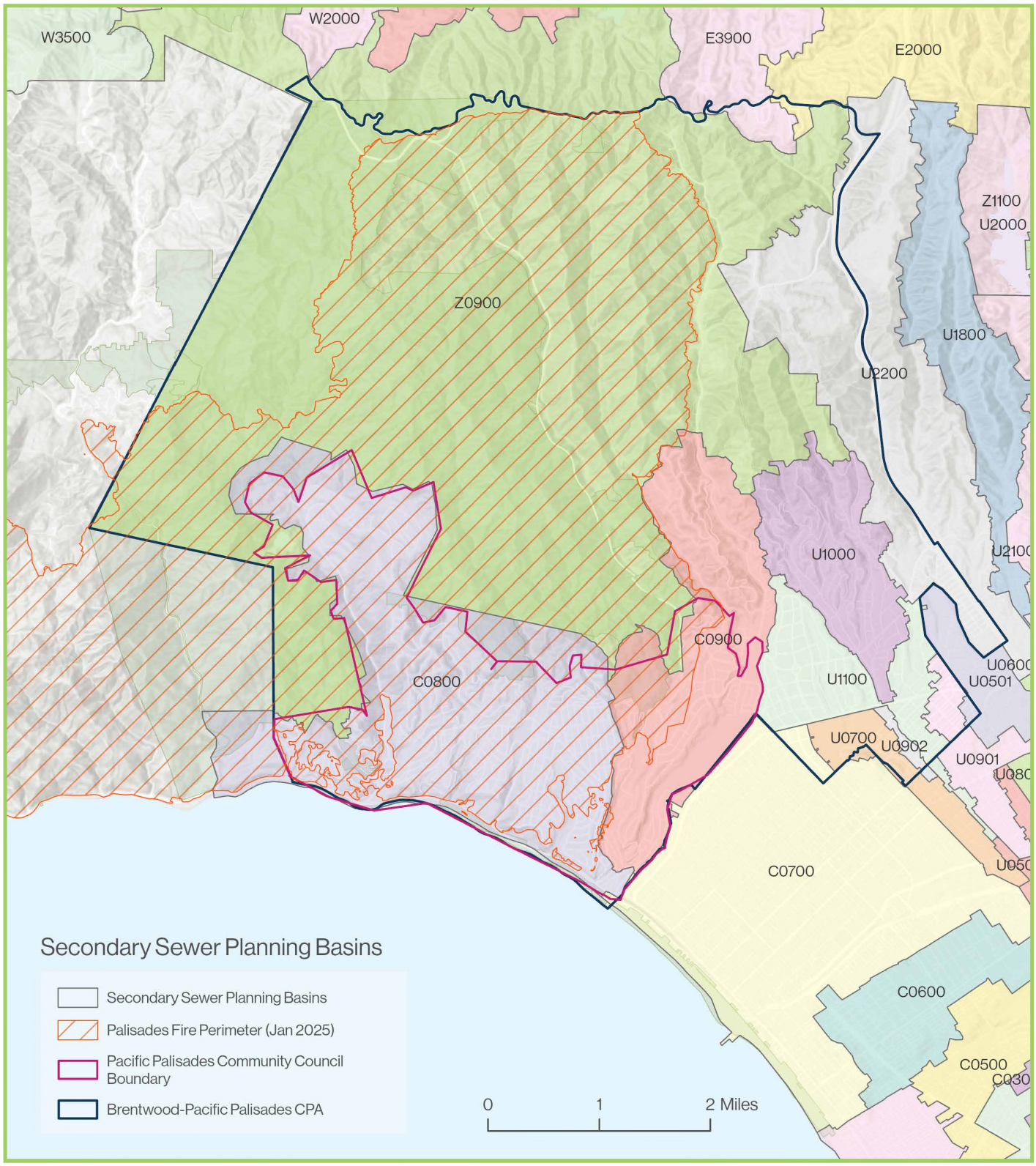


H.1.2. Wastewater

H.1.2.1. Wastewater Infrastructure Profile

Pacific Palisades is part of the City of Los Angeles sanitary sewer collection systems operated by the Department of Public Works, Bureau of Sanitation (LASAN). The City's three collection systems are the Hyperion System, Terminal Island System, and Los Angeles Regional System (Harbor Gateway). Pacific Palisades is part of the Hyperion System, and discharges all sanitary wastewater to the Hyperion Water Reclamation Plant in Playa Del Rey. Pacific Palisades is part of the Coastal Cities North primary sewer basin. Figure H.4 shows a map of the secondary sewer basins. The Pacific Palisades subbasin is designated C0800, and it is also covered by C0900.

Figure H.4: Map of secondary sewer basins, City of Los Angeles

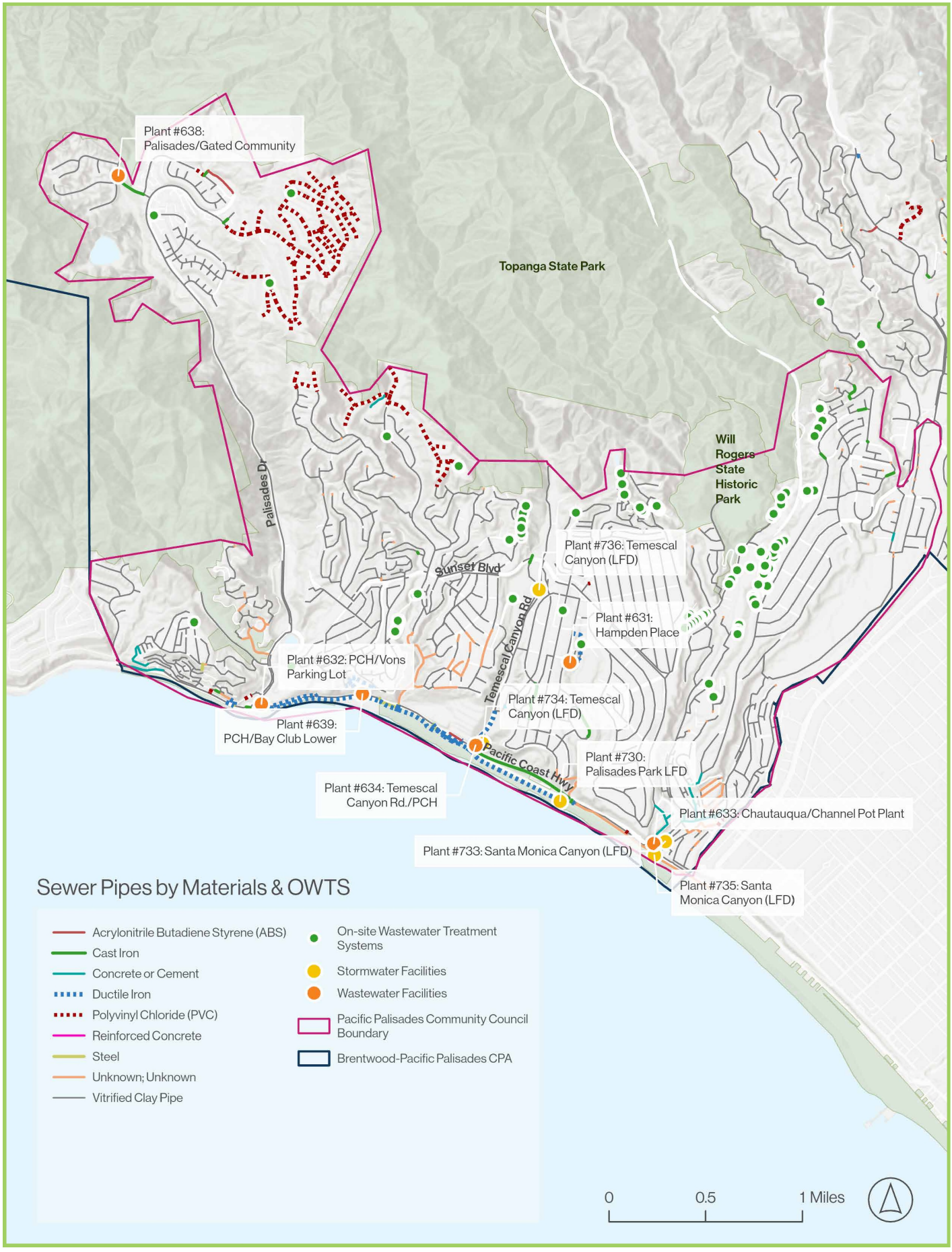


The Pacific Palisades sewer collection system is composed primarily of gravity sewers with residential and commercial connections. The gravity sewers convey wastewater from the higher elevations down toward the PCH. There are six sewer Pumping Plants (lift stations), some of which were affected by the Fire (Figure H.5).

Figure H.5 shows a map of the sewer pipes, classified by material, throughout Pacific Palisades. Fire-impacted on-site wastewater treatment systems (OWTS) and wastewater and stormwater facilities are also shown in the Figure H.5.



Figure H.5: Map of sewer pipes by materials, OWTS, and wastewater/stormwater facilities in Pacific Palisades



Sources: City of LA; AECOM, 2025

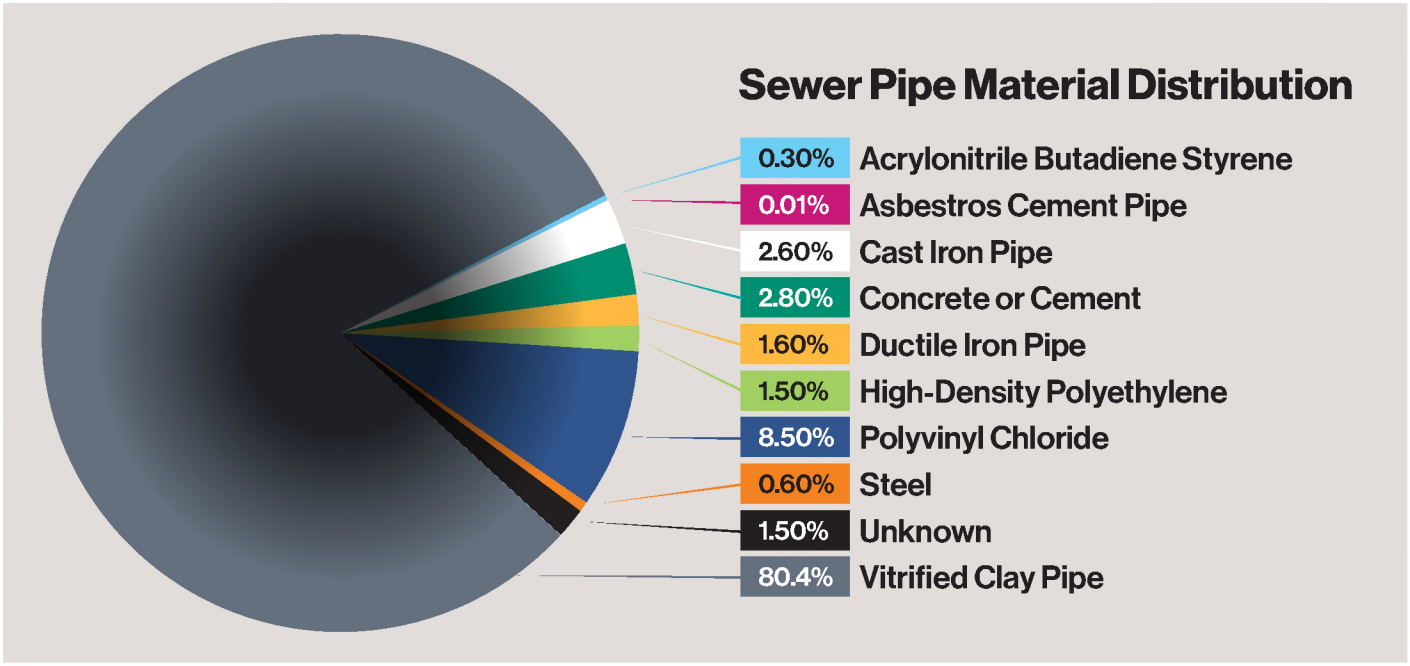
The Pacific Palisades area has sewer pipes totaling a length of 1.4 million feet (based on GIS Data, Sewer Pipe Shape file). As Table H.3 shows, the system is mostly composed of 8-inch-diameter pipes, which account for nearly 1.2 million feet. The sewer system includes 10-inch pipes (37,000), 12-inch pipes (51,100 feet), and 18-inch pipes (56,400 feet). Smaller pipes like 4-inch (2,100 feet) and 6-inch (27,600 feet) pipes, are limited. Larger pipes (21–42 inches) are also present but each pipe length is under 12,000 feet.

Figure H.6 shows the types of pipe materials found in the sewer system. The majority of the pipes in the system, 80%, are constructed of vitrified clay. Polyvinyl chloride accounts for around 9%, while cast iron, concrete, and ductile iron together make up about 7% of the system. Smaller portions consist of high-density polyethylene and steel pipes. Acrylonitrile butadiene styrene and asbestos cement pipes are minimal, each below 1%, and approximately 1.5% of the pipes have unidentified material types.

Table H.3: Sewer Pipe Diameters and Lengths in Pacific Palisades (GIS Data)

Pipe Diameter (inches)	Pipe Length (ft)
4	2,109
6	27,593
8	1,186,320
10	36,993
12	51,077
15	23,416
16	9,437
18	56,435
21	10,422
24	11,139
27	4,729
30	4,226
42	878
Total	**1,424,775**

Figure H.6: Sewer pipe material distribution (GIS data)



On-site Wastewater Treatment Systems (OWTS)

In Pacific Palisades, OWTS (septic systems) are permitted through the Los Angeles County Department of Public Health (DPH), Environmental Health Division. A septic system is an on-site method of treating and disposing of household wastewater when a property is not connected to a centralized sewer. A significant number of properties in the coastal and more remote and hilly parts of Pacific Palisades rely on septic systems. Within the Pacific Palisades burn area, 139 OWTS have been impacted by the fires. The impacted OWTS are shown as green dots in Figure H.5.

As Figure H.5 shows, many of the impacted OWTS are adjacent to developed areas served by gravity sewer systems. Restoration of wastewater infrastructure represents potential opportunities to connect parcel previously served by OWTS to the sewer system. If there is interest in moving forward with a transition from onsite septic systems to the municipal sewer system, an appropriate funding vehicle would need to be identified to support a damage / feasibility assessment and more detailed cost analysis. Topography challenges will need to be reviewed and local grinder pumps or lift stations may need to be added to service converted homes. This effort would help inform whether the transition could be advanced as a Capital Improvement Project, while remaining sensitive to potential cost impacts on affected property owners.

H.1.2.2. Impacts of Fire on Wastewater

Given the intensity of the wildfire, it is not surprising that the sewer collection systems were directly impacted by the Fire. Also, a sizable portion of the area's population is not directly connected to the public sewers and relies on septic systems, as previously described.



Figure H.7 shows the sewer lines and the parcels with damaged structures in Pacific Palisades after the Fire.

Figure H.7: Sewer lines and parcels with damaged structures in Pacific Palisades

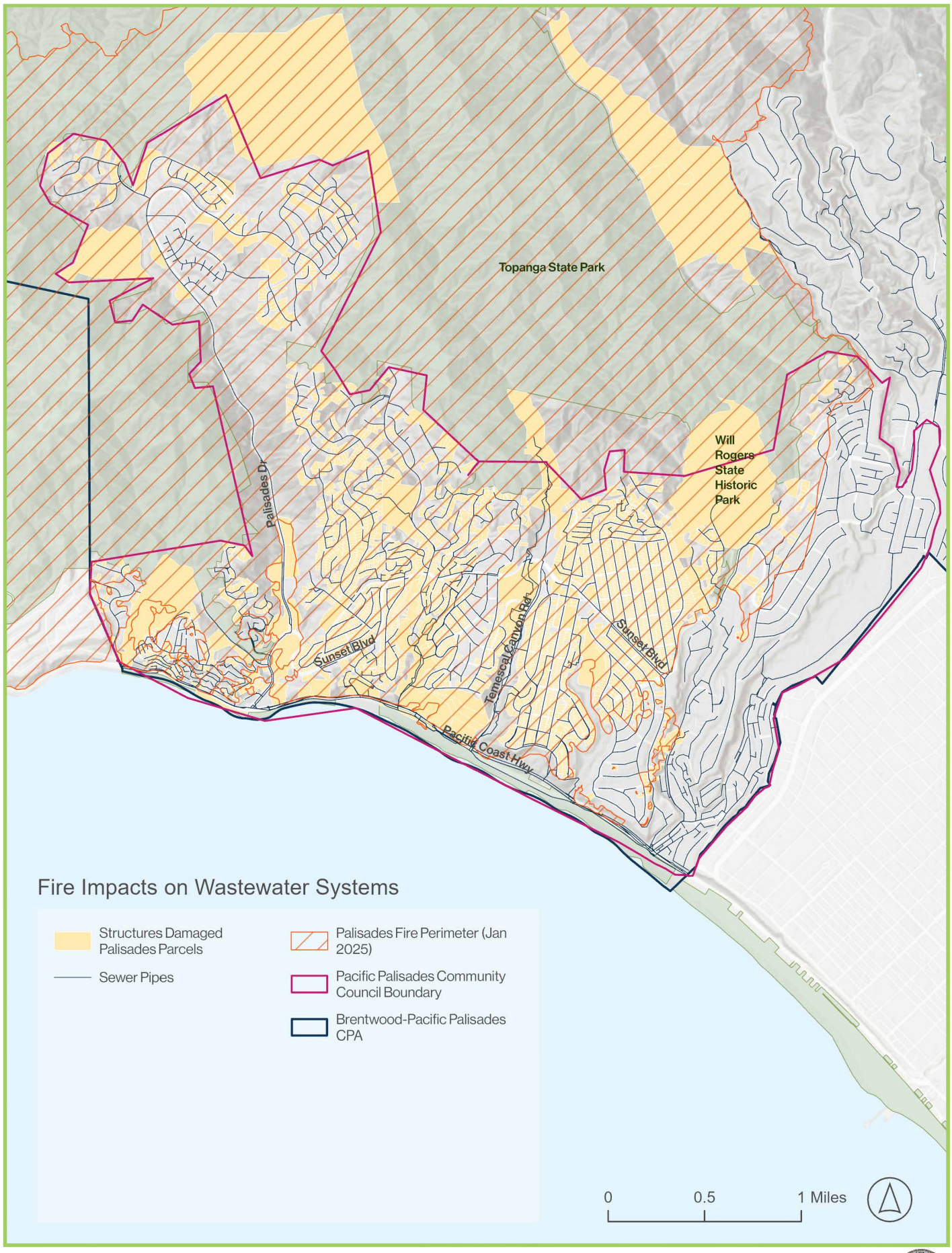


Table H.4 is a summary of the fire impacts on parcels within the Fire boundary with damaged structures served by an OWTS (496) and on parcels with damaged structures served by sewers (6,510). The estimates in Table H.4 were produced by the UCLA Luskin Center for Innovation (May 2025).

Table H.4: Fire Impacts on OWTS-Served and Sewer-Served Parcels

Fire Incident	Onsite-Served Parcels in Affected Zone	Sewer-Served Parcels in Affected Zone	Onsite -Served Parcels with Damaged Structures	Sewer- Served Parcels with Damaged Structures	% Damaged Onsite Parcels in Affected Area	% Damaged Sewer Parcels in Affected Area
Palisades Fire	1,290	9,983	496	6,510	38%	65%

Source: Pierce et al., 2025

Table H.4 shows the differences in how parcels connected to different wastewater systems in the Palisades Fire burn area were affected by the Fire. An estimated 38% of OWTS-served parcels experienced structural damage. In comparison, approximately 65% of sewer-served parcels within those same boundaries sustained structural damage.

It should be noted that these numbers do not reflect damage directly to on-site systems or sewer connections but represent a possible upper boundary for the number of impacted systems within the Palisades Fire perimeter. The map in Figure H.7 shows that small groups of on-site system parcels are located close to, or in some cases inside, existing sewer service areas. The proximity of OWTS systems to sewer systems should be taken into account when restoration or long-term improvements to wastewater infrastructure are being considered, as these locations could be key candidates for future septic-to-sewer conversion or sewer-extension initiatives.

