City of Rolling Hills INCORPORATED JANUARY 24, 1957

2 PORTUGUESE BEND ROAD, ROLLING HILLS, CA 90274 | (310) 377-1521

City Council

Monday, March 9, 2026, 7:00 PM

Regular Meeting
City of Rolling Hills

The meeting agenda is available on the City's website. The City Council meeting will be live-streamed on the City's website. View both the agenda and the live-streamed video.

Members of the public may submit written comments by emailing the City Clerk's office at CityClerk@cityofrh.net. Your comments will become part of the official meeting record if received before 3pm on the meeting day. You must provide your full name, but please do not provide any other personal information that you do not want to be published.

View recordings to City Council meetings online.

AGENDA

1. Call to Order

2. Roll Call

3. Pledge of Allegiance

4. Presentations/Proclamations/Announcements

5. Approve Order of the Agenda

This is the appropriate time for the Mayor or Councilmembers to approve the agenda as is or reorder.

6. Blue Folder Items (Supplemental)

Blue folder (supplemental) items are additional back up materials to administrative reports, changes to the posted agenda packet, and/or public comments received after the printing and distribution of the agenda packet for receive and file.

7. Public Comment on Non-Agenda Items

This is the appropriate time for members of the public to make comments regarding items not listed on this agenda. Pursuant to the Brown Act, no action will take place on any items not on the agenda.

8. Consent Calendar

Business items, except those formally noticed for public hearing, or those pulled for discussion are assigned to the Consent Calendar. The Mayor or any Councilmember may request that any Consent Calendar item(s) be removed, discussed, and acted upon separately. Items removed from the Consent Calendar will be taken up under the "Excluded Consent Calendar" section below. Those items remaining on the Consent Calendar will be approved in one motion. The Mayor will call on anyone wishing to address the City Council on any Consent Calendar item on the agenda, which has not been pulled by Councilmembers for discussion.

8.A. Approve Affidavit of Posting for the City Council Regular Meeting of March 9, 2026

RECOMMENDATION: Approve.

8.B. Approve Motion to Read by Title Only and Waive Further Reading of All Ordinances and Resolutions Listed on the Agenda

RECOMMENDATION:

8.C. Approve the following Minutes: February 9, 2026 City Council Special Field Trip Meeting, February 23, 2026 City Council Regular Meeting

RECOMMENDATION: Approve as presented.

8.D. Payment of Bills

RECOMMENDATION: Approve as presented.

8.E. Republic Services Recycling Tonnage and Complaint Reports for January 2026

RECOMMENDATION: Receive and file.

8.F. Amendment to 2023 Professional Services Agreement with HQE Systems to install Fourth Siren Pole at Upper Blackwater Canyon / Portuguese Bend Road (Garden Triangle), increase compensation by $48,335.96, extend term by 1 year, find the same exempt from CEQA under CEQA Guidelines Section 15303 (Class 3), and authorize City Manager to execute Amendment

RECOMMENDATION: Approve as presented.

8.G. Consider and approve the Planned Expenditures for Fiscal Year 2026-2027 Safe, Clean Water (Measure W) Municipal Program Funds for submission to Los Angeles County Flood Control District

RECOMMENDATION: Approve as presented.

8.H. Receive and file the Annual Progress Reports for the General Plan and Housing Element

RECOMMENDATION: Receive and file.

9. Excluded Consent Calendar Items

10. Commission Items

10.A. Receive and file Zoning Case No. 25-091: Site plan review for new construction, non-exempt grading and related improvements; variances for an attached garage

within the side yard areas, and finding the project exempt from the California Environmental Quality Act for location at 3 Maverick Lane (Karatsu) (Lot 30-SK)

RECOMMENDATION: Receive and file.

10.B. Receive and file Zoning Case No. 25-115: Site plan review for new construction, non-exempt grading and related improvements; variances for an attached garage within front yard, addition to home in side yard, and to exceed 40 percent disturbance; and finding the project exempt from the California Environmental Quality Act for location at 2 Williamsburg Lane (Paesano) (Lots 44, 45, & 46-A-RH)

RECOMMENDATION: Receive and file.

11. Public Hearings

12. Discussion Items

12.A. Adoption of Resolution No. 1404 approving Volume 1 and the Rolling Hills portion of Volume 2 within the 2026 Palos Verdes Peninsula Multi-Jurisdictional Hazard Mitigation Plan

RECOMMENDATION: Staff recommends that the City Council consider adopting Resolution No. 1404 approving Volume I and the Rolling Hills portion of Volume II of the 2026 Palos Verdes Peninsula Multi-Jurisdictional Hazard Mitigation Plan.

13. Matters From the City Council

14. Matters From Staff

14.A. Receive a verbal report regarding Bennett Landscape's invitation to participate in their 2026 Arbor Day tree planting and provide direction to staff

RECOMMENDATION: Receive and file. Provide direction to staff.

15. Recess to Closed Session

15.A. Conference with Legal Counsel—Initiation of Litigation Government Code Section 54956.9(d)(4) The City finds, based on advice from legal counsel, that discussion in open session will prejudice the position of the City in the litigation. (1 case)

16. Reconvene to Open Session

17. Adjournment

Next regular meeting: Monday, March 23, 2026 at 7:00 p.m. in the City Council Chamber, Rolling Hills City Hall, 2 Portuguese Bend Road, Rolling Hills, California, 90274.

Notice:

Public Comment is welcome on any item prior to City Council action on the item.

Documents pertaining to an agenda item received after the posting of the agenda are available for review in the City Clerk's office or at the meeting at which the item will be considered.

In compliance with the Americans with Disabilities Act (ADA), if you need special assistance to participate in this meeting due to your disability, please contact the City Clerk at (310) 377-1521 at least 48 hours prior to the meeting to enable the City to make reasonable arrangements to ensure accessibility and accommodation for your review of this agenda and attendance at this meeting.

City of Rolling Hills INCORPORATED JANUARY 24, 1957

2 PORTUGUESE BEND ROAD, ROLLING HILLS, CA 90274 | (310) 377-1521

Item: 8.A.
Meeting Date: 3/9/2026

To:	City Council
From:	Christian Horvath, Assistant to the City Manager / City Clerk
Thru:	Karina Bañales, City Manager
Subject:	Approve Affidavit of Posting for the City Council Regular Meeting of March 9, 2026

Background:
None.

Discussion:
None.

Fiscal Impact:
None.

Recommendation:
Approve.

Attachments:
1. CL_AGN_260309_CC_AffidavitofPosting

Administrative Report

8.A., **File #** 2026-47 **Meeting Date**: 3/9/2026

To: MAYOR & CITY COUNCIL

From: Christian Horvath, City Clerk

TITLE

APPROVE AFFIDAVIT OF POSTING FOR THE CITY COUNCIL REGULAR MEETING OF MARCH 9, 2026

EXECUTIVE SUMMARY

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) SS
CITY OF ROLLING HILLS)

AFFIDAVIT OF POSTING

In compliance with the Brown Act, the following materials have been posted at the locations below.

Legislative Body	City Council
Posting Type	Regular Meeting Agenda
Posting Location	2 Portuguese Bend Road, Rolling Hills, CA 90274 City Hall Window City Website: https://www.rolling-hills.org/government/agendas_meetings.php https://rollinghillsca.portal.civicclerk.com/
Meeting Date & Time	MARCH 9, 2026 7:00pm Open Session

As City Clerk of the City of Rolling Hills, I declare under penalty of perjury, the document noted above was posted at the date displayed below.

Christian Horvath, City Clerk

Date: March 6, 2026

City of Rolling Hills INCORPORATED JANUARY 24, 1957

2 PORTUGUESE BEND ROAD, ROLLING HILLS, CA 90274 | (310) 377-1521

Item: 8.C.
Meeting Date: 3/9/2026

To:	City Council
From:	Christian Horvath, Assistant to the City Manager / City Clerk
Thru:	Karina Bañales, City Manager
Subject:	Approve the following Minutes: February 9, 2026 City Council Special Field Trip Meeting, February 23, 2026 City Council Regular Meeting

Background:
None.

Discussion:
None.

Fiscal Impact:
None.

Recommendation:
Approve as presented.

Attachments:
1. CL_MIN_260209_CC_FT_F
2. CL_MIN_260223_CC_F

Minutes
Rolling Hills City Council
Monday, February 9, 2026
Special Field Trip Meeting 7:30 a.m.

1. Call To Order

The City Council of the City of Rolling Hills met at 10 Saddleback Road on the above date at 7:30 a.m. Mayor Dieringer presiding.

2. Roll Call

Councilmembers Present:	Mirsch, Wilson, Pieper, Mayor Dieringer
Councilmembers Absent:	Black
Staff Present:	Karina Bañales, City Manager
	Christian Horvath, Assistant to the City Manager / City Clerk
	Reina Schaetzl, Willdan Contract Senior Planner
	Emma Montes, Assistant Planner

3. Public Comment on Non-Agenda Items - None

4. Public Hearing Field Trip

4.A. Approve Affidavit of Posting for the City Council Special Field Trip Meeting of February 9, 2025

Motion by Councilmember Mirsch, seconded by Councilmember Wilson to approve Item 4A. Motion carried unanimously with the following vote:

AYES:	Mirsch, Pieper, Wilson, Mayor Dieringer
NOES:	None
ABSENT:	Black

4.B. Site plan review for new construction, non-exempt grading and related improvements; variances for a detached garage within front and side yard area, detached pool house within rear yard area, deck exceeding 12”, import of soil, and to exceed 40 percent disturbance; Conditional Use Permit to exceed 200 square feet for accessory structures, and finding the project exempt from the California Environmental Quality Act (Birkett) (Lot 17-2-RH)

Presentation by Willdan Contract Senior Planner Schaetzl

Public Comment: Russ Bartow, Dr. Ralph Black, Stephen Birkett

5. Adjournment:

The meeting was adjourned at 7:56 a.m. on February 9, 2026 to the regular City Council meeting on February 9, 2026, beginning at 7:00 p.m.at 2 Portuguese Bend Road, Rolling Hills, CA 90274.

Respectfully submitted,

_____
Christian Horvath, City Clerk

Approved,

_____
Bea Dieringer, Mayor

Minutes
Rolling Hills City Council
Monday, February 23, 2026
Regular Meeting 7:00 p.m.

1. Call To Order

The City Council of the City of Rolling Hills met in person on the above date at 7:00 p.m. Mayor Dieringer presiding.

2. Roll Call

Councilmembers Present:	Mirsch, Wilson, Pieper, Black, Mayor Dieringer
Councilmembers Absent:	
Staff Present:	Karina Bañales, City Manager
	Christian Horvath, Assistant to the City Manager / City Clerk
	Robert Samario, Finance Director
	Nicolas Papajohn, City Attorney

3. Pledge Of Allegiance – Mayor Pro Tem Black

4. Presentations / Proclamations / Announcements – None

5. Approve Order of the Agenda

Motion by Mayor Pro Tem Black, seconded by Councilmember Pieper to approve the order of the agenda. Motion carried unanimously with the following vote:

AYES:	Mirsch, Pieper, Wilson, Black, Mayor Dieringer
NOES:	None
ABSENT:	None

6. Blue Folder Items (Supplemental) – None

7. Public Comment on Non-Agenda Items

Assistant to the City Manager / City Clerk Horvath read a letter from Roger Hawkins into the record.

8. Consent Calendar

8.A. Approve Affidavit of Posting for the City Council Regular Meeting of February 23, 2026

8.B. Approve Motion to Read by Title Only and Waive Further Reading of All Ordinances and Resolutions Listed on the Agenda

8.C. Approve the following Minutes of February 9, 2026: City Council Regular Meeting

8.D. Payment of Bills

Motion by Councilmember Pieper, seconded by Councilmember Wilson to approve the Consent Calendar. Motion carried unanimously with the following vote:

AYES: Mirsch, Pieper, Wilson, Black, Mayor Dieringer
NOES: None
ABSENT: None

9. Excluded Consent Calendar Items – None

10. Commission Items – None

11. Public Hearings – None

12. Discussion Items

12.A. Receive and file the Annual Comprehensive Financial Report for Fiscal Year Ended June 30, 2025

Presentation by Finance Director Samario
LSL Senior Manager Jayme Lambert.

Motion by Councilmember Pieper, seconded by Councilmember Wilson to receive and file. Motion carried unanimously with the following vote:

AYES: Mirsch, Pieper, Wilson, Black, Mayor Dieringer
NOES: None
ABSENT: None

13. Matters From the City Council

Mayor Dieringer discussed her opposition, on behalf of the City Council, during the recent Board of Supervisor's vote regarding a five-year ½ cent sales tax increase measure.

13.A. Receive and file an update on the South Bay Cities Council of Governments annual membership dues

Presentation by Assistant to the City Manager / City Clerk Horvath

The City Council directed staff to prepare an analysis on the value the City receives from participation in South Bay Cities Council of Governments as related to the annual membership fee, communicate what joint programs are required for the City to utilize, and what the repercussions would be should the City withdraw.

Motion by Councilmember Pieper, seconded by Mayor Pro Tem Black to receive and file. Motion carried unanimously with the following vote:

AYES: Mirsch, Pieper, Wilson, Black, Mayor Dieringer
NOES: None
ABSENT: None

14. Matters From Staff – None

15. Recess To Closed Session – None

16. Reconvene To Open Session – None

17. Adjournment: 7:39 p.m.

The meeting was adjourned at 7:39 p.m. on February 23, 2026. The next regular meeting of the City Council is scheduled to be held on Monday, March 9, 2026 beginning at 7:00 p.m. in the City Council Chamber at City Hall, 2 Portuguese Bend Road, Rolling Hills, California. It will also be available via City's website link at: https://www.rolling-hills.org/government/agenda/index.php

All written comments submitted are included in the record and available for public review on the City website.

Respectfully submitted,

_____
Christian Horvath, City Clerk

Approved,

_____
Bea Dieringer, Mayor

City of Rolling Hills INCORPORATED JANUARY 24, 1957

2 PORTUGUESE BEND ROAD, ROLLING HILLS, CA 90274 | (310) 377-1521

Item: 8.D.
Meeting Date: 3/9/2026

To: City Council

From: Christian Horvath, Assistant to the City Manager / City Clerk

Thru: Karina Bañales, City Manager

Subject: Payment of Bills

Background:
None.

Discussion:
None.

Fiscal Impact:
None.

Recommendation:
Approve as presented.

Attachments:
1. CL_AGN_260309_CC_PaymentOfBills_E

CITY OF ROLLING HILLS
AP26-017, ACH26-017
Check Run 03/04/2026

Check No.	Check Date	Payee	Description	Amount
029170	3/4/2026	Cox Communications	Phone Service Feb 26 - Mar 25, 2026	94.14
029171	3/4/2026	Karina Banales	K. Banales_Reimburse Hotel-CM Conference	597.26
029172	3/4/2026	County of Los Angeles	January 2026 Animal Control Housing Costs	637.93
029173	3/4/2026	County of Los Angeles	LA Cty PW Bldg & Safety - December 2025	15,711.52
029174	3/4/2026	McGowan Consulting	January 2026 Municipal Stormwater Consulting	6,498.86
029175	3/4/2026	Orkin	February 2026 Pest Control	167.93
029176	3/4/2026	R.H. Farm, LLC	Refund-ZC#23-021_69 Portuguese Bend Rd	20,910.80
029177	3/4/2026	Race Communications	March 2026 Communications Fiber	1,020.00
029178	3/4/2026	Willdan Inc.	January 2026 - Contract Senior Planner	12,348.00
ACH-1105	3/4/2026	Abila	March 2026 Accounting Software	377.64
ACH-1106	3/1/2026	Bennett Landscape	March 2026 Landscape Services	1,020.00
ACH-1107	2/17/2026	CalPERS	CalPERS Retirement Payroll Ending 02-17-26	3,583.50
ACH-1108	3/1/2026	Delta Dental	March 2026 Dental Coverage	647.64
ACH-1109	3/1/2026	Forum Info-Tech. Inc./Levelcloud	March 2026 Cloud Hosting	5,006.56
ACH-1110	3/4/2026	John L. Hunter & Assoc., Inc.	October 2025 Stormwater Monitoring	2,242.50
ACH-1111	3/1/2026	Nextiva	March 2026 Business Phone Service Invoice	289.56
ACH-1112	2/23/2026	Point and Pay	January 2026 Online Bill Pay Service	25.00
ACH-1113	2/18/2026	Vantagepoint Transfer Agents -	Deferred Comp Contributions PR Ending 02-17-26	1,368.29
ACH-1114	3/1/2026	Vision Service Plan - (CA)	March 2026 Vision Coverage	107.08
PR LINK	2/20/2026	PR LINK - Payroll & PR Taxes PR4	Payroll Processing Fee PR#4_02/04/26 - 02/17/26	93.97
PR LINK	2/20/2026	PR LINK - Payroll & PR Taxes PR4	Pay Period PR#4_02/04/26 - 02/17/26	20,294.16
REPORT TOTAL				**93,042.34**

I, Karina Banales, City Manager of Rolling Hills, California certify that the above demands are accurate and there is available in the General Fund a balance of

$ 93,042.34 for the payment of above items.

Karina Banales, City Manager

City of Rolling Hills INCORPORATED JANUARY 24, 1957

2 PORTUGUESE BEND ROAD, ROLLING HILLS, CA 90274 | (310) 377-1521

Item: 8.E.
Meeting Date: 3/9/2026

To: City Council

From: Christian Horvath, Assistant to the City Manager / City Clerk

Thru: Karina Bañales, City Manager

Subject: Republic Services Recycling Tonnage and Complaint Reports for January 2026

Background:
On July 1, 2020, the City entered into an Amended and Restated Agreement with Republic Services for the collection, transportation, recycling, composting, and disposal of solid waste, including recyclables, green waste, bulky items, and brush. The Agreement is scheduled to expire on June 30, 2029.

As part of this partnership, the city regularly receives and reviews Recycling Tonnage and Complaint Reports from Republic Services. These reports serve several important municipal, regulatory, and community functions.

Discussion:
The primary purpose of the Republic Services Recycling Tonnage and Complaint Reports is to provide the City with oversight and transparency regarding its waste management and recycling services. These reports enable the City to monitor the volume of waste and recyclable materials collected and processed, as well as identify any recurring service issues or resident complaints. By regularly reviewing these reports, the City can ensure that Republic Services is fulfilling its contractual obligations, promptly addressing service deficiencies, and making informed decisions related to public education and operational improvements. Additionally, the reports support compliance with recycling and waste diversion, while supplying essential data for planning and reporting to regulatory agencies.

Below are highlights of the types of reports and notes included:

Recycling Tonnage Report: Documents the total weight of recyclable materials collected, helping the City measure progress toward recycling and waste diversion goals and comply with mandated requirements.

Complaint Report: Logs resident complaints related to waste and recycling services—such as missed pickups or other service issues, to enable tracking of service quality and resolution of recurring concerns.

Red Tags Report: Records instances where a "red tag" is issued at an address, indicating a violation or another issue with waste practices.
Missed Pick-Up Report: Details incidents where scheduled waste pickups were missed, including the address, date, and resolution status.

Commercial Recycling: Commercial recycling materials are hauled to various transfer facilities, with a portion separated and recovered. Recovery rates from these facilities are reported monthly and applied to servicing areas.

Greenwaste Reporting: Greenwaste data in the Non-Franchise report may fluctuate monthly due to factors like changes in customer service types, load contamination, or data entry errors.

Resident Services: Residents may request one free roll-off container for green waste disposal once a year. Monthly Residential Franchise Reports highlight usage of these bins.

Diversion Requirements: Under the current Agreement between the City and Republic Services, Republic Services is required to achieve a minimum annual Diversion Rate of 30% for Residential Solid Waste Collection Services, or such amount as may be set in accordance with other changes in law which mandate certain actions of programs for municipalities. The City currently achieves compliance with California's recycling and waste diversion requirements rate of at least 50% by diverting green waste (such as yard trimmings and plant matter) from landfills and incorporating it into its overall waste management program.

The Republic Services team continues to search for mixed waste options, and while they have a prospect that looks promising, they are trying to work through some issues before settling on their decision.

ADDITIONAL INFORMATION

Free Residential Roll-Off Bin
As mentioned, the City offers residents the opportunity to request one free roll-off container annually for green waste disposal. According to the current Residential Franchise Reports, entries labeled "Greenwaste – Free Residential Roll-Off Bin" and "Trash-Free Residential Roll-Off Bin." Although the City does not provide free roll-off bins for regular trash collection, the presence of "Trash-Free Residential Roll-Off Bin" in the report may indicate one of two possibilities:

- When Republic Services retrieves the bin and returns it to their facility, they may have identified contamination in the green waste bin, such as non-green waste disposed of improperly.
- Alternatively, this may be due to data entry or keying errors that require correction.

Republic Services continues to work on the reporting of this item. It is important to note that the City is not covering the cost associated with "trash-free" roll-off bins.

Red Tag Report Abbreviations
COMM: This column refers to Commercial service status. While Republic Services uses a standard red-tag reporting template across all its service jurisdictions, the City of Rolling Hills does not have commercial waste service. Therefore, entries under "COMM" are marked as "NO" for applicable red tags within the City.

Fiscal Impact:
None.

Recommendation:
Receive and file.

Attachments:
1. VC_REP_260226_Jan_TonnageReport
2. VC_REP_260226_Jan_C&D_Report
3. VC_REP_260226_Jan_CallLog
4. VC_REP_260203_JanuaryRedTagList
5. VC_REP_260203_JanuaryComplaintList

CITY OF ROLLING HILLS RESIDENTIAL FRANCHISE
2026

Year 2026
Diversion Requ Y

Month	Commodity	Tons Collected	Tons Recovered	Tons Disposed	Diversion %
1	Greenwaste	89.97	89.97	-	100.00%
	Greenwaste - Free Residential Roll Off Bin	26.16	26.16	-	100.00%
	Trash	174.59	-	174.59	0.00%
			-		
1 Total		290.72	116.13	174.59	39.95%
Grand Total		290.72	116.13	174.59	

CITY OF ROLLING HILLS NON-FRANCHISE
2026

Year 2026
Diversion Requi N

Month	Commodity	Tons Collected	Tons Recovered	Tons Disposed	Diversion %
1	Recycle	0.16	0.07	0.09	42.94%
	Trash	64.25	-	64.25	0.00%
	Organics	0.02	0.01	0.01	67.20%
1 Total		64.43	0.08	64.35	0.12%
Grand Total		64.43	0.08	64.35	0.12%

Republic Services
C&D Report

City of Rolling Hills
Reporting Period January-26

Disposal Site	Material	Loads Taken	Tons Collected
*No C&D to report this month			

Summary	
Row Labels	**Sum of Tons Collected**
(blank)	
Grand Total	

Republic Services Call Log Report

City: Rolling Hills

Year 2026

Month/Quarter 1

Summary of Calls by Type

Final Call Final Call Type	Sub-Type	Total
3.Missed Pick Up	Missed Yard Waste - Residential	1
3.Missed Pick Up Total		**1**
Grand Total		**1**

Republic Services Call Log Report

Final Call Type	Sub-Type	Case Number	Date/Time Opened	Date/Time Closed	Created By	Request Description	Resolution Comments	Customer Category	Account Number	Site	Account Name	Site Address	Phone
3.Missed Pick Up	Missed Yard Waste - Residential	20260113-229617484	1/13/2026 9:05 AM	1/14/2026 11:36 AM	Lauren Gago	Christy Mckay/(619) 507-6059 states they have been missed fo r the pickup originally scheduled on 1/12/2026. Cx ci thier YW was not pu on 01/12	(blank)	RESI	9020003667	1	CURRENT RESIDENT	24 GEORGEFF RD ROLLING HILLS CA	(000) 000-0000

City of Rolling Hills - January 2026 Republic Services Red Tag List

Republic Services - Red Tag List

Date of Issue	Time	Issue	Resident Name	Resident Address	Republic Response
1/12/2026	4:20 PM	Unbundled branches	[redacted]	67 Portuguese Bend Rd.	Lori Reyna
1/20/2026	7:33 AM	Containers behind locked area		7 Maverick Ln.	Kash Knudson

City of Rolling Hills - January 2026 Republic Services Complaint Log

Date of Issue	Time	Issue/Complaint	Resident Name	Resident Address	Republic contacted	Republic Reponse
1/5/2026	1:00 PM	Missed Trash and Green Waste	[redacted]	8 Crest Rd. E.	Lori Reyna	Lori Reyna
1/6/2026	10:00 AM	Missed Trash and Green Waste		2 Chuckwagon Rd.	Lori Reyna	Lori Reyna
1/12/2026	11:50 AM	Missed Trash and Green Waste		14 Buggy Whip Dr.	Lori Reyna	Lori Reyna
1/16/2026	8:00 AM	Missed Trash and Green Waste		27 Portuguese Bend Rd.	Lori Reyna	Lori Reyna

City of Rolling Hills INCORPORATED JANUARY 24, 1957

2 PORTUGUESE BEND ROAD, ROLLING HILLS, CA 90274 | (310) 377-1521

Item: 8.F.
Meeting Date: 3/9/2026

To: City Council

From: Samantha Crew, Management Analyst

Thru: Karina Bañales, City Manager

Subject: Amendment to 2023 Professional Services Agreement with HQE Systems to install Fourth Siren Pole at Upper Blackwater Canyon / Portuguese Bend Road (Garden Triangle), increase compensation by $48,335.96, extend term by 1 year, find the same exempt from CEQA under CEQA Guidelines Section 15303 (Class 3), and authorize City Manager to execute Amendment

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Background:
At the February 9, 2026 City Council meeting, the Council directed staff to pay HQE the remaining balance for work performed under the 2023 PSA, proceed with installation of a fourth siren pole at the Upper Blackwater Canyon / Portuguese Bend Road triangle, and return with an amended contract (Attachment A) reflecting the expanded scope of work.

Under the 2023 PSA (Attachment B), HQE was responsible for delivering a turnkey outdoor emergency communications system consisting of three 50-foot speaker towers, each capable of producing intelligible voice and tone alerts. The system was installed in September 2024 at the Fire Station, Crest Road East Gate, and City Hall and are currently operational.

Following installation and testing of the initial three sirens, staff coordinated with HQE to evaluate potential expansion scenarios aimed at improving system coverage in areas where lower sound propagation levels were identified, including Upper Blackwater, Chesterfield, and Ringbit. The current action advances the Upper Blackwater location consistent with prior Council direction, while staff will return at a later date with a separate staff report seeking Council consideration of proposed siren locations in the Chesterfield and Ringbit areas.

The siren project was initiated through advocacy by the City's Block Captains, reflecting a community-driven effort to strengthen public safety, preparedness, and overall resiliency by enhancing emergency notification capabilities.

Discussion:
Through detailed sound modeling, terrain analysis, and propagation mapping, HQE identified Upper Blackwater Canyon Road / Portuguese Bend Road (Garden Triangle) as a key infill location necessary to close remaining coverage gaps following installation of the initial three sirens. The

addition of this site, together with potential future installations in the Chesterfield and Ringbit Road areas, represents a good-faith effort to meet recognized industry standards for outdoor warning siren systems and to align with FEMA guidance related to redundancy, intelligibility, and equitable geographic distribution of sound.

On October 30, 2025, the City formally requested authorization from the Rolling Hills Community Association (RHCA) to place a 50-foot outdoor emergency siren within the Garden Triangle area near Upper Blackwater Canyon Road and Portuguese Bend Road. After conducting a site inspection and evaluating the request, the RHCA Board approved the easement license by a 3–1 vote, with one board member not present. With RHCA licensing secured, HQE is prepared to proceed with planning and permitting for this location. Site evaluations, sound-map reviews, utility coordination, neighborhood outreach, pole mock-ups, and the RHCA licensing process have been completed to validate this site as the preferred option with minimal visual and community impact.

At the February 9 meeting, the City Council also directed staff to work with HQE to prepare a map identifying SAFE gateway placement locations to support optimal SAFE Network coverage. HQE anticipates installing gateways on the existing siren poles as well as at the Upper Blackwater location and while this configuration will establish the foundational network infrastructure, it will not initially provide full citywide coverage. As residents adopt the system and install SAFE units at their properties, those units are expected to function as relays within the mesh network architecture, thereby incrementally strengthening and expanding coverage over time. Staff is coordinating with HQE to further refine the mapping analysis and will return at a later date with the completed map for Council review.

Amendments to-date:

PSA/Amendments	**Date**
Original PSA	June 26, 2023
Amendment No. 1	December 11, 2024
Amendment No. 2	February 24, 2025
Amendment No. 3	September 2, 2025
Amendment No. 4	October 28, 2025

All amendments to date have consisted of time extensions only.

Proposed Amendment No. 5	Current Action

Amendment No. 5 adjusts contract terms to include installation of the Upper Blackwater siren and represents the first substantive modification to the scope of services.The amendment also formally recognizes the SAFE Grant, offered by HQE to the City, which establishes a separate notification system and provides the City with the added benefit of emergency notification redundancy.

The proposed Amendment to the 2023 PSA, drafted by the City Attorney, incorporates the additional scope necessary to install the fourth 50-foot siren pole at Upper Blackwater Canyon / Portuguese Bend Road, provide associated equipment and integration consistent with the existing system, and extend contractual terms as needed to complete the expanded work. Approval of the Amendment will allow staff to coordinate with HQE to initiate planning, permitting, and pre-construction activities, moving the City closer to achieving improved outdoor warning coverage.

Environmental Analysis
This project is exempt from the California Environmental Quality Act ("CEQA") pursuant to CEQA Guidelines Section 15303 (Class 3), which exempts the construction and location of limited numbers of new, small facilities, equipment, or structures. Here, the proposed project is the installation of one siren pole, and is therefore categorically exempt from environmental review under CEQA. None of the exceptions apply.

Fiscal Impact:
Upper Blackwater & Portuguese Bend Road (Garden Triangle) Outdoor Emergency Siren

Budget Summary	**Estimate**
Total Labor	$21,875.71
Other Direct Costs	$23,398.54
Equipment - One (1) Onmi-directional 50 ft LS-120	$48,335.96
Total Estimate	$93,610.21
Total Cost to City	**$48,335.96**

Optional Maintenance Cost can be determined at a later date.

Recommendation:
Approve as presented.

Attachments:
1. Attachment A - CA_AGR_260309_HQE_SirenInstallation_Amendment05_F
2. Attachment B - CA_AGR_230706_HQE_SirenInstallation_F_A2_E

FIFTH AMENDMENT TO CITY OF ROLLING HILLS PROFESSIONAL SERVICES AGREEMENT

THIS FIFTH AMENDMENT TO PROFESSIONAL SERVICES AGREEMENT ("Fifth Amendment") is made and entered into this 28th day of February, 2026 between the City of Rolling Hills, a municipal corporation, hereinafter referred to as "CITY" and HQE Systems, Inc., a California corporation located at 27419 Via Industria, Temecula, CA 92590 ("CONSULTANT.")

1. RECITALS:

A. On June 26, 2023, the CITY entered into a Professional Services Agreement with CONSULTANT ("Agreement") to provide design, procurement and installation of a turnkey emergency communications system for the CITY, including but not limited to the installation of three 50 foot speaker towers ("Towers") at three separate locations throughout the CITY to provide outdoor sound coverage across the CITY;

B. After installation, testing of the Towers in March 2025 showed gaps in sound coverage in certain parts of the City;

C. Following the testing in March 2025, over the course of several months, CITY staff and CONSULTANT worked to identify and evaluate more than 50 other potential locations for additional Towers to address the gaps in sound coverage;

D. CONSULTANT identified the Garden Triangle area near Upper Blackwater Canyon Road and Portuguese Bend Road ("Upper Blackwater") as a key location for improved sound coverage through detailed sound modeling, terrain analysis, and propagation mapping;

E. CONSULTANT has also committed to the installation of their public safety communication SAFE Network System at no cost to the CITY and at-cost pricing for Indoor SAFE units for residents through the 2026 Community SAFE Grant to further enhance the CITY's emergency communications system;

F. On October 30, 2025, CITY formally requested authorization from the Rolling Hills Community Association (RHCA) to place a fourth 50 foot Tower at the Upper Blackwater location as part of the proposed expansion of CITY's emergency alert system. After conducting a site inspection and evaluating the request, the RHCA Board considered the application and approved the easement license by a 3–1 vote, with one board member not present for the vote;

G. The First through Fourth Amendments extended the term of the Agreement to give CONSULTANT and CITY time to determine how to best address the gaps in sound coverage; and

H. Now, CITY and CONSULTANT desire to amend the Agreement for a fifth time (the "Fifth Amendment") to install a fourth Tower at the Upper Blackwater location ("Upper Blackwater Tower") to improve sound coverage throughout the CITY, increase compensation by $48,335.96 to cover the cost of installation of the Upper Blackwater Tower, extend the term of the Agreement, and incorporate CONSULTANT's 2026 Community SAFE Grant.

Now, therefore, for and in consideration of the mutual covenants and conditions herein contained, CITY hereby engages CONSULTANT and CONSULTANT agrees to perform the services set forth in this Fifth Amendment.

2. The above recitals are true and correct and incorporated herein by reference.

3. Paragraph 2 (SCOPE OF WORK) of the Agreement is amended to read as follows:

"CONSULTANT shall perform all work necessary to complete in a manner satisfactory to CITY the services set forth in the attached Exhibit A. The end result of the services shall include a turnkey emergency communications system which includes, but is not limited to; (i) four ~~three~~, 50 foot speaker towers (two directional and two ~~one~~ omnidirectional) equipped with intelligible voice and tone capability at the four ~~three~~ locations identified in Exhibit A and referred to as the First Station Tower, Easter Gate Tower, ~~and~~ City Hall Tower, and Upper Blackwater Tower which shall result in a system that, at a minimum, produces the specified Sound Pressure Level identified by the Original Equipment Manufacturer to ensure proper coverage. Outside of extraordinary circumstances on a property *(e.g.* loud generator, wall of 100' trees covering the perimeter of a property, *etc.),* CONSULTANT warrants that the system is designed to reach 70 dB at each residence in the City; (ii) speaker/audio system that can provide the listed decibel levels throughout the City as described in Exhibit A; (iii) system that can be managed and activated via an Advanced Communication Module (ACM) to remotely access, control and activate via a secure portal; (iv) reasonable efforts such that the system may be integrated with other regional alert systems which may require additional costs (collectively referred to as "SERVICES").

Additionally, as part of the SERVICES in Exhibit A, CONSULTANT agrees to the installation of their public safety communication SAFE Network System at no cost to the CITY and at-cost pricing for Indoor SAFE units for CITY residents through the 2026 Community SAFE Grant to further enhance the CITY's emergency communications system.

To the extent this Agreement conflicts with Exhibit A, or any other exhibit, this Agreement shall control."

4. Paragraph 3 (COST) of the Agreement is amended to read as follows:

"The CITY agrees to pay CONSULTANT for all the work contemplated by this AGREEMENT in the amount of Three Hundred Nine Thousand Three Hundred Thirty Five Dollars and Ninety Six Cents ~~Two Hundred Sixty One Thousand Dollars~~

($309,335.96 ~~261,000.00~~). The cost is more particularly described in Exhibit A. This fee includes all expenses, consisting of all local travel, attendance at meetings, printing and submission of any plans or any other documents required by the Scope of Work. Any increase in contract amount or scope shall be approved by expressed written amendment executed by the CITY and CONSULTANT."

5. Paragraph 11 (TERM) of the Agreement is amended to read as follows:

"The term of this Agreement shall be from the effective date of this Agreement to February 28, 2027 ~~2026~~ unless earlier terminated as provided herein. The Parties may, by mutual, written consent, extend the term of this Agreement if necessary. Consultant shall perform its services in a prompt and timely manner within the term of this Agreement and shall commence performance upon notice from the City."

6. Paragraph 16 (INDEMNITY) of the Agreement is amended to read as follows:

"CONSULTANT shall indemnify and save harmless CITY, its elected and appointed officers and employees from all claims, damages, suits, cost or actions of every name, kind or description, brought for, or on account of, (i) injuries to or death of any person, (ii) damage to property or (iii) arising from performance of this AGREEMENT in any manner that resulted from the fault or negligence of CONSULTANT, it officers, agents, employees and/or servants in connection with this AGREEMENT.

CITY shall indemnify and save harmless CONSULTANT, its officers, agents, employees, and servants from all claims, damages, suits, costs or actions of every name, kind, or description, brought for, or on account of, (i) injuries to or death of any person, (ii) damage to property or (iii) arising from performance of this AGREEMENT in any manner that resulted from the fault or negligence of the CITY ~~CONSULTANT~~, its officers, agents, employees, and/or servants in connection with this AGREEMENT.

If CONSULTANT should subcontract all or any portion of the SERVICES to be performed under this AGREEMENT, CONSULTANT shall require each subcontractor to indemnify, hold harmless and defend CITY and each of its officers, officials, employees, agents and volunteers in accordance with the term of the preceding paragraph. This section shall survive termination or expiration of this AGREEMENT."

7. Exhibit "A" attached to this Fifth Amendment shall be added to Exhibit "A" of the Agreement.

8. All terms and conditions of the Agreement not amended by this Fifth Amendment shall remain in full force and effect.

[Signatures on Following Page]

IN WITNESS WHEREOF, the parties hereto have executed this Fifth Amendment on the date and year below with the intent that this Fifth Amendment be effective as of February 28, 2026.

CITY OF ROLLING HILLS

CITY MANAGER

_____

Karina Bañales

DATE:_____

CONSULTANT

_____

Qais Alkurdi, CEO

DATE:_____

ATTEST:

_____

CITY CLERK

APPROVED AS TO FORM:

_____

NICOLAS PAPAJOHN, CITY ATTORNEY

EXHIBIT “A”

ESTIMATE FOR:

City of Rolling Hills

Upper Blackwater

(Estimate: 006cw00000Ijzg5)

Date Submitted: March 4, 2026

Proposal Prepared For:

City of Rolling Hills
2 Portuguese Bend Rd
Rolling Hills, CA, 9027
POC: Ms. Karina Banales
Title: City Manager
Email: KBanales@cityofrh.net
Tel: (310) 377-1521

Proposal Approved By:

HQE Systems Inc.
27348 Via Industria
Temecula, CA 92590
POC: Mr. Qais Alkurdi
Title: Chief Executive Officer
Email: Contracts@HQESystems.com
Tel: (800) 967-3036 X1102

This proposal contains trade secrets and confidential business or financial information exempt from disclosure under the Freedom of Information Act. This proposal includes data that shall not be disclosed outside the Government and shall not be duplicated, used, or disclosed—in whole or in part—for any purpose other than to evaluate this proposal. If, however, a contract is awarded to this offeror as a result of—or in connection with—the submission of this data, the Government shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting contract. This restriction does not limit the Government's right to use the information contained in this data if it is obtained from another source without restriction. The data subject to this restriction are contained in this proposal and all attachments. **All product names, logos, and brands are the property of their respective owners**. All company, product, and service names used in this proposal are for identification purposes only. Using these names, logos, and brands do not imply endorsement.

Summary

HQE Systems, Inc., a Service Disabled Veteran Owned Small Business (SDVOSB), is pleased to provide the below cost for outdoor emergency sirens at Upper Blackwater. Offer is valid for 90 days. This estimate is in response to the customer's request for:

- Upper Blackwater Fiscal Impacts
    - Cost breakdown for One (1) Omni-directional 50ft LS-120 at the Upper Blackwater location

Please submit any resulting purchase order or contract to contracts@hqesystems.com

Cost Proposal

Upper Blackwater - One (1) Omni-directional 50ft LS-120

#	Budget Summary	Estimate
1	Total Labor (HQE Responsibility)	$ 21,875.71
2	Other Direct Costs (HQE Responsibility)	$ 23,398.54
3	Equipment (Rollings Hills Responsibility)	$ 48,335.96
	Total Estimate	**$ 93,610.21**
	Costs to the City of Rolling Hills	**$ 48, 335.96**

#	Labor Category	Hours	Rate	Total
1	Program Management	13	$ 120.87	$ 1,571.31
2	Project Management	30	$ 102.35	$ 3,070.50
3	Field Engineer	113	$ 72.24	$ 8,163.12
4	Electronics Technician III	73	$ 63.86	$ 4,661.78
5	Electronics Technician II	73	$ 57.09	$ 4,167.57
6	Trainer (Preparation & Instructions)	1	$ 51.73	$ 51.73
7	Autocad/Drafter	2	$ 94.85	$ 189.70
	Total Hours	**305**	**Total Labor ***	**$ 21,875.71**

***Costs to HQE Systems**

Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this proposal.

#	Travel & ODC's	QTY	Unit Price	Total
1	Travel, including lodging, flights & meals	1	$ 5,561.50	$ 5,561.50
2	Rental Vehicles & Gas	1	$ 1,674.13	$ 1,674.13
3	Shipping	1	$ 1,699.57	$ 1,699.57
4	Bucket Truck, Daily	7	$ 509.62	$ 3,567.34
5	Line Truck, Daily	3	$ 3,632.00	$ 10,896.00
			Total ODC's (Costs to HQE)	**$ 23,398.54**

#	Part #	Equipment Descriptions	QTY	Unit Price	Total
1	SiRcom: LS-120	SLA, Digital, **Omni-Directional** LS-120 Line Arrays, PA-11D, Complete Set	1	$ 44,469.08	$ 44,469.08
2	HQE-Wood-Pole	Direct Burial Wood Pole, 50'	1	$ 3,866.88	$ 3,866.88
			Total Equipment (Costs to the City of Rolling Hills)		**$ 48,335.96**

System Specifications

Upper Blackwater Interactive Map LINK

Speaker Types: Intelligible Voice & Tone

- Intelligible Voice and Tone Sirens
    - Make/Model: SiRcom, Line Arrays

Power: Battery System

- No SCE electrical support requirements
- The system is engineered to provide the City with a full operational capability without any AC main power source for charging. All charging will be done through solar power.

Comms: Advanced Communications Module (ACM)

- The system will be managed and activated via the Central Control Station (CCS) and SiRcom Advanced Communications Module (ACM) provided in PSA Exhibit A.

Price: $93,610.21.00 (Full turnkey installation), includes the following:

- Equipment
    - QTY 1, Omni-directional LAS-4-120 Complete Set
        - Full battery operated with solar charging
        - Real-time systems health monitoring
        - Mounted on Class II wood poles

- Services to be proposed
    - Design support
    - Installations labor

    - Training for City administrators
    - Test and Turnover
    - Full community outreach package
    - Marketing assets (flyers, information brochures)
    - Social media post templates
    - Video templates
    - PR release templates
- 1 Year Full Warranty

Optional Maintenance

Yearly Maintenance: $5,045.25 per year (Upper Blackwater)

- Hassle free maintenance service
    - Annual preventive maintenance visit
        - Manufacturer's standard testing
        - Cleaning of all of the parts (clean, grease, seal)
        - Replace degraded or damaged parts
    - As required corrective maintenance support (remote and onsite)
- No cost to replace any faulty parts (Act of God, Vandalism, Unauthorized Repairs/Access by the City or 3rd Party Vendor not covered), includes:
    - Siren parts
    - Solar charging parts
    - 12V batteries
    - Wires, cabling, and consumable parts

- Up to 5 hours of annual refresher training for the activation software
- Annual data usage for Satellite and Cellular Communications

Term Extension Options

The following table outlines the proposed contract extension options, which consolidate comprehensive service for the three existing locations (City Hall, Fire Station, and Crest Road) alongside the new Upper Blackwater installation. To ensure continued reliability and support, this updated pricing reflects current economic rates, accounting for standard inflation and increased overhead costs.

#	Bumper-To-Bumper Service Plan (Years)	Fixed Firm Cost (Yearly Rate)	Discount Rate	Annual Discount Amount	Total Saved During Service Plan Period	Final Fixed Firm Cost (Discounted Yearly Rate)
1	1	$ 20,181.00	0%	$0.00	$0.00	$20,181.00
2	3	$ 20,181.00	2%	$403.62	$1,210.86	$19,777.38
3	5	$ 20,181.00	4%	$807.24	$4,036.20	$19,373.76
4	7	$ 20,181.00	7%	$1,412.67	$9,888.69	$18,768.33
5	10	$ 20,181.00	10%	$2,018.10	$20,181.00	$18,162.90

Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this proposal.

End of Estimate

"Our goal at HQE is to continue to serve our veterans through our 'Hire Veterans Policy HQE-2015-2025'. We appreciate our current and past customers who have helped us meet our goals of hiring veterans throughout the years. Your support in HQE is directly impacting the support of our incredible veterans. Thank you for your consideration and support of Minority Business Enterprise (MBE), Disadvantaged Business Enterprise (DBE), and Service Disabled Veteran Owned Small Business (SDVOSB)!"

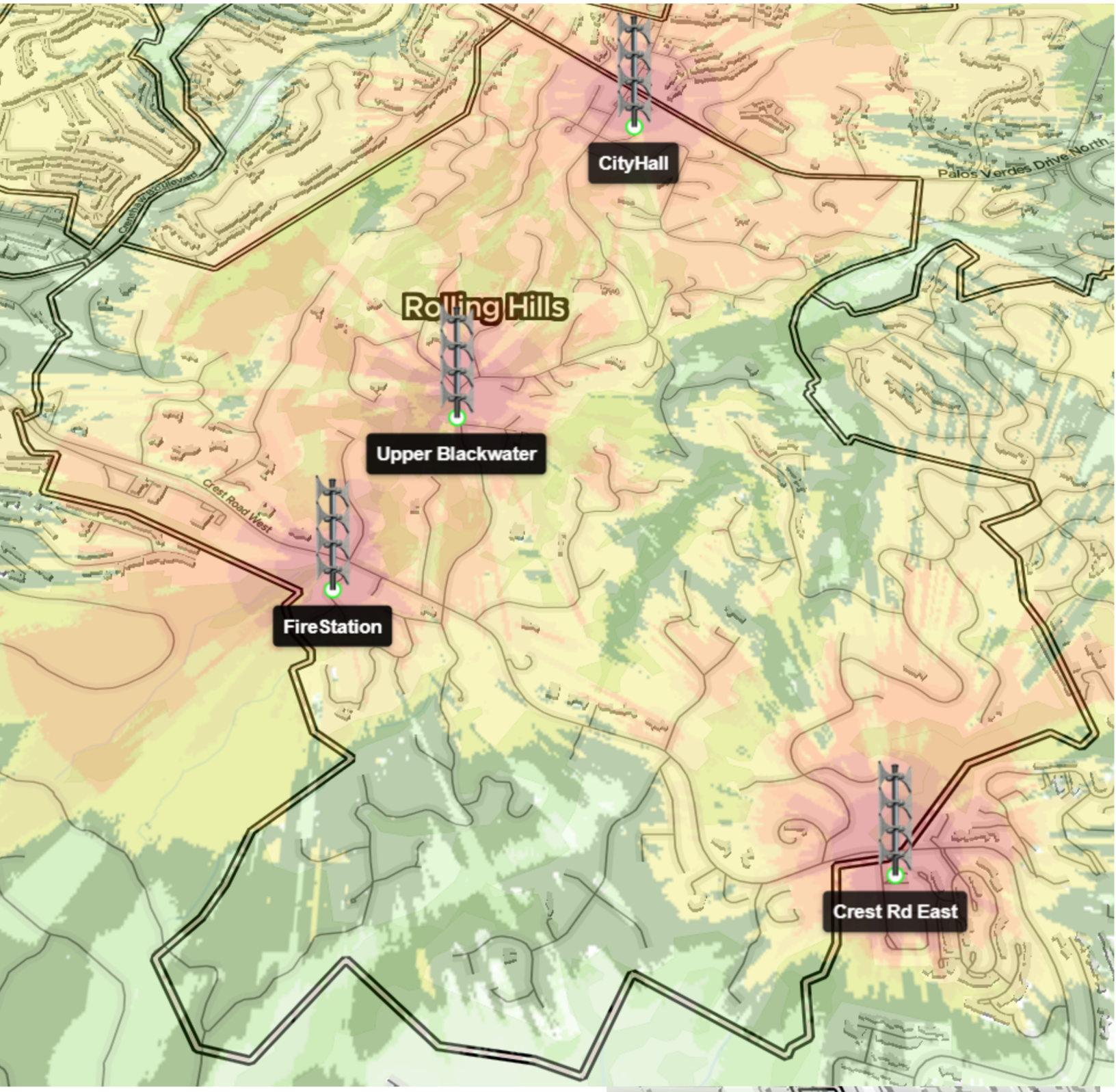
Thank You from the team of HQE Systems Inc.

Qais Alkurdi

CEO, Disabled Veteran / Retired



Rolling Hills Sound Plan - Sound Pressure Level



2026 Community SAFE Grant (CSG) Award

Presented by HQE Systems, Inc.

"Thank You For Supporting The Veteran Community!"

Dear Members of the City Council and Leadership of Rolling Hills,

On behalf of HQE Systems, Inc., we are honored to present the City of Rolling Hills with the **2026 Community SAFE Grant (CSG)**. This grant represents our commitment as a veteran-owned organization to strengthening local life-saving capabilities for communities that exemplify unwavering support for U.S. veterans. The residents, Block Captains, City management, and leadership of Rolling Hills have been steadfast allies to HQE Systems, a California Disabled Veteran Business Enterprise (DVBE). Your collective efforts to build a safer, stronger community inspire us, and we are excited to partner with you in advancing public safety.

The **Community SAFE Grant** is an initiative created by the veterans of HQE Systems. Each year, we select one community to receive cutting-edge technology aimed at enhancing life-saving capabilities and resilience. For 2026, we are privileged to award this grant to Rolling Hills, a city that has stood out for its remarkable dedication to its residents and veterans alike.

What the CSG Includes:

1. SAFE Network System

The cornerstone of the CSG package is the installation of the **SAFE Network** System, a revolutionary public safety communications network designed to operate independently of cellular or AC power. This system ensures uninterrupted communication between the City's leadership, emergency management team, and residents, even during catastrophic events when traditional communication methods fail.

The SAFE Network operates through a decentralized, self-sustaining framework that uses advanced radio frequency technology to maintain reliable communication. It is specifically designed to provide seamless connectivity during disasters, empowering emergency responders and city leaders to make critical decisions and keep residents informed when it matters most.

- **HQE's Equipment Cost:** $9,278.52
- **HQE's Total Cost (including labor and other direct costs):** $21,374.35
- **Open Market Value:** Over $30,000+

The SAFE Network provides unmatched reliability and resilience, delivering $30,000+ in public safety communication technology to Rolling Hills—at no cost to the City.

2. Indoor SAFE Units for Homes

As part of the CSG, HQE is offering **at-cost pricing** for up to **2100 Indoor SAFE Units**, allowing residents to benefit from this advanced safety technology at significantly reduced costs.

SAFE Units are compact, easy-to-install devices designed to provide emergency alerts and critical information directly to residents' homes. These units serve as a vital link in the communication chain, ensuring that even during widespread outages or disasters, households remain informed and connected to city leadership and emergency services.

- **MSRP Per Unit:** $142.95 (excluding shipping, handling, and tax)
- **At-Cost Price Per Unit:** $92.84 (excluding shipping, handling, and tax)
- **Potential Savings for the Community:** $105,231.00 (if all 2100 units are purchased)

These units empower families with vital communication tools during emergencies, ensuring no household is left unprotected.

Total Grant Value

The Community SAFE Grant delivers a total value of over **$135,000.00** in public safety enhancements:

- $30,000 SAFE Network System at no cost.
- $ 105,231.00 in discounts for Indoor SAFE Units for residents.

Why HQE Selected Rolling Hills

HQE Systems' mission is deeply rooted in supporting communities that support veterans. Rolling Hills' leadership and residents have continually demonstrated an exceptional commitment to HQE Systems and our veteran workforce. Your city's values align with our vision to create safer, more resilient communities. By awarding the Community SAFE Grant to Rolling Hills, we are not only expressing our gratitude but also investing in the safety and well-being of a community that inspires us.

Our Commitment to Your Community

As a veteran-owned company, HQE Systems believes in going beyond business to make a meaningful impact. The Community SAFE Grant is a testament to this belief. We are excited to see how this partnership will enhance public safety in Rolling Hills and set a precedent for community resilience.

Thank you for the opportunity to serve your community. We look forward to working together to implement these life-saving technologies.

Very Respectfully,



Qais Alkurdi
CEO, HQE Systems, Inc.
Disabled - Retired Veteran

VERIFIED
MINORITY -OWNED
DISABLED VETERAN
BUSINESS ENTERPRISE

CITY OF ROLLING HILLS
PROFESSIONAL SERVICES AGREEMENT

THIS AGREEMENT made and entered into this 26th day of June 2023 between the City of Rolling Hills, a municipal corporation, hereinafter referred to as "CITY" and HQE Systems Inc. a California corporation located at 27419 Via Industria, Temecula, CA 92590 "CONSULTANT."

1. RECITALS:

A. The CITY desires to contract the CONSULTANT to provide the design, procurement and installation of a turnkey emergency communications system for the City of Rolling Hills.

B. CONSULTANT is well qualified by reason of education and experience to perform such services; and

C. CONSULTANT is willing to render such services as hereinafter defined.

Now, therefore, for and in consideration of the mutual covenants and conditions herein contained, CITY hereby engages CONSULTANT and CONSULTANT agrees to perform the services set forth in this AGREEMENT.

2. SCOPE OF WORK

CONSULTANT shall perform all work necessary to complete in a manner satisfactory to CITY the services set forth in the attached Exhibit A. The end result of the services shall include a turnkey emergency communications system which includes, but is not limited to; (i) three, 50 foot speaker towers (two directional and one omnidirectional) equipped with intelligible voice and tone capability at the three locations identified in Exhibit A and referred to as the First Station Tower, Easter Gate Tower and City Hall Tower which shall result in a system that, at a minimum, produces the specified Sound Pressure Level identified by the Original Equipment Manufacturer to ensure proper coverage. Outside of extraordinary circumstances on a property (*e.g.* loud generator, wall of 100' trees covering the perimeter of a property, *etc.*), CONSULTANT warrants that the system is designed to reach 70 dB at each residence in the City; (ii) speaker/audio system that can provide the listed decibel levels throughout the City as described in Exhibit A; (iii) system that can be managed and activated via an Advanced Communication Module (ACM) to remotely access, control and activate via a secure portal; (iv) reasonable efforts such that the system may be integrated with other regional alert systems which may require additional costs (collectively referred to as "SERVICES").

To the extent this Agreement conflicts with Exhibit A, or any other exhibit, this Agreement shall control.

3. COST

The CITY agrees to pay CONSULTANT for all the work contemplated by this AGREEMENT in the amount of Two Hundred Sixty One Thousand Dollars ($261,000.00). The cost is more particularly described in Exhibit A. This fee includes all expenses, consisting of all local travel, attendance at meetings, printing and submission of any plans or any other documents required by the Scope of Work. Any increase in contract amount or scope shall be approved by expressed written amendment executed by the CITY and CONSULTANT.

4. METHOD OF PAYMENT

CONSULTANT shall be reimbursed within (30 days) of submitting an uncontested invoice to CITY for SERVICES. CONSULTANT shall submit invoices per the approved project milestones. Milestones include 50% upon parts on order. 40% upon installation. Final 10% upon full test and acceptance by the CITY. CONSULTANT shall submit invoices electronically to the City Manager of the CITY and shall also provide a courtesy copy by U.S. Mail addressed to the City Manager of the CITY.

5. SUBCONTRACTING

CONSULTANT may employ qualified independent subcontractor(s) to assist CONSULTANT in the performance of SERVICES with CITY's prior written approval.

6. COMMENCEMENT OF WORK

CONSULTANT shall commence work under this AGREEMENT upon execution of this AGREEMENT.

7. PERFORMANCE TO SATISFACTION OF CITY

CONSULTANT agrees to perform all work to the reasonable satisfaction of CITY and within the time hereinafter specified.

8. COMPLIANCE WITH LAW

All SERVICES rendered hereunder shall be provided in accordance with the requirements of relevant local, State and Federal Law.

(A). Federal Requirements

In the event federal funds are used to fund all or a portion of this contract. The CONSULTANT shall comply with all federal requirements including, but not limited to, the following:

(i). 2 C.F.R. Part 200 – Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, which is expressly incorporated herein by reference.

(ii). Federal Contract Provisions attached hereto as Exhibit B and incorporated herein by reference.

Subcontracts, if any, shall contain a provision making them subject to all of the provisions stipulated in the contract, including but not limited to, 2 C.F.R. Part 200 and the Federal Contract Provisions.

With respect to any conflict between such federal requirements and the terms of this contract and/or the provisions of state law and except as otherwise required under federal law or regulation, the more stringent requirement shall control.

(B). CONSULTANT is aware of the requirements of California Labor Code Sections 1720 et seq. and 1770 et seq., which require the payment of prevailing wage rates and the performance of other requirements on certain "public works" and "maintenance" projects ("Prevailing Wage Laws"). If the services are being performed as part of an applicable "public works" or "maintenance" project, as defined by the Prevailing Wage Laws, and if the total compensation is $1,000 or more, CONSULTANT agrees to fully comply with such Prevailing Wage Laws. CONSULTANT shall defend, indemnify and hold the City, its officials, officers, employees and agents free and harmless from any claims, liabilities, costs, penalties or interest arising out of any failure or alleged failure to comply with the Prevailing Wage Laws. It shall be mandatory upon the CONSULTANT and all subconsultants to comply with all California Labor Code provisions, which include but are not limited to prevailing wages (Labor Code Sections 1771, 1774 and 1775), employment of apprentices (Labor Code Section 1777.5), certified payroll records (Labor Code Sections 1771.4 and 1776), hours of labor (Labor Code Sections 1813 and 1815) and debarment of contractors and subcontractors (Labor Code Section 1777.1). The requirement to submit certified payroll records directly to the Labor Commissioner under Labor Code section 1771.4 shall not apply to work performed on a public works project that is exempt pursuant to the small project exemption specified in Labor Code Section 1771.4.

If the services are being performed as part of an applicable "public works" or "maintenance" project, then pursuant to Labor Code Sections 1725.5 and 1771.1, the CONSULTANT and all subconsultants performing such services must be registered with the Department of Industrial Relations. CONSULTANT shall maintain registration for the duration of the Project and require the same of any subconsultants, as applicable. Notwithstanding the foregoing, the contractor registration requirements mandated by Labor Code Sections 1725.5 and 1771.1 shall not apply to work performed on a public works project that is exempt pursuant to the small project exemption specified in Labor Code Sections 1725.5 and 1771.1.

9. ACCOUNTING RECORDS

CONSULTANT must maintain accounting records and other evidence pertaining to costs incurred which records and documents shall be kept available at the CONSULTANT's office during the contract period and thereafter for five years from the date of final payment.

10. OWNERSHIP OF DATA

All data, designs, photographs, and other material collected or prepared under the contract shall become the property of the CITY.

11. TERM OF CONTRACT

The term of this Agreement shall be from the effective date of this Agreement to December 31, 2024, unless earlier terminated as provided herein. The Parties may, by mutual, written consent, extend the term of this Agreement if necessary to complete the Project. Consultant shall perform its services in a prompt and timely manner within the term of this Agreement and shall commence performance upon notice from the City.

12. TERMINATION

This contract may be terminated by the CITY with or without cause upon fourteen (14) days written notice to the CONSULTANT. All work satisfactorily performed pursuant to the contract and prior to the date of termination may be claimed for reimbursement.

13. ASSIGNABILITY

CONSULTANT shall not assign or transfer interest in this contract without the prior written consent of the CITY.

14. AMENDMENT

It is mutually understood and agreed that no alteration or variation of the terms of this contract, or any subcontract requiring the approval of the CITY, shall be valid unless made in writing, signed by the parties hereto, and approved by all necessary parties.

15. NON-SOLICITATION CLAUSE

The CONSULTANT warrants that he or she has not employed or retained any company or persons, other than a bona fide employee working solely for the CONSULTANT, any fee, commission, percentage, brokerage fee, gifts, or any other consideration, contingent upon or resulting from the award or making of this contract. For breach or violation of this warranty, the CITY shall have the right to annul this contract without liability, or, in its discretion to deduct from the contract price or consideration, or otherwise recover, the full amount of such fee, commission, percentage, brokerage fee, gift, or contingent fee.

16. INDEMNITY

CONSULTANT shall indemnify and save harmless CITY, its elected and appointed officers and employees from all claims, damages, suits, cost or actions of every name, kind or description, brought for, or on account of, (i) injuries to or death of any person, (ii) damage to property or (iii) arising from performance of this AGREEMENT in any manner that resulted from the fault or negligence of CONSULTANT, it officers, agents, employees and/or servants in connection with this AGREEMENT.

CITY shall indemnify and save harmless CONSULTANT, its officers, agents, employees, and servants from all claims, damages, suits, costs or actions of every name, kind, or description, brought for, or on account of, (i) injuries to or death of any person, (ii) damage to property or (iii) arising from performance of this AGREEMENT in any manner that resulted from the fault or negligence of the CONSULTANT, its officers, agents, employees, and/or servants in connection with this AGREEMENT.

If CONSULTANT should subcontract all or any portion of the SERVICES to be performed under this AGREEMENT, CONSULTANT shall require each subcontractor to indemnify, hold harmless and defend CITY and each of its officers, officials, employees, agents and volunteers in accordance with the term of the preceding paragraph. This section shall survive termination or expiration of this AGREEMENT.

17. INSURANCE

A. Without limiting CONSULTANT'S obligations arising under paragraph 16 - Indemnity, CONSULTANT shall not begin work under this AGREEMENT until it obtains policies of insurance required under this section. The insurance shall cover CONSULTANT, its agents, representatives and employees in connection with the performance of work under this AGREEMENT, and shall be maintained throughout the term of this AGREEMENT. Insurance coverage shall be as follows:

i. Automobile Liability Insurance with minimum coverage of $300,000 for property damage, $300,000 for injury to one person/single occurrence, and $300,000 for injury to more than one person/single occurrence.

ii. Public Liability and Property Damage Insurance, insuring CITY its elected and appointed officers and employees from claims for damages for personal injury, including death, as well as from claims for property damage which may arise from CONSULTANT'S actions under this AGREEMENT, whether or not done by CONSULTANT or anyone directly or indirectly employed by CONSULTANT. Such insurance shall have a combined single limit of not less than $500,000.

iii. Worker's Compensation Insurance for all CONSULTANT'S employees to the extent required by the State of California. CONSULTANT shall require all subcontractors who are hired by CONSULTANT to perform the SERVICES and who have employees to similarly obtain Worker's Compensation Insurance for all of the subcontractor's employees.

iv. Professional Liability Insurance for CONSULTANT that at a minimum covers professional misconduct or lack of the requisite skill required for the performances of SERVICES in an amount of not less than $500,000 per occurrence.

B. Deductibility Limits for policies referred to in subparagraphs A (i) (ii) and (iii) shall not exceed $5,000 per occurrence.

C. Additional Insured. City, its elected and appointed officers and employees shall be named as additional insured on policies referred to in subparagraphs A (i) and (ii).

D. Primary Insurance. The insurance required in paragraphs A (i) and (ii) shall be primary and not excess coverage.

E. Evidence of Insurance. Consultant shall furnish CITY, prior to the execution of this AGREEMENT, satisfactory evidence of the insurance required, issued by an insurer authorized to do business in California, and an endorsement to each such policy of insurance evidencing that each carrier is required to give CITY at least 30 days prior written notice of the cancellation of any policy during the effective period of the AGREEMENT. All required insurance policies are subject to approval of the City Attorney. Failure on the part of CONSULTANT to procure or maintain said insurance in full force and effect shall constitute a material breach of this AGREEMENT or procure or renew such insurance, and pay any premiums therefore at CONSULTANT'S expense.

18. ENFORCEMENT OF AGREEMENT

In the event that legal action is commenced to enforce or declare the rights created under this AGREEMENT, the prevailing party shall be entitled to an award of costs and reasonable attorney's fees in the amount to be determined by the court.

19. CONFLICTS OF INTEREST

No member of the governing body of the CITY and no other officer, employee, or agent of the CITY who exercises any functions or responsibilities in connection with the planning and carrying out of the program, shall have any personal financial interest, direct or indirect, in this AGREEMENT; and the CONSULTANT further covenants that in the performance of this AGREEMENT, no person having any such interest shall be employed.

20. INDEPENDENT CONTRACTOR

The CONSULTANT is and shall at all times remain as to the CITY a wholly independent contractor. Neither the CITY nor any of its agents shall have control over the conduct of the CONSULTANT or any of the CONSULTANT's employees or subcontractors, except as herein set forth. The CONSULTANT shall not at any time or in

any manner represent that it or any of its agents or employees are in any manner agents or employees of the CITY.

21. ENTIRE AGREEMENT OF THE PARTIES

This AGREEMENT supersedes any and all other agreements, either oral or in writing, between the parties hereto with respect to the employment of CONSULTANT by CITY and contains all the covenants and agreements between the parties with respect such employment in any manner whatsoever. Each party to this AGREEMENT acknowledges that no representations, inducements, promises or agreements, orally or otherwise, have been made by any party, or anyone acting on behalf of any party, which are not embodied herein, and that no other agreement or amendment hereto shall be effective unless executed in writing and signed by both CITY and CONSULTANT.

22. NOTICES.

All written notices required by, or related to this AGREEMENT shall be sent by Certified Mail, Return Receipt Requested, postage prepaid and addressed as listed below. Neither party to this AGREEMENT shall refuse to accept such mail; the parties to this AGREEMENT shall promptly inform the other party of any change of address. All notices required by this AGREEMENT are effective on the day of receipt, unless otherwise indicated herein. The mailing address of each party to this AGREEMENT is as follows:

CITY: Elaine Jeng, PE, City Manager
City of Rolling Hills
No. 2 Portuguese Bend Road
Rolling Hills, CA 90274

CONSULTANT: HQE Systems, Inc.
Attn: Qais Alkurdi
27419 Via Industria
Temecula, CA 92590

23. GOVERNING LAW

This AGREEMENT shall be governed by and construed in accordance with the laws of the State of California, and all applicable federal statutes and regulations as amended.

IN WITNESS WHEREOF, the parties hereto have executed this AGREEMENT on the date and year first above written.

CITY OF ROLLING HILLS

CITY MANAGER

ELAINE JENG, PE

DATE: 07/07/2023

CONSULTANT

DATE: 07/06/2023

ATTEST:

CITY CLERK

APPROVED AS TO FORM:

PATRICK DONEGAN, CITY ATTORNEY

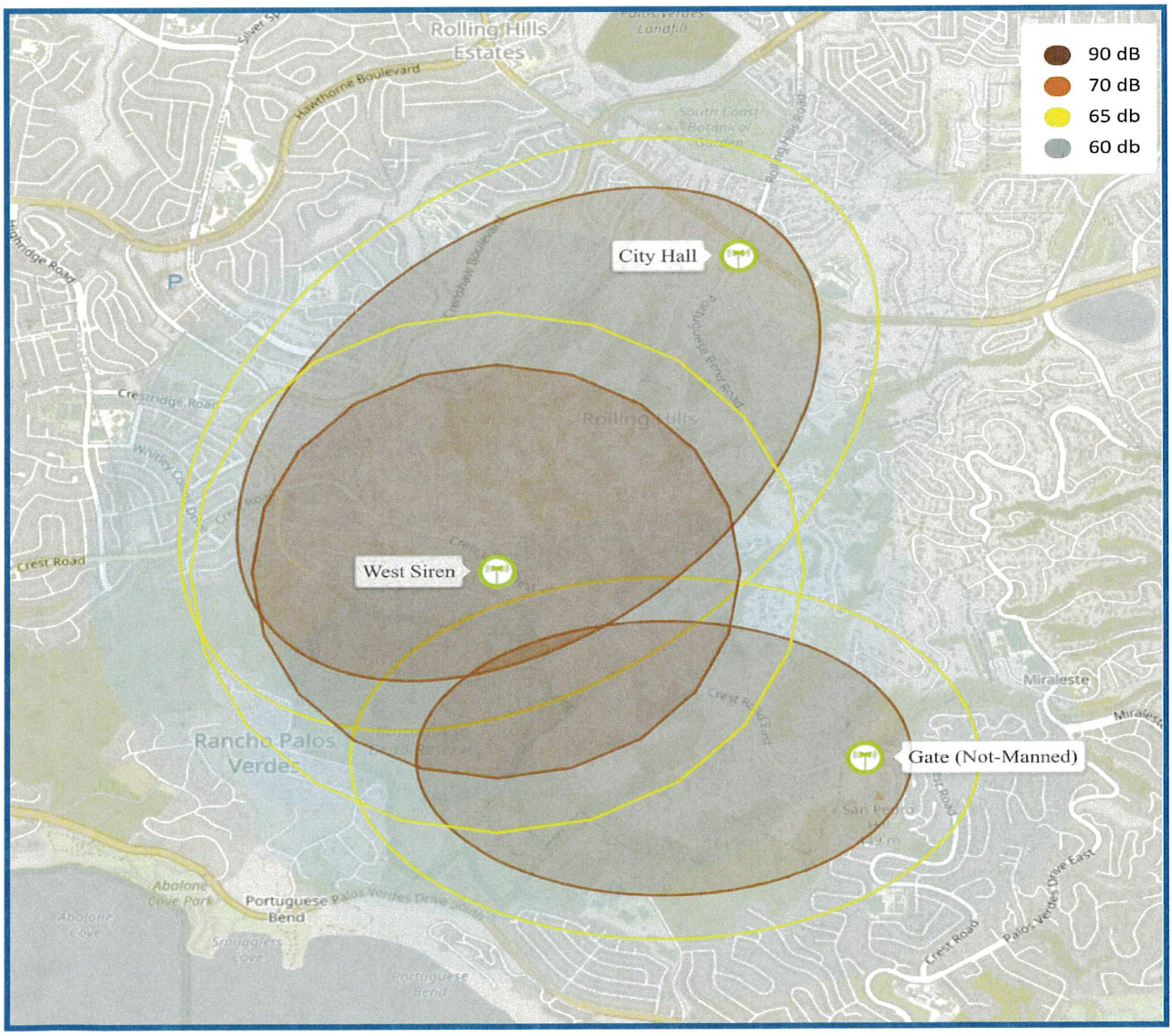
Exhibit A

Scope of Work and Cost

City of Rolling Hills, CA
June 21, 2023

New proposed installation locations

1. City Hall
2. Crest Rd. East
3. Crest Rd. West



Speaker Types: Intelligible Voice & Tone

- Intelligible Voice and Tone Sirens
    - Make/Model: SiRcom, Line Arrays

Power: Battery System

- No SCE electrical support requirements
- The system is engineered to provide the City with a full operational capability without any AC main power source for charging. All charging will be done through solar power.

Comms: Advanced Communications Module (ACM)

- The system will be managed and activated via the SiRcom Advanced Communications Module (ACM). The ACM is an advanced communications

Discounted Price: $261,000.00 (Full turnkey installation), includes the following:

- Equipment to be proposed
    - QTY 3, Intelligible Voice and Tone Siren Systems
        - Full battery operated with solar charging
        - Real-time systems health monitoring
        - Mounted on Class II wood poles
    - QTY 1, Central Control Station (CCS) - siren activation software
        - On-Premise solution
        - Includes: Cloud-based activation solution to allow for access to the system by authorized administrator
- Services to be proposed
    - Design support
    - Installations labor
    - Training for City administrators
    - Test and Turnover
    - Full community outreach package
        - Marketing assets (flyers, information brochures)
        - Social media post templates
        - Video templates
        - PR release templates
    - 1 Year Full Warranty

Options

Yearly Maintenance: $13,981.00 per year

- Hassle free maintenance service
    - Annual preventive maintenance visit
        - Manufacturer's standard testing
        - Cleaning of all of the parts (clean, grease, seal)
        - Replace degraded or damaged parts
    - As required corrective maintenance support (remote and onsite)

- No cost to replace any faulty parts (Act of God, Vandalism, Unauthorized Repairs/Access by the City or 3rd Party Vendor not covered), includes:
    - Siren parts
    - Solar charging parts
    - 12V batteries
    - Wires, cabling, and consumable parts

- Up to 5 hours of annual refresher training for the activation software

- Annual data usage for Satellite and Cellular Communications (estimated annual cost for QTY 3 sirens and QTY 1 central control station (activation software): ~$500/Year

Exhibit B

FEDERAL CONTRACT PROVISIONS

During the performance of this contract, Consultant shall comply with all applicable federal laws and regulations including but not limited to the federal contract provisions in this Exhibit.

1. **CONTRACTING WITH SMALL AND MINORITY FIRMS, WOMEN'S BUSINESS ENTERPRISE AND LABOR SURPLUS AREA FIRMS (2 C.F.R. § 200.321)**

   (A) Consultant shall be subject to 2 C.F.R. § 200.321 and will take affirmative steps to assure that minority firms, women's business enterprises, and labor surplus area firms are used when possible and will not be discriminated against on the grounds of race, color, religious creed, sex, or national origin in consideration for an award.

   (B) Affirmative steps shall include:

   (i) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;

   (ii) Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;

   (iii) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority business, and women's business enterprises;

   (iv) Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority business, and women's business enterprises; and

   (v) Using the services/assistance of the Small Business Administration (SBA), and the Minority Business Development Agency (MBDA) of the Department of Commerce.

Consultant shall submit evidence of compliance with the foregoing affirmative steps when requested by the City. Notwithstanding the foregoing, the affirmative steps requirements detailed above do not apply in the case of a noncompetitive procurement made under the emergency exception/exigency exception to competitive procurements.

2. **COST PRINCIPLES (2 C.F.R. PART 200, SUBPART E)**

(A) If any indirect costs will be charged to the City under this contract, such costs must conform to the cost principles set forth under the Uniform Rules at 2 C.F.R. Part 200, subpart E ("Cost Principles"). In general, costs must (i) be necessary and reasonable; (ii) allocable to the grant award; (iii) conform to any limitations or exclusions set forth in the Cost Principles; (iv) be adequately documented; and (v) be determined in accordance with generally accepted accounting principles ("GAAP"), except, for state and local governments and Indian tribes only, as otherwise provided for in 2 C.F.R. Part 200, subpart E. 2 C.F.R. § 200.403. Costs that are determined unallowable pursuant to a federal audit are subject to repayment by Consultant.

3. **ACCESS TO RECORDS & RECORD RETENTION (2 C.F.R. 200.336)**

(A) Consultant shall comply with 2 C.F.R. § 200.336 and provide the Federal Agency, Inspectors General, the Comptroller General of the United States, City, and the State of California or any of their authorized representatives access, during normal business hours, to documents, papers, books and records which are directly pertinent to this contract for the purposes of making and responding to audits, examinations, excerpts, and transcriptions. The right also includes timely and reasonable access to the Consultant's personnel for the purpose of interview and discussion related to the books and records.

(B) The Consultant agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.

(C) The Consultant agrees to provide the Federal Agency or its authorized representatives access to construction or other work sites pertaining to the work being completed under the contract.

(D) In compliance with the Disaster Recovery Act of 2018, the City and Consultant acknowledge and agree that no language in this contract is intended to prohibit audits or internal review by the FEMA Administrator or the Comptroller General of the United States.

4. **REQUIRED CONTRACT PROVISIONS IN ACCORDANCE WITH APPENDIX II TO PART 200 – CONTRACT PROVISIONS FOR NON-FEDERAL ENTITY CONTRACTS UNDER FEDERAL AWARDS (2 C.F.R. § 200.326)**

(A) Appendix II to Part 200 (A); Appendix II to Part 200 (B): Remedies for Breach; Termination for Cause/Convenience. If the contract is in excess of $10,000 and the contract does not include provisions for both termination for cause and termination for convenience by the City, including the manner by which it will be effected and the basis for settlement, then the following termination clauses shall apply. If the contract is for more than the simplified acquisition threshold (see 2 C.F.R. § 200.88) and does not provide for administrative, contractual, or legal remedies in instances where Contractor violates or breaches the terms of the contract, then the following termination clauses shall apply and have precedence over the contract. Otherwise, the following termination clauses shall not be applicable to the contract.

(i) Termination for Convenience. The City may, by written notice to Consultant, terminate this contract for convenience, in whole or in part, at any time by giving written notice to Consultant of such termination, and specifying the effective date thereof ("Notice of Termination for Convenience"). If the termination is for the convenience of the City, the City shall compensate Consultant for work or materials fully and adequately provided through the effective date of termination. No amount shall be paid for unperformed work or materials not provided, including anticipated profit. Consultant shall provide documentation deemed adequate by the City to show the work actually completed or materials provided by Consultant prior to the effective date of termination. This contract shall terminate on the effective date of the Notice of Termination.

(ii) Termination for Cause. If Consultant fails to perform pursuant to the terms of this contract, the City shall provide written notice to Consultant specifying the default ("Notice of Default"). If Consultant does not cure such default within ten (10) calendar days of receipt of Notice of Default, the City may terminate this contract for cause. If Consultant fails to cure a default as set forth above, the City may, by written notice to Consultant, terminate this contract for cause, in whole or in part, and specifying the effective date thereof ("Notice of Termination for Cause"). If the termination is for cause, Consultant shall be compensated for that portion of the work or materials provided which has been fully and adequately completed and accepted by the City as of the date the City provides the Notice of Termination. In such case, the City shall have the right to take whatever steps it deems necessary to complete the project and correct Consultant's deficiencies and charge the cost thereof to Consultant, who shall be liable for the full cost of the City's corrective action, including reasonable overhead, profit and attorneys' fees.

(iii) Reimbursement; Damages. The City shall be entitled to reimbursement for any compensation paid in excess of work rendered or materials provided and shall be entitled to withhold compensation for defective work or other damages caused by Consultant's performance of the work.

(iv) Additional Termination Provisions. Upon receipt of a Notice of Termination, either for cause or for convenience, Consultant shall promptly discontinue the work unless the Notice directs to the contrary. Consultant shall deliver to the City and transfer title (if necessary) to all provided materials and completed work, and work in progress including drafts, documents, plans, forms, maps, products, graphics, computer programs and reports. Consultant acknowledges the City's right to terminate this contract with or without cause as provided in this Section, and hereby waives any and all claims for damages that might arise from the City's termination of this contract. The City shall not be liable for any costs other than the charges or portions thereof which are specified herein. Consultant shall not be entitled to payment for unperformed work or materials not provided, and shall not be entitled to damages or compensation for termination of work or supply of materials. If City terminates this contract for cause, and it is later determined that the termination for cause was wrongful, the termination shall automatically be converted to and treated as a termination for convenience. In such event, Consultant shall be entitled to receive only the amounts payable under this Section, and Consultant specifically waives any claim for any other amounts or damages, including, but

not limited to, any claim for consequential damages or lost profits. The rights and remedies of the City provided in this Section shall not be exclusive and are in addition to any other rights and remedies provided by law, equity or under this contract including, but not limited to, the right to specific performance.

(B) Appendix II to Part 200 (C) – Equal Employment Opportunity: Except as otherwise provided under 41 C.F.R. Part 60, if this contract meets the definition of a "federally assisted construction contract" in 41 C.F.R. § 60-1.3, then Consultant shall comply with the following equal opportunity clause, in accordance with Executive Order 11246 of September 24, 1965 entitled "Equal Employment Opportunity," as amended by Executive Order 11375 of October 13, 1967 and implementation regulations at 41 C.F.R. Chapter 60:

(i) Consultant will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. Consultant will take affirmative action to insure that applicants are employed and that employees are treated equally during employment, without regard to race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: employment upgrading, demotion, transfer, recruitment, or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training including apprenticeship. Consultant agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the City setting forth the provisions of this nondiscrimination clause.

(ii) Consultant will, in all solicitations or advertisements for employees placed by or on behalf of Consultant, state that all qualified applicants will receive consideration for employment without regard to their race, color, religion, sex, or national origin.

(iii) Consultant will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with Consultant's legal duty to furnish information.

(iv) Consultant will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the contractor's commitments under Section 202 of Executive Order No. 11246 of

September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(v) Consultant will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(vi) Consultant will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(vii) In the event of Consultant's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be cancelled, terminated or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No.11246 of Sept. 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No.11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(viii) Consultant will include the provisions of paragraphs (i) through (viii) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24,1965, so that such provisions will *be* binding upon each subcontractor or vendor. Consultant will take such action with respect to any subcontract or purchase order as may be directed by the Secretary of Labor as a means of enforcing such provisions including sanctions for noncompliance: *Provided, however,* that in the event Consultant becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, Consultant may request the United States to enter into such litigation to protect the interests of the United States.

(C) Appendix II to Part 200 (D) – Davis-Bacon Act; Copeland Act: Not applicable to this contract.

(D) Appendix II to Part 200 (E) – Contract Work Hours and Safety Standards Act:

(i) If this contract is in excess of $100,000 and involves the employment of mechanics or laborers, Consultant shall comply with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 C.F.R. Part 5). Under 40 U.S.C. 3702, each contractor must be required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 are applicable to construction work and

provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

(ii) No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(iii) In the event of any violation of the clause set forth in paragraph (ii) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (ii) of this section, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (ii) of this section.

(iv) The City shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the Consultant or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (iii) of this section.

(v) The Consultant or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (ii) through (v) of this Section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The Contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (ii) through (v) of this Section.

(E) <u>Appendix II to Part 200 (F) – Rights to Inventions Made Under a Contract or Agreement:</u>

(i) If the Federal award meets the definition of "funding agreement" under 37 C.F.R. § 401.2(a) and the non-Federal entity wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution

of parties, assignment or performance of experimental, developmental, or research work under that "funding agreement," the non-Federal entity must comply with the requirements of 37 C.F.R. Part 401 (Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements), and any implementing regulations issued by the City.

(ii) The regulation at 37 C.F.R. § 401.2(a) currently defines "funding agreement" as any contract, grant, or cooperative agreement entered into between any Federal agency, other than the Tennessee Valley Authority, and any contractor for the performance of experimental, developmental, or research work funded in whole or in part by the Federal government. This term also includes any assignment, substitution of parties, or subcontract of any type entered into for the performance of experimental, developmental, or research work under a funding agreement as defined in the first sentence of this paragraph.

(iii) This requirement does not apply to the Public Assistance, Hazard Mitigation Grant Program, Fire Management Assistance Grant Program, Crisis Counseling Assistance and Training Grant Program, Disaster Case Management Grant Program, and Federal Assistance to Individuals and Households – Other Needs Assistance Grant Program, as FEMA awards under these programs do not meet the definition of "funding agreement."

(F) Appendix II to Part 200 (G) – Clean Air Act and Federal Water Pollution Control Act: If this contract is in excess of $150,000, Consultant shall comply with all applicable standards, orders, or requirements issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251-1387).

(i) Pursuant to the Clean Air Act, (1) Consultant agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. § 7401 et seq., (2) Consultant agrees to report each violation to the City and understands and agrees that the City will, in turn, report each violation as required to assure notification to the Federal awarding agency and the appropriate Environmental Protection City Regional Office, and (3) Consultant agrees to include these requirements in each subcontract exceeding $150,000.

(ii) Pursuant to the Federal Water Pollution Control Act, (1) Consultant agrees to comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq., (2) Consultant agrees to report each violation to the City and understands and agrees that the City will, in turn, report each violation as required to assure notification to the Federal awarding agency and the appropriate Environmental Protection Agency Regional Office, and (3) Consultant agrees to include these requirements in each subcontract exceeding $150,000.

(G) Appendix II to Part 200 (H) – Debarment and Suspension: A contract award (see 2 C.F.R. § 180.220) must not be made to parties listed on the government wide exclusions in the System for Award Management (SAM), in accordance with the

OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 C.F.R. part 1986 Comp., p. 189) and 12689 (3 C.F.R. part 1989 Comp., p. 235), "Debarment and Suspension." SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.

(i) This contract is a covered transaction for purposes of 2 C.F.R. pt. 180 and 2 C.F.R. pt. 3000. As such Consultant is required to verify that none of the Consultant, its principals (defined at 2 C.F.R. § 180.995), or its affiliates (defined at 2 C.F.R. § 180.905) are excluded (defined at 2 C.F.R. § 180.940) or disqualified (defined at 2 C.F.R. § 180.935).

(ii) Consultant must comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into.

(iii) This certification is a material representation of fact relied upon by City. If it is later determined that Consultant did not comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, in addition to remedies available to the City, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.

(iv) Consultant warrants that it is not debarred, suspended, or otherwise excluded from or ineligible for participation in any federal programs. Consultant also agrees to verify that all subcontractors performing work under this contract are not debarred, disqualified, or otherwise prohibited from participation in accordance with the requirements above. Consultant further agrees to notify the City in writing immediately if Consultant or its subcontractors are not in compliance during the term of this contract.

(H) Appendix II to Part 200 (I) – Byrd Anti-Lobbying Act: If this contract is in excess of $100,000, Consultant shall have submitted and filed the required certification pursuant to the Byrd Anti-Lobbying Amendment (31 U.S.C. § 1353). If at any time during the contract term funding exceeds $100,000.00, Consultant shall file with the City the Federal Standard Form LLL titled "Disclosure Form to Report Lobbying." Consultants that apply or bid for an award exceeding $100,000 must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the recipient who in turn will forward the certification(s) to the awarding agency.

(I) Appendix II to Part 200 (J) – Procurement of Recovered Materials:

(i) Consultant shall comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements

of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 C.F.R. part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds $10,000 or the value of the quantity acquired during the preceding fiscal year exceeded $10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement.

(ii) Such disclosures are forwarded from tier to tier up to the recipient who in turn will forward the certification(s) to the awarding agency.

(iii) Information about this requirement, along with the list of EPA-designate items, is available at EPA's Comprehensive Procurement Guidelines web site, https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program.

5. **MISCELLANEOUS PROVISIONS**

(A) The Consultant shall not use the DHS seal(s), logos, crests, or reproductions of flags or likenesses of DHS agency officials without specific FEMA preapproval.

(B) This is an acknowledgement that FEMA financial assistance will be used to fund all or a portion of this contract. The Consultant will comply with all applicable federal law, regulations, executive orders, FEMA policies, procedures, and directives.

(C) Consultant acknowledges that 31 U.S.C. Chapter 38 (Administrative Remedies for False Claims and Statements) applies to the Consultant's actions pertaining to this contract.

(D) The Federal Government is not a party to this contract and is not subject to any obligations or liabilities to the City, Consultant, any subcontractors or any other party pertaining to any matter resulting from the contract.

(E) <u>General and Administrative Expenses And Profit For Time And Materials Contracts/Amendments</u>.

(i) General and administrative expenses shall be negotiated and must conform to the Cost Principles.

(ii) Profit shall be negotiated as a separate element of the cost. To establish a fair and reasonable profit, consideration must be given to the complexity of the work to be performed, the risk borne by the Consultant, the Consultant's investment, the amount of subcontracting, the quality of its record of past performance, and industry profit rates in the surrounding geographical area for similar work.

(iii) Any agreement, amendment or change order for work performed on a time and materials basis shall include a ceiling price that Consultant exceeds at its own risk.

City of Rolling Hills INCORPORATED JANUARY 24, 1957

2 PORTUGUESE BEND ROAD, ROLLING HILLS, CA 90274 | (310) 377-1521

Item: 8.G.
Meeting Date: 3/9/2026

To: City Council

From: Samantha Crew, Management Analyst

Thru: Karina Bañales, City Manager

Subject: Consider and approve the Planned Expenditures for Fiscal Year 2026-2027 Safe, Clean Water (Measure W) Municipal Program Funds for submission to Los Angeles County Flood Control District

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Background:
In 2018, Los Angeles County voters approved Measure W, a tax measure that helps improve water quality and build up the county's water self-sufficiency. Funding is provided through a parcel tax of 2.5 cents per square foot of impermeable land area (building, concrete, etc.) in the district. The measure provides cities, watershed areas, and Los Angeles County with the funds to capture, treat, and recycle storm water through the Safe, Clean Water Regional and Municipal Programs.

The LA County Flood Control District administers the program, distributes funds, provides staff support, and oversees capacity-building programs. Cities receive funding through the Municipal Program proportional to the revenues generated within their boundaries. The funds provide local agencies with the opportunity to identify programs that will best address stormwater and urban runoff within their jurisdictions.

Measure W funding can be used for eligible activities such as project development, design, construction, effectiveness monitoring, operations, maintenance, and other programs and studies related to protecting and improving water quality in lakes, rivers, and the ocean. To receive funds, cities must submit an expenditure plan to the Los Angeles County Flood Control District annually detailing the planned use of Safe Clean Water Municipal Program funds.

Discussion:
It is projected that the City will receive approximately $105,000 in Municipal Safe Clean Water Program Funds (Measure W) in December 2026 for Fiscal Year 2026/2027. The Safe Clean Water Municipal Program planned expenditures spreadsheet (Attachment A) shows the estimated carryover amount from prior years available to spend in the amount of $60,200, this figure is tentative since expenditures for Fiscal Year 2025/2026 are not yet final until June 30 or later. Thus, it is estimated that in total the City will have approximately $148,700 in Municipal Safe Clean Water funds available to spend in Fiscal Year 2026/2027. The City must spend at least 70% of its Municipal Program Funds on eligible expenses related to "new" projects or programs initiated after November 2018. Up to 30%

of a City’s Municipal Program Funds may be used to pay for eligible costs and expenses related to the continuation of programs initiated prior to November 2018. Program funds are allocated as described in the attached expenditure budget spreadsheet.The FY2026-2027 Safe Clean Water Municipal Program planned expenditures spreadsheet shows the proposed budget for the expenditure of its available Measure W funds. The budget includes a 10% safety factor. The assumptions made in these budget estimates are explained in the “Source” and “Explanation” columns for each item.

The City's share of Peninsula Coordinated Integrated Monitoring Program (CIMP) implementation is the largest expenditure in the plan with an estimated total cost of $66,200. This cost has historically been split between the Safe, Clean Water fund and the General fund to ensure adherence to the rule that no more than 30% of Safe, Clean Water expenditures can be used for "ongoing" activities initiated prior to November 2018 vs “new” effort initiated since November 2018. Recently, the City received a policy decision from LA County staff that municipalities can recover CIMP costs as "new" effort under the Safe, Clean Water (Measure W) Program once these monitoring programs have been updated and approved to meet the 2021 stormwater permit requirements. This decision means that the City’s full share of CIMP costs in FY2026/2027 along with the City’s share of the Harbor Toxics TMDL monitoring costs, which are an element of the CIMP, are eligible to be charged to Measure W to the extent funds are available in the City’s Measure W account.

Fiscal Impact:
The City will receive approximately $105,000 in Municipal Program Funds for Fiscal Year 2026-2027 and an estimated $60,200 in carryover from prior fiscal years. Planned expenditures for Fiscal Year 2026-2027, as outlined in Attachment A, are $145,700.

Recommendation:
Approve as presented.

Attachments:
1. Attachment A - PW_STW_SCW_260309_2026-27_SCW_Budget

PLANNED EXPENDITURES FOR FY2026-2027 SAFE CLEAN WATER MUNICIPAL PROGRAM (Measure W)				
Item	**Description**	**Estimated Cost to be Recovered by Safe, Clean Water**	**Source**	**Explanation**
1	City Share of Peninsula Coordinated Integrated Monitoring Program (CIMP)	$ 66,200	City's maximum cost under CIMP MOU Amendment 2 ($66,146), rounded up to nearest $100.	Per email from LA County, updated CIMP monitoring efforts implemented under the 2021 Stormwater Permit are eligible in the 70% new effort column.
2	City Share of Harbor Toxics TMDL monitoring	$ 18,000	City's maximum share of cost for Harbor Toxics TMDL monitoring effort from the revised Harbor Toxics TMDL. Assume 58% of costs are "ongoing" in 30% category and 42% costs in "new" 70% category.	New monitoring requirements stemming from the revised Harbor Toxics TMDL can be considered "new" effort in the 70% category since they were not required prior to November 2018. Implementation of ongoing monitoring tasks still needs to be tracked as an "ongoing" cost in the 30% category.
3	Sepulveda Canyon Flow Monitoring	$ 19,300	Cost based on NV5 FY2026-27 through 2027-28 Professional Services Agreement - Authorized amount per contract for FY26-27 was 17,406.90 for flow monitoring plus 1/2 of total project management and coordination cost of $3810.	Sepulveda Canyon monitoring is newly required by LA Water Board as a condition of City joining the Peninsula WMP via 85%, 24-hr runoff retention deemed compliance. Since this is a new effort not required prior to November 2018, it is in the 70% new effort category.
4	Enhanced Sediment Source Control & Brush Clearance Enforcement	$ 17,100	20% of newly hired Code Compliance Officer/Planning Technician salary for additional oversight of construction sites and brush clearance ordinance. Salary assuned to be $85,582 based on 5/12/25 Council Staff Report on Proposed Employeee Salary Schedule and Job Classification Modifications.	New effort implemented after November 2018 to address storm-borne sediment TMDL pollutants associated with insufficiently controlled construction sites and brush clearance to prevent wildfires and associated TMDL toxic pollutants.
5	SCW Municipal Program Planning and Reporting	$ 11,400	McGowan Task 2.2 - Consultant assistance with SCW planning and reporting	Eligible in the 70% category as a new effort since it is required by the SCW program.
6	Watershed Management Program Adaptive Management & Progress Reporting	$ 6,200	McGowan budget for Tasks 8.1. & 8.3 per FY2026-27 MS4 Consulting Scope of Work	City's participation in watershed progress reporting and watershed management program as a result of joining the Peninsula EWMP is a new effort since November 2018 implemented to comply with the 2021 Stormwater Permit and joining the WMP.
7	Development & Implementation of Community Outreach/Engagement	$ 7,500	McGowan budget for Tasks 8.2 and 2.1 plus Other Direct Costs invoiced by McGowan for website hosting by SBCCOG and graphic design services per FY2026-27 MS4 Consulting Scope of Work.	Effort to develop new outreach materials and methods and tracking of metrics on outreach and engagement as required by 2021 Stormwater Permit.
Expenditures			**$ 145,700**	*Check: total planned expenditures are less than the estimated total SCW Municipal funds aailable to spend in FY2026-27 as show below.*

Estimated carryover of unspent funds from previous years	*$*	*60,200*	*Uncertain depending on how final FY2025-26 expenditures come in*
Estimated Measure W disbursement to be received in December 2026 from LACF(	*$*	*105,000*	Note that SCW website references prior fiscal year because it is the year they collect the taxes even though not disbursed to City until midway through the following year.
Total SCW Municipal Funds Available to Spend less 10% for safety factor	***$***	***148,700***	

City of Rolling Hills INCORPORATED JANUARY 24, 1957

2 PORTUGUESE BEND ROAD, ROLLING HILLS, CA 90274 | (310) 377-1521

Item: 8.H.
Meeting Date: 3/9/2026

To: City Council

From: Emma Montes, Assistant Planner

Thru: Karina Bañales, City Manager

Subject: Receive and file the Annual Progress Reports for the General Plan and Housing Element

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Background:
The annual progress reports (APRs) for the General Plan and Housing Element are due on April 1, 2026. Government Code Section 65400 and 65700 mandates that all cities and counties submit an annual report on the status of the General Plan and progress in its implementation to their legislative bodies, the Governor's Office of Land Use and Climate Innovation (LCI), and the Housing and Community Development (HCD). Government Code section 65400 also requires that each city, county, or city and county, including charter cities, prepare an APR on the status of the housing element of its general plan and progress in its implementation, using forms and definitions adopted by the California Department of Housing and Community Development (HCD).

The APRs provide local legislative bodies and the public with information regarding the implementation of the General Plan for their city or county. APRs also inform the public of the progress in meeting the community's goals. APRs must be presented to the local legislative body for its review and acceptance, usually as a consent or discussion item on a regular meeting agenda.

Discussion:
The General Plan APR provides an overview of recent updates to elements and how the City complies with LCI's guidelines. It summarizes the actions related to the General Plan over the past year, including adopted ordinances and resolutions. It also summarizes the City's efforts in updating the Housing Element and Safety Element. The Housing Element APR is provided on a spreadsheet prepared by HCD. Activity in the City over the past year includes the submittal of two accessory dwelling unit (ADU) applications and the issuance of one building permit for a new single-family residence and ADU at 35 Chuckwagon Road and an ADU at 9 Portuguese Bend Road. The new residence is reported as an above moderate-income unit, while the ADU is reported as being a deed-restricted moderate-income unit.

Fiscal Impact:
None.

Recommendation:
Receive and file.

Attachments:
1. PL_GPN_260303_APR_2025_RollingHillsGeneralPlan_APRLetter_D
2. PL_GPN_260309_APR_2025_HousingElement_Report_Spreadsheets

City of Rolling Hills

INCORPORATED JANUARY 24, 1957

NO. 2 PORTUGUESE BEND ROAD
ROLLING HILLS, CA 90274
(310) 377-1521
FAX (310) 377-7288

March 9, 2026

Office of Land Use and Climate Innovation
P.O. Box 3044
Sacramento, CA 95812-3044

SUBJECT: ROLLING HILLS' 2025 GENERAL PLAN ANNUAL PROGRESS REPORT

Dear Sir or Madam:

This serves as the City of Rolling Hills' 2025 General Plan Annual Progress Report (GP APR) to the Governor's Office of Land Use and Climate Innovation (LCI).

The Rolling Hills General Plan was last updated in its entirety on June 25, 1990. Its purpose is to comply with State law in guiding the physical development of the City; provide a long-range plan for future development in the City, which is sensitive to existing development patterns; and represents the desires of the community through an extensive public outreach process. The Rolling Hills General Plan includes the following elements:

- Land Use Element (Amended February 8, 2021)
- Housing Element (6th Cycle adopted September 26, 2022; certified by the California Department of Housing and Community Development (HCD) on November, 23, 2022)
- Circulation Element
- Open Space/Conservation Element
- Safety Element (Revised update adopted October 24, 2022)
- Noise Element

Compliance

The Rolling Hills General Plan complies with LCI's General Plan Guidelines. The following is a summary of actions related to the General Plan and updated Municipal Code sections over the past year:

- *Moratoriums*: The City currently has no moratoriums related to the General Plan.
- *Accessory Dwelling Units*: On December 9, 2025, Ordinance No. 388 was adopted to amend Chapter 17.28 of the Rolling Hills Municipal Code (RHMC) to comply with recent changes to state law that impose new limits on local authority to regulate Accessory

Dwelling Units ("ADUs") and Junior Accessory Dwelling Units ("JADUs"), among other things, AB 462 (Coastal Development Permits; Disaster-Affected Areas), AB 1154 (JADU Owner-Occupancy; Short-Term Rental), SB 9; SB 543 (ADU Ordinance Submittal to HCD; Approval), SB 543 (ADU Size; Number of ADUs; Impact Fees; Application Timeline):

AB 462 – Coastal Development Permits; Disaster-Affected Areas
AB 462 modifies several permitting requirements associated with processing Coastal Development Permits for ADUs located in the Coastal Zone. Beyond changes to CDP processing, AB 462 modifies the rules governing the issuance of a certificate of occupancy (CofO) for an ADU. Historically, state law has prohibited a local agency from issuing a CofO for an ADU before one is issued for the primary dwelling (i.e., the primary dwelling must have a CofO before the ADU can receive one).

AB 462 creates a narrow exception to this prohibition for detached ADUs when all of the following conditions are satisfied: (1) the Governor has declared a state of emergency for the county on or after February 1, 2025; (2) the primary dwelling was substantially damaged or destroyed by an event referenced in the state of emergency proclamation; and (3) the ADU has been issued construction permits and passed all required inspections. (Gov. Code, § 66328(b).) If these conditions are satisfied, the detached ADU can receive a CofO before the primary dwelling. In all other scenarios, the primary dwelling still needs a CofO before one can be issued for an ADU.

AB 462 was enacted as an urgency measure that took effect immediately when signed by the Governor (on October 10, 2025).

The following three bills were enacted as non-urgency measures and take effect on January 1, 2026.

AB 1154 – JADU Owner-Occupancy; Short-Term Rental
When a JADU is developed, existing state law requires a property owner to reside in the JADU or remaining portion of the single-family dwelling. AB 1154 narrows this requirement to now only apply when a JADU shares sanitation facilities (bathroom) with the single-family dwelling. If the JADU has its own bathroom, then the property owner does not have to reside on the property at all. (See amended Gov. Code, § 66333(b).)

AB 1154 also expressly prohibits JADUs from being used as short-term rentals (i.e., rented for a term shorter than 30 days). (See amended Gov. Code, § 66333(g).) The City's ADU ordinance already included this prohibition (as well as prohibiting ADUs from being used as short-term rentals). But now it's required by state law.

SB 9; SB 543 – ADU Ordinance Submittal to HCD; Approval
Under existing law, local agencies are required to submit a copy of their ADU ordinance to the California Department of Housing and Community Development (HCD) within 60 days of adoption. This year's SB 9[1] and SB 543 create a penalty for failing to do so by rendering null and void any local ordinance that is not submitted to HCD within 60 days of adoption. (See amended Gov. Code, § 66326(d); new Gov. Code, § 66333.5(d).) The bills further specify that a local ADU ordinance is null and void if HCD issues findings that the ordinance does not comply with state law and the local agency fails to respond to HCD within 30 days.

(Id.)

SB 543 – ADU Size; Number of ADUs; Impact Fees; Application Timeline
SB 543 makes numerous changes and clarifications to state ADU law, the most notable of which are summarized below.

ADU & JADU Size
Existing law limits the maximum size of a JADU to 500 square feet and prohibits local ADU ordinances from imposing certain development standards that would prevent an ADU created under Government Code section 66314 through 66322 from being at least 800 square feet.

SB 543 amends state ADU law to specify that allowable square footage of an ADU or JADU refers to square footage of "interior livable space." (See amended Gov. Code, § 66313(d), 66321(b)(2).)

Impact Fees
Existing law exempts ADUS that are 750 square feet or smaller from development impacts fees (DIFs).
SB 543 clarifies that DIFs may not be imposed on an ADU that has 750 or fewer square feet of interior livable space or on a JADU with 500 or fewer square feet of interior livable space.

The bill also exempts an ADU or JADU with fewer than 500 square feet of interior livable space from school impact fees. (See amended Gov. Code, § 66311.5.)

Quantity of ADUs Created Under Government Code Section 66323
Existing state law creates four categories of ADUs that must be approved if they comply with the limited standards provided in Government Code section 66323(a)(1)–(4). These are:

1. A converted ADU and JADU created on a lot with a proposed or existing single-family dwelling (Gov. Code, § 66323(a)(1));
2. A detached ADU created on a lot with a proposed or existing single-family dwelling (Gov. Code, § 66323(a)(2));
3. Converted ADUs created in an existing multifamily dwelling (Gov. Code, § 66323(a)(3)); and
4. Detached ADUs created on a lot with a proposed or existing multifamily dwelling.

For some time, there has been uncertainty as to whether ADUs created under Government Code section 66323 could be combined. Some practitioners interpreted the statute to not require local agencies to allow combinations. Initially, HCD took the same position, in its 2020 ADU Handbook. But for the last few years, HCD has taken the opposite position: that yes, combinations are permitted. (See HCD January 2025 ADU Handbook, at p. 19 ["[P]ursuant to Government Code section 66323, subdivision (a), local governments must allow units created pursuant to subparagraphs (1) and (2) together or (3) and (4) together"].)

SB 543 codifies HCD's most recent interpretation by amending Government Code section 66323 to specifically allow combinations. Thus, a lot with a multifamily dwelling can now have a converted ADU or ADUs created under section 66323(a)(3) and detached ADUs created under section 66323(a)(4). And a lot with a single family dwelling can now have a converted ADU and a JADU created under section 66323(a)(1) and a detached ADU created under section 66323(a)(2).

ADU Permitting Process
Existing law has long required local agencies to approve or deny an ADU application within 60 days of receiving a complete application. However, state law was silent with respect to incompleteness determinations, subsequent resubmittals, and appealing local decisions on ADU applications.

SB 543 requires local agencies to now:
1. Determine whether an ADU application is complete within 15 business days of submittal;
2. If the application is incomplete, within the same 15 days provide the applicant with a list of incomplete items and how to address them;
3. Review a resubmitted application for completeness within 15 business days;
4. Provide the applicant with a written appeal process for any incompleteness determination or denial (to the Planning Commission or City Council, or both); and
5. Provide a final written determination on the appeal within 60 business days of receiving the appeal). (See amended Gov. Code, §§ 66317 [ADUs], 66335 [JADUs].)

Housing Element

As mentioned earlier, the City adopted its 6th Cycle Housing Element on September 26, 2022. The Housing Element was found to be in full compliance with State law by the California Department of Housing and Community Development (HCD) on November, 23, 2022. A separate annual progress report is prepared for the City's Housing Element.

The housing allocation for Rolling Hills for the Sixth Cycle 2021-2029 period is 45 units, including:

- 20 very low-income units
- 9 low-income units
- 11 moderate-income units
- 5 above moderate-income units

Each City must plan for the type of housing it has been assigned. In the case of very low- and low-income units, this typically requires sites that are zoned for multi-family housing. Accessory dwelling units (ADUs) may be counted as low- and moderate-income units if the City has sufficient data on rents and construction trends to support its conclusions.

The Housing Element provides data supporting the finding that at least 13 of the future ADUs will be affordable to lower income households based on data from the Southern California Association of Governments (SCAG), the City's 2020 ADU resident survey, and local real estate ads. The forecast of five ADUs per year is based on the City's track record of approving nine ADUs in 2021 alone.

Conclusion

This GP APR was presented to the City Council at its regularly scheduled meeting on March 9, 2026. The General Plan, ordinances, and other documents described in this letter are available on the City's website or at City Hall.

Thank you for your consideration to this matter. The City is eager to remain in compliance with regulatory orders and in good standing with State agencies. If you have any questions regarding the contents of this letter, please feel free to contact me at 310-377-1521 or email emontes@cityofrh.net.

Sincerely,



Emma Montes
Assistant Planner

Data is auto-populated based on data entered in Tables A, A2, C, and D

Jurisdiction	Rolling Hills	
Reporting Year	2025	(Jan. 1 - Dec. 31)
Housing Element Planning Period	6th Cycle	10/15/2021 - 10/15/2029

Building Permits Issued by Affordability Summary		
Income Level		**Current Year**
Acutely Low	Deed Restricted	0
	Non-Deed Restricted	0
Extremely Low	Deed Restricted	0
	Non-Deed Restricted	0
Very Low	Deed Restricted	0
	Non-Deed Restricted	0
Low	Deed Restricted	0
	Non-Deed Restricted	0
Moderate	Deed Restricted	1
	Non-Deed Restricted	0
Above Moderate		0
Total Units		**1**

Units by Structure Type	Entitled	Permitted	Completed
Single-family Attached	0	0	0
Single-family Detached	3	0	0
2 to 4 units per structure	0	0	0
5+ units per structure	0	0	0
Accessory Dwelling Unit	0	1	0
Mobile/Manufactured Home	0	0	0
Total	**3**	**1**	**0**

Infill Housing Developments and Infill Units Permitted	# of Projects	Units
Indicated as Infill	0	0
Not Indicated as Infill	1	1

Housing Applications Summary	
Total Housing Applications Submitted:	6
Number of Proposed Units in All Applications Received:	6
Total Housing Units Approved:	3
Total Housing Units Disapproved:	0

Use of SB 423 Streamlining Provisions - Applications	
Number of SB 423 Streamlining Applications	0
Number of SB 423 Streamlining Applications Approved	0

Units Constructed - SB 423 Streamlining Permits			
Income	Rental	Ownership	Total
Acutely Low	0	0	0
Extremely Low	0	0	0
Very Low	0	0	0
Low	0	0	0
Moderate	0	0	0
Above Moderate	0	0	0
Total	**0**	**0**	**0**

Streamlining Provisions Used - Permitted Units	# of Projects	Units
SB 9 (2021) - Duplex in SF Zone	0	0
SB 9 (2021) - Residential Lot Split	0	0
AB 2011 (2022)	0	0
SB 6 (2022)	0	0
SB 423 (2023)	0	0

Ministerial and Discretionary Applications	# of	Units
Ministerial	4	4
Discretionary	2	2

Density Bonus Applications and Units Permitted	
Number of Applications Submitted Requesting a Density Bonus	0
Number of Units in Applications Submitted Requesting a Density Bonus	0
Number of Projects Permitted with a Density Bonus	0
Number of Units in Projects Permitted with a Density Bonus	0

Housing Element Programs Implemented and Sites Rezoned	Count
Programs Implemented	0
Sites Rezoned to Accommodate the RHNA	0

Cells in grey contain auto-calculation formulas

Jurisdiction	Rolling Hills	
Reporting Year	2025	(Jan. 1 - Dec. 31)
Planning Period	6th Cycle	10/15/2021 - 10/15/2029

ANNUAL ELEMENT PROGRESS REPORT

Housing Element Implementation

Note: "+" indicates an optional field

Cells in grey contain auto-calculation formulas

Table A
Housing Development Applications Submitted

Project Identifier					Unit Types		Date Application Submitted	Proposed Units - Affordability by Household Incomes											Total Approved Units by Project	Total Disapproved Units by Project	Streamlining	Historic Sites	Density Bonus Law Applications		Application Status	Project Type	Notes
1					2	3	4					5						6	7	8	9	10	11		12	13	14
Prior APN+	Current APN	Street Address	Project Name+	Local Jurisdiction Tracking ID	Unit Category (SFA,SFD,2 to 4,5+,ADU,MH)	Tenure R=Renter O=Owner	Date Application Submitted (see instructions)	Acutely Low-Income Deed Restricted	Acutely Low-Income Non Deed Restricted	Extremely Low-Income Deed Restricted	Extremely Low-Income Non Deed Restricted	Very Low-Income Deed Restricted	Very Low-Income Non Deed Restricted	Low-Income Deed Restricted	Low-Income Non Deed Restricted	Moderate-Income Deed Restricted	Moderate-Income Non Deed Restricted	Above Moderate-Income	Total PROPOSED Units by Project	Total APPROVED Units by project	Total DISAPPROVED Units by Project	Please select state streamlining provision/s the application was submitted pursuant to.	Is this project located on a site with an associated historical designation as outlined in Government Code Section 65400(a)(2)(N) and reported on Table L?	Did the housing development application seek incentives or concessions pursuant to Government Code section 65915?	Were incentives or concessions requested pursuant to Government Code section 65915 approved?	Please indicate the status of the application.	Is the project considered a ministerial project or discretionary project?	Notes+
Summary Row: Start Data Entry Below								0	0	0	0	0	0	0	0	4	0	2	6	3	0							
	7567006036	23 Chuckwagon Road		21-01	ADU	R	6/2/2022									1			1	1	0	NONE	No	No	No	Approved	Ministerial	
	7569004002	35 Saddleback Road		25-007	ADU	R	1/13/2025									1			1	1	0	NONE	No	No	No	Approved	Ministerial	
	7567017019	2 Quail Ridge Road South		25-052	ADU	R	4/22/2025									1			1	1	0	NONE	No	No	No	Approved	Ministerial	
	7567015037	1 Georgeff Road		25-029	ADU	R	12/18/2025									1			1	1	0	NONE	No	No	No	Approved	Ministerial	
	7569-013-022	12 Pine Tree Lane		25-063	SFD	O	6/2/2025											1	1	0	0	NONE	No	No	No	Pending	Discretionary	
	7569-004-012	2 Hillside Lane		25-006	ADU	R	1/10/2025									1			1	0	0	NONE	No	No	No	Pending	Ministerial	
	7569-002-017	10 Saddleback Road		25-101	SFD	O	9/3/2025											1	1	0	0	NONE	No	No	No	Approved	Discretionary	

Jurisdiction	Rolling Hills	
Reporting Year	2025	(Jan. 1 - Dec. 31)
Planning Period	6th Cycle	10/15/2021 - 10/15/2029

ANNUAL ELEMENT PROGRESS REPORT

Housing Element Implementation

Table A2

Annual Building Activity Report Summary - New Construction, Entitled, Permits and Completed Units

Project Identifier					Unit Types		Affordability by Household Incomes - Completed Entitlement											
1					2	3	4										5	6
Prior APN+	Current APN	Street Address	Project Name+	Local Jurisdiction Tracking ID	Unit Category (SFA,SFD,2 to 4,5+,ADU,MH)	Tenure R=Renter O=Owner	Acutely Low-Income Deed Restricted	Acutely Low-Income Non Deed Restricted	Extremely Low-Income Deed Restricted	Extremely Low-Income Non Deed Restricted	Very Low-Income Deed Restricted	Very Low-Income Non Deed Restricted	Low-Income Deed Restricted	Low-Income Non Deed Restricted	Moderate-Income Deed Restricted	Moderate-Income Non Deed Restricted	Above Moderate-Income	Entitlement Date Approved	# of Units issued Entitlements
Summary Row: Start Data Entry Below																1	3		3
	7567015037	1 Georgeff Road		25-029	SFD	O											1	7/24/2025	1
	7569-005-008	80 Saddleback Road		24-162	SFD	O											1	10/28/2025	1
	7569-002-017	10 Saddleback Road		25-101	SFD	O											1	2/12/2025	1
	7567001004	23 Chuckwagon Road		21-01	ADU	R										1			1

Affordability by Household Incomes - Building Permits												
7											8	9
Acutely Low-Income Deed Restricted	Acutely Low-Income Non Deed Restricted	Extremely Low-Income Deed Restricted	Extremely Low-Income Non Deed Restricted	Very Low-Income Deed Restricted	Very Low-Income Non Deed Restricted	Low-Income Deed Restricted	Low-Income Non Deed Restricted	Moderate-Income Deed Restricted	Moderate-Income Non Deed Restricted	Above Moderate-Income	Building Permits Date Issued	# of Units Issued Building Permits
								1				1
												0
												0
												0
								1			1/16/2025	1

Affordability by Household Incomes - Certificates of Occupancy												
10											11	12
Acutely Low-Income Deed Restricted	Acutely Low-Income Non Deed Restricted	Extremely Low-Income Deed Restricted	Extremely Low-Income Non Deed Restricted	Very Low-Income Deed Restricted	Very Low-Income Non Deed Restricted	Low-Income Deed Restricted	Low-Income Non Deed Restricted	Moderate-Income Deed Restricted	Moderate-Income Non Deed Restricted	Above Moderate-Income	Certificates of Occupancy or other forms of readiness (see instructions) Date Issued	# of Units issued Certificates of Occupancy or other forms of readiness
0	0	0	0	0	0	0	0	0	0	0		0
												0
												0
												0

Table A2

Annual Building Activity Report Summary - New Construction, Entitled, Permits and Completed Units

Streamlining	Historic Sites	Infill	Housing with Financial Assistance and/or Deed Restrictions		Housing without Financial Assistance or Deed Restrictions	Term of Affordability or Deed Restriction	Demolished/Destroyed Units			Density Bonus				Notes
13	14	15	16	17	18	19	20			21	22	23	24	25
Please select the state streamlining provision the project was APPROVED pursuant to. (may select multiple)	Is this project located on a site with an associated historical designation as outlined in Government Code Section 65400(a)(2)(N) and reported on Table L?	Infill Units? Y/N[+]	Assistance Programs for Each Development (may select multiple - see instructions)	Deed Restriction Type (may select multiple - see instructions)	For units affordable without financial assistance or deed restrictions, explain how the locality determined the units were affordable (see instructions)	Term of Affordability or Deed Restriction (years) (if affordable in perpetuity enter 1000)[+]	Number of Demolished/Destroyed Units	Demolished or Destroyed Units	Demolished/Destroyed Units Owner or Renter	Total Density Bonus Applied to the Project (Percentage Increase in Total Allowable Units or Total Maximum Allowable Residential Gross Floor Area)	Number of Other Incentives, Concessions, Waivers, or Other Modifications Given to the Project (Excluding Parking Waivers or Parking Reductions)	List the incentives, concessions, waivers, and modifications (Excluding Parking Waivers or Parking Modifications)	Did the project receive a reduction or waiver of parking standards? (Y/N)	Notes[+]
							2							
NONE	No	N					1	Demolished	O					
NONE	No	N												
NONE	No	N					1	Demolished	O					
NONE	No	N												

Jurisdiction	Rolling Hills	
Reporting Year	2025	(Jan. 1 - Dec. 31)
Planning Period	6th Cycle	10/15/2021 - 10/15/2029

ANNUAL ELEMENT PROGRESS REPORT
Housing Element Implementation

Please contact HCD if your data is different than the material supplied here

Table B
Regional Housing Needs Allocation Progress
Permitted Units Issued by Affordability

Income Level		1	Projection Period	2									3	4
		RHNA Allocation by Income Level	Projection Period - 06/30/2021-10/14/2021	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total Units to Date (all years)	Total Remaining RHNA by Income Level
Acutely Low	Deed Restricted	-	-	-	-	-	-	-	-	-	-	-	-	-
	Non-Deed Restricted		-	-	-	-	-	-	-	-	-	-		
Extremely Low	Deed Restricted	-	-	-	-	-	-	-	-	-	-	-	-	-
	Non-Deed Restricted		-	-	-	-	-	-	-	-	-	-		
Very Low	Deed Restricted	20	-	-	-	-	-	-	-	-	-	-	-	20
	Non-Deed Restricted		-	-	-	-	-	-	-	-	-	-		
Low	Deed Restricted	9	-	-	-	-	-	-	-	-	-	-	-	9
	Non-Deed Restricted		-	-	-	-	-	-	-	-	-	-		
Moderate	Deed Restricted	11	-	-	-	-	-	1	-	-	-	-	3	8
	Non-Deed Restricted		-	1	-	1	-	-	-	-	-	-		
Above Moderate		5	-	-	-	3	3	-	-	-	-	-	6	-
Total RHNA		**45**												
Total Units			**-**	**1**	**-**	**4**	**3**	**1**	**-**	**-**	**-**	**-**	**9**	**37**

*For years prior to 2025, Acutely Low-Income units are reported within the Extremely Low-Income category

*For jurisdictions that received RHNA determinations for the current cycle prior to the passage of AB 3093 (September 19, 2024):
- You were not allocated Acutely Low-Income and Extremely Low-Income RHNA targets, therefore the allocations in Field 1 are listed as "0"
  - If you wish to set your own targets in these income categories for informational purposes, contact HCD staff at apr@hcd.ca.gov.
- All Acutely Low-Income and Extremely Low-Income units reported during the cycle are counted towards Very-Low Income RHNA progress

*For years prior to 2025, data on deed-restricted vs. non-deed restricted Extremely Low-Income units is approximated from whether the projects reported any deed-restricted Very Low-Income Units. If you wish to edit this historical data for accuracy or have any questions about the data, you may login to HCD's online APR system, or contact HCD staff at apr@hcd.ca.gov.

Please Note: Table B does not currently contain data from Table F or Table F2 for prior years. You may login to the APR system to see Table B that contains this data.

Please note: The APR form can only display data for one planning period. To view progress for a different planning period, you may login to HCD's online APR system, or contact HCD staff at apr@hcd.ca.gov.

ANNUAL ELEMENT PROGRESS REPORT
Housing Element Implementation

Jurisdiction	Rolling Hills	
Reporting Year	2025	(Jan. 1 - Dec. 31)

Table D

Program Implementation Status pursuant to GC Section 65583

Housing Programs Progress Report

Describe progress of all programs including local efforts to remove governmental constraints to the maintenance, improvement, and development of housing as identified in the housing element.

1	2	3	4	5	6	7	8	9
Name of Program	Objective	Projected Completion Date in Housing Element	Applicable Cycle	Status of Program Implementation	Program Implementation Details	Quantified Outcomes: Category	Quantified Outcomes: Count	Supporting Documents
Program 1: Annual Progress Report	City will prepare and file an annual report on the progress made toward implementing its Housing Element using forms and definitions adopted by the California Department of Housing and Community Development (HCD).		6th Cycle	Continuous	City has filed 2025 APR and is preparing 2026 APR. City will continue to file APR by April 1 of each year.			
Program 2: Rancho Del Mar (RDM) Opportunity Site Monitoring	(1) 16 units of affordable housing on the RDM site (excludes density bonus, addressed in Program 3) (2) Annual meeting between the City Manager and School Superintendent		6th Cycle	In Progress	(1) Meeting with School Superintendent by end of 2022 and once annually thereafter - continous (2) Preparation of site "fact sheet" for review by School District and School Board by June 2023 - in progress (3) Subdivision creating "western" parcel by end next housing cycle and in consultation with School Superintendent and Board approval	Meetings	5	
Program 3: No Net Loss Monitoring and Other Multi-Family Housing Opportunities	(1) No net loss of housing capacity to meet RHNA at all times (2) Provide an 80% density bonus on the Rancho Del Mar site, enabling 29 units of new affordable housing instead of the 16 allowed by the base zoning.	Continuous through 2029	6th Cycle	Continuous				
Program 4: Add Definitions of Transitional and Supportive Housing, Residential Care Facilities, and Employee Housing to Municipal Code	Create local housing opportunities for at least six households employed in Rolling Hills (and currently living outside the city) during the planning period.		6th Cycle	Continuous	(1) Ordinance revisions completed in August 2022 (2) Opportunities for at least six individuals working in Rolling Hills and living elsewhere to reside in the community (in ADUs, guest houses, affordable units on the Rancho Del Mar site, etc.) by 2029	Households	2	
Program 5: Density Bonus Ordinance	Application of density bonus to future affordable rental housing on RDM site (up to 13 additional units, assuming 100% affordable project on the site)	Ordinance adopted in 2022	6th Cycle	Completed	Ordinance revisions completed in 2022; metric objectives contiuous through 2029			
Program 6: Accessory Dwelling Unit (ADU) Producction, Monitoring, and Incentives	Develop citywide ADU registry; annual ADU survey and monitoring; develop inventory of potential ADUs; incentives for ADU construction; pre-approved ADU plans; coordination with Community Association (RHCA), septic tank replacement grants or financial assistance; non-profit construction of ADUs; monitor best practices in ADUs; update Municipal Code provisions for ADUs; outreach to ADU permit recipients (1) Citywide ADU registry of 40 ADUs by 2029, including at least 18 ADUs rented at levels meeting affordability criteria for lower income households (2) ADU Survey, administered once a year (3) Inventory of potential ADUs (4) ADU Incentives (5) Two to four pre-approved ADU architectural plans (6) Municipal Code Revisions (see 6.10 above) -- Completed (7) 100% completion of ADUs receiving permits (8) Seven ADUs/guest houses constructed by non-profits by 2029 (see 6.8 above and Program 9 below)		6th Cycle	Continuous	(1) Rosters and Surveys prepared by 2022 and updated annually (2) ADU incentives by 2023 (3) Approved architectural plans by 2024, or as funding allows (4) Amend Municipal Code Chapter 17.28 (Accessory Dwelling Units) for consistency with State law by August 2022 (this action has been completed) (5) Establish protocol for 6-month check-ins with ADU permit recipients by January 1, 2023 (6) Annual monitoring report on ADU production			
Program 7: ADU Outreach, Education, Information	(1) Outreach mailer to 639 households (at least once every 2 years) (2) Creation of 40 new ADUs by 2029 (5 per year)	(1) First mailing by March 2023 (2) Website update by June 2023 (3) Update of design guidelines by 2024	6th Cycle	Continuous	All residents were notified of ADU survey in September 2022 and ADU Ordinance Amendment in December 2022 via City newsletter. Website continuously updated. Design guidelines handled by Rolling Hills Community Association (RHCA); City's Ordinance adheres to State requirements and is compatible with RHCA.			
Program 8: Assist Senior and Disabled Households	Website landing page with senior housing resources; Facilitate age-in-place retrofits for 10 senior households; City Council study session on needs of seniors and potential actions to assist Rolling Hills seniors	June 2023 (for website); Council Study Session before 12/23	6th Cycle	Continuous	City uses newsletter and local organizations to disseminate information. Council and staff inform seniors individually and at meetings on assistance opportunities.			
Program 9: Assist Extremely Low-Income Households	Provide seven housing units affordable to Extremely Low Income	Prepare inventory of Extremely Low Income (ELI) units by 2024, update annually; Facilitate housing assistance to at least 7 ELI homeowners by 2029	6th Cycle	Continuous	No ELI units received in 2023			
Program 10: Support Regional Efforts to End Homelessness	Participation in point in time surveys; participation in at least one regional meeting annually on strategies to end homelessness	Ongoing, 2021-2029	6th Cycle	Continuous	Continuous through 2029			
Program 11: Permit Streamlining	Compliance with all provisions of the Permit Streamlining Act	Ongoing, 2021-2029	6th Cycle	Continuous	Continuous through 2029			

Housing Programs Progress Report

Describe progress of all programs including local efforts to remove governmental constraints to the maintenance, improvement, and development of housing as identified in the housing element.

1	2	3	4	5	6	7	8	9
Name of Program	Objective	Projected Completion Date in Housing Element	Applicable Cycle	Status of Program Implementation	Program Implementation Details	Quantified Outcomes:	Quantified Outcomes:	Supporting Documents
Program 12: Facilitate Communication with Affordable Housing Service Providers, Developers, and Advocates	Hold at least one meeting a year with one or more non-profit housing sponsors to discuss housing opportunities and needs in Rolling Hills; See also Programs 8, 13, and 15	Convene one meeting before December 2022. Convene additional meetings at least once a year from 2023 to 2029	6th Cycle	Continuous	Continuous through 2029			
Program 13: Home Sharing	Continue to provide informational brochures advertising shared housing programs at City Hall and on the City's website; at least eight non-resident households participating in a non-profit managed home sharing program enabling them to reside in Rolling Hills by 2029		6th Cycle	Continuous	Ongoing			
Program 14: Sewer Feasibility Studies and Phase One Construction	(1) Complete 1,585-foot sanitary sewer extension to City Hall/ Tennis Courts (Phase I); (2) Complete feasibility / cost study of sanitary sewer extension; (3) Obtain grants for Phase I project construction; (4) Updated "Will Serve" letter from the Los Angeles County Sanitation District, indicating ability to accept effluent from 235 existing homes upon completion of future phase sewer system		6th Cycle	Continuous	City Council has had numerous meetings on improvements to the City Hall campus and sewer feasibility. In January 2023, Council directed staff to phase the sewer main project to include a new 8" sewer line in Phase I and for staff to seek grant funding opportunities for construction. Projects to upgrade the tennis courts, City Hall, and parking lot area are proceeding. The City updates residents in its newsletter and at public meetings. The City received a $1,000,000 Community Funding grant via Congressman Ted Lieu and is currently working with USDA regarding said grant. Phase 1 construction and costs are yet to be determined.			
Program 15 Pursue Grants for Minor Home Repair Program	Minor home repair/ age-in-place/ septic tank replacement assistance to at least ten lower-income or senior Rolling Hills households	By 2023, and every two years thereafter	6th Cycle	Continuous	Ongoing			
Program 16: Code Enforcement	Respond to 100 percent of resident Code Enforcement inquiries	Ongoing, 2021-2029	6th Cycle	Continuous	The City has a contract for code enforcement services and follows up on code enforcement inquiries and reports from residents.			
Program 17: Reduce Home Energy Costs	(1) Provide links on City website related to energy conservation, weatherization, and financial assistance (2) Adopt updated Building Code standards for energy efficiency		6th Cycle	Continuous	Website updates continuous; Building Code and Fire Code updates completed in 2023			
Program 18: Facilitate New Construction and Home Improvements	5 new single family homes (above moderate income)	Objective covers the period from 2021 through 2029	6th Cycle	Continuous	Ongoing			
Program 19: Remediate Geologic Hazards	Geologic studies for new development and major grading permits	On-going, 2021 to 2029	6th Cycle	Continuous	Ongoing			
Program 20: Fair Housing Services Program Administration	At least five households assisted		6th Cycle	Continuous	Ongoing			
Program 21: Fair Housing Outreach and Affirmative Marketing	(1) At least 50% of future occupants of affordable housing created on the RDMO site are from outside Rolling Hills. (2) At least 50% of future ADU occupants are from outside Rolling Hills (to be measured through the ADU survey described in Program 6.2)	Ongoing, 2021-2029. Website update by December 2022	6th Cycle	Continuous	Ongoing			
Program 22: Fair Housing Training for Staff	(1) At least one Rolling Hills staff member participates in on-line Fair Housing training each year through 2029 (2) At least one presentation on fair housing is delivered to the City Council in a noticed public hearing, attended by at least 10 residents		6th Cycle	Continuous	Ongoing			
Program 23: Written Procedures for SB 35 Projects	Posted information on SB 35, including application form	Complete by December 31, 2022	6th Cycle	Completed	Information provided on City's website linking to SCAG's resources.			
Program 24: Updating of Linked Files on Planning and Community Services Department Landing Page	Reorganized and updated Planning and Community Services Department website		6th Cycle	Continuous	Ongoing			

City of Rolling Hills INCORPORATED JANUARY 24, 1957

2 PORTUGUESE BEND ROAD, ROLLING HILLS, CA 90274 | (310) 377-1521

Item: 10.A.
Meeting Date: 3/9/2026

To: City Council

From: Emma Montes, Assistant Planner

Thru: Karina Bañales, City Manager

Subject: Receive and file Zoning Case No. 25-091: Site plan review for new construction, non-exempt grading and related improvements; variances for an attached garage within the side yard areas, and finding the project exempt from the California Environmental Quality Act for location at 3 Maverick Lane (Karatsu) (Lot 30-SK)

Background:

Applicant Request

On August 8, 2025, an application was duly filed by Louie Tomaro, agent for Michael and Jane Karatsu, requesting approval of the following proposed improvements (collectively referred to as the "Project"):

- 2,510 square-foot, one-story, single-family residence;
- 502 square-foot, two-car, attached garage;

In addition to the above structures, the Project also includes a path for future stable access, hardscape, landscaping, and other related site work improvements. Additional features, such as a service yard and other hardscape elements, are proposed but are not subject to discretionary review.

Zoning, Location, and Lot Description

The property is a rectangular-shaped parcel zoned RAS-2, located just east of Caballeros Road with frontage on Maverick Lane. The rear of the property also abuts the Upper Willow Spring trail. The lot size is 91,708 square feet net (2.11 acres) and includes a 20-foot-wide roadway easement along Maverick Lane.

There is one building pad measuring 4,510 square feet which contains the existing house (2,950 sq.ft.), garage (480 sq.ft.), and pool/spa (130 sq.ft.). The parcel width is 150 feet across, as per RAS-2 zoning code minimum. The topography of the land is such that the building pad is set on the western front 10% of the parcel area due to a steep slope behind the existing residence, making much of the rear of the property unusable for development. These topographical characteristics are consistent with other parcels in the area, which follow similar patterns of lot development as the existing and proposed residence.

Previous Projects
None.

Planning Commission Approval January 27, 2026
On January 27, 2026, the Planning Commission held a morning field trip at the subject property, with four commissioners present, as well as Kathryn Bishop from the Rolling Hills Community Association and resident Leah Mirsch (4 Cinchring Road). The applicant's team was in attendance to view the plans. No major concerns were reported and the field trip proceeded to the public hearing meeting later that evening at City Hall. All Commissioners were present. During the evening public hearing, staff presented the project. The applicants' architect and engineer attended the evening meeting, and no members of the public were present. After review and discussion, the Commission voted unanimously (5-0) to approve the project and adopted Resolution number 2026-01 (Attachment D).

Discussion:

Site Plan Review
Site Plan Review is required for construction of any new building or structure pursuant to Rolling Hills Municipal Code ("RHMC") Section 17.46.020. The applicant is proposing a new residence and garage, resulting in approximately 3,012 square feet of total floor area. The Project also includes the proposed stable and corral set aside areas of 1,000 square feet total, alongside an access path set aside area located on the north side of the property leading to the proposed set aside area. The applicant has proposed three retaining walls along the west and south sides of the residence, with a maximum height of 4 feet tall from the finished grade. The proposed grading for the residence is 98 cubic yards of excavation and 98 cubic yards of fill, with a total of 196 cubic yards to be balanced on site. The plans for this project can be found in Attachment E.

Variances
The Applicant is requesting to construct the attached garage 25 feet within the side yard setback line. RHMC Section 17.16.110 requires at least a 50-foot front yard setback, and RHMC Section 17.16.120(B) requires a 35' side yard setback from the property line for any structures in RAS-2. Given the limited buildable area and limited width of the parcel, a Variance is warranted.

MUNICIPAL CODE COMPLIANCE

Lot Coverage and Building Pad Coverage
The Project complies with the remainder of the Development Standards in the RHMC. The existing structural lot coverage is 4,095 square feet (4.5%), and the project proposes a net addition of 344 square feet (0.4%) for a total of 4,439 square feet (4.9%) structural lot coverage. This is well below the maximum allowed 20% structural coverage. The existing flatwork coverage is 4,155 square feet (4.5%). The flatwork onsite will be reduced by 1,413 square feet (-1.5%) upon approval of the structure and the new reduced flatwork area will be 2,742 square feet (3.0%). The maximum allowable is 15% flatwork coverage. See the "Development Table" attachment for further details. Finally, the total overall structural and flatwork coverage will result in 7,184 square feet or 7.9%, which is within the 35% structural and flatwork coverage guideline. The existing building pad coverage is 4,095 square feet (46.1%), and the project proposes a net reduction of 1,048 square feet (-11.8%) for a total of 3,047 square feet (34.3%) building pad coverage. This is above the guideline maximum allowed 30% building pad coverage. The development table can be found in Attachment C.

Staff has included a radius map (Attachment A) and a vicinity map (Attachment B).

Public Comments

There have been no responses to the public hearing notices mailed to residents within a 1,000 ft radius from the development on January 16, 2026.

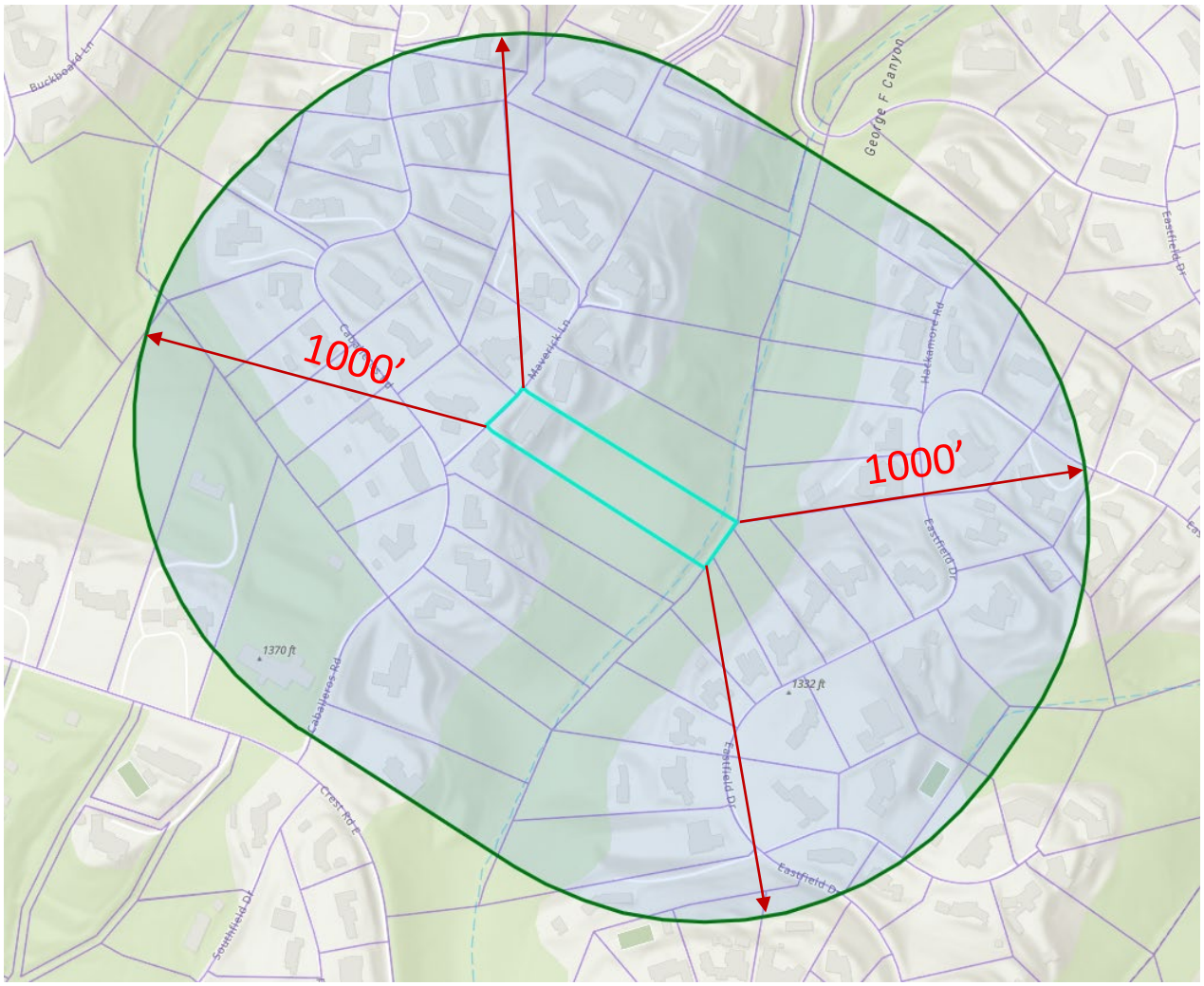
Review by RHCA
The Rolling Hills Community Association reviewed and conceptually approved the attached garage and residence plans in November 2025, subject to City approval.

Environmental Review
The Project has been determined to be exempt from the California Environmental Quality Act (CEQA) Guidelines pursuant to Section 15303, Class 3 (New Construction or Conversion of Small Structures), which exempts the construction and location of a limited number of new, small facilities or structures, including single family residence and accessory structures, including but not limited to garages, carports, patios, swimming pools and fences.

Fiscal Impact:
None.

Recommendation:
Receive and file.

Attachments:
1. Attachment A - PL_ADR_3MaverickLn_ZC25-091_CC_Radius Map_260309
2. Attachment B - PL_ADR_3MaverickLn_ZC25-091_CC_Vicinity Map_260309
3. Attachment C - PL_ADR_260116_3MaverickLn_ZC25-091_DevelopmentTable_F
4. Attachment D - 2026-01_PC_Resolution_3MaverickLn_ZC25-091_F_E
5. Attachment E - PL_ADR_251215_3MaverickLn_ZC25-091_Plans_Revised

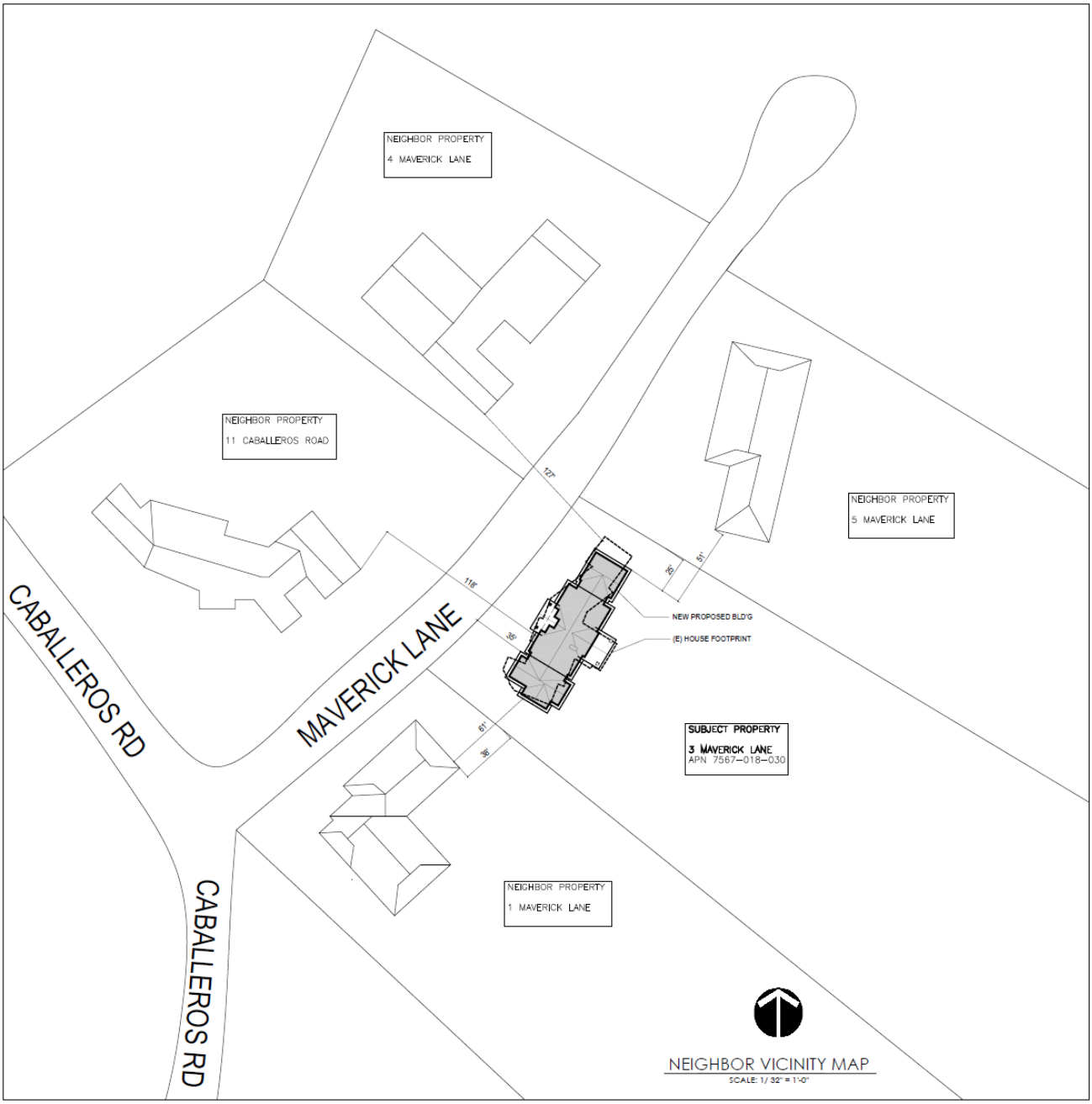


City of Rolling Hills **ROLLING HILLS, CA 90274**

TITLE RADIUS MAP **CASE NO.** Zoning Case No. 25-091
Site Plan Review, Variance

OWNER Karatsu

ADDRESS 3 Maverick Lane, Rolling Hills 90274 **SITE**



City of Rolling Hills **ROLLING HILLS, CA 90274**

TITLE VICINITY MAP **CASE NO.** Zoning Case No. 25-091
Site Plan Review, Variance

OWNER Karatsu

ADDRESS 3 Maverick Lane, Rolling Hills 90274

Development Table Zoning Case No. 25-112 3 MAVERICK LANE			
	EXISTING	**PROPOSED**	**TOTAL**
RA-S- 2 Zone	SINGLE FAMILY RESIDENCE, POOL	SINGLE FAMILY RESIDENCE	
Net Lot Area	91,708 SF	0 SF	91,708 SF
Residence	2,950 SF	-440 SF	2,510 SF
Garage	480 SF	22 SF	502 SF
Swimming Pools/Spa	130 SF	-130 SF	0 SF
Stable setaside (Min. 450 SF)	0 SF	450 SF	450 SF
Corral setaside (Min. 550 SF)	0 SF	550 SF	550 SF
Attached Covered Porches	0 SF	331 SF	331 SF
Attached Trellises	500 SF	-500 SF	0 SF
Service Yard (Min. 96 SF)	35 SF	61 SF	96 SF
Primary Driveway	610 SF	370 SF	980 SF
Paved walkways/Patio Areas/Courtyards	252 SF	1,045 SF	1,297 SF
Pool Decking	1,796 SF	-1,796 SF	0 SF
Other Paved Driveways, Road Easements, Parking Pads	1,497 SF	-1,032 SF	465 SF
Grading (must be balanced onsite)	0 CY	98 CY CUT 98 CY FILL	196 CY TOTAL
Structural Lot Coverage 20% Max	4,095 SF (4.5%)	344 SF (0.4%)	4,439 SF **(4.9%)**
Flatwork Lot Coverage 15% Max	4,155 SF (4.5%)	-1,413 SF (-1.5%)	2,742 SF **(3.0%)**
Total Lot Coverage 35% Max (Structures + Flatwork)	8,250 SF (9.0%)	-1,069 SF (-1.2%)	7,181 SF **(7.8%)**
Building Pad 1 Coverage Existing Pad Area: 8,876 SF	4,095 SF (46.1%)	- 1,048 SF (-11.8%)	3,047 SF **(34.3%)**
Total Disturbed Area (40% maximum)	13,551 SF (14.8%)	-1,048 SF (-1.1%)	12,503 SF **(13.6%)**
Building Heights Maximum (21 FT Maximum)	14 FT, 2 IN	2 FT, 1 IN	16 FT, 3 IN

RESOLUTION NO. 2026-01

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF ROLLING HILLS GRANTING APPROVAL OF SITE PLAN REVIEW FOR NEW CONSTRUCTION, NON-EXEMPT GRADING AND RELATED IMPROVEMENTS; VARIANCE FOR AN ATTACHED GARAGE WITHIN THE SIDE YARD AREAS, AND FINDING THE PROJECT EXEMPT FROM THE CALIFORNIA ENVIRONMENTAL QUALITY ACT FOR LOCATION AT 3 MAVERICK LANE (KARATSU) (LOT 30-SK)

THE PLANNING COMMISSION OF THE CITY OF ROLLING HILLS DOES HEREBY FIND, RESOLVE, AND ORDER AS FOLLOWS:

Section 1. On August 8, 2025, an application was duly filed by Louie Tomaro, agent with respect to real property located at 3 Maverick Lane, Rolling Hills (Lot 30-SK) requesting a Site Plan Review for new construction including a new attached garage and non-exempt grading and related improvements; and Variances for construction of the attached garage within the front and side yard areas.

Section 2. The property is zoned RAS-2 and is 2.11 acres net and 91,708 square feet net, as calculated for development purposes. The property is located east of Caballeros Road on Maverick Lane. There is one street frontage for the property along Maverick Lane. The property is regularly shaped and the topography is above grade off Maverick Lane and becomes sloped within the interior of the lot towards the Upper Willow Spring trail. There is a 40-foot-wide roadway easement along Maverick Lane and 20-foot-wide trail easement along the rear property line.

Section 3. The Planning Commission conducted duly noticed public hearings to consider the application at its field trip meeting and regular meeting on January 27, 2026. Neighbors within a 1,000-foot radius were notified of the public hearings and a notice was published in three public places on January 16, 2026. The applicants and their agent were notified of the public hearings in writing by first class mail and the agent was in attendance at the hearings. Evidence was heard and presented from all persons interested in affecting said proposal.

Section 4. The Planning Commission finds that the project qualifies as a Class 3 (New Construction or Conversion of Small Structures), which exempts the construction and location of a limited number of new, small facilities or structures, including accessory structures, including but not limited to garages, carports, patios, swimming pools and fences. Here, the proposed Project is the construction of an attached garage and single-family residence, and is therefore categorically exempt from environmental review under the California Environmental Quality Act.

Section 5. Site Plan Review Findings. Site Plan Review is required for construction of any new structure pursuant to RHMC Section 17.46.020. With respect to the Site Plan Review for the proposed development, the Planning Commission hereby makes the following findings:

A. The project complies with and is consistent with the goals and policies of the General Plan and all requirements of the zoning ordinance.

The proposed development is compatible with the General Plan, the Zoning Ordinance and surrounding uses because the proposed structures comply with the General Plan requirement of low profile, low-density residential development with sufficient open space between surrounding structures. The project conforms to Zoning Code setback requirements with the Variance approved by this Resolution. The lot is 2.11 acres net and 91,708 square feet net, as calculated for development purposes. The size of the existing and proposed structures will be 4,439 square feet, which constitutes 4.84% of the net lot area, and the flatwork and driveways will be 2,742 square feet which equals 3.0% of the net lot, and the total structural and flatwork is 7,181 square feet or 7.8% which is within the 35% maximum overall lot coverage permitted.

B. The project substantially preserves the natural and undeveloped state of the lot by minimizing building coverage. Lot coverage requirements are regarded as maximums, and the actual amount of lot coverage permitted depends upon the existing buildable area of the lot.

The project substantially preserves the natural and undeveloped state of the lot by minimizing building coverage. The topography and the configuration of the lot, has been considered, and it was determined that the proposed development will not adversely affect or be materially detrimental to adjacent uses, buildings, or structures because the proposed construction will be constructed on an existing building pad, will be the least intrusive to surrounding properties, will be screened and landscaped with mature trees and shrubs, is of sufficient distance from nearby residences so that it will not impact the view or privacy of surrounding neighbors, and will permit the owners to enjoy their property without deleterious infringement on the rights of surrounding property owners.

C. The project is harmonious in scale and mass with the site, the natural terrain and surrounding residences.

The proposed development, as conditioned, is harmonious in scale and mass with the site, and is consistent with the scale of the neighborhood when compared to properties in the vicinity. The proposed garage will be consistent with the pattern and style of the proposed residence.

D. The project preserves and integrates into the site design, to the greatest extent possible, existing topographic features of the site, including surrounding native vegetation, mature trees, drainage courses and land forms (such as hillsides and knolls).

The development plan incorporates existing trees and native vegetation to the maximum extent feasible. Specifically, the development plan will supplement the existing vegetation with landscaping that is compatible with and enhances the rural character of the community.

E. Grading has been designed to follow natural contours of the site and to minimize the amount of grading required to create the building area.

The development plan substantially preserves the natural and undeveloped state of the lot by reducing building coverage due to the decreased proposed footprint.

F. Grading will not modify existing drainage channels nor redirect drainage flow, unless such flow is redirected into an existing drainage course.

The property will still maintain the existing terrain and existing drainage will remain as there will be minimal and balanced proposed grading. Drainage will continue to flow in the existing drainage course.

G. The project preserves surrounding native vegetation and mature trees and supplements these elements with drought-tolerant landscaping which is compatible with and enhances the rural character of the community, and landscaping provides a buffer or transition area between private and public areas.

Landscaping will meet the requirements of the water efficient landscape ordinance and incorporate low impact development practices. Surrounding native vegetation and mature trees will not be affected and new landscaping will be considerate of the environment and will enhance the rural character of the community.

H. The project is sensitive and not detrimental to the convenience and safety of circulation for pedestrians and vehicles.

The proposed development is sensitive and not detrimental to the convenience and safety of circulation for pedestrians and vehicles because the proposed project will alter the existing circulation pattern to remove the existing driveway from the side yard easement and will re-establish the 10-foot easement minimum.

I. The project conforms to the requirements of the California Environmental Quality Act (CEQA).

The project is exempt from the requirements of the California Environmental Quality Act.

Section 6. Variance Findings. Every lot or parcel in the RA-S-2 zone shall have at least a 50-foot front yard setback (RHMC Section 17.16.110) and at least a 50-foot rear yard setback (RHMC Section 17.16.130) for all structures including accessory structures. RHMC Section 17.16(B) also requires a 35-foot side yard setback for all structures, including accessory structures, from the easement line. The applicant is requesting to construct the residence and attached garage approximately 25 feet within the northern side yard setback line and 32 feet within the southern side yard setback.

With respect to the request for the Variances mentioned above, the Planning Commission finds as follows:

A. That there are exceptional or extraordinary circumstances or conditions applicable to the property that do not apply generally to other properties in the same vicinity and zone.

There are exceptional and extraordinary circumstances and conditions applicable to the property that do not apply generally to the other property or class of use in the same zone. The property is zoned RAS-2. The subject property is located just east of Caballeros Road with frontage on Maverick Lane. The rear of the property also abuts the Upper Willow Springs trail. It is a regular shaped lot. The lot size is 2.11 acres net and 91,708 square feet net, as calculated for development purposes. The site includes a 40-foot-wide roadway easement along Maverick Lane.

There is one building pad measuring 8,876 square feet which contains the existing house (2,950 sq.ft.), garage (480 sq.ft.), and pool/spa (130 sq.ft.). The parcel width is 150 feet across, as per RAS-2 zoning code minimum. The topography of the land is such that the building pad is set on the western front 10% of the parcel area due to a steep slope behind the existing residence, making much of the rear of the property unusable for development. These topographical characteristics are consistent with other parcels in the area, which follow similar patterns of lot development as the existing and proposed residence.

B. That such variance is necessary for the preservation and enjoyment of substantial property rights possessed by other properties in the same vicinity and zone but which is denied the property in question.

The Variance is necessary for the preservation and enjoyment of a substantial property right possessed by other property in the same vicinity and zone, but which is denied to the property in question. The Variance is necessary because the existing terrain on the lot creates a difficulty in placing the proposed residence with the attached garage elsewhere on the property. Ultimately, given the topography of the rear yard and the narrow shape of the property, a Variance is warranted for the proposed Project.

C. That the granting of such variance will not be materially detrimental to the public welfare or injurious to properties or improvements in the vicinity.

The granting of the Variance would not be materially detrimental to the public welfare or injurious to the property or improvements in such vicinity and zone in which the property is located. The proposed residence will be constructed on existing building pads, will be the least intrusive to surrounding properties, are of sufficient distance from nearby residences so that they will not impact the view or privacy of surrounding neighbors, and will permit the owners to enjoy their property without deleterious infringement on the rights of surrounding property owners.

D. That in granting the variance, the spirit and intent of this title will be observed.

The granting of the variances will allow for development that is harmonious in scale and mass with the site, the natural terrain, and surrounding residences and will not give the property an over-built look. The proposed design will improve the appearance of the property by straightening the shape of the residence and restoring the privacy of the neighboring residence by removing the driveway from the easement.

E. That the variance does not grant special privilege to the applicant.

The variance does not grant special privileges for the Applicant, as the proposed residence design will provide a reasonably sized residence, and will result in a common amenity enjoyed by many other properties throughout the City. Strict application of the Zoning Code would deny the Applicant the same rights as other nearby homes as the Applicant would have less space to build than the neighboring properties. The project, together with the variance, will be compatible with the objectives, policies, general land uses, and programs specified in the General Plan.

F. That the variance is consistent with the portions of the County of Los Angeles Hazardous Waste Management Plan relating to siting and siting criteria for hazardous waste facilities.

Granting variances for the project will be consistent with the applicable portions of the Los Angeles County Hazardous Waste Management Plan related to siting criteria for hazardous waste facilities. The project site is not listed on the current State of California Hazardous Waste and Substances Sites List.

G. That the variance request is consistent with the General Plan of the City of Rolling Hills.

The proposed development is compatible with the General Plan, the Zoning Ordinance and surrounding uses because the proposed structures comply with the General Plan requirement of low profile, low-density residential development with sufficient open space between surrounding structures.

Section 8. Based upon the foregoing findings, and the evidence in the record, the Planning Commission hereby approves Zoning Case No. 25-091 subject to the following conditions:

A. The Site Plan and Variance approvals shall expire within two years from the effective date of approval as defined in RHMC Sections 17.46.080 and 17.38.070 of the Zoning Ordinance unless otherwise extended pursuant to the requirements of these sections.

B. If any condition of this resolution is violated, the entitlement granted by this resolution shall be suspended and the privileges granted hereunder shall lapse and upon receipt of written notice from the City, all construction work being performed on the subject property shall immediately cease, other than work determined by the City Manager or his/her designee required to cure the violation. The suspension and stop work order will be lifted once the Applicant cures the violation to the satisfaction of the City Manager or his/her designee. In the event that the Applicant disputes the City Manager or his/her designee's determination that a violation exists or disputes how the violation must be cured, the Applicant may request a hearing before the City Council. The hearing shall be scheduled at the next regular meeting of the City Council for which the agenda has not yet been posted; the Applicant shall be provided written notice of the hearing. The stop work order shall remain in effect during the pendency of the hearing. The City Council shall make a determination as to whether a violation of this Resolution has occurred. If the Council determines that a violation has not occurred or has been cured by the time of the hearing, the Council will lift the suspension and the stop work order. If the Council

determines that a violation has occurred and has not yet been cured, the Council shall provide the Applicant with a deadline to cure the violation; no construction work shall be performed on the property until and unless the violation is cured by the deadline, other than work designated by the Council to accomplish the cure. If the violation is not cured by the deadline, the Council may either extend the deadline at the Applicant's request or schedule a hearing for the revocation of the entitlements granted by this Resolution pursuant to Chapter 17.58 of the Rolling Hills Municipal Code (RHMC).

C. All requirements of the Building and Construction Ordinance, the Zoning ordinance, and of the zone in which the subject property is located must be complied with unless otherwise a variance to such requirement has been approved.

D. The lot shall be developed and maintained in substantial conformance with the site plan on file at City Hall and approved by the Planning Commission on January 20, 2026 except as otherwise provided in these conditions. The working drawings submitted to the Department of Building and Safety for plan check review shall conform to the approved development plan. All conditions of the Site Plan Review and Variance approvals shall be incorporated into the building permit working drawings, and where applicable complied with prior to issuance of a grading or building permit from the building department.

The conditions of approval of this Resolution shall be printed onto a separate sheet and included in the building plans submitted to the Building Department for review and shall be kept on site at all times.

Any proposed modifications and/or changes to the approved project, including resulting from field conditions, shall be discussed with staff so that staff can determine whether the modification is minor or major in nature. Minor modifications are subject to approval by the City Manager or his or her designee. Major modifications are subject to approval by the Planning Commissioner after a public hearing. Applicant shall not implement modifications or changes to the approved project without the appropriate approval from the City Manager or designee or the Planning Commission, as required.

E. Prior to submittal of final working drawings to Building and Safety Department for issuance of building and grading permits, the plans for the project shall be submitted to City staff for verification that the final plans are in compliance with the plans approved by the Planning Commission.

F. A licensed professional preparing construction plans for this project for Building Department review shall execute a Certificate affirming that the plans conform in all respects to this Resolution approving this project and all of the conditions set forth herein and the City's Building Code and Zoning Ordinance.

Further, the person obtaining a building and/or grading permit for this project shall execute a Certificate of Construction stating that the project will be constructed according to this Resolution and any plans approved therewith.

G. The person obtaining a building and/ or grading permit for this project shall execute a Certificate of Construction stating that the project will be constructed according to this Resolution and any plans approved therewith.

H. The project must be reviewed and approved by the Rolling Hills Community Association ("RHCA").

I. The total structural coverage on the building pad shall not exceed 4,439 square feet or 4.84%.

J. Total lot coverage of structures and paved areas shall not exceed 7,181 square feet, or 7.9%.

K. The disturbance of the net lot shall not exceed 12,503 square feet of surface area or 13.6% of the net lot area.

L. Prior to any further grading activity, the Applicant shall inform the City and RHCA staff of the date and time of this activity. Workers shall implement Best Management Practices to assure that streets and adjacent properties are not impacted.

M. Prior to issuance of a grading permit a detailed landscaping plan shall be submitted to City staff for review. The landscaping plan shall utilize to the maximum extent feasible, plants that are native to the area, are water-wise and are consistent with the rural character of the community. A final inspection shall not be granted unless the slopes are vegetated.

N. The graded areas shall be landscaped and continually maintained in good condition. Any trees and shrubs used in the landscaping scheme for this project shall be planted in a way that will not result in a hedge like screening and will not impair views from neighboring properties.

O. If applicable, the Applicant shall be required to conform to the City of Rolling Hills Water Efficient Landscape Ordinance, Chapter 13.18 of the Municipal Code.

P. The Applicant shall submit a detailed drainage plan to the City's drainage engineer. This project shall meet the requirements of the City's Low Impact Development portion of the Storm Water Management and Pollution Control ordinance, if applicable. The applicant shall comply with grading requirements relative to submittal of grading and construction reports as required by the Building Official. In order to prevent sediments and water run-off from reaching the canyon from the disturbed slopes and an erosion control plan shall be submitted to the Building Department and implemented, even if grading permits have not been issued by that time.

Q. The Applicant shall secure all permits from the Department of Building and Safety prior to commencing any work. Consult with the California Department of Fish and Wildlife for additional requirements.

R. Minimum of 65% of the construction material spoils shall be recycled and diverted from landfills. The hauler shall obtain a Construction and Demolition permit from the City and provide proof of recycling.

S. There shall be no discarding of any debris, trash, soil and construction spoils or any other material into the canyon or deposited anywhere on the property, including easements. No grading, planting, structures, drainage devices or hardscape, including driveways, or storage of any objects including building materials shall take place in the easements, unless approved by the RHCA.

T. The City or the Building Department may require a construction fence for the duration of the grading for this project. Such fence shall not be located in any easement or cross over trails or natural drainage course and shall be removed immediately upon completion of the grading work.

U. In addition, any construction facility, such as a construction trailer/office or portable toilets, to a maximum extent practicable, shall be located in a manner not visible from the street, and be in a location satisfactory to City staff.

V. *Prior to construction*, an on-site inspection and site walk-through, including through all existing structures as needed, shall be scheduled with City Staff and the applicant.

W. *During construction*, the property owners shall be required to schedule and regulate construction and related traffic noise throughout the day between the hours of 7 AM and 6 PM, Monday through Saturday only, when construction and mechanical equipment noise is permitted, so as not to interfere with the quiet residential environment of the City of Rolling Hills.

X. Construction vehicles or equipment, employees' vehicles, delivery trucks shall not impede any traffic lanes to maximum extend practical; if traffic must be blocked in order to aid in the construction, no more than a single lane may be blocked for a short period of time and flagmen utilized on both sides of the impeded area to direct traffic.

Y. *During construction*, to the extent feasible, all parking shall take place on the project site, on the new driveway and, if necessary, any overflow parking may take place within the unimproved roadway easements along adjacent streets, and shall not obstruct neighboring driveways, visibility at intersections or pedestrian and equestrian passage. During construction, to the maximum extent feasible, employees of the contractor shall car-pool into the City. To the extent feasible, a minimum of 4' wide path, from the edge of the roadway pavement, for pedestrian and equestrian passage shall be available and be clear of vehicles, construction materials and equipment at all times.

Z. *During construction*, the property owners shall be required to schedule and regulate construction and relate traffic noise throughout the day between the hours of 7 AM and 6 PM, Monday through Saturday only, when construction and mechanical equipment noise is permitted, so as not to interfere with the quiet residential environment of the City of Rolling Hills.

AA. *During construction*, dust control measures shall be used to stabilize the soil from wind erosion and reduce dust and objectionable odors generated by construction activities in accordance with South Coast Air Quality Management District, Los Angeles County and local ordinances and engineering practices.

AB. *During construction*, an Erosion Control Plan containing the elements set forth in Section 7010 of the 2022 County of Los Angeles Uniform Building Code shall be followed to minimize erosion and to protect slopes and channels to control storm water pollution.

AC. The property owners shall be required to conform to the Regional Water Quality Control Board and County Health Department requirements for the installation and maintenance of storm water drainage facilities and septic tank.

AD. The applicant shall pay all of the applicable Building and Safety and Public Works Department fees and Palos Verdes Peninsula Unified School District fees, if any.

AE. Prior to final inspection of the project, "as graded" and "as constructed" plans and certifications shall be provided to the Planning Department and the Building Department to ascertain that the completed project is in compliance with the Planning Commission approved plans. In addition, any modifications made to the project during construction, shall be depicted on the "as built/as graded" plan.

AF. The applicants shall execute an Affidavit of Acceptance of all conditions of the Variance approval, or the approval shall not be effective.

AG. All conditions of this Resolution, when applicable, must be complied with prior to the issuance of a grading or building permit from the Building and Safety Department.

AH. Any action challenging the final decision of the City made as a result of the public hearing on this application must be filed within the time limits set forth in Section 17.54.070 of the Rolling Hills Municipal Code and Code of Civil Procedure Section 1094.6.

AI. To the extent permitted by law, Permittee shall defend, indemnify and hold harmless the City of Rolling Hills, its City Council, its officers, employees and agents (the "indemnified parties") from and against any claim, action, or proceeding brought by a third party against the indemnified parties and the applicant to attack, set aside, or void any permit or approval for this project authorized by the City, including (without limitation) reimbursing the City its actual attorney's fees and costs in defense of the litigation. The City may, in its sole discretion, elect to defend any such action with attorneys of its choice. The permittee shall reimburse the City for any court and attorney's fees which the City may be required to pay as a result of any claim or action brought against the City because of this permit. Although the permittee is the real party in interest in an action, the City may, at its sole discretion, participate at its own expense in the defense of the action, but such participation shall not relieve the permittee of any obligation under this condition.

AJ. The future stable and corral shall comply with all requirements in RHMC Sections 17.18.060 and 17.18.090, unless otherwise approved herein.

AK. New landscaping in the RHCA easement is prohibited unless previously approved by RHCA. Landscaping not approved by RHCA in the easement shall be removed from the final landscape plan.

PASSED, APPROVED AND ADOPTED THIS 27TH DAY OF JANUARY, 2026.

BRAD CHELF, CHAIRPERSON

ATTEST:

CHRISTIAN HORVATH, CITY CLERK

Any action challenging the final decision of the City made as a result of the public hearing on this application must be filed within the time limits set forth in Section 17.54.070 of the Rolling Hills Municipal Code and Civil Procedure Section 1094.6.

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) §§
CITY OF ROLLING HILLS)

I certify that the foregoing Resolution No. 2026-01 entitled:

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF ROLLING HILLS GRANTING APPROVAL OF SITE PLAN REVIEW FOR NEW CONSTRUCTION, NON-EXEMPT GRADING AND RELATED IMPROVEMENTS; VARIANCE FOR AN ATTACHED GARAGE WITHIN THE SIDE YARD AREAS, AND FINDING THE PROJECT EXEMPT FROM THE CALIFORNIA ENVIRONMENTAL QUALITY ACT FOR LOCATION AT 3 MAVERICK LANE (KARATSU) (LOT 30-SK)

was approved and adopted at a regular meeting of the Planning Commission on January 27, 2026, by the following roll call vote:

AYES: Cardenas, Soo, Douglass, Kirkpatrick, Chair Chelf

NOES:

ABSENT:

ABSTAIN:

and in compliance with the laws of California was posted at the following:

Administrative Offices.

CHRISTIAN HORVATH, CITY CLERK

A NEW ONE STORY SINGLE FAMILY RESIDENCE

KARATSU RESIDENCE

3 MAVERICK LANE
ROLLING HILLS, CA. 90274









TOMARO

ARCHITECTURE

2617 NORTH SEPULVEDA BLVD.
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PROJECT

KARATSU RESIDENCE
3 MAVERICK LANE
ROLLING HILLS
CALIFORNIA 90274

STAMP

PROJECT NUMBER
25004

PRINT DATE

REVISIONS

REVISION SCHEDULE		
NUMBER	DESCRIPTION	DATE

COPYRIGHT
TOMARO ARCHITECTURE EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE PLANS. THESE PLANS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER, NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF TOMARO ARCHITECTURE.

DRAWING
RENDERINGS

SHEET NUMBER
G.01

GENERAL NOTES

1. ALL WORK SHALL CONFORM TO THE 2022 CBC, 2022 CRC, 2022 CMC, 2022 CPC, 2022 CEC, 2022 CGBS, 2022 ENERGY STANDARDS AND CITY OF RANCHO PALOS VERDES ORDINANCES, CBC CHAPTER 7A, THE CURRENT REQUIREMENTS OF THE ENERGY AND COUNTY OF LOS ANGELES FIRE COD.

2. AQMD NOTIFICATION IS REQUIRED 10 DAYS BEFORE BEGINNING ANY DEMOLITION WORK. REQUIRED FORM IS AVAILABLE AT THE COMMUNITY DEVELOPMENT DEPARTMENT. PROVIDE PROOF OF NOTIFICATION (MAIL WITH RETURN RECEIPT) 10 DAYS BEFORE BUILDING PERMIT IS ISSUED, OR COMPLETE ASBESTOS.

3. ALL BUILDING FEATURES PROJECTING INTO REQUIRED SETBACKS ARE INDICATED ON SITE/PLOT PLAN.

4. SOILS REPORT SHALL BE PROVIDED TO THE BUILDING DEPARTMENT FOR ALL CUTS, FILLS, AND EARTHWORK AS REQUIRED BY SECTION 1804.1-1804.4 CBC.

5. STUMPS AND ROOTS SHALL BE REMOVED TO A DEPTH OF 12" IN THE AREA OCCUPIED BY THE BUILDING.

6. INSTALLATION OF INTERIOR AND EXTERIOR WALL AND CEILING COVERINGS SHALL CONFORM TO CHAPTER 25 IBC.

7. ALL WATER CLOSETS TO FLUSH WITH 1.28 GALLON MAX PER H&S CODE SEC. 17921.3(B).

8. ALL HOSE BIBS MUST BE PROTECTED BY BACK FLOW PREVENTION AND HAVE AN ANTI-SIPHON DEVICE.

9. PROVIDE APPROVED BACKWATER VALVE FOR ALL PLUMBING FIXTURES LOCATED BELOW THE ELEVATION OF THE NEXT UPSTREAM MANHOLE COVER. FIXTURES ABOVE SUCH ELEVATION SHALL NOT DISCHARGE THROUGH THE BACKWATER VALVE. PROVIDE CAST IRON WASTE PIPING.

10. ALL WINDOW COVERINGS REQUIRED BY CFIR. FORM SHALL BE POSTED PRIOR TO FINAL INSPECTION.

11. WRITTEN APPROVAL FROM THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD). (714) 396.2000 PER RULE 1403 FOR THE PROPER DISPOSAL OF ASBESTOS.

12. ONLY LOS ANGELES COUNTY HEALTH DEPARTMENT APPROVED DEVICES MAY BE UTILIZED FOR LANDSCAPE IRRIGATION BACK FLOW PREVENTION DEVICES.

13. INSULATE ALL PLUMBING WITH MINIMUM R-3 INSULATION FOR ENTIRE LENGTH.

14. PROVIDE DRIP PAN OR SIMILAR DEVICE FOR LAUNDRY ROOM, WATER HEATER, AND DISHWASHER.

15. PROVIDE SURVEY STAKES PRIOR TO FOUNDATION INSPECTION TO VERIFY LOT LINES.

16. THE ARCHITECT IS NOT RESPONSIBLE FOR SITE GRADING OR DRAINAGE.

17. IAPMO APPROVAL REQUIRED FOR ONE PIECE LAVATORY.

18. POST INSULATION COMPLIANCE CARD IN CONSPICUOUS LOCATION IN DWELLING PRIOR TO FINAL INSPECTION.

19. ALL CONSTRUCTION WASTE AND DEBRIS MUST BE CONTAINERIZED AT ALL TIMES.

20. A REINSPECTION FEE OF $70.00 WILL BE CHARGED FOR AN INSPECTION WHICH IS NOT ACCESSIBLE, OR APPROVED PLANS ARE NOT ON SITE, OR JOB IS NOT READY.

21. ALL GENERAL CONTRACTORS, SUB CONTRACTORS, ARCHITECTS AND ENGINEERS CONDUCTING BUSINESS WITHIN THE CITY OF RANCHO PALOS VERDES ARE REQUIRED TO MAINTAIN A CURRENT CITY BUSINESS LICENSE AS DESCRIBED IN THE MUNICIPAL CODE ORDINANCE NO. 092-559 AND RESOLUTION NO. R92-72.

22. ANY AND ALL DEVIATIONS FROM THE PLANNING COMMISSION APPROVED PLANS REQUIRE THAT REVISED PLANS BE SUBMITTED TO THE PLANNING DEPARTMENT/COMMISSION FOR REVIEW AND APPROVAL.

23. APPROVAL IS REQUIRED BY THE PUBLIC WORKS DEPARTMENT FOR STREET IMPROVEMENTS, CURB CORES, CURB/GUTTERS, ETC.

24. PRE-GRADE MEETING REQUIRED WITH CITY BUILDING INSPECTOR, GENERAL CONTRACTOR, OWNER OR OWNER'S AGENT, SOILS ENGINEER, GEOLOGIST (IF APPLICABLE) AND GRADING CONTRACTOR, PRIOR TO ANY WORK COMMENCING ON SITE.

25. EROSION CONTROL MEASURES SHALL BE IN PLACE AND MAINTAINED THROUGHOUT THE YEAR.

26. THE YARD DRAINAGE IMPROVEMENTS SHALL BE INSPECTED AND CERTIFIED BY THE ENGINEER OF RECORD PRIOR TO FINAL APPROVAL.

27. "CONSTRUCTION WASTE DISPOSAL CERTIFICATION" REQUIRED PRIOR TO FINAL.

28. THE CF-6R FORM SHALL BE COMPLETED PRIOR TO FINAL INSPECTIONS.

29. THE YARD DRAINAGE IMPROVEMENTS SHALL BE INSPECTED AND CERTIFIED BY THE ENGINEER OF RECORD PRIOR TO FINAL APPROVAL.

30. THIS STRUCTURE IS LOCATED IN A VERY HIGH FIRE HAZARD SEVERITY ZONE (VHFHSZ) AND THE PLANS HAVE BEEN DESIGNED IN CONFORMANCE TO THE REQUIREMENTS OF CBC CHAPTER 7A.

31. FIRE SPRINKLER WORK SHALL BE DONE UNDER SEPARATE PLANS AND PERMIT IF REQUIRED BY LA COUNTY FIRE PREVENTION OFFICE.

32. REQUIRED SWIMMING POOL FENCING AND ALARMS MUST BE MAINTAINED DURING CONSTRUCTION.

33. "DUST CONTROL MEASURES" SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT.

34. PROVIDE HOUSE STREET NUMBER VISIBLE AND LEGIBLE FROM STREET.

35. SQUARE FOOTAGE SHALL BE CERTIFIED BY A LICENSED SURVEYOR OR REGISTERED ENGINEER BEFORE APPROVAL OF THE FOUNDATION.

36. ALL CONTRACTORS, ARCHITECTS, DESIGNERS, & ENGINEERS SHALL MAINTAIN A CURRENT CITY BUSINESS LICENSE.

37. ALL RECEPTACLE OUTLETS SHALL BE TAMPER RESISTANT.

38. WHERE A FIXTURE IS INSTALLED ON A FLOOR LEVEL THAT IS LOWER THAN THE NEXT UPSTREAM MANHOLE SHALL BE PROTECTED BY CITY APPROVED BACKWATER VALVE.

39. ROOF GUTTER SHALL BE DESIGNED / SCREENED TO PREVENT THE ACCUMULATION OF LEAVES.

40. INSTALL ONE OR BOTH OF THE FOLLOWING:
   - A. PHOTOVOLTAIC SYSTEMS: INSTALLATION OF CONDUIT LEADING FROM AN EXTERIOR SOUTH-FACING, EAST-FACING OR WEST-FACING ROOF, WHERE A MINIMUM OF 4 HOURS OF DIRECT SUNLIGHT IS ACHIEVED, TO A STUBBED JUNCTION BOX NEXT TO THE ELECTRICAL PANEL. ALL EXPOSED CONDUIT SHALL BE CAPPED AND PROVIDED WITH ADEQUATE FLASHING. THE CONDUIT SHALL NOT BE LOCATED ON OR IN THE DIRECTION OF A NORTH-FACING ROOF. (ROOF REINFORCEMENTS SHALL BE ADDRESSED AT THE TIME OF INSTALLATION).
   - B. SOLAR WATER HEATING SYSTEM: INSTALLATION OF ¾" HOT AND COLD COPPER WATER PIPES FROM A SOUTH-FACING, EAST-FACING OR WEST-FACING ROOF, WHERE A MINIMUM OF 4 HOURS OF DIRECT SUNLIGHT CAN BE ACHIEVED, TO AN EXISTING WATER HEATER/TANK. BOTH ENDS OF THE ¾" COPPER PIPES SHALL BE STUBBED OUT AND SHALL NOT BE LOCATED ON OR IN THE DIRECTION OF NORTH-FACING ROOF. ALL EXPOSED PIPES SHALL BE CAPPED AND PROVIDED WITH ADEQUATE FLASHING(STRUCTURAL ENGINEERING AND ANY ROOF REINFORCEMENTS SHALL BE ADDRESSED AT THE TIME OF INSTALLATION UNDER SEPARATE PLANS AND PERMIT).

41. AT TIME OF PERMIT ISSUANCE, CONTRACTOR SHALL SHOW THEIR VALID WORKERS' COMPENSATION INSURANCE CERTIFICATE.

42. EXCESS OR WASTE CONCRETE MAY NOT BE WASHED INTO THE PUBLIC WAY OR ANY OTHER DRAINAGE SYSTEM. PROVISIONS SHALL BE MADE TO RETAIN CONCRETE WASTE ON SITE UNTIL IT CAN BE DISPOSED OF AS SOLID WASTE. SEDIMENTS AND OTHER MATERIALS MAY NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS MUST BE STABILIZED TO INHIBIT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC WAY. ACCIDENTAL DEPOSITS MUST BE SWEPT UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS. STOCKPILES OF EARTH AND OTHER CONSTRUCTION RELATED MATERIALS MUST BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY THE FORCES OF WIND OR WATER. TRASH AND CONSTRUCTION RELATED SOLID WASTES MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION OF RAINWATER AND DISPERSAL BY WIND. FUELS, OILS, SOLVENTS, AND OTHER TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND ARE NOT TO CONTAMINATE THE SOIL AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILLS MUST BE CLEANED UP IMMEDIATELY AND DISPOSED OF IN A PROPER MANNER. SPILLS MAY NOT BE WASHED INTO THE DRAINAGE SYSTEM.

43. THE ISSUANCE OF A PERMIT SHALL NOT PREVENT THE BUILDING OFFICIAL FROM REQUIRING THE CORRECTION OF ERRORS ON THESE PLANS OR FROM PREVENTING ANY VIOLATION OF THE CODES ADOPTED BY THE CITY, RELEVANT LAWS, ORDINANCES, RULES AND/OR REGULATIONS.

44. SEPARATE PERMIT SHALL FIRST BE OBTAINED FROM THE CITY PUBLIC WORKS DEPARTMENT PRIOR TO PLACEMENT OF ANY CONSTRUCTION MATERIALS OR EQUIPMENT IN THE PUBLIC RIGHT-OF-WAY. SEPARATE PERMIT SHALL FIRST BE OBTAINED FROM THE CITY PUBLIC WORKS DEPARTMENT PRIOR TO ANY EXCAVATIONS, BORINGS, AND/OR IMPROVEMENTS MADE IN PUBLIC RIGHT-OF-WAY.

45. PRIOR TO START OF CONSTRUCTION, THE APPLICANT SHALL PROVIDE THE BUILDING INSPECTOR WITH A LOCATION/SETBACK CERTIFICATION THAT GIVES DIMENSIONS FROM THE PROPERTY LINES TO THE ACTUAL LOCATION OF THE EXISTING STRUCTURE'S FOUNDATION. THE CERTIFICATION SHALL BE PREPARED BY A CALIFORNIA LICENSED LAND SURVEYOR.

A NEW ONE STORY SINGLE FAMILY RESIDENCE

KARATSU RESIDENCE

3 MAVERICK LANE
ROLLING HILLS, CA. 90274

CITY AREA CALCULATIONS INFORMATION

DATE 12-12-25 ZONING CASE NO. _____ ADDRESS 3 MAVERICK

ALL MEASUREMENTS TO BE TAKEN FROM THE EXTERIOR FINISHED WALLS OF STRUCTURES. ALL STRUCTURES MUST BE SHOWN ON THE PLAN AND LISTED HERE
CALCULATION OF LOT COVERAGE

AREA AND STRUCTURES	EXISTING	PROPOSED	TOTAL
NET LOT AREA	91,708 sq.ft.	0 sq.ft.	91,708 sq.ft.
RESIDENCE	2,990 sq.ft.	-480 sq.ft.	2,510 sq.ft.
GARAGE	480 sq.ft.	22 sq.ft.	502 sq.ft.
SWIMMING POOL/SPA	130 sq.ft.	-130 sq.ft.	0 sq.ft.
POOL EQUIPMENT	0 sq.ft.	0 sq.ft.	0 sq.ft.
GUEST HOUSE	0 sq.ft.	0 sq.ft.	0 sq.ft.
CABANA	0 sq.ft.	0 sq.ft.	0 sq.ft.
STABLE (dirt volume to be included in grading quantities) AND CORRAL	0 sq.ft.	1000 sq.ft.	1000 sq.ft.
RECREATION COURT	0 sq.ft.	0 sq.ft.	0 sq.ft.
ATTACHED COVERED PORCHES	0 sq.ft.	331 sq.ft.	331 sq.ft.
ENTRYWAY/ PORTE COCHERE, BREEZEWAYS	0 sq.ft.	0 sq.ft.	0 sq.ft.
ATTACHED TRELLISES	520 sq.ft.	-520 sq.ft.	0 sq.ft.
*DETACHED STRUCTURES: (circle all that applies) SHEDS, TRELLISES, GAZEBO, BARBECUE, OUTDOOR KITCHEN, ROOFED PLAY EQUIP.- over 15 ft. high and over 120 sq. ft. in area, WATER FEATURES, ETC.	0 sq.ft.	0 sq.ft.	0 sq.ft.
	0 sq.ft.	0 sq.ft.	0 sq.ft.
SERVICE YARD	35 sq.ft.	61 sq.ft.	96 sq.ft.
OTHER _____	0 sq.ft.	0 sq.ft.	0 sq.ft.
BASEMENT AREA (volume to be included in grading quantities)	0 sq.ft.	0 sq.ft.	0 sq.ft.
DEPTH OF BASEMENT	0	0	0
TOTAL STRUCTURES	4095 sq.ft.	344 sq.ft.	4439 sq.ft.
% STRUCTURAL COVERAGE	4.5 %	0.4 %	4.84 %
TOTAL STRUCTURES ENCLUDING up to 8 (legal) & up to 800 sq. ft. detached structures that are not higher than 12 ft. (no more than 120 sq.ft. per structure per deduction, except trellis)	_____ sq.ft.	_____ sq.ft.	_____ sq.ft.
% STRUCTURAL COVERAGE	_____ %	_____ %	_____ %

-14-

DATE 12-12-25 ZONING CASE NO. _____ ADDRESS 3 MAVERICK

ALL MEASUREMENTS TO BE TAKEN FROM THE EXTERIOR FINISHED WALLS OF STRUCTURES. ALL STRUCTURES MUST BE SHOWN ON THE PLAN AND LISTED HERE
CALCULATION OF LOT COVERAGE

AREA AND STRUCTURES	EXISTING	PROPOSED	TOTAL
NET LOT AREA	91,708 sq.ft.	0 sq.ft.	91,708 sq.ft.
RESIDENCE	2,990 sq.ft.	-480 sq.ft.	2,510 sq.ft.
GARAGE	480 sq.ft.	22 sq.ft.	502 sq.ft.
SWIMMING POOL/SPA	130 sq.ft.	-130 sq.ft.	0 sq.ft.
POOL EQUIPMENT	0 sq.ft.	0 sq.ft.	0 sq.ft.
GUEST HOUSE	0 sq.ft.	0 sq.ft.	0 sq.ft.
CABANA	0 sq.ft.	0 sq.ft.	0 sq.ft.
STABLE (dirt volume to be included in grading quantities) AND CORRAL	0 sq.ft.	1000 sq.ft.	1000 sq.ft.
RECREATION COURT	0 sq.ft.	0 sq.ft.	0 sq.ft.
ATTACHED COVERED PORCHES	0 sq.ft.	331 sq.ft.	331 sq.ft.
ENTRYWAY/ PORTE COCHERE, BREEZEWAYS	0 sq.ft.	0 sq.ft.	0 sq.ft.
ATTACHED TRELLISES	520 sq.ft.	-500 sq.ft.	0 sq.ft.
*DETACHED STRUCTURES: (circle all that applies) SHEDS, TRELLISES, GAZEBO, BARBECUE, OUTDOOR KITCHEN, ROOFED PLAY EQUIP.- over 15 ft. high and over 120 sq. ft. in area, WATER FEATURES, ETC.	0 sq.ft.	0 sq.ft.	0 sq.ft.
	0 sq.ft.	0 sq.ft.	0 sq.ft.
SERVICE YARD	35 sq.ft.	61 sq.ft.	96 sq.ft.
OTHER _____	0 sq.ft.	0 sq.ft.	0 sq.ft.
BASEMENT AREA (volume to be included in grading quantities)	0 sq.ft.	0 sq.ft.	0 sq.ft.
DEPTH OF BASEMENT	0	0	0
TOTAL STRUCTURES	4095 sq.ft.	344 sq.ft.	4439 sq.ft.
% STRUCTURAL COVERAGE	4.5 %	0.4 %	4.84 %
TOTAL STRUCTURES ENCLUDING up to 8 (legal) & up to 800 sq. ft. detached structures that are not higher than 12 ft. (no more than 120 sq.ft. per structure per deduction, except trellis)	_____ sq.ft.	_____ sq.ft.	_____ sq.ft.
% STRUCTURAL COVERAGE	_____ %	_____ %	_____ %

-14-

GRADING AND EXCAVATION INFORMATION

DATE 12-11-25 Z.C. NO. _____ ADDRESS 3 MAVERICK

CALCULATION OF BUILDING PAD COVERAGE

PAD NO. 1

BUILDABLE PAD AREA AND STRUCTURES	EXISTING	PROPOSED	TOTAL
BUILDING PAD	8876 sq.ft.	0 sq.ft.	8876 sq.ft.
RESIDENCE	2990 sq.ft.	-440 sq.ft.	2510 sq.ft.
GARAGE	480 sq.ft.	22 sq.ft.	502 sq.ft.
POOL/SPA	130 sq.ft.	-130 sq.ft.	0 sq.ft.
POOL EQUIPMENT	0 sq.ft.	0 sq.ft.	0 sq.ft.
CABANA/REC RM	0 sq.ft.	0 sq.ft.	0 sq.ft.
GUEST HOUSE	0 sq.ft.	0 sq.ft.	0 sq.ft.
STABLE/CORRAL	0 sq.ft.	1000 sq.ft.	1000 sq.ft.
SPORTS COURT	0 sq.ft.	0 sq.ft.	0 sq.ft.
SERVICE YARD	35 sq.ft.	61 sq.ft.	96 sq.ft.
ATTACHED COVERED PORCHES	0 sq.ft.	331 sq.ft.	331 sq.ft.
Accessory structures	0 sq.ft.	0 sq.ft.	0 sq.ft.
AREA OF ATTACHED COVERED PORCHES THAT EXCEED 1/2 OF THE SIZE OF RESIDENCE/ACCS. STRUCTURE	0 sq.ft.	0 sq.ft.	0 sq.ft.
ENTRYWAY/PORTE COCHERE/ BREEZEWAY	0 sq.ft.	0 sq.ft.	0 sq.ft.
ATTACHED TRELLISES	520 sq.ft.	-520 sq.ft.	0 sq.ft.
ALL DETACHED STRUCTURES (from previous page)	0 sq.ft.	0 sq.ft.	0 sq.ft.
ALL DETACHED STRUCTURES (from previous page after excluding allowed deductions)	0 sq.ft.	0 sq.ft.	0 sq.ft.
OTHER	0 sq.ft.	0 sq.ft.	0 sq.ft.
TOTAL STRUCTURES ON PAD NO. 1	4095 sq.ft.	344 sq.ft.	4439 sq.ft.
% BUILDING PAD COVERAGE	4.6 %	0.4 %	4.84 %
TOTAL STRUCTURES ON PAD NO. 1 (Excluding attached trellises, excluding allowed deductions, and including, the area of covered porches that exceed 10% of the size of the residence/accessory structures	8876 sq.ft.	-1048 sq.ft.	7828 sq.ft.
% BUILDING PAD COVERAGE	9.7 %	-1.1 %	8.5 %

-16-

LIST OF BMP's (BEST MANAGEMENT PRACTICES)

BMP'S WILL BE UTILIZED IN THE GRADING, BUILDING AND FINAL CONSTRUCTION PHASES OF THE PROJECT

1. CA1 DEWATERING OPERATIONS - REMOVE SEDIMENTS FROM GROUND WATER
2. CA2 PAVING OPERATIONS - REDUCE DISCHARGE OF POLLUTANTS FROM PAVING OPERATIONS
3. CA3 STRUCTURE CONSTRUCTION AND PAINTING - PREVENT & REDUCE DISCHARGE FROM CONSTRUCTION SITES & PAINTING PROJECTS
4. CA10 MATERIAL DELIVERY AND STORAGE - PREVENT & REDUCE DISCHARGE OF POLLUTANTS TO STORM WATER FROM MATERIAL DELIVERY & STORAGE
5. CA11 MATERIAL USE - PREVENT & REDUCE DISCHARGE OF POLLUTANTS TO STORM WATER FROM MATERIAL USE
6. CA12 SPILL PREVENTION AND CONTROL - PREVENT & REDUCE DISCHARGE OF POLLUTANTS TO STORM WATER SYSTEMS WITH GOOD HOUSEKEEPING
7. CA20 SOLID WASTE MANAGEMENT - PREVENT & REDUCE DISCHARGE OF POLLUTANTS TO STORM WATER SYSTEMS FROM SOLID WASTE OR CONSTRUCTION
8. CA21 HAZARDOUS WASTE MANAGEMENT - PREVENT & REDUCE DISCHARGE OF POLLUTANTS TO STORM WATER FROM TOXIC MATERIALS
9. CA22 CONTAMINATED SOIL MANAGEMENT - PREVENT & REDUCE DISCHARGE OF POLLUTANTS TO STORM WATER FROM CONTAMINATED SOIL
10. CA23 CONCRETE WASTE MANAGEMENT - PREVENT & REDUCE DISHARGE OF POLLUTANTS TO STORM WATER FROM CONCRETE WASTE
11. CA24 SANITARY/SEPTIC WASTE MANAGEMENT - PREVENT & REDUCE DISCHARGE OF POLLUTANTS TO STORM WATER FROM SANITARY & SEPTIC SYSTEMS
12. CA30 VEHICLE AND EQUIPMENT CLEANING - PREVENT & REDUCE DISCHARGE OF POLLUTANTS TO STORM WATER FROM CLEANING OF VEHICLES AND EQUIPMENT
13. CA31 VEHICLE AND EQUIPMENT FUELING - PREVENT & REDUCE DISCHARGE OF POLLUTANTS TO STORM WATER FROM FUELING OF VEHICLES & EQUIPMENT
14. CA32 VEHICLE AND EQUIPMENT MAINTENANCE - PREVENT & REDUCE DISCHARGE OF POLLUTANTS TO STORM WATER FROM MAINTENANCE OF VEHICLES & EQUIPMENT

SYMBOL LEGEND

- 8'-0" FLAT CLG. / LIVING ROOM / 100.00' S.F.E. — CEILING HEIGHT; ROOM NAME; SUB-FLOOR ELEVATION
- 12" — DIFFERENTIAL IN FLOOR ELEVATION, FINISH SURFACE, OR CHANGE IN WALL PLAN
- 100.00' S.F.E. — ELEVATION; SUB FLOOR ELEVATION
- 100.00' T.T.WT. — ELEVATION; LIGHT WEIGHT CONCRETE FLOOR ELEVATION
- A / B A-05 D / C — SHEET NUMBER; ELEVATION DESIGNATION
- 4:12 ROOF SLOPE — SLOPED SURFACE; SURFACE DESCRIPTION (ARROW POINTS DOWN SLOPE)
- FLOW LINE (ARROW POINTS DOWN SLOPE); ROOF SLOPE DESCRIPTION
- 12 / 4 — SLOPE RUN; SLOPE RISE
- A — WINDOW LETTER DESIGNATION
- 1 — DOOR NUMBER DESIGNATION
- A — SKYLIGHT LETTER DESIGNATION
- NORTH — NORTH ARROW DESIGNATION
- 1 — REVISION NUMBER; EXTENTS OF REVISION
- A / A-00 — SECTION NUMBER; SHEET NUMBER
- DN. 0 R. @ 0° — TOP/BOTTOM RISER; # OF RISERS UP/DOWN

ABBREVIATION

A.H.	ACTUAL HEIGHT
A.W.	AWNING WINDOW
B.O.W.	BOTTOM OF WALL
C.H.	CRITICAL HEIGHT
CLG.	CEILING
CLR.	CLEAR
COL.	COLUMN
CONC.	CONCRETE
C.W.	CASEMENT WINDOW
DIM.	DIMENSION
DN.	DOWN
ELEV.	ELEVATION
F.A.	FROM ABOVE
FLR.	FLOOR
FX.	FIXED
HORZ.	HORIZONTAL
HT.	HEIGHT
LAND.	LANDING
LT.WT.	LIGHT WEIGHT CONCRETE
MAX.	MAXIMUM
MIN.	MINIMUM
OP.	OPERABLE
PLINE.	PROPERTY LINE
REQ.	REQUIRED
SECT.	SECTION
S.F.E.	SUB FLOOR ELEVATION
SHT.	SHEET
SK.	SKEWED
SL.	SLOPED
T.O.W.	TOP OF WALL

PROJECT DATA

PROPERTY OWNERS

MIKE & JANE KARATSU
1535 5th STREET
MANHATTAN BEACH, CA 90266
PHONE: (310)-372-1010

LEGAL DESCRIPTION

LOT 30
M.B. 67/31-32
APN 7567-018-030
PLANNING ZONING CASE #

OCCUPANCY AND ZONING

OCCUPANCY:
ZONING: RA/S-2
CONSTRUCTION TYPE: TYPE V-N
NO. OF UNITS: 1
NO. OF STORIES: 1
FULLY SPRINKLERED BUILDING -YES

CITY, STATE, NATIONALLY APPLICABLE CODES

2022 CRC, 2022 CBC, 2022 CMC, 2022 CPC, 2022 CEC, STATE OF CALIFORNIA, AND THE CITY OF RANCHO PALOS VERDES AND CH. 7A OF 2022 CBC, 2022 STATE ENERGY CODE, 2022 CA ENERGY CONSERVATION STANDARDS, 2022 CA GREEN BUILDING STANDARDS CODE, 2022 CA CODES WITH 2023 LA COUNTY BUILDING CODE CHAPTER 7A FOR RPV, CHAPTER 7A REQUIREMENTS FOR VERY HIGH FIRE-HAZARD SEVERITY ZONE APPLY, 5353 AND 6730 OF THE STATE BUSINESS AND PROFESSIONS CODE

SCOPE OF WORK:

- A NEW ONE STORY SINGLE FAMILY RESIDENCE - 2510 SF WITH ATTACHED 2-CAR GARAGE - 502 SF
- NEW HARDSCAPE
- NEW LANDSCAPE
- NEW RETAINING WALL AT FRONT YARD

FLOOR AREA CALCS

LOT SIZE: 108,520 SF
NET LOT AREA 91,708 SF
LIVING AREA = 2510 SF
COVERED PORCH = 331 SF
GARAGE = 502 SF

SHEET INDEX

G.00	GENERAL INFORMATION
G.01	RENDERINGS
C.1	PRELIMINARY GRADING PLAN
C.01	EXISTING CIVIL SURVEY
C.01.1	ENLARGED EXISTING CIVIL SURVEY (PARTIAL)
A.00	AREA CALCULC'S AND LOT COVERAGE CALC'S
A.00.1	NEIGHBOR'S VICINITY MAP
A.01.1	SITE SECTIONS
A.01	SITE PLAN
A.01.2	SITE PLAN - FIRE DEPARTMENT
A.02	FLOOR PLAN
A.03	ROOF PLAN PLAN
A.04	ELEVATIONS

CONSULTANTS

CIVIL SURVEY CONSULTANT
EAGLE EYE LAND SURVEYING
1311 MANHATTAN BEACH BLVD.
#4 MANHATTAN BEACH, CA 92780
TELL: (310)955 8901.
mikeprofet@eagleeyelandsurveying.com

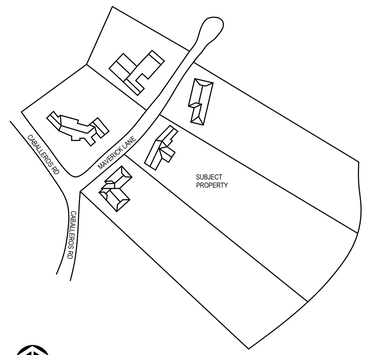
GEOTECHNICAL CONSULTANT
T.I.N ENGINEERING
17834 BAILEY DRIVE
TORRANCE, CA 90504
TEL: (310) 371-7045

LANDSCAPE DESIGN CONSULTANTS
RICHIE-BRAY INC. LANDSCAPE ARCHITECTURE
2432 VIA AMADOR
PALOS VERDES ESTATES, CA 90274
TEL: (310) 377-5868

CIVIL ENGINEERING CONSULTANT
BOLTON ENGINEERING CORP
25834 NARBONNE AVENUE SUITE 210
LOMITA, CA 90717
TEL: (310) 325-5580

VICINITY MAP

NTS



ROLLING HILLS, CA.

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PROJECT

KARATSU RESIDENCE
3 MAVERICK LANE
ROLLING HILLS
CALIFORNIA 90274

STAMP

PROJECT NUMBER
25004

PRINT DATE

REVISIONS

REVISION SCHEDULE		
NUMBER	DESCRIPTION	DATE

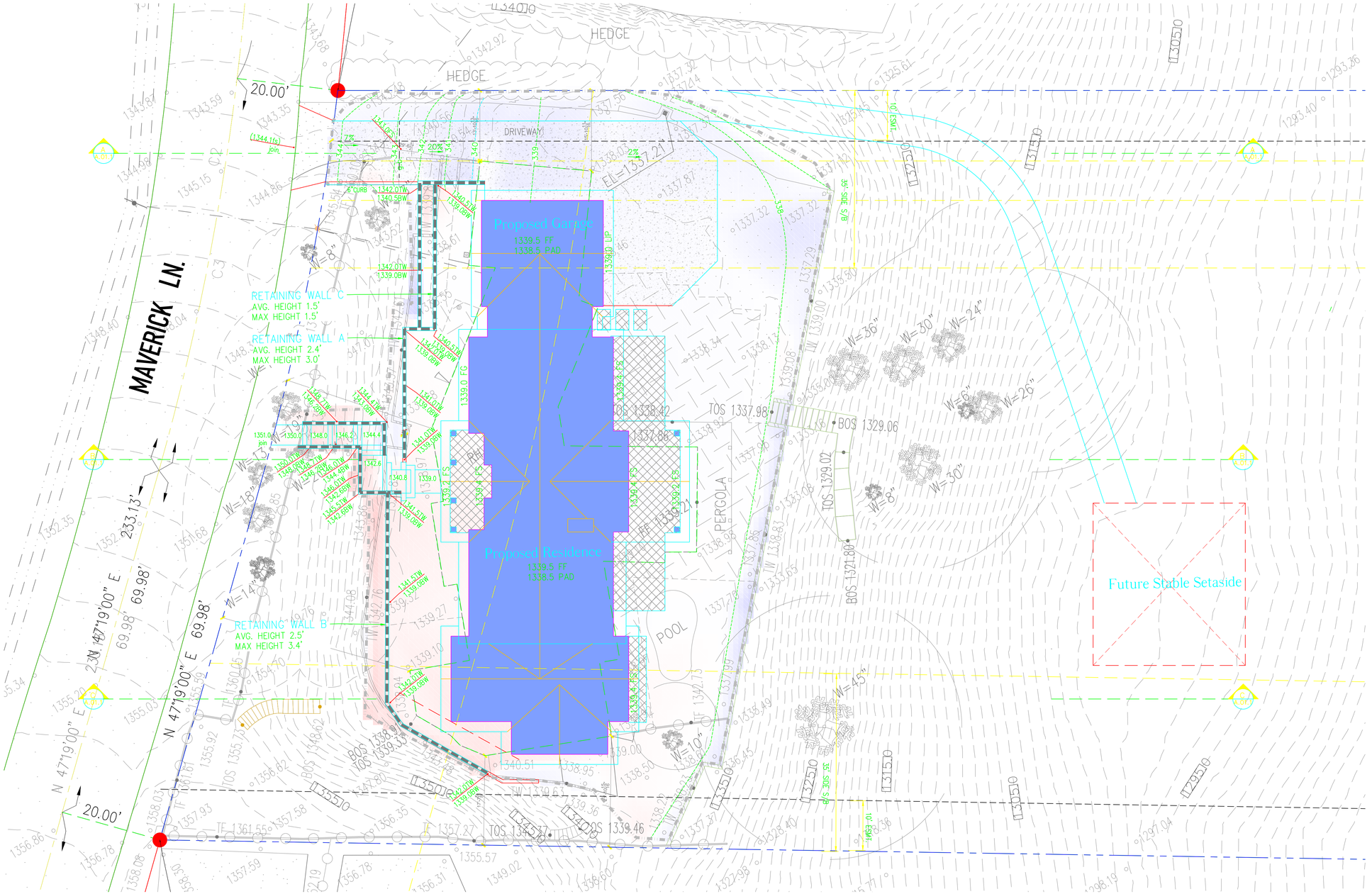
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GENERAL INFORMATIONS

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G.00



For Planning Review 8/6/2025

Revisions	By

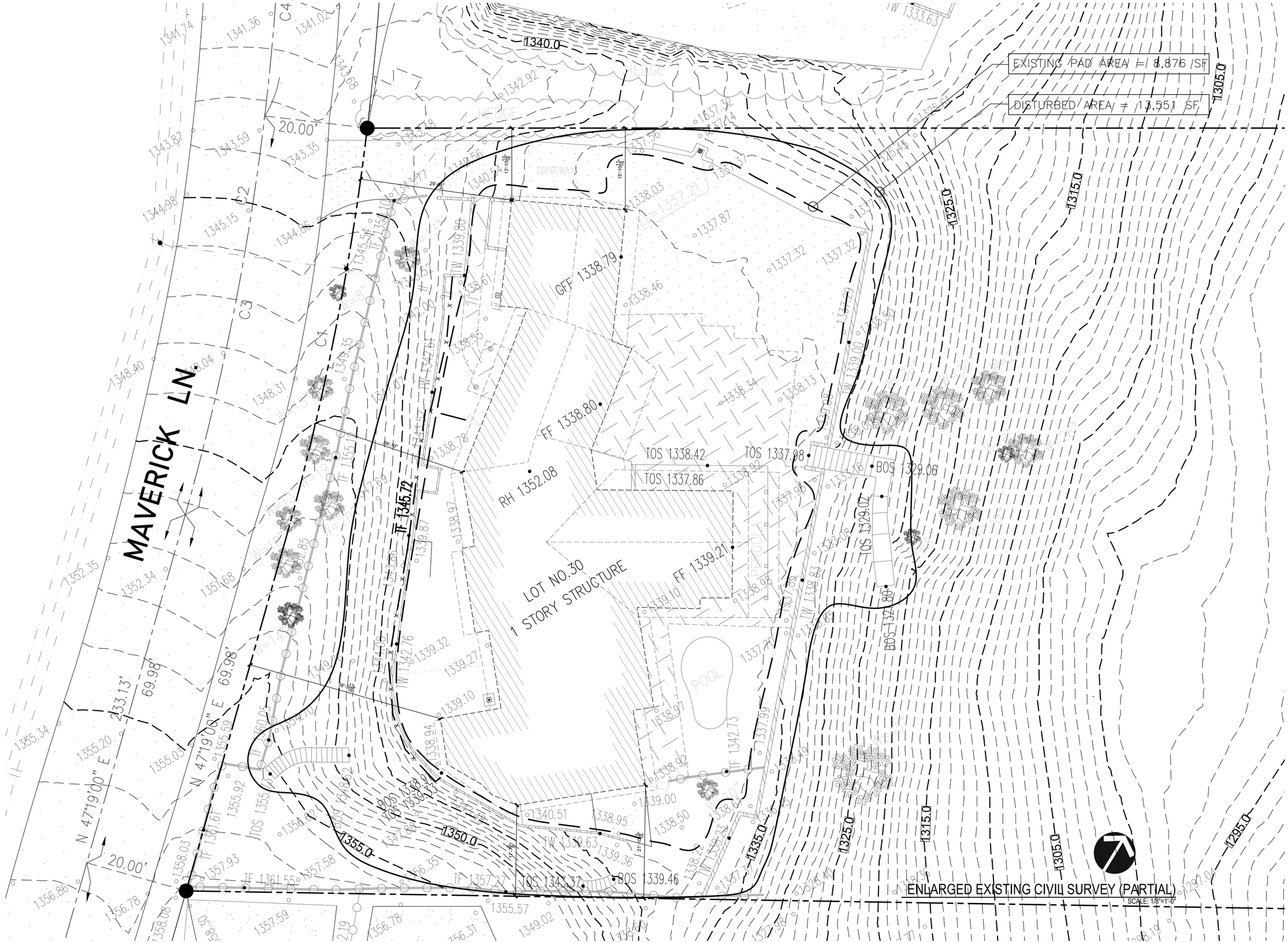
BOLTON ENGINEERING CORP.
boltonengineering.com
310.325.5560

BEC

CLIENT: KARATSU
3 MAVERICK LANE
ROLLING HILLS, CA.

TITLE: PRELIMINARY GRADING PLAN
3 MAVERICK LANE
ROLLING HILLS, CA.

Date: August 6, 2025
Scale: 1"=10'
Drawn: djb
Checked: DJB
Job No. 25310
Sheet C1
Of 3 Sheets



ENLARGED EXISTING CIVIL SURVEY (PARTIAL)

SCALE: 1/8"=1'-0"

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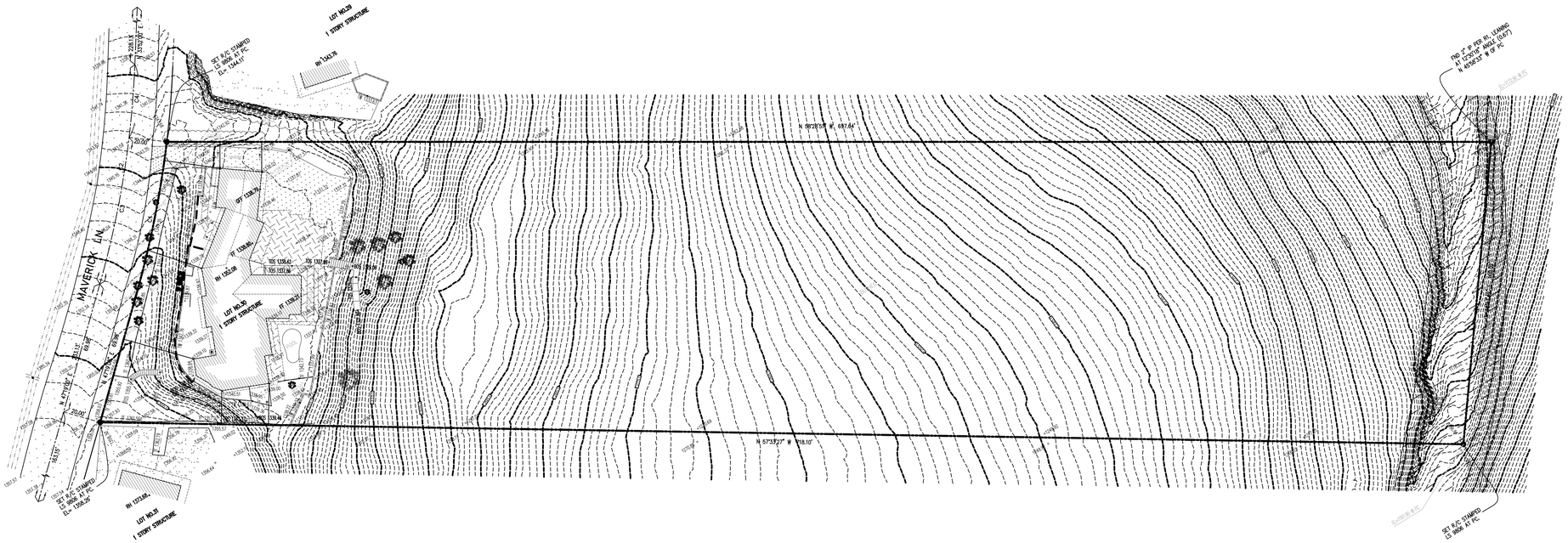
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ENLARGED EXISTING CIVIL SURVEY PARTIAL

SHEET NUMBER

C.01.1



EXISTING CIVIL SURVEY

SCALE: 1/32"=1'-0"

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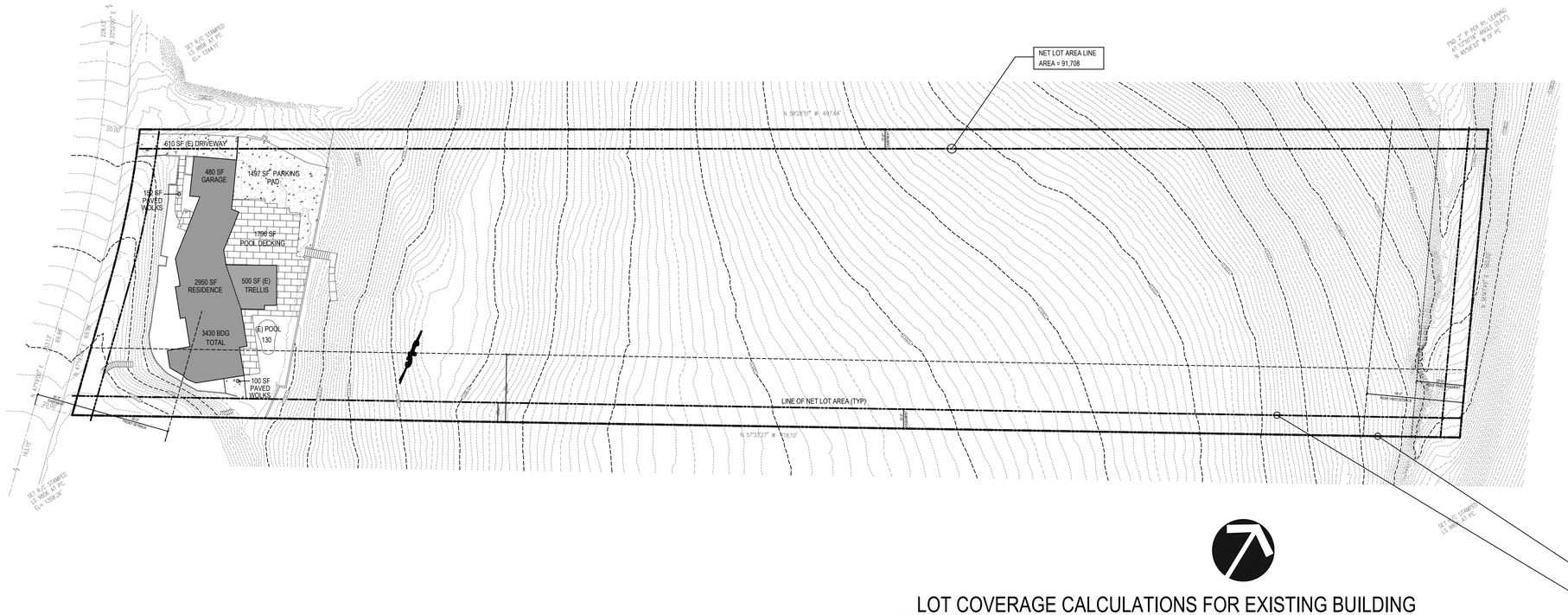
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EXISTING CIVIL SURVEY

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C.01

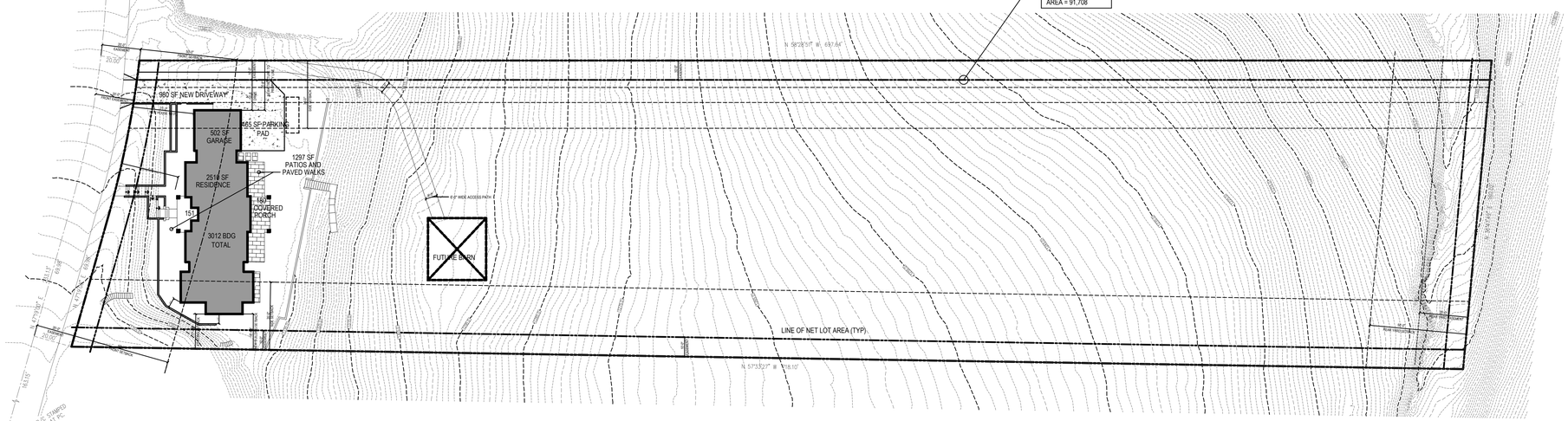


LOT COVERAGE CALCULATIONS FOR EXISTING BUILDING

SCALE: 1/32"=1'-0"

LEGEND

- (E) BUILDING COVERAGE = 2950 SF
- (E) PERGOLA = 500 SF
- (E) POOL DECKING = 1796 SF
(E) PAVED WALKS = 252
- (E) DRIVEWAY = 610 SF
(E) PARKING PAD = 1497



LOT COVERAGE CALCULATIONS FOR NEW BUILDING

SCALE: 1/32"=1'-0"

LEGEND

- NEW BUILDING COVERAGE = 3012 SF
- NEW ENTRY PORCH = 151 SF
- PATIOS = 937 SF
PAVED WALKS = 1297
- NEW DRIVEWAY AND
PARKING PAD = 1445 SF

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LICENSED ARCHITECT
LOUIE TOMARO
C-22941
09 - 30 - 2027
RENEWAL DATE
STATE OF CALIFORNIA

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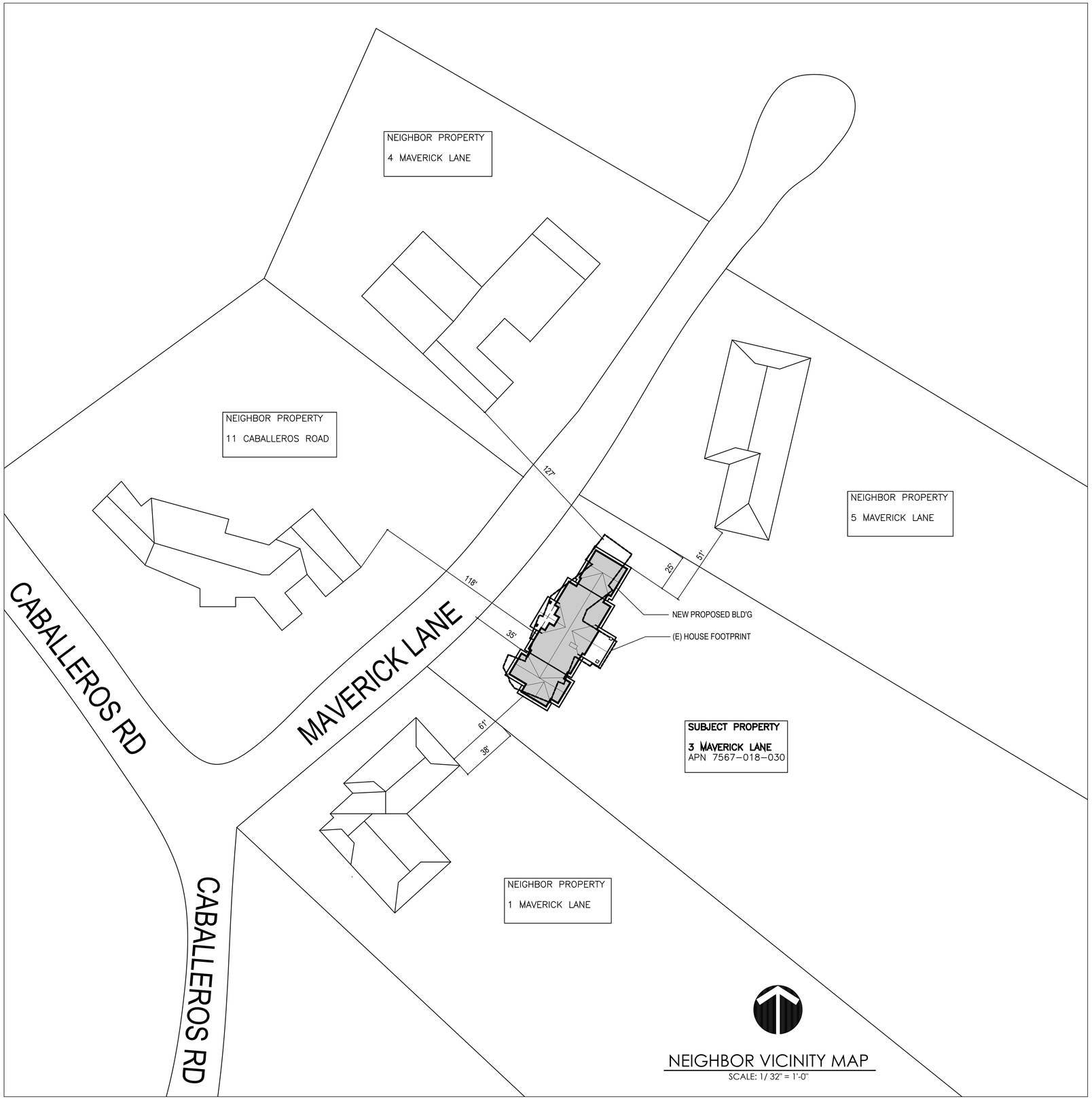
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AREA CALCULATIONS/ LOT COVERAGE

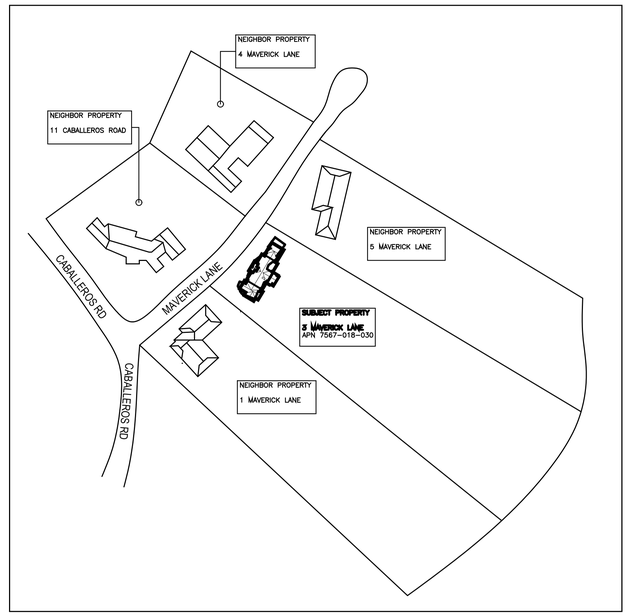
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NEIGHBOR VICINITY MAP

SCALE: 1/ 32" = 1'-0"



NEIGHBOR VICINITY MAP - FULL VIEW

SCALE: 1/ 128" = 1'-0"

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ROLLING HILLS
CALIFORNIA 90274

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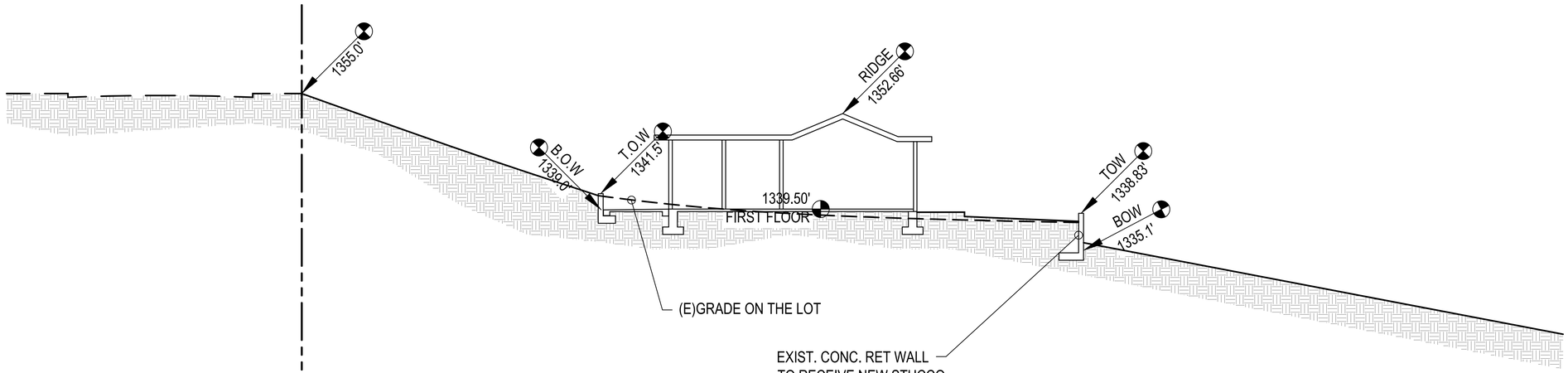
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NEIGHBOR VICINITY MAP

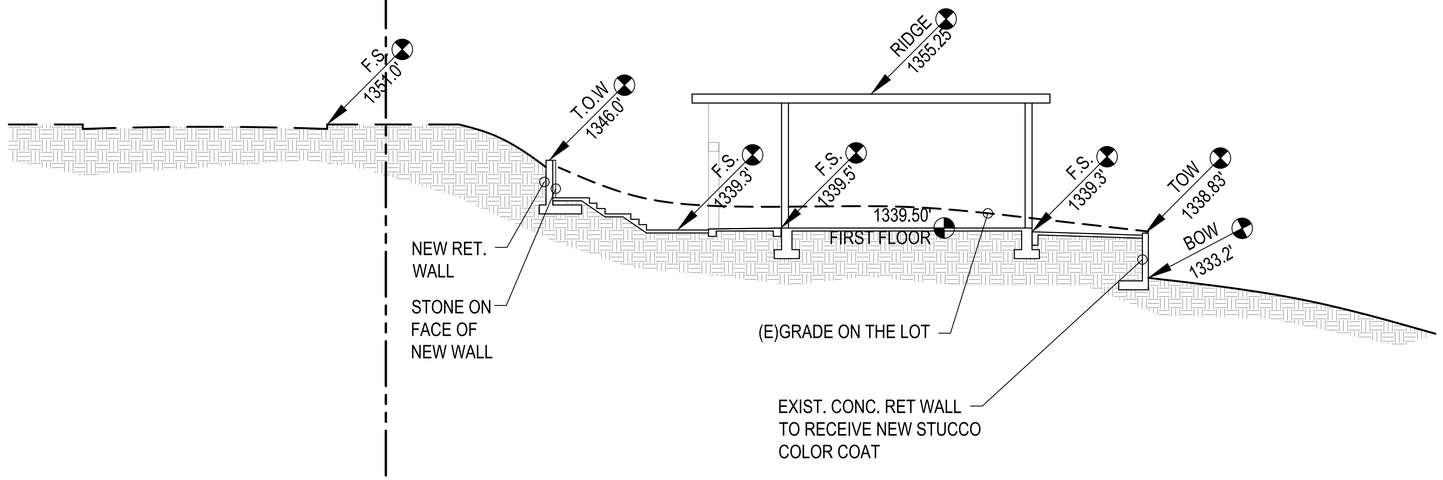
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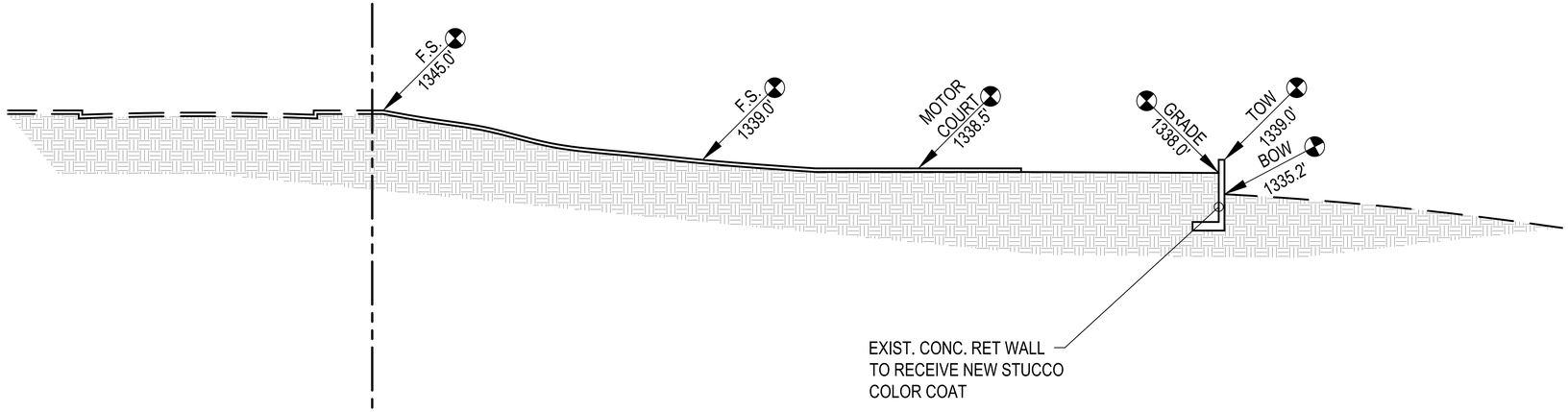
SITE SECTION C-C

SCALE: 1/ 8" = 1'-0"



SITE SECTION B-B

SCALE: 1/ 8" = 1'-0"



SITE SECTION A-A

SCALE: 1/ 8" = 1'-0"

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LOUIE TOMARO
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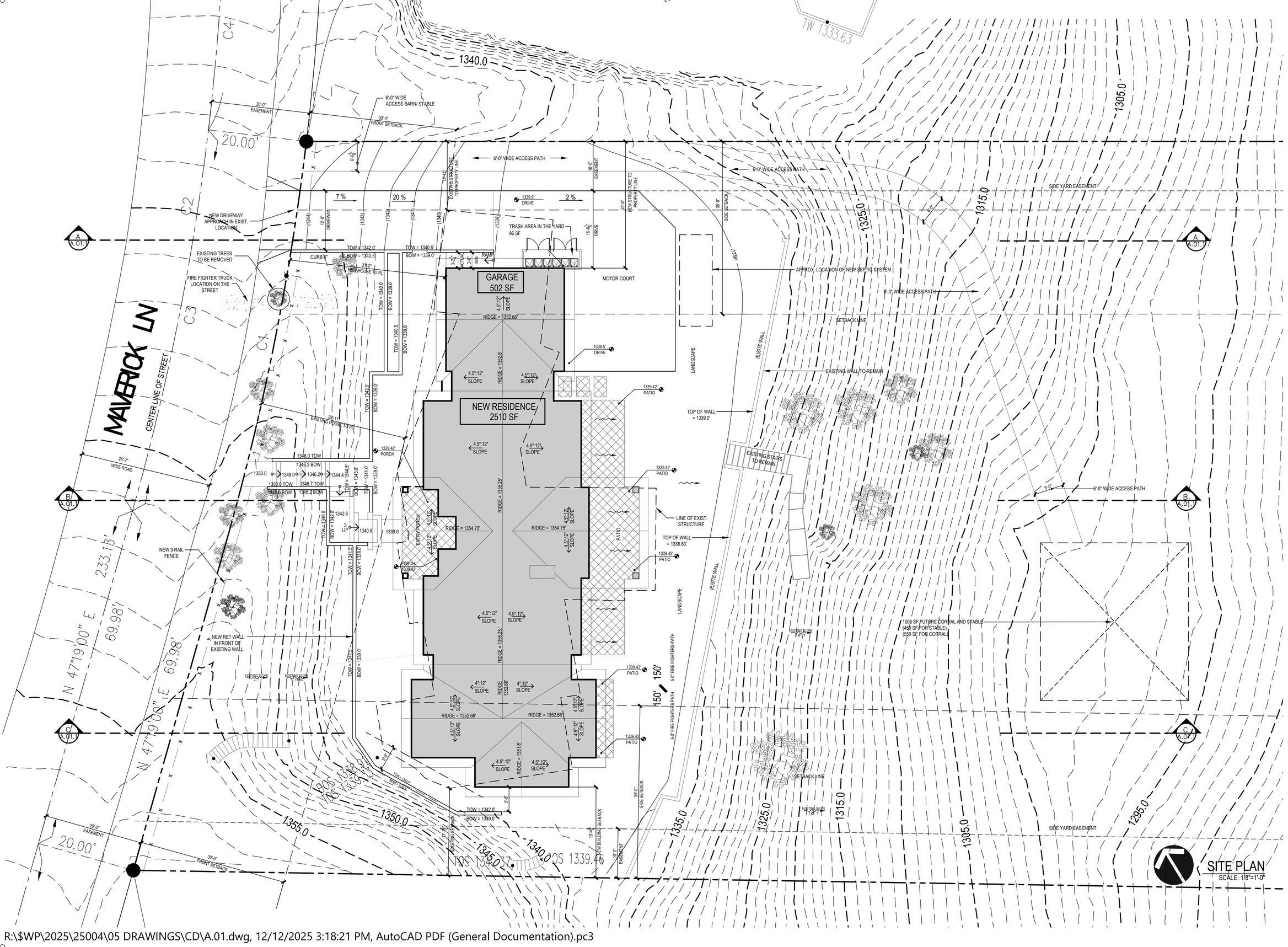
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DRAWING

SITE SECTION

SHEET NUMBER

A.01.1



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CALIFORNIA 90274

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NUMBER	DESCRIPTION	DATE

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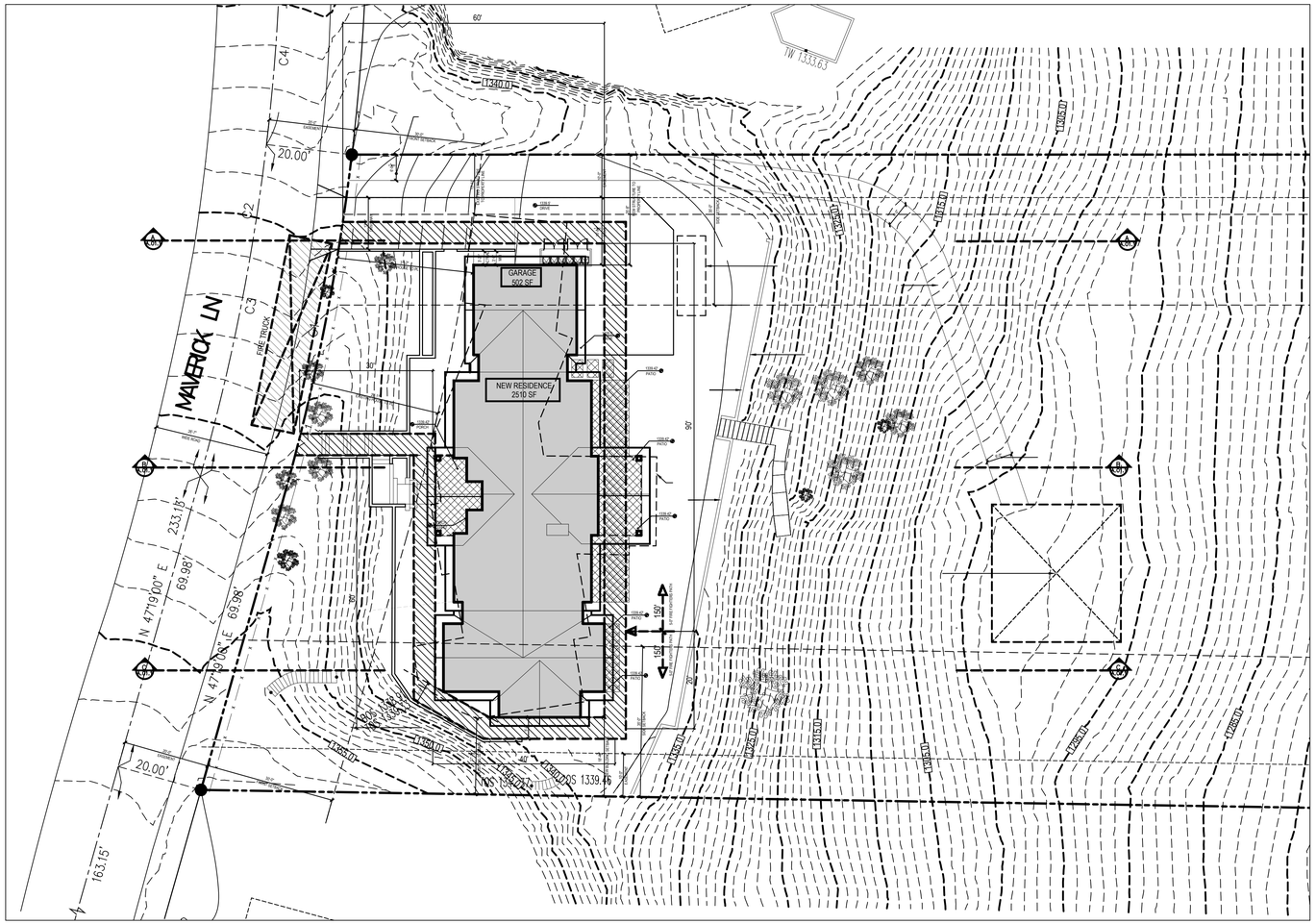
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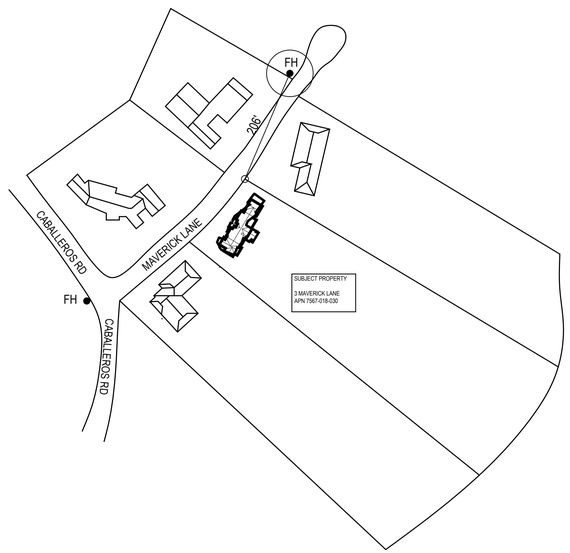
SITE PLAN

SHEET NUMBER

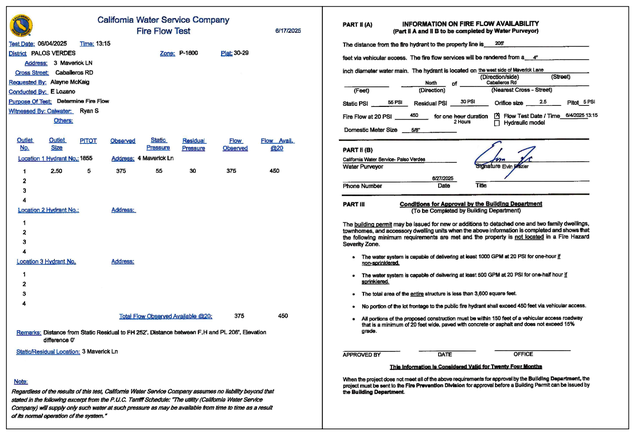
A.01



SITE PLAN
SCALE: 1/16"= 1'-0"



FIRE HYDRANT LOCATION NTS



California Water Service Company
Fire Flow Test
6/17/2025

Test Date: 06/04/2025 Time: 13:15
District: PALOS VERDES Zone: P-1600 Plat: 30-29
Address: 3 Maverick LN
Cross Street: Caballeros RD
Requested By: Alayne McKaig
Conducted By: E Lozano
Purpose Of Test: Determine Fire Flow
Witnessed By: Caliester: Ryan S
Others:

Outlet No.	Outlet Size	PITOT	Observed	Static Pressure	Residual Pressure	Flow Observed	Flow Avail. @20
Location 1 Hydrant No.: 1655			Address: 4 Maverick Ln				
1	2.50	5	375	55	30	375	450
2							
3							
4							
Location 2 Hydrant No.:			Address:				
1							
2							
3							
4							
Location 3 Hydrant No.			Address:				
1							
2							
3							
4							
			Total Flow Observed Available @20:			375	450

Remarks: Distance from Static Residual to FH 252', Distance between F.H and PL 206', Elevation difference 0'

Static/Residual Location: 3 Maverick Ln

Note:
Regardless of the results of this test, California Water Service Company assumes no liability beyond that stated in the following excerpt from the P.U.C. Tariff Schedule: "The utility (California Water Service Company) will supply only such water at such pressure as may be available from time to time as a result of its normal operation of the system."

PART II (A) **INFORMATION ON FIRE FLOW AVAILABILITY**
(Part II A and II B to be completed by Water Purveyor)

The distance from the fire hydrant to the property line is 209' feet via vehicular access. The fire flow services will be rendered from a 4" inch diameter water main. The hydrant is located on the west side of Maverick Lane (Direction/Side) (Street) North of Caballeros Rd (Direction) (Nearest Cross - Street)

Static PSI 56 PSI Residual PSI 30 PSI Orifice size 2.5 Pitot 5 PSI
Fire Flow at 20 PSI 450 for one hour duration 2 Hours
[X] Flow Test Date / Time 6/4/2025 13:15
[ ] Hydraulic model
Domestic Meter Size 5/8"

PART II (B)
California Water Service- Palos Verdes
Water Purveyor
Signature (Fire Official)
6/27/2025
Phone Number Date Title

PART III **Conditions for Approval by the Building Department**
(To be Completed by Building Department)

The building permit may be issued for new or additions to detached one and two family dwellings, townhomes, and accessory dwelling units when the above information is completed and shows that the following minimum requirements are met and the property is not located in a Fire Hazard Severity Zone.

- The water system is capable of delivering at least 1000 GPM at 20 PSI for one-hour if non-sprinklered.
- The water system is capable of delivering at least 500 GPM at 20 PSI for one-half hour if sprinklered.
- The total area of the entire structure is less than 3,600 square feet.
- No portion of the lot frontage to the public fire hydrant shall exceed 450 feet via vehicular access.
- All portions of the proposed construction must be within 150 feet of a vehicular access roadway that is a minimum of 20 feet wide, paved with concrete or asphalt and does not exceed 15% grade.

APPROVED BY DATE OFFICE

This Information is Considered Valid for Twenty Four Months

When the project does not meet all of the above requirements for approval by the Building Department, the project must be sent to the Fire Prevention Division for approval before a Building Permit can be issued by the Building Department.

FIRE DEPARTMENT NOTES:

1. APPROVED BUILDING ADDRESS NUMBERS, BUILDING NUMBERS OR APPROVED BUILDING IDENTIFICATION SHALL BE PROVIDED AND MAINTAINED SO AS TO BE PLAINLY VISIBLE AND LEGIBLE FROM THE STREET FRONTING THE PROPERTY. THE NUMBERS SHALL CONTRAST WITH THEIR BACKGROUND, BE ARABIC NUMERALS OR ALPHABET LETTERS, AND BE A MINIMUM OF 4 INCHES HIGH WITH A MINIMUM STROKE WIDTH OF 0.5 INCH. FIRE CODE 505.1
2. ALL FIRE HYDRANTS SHALL MEASURE 6" X 4" X 2-1/2", BRASS OR BRONZE, CONFORMING TO AMERICAN WATER WORKS ASSOCIATION STANDARD C503, OR APPROVED EQUAL.
3. The exposed roof deck on the underside of unenclosed roof eaves shall consist of one or more of the following: 1. Noncombustible material. 2. Ignition-resistant material. The ignition-resistance material shall be labeled for exterior use and shall meet the requirements of Section 704A.2. 3. Fire-retardant-treated wood. The fire-retardant-treated wood shall be labeled for exterior use and shall meet the requirements of Section 2303.2 of the California Building Code. 4. Materials approved for not less than 1-hour fire-resistance-rated construction on the exterior side, as tested in accordance with ASTM E119 or UL 263. 5. One layer of 5/8-inch Type X gypsum sheathing applied behind an exterior covering on the underside of the roof deck. 6. The exterior portion of a 1-hour-fire-resistance-rated exterior assembly, as tested in accordance with ASTM E119 or UL 263, applied to the underside of teh roof deck designed for exterior fire exposure, including assemblies using the gypsum panel and sheathing products lised in the Gypsum Association Fire Resistance Design Manual. Residential Code R337.7.5 and Building Code 707A.5..
4. The exposed underside of enclosed roof eaves having either a boxed-in roof eave soffit with a horizontal underside, or sloping rather tails with an exterior covering applied to the underside of the rafter tails, shall be protected by one or more of the following: 1. Noncombustible material .2. Ignition-resistant material. The ignition-resistant material shall be labeled for exterior use and shall meet the requirements of Section R337.4.2. 3. Fire-retardant-treated wood. The fire-retardant-treated wood shall be labeled for exterior use and shall meet requirements of Section 2303.2 of the California Building Code. 4. Materials approved for not less than 1-hour fire resistance-rated construction on the exterior side, as tested in accordance with ASTM E119 or UL 263. 5. One layer of 5/8-inch (16mm) Type X gypsum sheathing applied behind the exterior covering or cladding on the underside of the rafter tails or soffit. 6. The exterior portion of a 1-hour fire resistive exterior assembly applied to the underside of the rafter tails or soffit, including assemblies using the gypsum panel and sheathing products listed in the Gypsum Association Fire Resistance Design Manual. 7. Boxed-in roof eave soffit assemblies with a horizontal underside that meet the performance criteria in Section R337.7.11 when tested in accordance with the test procedures set forth in ASTM E2957. 8. Boxed-in roof eave soffit assemblies with a horizontal underside that meets the performance criteria in accordance with the test procedures set forth in SFM Standard 12-7A-3.SL Residential Code R337.7.6 and Building Code 707A.6.
5. Exterior windows, skylights and exterior glazed door assemblies shall comply with one of the following requirements: 1. Be constructed of multipane glazing with a minimum of one tempered pane meeting the requirements of Section R308 Safety Glazing, OR 2. Be constructed of glass block units, OR 3. Have a fire-resistance rating of not less than 20 minutes when tested according to NFPA 257, OR 4. Be tested to meet the performance requirements of SFM 12-7A-2 , Residential Code R337.8.2.1 and Building Code 708A.2.1.
6. **Exterior doors shall comply with one of the following: 1. The exterior surface or cladding shall be of noncombustible or ignition-resistant material, OR 2. The exterior surface or cladding shall be of ignition-resistant material, OR 3. The exterior door shall be constructed of solid core wood that complies with the following requirements: 3.1. Stiles and rails shall not be less than 1 3/8 inches thick. 3.2. Panels shall not be less than 1 ¼ inches thick, except for the exterior perimeter of the panel that shall be permitted to taper to a tongue not less than 3/8 inch thick, OR 4. The exterior door assembly shall have a fire-resistance rating not less than 20 minutes fire resistance rating when tested according to NFPA 252, OR 5. The exterior surface or cladding shall be tested to meet the performance requirements of SFM Standard 12-7A-1. Residential Code R337.8.3 and Building Code 708A.3. **INDICATE ON ADU DOOR SCHEDULE. LABEL ADU DOOR SCHEDULE.** ACTION REQUIRED: Indicate one of the above methods in the window/door schedule or on the floor plan.**
7. CLEARANCE OF BRUSH AND VEGETATIVE GROWTH SHALL BE MAINTAINED PER FIRE CODE 325 ACTION REQUIRED. PROVIDE NOTE ON SITE PLAN.
8. SMOKE ALARMS SHALL BE INSTALLED IN THE FOLLOWING LOCATIONS: 1. IN EACH SLEEPING ROOM. 2. OUTSIDE EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS. 3. ON EACH ADDITIONAL STORY OF THE DWELLING, INCLUDING BASEMENTS AND HABITABLE ATTICS BUT NOT INCLUDING CRAWL SPACES AND UNINHABITABLE ATTICS. IN DWELLINGS OR DWELLING UNITS WITH SPLIT LEVELS AND WITHOUT AN INTERVENING DOOR BETWEEN THE ADJACENT LEVELS, A SMOKE ALARM INSTALLED ON THE UPPER LEVEL SHALL SUFFICE FOR THE ADJACENT LOWER LEVEL PROVIDED THAT THE LOWER LEVEL IS LESS THAN ONE FULL STORY BELOW THE UPPER LEVEL. WHEN MORE THAN ONE SMOKE ALARM IS REQUIRED TO BE INSTALLED WITHIN AN INDIVIDUAL DWELLING UNIT THE ALARM DEVICES SHALL BE INTERCONNECTED IN SUCH A MANNER THAT THE ACTUATION OF ONE ALARM WILL ACTIVATE ALL OF THE ALARMS IN THE INDIVIDUAL UNIT. RESIDENTIAL CODE R314.3
9. SMOKE ALARMS SHALL RECEIVE THEIR PRIMARY POWER SOURCE FROM THE BUILDING WIRING PROVIDED THAT SUCH WIRING IS SERVED FROM A COMMERCIAL SOURCE AND SHALLBE EQUIPPED WITH BATTERY BACK-UP.
10. WHEN MORE THAN ONE SMOKE ALARM IS REQUIRED TO BE INSTALLED WITHIN AN INDIVIDUAL DWELLING UNIT THE ALARM DEVICES SHALL BE INTERCONNECTED IN SUCH A MANNER THAT THE ACTUATION OF ONE ALARM WILL ACTIVATE ALL OF THE ALARMS IN THE INDIVIDUAL UNIT. RESIDENTIAL CODE R314.3
11. SINGLE- AND MULTIPLE- STATION CARBON MONOXIDE ALARMS SHALL BE LISTED AS COMPLYING WITH THE REQUIREMENTS OF URL 2034. CARBON MONOXIDE DETECTORS SHALL BE LISTED AS COMPLYING WITH THE REQUIREMENTS OF URL 2075. CARBON MONOXIDE ALARMS REQUIRED BY (SECTIONS R315.1 AND R315.2) OR (SECTIONS 420.4.1 AND 420.4.2) SHALL BE INSTALLED IN THE FOLLOWING LOCATIONS: 1. OUTSIDE OF EACH SEPARATE DWELLING UNIT SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOM(S). 2. ON EVERY LEVEL OF A DWELLING UNIT INCLUDING BASEMENTS. 3. FOR R-1 ONLY, A. ON THE CEILING OF SLEEPING UNITS WITH PERMANENTLY INSTALLED FUEL-BURNING APPLIANCES. RESIDENTIAL CODE R315.3, BUILDING CODE 420.4.3
12. WHEN MORE THAN ONE CARBON MONOXIDE ALARM IS REQUIRED TO BE INSTALLED WITHIN AN INDIVIDUAL DWELLING UNIT THE ALARM DEVICES SHALL BE INTERCONNECTED IN SUCH A MANNER THAT THE ACTUATION OF ONE ALARM WILL ACTIVATE ALL OF THE ALARMS IN THE INDIVIDUAL UNIT. RESIDENTIAL CODE R315.5
13. CARBON MONOXIDE ALARMS SHALL RECEIVE THEIR PRIMARY POWER SOURCE FROM THE BUILDING WIRING PROVIDED THAT SUCH WIRING IS SERVED FROM A COMMERCIAL SOURCE AND SHALL BE EQUIPPED WITH BATTERY BACK-UP.
14. ALL REQUIRED PUBLIC FIRE HYDRANTS SHALL BE INSTALLED, TESTED AND ACCEPTED PRIOR TO BEGINNING CONSTRTUCTION. FIRE CODE 501.4
15. SPACING OF THE FIRE HYDRANTS SHALL NOT EXCEED THE DISTANCES SPECIFIED IN FIRE CODE C105.2 TROUGH C106.1

FIRE HYDRANT LOCATION AND INFO FOR 3 MAVERICK LANE,RH 90274

STATIC PRESSURE = 55 PSI
RESIDUAL PRESSURE = 30 PSI
ORIFICE SIZE = 2.5"
PILOT = 5 PSI
FIRE FLOW @ 20 PSI = 450 GPM FOR 2 HOURS

THE REQUIRED FIRE FLOW IS BASED ON THE FOLOWING CALCULATION

TYPE OF CONSTRUCTION PER THE BUILDING CODE: .....TYPE V-N
VHFHSZ ..... YES
FIRE FLOW CALCULATION AREA..... SF
FIRE FLOW BASED ON THE FIRE FLOW CALCULATION AREA... gpm
REDUCTION FOR THE SPRINKLERS (MAX 50%).....gpm (min)
TOTAL FIRE FLOW REQUIRED..... .....1,250 gpm

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@TOMAROARCHITECTURE

PROJECT
KARATSU RESIDENCE
3 MAVERICK LANE
ROLLING HILLS
CALIFORNIA 90274

STAMP

PROJECT NUMBER
25004

PRINT DATE

REVISIONS

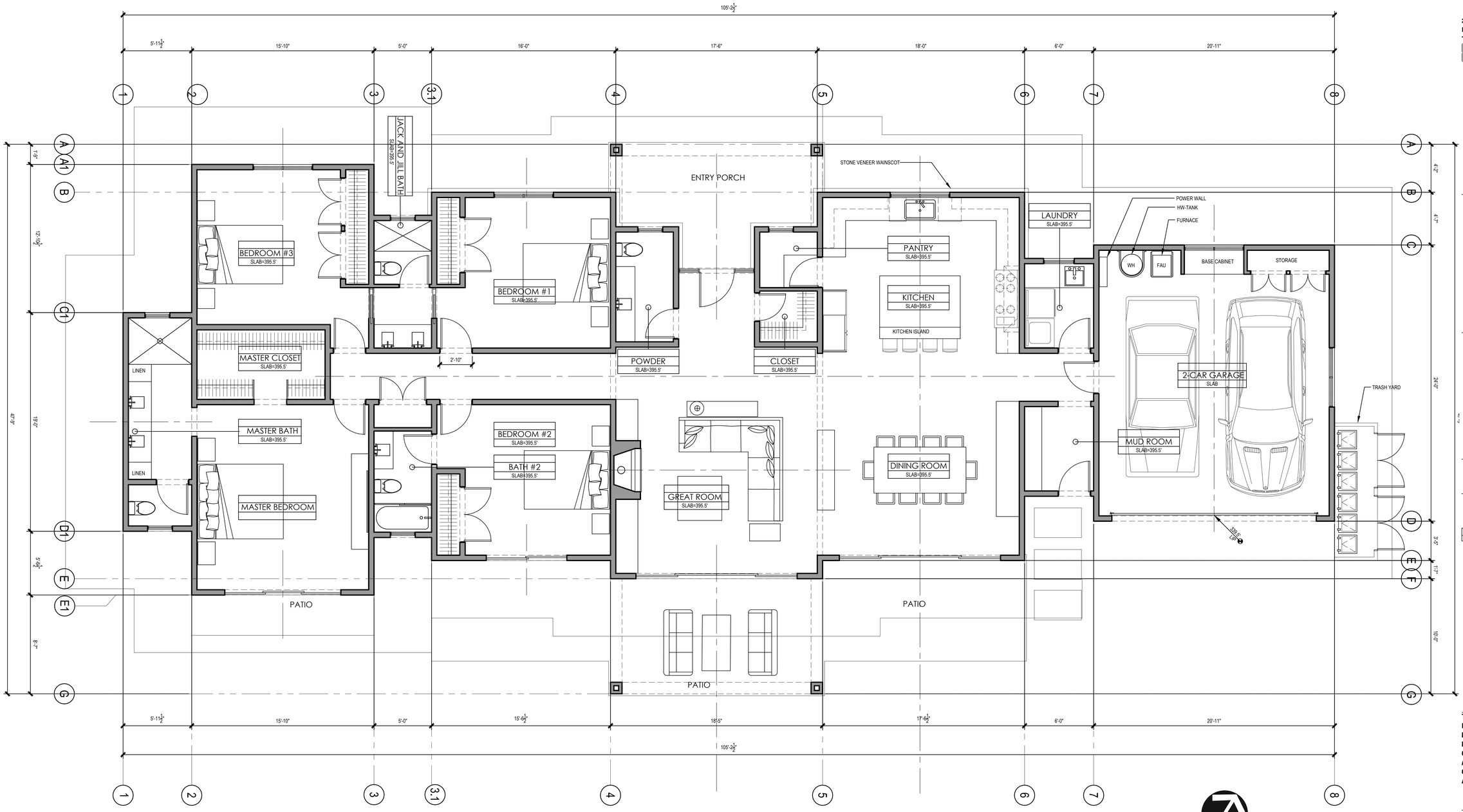
REVISION SCHEDULE		
NUMBER	DESCRIPTION	DATE

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DRAWING
SITE PLAN FIRE DEPARTMENT

SHEET NUMBER
A.01.2

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FLOOR PLAN
SCALE: 1/4"=1'-0"

PROJECT

KARATSU RESIDENCE

3 MAVERICK LANE
ROLLING HILLS
CALIFORNIA 90274

STAMP

PROJECT NUMBER
25004

PRINT DATE

REVISIONS

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FLOOR PLAN

SHEET NUMBER
A.02

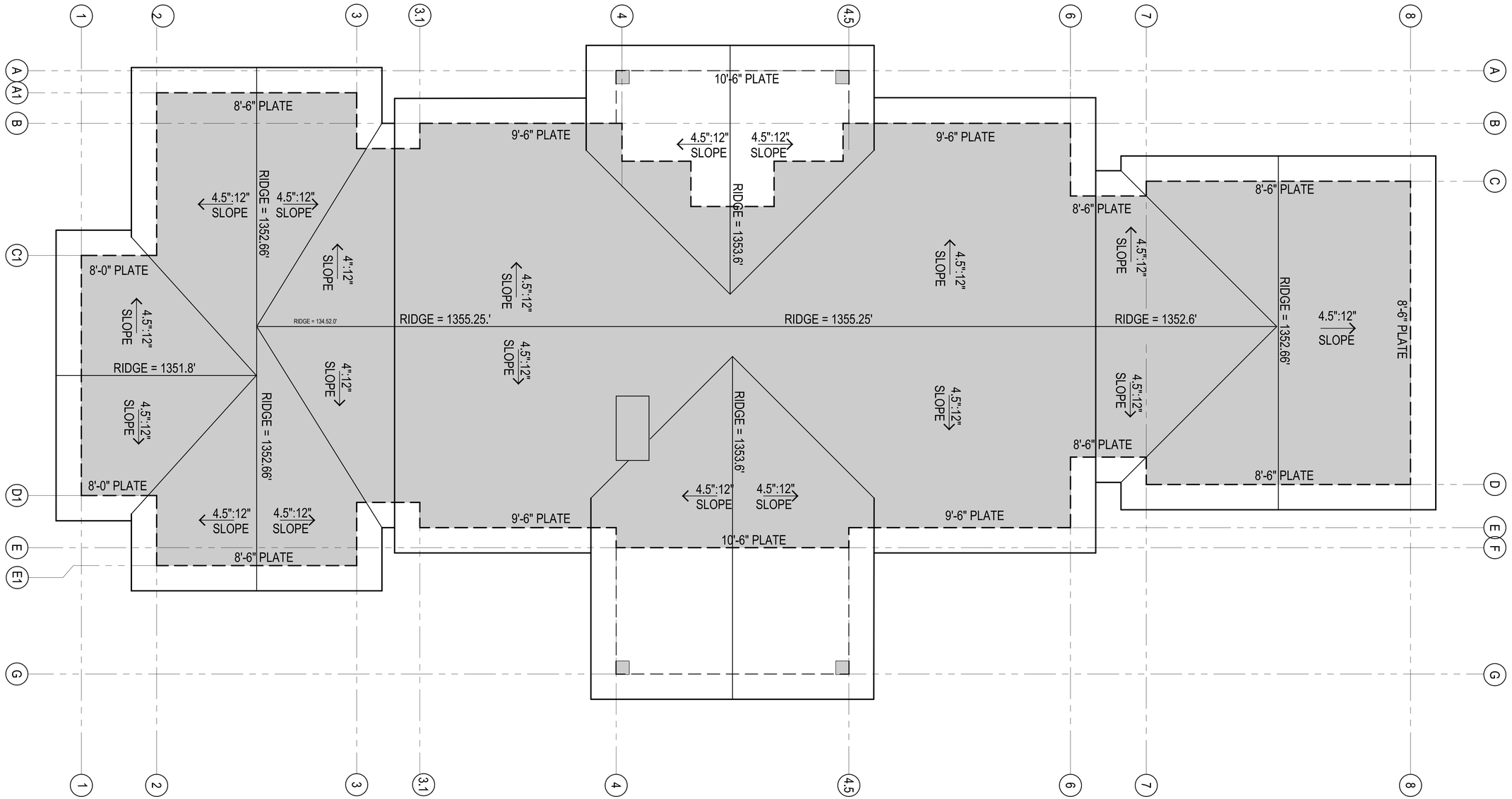


PLATE HT CALCULATIONS		
PERIMETER OF BUILDING = 304 LF		
8'-6" PLATE = 171 FT	56.4%	- 50% MIN REQ'D
9'-6" PLATE = 81 FT	27 %	- 30% MAX. ALOW.
10'-6" PLATE = 82 FT	17 %	- 20% MAX. ALOW.

ROOF PLAN
SCALE: 1/8"=1'-0"

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PROJECT
KARATSU RESIDENCE
3 MAVERICK LANE
ROLLING HILLS
CALIFORNIA 90274

STAMP

PROJECT NUMBER
25004

PRINT DATE

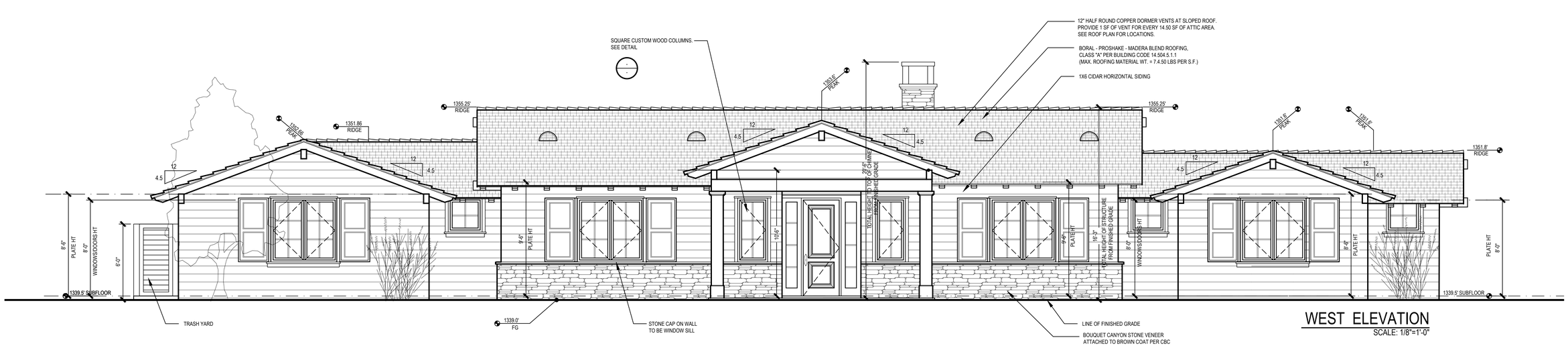
REVISIONS

REVISION SCHEDULE		
NUMBER	DESCRIPTION	DATE

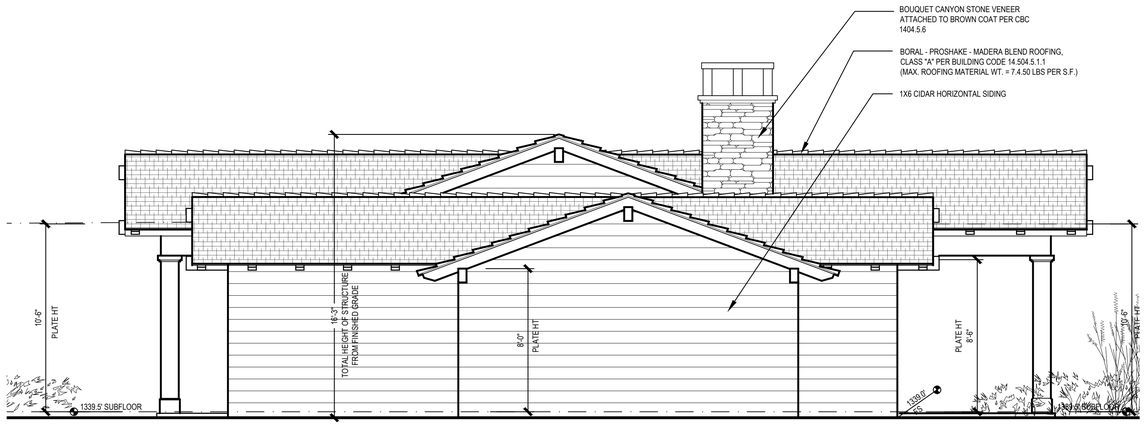
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DRAWING
ROOF PLAN

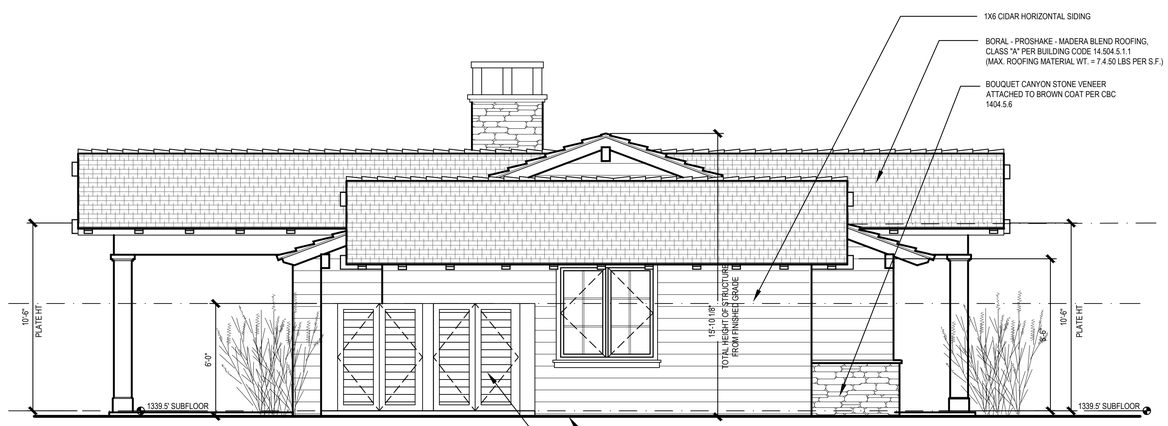
SHEET NUMBER
A.03



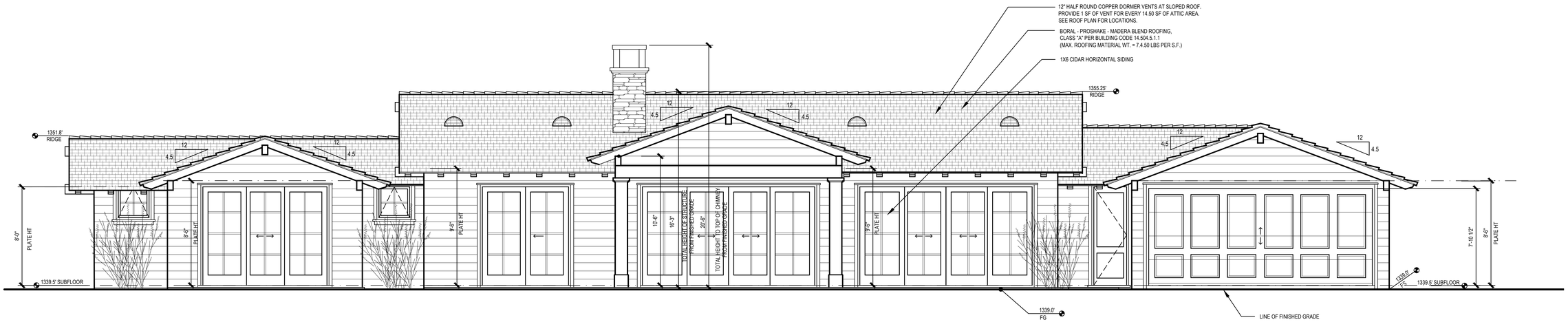
WEST ELEVATION
SCALE: 1/8"=1'-0"



SOUTH ELEVATION (SIDE)
SCALE: 1/8"=1'-0"



NORTH ELEVATION (SIDE)
SCALE: 1/8"=1'-0"



EAST ELEVATION
SCALE: 1/8"=1'-0"

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PROJECT

KARATSU RESIDENCE

3 MAVERICK LANE
ROLLING HILLS
CALIFORNIA 90274

STAMP

LICENSED ARCHITECT
LOUIE TOMARO
C-22941
09 - 30 - 2027
RENEWAL DATE
STATE OF CALIFORNIA

PROJECT NUMBER
25004

PRINT DATE

REVISIONS

REVISION SCHEDULE		
NUMBER	DESCRIPTION	DATE

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DRAWING
ELEVATIONS

SHEET NUMBER
A.04

City of Rolling Hills INCORPORATED JANUARY 24, 1957

2 PORTUGUESE BEND ROAD, ROLLING HILLS, CA 90274 | (310) 377-1521

Item: 10.B.
Meeting Date: 3/9/2026

To: City Council

From: Reina Schaetzl, Wildan Principal Planner

Thru: Karina Bañales, City Manager

Subject: Receive and file Zoning Case No. 25-115: Site plan review for new construction, non-exempt grading and related improvements; variances for an attached garage within front yard, addition to home in side yard, and to exceed 40 percent disturbance; and finding the project exempt from the California Environmental Quality Act for location at 2 Williamsburg Lane (Paesano) (Lots 44, 45, & 46-A-RH)

Background:

Zoning, Location, and Lot Description

The property is an irregular-shaped parcel zoned RAS-1 with Overlay Zoned District (OZD-1), located just east of Middleridge Road with frontage on Middleridge Road and Williamsburg Lane. The net lot size is 54,525 square feet (1.25 acres) and includes a 15-foot-wide roadway easement along Williamsburg Lane.The subject property is currently developed with:

- 3,100 square-foot single-family residence;
- 540 square-foot attached garage;
- 490 square-foot swimming pool;
- 75 square feet of pool equipment;
- 65 square-foot stable;
- 230 square-foot attached trellis; and
- 90 square-foot service yard.

The first residential building pad is 7,010 square feet and contains the existing house, garage, and pool The second pad is 2,275 square feet, and includes the existing stable and additional set aside area for the potential stable expansion and a corral.

Previous Approvals

On May 25, 1995, the Traffic Commission recommended approval of the applicant's request for a revised driveway apron. This request consisted of a reduction of a 46-foot-wide curb to be cut to 24 feet, which extends 11 feet east from its original location.

On December 19, 1995, the Planning Commission approved Resolution No. 95-22 for a Variance to

encroach into the front yard setback to construct a bay window and a Variance to encroach into the front yard setback to construct an entry porch.

Planning Commission Approval January 27, 2026
On January 27, 2026, the Planning Commission held a morning field trip at the subject property, with Chair Chelf absent. Vice Chair Kirkpatrick and Commissioner Soo recused themselves due to proximity to the project but the Vice Chair was allowed to participate to achieve a quorum. Additionally, Kathryn Bishop from the Rolling Hills Community Association, residents Leah Mirsch (4 Cinchring Road) and Dianna Nuccion (1 Williamsburg Lane) were present at the morning field trip. The applicant's architect was also in attendance. Chair Chelf was able to attend a separate field trip later that morning. No major concerns were reported and the field trip proceeded to the public hearing meeting later that evening at City Hall. All Commissioners were present. During the evening public hearing, staff presented the project. The applicants' architect attended the evening meeting, and no members of the public were present. Vice Chair Kirkpatrick and Commissioner Soo recused themselves due to proximity to the project. After review and discussion, the Commission voted unanimously (3-0) to approve the project and adopted Resolution number 2026-02 (Attachment D).

Discussion:
Applicant Request
On August 8, 2025, an application was duly filed by Miles Pritzkat & Johnson Architects, agent for John and Wendy Paesano, requesting approval of the following proposed improvements (collectively referred to as the “Project”):

- 900 square-foot addition to the main residence;
- Conversion of 540 square-feet of existing attached garage to living area;
- 1,150 square-foot basement;
- 705 square-foot attached garage.

In addition to the above structures, the Project also includes a new 775 square-foot pool and spa to replace the existing pool with hardscape, landscaping, and other related site work improvements. Additional features, such as the outdoor kitchen, chicken coop, pool equipment, and other hardscape elements, are proposed but are not subject to discretionary review.

A preliminary landscape plan has been prepared and will be reviewed by the City's landscape consultant for compliance with the Model Water Efficient Landscape Ordinance (MWELO). The review shall include a planting plan that will consider the appropriateness and adaptability of selected plant materials, water-efficient irrigation design, and the integration of design elements that complement the character of the community.

Site Plan Review
Site Plan Review is required for construction of any new building or structure pursuant to Rolling Hills Municipal Code (“RHMC”) Section 17.46.020. The applicant is proposing an expansion of the existing residence and garage, resulting in a footprint of approximately 4,000 square feet of total floor area.

The proposed grading for the residence is 730 cubic yards (“CY”) of export and 703 cubic yards of fill, for a total of 1,433 cubic yards. The basement excavation consists of 27 CY of export of soil, which is exempt from total grading measurements, as per RHMC 17.16.230. The plans for this project can be found in Attachment E.

Variances

RHMC Section 17.17.030 requires a 30’ front yard setback from the front easement line for structures in OZD-1 and RHMC Section 17.16.120 requires a 20’ side yard setback from the property line for any structures in RAS-1. The applicant is requesting to construct the attached garage within the front yard setback line and the proposed basement/home addition within the side yard setback line. Given the irregular shape of the lot and expansive street frontages along both Middleridge Road and Williamsburg Lane, the front setback area is narrow and the buildable pad area is limited to the west side of Williamsburg Lane. Given this shape, and limits of buildable pad area, a Variance is warranted.

RHMC Section 17.16.070(B) limits the amount of disturbed area to 40% of the net lot area. The project proposal exceeds the total disturbance by 4% for a total of 44%. Given the limited buildable area along the street frontages, shape of the lot and limited buildable area to the east of the property along Williamsburg, a variance is warranted.

Lot Merger
2 Williamsburg is recorded as three separate lots. Although the lots share one Assessor Parcel Number, the lots are considered separate and distinct, which poses a risk that the Project will cross over the lot lines. The City's Zoning Code prohibits such development, and Section 706 of the California Building Codes requires the construction of fire walls for structures that cross lot lines.

In order to address the issue, City staff have added as a condition of approval that the Applicant merge the three lots into a single parcel. Although the City does not have an ordinance governing lot mergers, the Subdivision Map Act allows a merger of four or fewer contiguous parcels through a lot line adjustment (Government Code Section 66412(d).) The lot line adjustment would move all lot lines so that each lot line is coterminous with each other, effectively merging the lots. In order to avoid additional requirements from the California Building Codes, the lot line adjustment shall be recorded prior to the issuance of a building permit.

MUNICIPAL CODE COMPLIANCE

Lot Coverage and Building Pad Coverage
The Project complies with all required setbacks in the RAS-1 Zone, OZD-1 Overlay Zone, and meets the Zoning Code lot coverage standards in the RHMC. The existing structural lot coverage is 5,350 square feet (9.8%), and the project proposes a net addition of 1,670 square feet (3.1%) for a total of 7,020 square feet (12.9%) of structural lot coverage. This is well below the maximum allowed 20% structural coverage.

The existing flatwork coverage is 4,007 square feet (7.3%). The flatwork onsite will be increased by 1,126 square feet (2.1%) upon approval of the project and the new flatwork area will total 5,133 square feet (9.4%). The maximum allowable is 15% flatwork coverage. See the “Development Table” (Attachment C) for further details.

Finally, the total lot coverage will result in 12,033 square feet or 22.1%, which is below the 35% structural and flatwork total coverage guideline. The development table can be found in Attachment C.

Staff has included a radius map (Attachment A) and a vicinity map (Attachment B).

Neighbor Support
Three public comments (Attachment F) were received and included.

Pulic Concerns

There have been no responses to the public hearing notices mailed on January 15, 2026.

Review by RHCA
The Rolling Hills Community Association reviewed and conceptually approved the attached garage and residence plans on May 20, 2025, subject to City approvals.

Environmental Review
The Project has been determined to be exempt from the California Environmental Quality Act (CEQA) Guidelines pursuant to Section 15303, Class 3 (New Construction or Conversion of Small Structures), which exempts the construction and location of a limited number of new, small facilities or structures, including single family residence and accessory structures, including but not limited to garages, carports, patios, swimming pools and fences.

Additional Information:
For informational purposes only, the residence is working with the RHCA and Southern California Edison to underground utility lines, which are outside the scope of the Planning Commission's review and this project.

Fiscal Impact:
None.

Recommendation:
Receive and file.

Attachments:
1. Attachment A - PL_ADR_260309_2WilliamsburgLn_ZC25-115_RadiusMap
2. Attachment B - PL_ADR_260309_2WilliamsburgLn_ZC25-115_CC VicinityMap
3. Attachment C - PL_ADR_260114_2Williamsburg_DevelopmentTable_F
4. Attachment D - 2026-02_PC_Resolution_2WilliamsburgLn_ZC25-115_F_A_E
5. Attachment E - PL_ADR_260112_2WilliamsburgLn_ZC25-115_Plans_A
6. Attachment F - CL_AGN_260309_CC_Item10B_PublicComment



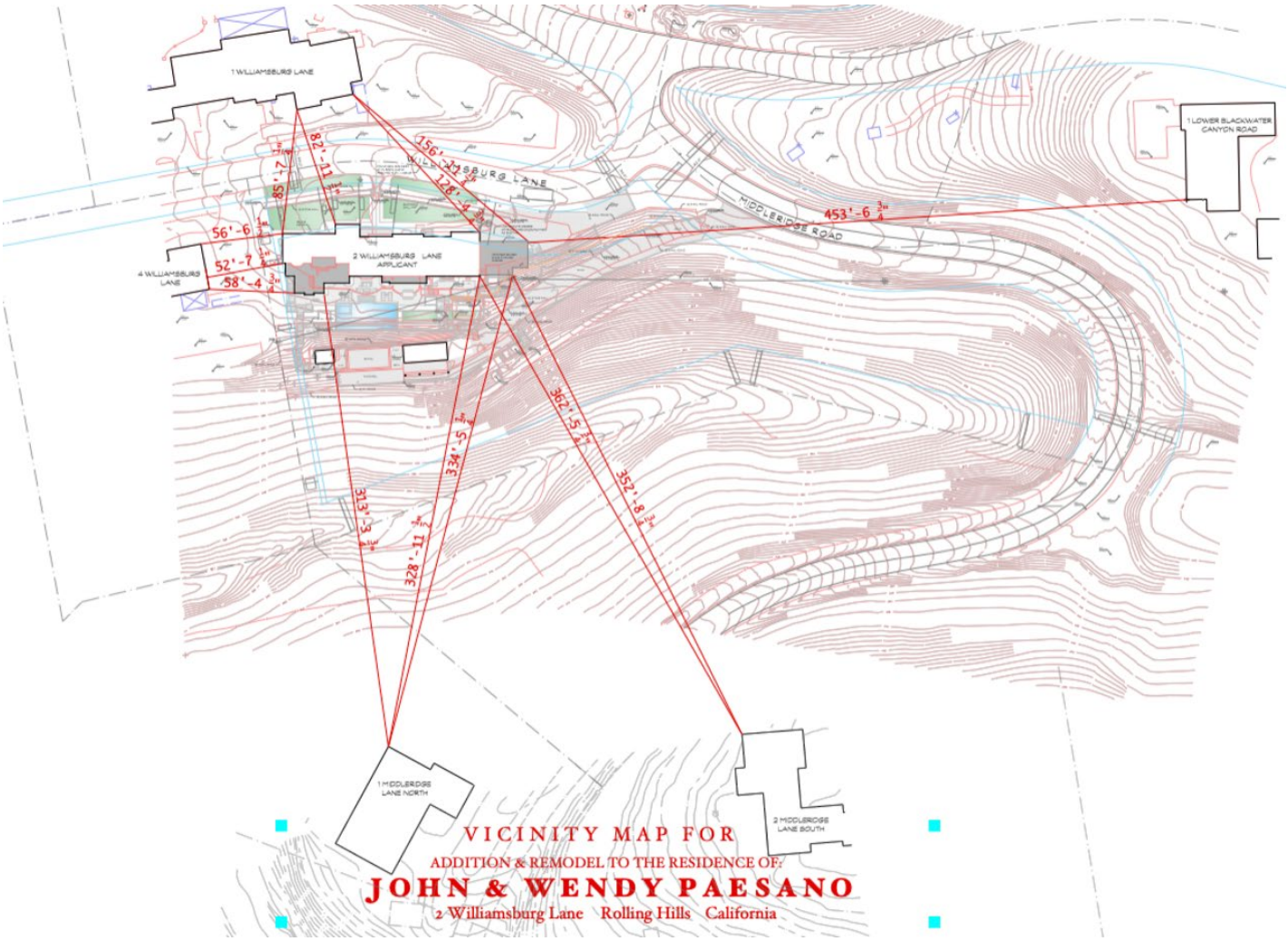
City of Rolling Hills

TITLE RADIUS MAP

CASE NO. Zoning Case No. 25-115
Site Plan Review & Variances

OWNER Paesano

ADDRESS 2 Williamsburg, Rolling Hills, CA 90274



City of Rolling Hills **ROLLING HILLS, CA 90274**

TITLE VICINITY MAP **CASE NO.** Zoning Case No. 25-115
Site Plan Review, Variance

OWNER Karatsu

ADDRESS 3 Maverick Lane, Rolling Hills 90274

Development Table Zoning Case No. 25-115 2 Williamsburg Ln.			
	EXISTING	**PROPOSED**	**TOTAL**
RAS-1 Zone/OZD-1	SINGLE FAMILY RESIDENCE, POOL, STABLE	SINGLE FAMILY RESIDENCE, POOL, STABLE	
Net Lot Area	54,525 SF	0 SF	54,525 SF
Residence	3,100 SF	900 SF	4,000 SF
Garage	540 SF	165 SF	705 SF
Swimming Pools/Spa	490 SF	285 SF	775 SF
Pool Equipment	75 SF	-15 SF	60 SF
Stable *existing 365 to be converted to 450 Min. setaside	365 SF	85 SF	450 SF
Corral (550 SF Min. set aside)	550 SF	0 SF	550 SF
Attached Covered Porches	0 SF	130 SF	130 SF
Attached Trellises	230 SF	0 SF	230 SF
Outdoor Kitchen + Fire Pit	0 SF	246 SF	246 SF
Service Yard (Min. 96 SF)	117 SF	0 SF	117 SF
Chicken Coop	0 SF	120 SF	120 SF
Basement Area	0 SF	1,150 SF	1,150 SF
Depth of Basement	0 SF	10 FT	10 FT
Primary Driveway	1,550 SF	100 SF	1,650 SF
Paved walkways/Patio Areas/Courtyards	1,540 SF	-240 SF	1,300 SF
Pool Decking	800 SF	900 SF	1,700 SF
Grading (balanced onsite, basement exempt)		730 CY CUT 703 CY FILL	1,433 CY TOTAL *27 CY export, basement exempt
Structural Lot Coverage (20% Max)	5,350 SF (9.8%)	1,670 SF (3.1%)	7,020 SF **(12.9%)**
Flatwork Lot Coverage (15% Max)	4,007 SF (7.3%)	1,126 SF (2.1%)	5,133 SF **(9.4%)**
Total Lot Coverage Structures + Flatwork (35% Max)	9,357 SF (17.2%)	2,676 SF (4.9%)	12,033 SF **(22.1%)**
Building Pad 1 Coverage	3,757 SF (53.6%) 7,010 SF Existing Pad Area	1,350 SF (19.3%) +720 SF Proposed Pad Area	5,107 SF **(66.1%)** 7,730 SF Total Pad Area
Building Pad 2 Coverage	930 SF (40.9%) 2,275 SF Existing Pad Area	70 SF (3.1%) +710 SF Proposed Pad Area	1,000 SF **(33.5%)** 2,985 SF Total Pad Area
Total Disturbed Area (40% Max.)	23,800 SF (43.6%)	385 SF (0.7%)	24,185 SF **(44.4%)**
Building Heights Maximum (21 FT Max.)	20 FT	1 FT IN	21 FT IN

RESOLUTION NO. 2026-02

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF ROLLING HILLS GRANTING APPROVAL OF SITE PLAN REVIEW FOR NEW CONSTRUCTION, NON-EXEMPT GRADING AND RELATED IMPROVEMENTS; VARIANCES FOR AN ATTACHED GARAGE WITHIN FRONT YARD, ADDITION TO HOME IN SIDE YARD, AND TO EXCEED 40 PERCENT DISTURBANCE; AND FINDING THE PROJECT EXEMPT FROM THE CALIFORNIA ENVIRONMENTAL QUALITY ACT FOR LOCATION AT 2 WILLIAMSBURG LANE (PAESANO) (LOTS 44, 45, & 46-A-RH)

THE PLANNING COMMISSION OF THE CITY OF ROLLING HILLS DOES HEREBY FIND, RESOLVE, AND ORDER AS FOLLOWS:

Section 1. On October 17, 2025, an application was duly filed by Miles Pritzkat & Johnson Architects, agent with respect to real property located at 2 Williamsburg Lane, Rolling Hills (LOTS 44, 45, & 46-A-RH) requesting a Site Plan Review for new construction including a new attached garage and non-exempt grading and related improvements; and variances for an attached garage within front yard, addition to home in side yard, and to exceed 40 percent disturbance.

Section 2. The property is zoned RAS-1 with Overlay Zoned District (OZD-1) and is 54,525 square feet (1.25 acres), as calculated for development purposes. located just east of Middleridge Road with frontage on Middleridge Road and Williamsburg Lane. The net lot size is 54,525 square feet (1.25 acres) and includes a 15-foot-wide roadway easement along Williamsburg Lane.

Section 3. The Planning Commission conducted duly noticed public hearings to consider the application at its field trip meeting and regular meeting on January 27, 2026. Neighbors within a 1,000-foot radius were notified of the public hearings and a notice was published in three public places on January 15, 2026. The applicants and their agent were notified of the public hearings in writing by first class mail and the agent was in attendance at the hearings. Evidence was heard and presented from all persons interested in affecting said proposal.

Section 4. The Planning Commission finds that the project qualifies as a Class 3 (New Construction or Conversion of Small Structures), which exempts the construction and location of a limited number of new, small facilities or structures, including accessory structures, including but not limited to garages, carports, patios, swimming pools and fences. Here, the proposed Project is the construction of an attached garage and single-family residence, and is therefore categorically exempt from environmental review under the California Environmental Quality Act.

Section 5. Site Plan Review Findings. Site Plan Review is required for construction of any new structure pursuant to RHMC Section 17.46.020. With respect to the Site Plan Review for the proposed development, the Planning Commission hereby makes the following findings:

A. The project complies with and is consistent with the goals and policies of the General Plan and all requirements of the zoning ordinance.

The proposed development is compatible with the General Plan, the Zoning Ordinance and surrounding uses because the proposed structures comply with the General Plan requirement of low profile, low-density residential development with sufficient open space between surrounding structures. The project conforms to Zoning Code setback requirements with the Variance approved by this Resolution. The lot is 1.25 acres net and 54,525 square feet net, as calculated for development purposes. The size of the existing and proposed structures will be 7,020 square feet, which constitutes 12.9% of the net lot area, and the flatwork and driveways will be 5,133 square feet which equals 9.4% of the net lot, and the total structural and flatwork is 12,033 square feet or 22.1% which is within the 35% maximum overall lot coverage permitted.

B. The project substantially preserves the natural and undeveloped state of the lot by minimizing building coverage. Lot coverage requirements are regarded as maximums, and the actual amount of lot coverage permitted depends upon the existing buildable area of the lot.

The project substantially preserves the natural and undeveloped state of the lot by minimizing building coverage. The topography and the configuration of the lot, has been considered, and it was determined that the proposed development will not adversely affect or be materially detrimental to adjacent uses, buildings, or structures because the proposed construction will be constructed on an existing building pad, will be the least intrusive to surrounding properties, will be screened and landscaped with mature trees and shrubs, is of sufficient distance from nearby residences so that it will not impact the view or privacy of surrounding neighbors, and will permit the owners to enjoy their property without deleterious infringement on the rights of surrounding property owners.

C. The project is harmonious in scale and mass with the site, the natural terrain and surrounding residences.

The proposed development, as conditioned, is harmonious in scale and mass with the site, and is consistent with the scale of the neighborhood when compared to properties in the vicinity. The proposed garage will be consistent with the pattern and style of the proposed residence.

D. The project preserves and integrates into the site design, to the greatest extent possible, existing topographic features of the site, including surrounding native vegetation, mature trees, drainage courses and land forms (such as hillsides and knolls).

The development plan incorporates existing trees and native vegetation to the maximum extent feasible. Specifically, the development plan will supplement the existing vegetation with landscaping that is compatible with and enhances the rural character of the community.

E. Grading has been designed to follow natural contours of the site and to minimize the amount of grading required to create the building area.

The development plan substantially preserves the natural and undeveloped state of the lot by reducing building coverage due to the decreased proposed footprint.

F. Grading will not modify existing drainage channels nor redirect drainage flow, unless such flow is redirected into an existing drainage course.

The property will still maintain the existing terrain and existing drainage will remain as there will be minimal and balanced proposed grading. Drainage will continue to flow in the existing drainage course.

G. The project preserves surrounding native vegetation and mature trees and supplements these elements with drought-tolerant landscaping which is compatible with and enhances the rural character of the community, and landscaping provides a buffer or transition area between private and public areas.

Landscaping will meet the requirements of the water efficient landscape ordinance and incorporate low impact development practices. Surrounding native vegetation and mature trees will not be affected and new landscaping will be considerate of the environment and will enhance the rural character of the community.

H. The project is sensitive and not detrimental to the convenience and safety of circulation for pedestrians and vehicles.

The proposed development is sensitive and not detrimental to the convenience and safety of circulation for pedestrians and vehicles because the proposed project will alter the existing circulation pattern to remove the existing driveway from the side yard easement and will re-establish the 10-foot easement minimum.

I. The project conforms to the requirements of the California Environmental Quality Act (CEQA).

The project is exempt from the requirements of the California Environmental Quality Act.

Section 6. Variance Findings. RHMC Sections 17.17.030 requires a 30’ front yard setback and RHMC Section 17.16.120 requires a 20’ side yard setback for all structures. The applicant is requesting to construct the new attached garage in front yard setback and the home addition with basement in the 20’ western side yard setback line. Additionally, the applicant is seeking relief from the Section 17.16.070(B) with regard to the amount of grading disturbance area.

With respect to the request for the Variances mentioned above, the Planning Commission finds as follows:

A. That there are exceptional or extraordinary circumstances or conditions applicable to the property that do not apply generally to other properties in the same vicinity and zone.

There are exceptional and extraordinary circumstances and conditions applicable to the property that do not apply generally to the other property or class of use in the same zone. The

property is zoned RAS-1 with OZD-1. The lot is irregular shaped with expansive street frontages along both Middleridge Road and Williamsburg Lane. Given these limitations, the front setback area is narrow and the buildable pad area is limited to the west side of Williamsburg Lane.

B. That such variance is necessary for the preservation and enjoyment of substantial property rights possessed by other properties in the same vicinity and zone but which is denied the property in question.

The Variance is necessary for the preservation and enjoyment of a substantial property right possessed by other property in the same vicinity and zone, but which is denied to the property in question. The Variance is necessary because the existing shape and terrain on the lot creates a difficulty in placing the proposed residence with the attached garage elsewhere on the property. As such, a Variance is warranted for the proposed Project.

C. That the granting of such variance will not be materially detrimental to the public welfare or injurious to properties or improvements in the vicinity.

The granting of the Variance would not be materially detrimental to the public welfare or injurious to the property or improvements in such vicinity and zone in which the property is located. The proposed residence will be constructed on existing building pads, will be the least intrusive to surrounding properties, are of sufficient distance from nearby residences so that they will not impact the view or privacy of surrounding neighbors, and will permit the owners to enjoy their property without deleterious infringement on the rights of surrounding property owners.

D. That in granting the variance, the spirit and intent of this title will be observed.

The granting of the variances will allow for development that is harmonious in scale and mass with the site, the natural terrain, and surrounding residences and will not give the property an over-built look. The proposed garage, basement/home addition and pool will improve the appearance of the property by providing required parking in the front and accessory structures in the rear of the property to enhance its livability.

E. That the variance does not grant special privilege to the applicant.

The variance does not grant special privileges for the Applicant, as the proposed residence design will provide a reasonably sized residence, and will result in a common amenity enjoyed by many other properties throughout the City. Strict application of the Zoning Code would deny the Applicant the same rights as other nearby homes as the Applicant would have less space to build than the neighboring properties. The project, together with the variance, will be compatible with the objectives, policies, general land uses, and programs specified in the General Plan.

F. That the variance is consistent with the portions of the County of Los Angeles Hazardous Waste Management Plan relating to siting and siting criteria for hazardous waste facilities.

Granting variances for the project will be consistent with the applicable portions of the Los Angeles County Hazardous Waste Management Plan related to siting criteria for hazardous waste facilities. The project site is not listed on the current State of California Hazardous Waste and Substances Sites List.

G. That the variance request is consistent with the General Plan of the City of Rolling Hills.

The proposed development is compatible with the General Plan, the Zoning Ordinance and surrounding uses because the proposed structures comply with the General Plan requirement of low profile, low-density residential development with sufficient open space between surrounding structures.

Section 8. Based upon the foregoing findings, and the evidence in the record, the Planning Commission hereby approves Zoning Case No. 25-115 subject to the following conditions:

A. The Site Plan and Variance approvals shall expire within two years from the effective date of approval as defined in RHMC Sections 17.46.080 and 17.38.070 of the Zoning Ordinance unless otherwise extended pursuant to the requirements of these sections.

B. If any condition of this resolution is violated, the entitlement granted by this resolution shall be suspended and the privileges granted hereunder shall lapse and upon receipt of written notice from the City, all construction work being performed on the subject property shall immediately cease, other than work determined by the City Manager or his/her designee required to cure the violation. The suspension and stop work order will be lifted once the Applicant cures the violation to the satisfaction of the City Manager or his/her designee. In the event that the Applicant disputes the City Manager or his/her designee's determination that a violation exists or disputes how the violation must be cured, the Applicant may request a hearing before the City Council. The hearing shall be scheduled at the next regular meeting of the City Council for which the agenda has not yet been posted; the Applicant shall be provided written notice of the hearing. The stop work order shall remain in effect during the pendency of the hearing. The City Council shall make a determination as to whether a violation of this Resolution has occurred. If the Council determines that a violation has not occurred or has been cured by the time of the hearing, the Council will lift the suspension and the stop work order. If the Council determines that a violation has occurred and has not yet been cured, the Council shall provide the Applicant with a deadline to cure the violation; no construction work shall be performed on the property until and unless the violation is cured by the deadline, other than work designated by the Council to accomplish the cure. If the violation is not cured by the deadline, the Council may either extend the deadline at the Applicant's request or schedule a hearing for the revocation of the entitlements granted by this Resolution pursuant to Chapter 17.58 of the Rolling Hills Municipal Code (RHMC).

C. All requirements of the Building and Construction Ordinance, the Zoning ordinance, and of the zone in which the subject property is located must be complied with unless otherwise a variance to such requirement has been approved.

D. The lot shall be developed and maintained in substantial conformance with the site plan on file at City Hall and approved by the Planning Commission on January 27, 2026 except as otherwise provided in these conditions. The working drawings submitted to the Department of Building and Safety for plan check review shall conform to the approved development plan. All conditions of the Site Plan Review and Variance approvals shall be incorporated into the building permit working drawings, and where applicable complied with prior to issuance of a grading or building permit from the building department.

The conditions of approval of this Resolution shall be printed onto a separate sheet and included in the building plans submitted to the Building Department for review and shall be kept on site at all times.

Any proposed modifications and/or changes to the approved project, including resulting from field conditions, shall be discussed with staff so that staff can determine whether the modification is minor or major in nature. Minor modifications are subject to approval by the City Manager or his or her designee. Major modifications are subject to approval by the Planning Commissioner after a public hearing. Applicant shall not implement modifications or changes to the approved project without the appropriate approval from the City Manager or designee or the Planning Commission, as required.

E. Prior to submittal of final working drawings to Building and Safety Department for issuance of building and grading permits, the plans for the project shall be submitted to City staff for verification that the final plans are in compliance with the plans approved by the Planning Commission.

F. A licensed professional preparing construction plans for this project for Building Department review shall execute a Certificate affirming that the plans conform in all respects to this Resolution approving this project and all of the conditions set forth herein and the City's Building Code and Zoning Ordinance.

Further, the person obtaining a building and/or grading permit for this project shall execute a Certificate of Construction stating that the project will be constructed according to this Resolution and any plans approved therewith.

G. The person obtaining a building and/ or grading permit for this project shall execute a Certificate of Construction stating that the project will be constructed according to this Resolution and any plans approved therewith.

H. The project must be reviewed and approved by the Rolling Hills Community Association ("RHCA").

I. The total structural coverage on the building pad shall not exceed 7,020 square feet or 12.9%.

J. Total lot coverage of structures and paved areas shall not exceed 12,033 square feet, or 22.1%.

K. The disturbance of the net lot shall not exceed 24,185 square feet of surface area or 44.4% of the net lot area.

L. Prior to any further grading activity, the Applicant shall inform the City and RHCA staff of the date and time of this activity. Workers shall implement Best Management Practices to assure that streets and adjacent properties are not impacted.

M. Prior to issuance of a grading permit a detailed landscaping plan shall be submitted to City staff for review. The landscaping plan shall utilize to the maximum extent feasible, plants that are native to the area, are water-wise and are consistent with the rural character of the community. A final inspection shall not be granted unless the slopes are vegetated.

N. The graded areas shall be landscaped and continually maintained in good condition. Any trees and shrubs used in the landscaping scheme for this project shall be planted in a way that will not result in a hedge like screening and will not impair views from neighboring properties.

O. If applicable, the Applicant shall be required to conform to the City of Rolling Hills Water Efficient Landscape Ordinance, Chapter 13.18 of the Municipal Code.

P. The Applicant shall submit a detailed drainage plan to the City's drainage engineer. This project shall meet the requirements of the City's Low Impact Development portion of the Storm Water Management and Pollution Control ordinance, if applicable. The applicant shall comply with grading requirements relative to submittal of grading and construction reports as required by the Building Official. In order to prevent sediments and water run-off from reaching the canyon from the disturbed slopes and an erosion control plan shall be submitted to the Building Department and implemented, even if grading permits have not been issued by that time.

Q. The Applicant shall secure all permits from the Department of Building and Safety prior to commencing any work. Consult with the California Department of Fish and Wildlife for additional requirements.

R. Minimum of 65% of the construction material spoils shall be recycled and diverted from landfills. The hauler shall obtain a Construction and Demolition permit from the City and provide proof of recycling.

S. There shall be no discarding of any debris, trash, soil and construction spoils or any other material into the canyon or deposited anywhere on the property, including easements. No grading, planting, structures, drainage devices or hardscape, including driveways, or storage of any objects including building materials shall take place in the easements, unless approved by the RHCA.

T. The City or the Building Department may require a construction fence for the duration of the grading for this project. Such fence shall not be located in any easement or cross over trails or natural drainage course and shall be removed immediately upon completion of the grading work.

U. In addition, any construction facility, such as a construction trailer/office or portable toilets, to a maximum extent practicable, shall be located in a manner not visible from the street, and be in a location satisfactory to City staff.

V. *Prior to construction*, an on-site inspection and site walk-through, including through all existing structures as needed, shall be scheduled with City Staff and the applicant.

W. *During construction*, the property owners shall be required to schedule and regulate construction and related traffic noise throughout the day between the hours of 7 AM and 6 PM, Monday through Saturday only, when construction and mechanical equipment noise is permitted, so as not to interfere with the quiet residential environment of the City of Rolling Hills.

X. Construction vehicles or equipment, employees' vehicles, delivery trucks shall not impede any traffic lanes to maximum extend practical; if traffic must be blocked in order to aid in the construction, no more than a single lane may be blocked for a short period of time and flagmen utilized on both sides of the impeded area to direct traffic.

Y. *During construction*, to the extent feasible, all parking shall take place on the project site, on the new driveway and, if necessary, any overflow parking may take place within the unimproved roadway easements along adjacent streets, and shall not obstruct neighboring driveways, visibility at intersections or pedestrian and equestrian passage. During construction, to the maximum extent feasible, employees of the contractor shall car-pool into the City. To the extent feasible, a minimum of 4' wide path, from the edge of the roadway pavement, for pedestrian and equestrian passage shall be available and be clear of vehicles, construction materials and equipment at all times.

Z. *During construction*, the property owners shall be required to schedule and regulate construction and relate traffic noise throughout the day between the hours of 7 AM and 6 PM, Monday through Saturday only, when construction and mechanical equipment noise is permitted, so as not to interfere with the quiet residential environment of the City of Rolling Hills.

AA. *During construction*, dust control measures shall be used to stabilize the soil from wind erosion and reduce dust and objectionable odors generated by construction activities in accordance with South Coast Air Quality Management District, Los Angeles County and local ordinances and engineering practices.

AB. *During construction*, an Erosion Control Plan containing the elements set forth in Section 7010 of the 2022 County of Los Angeles Uniform Building Code shall be followed to minimize erosion and to protect slopes and channels to control storm water pollution.

AC. The property owners shall be required to conform to the Regional Water Quality Control Board and County Health Department requirements for the installation and maintenance of storm water drainage facilities and septic tank.

AD. The applicant shall pay all of the applicable Building and Safety and Public Works Department fees and Palos Verdes Peninsula Unified School District fees, if any.

AE. Prior to final inspection of the project, “as graded” and “as constructed” plans and certifications shall be provided to the Planning Department and the Building Department to ascertain that the completed project is in compliance with the Planning Commission approved plans. In addition, any modifications made to the project during construction, shall be depicted on the “as built/as graded” plan.

AF. The applicants shall execute an Affidavit of Acceptance of all conditions of the Variance approval, or the approval shall not be effective.

AG. All conditions of this Resolution, when applicable, must be complied with prior to the issuance of a grading or building permit from the Building and Safety Department.

AH. Any action challenging the final decision of the City made as a result of the public hearing on this application must be filed within the time limits set forth in Section 17.54.070 of the Rolling Hills Municipal Code and Code of Civil Procedure Section 1094.6.

AI. To the extent permitted by law, Permittee shall defend, indemnify and hold harmless the City of Rolling Hills, its City Council, its officers, employees and agents (the “indemnified parties”) from and against any claim, action, or proceeding brought by a third party against the indemnified parties and the applicant to attack, set aside, or void any permit or approval for this project authorized by the City, including (without limitation) reimbursing the City its actual attorney’s fees and costs in defense of the litigation. The City may, in its sole discretion, elect to defend any such action with attorneys of its choice. The permittee shall reimburse the City for any court and attorney's fees which the City may be required to pay as a result of any claim or action brought against the City because of this permit. Although the permittee is the real party in interest in an action, the City may, at its sole discretion, participate at its own expense in the defense of the action, but such participation shall not relieve the permittee of any obligation under this condition.

AJ. The future stable and corral shall comply with all requirements in RHMC Sections 17.18.060 and 17.18.090, unless otherwise approved herein.

AK. New landscaping in the RHCA easement is prohibited unless previously approved by RHCA. Landscaping not approved by RHCA in the easement shall be removed from the final landscape plan.

AL. `Applicant shall effectuate a lot line adjustment between all parcels identified by APN: 7569-016-008 to make all parcels coterminous. Applicant shall submit said lot line adjustment application pursuant to RHMC Chapter 16.44. The lot line adjustment shall be recorded prior to the issuance of building permit.

PASSED, APPROVED AND ADOPTED THIS 27TH DAY OF JANUARY, 2026.

BRAD CHELF, CHAIRPERSON

ATTEST:

CHRISTIAN HORVATH, CITY CLERK

Any action challenging the final decision of the City made as a result of the public hearing on this application must be filed within the time limits set forth in Section 17.54.070 of the Rolling Hills Municipal Code and Civil Procedure Section 1094.6.

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) §§
CITY OF ROLLING HILLS)

I certify that the foregoing Resolution No. 2026-02 entitled:

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF ROLLING HILLS GRANTING APPROVAL OF SITE PLAN REVIEW FOR NEW CONSTRUCTION, NON-EXEMPT GRADING AND RELATED IMPROVEMENTS; VARIANCES FOR AN ATTACHED GARAGE WITHIN FRONT YARD, ADDITION TO HOME IN SIDE YARD, AND TO EXCEED 40 PERCENT DISTURBANCE; AND FINDING THE PROJECT EXEMPT FROM THE CALIFORNIA ENVIRONMENTAL QUALITY ACT FOR LOCATION AT 2 WILLIAMSBURG LANE (PAESANO) (LOTS 44, 45, & 46-A-RH)

was approved and adopted at a regular meeting of the Planning Commission on January 27, 2026, by the following roll call vote:

AYES: Douglass, Kirkpatrick, Chair Chelf

NOES:

ABSENT: Cardenas, Soo

ABSTAIN:

and in compliance with the laws of California was posted at the following:

Administrative Offices.

CHRISTIAN HORVATH, CITY CLERK













ADDITION & REMODEL TO THE RESIDENCE OF:

JOHN & WENDY PAESANO

2 Williamsburg Lane Rolling Hills California

PRITZKAT & JOHNSON
ARCHITECTS

DATE: 1/8/2026 ZONING CASE NO.: tbd ADDRESS: 2 Williamsburg Ln.

ALL STRUCTURES MUST BE SHOWN ON THE PLAN
CALCULATION OF LOT COVERAGE

	EXISTING		PROPOSED		TOTAL	
NET LOT AREA	54,525	sq.ft	0	sq.ft	54,525	
RESIDENCE	3,100	sq.ft	900	sq.ft	4,000	sq.ft
GARAGE	540	sq.ft	165	sq.ft	705	sq.ft
SWIMMING POOL/SPA	490	sq.ft	285	sq.ft	775	sq.ft
POOL EQUIPMENT	75	sq.ft	-15	sq.ft	60	sq.ft
GUEST HOUSE	0	sq.ft	0	sq.ft	0	sq.ft
CABANA	0	sq.ft	0	sq.ft	0	sq.ft
STABLE (dirt volume to be included in grading quantities	365	sq.ft	85	sq.ft	450	sq.ft
RECREATION COURT	0	sq.ft	0	sq.ft	0	sq.ft
ATTACHED COVERED PORCHES	0	sq.ft	130	sq.ft	130	sq.ft
ENTRYWAY/PORTE COCHERE, BREEZEWAYS	0	sq.ft	0	sq.ft	0	sq.ft
ATTACHED TRELLISES	230	sq.ft	0	sq.ft	230	sq.ft
*DETACHED STRUCTURES: (circle all that applies)	0	sq.ft	0	sq.ft	0	sq.ft
	0	sq.ft	0	sq.ft	0	sq.ft
OUTDOOR KITCHEN	0	sq.ft	110	sq.ft	110	sq.ft
CHICKEN COOP	0	sq.ft	120	sq.ft	120	sq.ft
	0	sq.ft	16	sq.ft	16	sq.ft
SERVICE YARD	117	sq.ft	0	sq.ft	117	sq.ft
OTHER: _____	0	sq.ft	0	sq.ft	0	sq.ft
BASEMENT AREA: (Volume to be included in grading quantities)	0	sq.ft	1,150	sq.ft	1,150	sq.ft
DEPTH OF BASEMENT	0	sq.ft	10	ft	10	ft
TOTAL STRUCTURE	4,917	sq.ft	1,796	sq.ft	6,713	sq.ft
%STRUCTURAL COVERAGE	9.02%	sq.ft	3.29%	sq.ft	12.31%	sq.ft
TOTAL STRUCTURES EXCLUDING UP TO 5 AND UP TO 800 sq.ft. detached structures that are not higher than 12 ft.	4,917	sq.ft	1,550	sq.ft	6,467	sq.ft
% STRUCTURAL COVERAGE	9.02%	sq.ft	2.84%	sq.ft	11.86%	sq.ft

DATE: 1/8/2026 ZONING CASE NO.: tbd ADDRESS: 2 Williamsburg Ln.

ALL FLATWORK MUST BE SHOWN ON THE PLAN

	EXISTING		PROPOSED		TOTAL	
PRIMARY DRIVEWAY	1,550	sq.ft	100	sq.ft	1,650	sq.ft
PAVED WALKS, PATIO AREAS, COURTYARDS	1,540	sq.ft	-240	sq.ft	1,300	sq.ft
POOL DECKING	800	sq.ft	900	sq.ft	1,700	sq.ft
OTHER PAVED DRIVEWAYS, ROAD EASEMENTS, PARKING PADS	0	sq.ft	0	sq.ft	0	sq.ft
TOTAL FLATWORK	3,890	sq.ft	760	sq.ft	4,650	sq.ft
%TOTAL FLATWORK COVERAGE	7.13%		1.39%		8.53%	
TOTAL STRUCTURAL & FLATWORK COVERAGE	8,807	sq.ft	2,556	sq.ft	11,363	sq.ft
%TOTAL COVERAGE	16.15%		4.69%		20.84%	
TOTAL STRUCTURAL & FLATWORK COVERAGE Excl. the allowance of up to 5- 800 sq.ft. structures from previous page.	8,807	sq.ft	2,310	sq.ft	11,117	sq.ft
% TOTAL COVERAGE	16.15%		4.24%		20.39%	
TOTAL DISTURBED AREA	23,800	sq.ft	385	sq.ft	24,185	sq.ft
% DISTURBED AREA	43.65%		0.71%		44.36%	
GRADING QUANTITY (include future stable, corral, and access way; basement and all other areas to be graded)					1,433	C.Y.

All structures (attached and detached) must be listed.

*Free standing accessory structures such as sheds, trellises, covered patios, gazebo, fountains, barbecue, outdoor fireplace, etc. are not counted towards coverage and disturbed area unless their combined area exceeds 800 sq.ft., or if there are more than 5 such structures on the property.

PROJECT DATA

SHEET INDEX

T.0	TITLE SHEET
	CIVIL ENGINEERING SHEETS
C.0	COVER SHEET/ OVERALL SITE PLAN
C.1	EXISTING AND PROPOSED AREAS
C.2	CONCEPT GRADING PLAN
	LANDSCAPING SHEETS
LP.1	PLANTING PLAN
	ARCHITECTURAL SHEETS
A.1.d	WALL DEMO PLAN/ORIGINAL ROOF PLAN
A.2	BASEMENT LEVEL FLOOR PLAN
A.3	MAIN LEVEL FLOOR PLAN
A.4	ROOF PLAN
A.5	EAST (FRONT) ELEVATION
A.6	WEST (REAR) AND NORTH/SOUTH ELEVATIONS

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310.375.7700

ADDITION & REMODEL TO THE RESIDENCE OF:

JOHN & WENDY PAESANO

2 Williamsburg Lane Rolling Hills California 90274

THESE PLANS ARE **NOT** TO BE USED FOR CONSTRUCTION UNLESS THEY ARE STAMPED BY ARCHITECT OR ENGINEER OR HAVE **"PERMIT SET"** PRINTED ON THEM IN THE SPACE ABOVE

REVISIONS

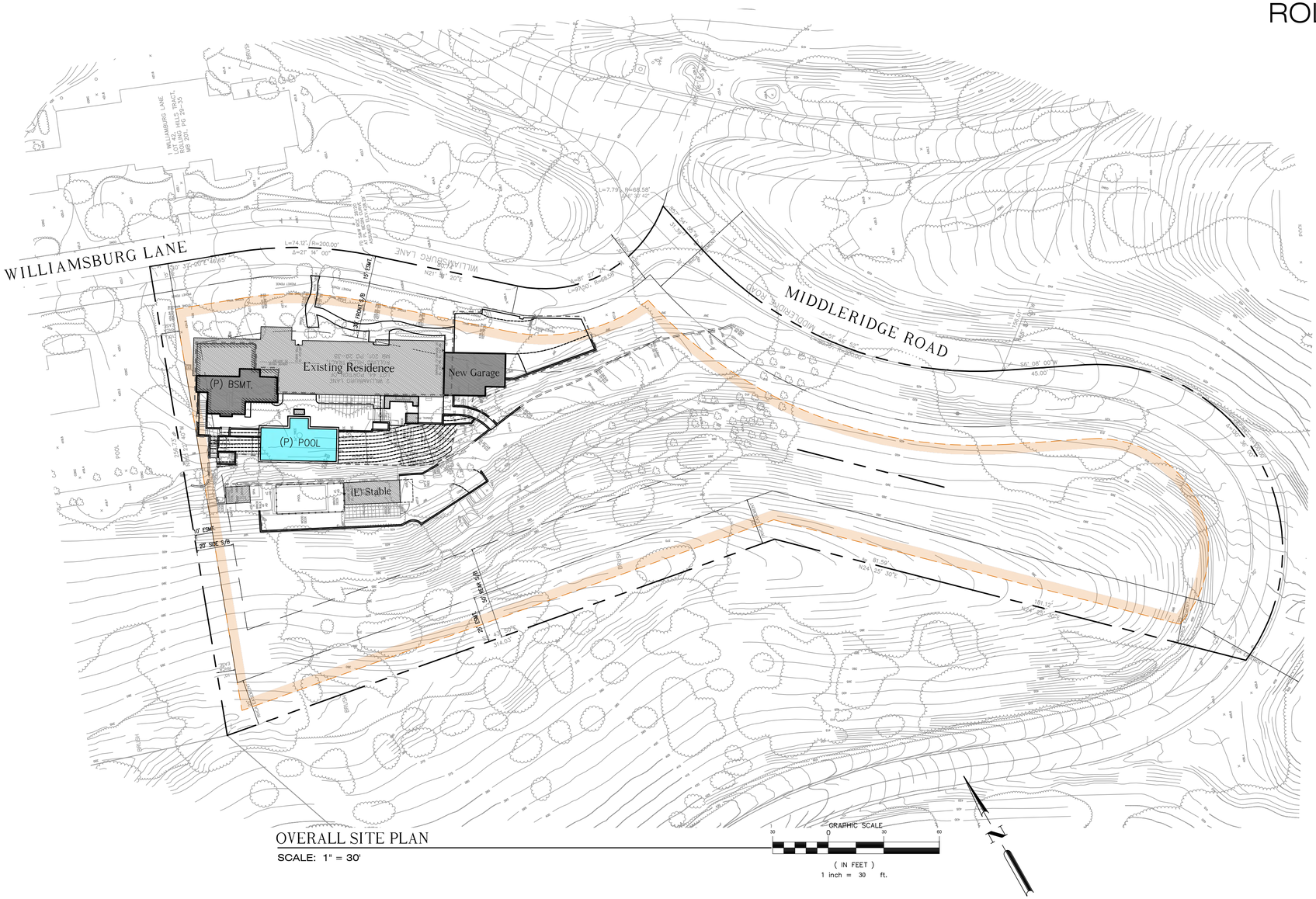
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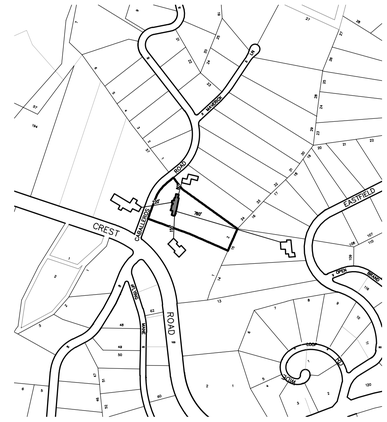
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PAESANO RESIDENCE

1 WILLIAMSBURG LANE
ROLLING HILLS, CA 90274



OVERALL SITE PLAN
SCALE: 1" = 30'



VICINITY MAP
SCALE: 1" = 500'

SITE DATA

2 WILLIAMSBURG LANE
ROLLING HILLS, CA 90274

APN: 7567-016-017

LEGAL DESCRIPTION: LOT 2
TRACT 37810
MB993/54-55

ZONING: RAS-1/OVERLAY

LEGEND

- PROPERTY LINE
- EASEMENT
- SETBACK
- (E) RESIDENCE/GARAGE
- (P) RESIDENCE ADDITION
- 1235 (E) MAJOR CONTOUR
- (E) MINOR CONTOUR
- (P) POOL
- CONCRETE
- POOL DECK
- FUTURE CORRAL/STABLE
- NET LOT AREA

ACRONYMS

CBW	CONCRETE BLOCK WALL
CONC	CONCRETE
ED	SOCAL EDISON
EG	EDGE OF GUTTER
EM	ELECTRIC METER
FF	FINISHED FLOOR
FL	FLOWLINE
FS	FINISHED SURFACE
LTT	LEAD, TACK & TAG
NG	NATURAL GROUND
TOS	TOP OF STEP
BOS	BOTTOM OF STEP
TW	TOP OF WALL
TC	TOP OF CURB
VLT	VAULT
WM	WATER METER

INDEX OF SHEETS

C0	COVER SHEET/OVERALL SITE PLAN
C1	EXISTING AND PROPOSED COVERAGE
C2	PRELIMINARY GRADING PLAN

Planning Submittal 1/8/2026

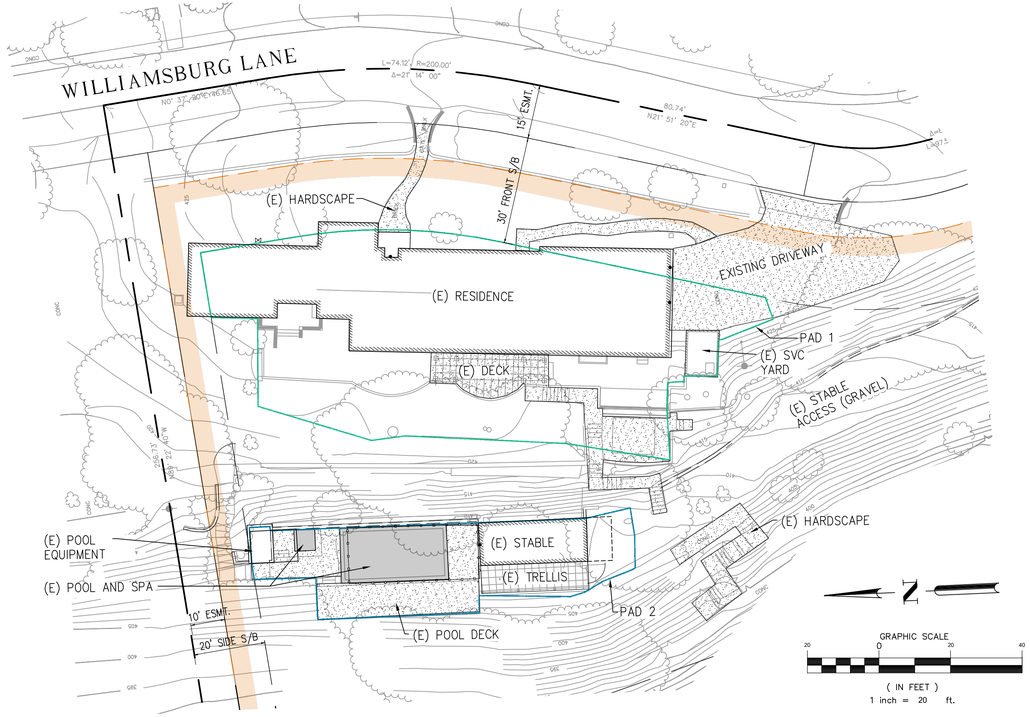
Revisions	By

BOLTON ENGINEERING CORP.
boltonengineering.com | 310.322.3980
BEC

CLIENT: JOHN AND WENDY PAESANO
2 WILLIAMSBURG LANE
ROLLING HILLS, CA.

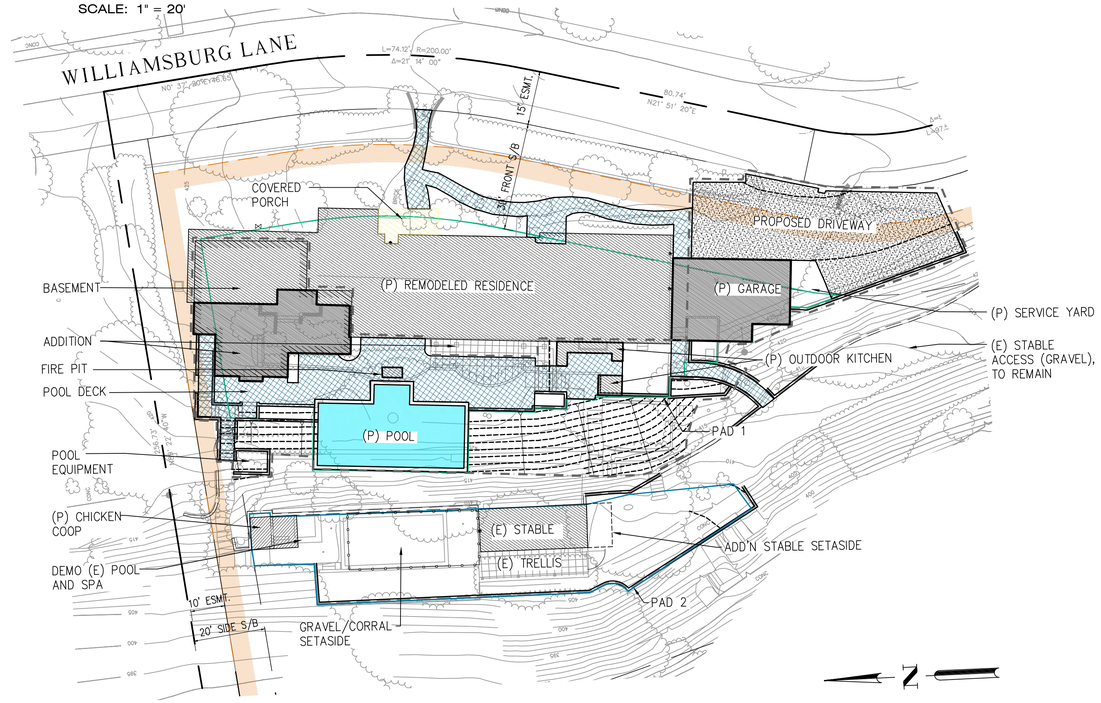
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2 WILLIAMSBURG LANE
ROLLING HILLS, CA.

Date: Jan 8, 2026
Scale: 1"=8'
Drawn: djb
Checked: DJB
Job No. 22117
Sheet C0
Of 3 Sheets



EXISTING CONDITIONS

SCALE: 1" = 20'



PROPOSED CONDITIONS

SCALE: 1" = 20'

Legend

- PROPERTY LINE
- EASEMENT
- SETBACK
- NET LOT AREA
- FRONT YARD AND SIDE YARD S/B AREA
- EXISTING RESIDENCE
- PROPOSED ADDITION
- PROPOSED BASEMENT
- DETACHED STRUCTURE
- PAVED WALKS, PATIO AREAS, COURTYARDS
  TRELLIS 100SF*
- COVERED PORCHES
- POOL

Planning Submittal 1/8/2026

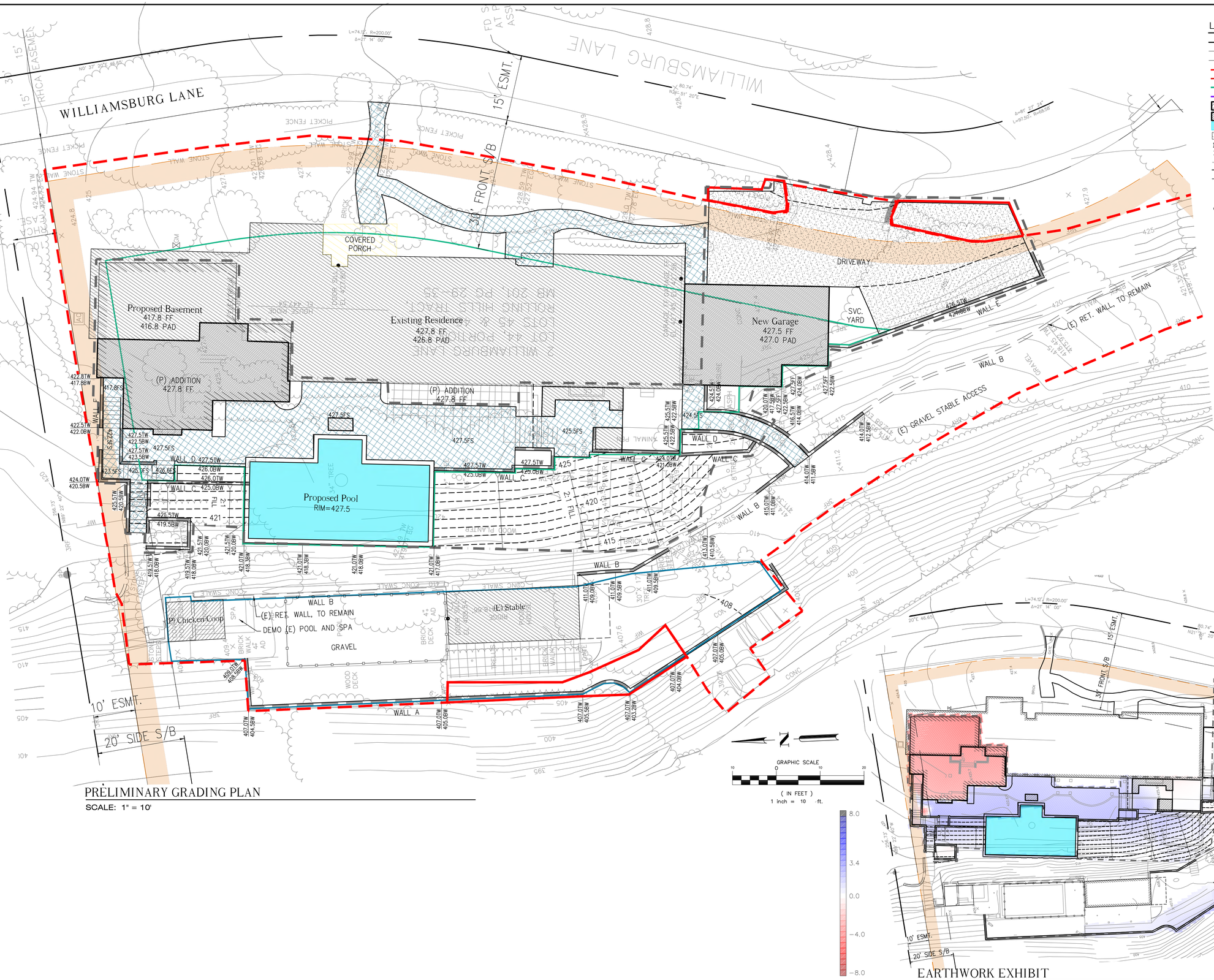
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CLIENT: JOHN AND WENDY PAESANO
2 WILLIAMSBURG LANE
ROLLING HILLS, CA.

TITLE: EXISTING AND PROPOSED AREAS
2 WILLIAMSBURG LANE
ROLLING HILLS, CA.

Date: Jan 8, 2026
Scale: 1"=8'
Drawn: djb
Checked: DJB
Job No. 22117
Sheet C1
Of 3 Sheets



Legend-Grading Plan

- PROPERTY LINE
- EASEMENT
- SETBACK
- EXISTING DISTURBED AREA
- PROPOSED DISTURBED AREA
- PROPOSED BUILDING PAD 1
- PROPOSED BUILDING PAD 2
- EXISTING STRUCTURE TO REMAIN
- PROPOSED RESIDENCE/GARAGE
- PROPOSED POOL
- PROPOSED HARDSCAPE
- PROPOSED RETAINING WALL
- EXISTING RETAINING WALL, TO REMAIN
- EXISTING CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- AREA OF 2:1 MAX SLOPE
- CUT/FILL DAYLIGHT LINE

WALL HEIGHT COMPUTATION

WALL	Max Height (feet)	Avg. Height (feet)	Length (feet)
WALL A	3.8'	2.2'	150
WALL B	4.0'	2.3'	290
WALL C	3.0'	2.4'	210
WALL D	5.0'	2.4'	65
WALL E	2.5'	2.0'	56
WALL F	5.0'	2.5'	42

EARTHWORK ESTIMATE

SITE EXCAVATION:	55cy (max depth 2.8')
BSMT. EXCAVATION	405cy (max depth 10')
POOL EXCAVATION	0cy
OVEREXCAVATION:	270cy
TOTAL EXCAVATION:	730cy
SITE FILL:	407cy (max depth 5.5')
GARAGE FILL:	26cy (max depth 5.0')
RECOMPACTION:	270cy
TOTAL EMBANKMENT:	703cy
TOTAL GRADING:	1433cy
EXPORT:	27 (Total)
EXPORT:	0 (Less exempt)

Planning Submittal 1/8/2026

Revisions	By

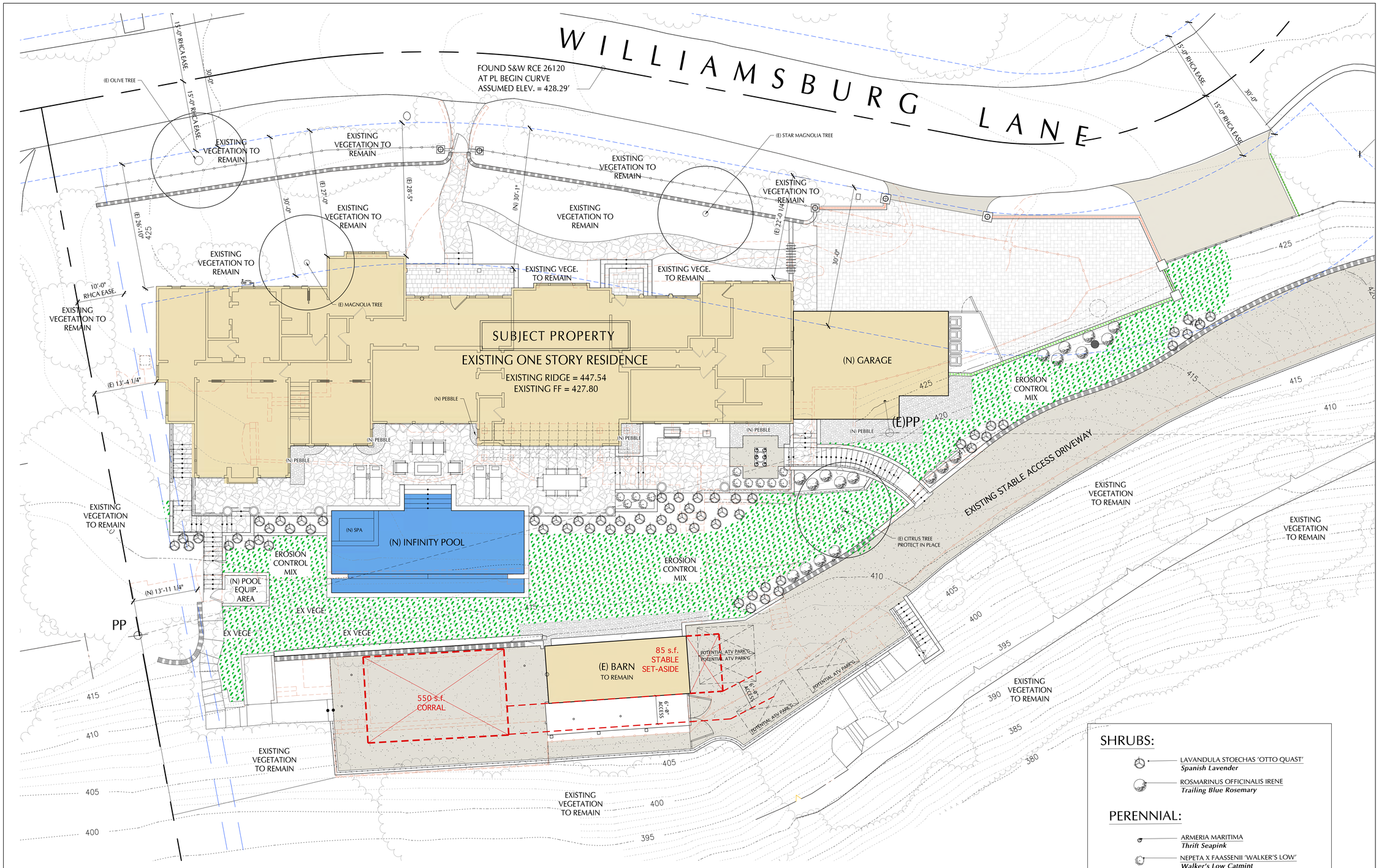
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CLIENT: JOHN AND WENDY PAESANO
2 WILLIAMSBURG LANE
ROLLING HILLS, CA.

TITLE: CONCEPT GRADING PLAN
2 WILLIAMSBURG LANE
ROLLING HILLS, CA.

Date: Jan 8, 2026
Scale: AS SHOWN
Drawn: djb
Checked: DJB
Job No. 22117
Sheet C2
Of 3 Sheets



NOTE:
- GROUNDCOVERS PLANTED FROM NURSERY FLATS MUST HAVE AN AVERAGE THICKNESS OF 1.5-INCHS.
- MULCH THICKNESS AND COVERAGE MUST BE MAINTAINED FOR THE LIFE OF THE PLANTING.

PLANTING NOTES:

- RECIRCULATING WATER SYSTEMS SHALL BE USED FOR WATER FEATURES
- A MINIMUM 3-INCH LAYER OF MULCH SHALL BE APPLIED ON ALL EXPOSED SOIL SURFACES OF PLANTING AREAS EXCEPT TURF AREAS, CREEPING OR ROOTING GROUNDCOVERS, OR DIRECT SEEDING APPLICATIONS WHERE MULCH IS CONTRAINDICATED.
- FOR SOIL LESS THAN 6% ORGANIC MATTER IN THE TOP 6 INCHES OF SOIL, COMPOST AT A RATE OF A MINIMUM OF FOUR CUBIC YARDS PER 1,000 SQUARE FEET OF PERMEABLE AREA SHALL BE INCORPORATED TO A DEPTH OF SIX INCHES INTO THE SOIL.

BOTANICAL NAME	COMMON NAME	SIZE	QTY	HIGHT	SPREAD	WUCOLS	NOTES
SHRUBS							
LAVANDULA STOECHAS 'OTTO QUAST'	*Spanish Lavender*	1 Gal	63	1'-2'	2'-3'	L	
ROSMARINUS OFFICINALIS IRENE	*Trailing Blue Rosemary*	5 Gal	19	1'-2'	6'-7'	L	
PERENNIALS & GROUNDCOVER							
ARMERIA MARITIMA	*Thrift Seapink*	1 Gal	6	6"-12"	6"-12"	M	
NEPETA X FAASSENII 'WALKER'S LOW'	*Walker's Low Catmint*	1 Gal	12	2'-3'	2'-3'	M	
EROSION CONTROL MIX							
ESCHSCHOLZIA CALIFORNICA	*California Poppy*	Spray Seed	2924 SF	12"-24"	1'-2'	L	
FESTUCA IDAHOENSIS	*Idaho Fescue*			1'-3'	6"	L	
FESTUCA OCCIDENTALIS	*Western Mokelumne Fescue*			1'-2'	1'-2'	L	
LUPINUS NANUS	*Sky Lupine*			4"-24"	1'	L	
SISYRINCHIUM BELLUM	*Blue-Eyed Grass*			1'-2'	4"-18"	L	

SHRUBS:

- LAVANDULA STOECHAS 'OTTO QUAST' — *Spanish Lavender*
- ROSMARINUS OFFICINALIS IRENE — *Trailing Blue Rosemary*

PERENNIAL:

- ARMERIA MARITIMA — *Thrift Seapink*
- NEPETA X FAASSENII 'WALKER'S LOW' — *Walker's Low Catmint*

EROSION CONTROL MIX:

1. ESCHSCHOLZIA CALIFORNICA — *California Poppy*
   AND
2. FESTUCA IDAHOENSIS — *Idaho Fescue*
   AND
3. FESTUCA OCCIDENTALIS — *Western Mokelumne Fescue*
   AND
4. LUPINUS NANUS — *Sky Lupine*
   AND
5. SISYRINCHIUM BELLUM — *Blue-Eyed Grass*

Richie-Bray, Inc.
LANDSCAPE ARCHITECTURE
904 Silver Spur Road #395
Rolling Hills Estates, CA 90274
(310) 377-5868
E-mail: deb@richie-bray.com

LICENSED LANDSCAPE ARCHITECT ★ DEBORAH RICHIE #4457 ★ Signature Renewal Date Date STATE OF CALIFORNIA

PROJECT TITLE

PAESANO RESIDENCE

2 WILLIAMSBURG LANE
ROLLING HILLS, CA 90274

ROLLING HILLS LOT 39
M.B. 201-29,35
APN 7569-016-002

SHEET TITLE

PLANTING PLAN

REVISIONS

SCALE: 1/8" = 1'-0"

DATE: 10-27-2025

DRAWN BY:

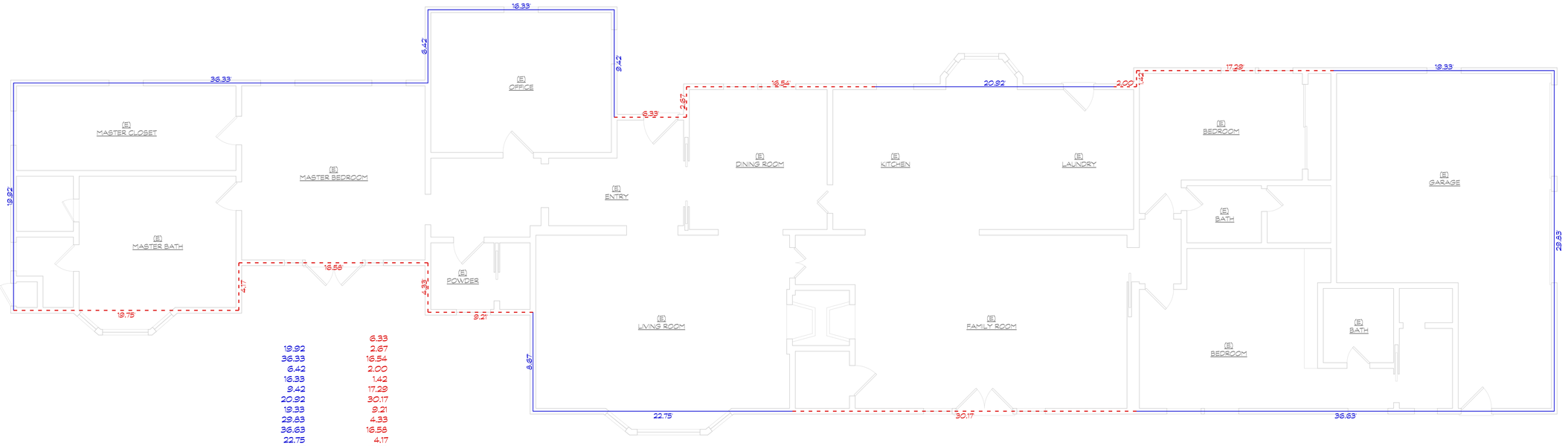
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XREF FILE:

PROJECT NO.

SHEET N0.

LP-1



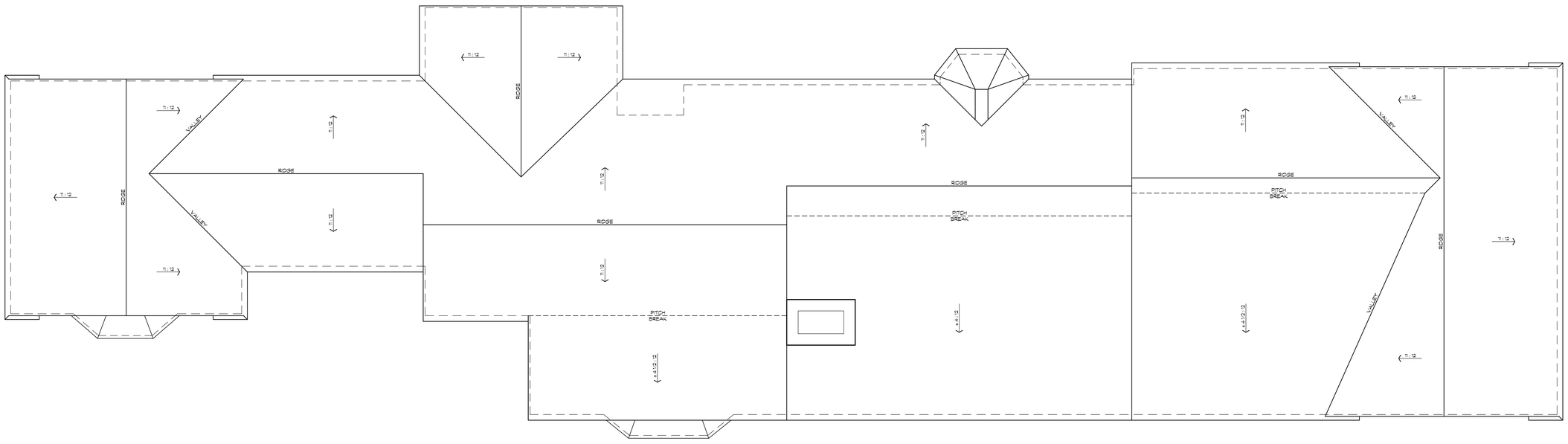
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36.33	2.67
6.42	16.54
16.33	2.00
9.42	1.42
20.92	17.29
19.33	30.17
29.83	9.21
36.63	4.33
22.75	16.58
8.67	4.17
	19.75
226.55 REMAINING	130.46 DEMOLISHED

357.01 TOTAL LINEAR FEET OF EXTERIOR WALLS
130.46 / 357.01
36.54 % DEMOLISHED

LEGEND
= EXISTING WALLS TO REMAIN
= REMOVED WALLS

EXISTING FLOOR PLAN & EXTERIOR WALL DEMOLITION PLAN

SCALE: 1/4" = 1'-0"



EXISTING ROOF PLAN

SCALE: 1/4" = 1'-0"

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310.375.7700

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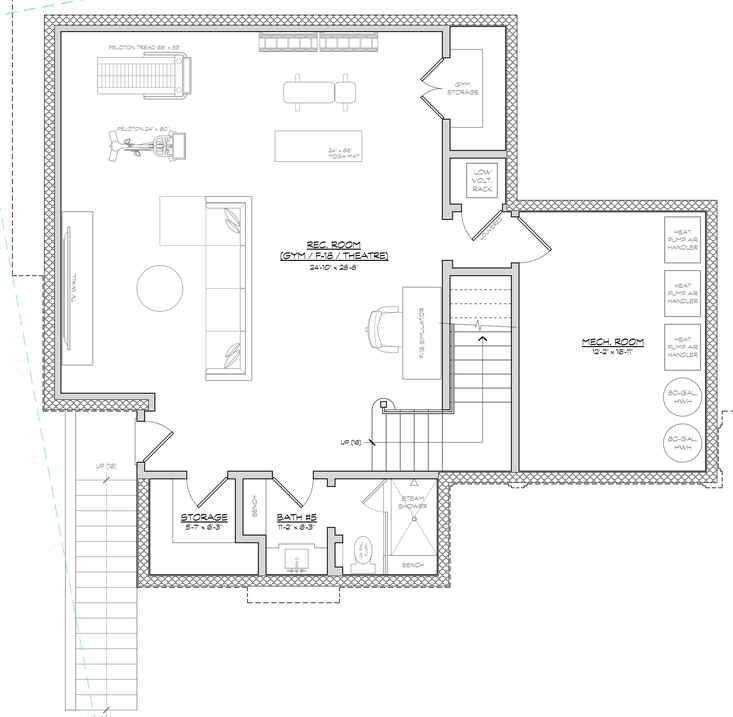
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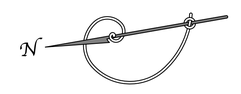
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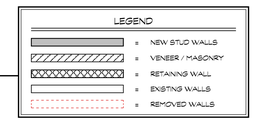
No.	Date	DESCRIPTION

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BASEMENT LEVEL FLOOR PLAN

SCALE: 1/4" = 1'-0"

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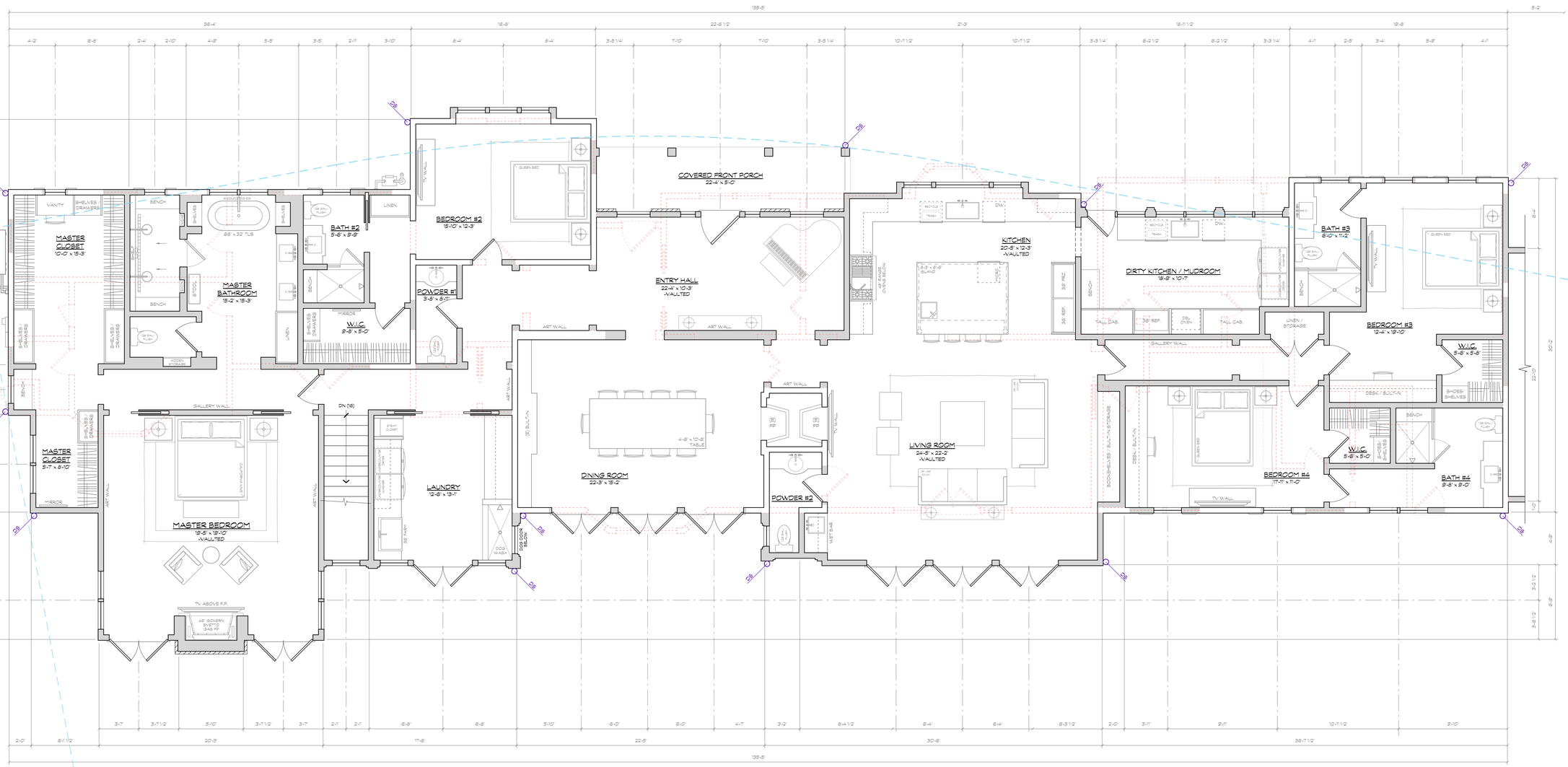
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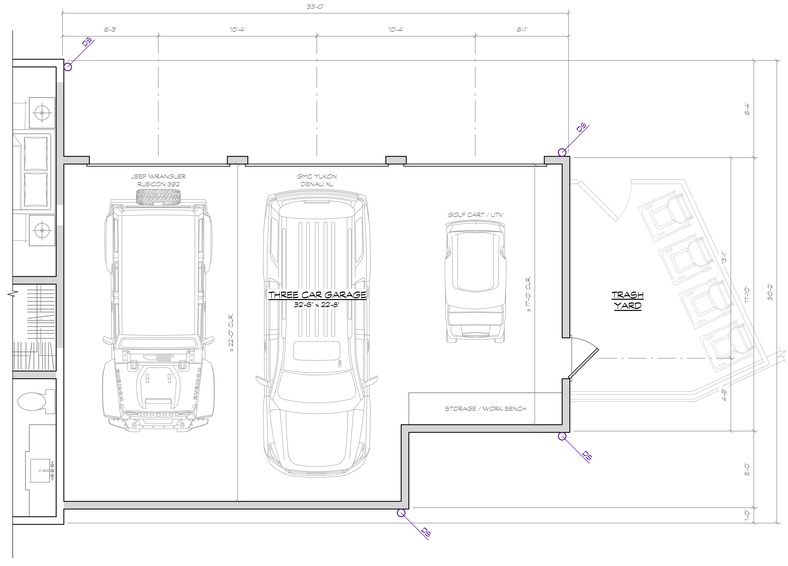
REVISIONS

No.	Date	DESCRIPTION

A.2

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LEGEND

- = NEW STUD WALLS
- = VENEER / MASONRY
- = RETAINING WALL
- = EXISTING WALLS
- = REMOVED WALLS

MAIN LEVEL FLOOR PLAN

SCALE: 1/4" = 1'-0"

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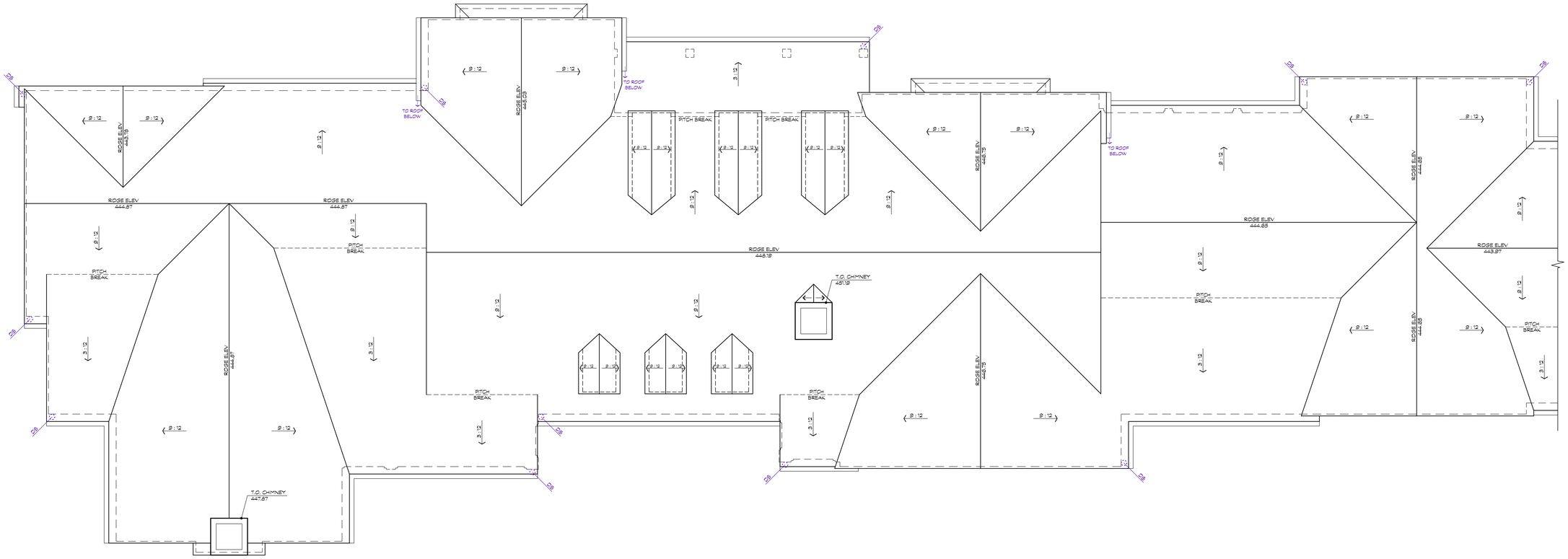
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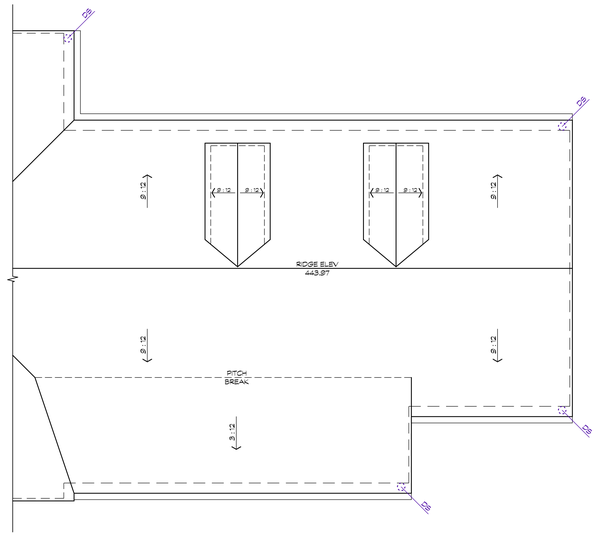
REVISIONS

No.	Date	DESCRIPTION

A.3

1/12/26, 11:32 AM





ROOF PLAN

SCALE: 1/4" = 1'-0"

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REVISIONS

No.	Date	DESCRIPTION

A.4

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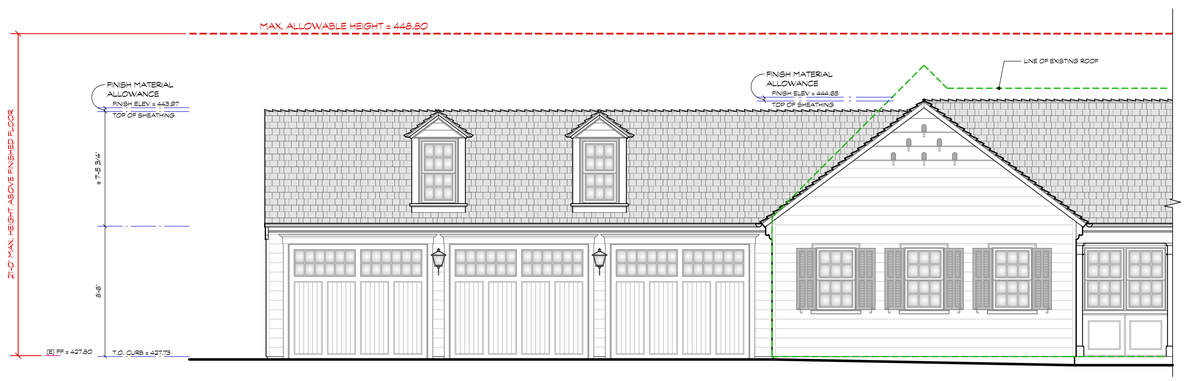
FULL EAST (FRONT-WILLIAMSBURG LANE) ELEVATION -- REDUCED SCALE FOR CONTEXT

SCALE: 3/16" = 1'-0"



PARTIAL EAST (FRONT-WILLIAMSBURG LANE) ELEVATION

SCALE: 1/4" = 1'-0"



PARTIAL EAST (FRONT-WILLIAMSBURG LANE) ELEVATION

SCALE: 1/4" = 1'-0"

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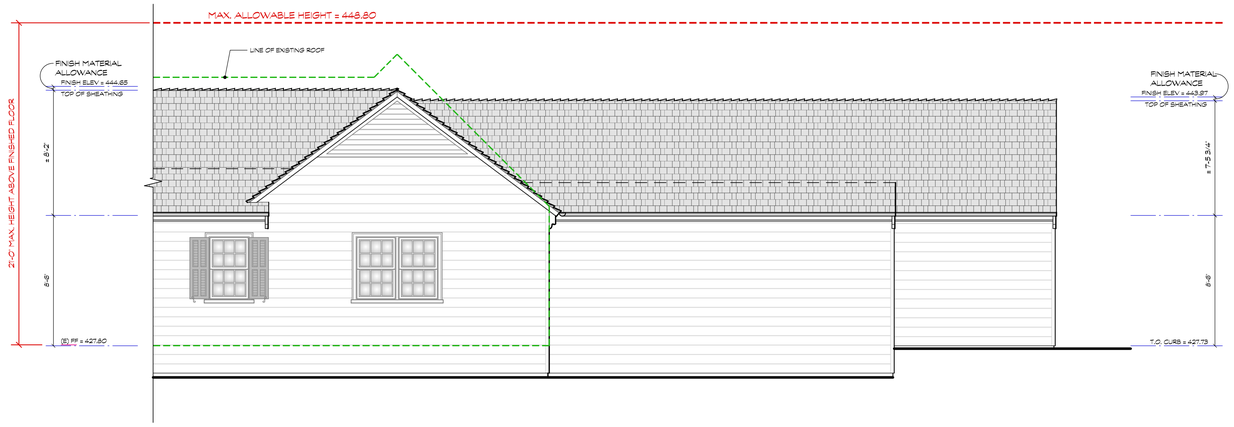
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1/12/26, 11:33 AM



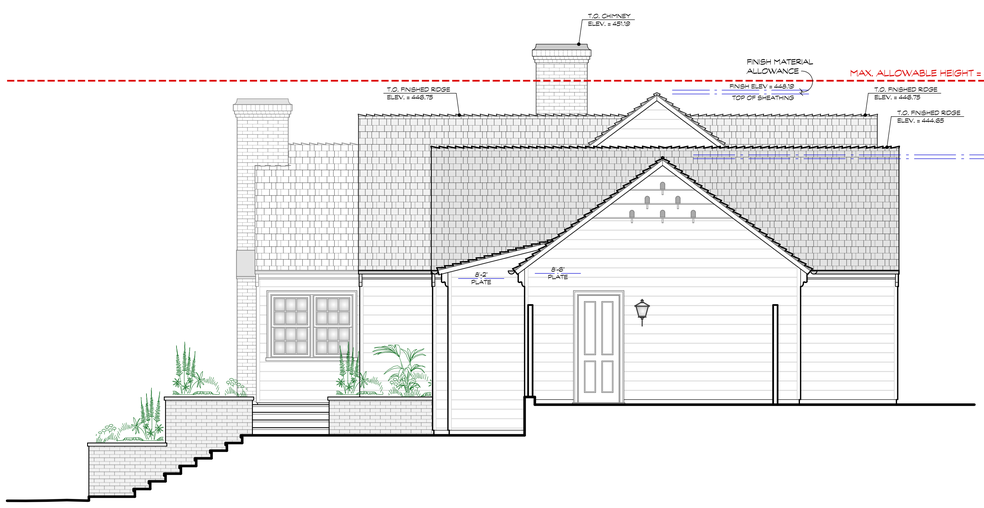
PARTIAL WEST (REAR) ELEVATION

SCALE: 1/4" = 1'-0"



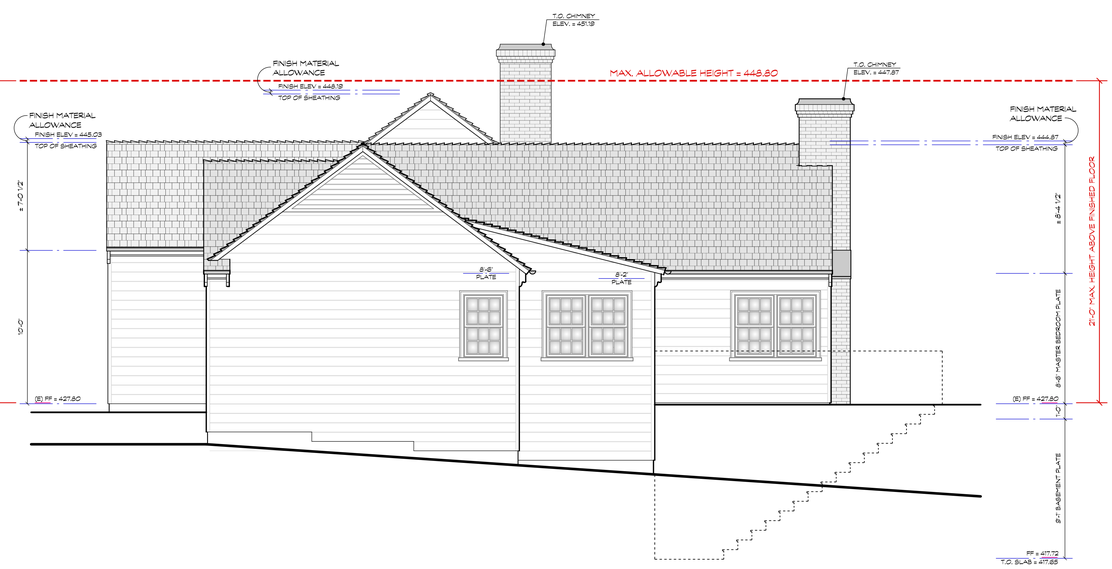
PARTIAL WEST (REAR) ELEVATION

SCALE: 1/4" = 1'-0"



NORTH ELEVATION

SCALE: 1/4" = 1'-0"



SOUTH ELEVATION

SCALE: 1/4" = 1'-0"

PRITZKAT & JOHNSON
ARCHITECTS
www.pritzkatjohnson.com

MILES E. PRITZKAT
ARCHITECT

KEITH B. JOHNSON
ARCHITECT

306 VISTA DEL MAR, SUITE A
REDONDO BEACH,
CALIFORNIA 90277

info@pritzkatjohnson.com
310.375.7700

ADDITION & REMODEL TO THE RESIDENCE OF:

JOHN & WENDY PAESANO

2 Williamsburg Lane Rolling Hills California 90274

THESE PLANS ARE **NOT** TO BE USED FOR CONSTRUCTION UNLESS THEY ARE STAMPED BY ARCHITECT OR ENGINEER OR HAVE **"PERMIT SET"** PRINTED ON THEM IN THE SPACE ABOVE

REVISIONS

No.	Date	DESCRIPTION

A.6

1/12/26, 11:34 AM

February 6, 2026

Diana Nuccion
1 Williamsburg Ln.
Rolling Hills, CA 90274

Re: 2 Williamsburg Ln.

To Whom It May Concern,

I am writing on behalf of my neighbors, the Paesanos at 2 Williamsburg Lane in regards to their remodeling project. I walked the property with the owner and architect, and we are endorsing their plan.

I brought up my concerns like parking and noise and they assured me that they will try to mitigate it as well as they can. I think the renderings are beautiful and I truly believe the value will only raise the value of the entire street.

Respectfully,

Diana Nuccion

310-990-3161

RECEIVED
MAR 0 3 2026
City of Rolling Hills
by _____

February 7, 2026

Subject: Letter of Support for Neighbor's Remodel at 2 Williamsburg Lane

To the Rolling Hills Community Association,

I am writing to express my support for the proposed remodel at my neighbor's property located at 2 Williamsburg Lane.

I am familiar with the general scope of the project and believe the proposed improvements are thoughtfully designed and consistent with the character and standards of the Rolling Hills community. Based on my understanding, the remodel will not negatively impact neighboring properties with respect to privacy, views, noise, or overall neighborhood aesthetics.

My neighbor has been considerate and transparent in communicating about the project. I believe this remodel will be a positive enhancement to the property and a benefit to the surrounding area.

For these reasons, my husband and I respectfully support the approval of this project by the committee. Please feel to contact me should you require any additional information.

Sandy Hokama

4 Williamburg Lane

Rolling Hills, CA 90274

sandy_hokama@yahoo.com

310-874-5211

RECEIVED
MAR 0 3 2026
City of Rolling Hills
by

To: Rolling Hills City Council

Dear Honorable Members of the Rolling Hills City Council,

I am writing to express my full support for the proposed remodel of the home located at 2 Williamsburg Lane.

As a neighboring property owner, I have reviewed the plans as they have been shared with me and believe the proposed improvements are thoughtful, well-designed, and in keeping with the character and standards of our community. The homeowners have been considerate in their approach, taking care to ensure that the remodel complements the surrounding properties and maintains the aesthetic integrity of our neighborhood.

I do not believe the project will negatively impact neighboring properties. On the contrary, I feel it will enhance the overall appearance and value of the area. The homeowners have been transparent and communicative throughout the planning process, which I greatly appreciate.

For these reasons, I respectfully urge the City Council to approve the proposed remodel at 2 Williamsburg Lane.

Please feel free to contact me if any additional information is needed.

Sincerely,

Kristin Warrick
1 Lower Blackwater Canyon Rd, Rolling Hills
(714) 914-0900

RECEIVED
MAR 0 3 2026
City of Rolling Hills
by _____

City of Rolling Hills INCORPORATED JANUARY 24, 1957

2 PORTUGUESE BEND ROAD, ROLLING HILLS, CA 90274 | (310) 377-1521

Item: 12.A.
Meeting Date: 3/9/2026

To: City Council

From: Samantha Crew, Management Analyst

Thru: Karina Bañales, City Manager

Subject: Adoption of Resolution No. 1404 approving Volume 1 and the Rolling Hills portion of Volume 2 within the 2026 Palos Verdes Peninsula Multi-Jurisdictional Hazard Mitigation Plan

---

Background:
The City of Rolling Hills adopted its previous Hazard Mitigation Plan (HMP) in January 2019. Under the Federal Emergency Management Agency (FEMA) requirements, Hazard Mitigation Plans must be reviewed, updated, and re-approved every five years. The City's 2019 Plan reached the end of its regulatory cycle in 2024. Recognizing the approaching expiration of the 2019 Plan, the City joined other Peninsula cities in participating in a Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) update. This regional approach enables shared technical analysis and cost efficiencies, a consistent risk assessment methodology across the Peninsula, and stronger regional grant competitiveness.

Plan Adoption Timing
Staff presented the draft Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) to the Planning Commission on February 17, 2026. The Commission received and filed the item without comment and did not propose any modifications or recommendations. The presentation introduced the Commission to the regional hazard mitigation planning effort and provided an overview of the Plan's scope, structure, and intent.

Consistent with FEMA requirements, the draft Plan was made available for a two-week public review period from February 12 through February 25, 2026 (14 calendar days). The draft was posted online and made accessible to the public, with instructions provided for submitting written comments. During this review period, no Rolling Hills–specific comments were received. One Peninsula-wide comment was submitted as follows:

Comment (2/13/2026):
"Have you done preparation for the ARkStorm scenario? In 1862, supposedly there were only hills (Palos Verdes Hill, Dominguez Hills, Signal Hill) above water in the LA Basin. The Palos Verdes Peninsula would be above water, but we should think about how we would become a refuge for many people from nearby cities."

The ARkStorm scenario, an extreme, prolonged atmospheric river event modeled after the 1861-1862 California megaflood, is recognized as a credible regional hazard. The Peninsula cities have been awarded a Mass Care and Evacuation Planning Grant to support development of a regional mass care and evacuation framework. That planning effort is anticipated to evaluate large-scale evacuation dynamics, shelter capacity and surge considerations, critical facility readiness, transportation and access constraints, and inter-jurisdictional coordination. As the ARkStorm scenario will be examined through that regional process, Rolling Hills will have the opportunity to monitor the planning effort and consider participation, subject to future City Council direction.

The Plan is now before the City Council for discussion and consideration of adoption by resolution (Attachment A).

As advised by Black & Veatch, the City's hazard mitigation consultant, pre-adoption of the Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) (Attachment B) allows the approval process to move forward without delay. Although the City's prior Hazard Mitigation Plan has expired, pre-adopting the updated Plan demonstrates the City's formal commitment to its mitigation priorities and positions the City to maintain eligibility for federal Hazard Mitigation Assistance (HMA) funding.

The California Governor's Office of Emergency Services (Cal OES) and FEMA require formal local adoption prior to issuing final approval. By taking action now, the City enables the State and federal review process to proceed immediately, reducing the overall approval timeline and ensuring that all participating jurisdictions remain aligned in schedule under the regional, multi-jurisdictional framework.

If Cal OES or FEMA requests minor technical revisions during their review, those changes can typically be addressed administratively and incorporated into the final approved Plan. Should substantive modifications be required, staff would return to the City Council with a resolution adopting the revised Plan.

At the Peninsula Public Safety Committee (PPSC) quarterly meeting held on February 19, the pre-adoption process and review timeline were discussed in detail, including the State's 45-day review followed by FEMA Region 9's 45-day review. Pre-adoption allows FEMA to issue final approval upon completion of agency review rather than waiting for subsequent local actions.

Living Document

The Plan is intended to function as a living document and will be reviewed and evaluated annually during the five-year planning cycle. As new hazards emerge or mitigation strategies evolve, updates may be incorporated through future amendments to ensure the Plan remains current and effective.

Hazard Mitigation Planning for the Palos Verdes Peninsula Planning Area:

In May 2025, a coalition of Palos Verdes Peninsula Planning Partners initiated a coordinated effort to update a regional Multi-Jurisdictional Hazard Mitigation Plan (MJHMP). This effort responds to federal requirements under the Disaster Mitigation Act of 2000 (Public Law 106-390), which requires local jurisdictions to maintain an adopted hazard mitigation plan in order to remain eligible for certain federal disaster mitigation funding.

The purpose of the multi-jurisdictional approach is to pool resources, align planning assumptions, and establish a consistent hazard mitigation framework across the Peninsula planning area.

Planning Partnership

The six-member Planning Partnership that participated in the development of the Plan includes:

- City of Palos Verdes Estates
- City of Rancho Palos Verdes
- City of Rolling Hills
- City of Rolling Hills Estates
- Abalone Cove Landslide Abatement District
- Klondike Canyon Geologic Hazard Abatement District

The planning area encompasses the four municipal boundaries listed above, with the two geologic hazard abatement districts participating due to their unique responsibilities related to landslide risk.

Lead Agency and Funding

The City of Rolling Hills Estates served as the lead coordinating agency for this multi-jurisdictional effort. Development of the Plan was largely funded through a reimbursable planning grant from the California Governor's Office of Emergency Services (Cal OES), which supports emergency planning consultant services. A Memorandum of Understanding (Attachment C) outlining cost-sharing and terms for development of the Plan was approved by each participating City Council in early 2025.

Peninsula Public Safety Committee

The Peninsula Public Safety Committee (PPSC) consists of two council members from each of the four Peninsula cities and meets quarterly to discuss collaborative efforts to enhance Peninsula-wide emergency preparedness and public safety. The PPSC coordinates emergency preparedness initiatives and addresses public safety trends and issues affecting the region. The PPSC has overseen a coordinated regional effort to develop the Palos Verdes Peninsula (PVP) Multi-Jurisdictional Hazard Mitigation Plan Update.

At the May 23, 2024 PPSC meeting, an Ad Hoc Committee (one member from each city and the four City Managers) of the PPSC was appointed to help guide the development of the Plan, including review of consultant proposals. Following the issuance of a Request for Proposals (RFP) in December 2024, the Ad Hoc Committee interviewed three firms and selected Black & Veatch Corporation to develop the Plan. Megan Brotherton, Hazard Mitigation and Resilience Planner from Black & Veatch, is with us, via zoom, this evening to present a plan update (Attachment D).

Council member Leah Mirsch is the appointed Ad Hoc Committee member for the City of Rolling Hills.

Oversight and Public Participation

The Plan update process was overseen by a 21-member stakeholder Planning Committee, composed of representatives from within the planning area, including agencies such as the Palos Verdes Peninsula Unified School District, Palos Verdes Library District, local utilities, senior service organizations, and Rolling Hills Community Association staff. Public participation was incorporated throughout the process and included:

- In-person outreach events
- A community survey conducted in late 2025 and early 2026
- Web-based information and updates
- Progress updates through PVPready.gov and participating agencies' communication channels; and
- Blue Newsletter

Hazards Addressed
The Plan includes hazard identification and profiling for natural hazards of significance within the Palos Verdes Peninsula planning area, including:

- Drought
- Earthquake
- Flood (inland flooding, coastal flooding, sea-level rise, tsunami, and coastal erosion)
- Heat Wave
- Landslide
- Strong Wind
- Wildfire

The Plan was prepared in accordance with Cal OES Local Hazard Mitigation Plan requirements and FEMA Region 9 guidelines.

Discussion:
Staff is now bringing the MJHMP before the City Council for adoption by resolution.

Plan Adoption and Next Steps
The Planning Partnership elected to utilize a FEMA-authorized provision that allows jurisdictions to adopt the Plan prior to Cal OES and FEMA approval.

Each participating jurisdiction will adopt Volume 1 of the Plan, which serves as the base multi-jurisdictional document, along with its respective jurisdiction-specific annex in Volume 2. Following adoption by all Planning Partners, the Plan will be submitted to Cal OES and FEMA for final review and approval. Once approved, the City would be eligible to pursue funding opportunities available through FEMA's Hazard Mitigation Assistance (HMA) programs in the future, should the need arise.

Pre-adoption Schedule:

City	**Pre-Adoption Date (Item before City Council)**
Rolling Hills Estates	March 2, 2026 (approved)
Rolling Hills	March 9, 2026
Rancho Palos Verdes	March 17, 2026
Palos Verdes Estates	March 24, 2026

Following the Pre-adoption by all four cities, the Plan will be transmitted to Cal OES. They will review it during a 45-day period. Following that, a technical assistance meeting will be scheduled with the City's planning consultants.

Fiscal Impact:
Black and Veatch overall cost proposal: $250,672
Cal OES/FEMA grant funding - 75%
Peninsula responsibility - 25%
Fiscal impact per city is as follows:

Cost Allocation Formula:

City	Percentage	Cost Share
Palos Verdes Estates	20%	$12,533.60
Rancho Palos Verdes	60%	$37,600.80
Rolling Hills	7%	$4,386.79
Rolling Hills Estates	13%	$8,146.84

To Date:
PVP City Total Cost: $22,152.38
Rolling Hills Cost at 7%: $1,550.67

Recommendation:
Staff recommends that the City Council consider adopting Resolution No. 1404 approving Volume I and the Rolling Hills portion of Volume II of the 2026 Palos Verdes Peninsula Multi-Jurisdictional Hazard Mitigation Plan.

Attachments:
1. Attachment A - ResolutionNo1404_MJHMP_Adoption_F
2. Attachment B - PL_HMP_260225_PVP_MJHMP_Volume1&2_D
3. Attachment C - CA_MOU_250203_PVP_JointHMP_F_E
4. Attachment D - MA_HMP_AD_260309_MJHMP_B&V_PP

RESOLUTION NO. 1404

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ROLLING HILLS, AUTHORIZING THE ADOPTION OF THE 2026 PALOS VERDES PENINSULA MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN

THE CITY COUNCIL OF THE CITY OF ROLLING HILLS, CALIFORNIA, DOES HEREBY RESOLVE, DECLARE, DETERMINE, AND ORDER AS FOLLOWS:

WHEREAS, all of the Palos Verdes Peninsula has exposure to natural hazards that increase the risk to life, property, environment, and the local economy; and

WHEREAS, pro-active mitigation of known hazards before a disaster event can reduce or eliminate long-term risk to life and property; and

WHEREAS, The Disaster Mitigation Act of 2000 (Public Law 106-390) established new requirements for pre- and post-disaster hazard mitigation programs; and

WHEREAS, a coalition of Palos Verdes Peninsula stakeholders with like planning objectives has been formed to pool resources and create consistent mitigation strategies to be implemented within each partners identified capabilities, within the Palos Verdes Peninsula Planning Area; and

WHEREAS, the coalition has completed a planning process that engages the public, assesses the risk and vulnerability to the impacts of natural hazards, develops a mitigation strategy consistent with a set of uniform goals and objectives, and creates a plan for implementing, evaluating, and revising this strategy.

NOW, THEREFORE, BE IT RESOLVED that the CITY OF ROLLING HILLS

1.) Adopts in its entirety, Volume I, Areawide Information, and Volume II, Planning Partner Annexes of the 2026 Palos Verdes Peninsula Multi-Jurisdictional Hazard Mitigation Plan, attached hereto as Exhibit “A” and incorporated herein by reference.

2.) Will use the adopted and approved portions of the Hazard Mitigation Plan to guide pre- and post- disaster mitigation of the hazards identified.

3.) Will coordinate the strategies identified in the Hazard Mitigation Plan with other planning programs and mechanisms under its jurisdictional authority.

4.) Will continue its support of the on-going areawide mitigation efforts and continue to participate in the Planning Partnership as described by the Hazard Mitigation Plan.

5.) Will help to promote and support the mitigation successes of all Planning Partners.

PASSED, APPROVED, AND ADOPTED this 23th day of February, 2026

_____
BEA DIERINGER
MAYOR

ATTEST:

_____
CHRISTIAN HORVATH
CITY CLERK

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) §§
CITY OF ROLLING HILLS)

The foregoing Resolution No. 1404 entitled:

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ROLLING HILLS, AUTHORIZING THE ADOPTION OF THE 2026 PALOS VERDES PENINSULA MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN

was approved and adopted at a regular meeting of the City Council on the 23th day of February 2026, by the following roll call vote:

AYES:
NOES:
ABSENT:
ABSTAIN:

_____
CHRISTIAN HORVATH
CITY CLERK

EXHIBIT “A”

2026 Palos Verdes Peninsula Multi-Jurisdictional Hazard Mitigation Plan

2026 PALOS VERDES PENINSULA

Multi-Jurisdictional Hazard Mitigation Plan

Volume 1

Areawide Information

PUBLIC COMMENT DRAFT
FEBRUARY 2026

BLACK & VEATCH

CITY OF PALOS VERDES ESTATES INCORPORATED 1939 CALIFORNIA

RPV

CITY OF ROLLING HILLS, CALIFORNIA

CITY OF ROLLING HILLS ESTATES 1957

ACLAD



ABALONE COVE LANDSLIDE ABATEMENT DISTRICT

Klondike Canyon Geologic Hazard Abatement District

TABLE OF CONTENTS

Executive Summary 1
Hazard Mitigation Overview 1
Building the Planning Teams 2
Outreach Strategy 2
Risk Assessment 3
Capability Assessment 2
Mitigation Strategy 2
Implementing, Adopting, and Maintaining the Plan 5
Part 1 6
Introduction and Planning Process 6
1. Introduction 1-1
1.1 Why Prepare This Plan? 1-1
1.1.1 Federal Eligibility 1-2
1.1.2 Purposes for Planning 1-3
1.2 Plan Updates 1-3
1.2.1 Previous Plans 1-3
1.2.2 Why Update 1-3
1.2.3 The Updated Plan - What Has Changed? 1-5
1.3 How to Use This Plan 1-5
1.3.1 Volume 1 1-5
1.3.2 Volume 2 1-5
1.3.3 Planning Requirement Icons 1-6
2. Planning Process 2-1
2.1 Introduction 2-1
2.2 Defining the Planning Area 2-12
2.3 Funding 2-12
2.4 Formation of the Planning Teams 2-13
2.4.1 Core Planning Team 2-13
2.4.2 Planning Committee 2-13
2.4.3 Planning Partnership 2-14
2.5 Stakeholder Coordination and Involvement 2-16

2.5.1 Types of Stakeholders 2-16
2.5.2 Stakeholder Participation 2-17
2.5.3 Draft Plan Review 2-18
2.6 Public Participation 2-18
2.6.1 Hazard Mitigation Plan Web Page 2-19
2.6.2 Public Meetings 2-19
2.6.3 Public Events 2-19
2.6.4 Public Survey 2-21
2.6.5 Public Review Period 2-22
2.7 Identification and Outreach to Equity Priority Communities 2-22
2.8 Review and Incorporation of Existing Programs 2-22
2.9 Plan Development Milestones 2-23
3. Palos Verdes Peninsula Profile 3-1
3.1 Overview 3-1
3.1.1 Historical Overview 3-1
3.1.2 Jurisdictions 3-1
3.1.3 Government 3-1
3.2 Physical Setting 3-2
3.2.1 Location 3-2
3.2.2 Geography and Topography 3-2
3.2.3 Watersheds and Surface Waters 3-2
3.2.4 Climate 3-4
3.3 Population and Demographics 3-4
3.3.1 General Population 3-4
3.3.2 Equity Priority Communities 3-5
3.4 Development Profile 3-5
3.4.1 Land Use 3-5
3.4.2 General Building Stock 3-7
3.5 Community Lifelines 3-7
3.5.1 Safety and Security 3-8
3.5.2 Food, Hydration, Shelter 3-8
3.5.3 Health and Medical 3-8
3.5.4 Energy 3-8

3.5.5 Communication 3-9
3.5.6 Transportation 3-9
3.5.7 Hazardous Materials 3-9
3.5.8 Water Systems 3-9
3.6 Economy 3-9
3.6.1 Industry, Businesses, and Institutions 3-9
Part 2 12
Risk Assessment 12
4. Hazards of Concern 4-1
4.1 What Is a Hazard of Concern? 4-1
4.2 Federal Disaster Declarations 4-1
4.3 Natural Hazards of Concern and Hazards of Interest 4-2
5. Risk Assessment Methodology and Tools 5-1
5.1 Assessing Risk 5-1
5.2 Risk Assessment Tools 5-1
5.2.1 Mapping 5-1
5.2.2 Modeling 5-1
5.3 Risk Assessment Approach 5-3
5.4 Sources of Data Used in Risk Assessment 5-4
5.4.1 Building and Cost Data 5-4
5.4.2 Community Lifelines 5-4
5.4.3 Population 5-4
5.4.4 Hazus Data Inputs 5-4
5.4.5 Other Local Hazard Data 5-5
5.4.6 Data Source Summary 5-5
5.5 Data Limitations 5-6
6. Drought 6-1
6.1 Hazard Profile 6-1
6.1.1 Description of the Hazard 6-1
6.1.2 Location 6-3
6.1.3 Extent 6-3
6.1.4 Previous Occurrences 6-5
6.1.5 Future Conditions 6-7

6.2 Vulnerability Assessment 6-8
6.2.1 Summary of Vulnerability 6-8
6.2.2 Impact on Life, Health, and Safety 6-9
6.2.3 Impact on General Building Stock 6-9
6.2.4 Impact on Community Lifelines 6-9
6.2.5 Impact on the Economy 6-9
6.2.6 Impact on Historic and Cultural Resources 6-10
6.2.7 Impact on Ecosystems and Natural Resources 6-10
6.2.8 Change in Vulnerability Since the Prior Planning Area HMPs 6-10
6.3 Mitigation Opportunities 6-10
7. Earthquake 7-1
7.1 Hazard Profile 7-1
7.1.1 Description of the Hazard 7-1
7.1.2 Location 7-3
7.1.3 Extent 7-6
7.1.4 Previous Occurrences 7-8
7.1.5 Future Conditions 7-11
7.2 Vulnerability Assessment 7-13
7.2.1 Summary of Vulnerability 7-13
7.2.2 Impact on Life, Health, and Safety 7-13
7.2.3 Impact on General Building Stock 7-14
7.2.4 Impact on Community Lifelines 7-15
7.2.5 Impact on the Economy 7-16
7.2.6 Impact on Historic and Cultural Resources 7-16
7.2.7 Impact on Ecosystems and Natural Resources 7-16
7.2.8 Change in Vulnerability Since the Prior Planning Area HMPs 7-17
7.3 Mitigation Opportunities 7-17
8. Flood 8-1
8.1 Hazard Profile 8-1
8.1.1 Description of the Hazard 8-1
8.1.2 National Flood Insurance Program Participation 8-5
8.1.3 Location 8-5
8.1.4 Extent 8-10

8.1.5 Previous Occurrences 8-13
8.1.6 Future Conditions 8-15
8.2 Vulnerability Assessment 8-18
8.2.1 Summary of Vulnerability 8-18
8.2.2 Impact on Life, Health, and Safety 8-18
8.2.3 Impact on General Building Stock 8-20
8.2.4 Impact on Community Lifelines 8-21
8.2.5 Impact on the Economy 8-22
8.2.6 Impact on Historic and Cultural Resources 8-22
8.2.7 Impact on Ecosystems and Natural Resources 8-22
8.2.8 Change in Vulnerability Since the Prior Planning Area HMPs 8-23
8.3 Mitigation Opportunities 8-23
9. Heat Wave 9-1
9.1 Hazard Profile 9-1
9.1.1 Description of the Hazard 9-1
9.1.2 Location 9-2
9.1.3 Extent 9-2
9.1.4 Previous Occurrences 9-4
9.1.5 Future Conditions 9-6
9.2 Vulnerability Assessment 9-7
9.2.1 Summary of Vulnerability 9-7
9.2.2 Impact on Life, Health, and Safety 9-7
9.2.3 Impact on General Building Stock 9-7
9.2.4 Impact on Community Lifelines 9-7
9.2.5 Impact on the Economy 9-8
9.2.6 Impact on Historic and Cultural Resources 9-8
9.2.7 Impact on Ecosystems and Natural Resources 9-8
9.2.8 Change in Vulnerability Since the Prior Planning Area HMPs 9-8
9.3 Mitigation Opportunities 9-8
10. Landslide 10-1
10.1 Hazard Profile 10-1
10.1.1 Description of the Hazard 10-1
10.1.2 Location 10-3

10.1.3 Extent 10-4
10.1.4 Previous Occurrences 10-7
10.1.5 Future Conditions 10-12
10.2 Vulnerability Assessment 10-13
10.2.1 Summary of Vulnerability 10-13
10.2.2 Impact on Life, Health, and Safety 10-13
10.2.3 Impact on General Building Stock 10-14
10.2.4 Impact on Community Lifelines 10-14
10.2.5 Impact on the Economy 10-15
10.2.6 Impact on Historic and Cultural Resources 10-15
10.2.7 Impact on Ecosystems and Natural Resources 10-15
10.2.8 Change in Vulnerability Since the Prior Planning Area HMPs 10-16
10.3 Mitigation Opportunities 10-17
11. Strong Wind 11-1
11.1 Hazard Profile 11-1
11.1.1 Description of the Hazard 11-1
11.1.2 Location 11-3
11.1.3 Extent 11-3
11.1.4 Previous Occurrences 11-4
11.1.5 Future Conditions 11-6
11.2 Vulnerability Assessment 11-7
11.2.1 Summary of Vulnerability 11-7
11.2.2 Impact on Life, Health, and Safety 11-7
11.2.3 Impact on General Building Stock 11-7
11.2.4 Impact on Community Lifelines 11-7
11.2.5 Impact on the Economy 11-8
11.2.6 Impact on Historic and Cultural Resources 11-8
11.2.7 Impact on Ecosystems and Natural Resources 11-8
11.2.8 Change in Vulnerability Since the Prior Planning Area HMPs 11-8
11.3 Mitigation Opportunities 11-8
12. Wildfire 12-1
12.1 Hazard Profile 12-1
12.1.1 Description of the Hazard 12-1

12.1.2 Location 12-4
12.1.3 Extent 12-5
12.1.4 Previous Occurrences 12-7
12.1.5 Future Conditions 12-9
12.2 Vulnerability Assessment 12-10
12.2.1 Summary of Vulnerability 12-10
12.2.2 Impact on Life, Health, and Safety 12-11
12.2.3 Impact on General Building Stock 12-12
12.2.4 Impact on Community Lifelines 12-15
12.2.5 Impact on the Economy 12-16
12.2.6 Impact on Historic and Cultural Resources 12-17
12.2.7 Impact on Ecosystems and Natural Resources 12-17
12.2.8 Change in Vulnerability Since the Prior Planning Area HMPs 12-18
12.3 Mitigation Opportunities 12-18
13. Other Hazards of Interest 13-1
13.1 Groundwater Seepage 13-1
13.1.1 Overview 13-1
13.1.2 Identified Groundwater Seepage 13-1
13.1.3 Past Events 13-1
13.1.4 Location and Extent 13-1
13.2 Hazardous Materials 13-2
13.2.1 Overview 13-2
13.2.2 Identified Hazardous Materials Hazards 13-2
13.2.3 Past Events 13-2
13.2.4 Location and Extent 13-3
13.3 Human-Caused 13-3
13.3.1 Overview 13-3
13.3.2 Identified Human-Caused Hazards 13-4
13.3.3 Past Events 13-5
13.3.4 Location and Extent 13-6
13.4 Utility Related 13-6
13.4.1 Overview 13-6
13.4.2 Identified Utility Related Hazards 13-6

13.4.3 Past Events 13-7
13.4.4 Location and Extent 13-8
14. Hazard Ranking 14-1
Part 3 4
Mitigation Strategy 4
15. Mitigation Strategy 15-1
15.1 Review of Previous Mitigation Actions 15-1
15.1.1 Mitigation Accomplishments Since the Prior Mitigation Planning Efforts 15-1
15.2 Mitigation Goals 15-2
15.3 Mitigation Alternatives 15-2
15.4 Developing Mitigation Actions 15-3
15.5 Prioritizing Mitigation Actions 15-3
15.6 Mitigation Action Categorization 15-4
15.6.1 Local Plans and Regulations 15-4
15.6.2 Structure and Infrastructure Projects 15-4
15.6.3 Education and Awareness Programs 15-4
15.6.4 Natural Systems Protection 15-1
15.6.5 Climate Resiliency 15-1
15.6.6 Community Capacity Building 15-1
Part 4 15-1
Maintaining the Plan 15-1
16. Adopting and Maintaining the Mitigation Plan 16-1
16.1 Plan Adoption 16-1
16.2 Plan Maintenance 16-1
16.2.1 Integrating the Plan 16-2
16.2.2 Implementing the Hazard Mitigation Plan Through Existing Programs 16-3
16.2.3 Ongoing Public Involvement 16-3
16.2.4 Monitoring the Plan 16-4
16.2.5 Updating the Plan 16-5
Appendix A. Public Outreach 1
Appendix B. Hazard Selection 1
Appendix C. Meeting Documentation 1
Appendix D. Risk Assessment Methodology 1

Appendix E. Federal and State Agencies, Programs, and Regulations 1
Appendix F. Plan Maintenance Agendas 1
Appendix G. FEMA Approval and Planning Partner Adoption 1

LIST OF TABLES

Table 2-1. Palos Verde Peninsula Hazard Mitigation Planning Participation 2-14
Table 2-2. Federal and State Agencies 2-17
Table 2-3. Public Survey Comment Examples and MJHMP Incorporation 2-22
Table 2-4. Plan Development Milestones 2-23
Table 3-1. Recent Population by Jurisdiction 3-4
Table 3-2. Vulnerable Populations Exposed to Hazard of Concern 3-5
Table 3-3. Building Count by Occupancy Class 3-7
Table 3-4. Community Lifelines in the Planning Area 3-8
Table 3-5. Principal Employers in the Planning Area 3-9
Table 3-6. Employment in Planning Area by Industry Sector Percentages 3-10
Table 4-1. Federal Disaster Declarations in Los Angeles County 4-1
Table 5-1. Data Source Summary 5-5
Table 6-1. USDA Drought Disaster Declarations 6-6
Table 6-2. Potential Opportunities to Mitigate the Drought Hazard 6-10
Table 7-1. Mercalli Scale and Peak Ground Acceleration Comparison 7-1
Table 7-2. NEHRP Soil Classification System 7-3
Table 7-3. USGS Earthquake Reports 7-9
Table 7-4. Estimated Earthquake Impact on Persons and Households 7-13
Table 7-5. Age of Structures in the Palos Verdes Peninsula 7-14
Table 7-6. Loss Estimates for Fault Scenarios 7-15
Table 7-7. Estimated Earthquake-Caused Debris 7-15
Table 7-8. Community Lifelines in Earthquake Hazard Area 7-16
Table 7-9. Potential Opportunities to Mitigate the Earthquake Hazard 7-17
Table 8-1. Riverine Flooding Sources in the Palos Verde Peninsula 8-5
Table 8-2. Riverine Flooding Sources in the Palos Verde Peninsula 8-5
Table 8-3. Acres of Floodplain in FEMA 1 Percent Annual Chance Flood Zones 8-7
Table 8-4. Federal Flood Disaster Declarations 8-13

Table 8-5. State Landslide Disaster Declarations....8-13
Table 8-6. USDA Drought Disaster Declarations....8-14
Table 8-7. Recent Flood Hazard Events....8-14
Table 8-8. Recurrence Intervals and Probabilities of Occurrence....8-16
Table 8-9. Exposure Estimates for Flood Hazard Areas....8-20
Table 8-10. Loss Estimates for 100-year Flood Hazard Areas....8-21
Table 8-11. Estimated Number of Buildings by Type, Located in the Flood Hazard Areas....8-21
Table 8-12. Community Lifelines in Flood Hazard Areas....8-22
Table 8-13. Potential Opportunities to Mitigate the Flood Hazard....8-23
Table 9-1. NWS HeatRisk Index....9-4
Table 9-2. Potential Opportunities to Mitigate the Heat Wave Hazard....9-9
Table 10-1. Federal Landslide Disaster Declarations....10-7
Table 10-2. State Landslide Disaster Declarations....10-8
Table 10-3. Recent Landslide Events....10-11
Table 10-4. Vulnerable Populations Exposed to Landslides....10-13
Table 10-5. Exposure Estimates for Landslide Susceptibility Areas....10-14
Table 10-6. Estimated Number of Buildings by Type, Located in the Landslide Susceptibility Areas 10-14
Table 10-7. Community Lifelines in Deep-Seated Landslide Hazard Areas....10-15
Table 10-8. Potential Opportunities to Mitigate the Landslide/Mass Movement Hazard....10-17
Table 11-1. Land Based Beaufort Scale....11-3
Table 11-2. Federal Strong Wind Disaster Declarations....11-5
Table 11-3. State Strong Wind Disaster Proclamations....11-5
Table 11-4. USDA Strong Wind Disaster Declarations....11-5
Table 11-5. NOAA NCEI Storm Events....11-6
Table 11-6. General Building Stock Replacement Cost Values....11-7
Table 11-7. Potential Opportunities to Mitigate the Strong Wind Hazard....11-8
Table 12-1. Federal Wildfire Disaster Declarations....12-7
Table 12-2. State Wildfire Disaster Declarations....12-8
Table 12-3. Estimated Number of People Living in the FHSZs....12-11
Table 12-4. Vulnerable Populations Exposed to FHSZs....12-12
Table 12-5. Estimated Buildings Located in FHSZs....12-13
Table 12-6. Estimated Number of Buildings, by Structure Type, Located in FHSZs....12-13
Table 12-7. General Building Stock by Date of Construction....12-15

Table 12-8. Community Lifelines in Wildfire Severity Zones 12-15
Table 12-9. Estimated Replacement Cost Value of Buildings Located in the FHSZs 12-17
Table 12-10. Potential Opportunities to Mitigate the Wildfire Hazard 12-18
Table 14-1. Priority Risk Index Scoring Criteria 14-2
Table 14-2. Priority Risk Index Scoring Criteria 14-3
Table 16-1. Plan Maintenance Matrix 16-1

LIST OF FIGURES

Figure 2-1. Hazard Mitigation Web Page 2-19
Figure 2-2. Public Meeting Participation 2-20
Figure 2-3. Prepared Peninsula Expo Featuring Coverage by RPVtv 2-20
Figure 2-4. Survey Promotion on RPVtv 2-21
Figure 3-1. Palos Verdes Peninsula EWMP Watersheds 3-3
Figure 3-2. Planning Area Critical Facilities 3-8
Figure 3-3. Recent Unemployment Rates for California and the Planning Area 3-11
Figure 6-1. U.S. Drought Monitor Categories 6-4
Figure 6-2. Percent of Los Angeles County Affected by Drought Conditions 2000 to January 2026 6-7
Figure 7-1. USGS National Seismic Hazard Map 7-4
Figure 7-2. Fault Activity Map 7-5
Figure 7-3. Palos Verdes Peninsula NEHRP Seismic Site Class 7-6
Figure 7-4. Palos Verdes Peninsula Liquefaction Susceptibility 7-4
Figure 7-5. Compton M7.45 Scenario 7-5
Figure 7-6. Palos Verdes M7.38 Scenario 7-6
Figure 7-7. Redondo Canyon M6.65 Scenario 7-7
Figure 7-8. USGS Earthquake Catalog 2019 – 2025 7-10
Figure 7-9. UCERF3 Earthquake Probability 7-12
Figure 8-1. FEMA 1 Percent Annual Chance Flood Zone 8-7
Figure 8-2. 25 cm Sea Level Rise with 100-Year Storm Surge 8-8
Figure 8-3. 100 cm Sea Level Rise with 100-Year Storm Surge 8-9
Figure 8-4 Tsunami Hazard Area 8-10
Figure 8-5. How Wildfires Cause Flooding 8-17
Figure 9-1. NWS Heat Index 9-3
Figure 9-2. September 2024 Extreme Heat Map 9-5

Figure 10-1. Historic Landslide Occurrences 10-4
Figure 10-2. Steep Slope Map 10-5
Figure 10-3. Soils Map 10-6
Figure 10-4. Fall 2024 Motion of Landslides on the Palos Verdes Peninsula 10-11
Figure 10-5. Example of Beach and Trail Closure (Abalone Cove Reserve Closure) 10-16
Figure 11-1. Santa Ana Winds 11-2
Figure 12-1. Palos Verdes Peninsula Fire Hazard Severity Zones 12-5

EXECUTIVE SUMMARY



Point Vicente Lighthouse (Photo Credit: Adobe Stock)

Hazard mitigation involves implementing cost-effective and sustainable measures to minimize the risk to human life, property, and infrastructure from potential hazards. Through mitigation planning, the participating jurisdictions of the Palos Verdes Peninsula Multi-Jurisdictional Hazard Mitigation Plan can develop a framework to lessen the impacts of natural disasters and create a more resilient community.

HAZARD MITIGATION OVERVIEW

The Palos Verde Peninsula cities and two special purpose districts developed a hazard mitigation plan (HMP) to continue its commitment to reducing risk of natural hazards for the residents, assets, and community lifelines within Palos Verde Peninsula. This planning effort aims to safeguard the people and essential services provided throughout the Planning Area.

This plan is a multi-jurisdictional hazard mitigation plan (MJHMP) that includes annexes for jurisdictions throughout the Palos Verdes Peninsula to address the Planning Area's specific capabilities, vulnerabilities, and mitigation opportunities. The Palos Verdes Peninsula MJHMP forms the foundation for a long-term strategy to reduce disaster losses and break the cycle of disaster damage, reconstruction,

and repetitive damage. This plan aligns with federal and state hazard mitigation planning regulations and requirements to ensure eligibility for pre- and post-disaster mitigation funding through the Federal Emergency Management Agency (FEMA) for all jurisdictions that participated as Planning Partners:

- City of Palos Verdes Estates
- City of Rancho Palos Verdes
- City of Rolling Hills
- City of Rolling Hills Estates
- Klondike Canyon Geologic Hazard Abatement District
- Abalone Cove Landslide Abatement District

BUILDING THE PLANNING TEAMS

The Palos Verdes Peninsula cities and special purpose districts brought together a diverse and inclusive group of individuals to participate, develop, and implement the MJHMP. A Core Planning Team, Planning Committee, and Planning Partnership oversaw the planning process and were responsible for coordinating, overseeing, and executing the planning process.



CORE PLANNING TEAM

The Core Planning Team was made up of key personnel from the cities and discipline leads from the City of Rolling Hills Estate's contract consultant, Black & Veatch.



HAZARD MITIGATION PLANNING COMMITTEE

The Planning Committee consisted of a variety of personnel from Palos Verdes Peninsula city departments and agencies, local jurisdictions, and stakeholders that guided the cities and participating jurisdictions through the process of updating the MJHMP.



PLANNING PARTNERSHIP

The Planning Partnership included jurisdictional representatives seeking DMA 2000 compliance. They participated throughout the process, reviewed information, provided input, informed the risk assessment, developed mitigation strategies, and adopted the MJHMP.

OUTREACH STRATEGY

The Core Planning Team (CPT) implemented a multimedia public involvement strategy that was approved by the Hazard Mitigation Planning Committee (HMPC). The strategy included a community hazard mitigation awareness survey; a project web page; and multiple in-person events promoting hazard awareness. Additionally, the HMPC helped amplify public outreach efforts to their networks.

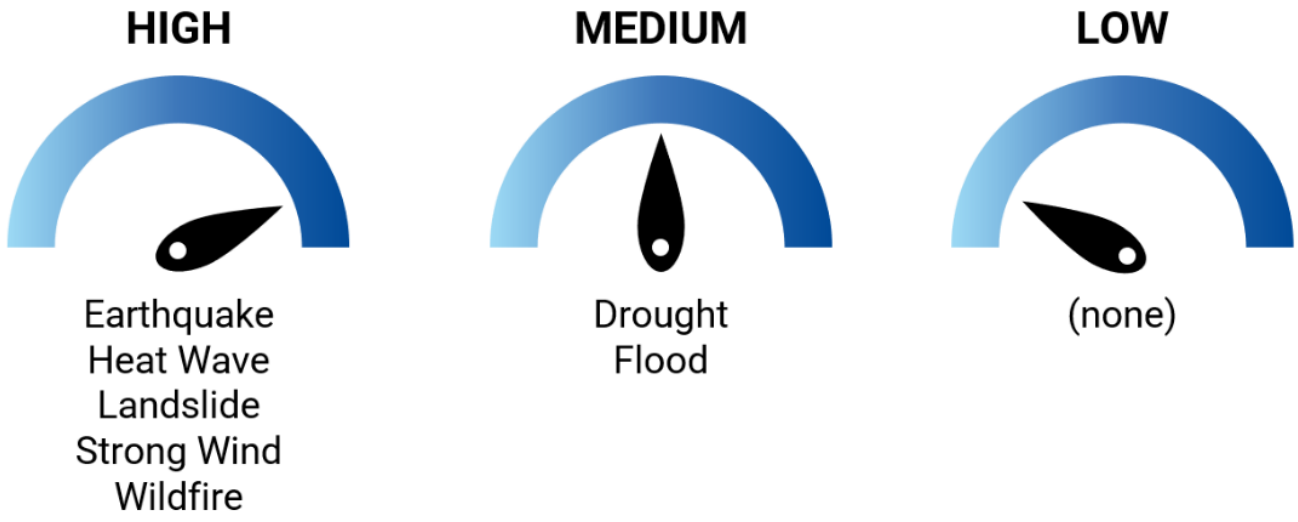
RISK ASSESSMENT

A risk assessment is the process of measuring the potential loss of life resulting from natural hazards, as well as personal injury, property damage, and environmental damage. The assessment determines a community's overall vulnerability to hazard events. The HMPC used the risk assessment to gauge the potential impacts of natural hazards identified as "hazards of concern" for this plan.

Risk assessment models for hazards of concern were based on current data and technologies. The assessment of each hazard of concern includes discussion of the following:

- Hazard identification and profile.
- The exposure of population, property, and the environment to the hazards.
- The estimated cost of potential damage, where applicable.

Based on the risk assessment, the hazards of concern were ranked for the risk they pose to the Planning Area. Palos Verde Peninsula-wide results are as follows:



In addition to assessing the hazards of concern, this plan provides a review of "hazards of interest." The HMPC determined that these other hazards, though not required to be evaluated under federal guidelines for hazard mitigation plans, are important to recognize qualitatively in this plan. Hazard profiles, without quantitative risk assessments, are provided for the following hazards of interest:

- Groundwater Seepage
- Human-Caused
- Hazardous Materials
- Utility Related

CAPABILITY ASSESSMENT

A robust assessment of mitigation capabilities was completed by each participating jurisdiction to identify gaps that may need to be addressed so mitigation actions can be successfully implemented. The following capability types were analyzed:

- Planning and Regulatory
- Development and Permitting
- Administrative and Technical
- National Flood Insurance Program (NFIP) Compliance
- Public Outreach
- Fiscal
- Participation in Other Programs
- Adaptive Capacity

MITIGATION STRATEGY

The HMPC developed mitigation goals to reflect the current focus of Palos Verde Peninsula and its participating jurisdictions. The HMPC determined the following goals for this MJHMP:

- **Goal 1.** Reduce risk to life, property, community lifelines, the environment, and infrastructure from natural hazards and climate change.
- **Goal 2.** Expand and improve public awareness of hazards, risk, and mitigation strategies.
- **Goal 3.** Strengthen partnerships and communication among government agencies, private sector businesses, community-based, and nonprofit organizations.
- **Goal 4.** Integrate mitigation principles into regulations, policies, programs, and guidance to support equitable outcomes to benefit the whole community.
- **Goal 5.** Conserve, enhance, rehabilitate, and protect natural and cultural resources from hazards to provide a more resilient and sustainable community.



Mitigation actions presented in this plan are designed to reduce or eliminate losses resulting from natural hazard events. The development process resulted in the identification of nearly 200 mitigation actions for implementation by individual Planning Partners, as presented in the jurisdictional annexes in Volume 2 of this MJHMP. Several of these actions are within the current capabilities of each jurisdiction, resulting in a high priority for implementation over the next 5 years.

IMPLEMENTING, ADOPTING, AND MAINTAINING THE PLAN

Implementing the mitigation actions in this MJHMP will take time and resources over its 5-year performance period. The CPT developed an implementation and maintenance strategy that includes the following:

- Monitoring mitigation action implementation.
- Progress reporting.
- A strategy for continued public involvement.
- Plan integration with other relevant plans and programs.

This MJHMP is designed with an adaptive management approach that can evolve along with funding sources and state and federal mandates. The Palos Verde Peninsula Planning Partners will assume responsibility for adopting the recommendations of this plan and committing resources toward implementation. The framework established by this plan will enable the Planning Partnership to pursue FEMA Hazard Mitigation Assistance (HMA) grant funding for feasible, eligible, cost-effective actions. The Planning Partnership developed this plan with extensive opportunities for public involvement and input. Public support of the mitigation actions identified in this MJHMP will ensure its success.

Part 1
Introduction and Planning Process



Paddock in Rancho Palos Verdes (Photo Credit: Megan Brotherton)

1. INTRODUCTION

1.1 WHY PREPARE THIS PLAN?



Palos Verdes Peninsula Bluffs (Photo Credit: Adobe Stock)

The Palos Verdes Peninsula cities and two special purpose districts, the Planning Partnership, prepared this MJHMP update to better protect the residents, property, and assets throughout the Palos Verdes Peninsula from the effects of natural hazards.

Hazard mitigation plays a crucial role in emergency management by working to reduce the impacts of disasters on individuals, communities, and important assets. By implementing mitigation measures, we can help prevent the same areas from being repeatedly impacted by disasters. Mitigation is part of the emergency management cycle, which is divided into the following four phases:

- **Preparedness** is when we develop or update activities, programs, and systems before an event happens. These activities are often tested (or exercised) in non-emergency situations. This tests their effectiveness. Emergency managers also assess potential risks, hazards, and vulnerabilities in this phase.

- **Response** focuses on the immediate and short-term effects of a disaster. It is usually focused on life safety and preventing immediate damage.
- **Recovery** is a long-term phase that looks to return a community to normal, or to a more resilient state, after a disaster.
- **Mitigation** focuses on building (or rebuilding) in ways that reduce the risk more permanently. It is an activity that can occur at any point in the emergency management cycle. For example, communities can undertake mitigation actions before a disaster (the preparedness phase) or while rebuilding after a disaster (the recovery phase) (FEMA, 2023).



This multi-jurisdictional hazard mitigation plan (MJHMP) update highlights the dedication of the Palos Verdes Peninsula Planning Partnership to reducing risk from hazards, enhancing overall resilience, and providing a practical tool for decision makers to incorporate mitigation into daily operations.

1.1.1 Federal Eligibility

Disaster Mitigation Act

In an effort to reduce the nation's mounting natural disaster losses, the U.S. Congress passed the Disaster Mitigation Act of 2000 (DMA 2000), which amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act. Section 322 of DMA 2000 emphasizes the need for state and local government entities to closely coordinate on mitigation planning activities and requires an HMP for any local government applying for federal mitigation grant funds. These funds primary fall under the Federal Emergency Management Agency (FEMA) Hazard Mitigation Assistance (HMA) program. Grant programs under HMA include the following:

- Flood Mitigation Assistance
- Hazard Mitigation Grant Program (HMGP)

Hazard mitigation is any sustained action taken to reduce or eliminate long-term risk to life and property from hazards.

FEMA defines a **Hazard Mitigation Plan** as a community-driven process to help state, local, tribal, and territorial governments plan for hazard risk. By planning for risk and setting a strategy for action, governments can reduce the negative impacts of future disasters.

Entities with an adopted and federally-approved HMP are pre-positioned to receive available mitigation funds before and after the next disaster strikes. The plan was developed to make the Planning Partnership eligible for pre- and post-disaster FEMA grants.

1.1.2 Purposes for Planning

This MJHMP update highlights the Palos Verdes Peninsula Planning Partnership's dedication to reducing risk from hazards, enhancing overall resilience, and providing a practical tool for decision makers to incorporate mitigation into daily operations. The Planning Partnership prepared this DMA-compliant MJHMP to identify resources, information, and strategies for reducing risk from natural hazards. Elements and strategies in the plan were selected because they meet a program requirement and the intent of the Palos Verdes Peninsula and its residents to mitigate hazards. The plan will help guide mitigation activities throughout the Planning Area. It was developed to meet the following needs:

- Meet or exceed program requirements specified under DMA;
- Enable the Palos Verdes Peninsula Planning Partnership to apply for federal grant funding to reduce hazard risk through mitigation;
- Fulfill state and federal requirements for hazard mitigation planning;
- Create a risk assessment that focuses on the hazards of concern in the Palos Verdes Peninsula Planning Partnership’s Planning Area; and
- Coordinate existing plans and programs so high-priority projects to mitigate potential disaster impacts are funded and implemented.

An HMP is a living document that jurisdictions use to reduce vulnerability to natural hazards. It serves as the groundwork for a jurisdiction’s long-term plan to lessen disaster impacts and establishes a framework for decision-making to mitigate harm to individuals, assets, and the economy from future natural disasters. Mitigation projects include a broad range of actions to help reduce vulnerability, allowing Palos Verdes Peninsula to bounce back more quickly from disasters. This ongoing effort ensures that the Palos Verdes Peninsula Planning Partnership has the necessary information to create and implement a successful mitigation strategy, reduce the impacts of natural disasters, and enhance overall resilience.

1.2 PLAN UPDATES

1.2.1 Previous Plans

The Palos Verdes Peninsula cities have shown dedication to reducing disaster impacts by adopting the following local hazard mitigation plans:

- City of Palos Verdes Estates Local Hazard Mitigation Plan, 2018
- City of Rolling Hills Hazard Mitigation Plan, 2019
- Rancho Palos Verdes and Rolling Hills Estates Multi-Jurisdictional Hazard Mitigation Plan, 2020

1.2.2 Why Update

The prior plans needed to be updated for funding eligibility and to encompass a diverse Planning Partnership that included a unified plan for all the cities on the Peninsula and two special purpose districts. Throughout the planning process, the plan was developed with a focus on assessing changes in vulnerability caused by hazard events, evaluating capabilities and their utilization in implementing hazard mitigation measures, reviewing the prior mitigation strategies, and identifying new initiatives to enhance overall resilience across the Planning Area.

Federal and State Requirements

In response to the requirements of the DMA 2000, which requires local governmental agencies to develop and update its hazard mitigation plan every 5 years, this plan serves as the 2026 update to the prior Local Hazard Mitigation Plans developed by the Planning Partners. The Palos Verdes Peninsula MJHMP update is in alignment with FEMA's Local Mitigation Planning Policy Guide (April 2025), FEMA's Local Mitigation Planning Handbook (June 2025), and the State of California planning requirements.

Changes in Hazards

The 2026 Palos Verdes Peninsula MJHMP update includes the previously identified hazards in the respective plans developed by the Planning Partners, along with one additional hazard of concern (italicized), as follows:

- Drought
- Earthquake
- Flood
- *Heat Wave*
- Landslide
- Strong Wind
- Wildfire

Changes in Development and Population



Local Plan Requirement E1—44 CFR Part 201.6(d)(3)

A local jurisdiction must review and revise its plan to reflect changes in development.

Tracking previous and future growth in potential hazard areas provides an overview of increased exposure to hazards within a community. This requirement ensures that the mitigation strategy continues to address the risk and vulnerability of existing and potential development and takes into consideration possible future conditions that could impact vulnerability.

As of January 2025, the reported population for the Planning Area was 63,948, representing a slight decrease of 2.3 percent from the 2020 reported population (California Department of Finance, 2025).

Based on development permit data provided by the municipal Planning Partners (refer to Volume 2), permits were issued for the construction of new structures over the past 5 years.

This plan assumes that some of this new development occurred in hazard areas. All such new development would have been regulated pursuant to local programs and codes, such as the International Building Code and flood damage prevention requirements of the National Flood Insurance Program (NFIP). Therefore, it is assumed that hazard vulnerability did not measurably increase, even if exposure did. Palos Verdes Peninsula municipalities have general plans that govern land-use decisions and policymaking, as well as building codes and flood-management regulations based on state and federal mandates.

1.2.3 The Updated Plan - What Has Changed?

The overall planning process and the 2012 HMP have been improved and revised for this 2025 MJHMP in response to changes in planning requirements and overall improvements. Key changes are outlined as follows:

- **Plan Integration** – Goals and objectives have been established for the updated MJHMP to align with current Planning Partner initiatives and programs, as well as to meet identified state priorities.
- **Updated Hazards of Concern** – The list of assessed hazards was updated to reflect the most current community experience and concerns.
- **Socially Vulnerable Populations** – The 2026 MJHMP update defines vulnerable populations based on the Planning Area's demographic and geographic characteristics and includes a dedicated subsection for each identified hazard of concern.
- **Climate Change Impacts** – The 2026 MJHMP update dedicates a subsection for each hazard of concern to the issue of climate change and its effects on state-identified climate-related hazards.

1.3 HOW TO USE THIS PLAN

The 2026 Palos Verdes Peninsula MJHMP was prepared to align with FEMA's Local Mitigation Planning Policy Guide (April 2025), FEMA's Local Mitigation Planning Handbook (June 2025), and the State of California planning requirements. The MJHMP is organized into two volumes as follows:

1.3.1 Volume 1

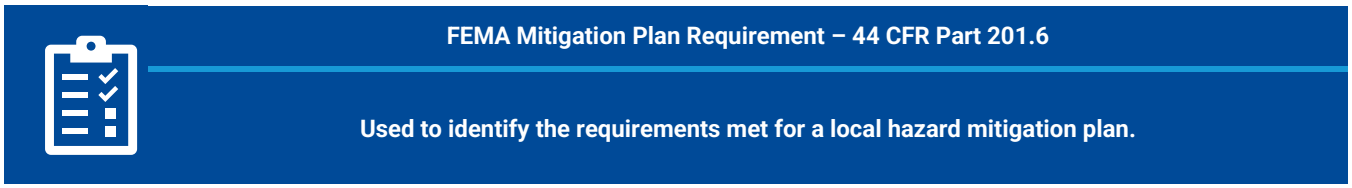
- Executive Summary
- Part 1 - Introduction and Planning Process
- Part 2 - Risk Assessment
- Part 3 - Mitigation Strategy
- Part 4 - Maintaining the Plan
- Appendix A – Public Outreach
- Appendix B – Hazard Selection
- Appendix C – Meeting Documentation
- Appendix D – Risk Assessment Methodology
- Appendix E – Federal and State Agencies, Programs, and Regulations
- Appendix F – Plan Maintenance Agendas
- Appendix G – FEMA Approval and Planning Partner Adoption

1.3.2 Volume 2

- Federally required jurisdiction-specific elements, in annexes for each participating jurisdiction.
- Description of the participation requirements confirmed by the CPT and HMPC.

1.3.3 Planning Requirement Icons

Throughout this plan, FEMA's local hazard mitigation planning requirements and state-specific compliance are identified using the icons below. These provide a pathway to show where the MJHMP meets each requirement.





2. PLANNING PROCESS

Local Plan Requirement A1 – 44 CFR Part 201.6(c)(1)

The plan shall document the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.

2.1 INTRODUCTION

The following section describes the overall process for the MJHMP, including how it was prepared, who was involved, and how stakeholders and the public participated. To adhere to the requirements of the DMA 2000 and ensure that the planning process received wide and robust support from the participating jurisdictions, regional and local stakeholders, and the public, the approach to the planning process and plan documentation included the following:

- The Palos Verde Peninsula MJHMP considers all natural hazards that pose a threat to the Planning Area. This satisfies the natural hazards requirements specified in DMA 2000 and Element B of FEMA's Local Mitigation Planning Policy Guide (April 2025).
- The City of Rolling Hills Estates served as the lead agency for the Palos Verde Peninsula MJHMP and selected a contract consultant, Black & Veatch, to assist with the development and implementation of the plan.
- A Core Planning Team (CPT) was formed to lead the planning effort, as shown in Table 2-1.
- The City of Rolling Hills Estates invited all jurisdictions located within the Planning Area to participate in the MJHMP update. The four cities of the Palos Verde Peninsula and two special districts agreed to participate and meet participation expectations, where appropriate, as shown in Table 2-1.
- This MJHMP was developed and updated following the process outlined by DMA 2000, FEMA's Local Mitigation Planning Handbook (June 2025), FEMA's Local Mitigation Planning Policy Guide (April 2025), and the State of California planning requirements. Following these processes ensures that all requirements have been met and supports state and federal reviews of the MJHMP.

The planning process for this MJHMP update as shown below consisted of the following six steps:

1. Organize Resources.
2. Assess Risk.
3. Engage the Public.
4. Plan Mitigation Strategy.
5. Plan Maintenance Strategy.
6. Assemble and Adopt the Plan.



2.2 DEFINING THE PLANNING AREA

The Planning Area consists of the Palos Verde Peninsula which includes the City of Palos Verdes Estates, City of Rancho Palos Verdes, City of Rolling Hills, City of Rolling Hills Estates, and Unincorporated Los Angeles County. Relevant Planning Area characteristics are described in Chapter 3 (Palos Verdes Peninsula Profile) and in each jurisdictional annex in Volume 2. The risk assessment for this MJHMP is performed for the entire Planning Area.

2.3 FUNDING

Funding for this MJHMP was fully funded through Cal OES HMGP DR-4683 with a local match.

2.4 FORMATION OF THE PLANNING TEAMS

A successful planning effort includes active participation and buy-in from the whole community – individuals and communities, all levels of government, private and nonprofit sectors, non-governmental establishments, community lifelines, and members of the public.



CORE PLANNING TEAM

The Core Planning Team was made up of key personnel from the cities and discipline leads from the City of Rolling Hills Estate's contract consultant, Black & Veatch.



HAZARD MITIGATION PLANNING COMMITTEE

The Planning Committee consisted of a variety of personnel from Palos Verdes Peninsula city departments and agencies, local jurisdictions, and stakeholders that guided the cities and participating jurisdictions through the process of updating the MJHMP.



PLANNING PARTNERSHIP

The Planning Partnership included jurisdictional representatives seeking DMA 2000 compliance. They participated throughout the process, reviewed information, provided input, informed the risk assessment, developed mitigation strategies, and adopted the MJHMP.

2.4.1 Core Planning Team

The **Core Planning Team** was made up of discipline leads from the City of Rolling Hills Estate's contract consultant, Black & Veatch, and key personnel from each of the cities.

Table 2-1 lists the cities' Core Planning Team members. They were responsible for monitoring plan progress milestones and identifying input need for the Planning Committee and Planning Partnership.

2.4.2 Planning Committee

The **Planning Committee** consisted of a variety of personnel from City departments and agencies, local jurisdictions, and stakeholders that guided the Planning Partnership through the process of updating the MJHMP.

Table 2-1 lists the Planning Committee members. They were responsible for participating throughout the process, reviewing information, providing input, informing the risk assessment, and developing mitigation strategies.

2.4.3 Planning Partnership

The **Planning Partnership** was made up of jurisdictional representatives seeking DMA 2000 compliance. They were responsible for participating throughout the process, reviewing information and providing input, informing the risk assessment, developing mitigation strategies, and adopting the HMP.

The City of Rolling Hills Estates notified Planning Area municipalities and special districts of the planning process and invited them to participate. They were asked to formally notify the City by letter of intent to participate and to identify points of contact to represent the jurisdiction and participate throughout the planning process. The contacts each jurisdiction identified in the letter of intent to participate were informed of the planning process, attended meetings, provided direct input, and reviewed plan documents.

Table 2-1 lists the Planning Partnership members and Appendix C (Meeting Documentation) identifies the individuals who represented their jurisdictions during the planning effort. Members of the Planning Partnership were responsible for participating throughout the process, reviewing information, providing input, informing the risk assessment, and developing mitigation strategies.

Jurisdictional involvement is demonstrated through the completion of an annex in Volume 2 of this plan. Each annex was developed with input gathered during the planning process and includes points of contact, risk assessments for relevant hazards, evaluation of capabilities for mitigation, identification and prioritization of mitigation measures, and ultimately, adoption of the updated plan through a resolution.

Table 2-1. Palos Verde Peninsula Hazard Mitigation Planning Participation

Jurisdiction / Organization	Name	Core Planning Team Member	Planning Committee Member	Planning Committee Member (Alternate)	Ad Hoc Committee	Planning Partnership Member
City of Palos Verdes Estates	Kristen Jo, Emergency Preparedness & Community Outreach Coordinator	■	■		■	■
City of Palos Verdes Estates	George Gabriel, Deputy City Manager			■		■
City of Rancho Palos Verdes	Luna Mohammad, Emergency Management Coordinator	■	■		■	■
City of Rolling Hills	Samantha Crew, Management Analyst	■	■		■	■
City of Rolling Hills Estates	Jessica Slawson, Assistant to the City Manager	■	■		■	■

Jurisdiction / Organization	Name	Core Planning Team Member	Planning Committee Member	Planning Committee Member (Alternate)	Ad Hoc Committee	Planning Partnership Member
Abalone Cove Landslide Abatement District	Jim Knight, Retired, Former Mayor		■			
Abalone Cove Landslide Abatement District	Gordon Leon		■			
City of Rancho Palos Verdes	Deanna Fraley, Principal Engineer		■			
City of Rancho Palos Verdes	Megan Barnes, Senior Administrative Analyst (PIO)		■			
City of Rolling Hills Estates	Gabby Swain, Administrative Aide (PIO)		■			
City of Rolling Hills Estates	Whitney Berry, Senior Planner		■			
Palos Verdes Peninsula Land Conservancy	Cris Sarabia, Conservation Director		■			
Palos Verdes Peninsula Unified School District	Cheryl Dawson, Emergency Preparedness Consultant		■			
Palos Verdes Peninsula Unified School District	Brenna Terrones, Assistant Superintendent		■			
PVPCERT, NART	Georgiann Keller (Chair)		■			
Rolling Hills Community Association	Kathryn Bishop		■			
Southern California Edison	Connie Turner, Regional Manager – Public Affairs		■			
Southern California Gas Co.	Ben Steinberger, Public Affairs Advisor		■			
California Water Service Company	Tracy Maestro, Superintendent		■			
City of Rancho Palos Verdes	Ara Mihranian, City Manager				■	
City of Rancho Palos Verdes	Paul Seo, City Council Member				■	
City of Rolling Hills Estates	Greg Grammer, City Manager				■	
City of Rolling Hills	Karina Banales, City Manager				■	

Jurisdiction / Organization	Name	Core Planning Team Member	Planning Committee Member	Planning Committee Member (Alternate)	Ad Hoc Committee	Planning Partnership Member
City of Palos Verdes Estates	David McGowan, City Council Member				■	
City of Rolling Hills Estates	Kerry Kallman, City Manager				■	
City of Rolling Hills	Velveth Schmitz, City Council Member				■	
Black & Veatch	Rob Flaner, Project Manager	■				
Black & Veatch	Megan Brotherton, Lead Planner	■				
Black & Veatch	Carol Baumann, Risk Assessment Lead	■				
Black & Veatch	Erin Schanen, Planner	■				

2.5 STAKEHOLDER COORDINATION AND INVOLVEMENT

Local Plan Requirement A2 – 44 CFR Part 201.6(b)(2)

The planning process shall include an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other nonprofit interests to be involved in the planning process.

Outreach to stakeholders was conducted in a timely manner and maintained throughout the planning process. This section outlines the stakeholders who were involved in the creation of this MJHMP and outlines their participation.

2.5.1 Types of Stakeholders

Stakeholders consist of individuals and groups that mitigation actions or policies affect. For this MJHMP, businesses, private organizations, public entities, and neighboring communities were identified and invited to participate. The Planning Partnership made conscientious efforts to ensure diverse regional, County, and local representation in the planning process.

2.5.2 Stakeholder Participation

Throughout the entire planning process, stakeholders were invited to participate via email notifications informing them of the planning effort and giving them an opportunity to get involved. Stakeholders were invited to participate as follows:

- Participate as a member of the Steering Committee and/or as a Planning Partner.
- Take a Public Hazard Awareness Survey.
- Attend Planning Committee meetings.
- Share public outreach information within their organization.
- Comment on the draft plan.



Below is a summary of the stakeholders' involvement in the planning process, demonstrating the extensive outreach efforts made by the Planning Partnership. Key elements of stakeholder outreach include the following:

- Seven stakeholders agreed to serve as members of the Steering Committee.
- The web link to the draft plan was emailed to all stakeholders and neighboring communities, inviting them to comment on the draft plan.

Federal and State Agencies

The following section lists the government agencies that were involved during the planning process.

Table 2-2 describes how federal and state agencies participated in the Palos Verdes Peninsula MJHMP update. Those listed in the table below were directly or indirectly involved in the process and provided crucial information to update the plan.

Table 2-2. Federal and State Agencies

Agency/Department	Federal	State	Participation
FEMA Region 9	■		FEMA provided updated planning guidance; provided summary and detailed NFIP data for the Planning Area; presented preliminary regulatory flood products to municipalities and the public; and conducted plan review.
FEMA National Risk Index (NRI)	■		FEMA's NRI was used as a baseline for natural hazard selection for this MJHMP.
National Centers for Environmental Information (NCEI)	■		NCEI's online tools were accessed to obtain information regarding hazard identification, hazard details, and risk assessments to incorporate into the MJHMP update.

Agency/Department	Federal	State	Participation
CAL FIRE		■	Provided updated maps for Local Responsibility Areas that were used in the wildfire risk assessment.
Cal OES – Mitigation Planning Division		■	Oversaw the planning process; reviewed the draft plan.

Local Stakeholders and Neighboring Communities

Area stakeholders and neighboring communities were invited to participate in the MJHMP update process. Agencies and organizations provided input in a variety of ways. Those that served on the HMPC and as a Planning Partner, that provided services to vulnerable populations, and that were informed of the planning process are noted in Table 2-1.

2.5.3 Draft Plan Review

All the entities listed above were provided an opportunity to review and comment on the draft plan during the public comment period, primarily through the link on the MJHMP web page. Each entity was sent an email informing them that the draft plan was available for comment and included a link to the web page and online comment tool. Additional invitations to review the draft plan were released through social media posts.

The public draft review period extended from February 12–25, 2026. TBD comments were received on the draft plan.

Upon completion of a public comment period, the complete draft plan was sent to the California Governor's Office of Emergency Services (Cal OES) and FEMA Region 9 for a review to ensure program compliance.

2.6 PUBLIC PARTICIPATION

Local Plan Requirement A3 – 44 CFR Part 201.6(b)(1)

The planning process shall include an opportunity for the public to comment on the plan during the drafting stage and prior to plan approval.

An important component of the mitigation planning process involved public participation. Input from the public provides the Planning Partnership with a greater understanding of local concerns and increases the likelihood of successfully implementing mitigation actions by developing community "buy-in" from those directly affected by the decisions of Planning Area officials. Public awareness is a key component of a successful mitigation strategy and is aimed at making the community safer from the potential effects of hazards.

Public involvement during the development of the Palos Verdes Peninsula MJHMP was sought using a public survey, which permitted open comment; and a digital copy of the draft plan was made available on the project web page and advertised for public review and comment. Comments received were incorporated in the draft plan as applicable.

2.6.1 Hazard Mitigation Plan Web Page

At the beginning of the planning process, a hazard mitigation web page was established on PVPReady.gov to provide information about the process. The web page was used to keep the public informed about milestones and public participation opportunities and to solicit input.



Figure 2-1. Hazard Mitigation Web Page

2.6.2 Public Meetings

Each of the Hazard Mitigation Planning Committee meetings was open and advertised for public attendance (Figure 2-2). Refer to Section 2.9, Plan Development Milestones, for descriptions and details of the Hazard Mitigation Planning Committee meetings.

2.6.3 Public Events

Peninsula-wide public events promoted the MJHMP planning process including the Prepared Peninsula Expo in October 2025, with hundreds of community members in attendance. Additionally, the local station RPVtv broadcasts interviews on the planning process (Figure 2-3).

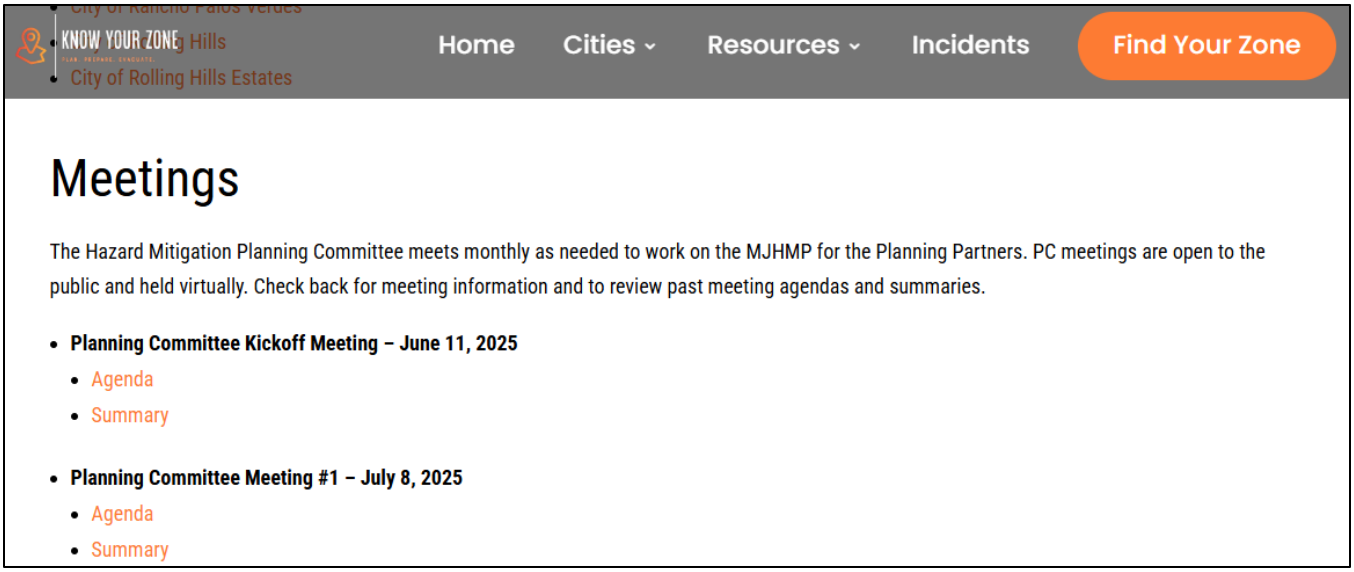


Figure 2-2. Public Meeting Participation



Photo Credit: Megan Brotherton

Figure 2-3. Prepared Peninsula Expo Featuring Coverage by RPVtv

2.6.4 Public Survey

The CPT developed and posted a public survey early in the planning process. The survey was designed to capture information from members of the public. The survey was posted from August 2025 through January 2026. A link to the survey was posted on the planning web page and distributed through multiple social media platforms. A link to the electronic public survey was also shared with Planning Committee members, Planning Partners, and Stakeholders. RPVtv broadcast a public service announcement informing community members of the opportunity to provide input (RPVtv Public Service Announcement - "Palos Verdes Peninsula Hazard Mitigation Survey").

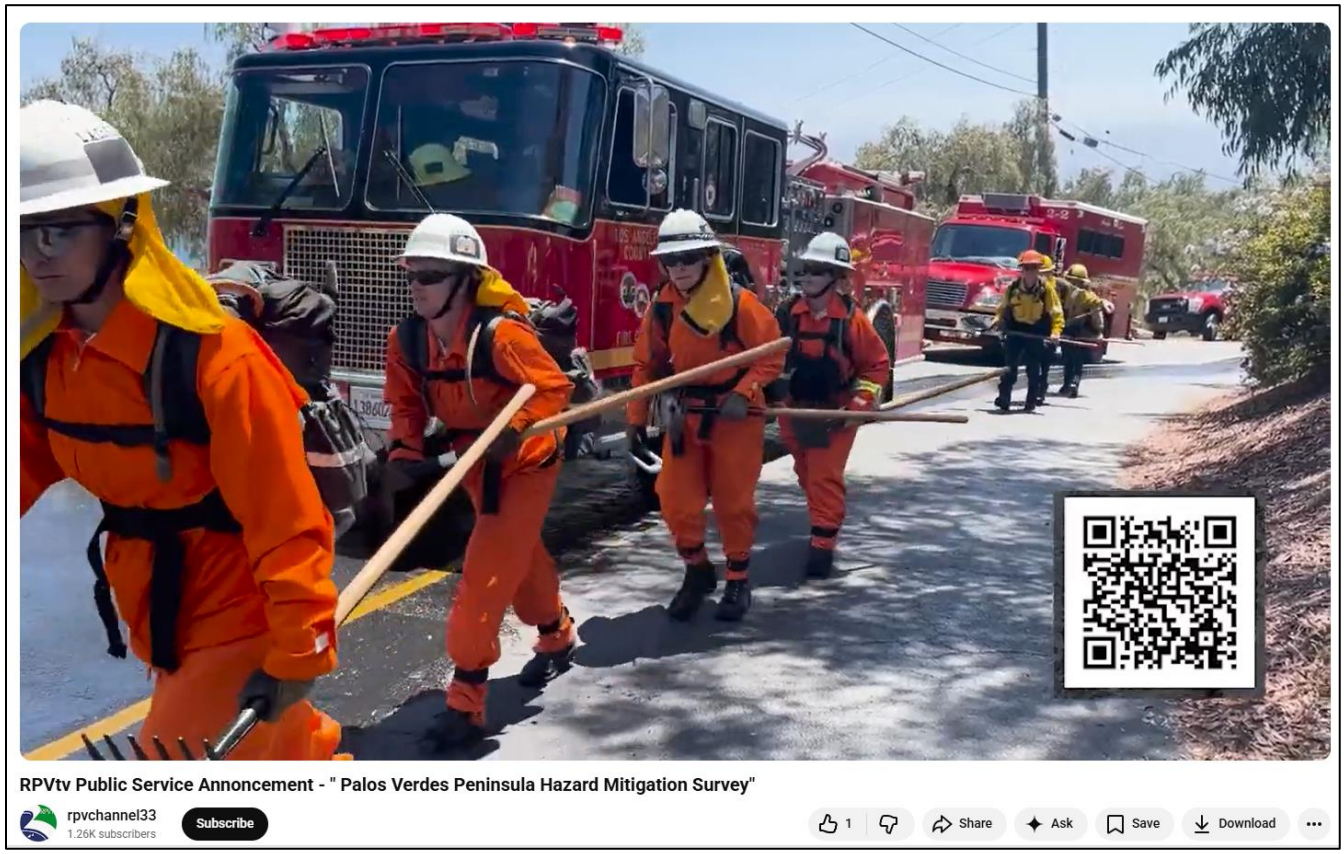


Figure 2-4. Survey Promotion on RPVtv

Summary of Survey Results

During the 6-month period that the survey was open, 431 members of the public completed the public survey. The complete survey and detailed results are included in Appendix A (Public Outreach).

Incorporation of the Public Survey Into the Hazard Mitigation Plan

Survey participants, including those from socially vulnerable communities, suggested actions the Planning Partners should continue to do or should start doing to reduce or eliminate risk of future hazard events. Of those suggestions, all are included in the mitigation action plan, or are existing core capabilities that the Planning Partners will continue to carry out. Refer to Table 2-3 for examples of the suggestions and how they were incorporated in the MJHMP update.

Table 2-3. Public Survey Comment Examples and MJHMP Incorporation

Public Comment	2026 MJHMP Incorporation
TBD	TBD
TBD	TBD

2.6.5 Public Review Period

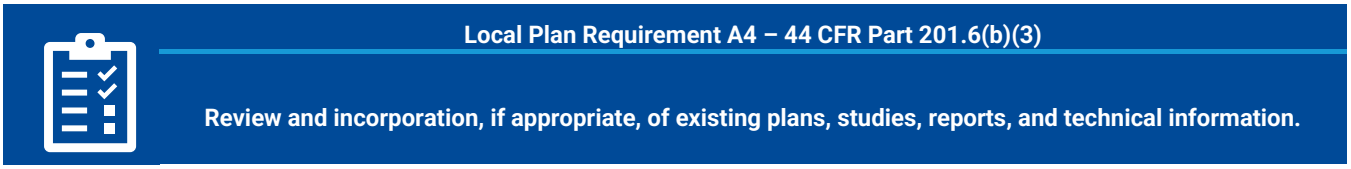
Members of the public were provided an opportunity to comment on the draft plan for 2 weeks in February 2026. The PVPReady.gov web page included a link to the draft plan and an online tool that allowed community members to submit comments. In addition to the website, the public comment period was promoted on social media.

2.7 IDENTIFICATION AND OUTREACH TO EQUITY PRIORITY COMMUNITIES

Due to the demographic and geographic composition of the Palos Verdes Peninsula, the HMPC determined that those who may be more vulnerable to hazards include residents 65+ years of age, those with access and functional needs, and those who live in neighborhoods with only one point of evacuation.

These community members were included in the planning process through digital, social media, in-person, and broadcast outreach.

2.8 REVIEW AND INCORPORATION OF EXISTING PROGRAMS



The Planning Partnership utilized the most current technical information, plans, studies, and reports during the planning process to assist in hazard profiling, risk and vulnerability assessment, reviewing mitigation capabilities, and identifying, developing, and prioritizing mitigation strategies at the local levels.

- **Overall Planning Process** – The 2025 FEMA Local Mitigation Planning Policy Guide and Handbook were reviewed and used to develop this MJHMP. The 2023 California State HMP was reviewed for alignment with mitigation goals, identified hazards, risk assessments, and mitigation actions. In addition, neighboring jurisdiction mitigation plans were reviewed for alignment with identified hazards and mitigation actions.
- **Risk Assessment** – Asset and inventory data collected was used to complete the risk assessment of the MJHMP. This included local, state, and federal hazard technical information (e.g., US Geological Survey [USGS] earthquake data, CAL FIRE wildfire data, FEMA disaster declarations). Details of the data used, along with how the data was used, is presented in Chapter 1 and throughout the hazard profiles (Chapters 6 through 0).
- **Capability Assessment** – Numerous plans, reports, regulations, codes, and technical information were obtained from the HMPC, and stakeholders involved in the planning process, as well as

through independent research conducted by the planning consultant. The Planning Partners were responsible for providing the inventory of their Planning and Regulatory capabilities in each jurisdictional annex in Volume 2, and noted relevant planning and regulatory documents as needed.

- **Mitigation Strategy** – The Planning Partnership developed nearly 200 mitigation actions to address the results of the risk assessment and input received from the public and local stakeholders. These actions considered the current capabilities of the Planning Partners to implement each strategy.

2.9 PLAN DEVELOPMENT MILESTONES

Table 2-4 summarizes the planning process activities, efforts, and key milestones conducted to prepare the MJHMP. Meeting documentation (e.g., presentations, agendas, meeting minutes) are located in Appendix C (Meeting Documentation). The table only identifies formal meetings held during the plan update; it does not reflect all planning activities conducted by individuals and groups throughout the planning process.

Table 2-4. Plan Development Milestones

Date	Event	Description	Attendance
	Support Contractor Secured		N/A
	Organize Resources	CPT formed	N/A
April 17, 2025	Project Kickoff Meeting	• Introductions • HMP Overview • Scope & Schedule • Core Planning Team • Planning Committee • Risk Assessment • Planning Partnership • County Department • Responsibilities • Communication Protocols	
June 3, 2025	CPT Meeting #1	• HMPC Membership and Coordination • HMPC Kickoff Meeting • GIS/Hazard Selection • File Sharing Access	8
June 11, 2025	HMPC Meeting #1	• Welcome & Introductions • Hazard Mitigation Planning Overview • Role of the Planning Committee • Meeting Ground Rules • Participating Planning Partners • Confirm Hazards • Public Outreach Strategy	23

Date	Event	Description	Attendance
July 1, 2025	CPT Meeting #2	• GIS • Landslide Methodology • Public Outreach Strategy • Community Lifelines • Mitigation Goals • HMPC Meeting Agenda	9
July 8, 2025	HMPC Meeting #2	• Welcome • Approve June Meeting Summary • Confirm Community Outreach Strategy • Define Equity Priority Communities • Approve Community Lifelines Recommendations • Discuss Mitigation Goals	20
July 15, 2025	CPT Meeting #3	• Jurisdictional Annex Overview • Landslide Subcommittee • Public Outreach • GIS/Equity Priority Communities	9
July 29, 2025	CPT Meeting #4	• Finalize Landslide Subcommittee Membership • Public Outreach • Hazard Mitigation Goals	7
August 2025	Public Outreach	• Public Survey Opens	
August 12, 2025	Landslide Subcommittee #1	• Introductions • Landslide Risk Assessment Methodology • GIS/Data Request	9
August 26, 2025	CPT Meeting #5	• Landslide Subcommittee Meeting Takeaways • Public Outreach Update • SWOO Strategy & Mitigation Catalog for Planning Committee Input • Annex Development Needs	7
September 9, 2025	CPT Meeting #6	• Planning Committee Meeting Agenda • SWOO Exercise	7
September 10, 2025	HMPC Meeting #3	• Approve July Meeting Summary • Community Outreach Strategy Updates • Landslide Subcommittee Update • Planning Partner Update • Confirm Mitigation Goals	17
September 27, 2025	Public Outreach	Rancho Palos Verdes “Wildfire Home Hardening Expo”	N/A

Date	Event	Description	Attendance
October 7, 2025	CPT Meeting #7	• Public Outreach Coordination • Landslide Analysis Overview • Landslide Subcommittee Meeting Schedule • SWOO Updates	6
October 15, 2025	Landslide Subcommittee #2	• Landslide Approach • Landslide Risk Assessment Results	9
October 26, 2025	Public Outreach	Palos Verde Peninsula "Prepared Peninsula Expo – Learn How to be Disaster Ready"	300
October 21, 2025	CPT Meeting #8	• Hazard Map Review and Approval • Landslide Subcommittee Takeaways • Draft Natural Hazard Risk Assessment Results • November Planning Committee Meeting • Phase 2 Planning Partner Annex Workshop • Ad Hoc Committee Meeting Coordination	7
November 4, 2025	CPT Meeting #9	• Community Outreach Summary • HMPC Meeting Coordination • Ad Hoc Committee Meeting Coordination	6
November 18, 2025	CPT Meeting #10	• Ad Hoc Committee Meeting Coordination • Public Survey • HMPC Meeting Coordination	6
November 20, 2025	HMPC Meeting #4	• Approve September Meeting Summary • Community Outreach Updates • Schedule and Milestones • Risk Assessment Results • Mitigation Action Ideas	6
December 2, 2025	Mitigation Action Workshop	• Purpose of the Mitigation Strategy • Connecting to the Mitigation Strategy • Where to Focus • Mitigation Actions to Consider • Mitigation Action Worksheet and Online Form • Examples	7

Date	Event	Description	Attendance
December 3, 2025	Ad Hoc Committee Meeting	• HMP Planning Process Overview • Project Schedule and Milestones • Community Outreach Initiatives • Hazard Scenarios and Risk Assessment Results	13
December 16, 2025	CPT Meeting #11	• Upcoming Schedule and Milestone Coordination • Action Plan Development	7
January 2026	Public Outreach	• Public Survey Closes	431
January 27, 2026	CPT Meeting #12	• Landslide Chapter Feedback • Public Survey Results Overview • Plan Maintenance Strategy	7
February 10, 2026	CPT Meeting #14	TBD	TBD
February 11, 2026	HMPC Meeting #5	• Approve September & November Meeting Summaries • Final MJHMP Input Opportunity • Public Comment Period • Next Steps and Milestones to Plan Approval • Concluding Comments and Appreciations	TBD
February 12-25, 2026	Public Outreach	Public Comment Period	N/A
February 19, 2026	Public Outreach	Peninsula Public Safety Committee Meeting	TBD
Month day, 2026	Plan Submittal to Cal OES	Submittal of draft plan and plan review tool to Cal OES for review and approval	N/A
Month day, 2026	Plan Submittal to FEMA Region 9	Submittal of draft plan to FEMA Region 9 by Cal OES	N/A
Month day, 2026	Approval Pending Adoption	Approval Pending Adoption provided by FEMA Region 9	N/A
February - March 2026	Adoption	City Council and District Board adoption of draft plan	N/A
Month day, 2026	Approval	Proof of adoption documentation submitted to FEMA Region 9 and Cal OES	N/A
Month day, 2026	Approval	Final approval of the plan by FEMA Region 9	N/A

3. PALOS VERDES PENINSULA PROFILE

This section provides general information about the Planning Area, including its historical information, physical setting, general building stock, land use, population, demographics, population trends, and community lifelines. Analyzing this information leads to an understanding of the study area, including economic, structural, and population assets at risk, and of concerns that could be related to hazards analyzed in this plan (e.g., low-lying areas prone to flooding, high percentage of vulnerable persons in an area).

3.1 OVERVIEW

3.1.1 Historical Overview

The Palos Verdes Peninsula was inhabited by the Tongva people for thousands of years prior to European settlement. In subsequent centuries, the land was used for farming and mining and passed through the ownership of the Sepulveda family and various mortgage holders. In 1913, Frank A. Vanderlip acquired the entire 16,000-acre peninsula with the desire to develop an exclusive residential community. Although progress was slowed by the Great Depression and World War II, development advanced rapidly during the 1950s and 1960s.

On December 20, 1939, the City of Palos Verdes Estates was the first of the four cities in the Planning Area to become incorporated. In 1957, the Cities of Rolling Hills Estates and Rolling Hills became incorporated. Rancho Palos Verdes was the last City to become incorporated in 1973.

Development in the Planning Area is notably mostly residential with large lots, equestrian trails, and abundant open space. The Planning Area is known for its coastal views, rolling hills, and steep slopes. The western and southern part of the Palos Verdes Peninsula is characterized by coastal bluffs and sea cliffs that range from approximately 100 to 300 feet high.

3.1.2 Jurisdictions

The Planning Area is made up of the Cities of Palos Verdes Estates, Rancho Palos Verdes, Rolling Hills, and Rolling Hills Estates. The Planning Area is bounded by the City of Torrance to the north and the San Pedro neighborhood of the City of Los Angeles to the southeast. The central portion of the Planning Area includes the unincorporated community known as Westfield/Academy Hills.

3.1.3 Government

The Planning Area is governed by five separate bodies: Los Angeles County which provides police and fire services and the general law Cities of Palos Verdes Estates, Rancho Palos Verdes, Rolling Hills, and Rolling Hills Estates which all have council-manager government structures. Palos Verdes Estates has its own police department.

3.2 PHYSICAL SETTING

This section describes the geography, land use, and land cover of the Planning Area.

3.2.1 Location

The Palos Verdes Peninsula is located in southwestern Los Angeles County and is bordered by the City of Torrance to the north, the San Pedro neighborhood of the City of Los Angeles to the east, and the Pacific Ocean to the south and west. The Peninsula forms a distinct geographic subregion within the South Bay area of Los Angeles County, characterized by elevated coastal hills and steep bluffs overlooking the Pacific Ocean. The Peninsula was once part of the Southern Channel Islands before becoming part of the California mainland. The 80-kilometer Palos Verdes Fault Line runs along the meeting place of the San Pedro Shelf and the San Pedro Basin and roughly forms the peninsula boundary.

3.2.2 Geography and Topography

The Palos Verdes Peninsula is situated south of the Pacific Coast Highway and west of Western Avenue (Highway 213). The landscape varies widely from the sandy beaches on the southern coast to the miniature Coast Range mountainous area of the Palos Verdes Hills on the northwestern side of the Planning Area, which peaks at 1,457 feet. The steep sea cliffs of this area form coastal bluffs and tidepools. The eastern part of the Planning Area features semi-rural rolling hills and scenic canyons.

The Palos Verdes Peninsula Land Conservancy manages over 1,700 acres of natural lands and 42 miles of public hiking trails. The Planning Area is also home to many beaches, coves, and City parks. The City of Rolling Hills Estates maintains over 20 miles of equestrian trails, and the Planning Area is renowned for its stables and equestrian opportunities.

The Palos Verdes Peninsula supports a mix of native and non-native vegetation shaped by its Mediterranean climate and unique geological history. Native vegetation includes coastal sage scrub, chaparral, and remnant grasslands, with species such as California Sagebrush, California Buckwheat, Toyon, and Coyote Brush. These plants help control erosion, limit wildfire, and lessen the impacts of drought. The coastal bluffs are home to salt-tolerant plants such as coastal sage scrub that provide habitat for the endangered Palos Verdes blue butterfly. While non-native grasses and ornamental trees like eucalyptus have altered portions of the landscape, ongoing restoration efforts led by local conservancies focus on rebuilding habitats for native fauna, reducing the presences of invasive species, and preserving the Peninsula's ecological diversity.

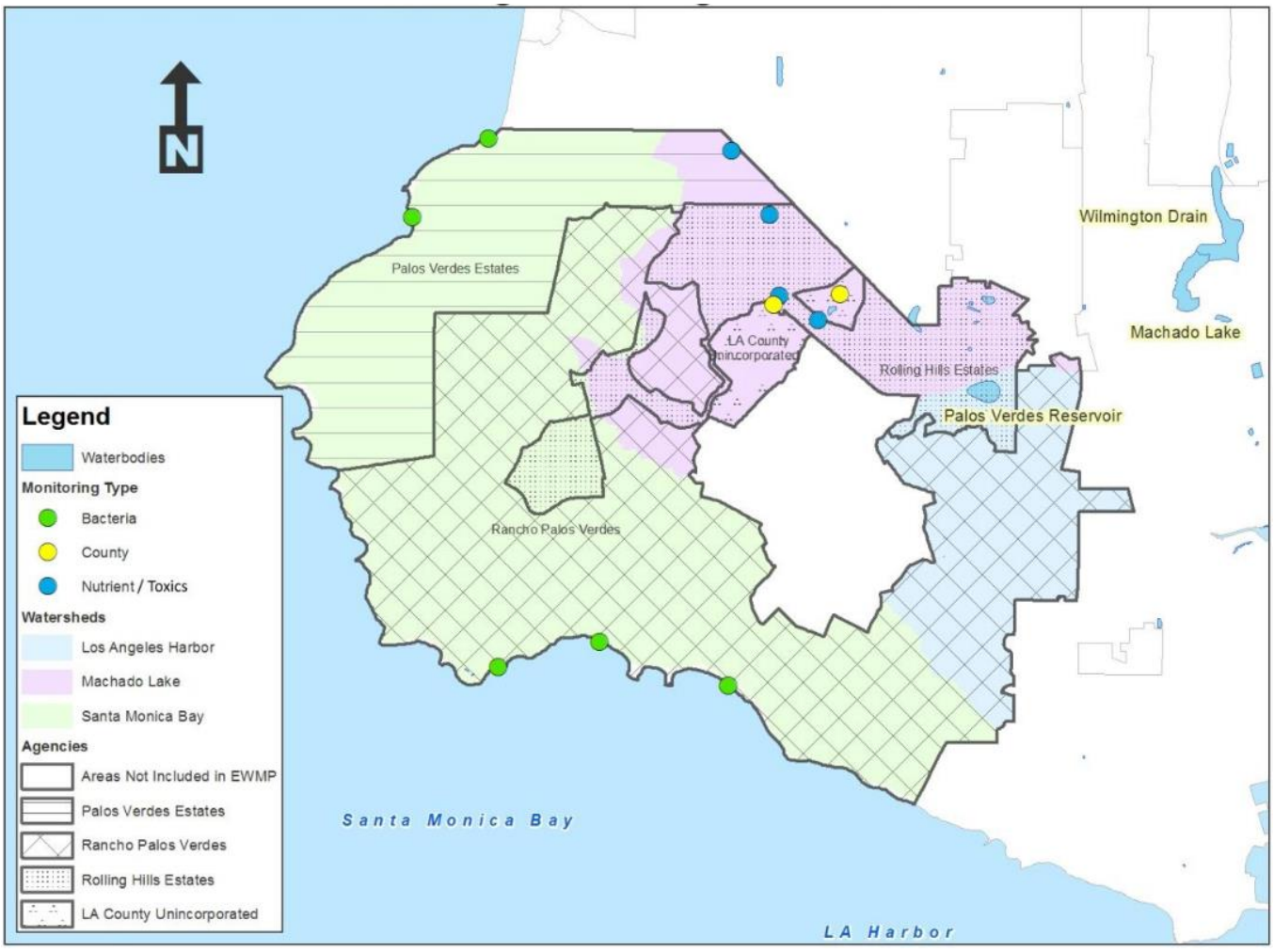
3.2.3 Watersheds and Surface Waters

A watershed is a geographical area that directs precipitation and snowmelt towards creeks, streams, rivers, and ultimately outflow locations such as reservoirs, bays, and the ocean. Watersheds vary in size and configuration, encompassing anything from a small body of water or County to vast regions covering thousands of square miles with numerous waterways (National Ocean Service, 2024).

The Palos Verdes Peninsula forms a distinct coastal watershed region within southwestern Los Angeles County. Because of its elevated topography and peninsular landform, most surface runoff drains directly to the Pacific Ocean through a series of short, steep coastal watersheds. The Peninsula is generally

divided into two HUC-12 equivalent watersheds the Santa Monica Bay Watershed and the Greater Dominguez Channel Watershed Management Area that is subdivided into Los Angeles Harbor Watershed and Machado Lake watershed (Peninsula WMG, 2019).

Watershed management on the Peninsula is coordinated through the Palos Verdes Peninsula Watershed Management Group (WMG) under the Regional MS4 Permit program. The Palos Verdes Peninsula WMG consists of the City of Rancho Palos Verdes, which serves as the coordinating agency for the Enhanced Watershed Management Program (EWMP) and Coordinated Integrated Monitoring Program (CIMP) Plan development, Los Angeles County Flood Control District, the County of Los Angeles and the cities of Palos Verdes Estates and Rolling Hills Estates (Los Angeles Regional Water Board, 2026). The City of Rolling Hills does not participate in the Peninsula EWMP; however, it does participate in the Peninsula CIMP (Los Angeles Regional Water Board, 2026). Figure 3-1 presents the watersheds found within the EWMP Watersheds with existing water quality monitoring sites.



Source: (Peninsula WMG, 2019)

Figure 3-1. Palos Verdes Peninsula EWMP Watersheds

3.2.4 Climate

The Palos Verdes Peninsula is a mild Mediterranean climate characterized by warm, dry summers and cool, wetter winters. Average annual temperatures are approximately 63° F, and average annual precipitation ranges from 12 to 15 inches, with most rainfall occurring during the winter months (NOAA NCEI, 2025). Summers are generally warm and dry, with the highest monthly average being 85° F. The coolest month of the year is December, with an average high of 68° F and an average low of 49° F.

3.3 POPULATION AND DEMOGRAPHICS

Those who live in the Planning Area are the most important asset, and this MJHMP will assess risk to people and identify mitigation strategies to protect them, including underserved and socially vulnerable populations.

3.3.1 General Population

As of January 2025, the State of California Department of Finance reported the following population estimates for each of the cities:

- Rancho Palos Verdes: 40,727
- Palos Verdes Estates: 12,999
- Rolling Hills Estates: 8,545
- Rolling Hills: 1,677

Current and Historical Population

Table 3-1 shows past population estimates for the municipalities in the Planning Area from 2000 to 2024. Over that time, California's population grew by 17.4 percent (California Department of Finance, 2025). The Planning Area's population overall has experienced a decline since 2020, though the City of Rolling Hills Estates stands as an exception to this.

Table 3-1. Recent Population by Jurisdiction

Jurisdiction	2000 Population	2010 Population	2020 Population	2024 Population
City of Palos Verdes Estates	13,317	13,444	13,328	13,014
City of Rolling Hills Estates	7,657	8,064	8,232	8,557
City of Rancho Palos Verdes	41,043	41,654	42,150	40,831
City of Rolling Hills	1,867	1,867	1,735	1,673
Total	63,884	65,029	65,445	64,075

Source: (California Department of Finance, 2025)

Future Population Projections

According to the Southern California Association of Governments (SCAG) Connect SOCAL 2024 Report, The SCAG region's annual growth has decreased every decade since the 1980s. The region is still adding new residents, but growth is expected to continue to slow. Los Angeles County is projected to grow 7.8 percent between 2019 and 2050.

3.3.2 Equity Priority Communities

Equity priority communities may be more at-risk during hazard events due to a variety of factors, such as their physical capacity to react or respond effectively, as well as their location and lack of access to emergency services. Those with greater vulnerability may experience more severe impacts during emergencies or disasters.

The identification of socially vulnerable populations and underserved communities within the Planning Area was emphasized throughout the planning process. Refer to Section 2.7 for more information on how vulnerable communities were identified and included in the planning process.

The Planning Partnership identified the following socially vulnerable populations and underserved communities:

- **Demographic Vulnerability** – Residents who are 65+ years of age and/or have access and functional needs.
- **Evacuation Vulnerability** – Residents who live in neighborhoods with only one point of access to an evacuation route.

Table 3-2. Vulnerable Populations Exposed to Hazard of Concern

City	Total Population	Demographic Vulnerability Population	Demographic Vulnerability % of Total Population	Evacuation Vulnerability Population	Evacuation Vulnerability % of Total Population
Palos Verdes Estates	12,999	0	0.0%	0	0.0%
Rolling Hills Estates	40,727	10,339	25.4%	5,723	14.1%
Rancho Palos Verdes	1,677	1,677	100.0%	1,677	100.0%
Rolling Hills	8,545	3,811	44.6%	2,840	33.2%
Total	**63,948**	**15,827**	**24.8%**	**10,240**	**16.0%**

3.4 DEVELOPMENT PROFILE

Local Plan Requirement B2— 44 CFR Part 201.6(c)(2)(ii)(C)	Local Plan Requirement E1— 44 CFR Part 201.6(d)(3)
The plan should describe vulnerability in terms of providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.	A local jurisdiction must review and revise its plan to reflect changes in development.

3.4.1 Land Use

Land use describes the human use of land. It represents the economic and cultural activities (e.g., agricultural, residential, industrial, mining, and recreational uses) that are practiced at a given place. Public and private lands frequently represent very different uses (U.S. EPA 2024). Land cover describes

how much of an area is covered by forests, wetlands, impervious surfaces, agriculture, and other land and water types. Water types include wetlands or open water (National Ocean Service 2024).

Land use varies from land cover in that certain uses may not always be immediately apparent (e.g., land utilized for timber production without harvest for an extended period and wooded areas designated as wilderness may both appear as forested areas but serve different purposes) (U.S. EPA 2024).

Additional detail on land use and development trends for each of the municipal jurisdictions can be found in Volume 2 of this MJHMP.

Palos Verdes Estates

According to the City of Palos Verdes Estates General Plan (1973), the majority of land in the City is dedicated to single-family residential uses. Because commercial development within City limits is limited, residents rely on neighboring communities for most commercial services. According to the Palos Verdes Estates General Plan (2013-2021), at the time of the report, none of the vacant lots were suitable for multi-family development. The small number of vacant lots pose various constraints such as very high land costs, topographical challenges, and potential investment needed for grading or other modifications.

Rancho Palos Verdes

According to the City of Rancho Palos Verdes General Plan Land Use Element (2018), development is constrained by designated hazard areas. Residential uses represent the City's predominant land use, followed by Open Space Preserve as the second most common. The City is the largest on the peninsula and houses many of the schools and other institutional land uses in the Planning Area. There are 18 public parks contributing to the second highest land use, Open Space Preserve.

There are several commercial centers in the City, though few opportunities for new commercial development exist. In recent years, planning efforts have increasingly emphasized open-space preservation, hazard avoidance (particularly landslide areas), and infrastructure maintenance.

Rolling Hills

According to the City of Rolling Hills' General Plan Land Use Element (1990), the City's land is predominately used for low-density or very low density, single-family development. According to the Rolling Hills Housing Element (2021-2029), the City has vacancies rates of 5 percent (rental) and 9 percent (homeowner). The City does not have any commercial land use. At the time of this MJHMP development, the City was planning for residential development.

Rolling Hills Estates

According to the Rolling Hills Estates General Plan 2040, residential development is the City's dominant land use, covering almost 60 percent of its total land area. Parks and recreation make up the second highest land use with nearly one-quarter of the land dedicated for open space and golf courses. Commercial development makes up less than 5 percent of City land and is primarily concentrated along Silver Spur Road. This commercial area is home to the most commercial activity in the Planning Area.

At the time of the land use element update, new developments consisted of residential care facilities for seniors, mixed-use condominiums, and single-family homes, reflecting the City's predominantly residential character.

3.4.2 General Building Stock

Current Building Stock

According to Los Angeles County Assessor records, 22,474 buildings are in the Planning Area, with a total replacement value of $24.1 billion. Table 3-3 shows the distribution of buildings by type of use within each of the Cities.

Table 3-3. Building Count by Occupancy Class

City	Building Count by Occupancy Class							
	Residential	Commercial	Industrial	Agriculture	Religion	Government	Education	Total
Palos Verde Estates	5,001	38	0	1	10	5	8	5,063
Rancho Palos Verdes	13,216	112	0	2	29	8	32	13,399
Rolling Hills	703	5	0	0	0	2	0	710
Rolling Hills Estates	3,132	122	0	14	18	1	15	3,302
Total	**22,052**	**277**	**0**	**17**	**57**	**16**	**55**	**22,474**

3.5 COMMUNITY LIFELINES

FEMA released initial guidance on the community lifelines concept in 2019 to describe the assets that enable the continuous operation of critical government and business functions and are essential to human health and safety or economic security. Lifelines are the most fundamental services in the community that, when stabilized, enable all other aspects of society to function. When disrupted, decisive intervention (e.g., rapid service re-establishment or employment of contingency response solutions) is required (FEMA, 2023a).

The Planning Partnership identified lifelines that support the Paolos Verde Peninsula before, during, and after hazard events. A summary of the critical facilities or lifelines located within the Planning Area is listed in Table 3-4 and shown on Figure 3-2.

Table 3-4. Community Lifelines in the Planning Area

City	Communications	Energy	Food, Hydration, Shelter	Hazardous Materials	Health and Medical	Safety and Security	Transportation	Water Systems	Total
Palos Verdes Estates	11	1	0	0	1	11	1	4	29
Rolling Hills Estates	174	3	0	0	7	34	0	13	231
Rancho Palos Verdes	1	0	0	0	0	4	0	1	6
Rolling Hills	12	2	0	0	8	24	0	6	52
Total	198	6	0	0	16	73	1	24	318

Figure 3-2. Planning Area Critical Facilities

Figure will be inserted in agency review draft.

3.5.1 Safety and Security



Safety and security lifelines include law enforcement/security (e.g., police stations, correctional facilities, site security), fire service, search and rescue, government service (e.g., emergency operation centers, government offices, schools), and community safety (e.g., flood control, protective actions).

3.5.2 Food, Hydration, Shelter



Food, hydration, and shelter lifelines include food (e.g., grocery stores, food banks), hydration (e.g., water supply chain, bottled water distribution), shelter, and agriculture. These lifelines exist within the Planning Area, but GIS data was not available for a spatial analysis or mapping. Many of these facilities, including grocery stores, are part of the general building stock analysis. Shelters, food distribution centers, and cooling centers are included in the safety and security lifeline category (e.g., library, religious institution).

3.5.3 Health and Medical



Health and medical lifelines include medical care (e.g., hospitals, pharmacies, long-term care), public health (e.g., health surveillance, behavioral health, labs), patient movement (e.g., emergency medical service), fatality movement, and medical supply chain.

3.5.4 Energy



Energy lifelines include power grid (e.g., generation systems, transmission systems, distribution systems) and fuel (e.g., refineries, fuel storage, pipelines, gas stations).



3.5.5 Communication

Communication lifelines include infrastructure (e.g., wireless, cable systems, television/radio, internet), alerts/warnings/messages, 911 and dispatch, responder communications, and finance (e.g., banks and electronic payment processing).



3.5.6 Transportation

Transportation lifelines include highway/roadway/motor vehicle (e.g., roads, bridges), mass transit, railway (e.g., freight, passenger), aviation, and maritime.



3.5.7 Hazardous Materials

Hazardous materials lifelines include facilities and HAZMAT, pollutants, or contaminants.



3.5.8 Water Systems

Water systems lifelines include potable water infrastructure (e.g., intake, treatment, storage, distribution) and wastewater management (e.g., collection, storage, treatment, discharge).

3.6 ECONOMY

3.6.1 Industry, Businesses, and Institutions

The Planning Area is largely residential, with most residents either commuting elsewhere for work, working from home, or retired. Because affordable housing options are scarce, many people employed on the peninsula live in surrounding communities.

Educational services, health care and social assistance, and professional, scientific, and management, and administrative and waste management services are the two largest industries in the Planning Area.

Table 3-5. Principal Employers in the Planning Area

Principal Employer	Industry	Location
UCLA	Education	Rancho Palos Verdes
Palos Verdes Peninsula High School	Education	Rolling Hills Estates
Academy of Foreign Languages	Education	Rolling Hills Estates
Rancho Vista Elementary School	Education	Rolling Hills Estates
Ridgecrest Intermediate School	Education	Rancho Palos Verdes
Point Vicente Elementary School	Education	Rancho Palos Verdes
Miraleste Intermediate School	Education	Rancho Palos Verdes
Soleado Elementary School	Education	Rancho Palos Verdes
Vista Grande Elementary	Education	Rancho Palos Verdes
Dodson Middle School	Education	Rancho Palos Verdes
School of Skills Corp	Education	Rancho Palos Verdes
Montemalaga Elementary School	Education	Palos Verdes Estates
Palos Verdes High School	Education	Palos Verdes Estates

Principal Employer	Industry	Location
Valmonte Elementary School	Education	Palos Verdes Estates
Palos Verdes Peninsula Unified School District Office	Education	Palos Verdes Estates
Institute of Internal Auditors	Offices of Physicians	Palos Verdes Estates

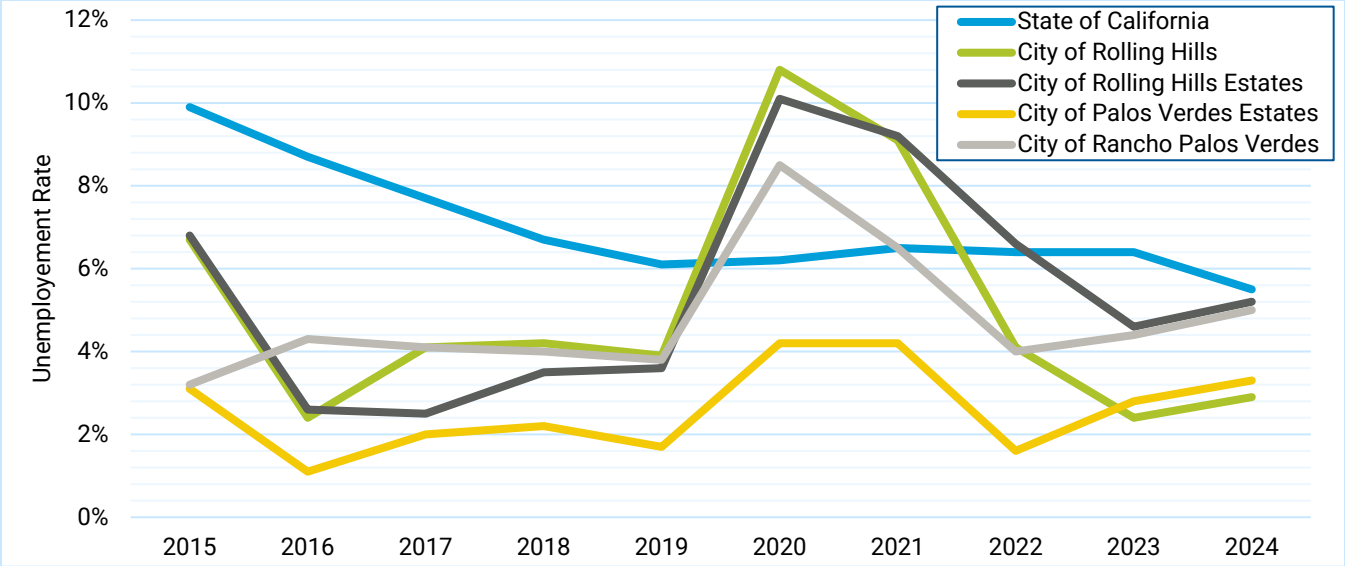
Table 3-6 summarizes the breakdown of industry types in the Planning Area according to the US Census 5-year American Community Survey (2019-2023).

Table 3-6. Employment in Planning Area by Industry Sector Percentages

Jurisdiction	Agriculture, Forestry, Fishing and Hunting, Mining	Construction	Manufacturing	Retail Trade	Transportation and Warehousing, Utilities	Finance and Insurance, Real Estate, Rental and Leasing	Professional, Scientific, Management and Administrative, Waste Management Services	Educational Services, Health Care and Social Assistance	Arts, Entertainment, Recreation, Accommodation and Food Services	Other Services (except Public Administration)	Public Administration
Palos Verdes Estates	0.4%	3.9%	11.7%	5.7%	1.8%	17.7%	23.4%	17.4%	3.4%	1.5%	2.9%
Rancho Palos Verdes	0.4%	2.7%	11.5%	6.6%	9.0%	8.8%	19.3%	20.9%	4.2%	2.8%	4.6%
Rolling Hills	0.5%	0.5%	7.5%	7.3%	1.5%	15.7%	23.2%	26.7%	5.8%	3.0%	0%
Rolling Hill Estates	0.4%	3.2%	11.0%	2.2%	3.4%	10.5%	14.7%	27.3%	9.8%	9.9%	1.7%

Source: US Census 5-year American Community Survey (2019-2023).

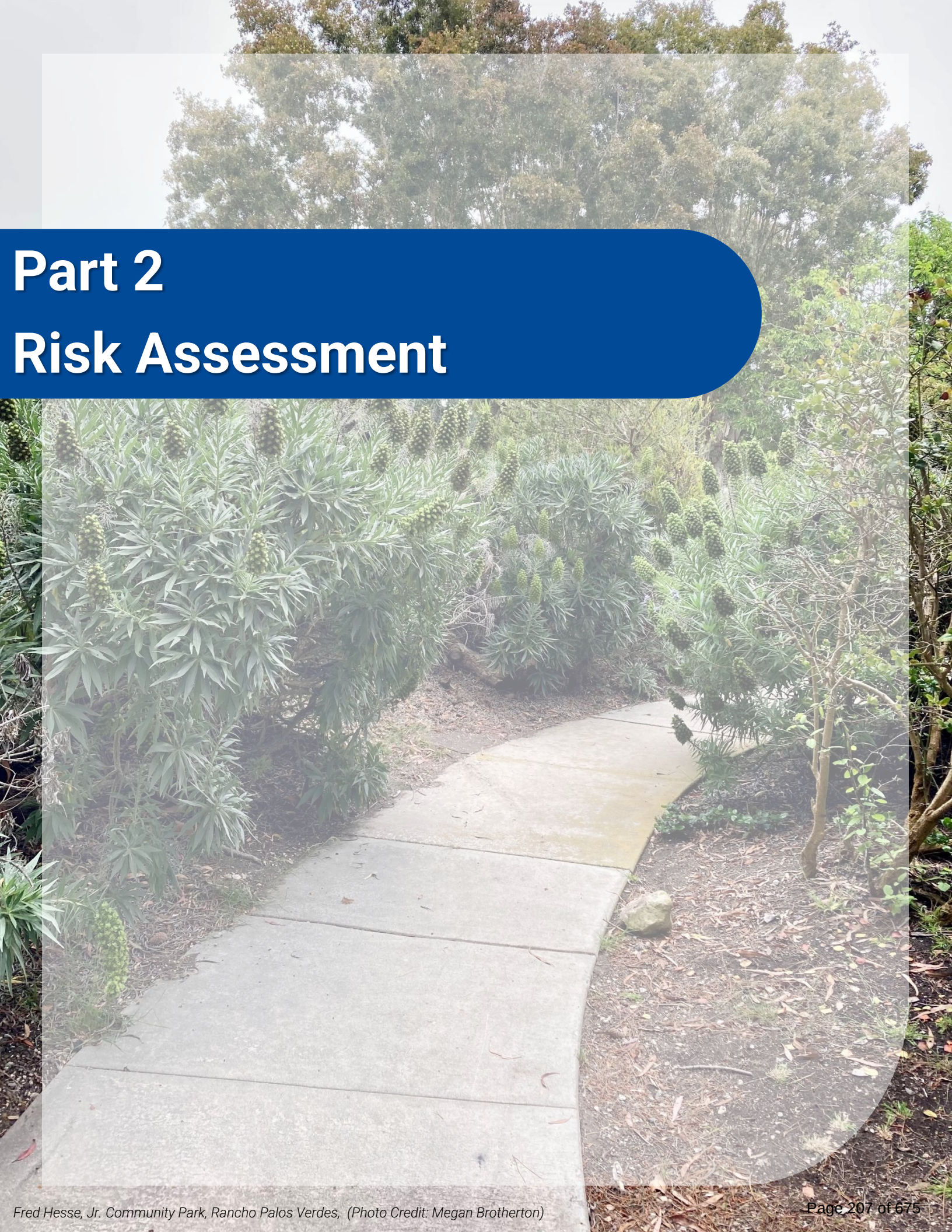
Based on the State of California Employment Development Department, California's 2024 unemployment rate was 5.5 percent. All four municipalities in the Planning Area reported lower unemployment rates. The local economic conditions during the COVID pandemic may contribute to fluctuations in employment within 2020 through 2022.



Source: (U.S. Census, 2025)

Figure 3-3. Recent Unemployment Rates for California and the Planning Area

Part 2
Risk Assessment



Fred Hesse, Jr. Community Park, Rancho Palos Verdes, (Photo Credit: Megan Brotherton)

4. HAZARDS OF CONCERN

4.1 WHAT IS A HAZARD OF CONCERN?

Defining the hazards that present the greatest risk to the Planning Area is the first step in assessing overall risk to the community. The CPT and PC reviewed available information to determine what types of hazards may affect the Planning Area, how often they can occur, and their potential severity.

Natural hazards are eligible for FEMA HMA grant funding and generally occur because of natural processes. Some natural hazards may also be caused by humans, such as wildfire. Human-caused hazards are not reviewed by FEMA for plan approval and are not eligible for FEMA HMA grant funding. The CPT and PC chose to add them in the MJHMP because of their current and potential impact on the Planning Area and to align with other local plans and programs.

4.2 FEDERAL DISASTER DECLARATIONS

Federal disaster declarations are typically issued for hazard events that cause more damage than state and local governments can handle without assistance from the federal government, although no specific dollar loss threshold has been established for these declarations. A presidential disaster declaration puts federal recovery programs into motion to help disaster victims, businesses, and public entities. Some of the programs are matched by state programs. Review of presidential disaster declarations helps establish the probability of reoccurrence for each hazard and identify targets for risk reduction. Federal disaster declarations, authorized by the Stafford Act, include the following three main types:

- DR (Major Disaster) for large-scale events needing extensive aid.
- EM (Emergency) for supplemental assistance to save lives and property.
- FM (Fire Management) for fires threatening destruction.

Table 4-1 summarizes the Los Angeles County federal disaster declarations between 2019 and 2025.

Table 4-1. Federal Disaster Declarations in Los Angeles County

Disaster Number	Event Date Start Date	Incident Type	Title
FM-5293-CA	October 10, 2019	Fire	Saddleridge Fire
FM-5296-CA	October 24, 2019	Fire	Tick Fire
FM-5297-CA	October 28, 2019	Fire	Getty Fire
DR-4482-CA	January 20, 2020	Biological	COVID-19 Pandemic
EM-3428-CA	January 20, 2020	Biological	COVID-19
DR-4569-CA	September 4, 2020	Fire	Wildfires
FM-5374-CA	September 13, 2020	Fire	Bobcat Fire
DR-4683-CA	December 27, 2022	Flood	Severe Winter Storms, Flooding, Landslides, and Mudslides
EM-3591-CA	January 8, 2023	Flood	Severe Winter Storms, Flooding, and Mudslides

Disaster Number	Event Date Start Date	Incident Type	Title
DR-4699-CA	February 21, 2023	Severe Storm	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, and Mudslides
EM-3592-CA	March 9, 2023	Flood	Severe Winter Storms, Flooding, Landslides, and Mudslides
DR-4769-CA	January 31, 2024	Severe Storm	Severe Winter Storms, Tornadoes, Flooding, Landslides, and Mudslides
FM-5537-CA	September 10, 2024	Fire	Bridge Fire
FM-5548-CA	December 10, 2024	Fire	Franklin Fire
FM-5551-CA	January 7, 2025	Fire	Hurst Fire
FM-5550-CA	January 7, 2025	Fire	Eaton Fire
FM-5549-CA	January 7, 2025	Fire	Palisades Fire
DR-4856-CA	January 7, 2025	Fire	Wildfires and Straight-Line Winds
FM-5605-CA	August 7, 2025	Fire	Canyon Fire

Source: (FEMA, 2025)

4.3 NATURAL HAZARDS OF CONCERN AND HAZARDS OF INTEREST

Based on a review of the 2023 California State Hazard Mitigation Plan, the National Risk Index, prior hazard mitigation plans among the Planning Partnership, and input from the Steering Committee, seven hazards, listed alphabetically, were identified as natural hazards of concern affecting the Palos Verdes Peninsula and will be addressed in this plan update:


Drought


Heat Wave


Strong Wind


Earthquake


Landslide


Wildfire


Flood

Four hazards of interest listed below are discussed in a narrative but not fully assessed in the plan.


Groundwater Seepage


Human-Caused


Hazardous Materials


Utility Related

Please refer to Appendix B for a complete comparison of hazards included in the 2023 California State Hazard Mitigation Plan, the prior hazard mitigation plans from Planning Partnership, and this plan update.

5. RISK ASSESSMENT METHODOLOGY AND TOOLS

5.1 ASSESSING RISK

In hazard mitigation planning, risk is the potential for damage or loss when natural hazards interact with people or assets, such as buildings, infrastructure, and resources. A risk assessment is a process used to identify potential hazards and analyze what could happen if a disaster or hazard occurs. It involves a data-driven analysis to identify potential hazards, what could happen if hazards occur, and determine vulnerabilities to hazards (FEMA, 2023).

The risk assessment process focuses on three main elements – hazard identification, exposure identification, and vulnerability identification and loss estimation.

5.2 RISK ASSESSMENT TOOLS



Local Plan Requirement A4 – 44 CFR Part 201.6(b)(3)

Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.

For this MJHMP, geographic information system (GIS) and FEMA's Hazus software were used to conduct the risk assessment.

5.2.1 Mapping

GIS tools provide a mechanism to perform quantitative analysis. Hazards that have specified geographic boundaries permit analysis using GIS. These hazards include the following:

- Earthquake
- Flood (including sea level rise and tsunami)
- Landslide
- Wildfire

5.2.2 Modeling

FEMA's Hazus Model 6.1 was used to evaluate the following hazards:

- **Earthquake**—A Level 2 analysis was performed to assess earthquake exposure and vulnerability for four scenarios: Compton M7.45, Palos Verdes M7.38, Redondo Canyon alt 2 M6.65, and the 100-yr probabilistic. The Hazus methodology uses ground motion and ground failure fragility curves to estimate damage state probabilities which are then used to estimate losses at the structure level.
- **Flood**—A Level 2 user-defined analysis was performed for general building stock and critical facilities and infrastructure in flood zones. The effective FEMA flood mapping for the Planning Area was used

to delineate flood hazard areas and estimate potential losses from the 1 percent annual chance flood event. To estimate damage that would result from a flood, Hazus uses predefined relationships between flood depth at a structure and resulting damage, with damage given as a percent of total replacement value. Curves defining these relationships have been developed for damage to structures and for damage to typical contents within a structure. By inputting flood depth data, estimated first floor elevations, and known property replacement cost values, dollar-value estimates of damage were generated.

- **Landslide**—Hazus does not model landslide, however, a Level 3 approach using Hazus protocols for a user-defined analysis was performed for general building stock in the deep-seated landslide hazard areas to estimate loss. Refer to Appendix D for a detailed description of the landslide hazard analysis methodology.

Overview

FEMA developed the Hazards U.S., or Hazus, model in 1997 to estimate losses caused by earthquakes and identify areas that face the highest risk and potential for loss. Hazus was later expanded into a multi-hazard methodology with new models for estimating potential losses from hurricanes and floods. The use of Hazus for hazard mitigation planning offers the following numerous advantages:

- Provides a consistent methodology for assessing risk across geographic and political entities.
- Provides a way to save data so that it can readily be updated as population, inventory, and other factors change and as mitigation planning efforts evolve.
- Facilitates the review of mitigation plans because it helps to ensure that FEMA methodologies are incorporated.
- Supports grant applications by calculating benefits using FEMA definitions and terminology.
- Produces hazard data and loss estimates that can be used in communication with local stakeholders.
- Is administered by the local government and can be used to manage and update a HMP throughout its implementation.

Hazus is a GIS-based software program used to support risk assessments, mitigation planning, and emergency planning and response. It provides a wide range of inventory data, such as demographics, building stock, community lifelines, transportation and utility lifeline, and multiple models to estimate potential losses from natural disasters. The program can be used to map hazard data and the results of damage and economic loss estimates for buildings and infrastructure.

Level of Detail for Evaluation

Hazus provides default data for inventory, vulnerability and hazards; this default data can be supplemented with local data to provide a more refined analysis. The model can carry out the following three levels of analysis, depending on the format and level of detail of information about the Planning Area:

- **Level 1**—All of the information needed to produce an estimate of losses is included in the software's default data. This data is derived from national databases and describes in general terms the characteristic parameters of the Planning Area.

- **Level 2**—More accurate estimates of losses require more detailed information about the Planning Area. To produce Level 2 estimates of losses, detailed information is required about local geology, hydrology, hydraulics and building inventory, as well as data about utilities and critical facilities. This information is needed in a GIS format.
- **Level 3**—This level of analysis generates the most accurate estimate of losses. It requires detailed engineering and geotechnical information to customize it for the Planning Area.

5.3 RISK ASSESSMENT APPROACH

This plan evaluated risks associated with each identified hazard for the Planning Area. Each hazard was profiled using the following steps:

- **Identify and profile each hazard** – The following information is given for each hazard of concern:
  - *Description of the Hazard:* Defining the hazard and a discussion of potential impacts.
  - *Location:* Geographic areas most affected by the hazard.
  - *Extent:* Measuring the intensity of the hazard, warning time for preparations, and the reasonable worst-case scenario.
  - *Previous Occurrences:* Summary of past events that have impacted the Planning Area.
  - *Future Occurrences:* Probability estimates, including potential frequency and intensity shifts caused by climate change and population and development trends.
- **Determine exposure to each hazard** – One of the following assessment approaches was used, depending on the type of information available for the hazard:
  - *Quantitative assessment*—Performed when numerical data are available to define risk. Available numerical hazard data may include financial impact and probability.
  - *Qualitative assessment*—Uses words to describe and categorize the likelihood and consequences of a risk when numerical data are unavailable.
- **Assess the vulnerability of exposed facilities** – Vulnerability of exposed structures and infrastructure was evaluated by estimating the probability of occurrence of each event and assessing structures, facilities, and systems that are exposed to each hazard
  - Impact on Life, Health, and Safety
  - Impact on General Building Stock
  - Impact on Community Lifelines
  - Impact on the Economy
  - Impact on Historic and Cultural Resources
  - Impact on Natural Resources
  - Change in Vulnerability Since the Previous HMPs
- **Identify potential mitigation opportunities** – A range of potential opportunities for mitigating each hazard is included for jurisdictions to consider during the development of their mitigation strategies.
  - Community: Mitigation actions that can be implemented by the general public.
  - Organizational: Mitigation actions that can be implemented by businesses and nonprofits.
  - Government: Mitigation actions that can be implemented by local governments.

5.4 SOURCES OF DATA USED IN RISK ASSESSMENT

Hazard information and data were collected for all hazards from a variety of sources, described in the sections below.

5.4.1 Building and Cost Data

Parcel and building information from the Los Angeles County Assessor were used to compile a detailed, Planning Area-wide structure inventory including replacement costs. Replacement cost is the cost to replace the entire structure with one of equal quality and utility. Replacement cost is based on industry-standard cost-estimation models published in RS Means Square Foot Costs. It is calculated using the RS Means square foot cost for a structure, which is based on the Hazus occupancy class (i.e., multi-family residential or commercial retail trade), multiplied by the square footage of the structure from the tax assessor data. The construction class and number of stories for single-family residential structures also factor into determining the square foot costs.

5.4.2 Community Lifelines

An inventory of critical facilities and infrastructure was compiled from city, county, state, and national datasets. The facilities were categorized by FEMA's Community Lifelines: Safety and Security; Food, Hydration, Shelter; Health and Medical; Energy; Communications; Transportation; Hazardous Material; and Water Systems. To protect individual privacy and the security of assets, information is presented in aggregate, without details about specific individual properties or facilities.

5.4.3 Population

2020 Census block-level data, provided with Hazus, was used to estimate the total population in each Planning Area. This data was also used to calculate the exposed population, displaced population and shelter needs for each hazard scenario.

Equity Priority Communities

Vulnerable communities for mitigation planning are defined through three categories: 65+ years of age, access and functional needs, and residents who live in neighborhoods with only one point of access to an evacuation route. In preparation for spatial overlays with the hazard data, the Planning Area was divided into three city boundaries for each member of the Planning Partnership.

Refer to Appendix D for a detailed description of the equity priority community methodology.

5.4.4 Hazus Data Inputs

The following hazard datasets were used for the Hazus analyses conducted for the risk assessment:

- Earthquake—ShakeMap data from the USGS Building Seismic Safety Council 2014 Event Set were used for the analysis of this hazard. This set of ShakeMap earthquake scenarios is the authoritative USGS collection for the continental United States. The scenario fault ruptures are derived from the latest National Seismic Hazard Model. Liquefaction zones and landslide susceptibility data from the California Geological Survey (CGS) was also incorporated into the Hazus model to replace the default data.

- Flood—A flood depth grid generated using the effective FEMA Digital Flood Insurance Rate Map (DFIRM), and USGS digital elevation model (DEM) data, was incorporated into the Hazus model.

5.4.5 Other Local Hazard Data

Local sources used in the risk and vulnerability assessment include the following:

- Landslide—Please refer to Appendix D for a full description of the data and methodology.
- Sea Level Rise— Sea-level rises of 25 cm and 200 cm with 100-year storm surge data were obtained from the Our Coast Our Future website. These data were developed using USGS' Coastal Storm Modeling System (CoSMoS) approach which projects coastal flooding due to both sea level rise and coastal storms driven by climate change.
- Tsunami—An exposure analysis was conducted using tsunami hazard area data provided by the California Department of Conservation.
- Wildfire—An exposure analysis was conducted using fire hazard severity zones data from CAL FIRE. These zones were mapped based on fuel loading, slope, fire weather, and other relevant factors including winds. The zones are classified as Moderate, High, or Very High fire hazard.

5.4.6 Data Source Summary

Table 5-1 describes the data used for spatially-based exposure and vulnerability assessments.

Table 5-1. Data Source Summary

Data	Source	Date(s)	Format(s)
City and Unincorporated Boundaries (Legal)	Los Angeles Co.	2024	Digital (GIS) format
Countywide Building Outlines	Los Angeles Co.	2025	Digital (GIS) format
Los Angeles County Parcels	Los Angeles Co.	2025	Digital (GIS) format
Building replacement costs	RS Means	2024	Digital (tabular) format
American Community Survey			
Evacuation routes			
Compton M7.45 ShakeMap	USGS	2017	Digital (GIS) format
Palos Verdes M7.38 ShakeMap	USGS	2017	Digital (GIS) format
Redondo Canyon alt 2 M6.65 ShakeMap	USGS	2017	Digital (GIS) format
CGS Map Sheet 48: Shear-wave Velocity in Upper 30m of Surficial Geology (Vs30)/NEHRP Soils	CGS	2015	Digital (GIS) format
Liquefaction Zones	CGS	2021	Digital (GIS) format
Digital Flood Insurance Rate Map (effective 6/2/2021; last LOMR 12/27/2024)	FEMA	2024	Digital (GIS) format
Projected flood exposure data from the USGS Coastal	Our Coast Our Future	2018	Digital (GIS) format

Data	Source	Date(s)	Format(s)
Storm Modeling System (CoSMoS v3.0) – 25cm with 100-year storm surge			
Projected flood exposure data from the USGS Coastal Storm Modeling System (CoSMoS v3.0) – 200cm with 100-year storm surge	Our Coast Our Future	2018	Digital (GIS) format
Tsunami Hazard Area Map, Los Angeles County	CA Dept of Conservation	2021	Digital (GIS) format
Landslide Catalog	NASA	2019	Digital (GIS) format
CA Landslide Inventory	CGS	2022	Digital (GIS) format
Redondo Beach Study	CGS	1999	PDF format
San Pedro Study	CGS	1999	PDF format
Torrance Study	CGS	1999	PDF format
Percent Change in Displacement Rate Map	Cotton, Shires and Associates, Inc.	2024-2025	PDF format
CGS Landslide Zones	CGS	Downloaded 2025	Digital (GIS) format
Fire Hazard Severity Zones in Local Responsibility Areas	CAL FIRE	2025	Digital (GIS) format
Police Stations	Hazus v6.1	Downloaded 2025	Digital (GIS) format
Fire Stations	Hazus v6.1	Downloaded 2025	Digital (GIS) format
Emergency Centers	Hazus v6.1	Downloaded 2025	Digital (GIS) format
Municipal Services	Los Angeles Co.	Downloaded 2025	
Schools, Colleges & Universities	Los Angeles Co.	Downloaded 2025	Digital (GIS) format
Schools	Hazus V6.1	Downloaded 2025	Digital (GIS) format
Electric Power Facilities	Los Angeles County		Digital (GIS) format
Highway Bridges	Hazus v6.1	Downloaded 2025	Digital (GIS) format
Sewer Pump Stations	Los Angeles Co.	Downloaded 2025	Digital (GIS) format

5.5 DATA LIMITATIONS

Loss estimates, exposure assessments, and hazard-specific vulnerability evaluations rely on the best available data and methodologies. Uncertainties are inherent in any loss estimation methodology and arise in part from incomplete scientific knowledge concerning natural hazards and their effects on the built environment.

Uncertainties also result from the following:

- Approximations and simplifications necessary to conduct such a study.
- Incomplete or dated inventory, demographic, or economic parameter data.
- The unique nature, geographic extent, and severity of each hazard.

- Mitigation measures already employed by the participating municipalities.
- The amount of advance notice residents have to prepare for a specific hazard event.
- Uncertainty of climate change projections.

Hazus currently represents the industry best management practice for assessing risk in support of hazard mitigation planning. However, the Hazus model is limited by the availability of data to support its working components. The model makes assumptions where firm data are not available. Assumptions are used, for example, to estimate ground deformation caused by liquefaction. These model limitations can lead to an understatement or overstatement of risk.

These factors can result in a range of uncertainty in loss estimates, possibly by a factor of two or more. Therefore, potential exposure and loss estimates are approximate. These results do not predict precise results and should be used to understand relative risk. Over the long term, the Planning Partnership will collect additional data to update and refine existing inventories to assist in estimating potential losses.

Potential economic loss is based on the present value of the general building stock utilizing best available data. The Planning Partnership acknowledges significant impacts may occur to critical facilities and infrastructure as a result of these hazard events causing great economic loss. However, monetized damage estimates to critical facilities and infrastructure, and economic impacts were not quantified and require more detailed loss analyses. In addition, economic impacts to industry such as tourism and the real-estate market were not analyzed.

6. DROUGHT

6.1 HAZARD PROFILE

Local Plan Requirement B1 – 44 CFR Part 201.6(c)(2)(i)

Include a description of the type, location, and extent for the identified hazards of concern and include information on previous occurrences of hazard events and the probability of future hazard events.

6.1.1 Description of the Hazard

Defining the Hazard

Drought is defined as a deficiency in precipitation over an extended period that results in a water shortage (National Integrated Drought Information System, n.d.). It is a gradual phenomenon and occurs slowly over a period of time (California Governor's Office of Emergency Services, 2024). Drought can have devastating impacts on communities due to its cascading impacts, including but not limited to negative impacts on public health, tree mortality, water quality, and energy as well as increased wildfire risk.

The occurrence of drought is a normal phase in the climate cycle of most regions, originating from a deficiency of precipitation over an extended period, usually a season or more. This leads to a water shortage for some activity, group, or environmental sector. Drought can be characterized based on the following (National Integrated Drought Information System, n.d.):

- **Meteorological Drought** – When dry weather patterns dominate an area.
- **Hydrological Drought** – When low water supply becomes evident in the water system.
- **Agricultural Drought** – When crops become affected by drought.
- **Socioeconomic Drought** – When the supply and demand of various commodities is affected by drought.
- **Ecological Drought** – When natural ecosystems are affected by drought.

Cause of the Hazard

Droughts originate from a deficiency of precipitation resulting from an unusual weather pattern. If the weather pattern lasts a short time (a few weeks or a couple of months), the drought is considered short-term. If the weather pattern becomes entrenched and the precipitation deficits last for several months or years, the drought is considered long-term. It is possible for a region to experience a long-term pattern that produces drought, and to have short-term changes that result in wet spells within the long-term pattern. Likewise, it is possible for a long-term wet pattern to be interrupted by weather spells that result in short-term drought (National Integrated Drought Information System, n.d.).

Drought can be caused by various atmospheric conditions such as climate change, ocean temperatures, changes in the jet stream, and changes in the local landscape (National Aeronautics and Space Administration, n.d.). Droughts are long-term climatic patterns that emerge from complex interactions among global weather patterns. Persistent, upper-level high-pressure systems along the West Coast

result in warm, dry air and reduced precipitation. Anomalies of precipitation and temperature may last from several months to several decades. How long they last depend on interactions between the atmosphere and the oceans, soil moisture and land surface processes, topography, internal dynamics, and the accumulated influence of global weather systems.

Summary of Potential Impacts

Drought can have a widespread impact on the environment and the economy, although it typically does not result in loss of life or damage to structures, as do other natural disasters.

The National Drought Mitigation Center uses three categories to describe likely drought impacts (National Integrated Drought Information System, n.d.):

- **Economic Impacts**—These impacts of drought cost people (or businesses) money. Farmers' crops are destroyed; low water supply necessitates spending on irrigation or drilling of new wells; water-related businesses (such as sales of boats and fishing equipment) may experience reduced revenue.
- **Environmental Impacts**—Plants and animals depend on water. When a drought occurs, their food supply can shrink, and their habitat can be damaged.
- **Social Impacts**—Social impacts include public safety, health, conflicts between people when there is not enough water to go around, and changes in lifestyle.

The demand that society places on water systems and supplies—such as expanding populations, irrigation, and environmental needs—contributes to drought impacts. Drought can lead to difficult decisions regarding the allocation of water, as well as stringent water use restrictions, water quality problems, and inadequate water supplies for fire suppression. There are also issues such as growing conflicts between agricultural uses of surface water and in-stream uses, surface water and groundwater interrelationships, and the effects of growing water demand on uses of water.

Vulnerability of an activity to drought depends on its water demand and the water supplies available to meet the demand. The impacts of drought vary between sectors of the community in both timing and severity (National Integrated Drought Information System, n.d.):

- **Water supply**—The water supply sector encompasses drinking water systems that are affected when a drought depletes groundwater supplies due to reduced recharge from rainfall.
- **Agriculture and commerce**—Impacts on the agriculture and commerce sectors include the reduction of crop yield and livestock sizes due to insufficient water supply for crop irrigation and maintenance of ground cover for grazing. In areas that depend on goods from agriculture and livestock, impacts may include increased prices for these commodities.
- **Environment, public health, and safety**—The environmental, public health, and safety sector focuses on wildfires that are both detrimental to the ecosystem and hazardous to the public. It also includes the impact of desiccating streams, such as the reduction of in-stream habitats for native species.

Cascading Hazard Impacts

The cascading impact most associated with drought is wildfire. A prolonged lack of precipitation dries out vegetation, which becomes increasingly susceptible to ignition as the duration of the drought extends.

Drought is also often accompanied by extreme heat, exposing people to the risk of sunstroke, heat cramps, and heat exhaustion. Pets and livestock are also vulnerable to heat-related injuries.

6.1.2 Location

A drought is a regional event that is not confined to geographic boundaries; it can affect several areas at once and range in severity across those areas. Drought that affects the Planning Area would affect the entirety of the area simultaneously and has the potential to impact every person, directly or indirectly, as well as adversely affect the local economy. A drought's impact can depend on climate zone, type of water supply available, and water users' ability to manage drought impacts. Los Angeles County depends on local and imported water in highly drought sensitive areas such as the Sierras, Los Angeles River, San Gabriel River, and Colorado River for its water supply (Los Angeles County Public Works, n.d.).

In California, one dry year does not normally constitute a drought. The State's extensive system of water supply infrastructure, which includes reservoirs, groundwater basins, and interregional conveyance facilities, are designed to mitigate the effects of short-term dry periods for most water users (DWR, n.d.). However, prolonged dry periods still lead to water shortage emergencies.

6.1.3 Extent

Measuring Intensity

Several quantitative methods exist for measuring drought in the United States. How these indices measure drought depends on the drought classification and the region being considered. Droughts are dynamic, and locations of the State susceptible to drought can change monthly.

U.S. Drought Monitor

The U.S. Drought Monitor assesses multiple numeric measures of drought to depict the drought conditions and locations across the United States. The U.S. Drought Monitor uses five drought intensity categories, D0 through D4, to identify areas of drought. These categories are shown on Figure 6-1.

Category	Description	Possible Impacts
D0	Abnormally Dry	Going into drought: • short-term dryness slowing planting, growth of crops or pastures Coming out of drought: • some lingering water deficits • pastures or crops not fully recovered
D1	Moderate Drought	• Some damage to crops, pastures • Streams, reservoirs, or wells low, some water shortages developing or imminent • Voluntary water-use restrictions requested
D2	Severe Drought	• Crop or pasture losses likely • Water shortages common • Water restrictions imposed
D3	Extreme Drought	• Major crop/pasture losses • Widespread water shortages or restrictions
D4	Exceptional Drought	• Exceptional and widespread crop/pasture losses • Shortages of water in reservoirs, streams, and wells creating water emergencies

Source: (U.S. Drought Monitor, 2025)

Figure 6-1. U.S. Drought Monitor Categories

National Oceanic and Atmospheric Administration Drought Indices

National Oceanic and Atmospheric Administration (NOAA) has developed several indices to measure drought impacts and severity and to map their extent and locations:

- The ***Crop Moisture Index*** measures short-term drought weekly to assess impacts on agriculture.
- The ***Palmer Z Index*** measures short-term drought on a monthly scale.
- The ***Palmer Drought Severity Index*** is based on long-term weather patterns. The intensity of drought in a given month is dependent on current weather plus the cumulative patterns of previous months. Weather patterns can change quickly, and the Palmer Drought Severity Index can respond fairly rapidly.
- The ***Palmer Hydrological Drought Index*** quantifies hydrological effects (reservoir levels, groundwater levels, etc.), which take longer to develop and last longer. This index responds more slowly to changing conditions than the Palmer Drought Index.
- The ***Standardized Precipitation Index*** considers only precipitation. A value of zero indicates the median precipitation amount; the index is negative for drought and positive for wet conditions. The Standardized Precipitation Index is computed for time scales ranging from 1 month to 24 months.

Maps of these indices show drought at a given point in time and are not necessarily indicators of the Planning Area's long-term susceptibility to drought (U.S. Drought Monitor, 2025) (NOAA, 2025).

Warning Time

Droughts are climatic patterns that occur over long periods of time. Only generalized warning can take place due to the numerous variables that scientists have not pieced together well enough to make accurate and precise predictions.

Empirical studies conducted over the past century have shown that meteorological drought is never the result of a single cause. It is the result of many causes, often synergistic in nature; these include global weather patterns that produce persistent, upper-level high-pressure systems along the West Coast with warm, dry air resulting in less precipitation.

At this time, scientists do not know how to predict drought more than a month in advance for most locations. Predicting drought depends on the ability to forecast precipitation and temperature. Anomalies of precipitation and temperature may last from several months to several decades

The El Niño-Southern Oscillation—a periodic shifting of ocean atmosphere conditions in the tropical Pacific that ranges from El Niño (warm phase) to neutral to La Niña (cold phase)—offers only limited predictive capability for precipitation in California. La Niña conditions tend to favor a drier outlook for Southern California. Seasonal precipitation forecasting is an important drought response tool and a research area requiring focused investment to develop the predictive ability needed to support water management. Dry conditions become a drought when the impacts of prolonged dry conditions create problems (California Governor's Office of Emergency Services, 2024).

Worst-Case Scenario

An extreme multi-year drought can impact the region with little warning. Combinations of low precipitation and unusually high temperatures could occur over several consecutive years. Intensified by such conditions, extreme wildfires could break out throughout Los Angeles County, as seen in 2025 with the Palisades and Eaton Fires, increasing the need for water. Surrounding communities, also in drought conditions, could increase their demand for water supplies relied upon in the Peninsula, causing social and political conflicts. If such conditions persisted for several years, the economy of Los Angeles County and the Palos Verdes Peninsula could experience setbacks, especially in water dependent industries.

6.1.4 Previous Occurrences

The following sections provide a review of previous drought occurrences in Los Angeles County.

Declarations

Federal Declarations

There have been no federal declarations for drought for Los Angeles County (FEMA, 2025).

State Proclamations

In 1976, 2014, and 2015, California proclaimed drought disasters for Los Angeles County, but no proclamations have been made in the past 5 years since the last mitigation plan updates for Palos Verdes Peninsula communities (Cal OES, 2025).

USDA Declarations

Between 2019 and 2025, the USDA declared that Los Angeles County experienced seven disasters relating to drought.

Table 6-1. USDA Drought Disaster Declarations

Designation Number	Event Begin Date	Description
S4647	10/1/2019	Drought-Fast Track
S4916	10/1/2020	Drought-Fast Track
S4945	4/20/2021	Drought-Fast Track
S4979	4/6/2021	Drought-Fast Track
S5146	10/1/2021	Drought-Fast Track
S5371	10/1/2022	Drought-Fast Track
S5943	10/1/2024	Drought-Fast Track

Source: (U.S. Department of Agriculture, 2025)

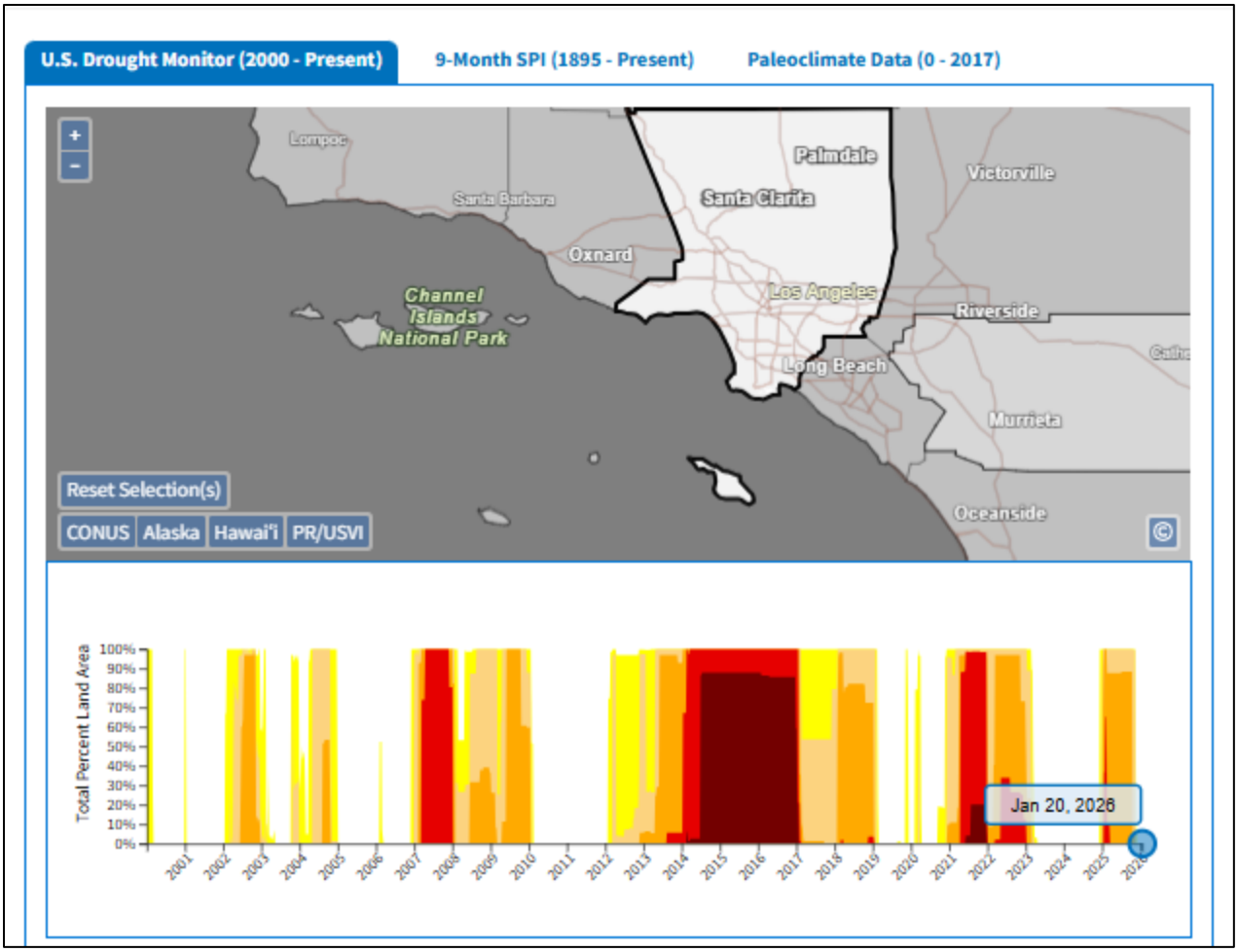
Summary of Significant Events

Drought is an ongoing hazard that has shaped California's history. In the mid-1800s, the Great Drought contributed to the demise of the cattle rancho system. In the 1920s and 1930s, dry conditions were prevalent in California and throughout the nation during the Great Depression and Dust Bowl. Later in the 20th century, significant droughts impacting water supplies occurred in the mid-1970s and mid- to early-1990s. Recent multi-year droughts occurred in 2007 to 2009, 2012 to 2016, and 2020 to early 2023. At the time of writing, the two watersheds encompassing the Peninsula, San Gabriel Watershed and Santa Monica Bay Watershed are not experiencing drought conditions.

Recent Events

Recent drought periods are described as follows:

- 2020 to 2023 Drought – A new record was set during this multi-year drought, with 2022 becoming the driest year in California since official drought records began in 1895. All 58 counties in California were impacted as USDA disaster-designated areas. This included residents in Los Angeles County.
- 2012 to 2016 Drought - The driest 3 consecutive years for statewide precipitation were between 2012 to 2014. Calendar year 2013 set minimum annual precipitation records for many communities.
- 2007 to 2009 Drought—This was California's first statewide proclamation of drought emergency, and the first drought in more than 70 years where water shortage was directly linked to social services impacts (California Department of Water Resources, 2010). Several California counties were also included in a state disaster proclamation, but Los Angeles County was only included in the emergency proclamation.



Source: (National Intigrated Drought Information System, 2026)

Figure 6-2. Percent of Los Angeles County Affected by Drought Conditions 2000 to January 2026

6.1.5 Future Conditions

Future hazard conditions, including frequency and severity of future events, are discussed in the sections below.

Probability

Drought has a high probability of occurrence in Los Angeles County, including the Palos Verdes Peninsula. From January 2000 to December 2025, some part of Los Angeles County experienced a USDM rating of D0 or higher in 899 out of 1,360 weeks—two-thirds of the weeks. The Planning Area has also been included in USDA drought disaster declarations in 5 of the last 7 years. Historical drought data for the Planning Area indicate there have been four significant multi-year droughts in the last 38 years (1987 to 2025), amounting to a severe drought every 9 years on average.

Climate Change

Future impacts of climate change are expected to influence future drought occurrences for the Planning Area.

With a warmer climate, droughts could become more frequent, more severe, and longer lasting. The Fourth National Climate Assessment Report for the United States indicates that "rising air and water temperatures and changes in precipitation are intensifying droughts. Changes in the relative amounts and timing of snow and rainfall are leading to mismatches between water availability and needs in some regions. Groundwater depletion is exacerbating drought risk." (USGCRP, 2018).

Because changes in precipitation patterns are still uncertain, the potential impacts and likelihood of drought are uncertain. Department of Water Resources (DWR) has noted impacts of climate change on statewide water resources by charting changes in snowpack, sea level, and river flow. As temperatures rise and more precipitation comes in the form of rain instead of snow, these changes will likely continue or grow even more significant. DWR estimates that parts of the state will experience a 48 to 65 percent loss in snowpack by the end of the century compared to historical averages (DWR, 2021). Increasing temperatures may also increase net evaporation from reservoirs. The Planning Area's water supply is derived from groundwater.

Potential Future Impacts

Even though the population of the Palos Verdes Peninsula is expected to continue slowly declining, its location in California's most populous County exposes it to significant risk of heightened water consumption and devastating drought consequences. Even modest population growth or shifts in development patterns can place significant strain on the Planning Area's limited water resources. Additionally, any increase in development, particularly in wildland-urban interface areas, can elevate both water demand and wildfire risk. These changes may lead to water shortages, reduced water quality, and heightened public health risks, especially for vulnerable populations. A growing population could complicate emergency response efforts during drought-related events like wildfires, which are intensified by prolonged dry conditions. Economic impacts may also arise, including reduced tourism and increased utility costs, all of which could further challenge the Planning Area's resilience to future droughts.

6.2 VULNERABILITY ASSESSMENT

Local Plan Requirement B1 – 44 CFR Part 201.6(c)(2)(ii)

The plan must include a description of the jurisdiction's vulnerability to the hazards of concern and include an overall summary of the hazard's impact on the community. The impacts need to include the types and numbers of existing and future buildings, infrastructure, and critical facilities located in the hazard areas, and estimate of potential dollar losses to vulnerable structures, and a description of land uses and development trends.

6.2.1 Summary of Vulnerability

The entire Planning Area is exposed to the drought hazard, with the potential to affect the entire population.

Drought can affect a wide range of economic, environmental, and social activities. Its impacts can span many sectors of the economy because water is integral to the ability to produce goods and provide services. The impacts can reach well beyond the area undergoing physical drought. Vulnerability of an activity to drought depends on its water demand and the water supplies available to meet the demand.

6.2.2 Impact on Life, Health, and Safety

Drought can affect people's health and safety, including health problems related to low water flows, poor water quality, or dust and pollution (National Drought Mitigation Center, 2025). Other possible impacts include recreational risks; effects on air quality; diminished living conditions related to energy, air quality, and hygiene; compromised food and nutrition; and increased incidence of illness and disease (U.S. Centers for Disease Control and Prevention, 2024). Droughts can also lead to reduced local firefighting capabilities.

The entire population of the Palos Verdes Peninsula is vulnerable to droughts.

Equity Priority Communities

In addition to water scarcity, drought conditions can also lead to power outages. Reduced water availability can limit hydroelectric power generation, while extreme heat and wildfire threats can strain the electrical grid or necessitate public safety power shutoffs. These outages can severely impact individuals with disabilities, older adults, and those with access and functional needs who rely on powered medical devices, refrigerated medications, or climate control for health and safety.

6.2.3 Impact on General Building Stock

The general building stock will not be directly affected by drought conditions. Droughts can have significant impacts on landscapes, which could cause a financial burden to property owners. However, these impacts are not considered critical in planning for impacts from the drought hazard.

6.2.4 Impact on Community Lifelines

While community lifelines as defined for this plan will continue to be operational during a drought, instances of drought can put a significant amount of strain on water utilities services. This, in addition to a drought's ability to naturally worsen wildfires through cascading effects, can impede firefighting capabilities for both wildfires and smaller house fires (NOAA NIDIS, 2025).

Beyond fires, the cost of potable water may increase, but the community lifeline that includes hydration will still function. Landscaping at community lifeline facilities may not be maintained because of limited resources, but the risk to those areas will be largely aesthetic. For example, when water conservation measures are in place, landscaped areas may not be watered frequently and may die. These aesthetic impacts are not considered significant.

6.2.5 Impact on the Economy

A prolonged drought can have a serious economic impact for all communities. As drought conditions persist, the availability of water for both residential and business use becomes increasingly limited. Local and state agencies may impose water restrictions. These restrictions may include placing limitations on watering lawns, car washing services, or any other recreational/commercial outdoor use of water supplies. Cost of accessing and transporting water may rise, placing further strain on household budgets and business operations. Industries that rely on water, such as nurseries, landscaping services, and tourism, may experience reduced demand or be forced to scale back.

6.2.6 Impact on Historic and Cultural Resources

The increase in wildfire risk due to drought would be the primary impact on historic and cultural assets.

6.2.7 Impact on Ecosystems and Natural Resources

Drought increases wildfire risk, and wildfires in turn increase demand for water. Prolonged periods of drought can result in detrimental changes in the vegetative structure, weakening trees which are more vulnerable to wildfire or insect outbreaks (EPA, 2025). The loss of trees due to distressed health, pests, or fire can produce increased risk of other hazards due to reduced ability to retain runoff during heavy rainfall events (Hoegh-Guldberg, et al., 2018).

The impact to ecosystems, even in suburban areas, can be profound during a drought. Surface water and waterways are reduced or dry up completely which impacts the habitat for surrounding flora and fauna reliant on those resources.

6.2.8 Change in Vulnerability Since the Prior Planning Area HMPs

The Planning Area's vulnerability to drought may have increased because of prolonged dry periods and climate variability, not because of population or development. The Palos Verdes Peninsula's population has declined since the prior Planning Area HMPs. Los Angeles County's reliance on limited water resources, however, continues to make it sensitive to drought conditions.

6.3 MITIGATION OPPORTUNITIES

Table 6-2 presents a range of potential opportunities considered by the Planning Partnership for mitigating the drought hazard.

Table 6-2. Potential Opportunities to Mitigate the Drought Hazard

Community Scale	Organizational Scale	Government Scale
Manipulate the Hazard		
• None	• None	• Stormwater management • Identify alternative water sources
Reduce Exposure and Vulnerability		
• Drought-resistant landscapes • Reduce water system losses • Modify plumbing systems (through water saving kits)	• Drought-resistant landscapes • Reduce private water system losses	• Water use conflict regulations • Reduce water system losses • Distribute water saving kits • Implement/expand water reuse projects

Community Scale	Organizational Scale	Government Scale
Build Local Capacity		
• Practice active water conservation	• Practice active water conservation	• Public education on drought resistance • Develop or expand recycled water network • Identify alternative water supplies for times of drought; mutual aid agreements with alternative suppliers • Develop drought contingency plan • Develop criteria "triggers" for drought-related actions • Improve accuracy of water supply forecasts • Modify rate structure to influence active water conservation techniques • Increase emergency storage capacity
Nature-based Opportunities		
• Promote and use reclaimed water supplies • Increase capacity for stored surface water to create habitats and ecosystems for aquatic species • Promote and use active groundwater recharge		

7. EARTHQUAKE

7.1 HAZARD PROFILE

Local Plan Requirement B1 – 44 CFR Part 201.6(c)(2)(i)

Include a description of the type, location, and extent for the identified hazards of concern and include information on previous occurrences of hazard events and the probability of future hazard events.

7.1.1 Description of the Hazard

Defining the Hazard

An earthquake is the vibration of the earth's surface following a release of energy in the earth's crust. This energy can be generated by a sudden dislocation of the crust or by a volcanic eruption. Most destructive quakes are caused by dislocations of the crust. The crust may first bend and then, when the stress exceeds the strength of the rocks, break and snap to a new position. In the process of breaking, vibrations called "seismic waves" are generated. These waves travel outward from the source of the earthquake at varying speeds.

The location of an earthquake is commonly described by its focal depth and the geographic position of its epicenter. The focal depth of an earthquake is the depth from the Earth's surface to the region where an earthquake's energy originates (the focus or hypocenter). The epicenter of an earthquake is the point on the Earth's surface directly above the hypocenter.

Cause of the Hazard

In California, the Pacific and North American plates slide past each other in opposing directions at a rate of about 1.5 inches per year. Friction between the plates can cause sections to stick. When they break free sudden movements, the movements release energy that travels through the ground as waves, causing shaking at the surface in the form of earthquakes (California Governor's Office of Emergency Services, 2024).

Tectonic Plates

The Earth's crust, which is the rigid outermost shell of the planet, is broken into seven or eight major tectonic plates (depending on how they are defined) and many minor plates. Where the plates meet, they move in one of three ways along their mutual boundary: convergent (two plates moving together), divergent (two plates moving apart), or transform (two plates moving parallel to one another). Earthquakes, volcanic activity, mountain-building, and oceanic trench formation occur along these plate boundaries. Subduction is a geological process that takes place at convergent boundaries of tectonic plate, in which one plate moves under another. Regions where this process occurs are known as subduction zones, and they have the potential to generate highly damaging earthquakes.

California is seismically active because of movement of the North American Plate, east of the San Andreas Fault, and the Pacific Plate to the west, which includes the state's coastal communities. The

transform (parallel) movement of these tectonic plates against one another creates stresses that build as the rocks are gradually deformed. The rock deformation, or strain, is stored in the rocks as elastic strain energy. When the strength of the rock is exceeded, rupture occurs along a fault. The rocks on opposite sides of the fault slide past each other as they spring back into a relaxed position. The strain energy is released partly as heat and partly as elastic waves called seismic waves. The passage of these seismic waves produces the ground shaking in earthquakes.

Seismic Fault Lines

Geologists have found that earthquakes reoccur along faults, which are zones of weakness in the earth's crust. When a fault experiences an earthquake, there is no guarantee that all the stress has been relieved. Another earthquake can still occur. In fact, relieving stress along one part of a fault may increase it in another part.

Faults are more likely to have future earthquakes on them if they have more rapid rates of movement, have had recent earthquakes along them, experience greater total displacements, and are aligned so that movement can relieve the accumulating tectonic stresses. Geologists classify faults by their relative hazards. "Active" faults, which represent the highest hazard, are those that have ruptured to the ground surface during the Holocene period (about the last 11,000 years). "Potentially active" faults are those that have moved in the past 1.6 million years (USGS, 2025).

Determining if a fault is "active" or "potentially active" depends on geologic evidence, which may not be available for every fault. The majority of the seismic hazards are on well-known active faults. However, inactive faults, where no displacements have been recorded, also have the potential to reactivate or experience displacement along a branch sometime in the future. An example of a fault zone that has been reactivated is the Foothills Fault Zone. The zone was considered inactive until evidence of an earthquake (approximately 1.6 million years ago) was found near Spenceville, California. Then, in 1975, an earthquake occurred on another branch of the zone near Oroville, California (now known as the Cleveland Hills Fault). The State Division of Mines and Geology indicates that increased earthquake activity throughout California may cause tectonic movement along currently inactive fault systems.

Summary of Potential Impacts

According to the USGS Earthquake Hazards Program, an earthquake hazard is anything associated with an earthquake that may affect people's normal activities. This includes the following:

- **Surface Faulting**—Displacement that reaches the earth's surface during slip along a fault. Commonly occurs with shallow earthquakes, those with an epicenter less than 20 kilometers.
- **Ground Motion** (shaking)—The movement of the earth's surface from earthquakes or explosions. Ground motion or shaking is produced by waves that are generated by sudden slip on a fault or sudden pressure at the explosive source and travel through the earth and along its surface.
- **Landslide**—A movement of surface material down a slope.
- **Liquefaction**—A process by which water-saturated sediment temporarily loses strength and acts as a fluid. Earthquake shaking can cause this effect.
- **Tectonic Deformation**—A change in the original shape of a material due to strain.

Earthquakes can directly cause buildings and bridges to collapse; disrupt utility services; and trigger landslides, avalanches, flash floods, fires, and tsunamis. Infrastructure collapses during earthquakes produced eight of California's 10 costliest disasters in the last 100 years (California Governor's Office of Emergency Services, 2024).

Cascading Hazard Impacts

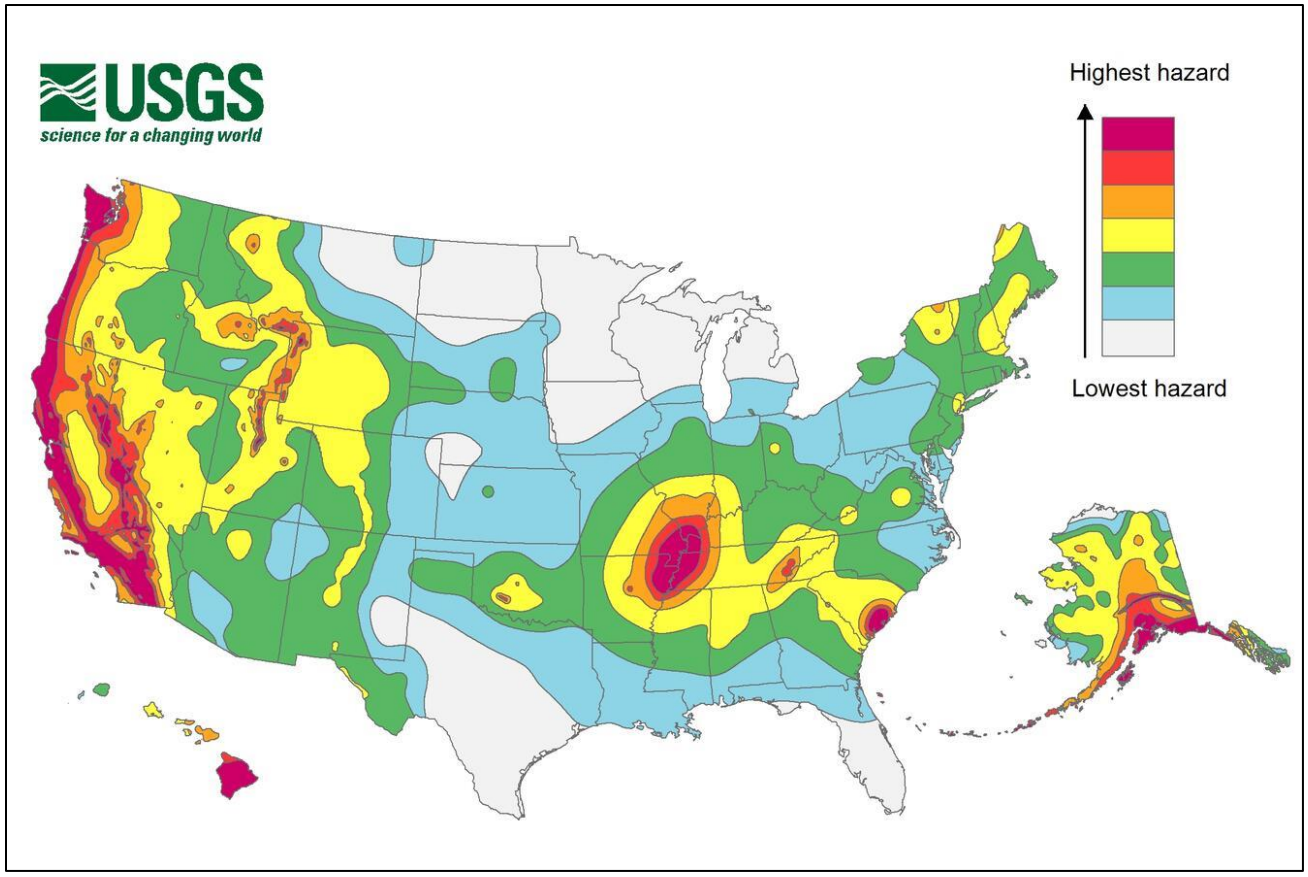
Cascading impacts result when one hazard event triggers one or more other hazard events that may still trigger others. The following cascading impacts associated with earthquakes are relevant to the Planning Area (California Governor's Office of Emergency Services, 2024):

- **Surface Fault Rupture**—When a fault rupture extends to the earth's surface, the displacement can catastrophically damage structures or utilities. Fissuring, settlement, and permanent horizontal and vertical ground shifting often accompany large earthquakes. Such displacement can significantly increase damage.
- **Fires**—Fires following earthquakes may result from multiple causes, including overturned burning candles, sparking from downed power lines, and broken gas pipelines. Additionally, fire departments may be severely stained after earthquakes. Impaired communications, water supply, transportation, and other resources affect fire department response. Several computer programs, such as Hazus, URAMP, SERA, and RiskLink provide ways to assess the fire-following-earthquake vulnerability of a community in future earthquakes.
- **Liquefaction**—Ground settlement during liquefaction can cause damage when the settlement varies significantly across the length of a structure. Liquefaction can occur in susceptible soils such as NEHRP Types D, E, and F. This can severely damage structures and infrastructure.
- **Landslides**—Landslides caused by earthquakes can be widespread over the immediate area and at greater distances where hillsides are susceptible. These landslides can significantly damage structures and transportation and utility lifelines.
- **Power Outages**—Earthquakes of all magnitudes can damage power lines and electrical facilities, impacting community lifelines that rely on power.
- **Hazardous Materials Release**—Earthquakes can lead to the release of hazardous materials from collapsed buildings and severed pipelines. This may include chemical accidents, oil spills, the release of gases, and runoff of hazardous materials.

7.1.2 Location

Faults

The greatest earthquake threat in the United States is along tectonic plate boundaries and seismic fault lines located in the western states, including California. Figure 7-1 shows relative seismic risk for the United States.



Source: (USGS, 2018)

Figure 7-1. USGS National Seismic Hazard Map

A direct relationship exists between a fault's length and location and its ability to generate damaging ground motion at a given site. Small, local faults produce lower magnitude quakes, but ground shaking can be strong, and damage can be significant in areas close to the fault. Large regional faults can generate earthquakes of great magnitudes but, because of their distance and depth, they may result in only moderate shaking in an area. The Palos Verdes Peninsula is in a region of High seismicity. According to the USGS, Southern California has the highest level of earthquake risk in the United States, with half of the expected financial losses from earthquakes in the Nation expected to occur in Southern California. Sitting astride the Pacific-North American plate boundary at the Big Bend of the San Andreas Fault, Southern California has over 300 faults capable of producing magnitude 6.0 and larger earthquakes. Affecting the more than 20 million inhabitants of the Los Angeles and San Diego metropolitan areas, this complex set of faults presents the greatest urban risk in the United States. Figure 7-2 shows the known faults within close proximity to the Planning Area.



Source: (California Geological Survey, 2015)

Figure 7-2. Fault Activity Map

National Earthquake Hazards Reduction Program Soils

National Earthquake Hazards Reduction Program (NEHRP) soil types define locations that will be significantly impacted by an earthquake. NEHRP Soils B and C typically can sustain low-magnitude ground shaking without much effect. Areas with NEHRP Soils D, E, and F are most commonly affected by ground shaking. NEHRP soils are described as follows:

- Site Class A: Hard rock
- Site Class B: Rock
- Site Class C: Very dense soil and soft rock
- Site Class D: Stiff soil
- Site Class E: Soft soil
- Site Class F: Soils requiring site-specific evaluation, like liquefiable soils, peat, or thick soft clays.

Figure 7-3 shows that NEHRP soil classifications within the Planning Area include C and D soils.

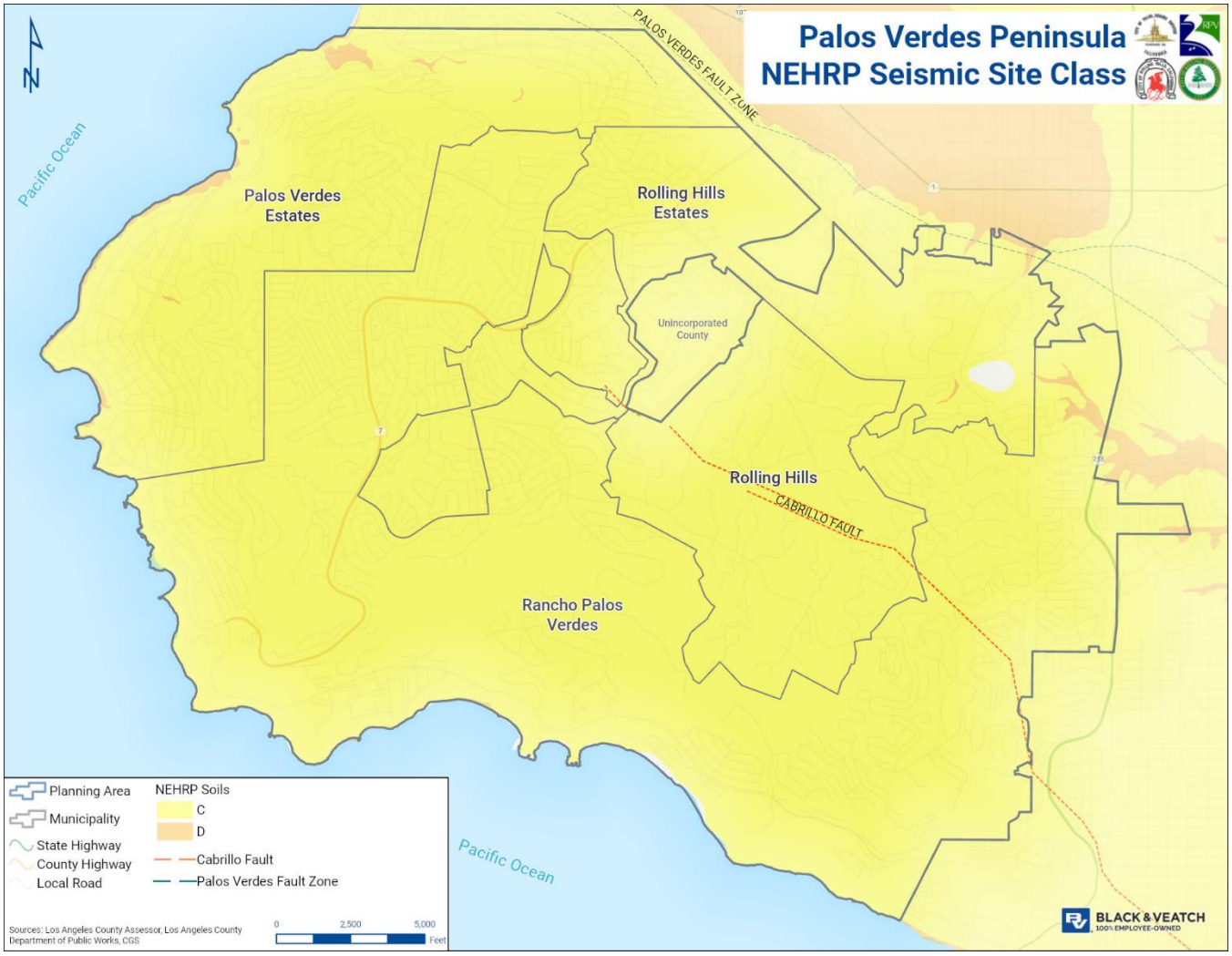


Figure 7-3. Palos Verdes Peninsula NEHRP Seismic Site Class

7.1.3 Extent

Measuring Intensity

Earthquakes are typically classified in one of two ways: By the amount of energy released, measured as magnitude; or by the impact on people and structures, measured as intensity.

Magnitude

An earthquake's magnitude is a measure of the energy released at the source of the earthquake. Magnitude is commonly expressed by ratings on the moment magnitude scale (Mw), the most common scale used today (USGS n.d.). This scale is based on the total moment release of the earthquake (the product of the distance a fault moved, and the force required to move it). The scale is as follows:

Great—Mw > 8
Major—Mw = 7.0 – 7.9
Strong—Mw = 6.0 – 6.9
Moderate—Mw = 5.0 – 5.9
Light—Mw = 4.0 – 4.9
Minor—Mw = 3.0 – 3.9
Micro—w < 3

Intensity

An earthquake's intensity is a measure of how strong an earthquake feels at any one location. It can vary widely across the range where an earthquake is experienced. The modified Mercalli intensity scale is most commonly used. The modified Mercalli intensity scale is generally represented visually using USGS ShakeMaps, which show the expected ground shaking produced by an earthquake with a specified magnitude and epicenter. An earthquake has only one magnitude and one epicenter, but it produces a range of ground shaking at sites throughout the region, depending on the distance from the earthquake, the rock and soil conditions at sites, and variations in the propagation of seismic waves from the earthquake due to complexities in the structure of the earth's crust (California Governor's Office of Emergency Services, 2024).

Table 7-1. Mercalli Scale and Peak Ground Acceleration Comparison

Modified Mercalli Scale	Perceived Shaking	Potential Structure Damage		Estimated PGA a (%)
		Resident Buildings	Vulnerable Buildings	
I	Not felt	None	None	<0.17%
II	Weak	None	None	0.17%-1.4%
IV	Light	None	None	1.4%-3.9%
V	Moderate	Very Light	Light	3.9%-9.2%
VI	Strong	Light	Moderate	9.2%-18%
VII	Very Strong	Moderate	Moderate/Heavy	18%-34%
VIII	Severe	Moderate/Heavy	Heavy	34%-65%
IX	Violent	Heavy	Very Heavy	65%-124%
X-XII	Extreme	Very Heavy	Very Heavy	>124%

[a] PGA measure in percent of g, where g is the acceleration of gravity

Source: (USGS, 2011) (USGS, 2025)

Ground Motion

Earthquake hazard assessment is based on expected ground motion. During an earthquake when the ground is shaking, it also experiences acceleration. The peak acceleration is the largest increase in velocity recorded by a particular station during an earthquake. Estimates are developed of the annual probability that certain ground motion accelerations will be exceeded; the annual probabilities can then be summed over a time period of interest.

The most commonly mapped ground motion parameters are horizontal and vertical peak ground accelerations (PGA) for a given soil type. PGA is a measure of how hard the earth shakes, or accelerates, in a given geographic area. Instruments called accelerographs record levels of ground motion due to earthquakes at stations throughout a region. PGA is measured in g (the acceleration due to gravity) or expressed as a percent acceleration force of gravity (%g). These readings are recorded by state and federal agencies that monitor and predict seismic activity.

Maps of PGA values form the basis of seismic zone maps that are included in building codes such as the International Building Code. Building codes that include seismic provisions specify the horizontal

force due to lateral acceleration that a building should be able to withstand during an earthquake. PGA values are directly related to these lateral forces that could damage "short period structures" (e.g., single-family dwellings). Longer period response components determine the lateral forces that damage larger structures with longer natural periods (apartment buildings, factories, high-rises, bridges).

ShakeMaps

The USGS Earthquake Hazards Program produces maps called ShakeMaps that map ground motion and shaking intensity following significant earthquakes. ShakeMaps focus on the ground shaking caused by the earthquake, rather than on characteristics of the earthquake source, such as magnitude and epicenter. An earthquake has only one magnitude and one epicenter, but it produces a range of ground shaking at sites throughout the region, depending on the distance from the earthquake, the rock and soil conditions at sites, and variations in the propagation of seismic waves from the earthquake due to complexities in the structure of the earth's crust.

A ShakeMap shows the extent and variation of ground shaking immediately across the surrounding region following significant earthquakes. Such mapping is derived from peak ground motion amplitudes recorded on seismic sensors, with interpolation where data are lacking based on estimated amplitudes. Color-coded instrumental intensity maps are derived from empirical relations between peak ground motions and Modified Mercalli intensity. In addition to the maps of recorded events, the USGS creates the following:

- **Scenario ShakeMaps** of hypothetical earthquakes of an assumed magnitude on known faults.
- **Probabilistic ShakeMaps**, based on predicted shaking from all possible earthquakes over a 10,000-year period. In a probabilistic map, information from millions of scenario maps is combined to make a forecast for the future. The maps indicate the ground motion at any given point that has a given probability of being exceeded in a given timeframe, such as a 100-year (1 percent annual chance) event.

The earthquake scenarios modeled for the risk assessment are shown on the following figures:

- Figure 7-5. Compton M7.45 Scenario
- Figure 7-6. Palos Verdes M7.38 Scenario
- Figure 7-7. Redondo Canyon M6.65 Scenario

National Seismic Hazard Map

National maps of earthquake shaking hazards provide information for creating and updating seismic design requirements for building codes, insurance rate structures, earthquake loss studies, retrofit priorities and land use planning. After thorough review of the studies, professional organizations of engineers update the seismic-risk maps and seismic design requirements contained in building codes (Brown, et al., 2001). The USGS updated the National Seismic Hazard Maps in 2018. New seismic, geologic, and geodetic information on earthquake rates and associated ground shaking were incorporated into these revised maps (Figure 7-1).

Liquefaction and Soil Types

Soil liquefaction occurs when water-saturated sands, silts or gravelly soils are shaken so violently that the individual grains lose contact with one another and float freely in the water, turning the ground into a pudding-like liquid. Building and road foundations lose load-bearing strength and may sink into the ground.

The NEHRP creates maps based on soil characteristics to help identify locations subject to liquefaction. NEHRP soil types define the locations that will be significantly impacted by an earthquake. Table 7-2 summarizes NEHRP soil classifications. NEHRP Soils B and C typically can sustain ground shaking without much effect, dependent on the earthquake magnitude. The areas that are commonly most affected by ground shaking have NEHRP Soils D, E, and F. In general, these areas are also most susceptible to liquefaction. Figure 7-4 shows liquefaction susceptibility in the Planning Area.

Table 7-2. NEHRP Soil Classification System

NEHRP Soil Type	Description	Mean Shear Velocity to 30 m (m/s)
A	Hard Rock	1,500
B	Firm to Hard Rock	760-1,500
C	Dense Soil/Soft Rock	360-760
D	Stiff Soil	180-360
E	Soft Clays	<180
F	Special Study Soils (liquefiable soils, sensitive clays, organic soils, soft clays > 36 m thick)	-

Warning Time

There is no current reliable way to predict the day or month that an earthquake will occur at any given location. Researchers are studying potential earthquake warning systems to give notice before damaging earthquake events. The warning time could allow someone to take preventative measures such as to get under a desk, step away from a hazardous material, or shut down a computer system (California Governor's Office of Emergency Services, 2024).

Cal OES's Earthquake Early Warning California (MyShake), developed in partnership with UC Berkeley and USGS ShakeAlert, is a statewide, publicly available warning system that provides seconds or tens of seconds to take cover before shaking occurs, depending on the location of the event. The system uses data from motion sensors and Global Navigation Satellite System to detect earthquakes and notify Californians of an earthquake in advance. Individuals can download the MyShake App on their mobile devices for earthquake warnings (California Governor's Office of Emergency Services, 2024).

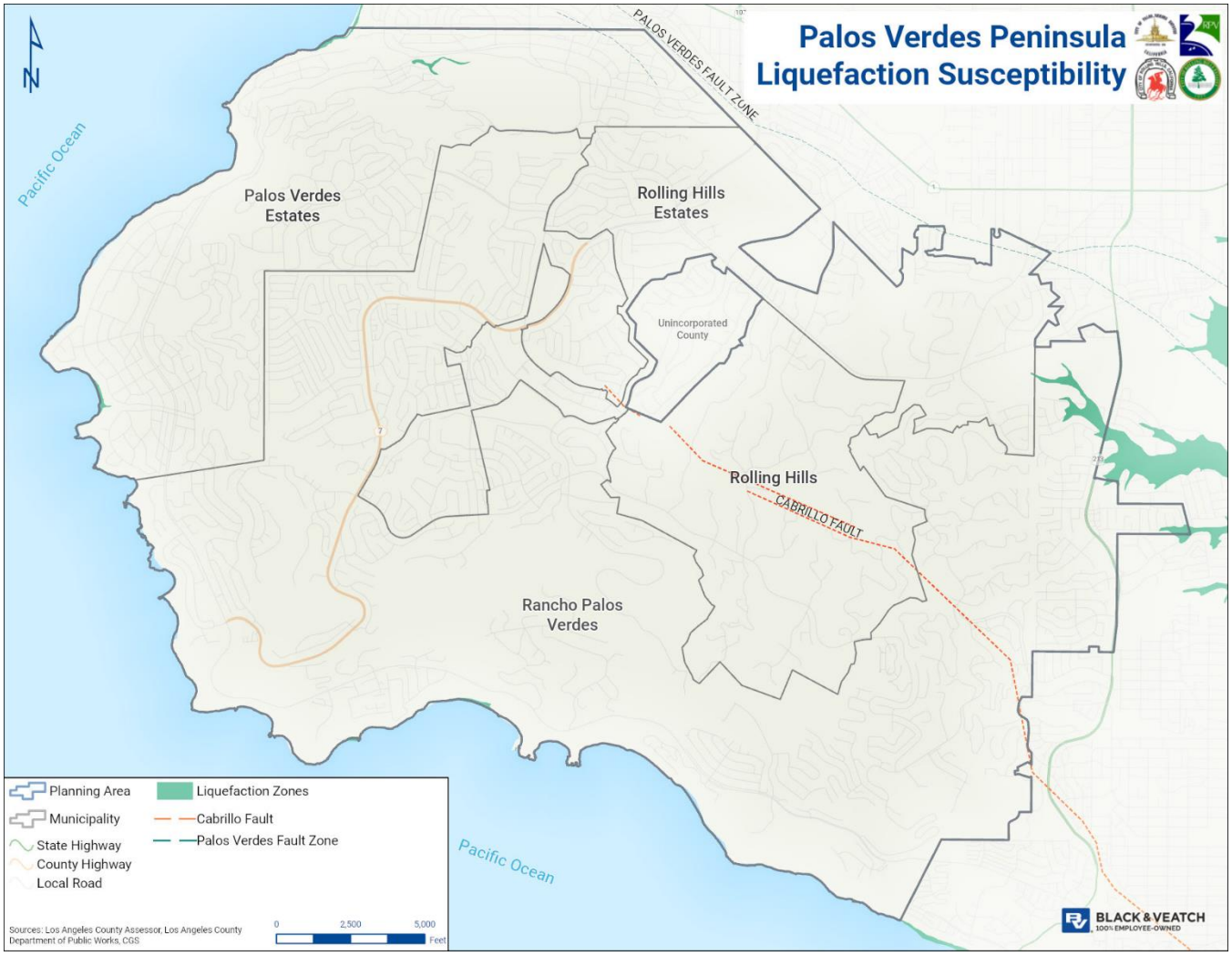


Figure 7-4. Palos Verdes Peninsula Liquefaction Susceptibility

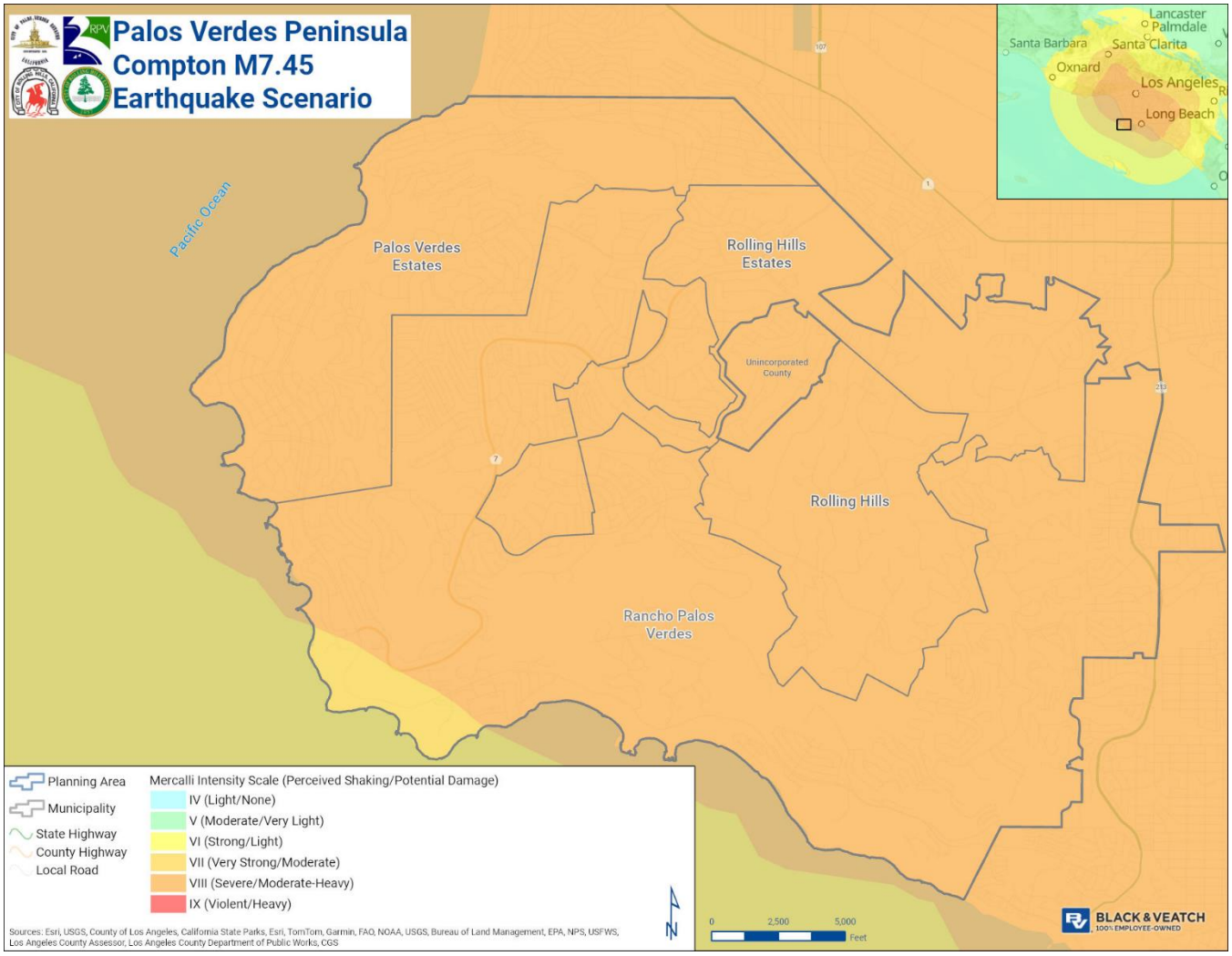


Figure 7-5. Compton M7.45 Scenario

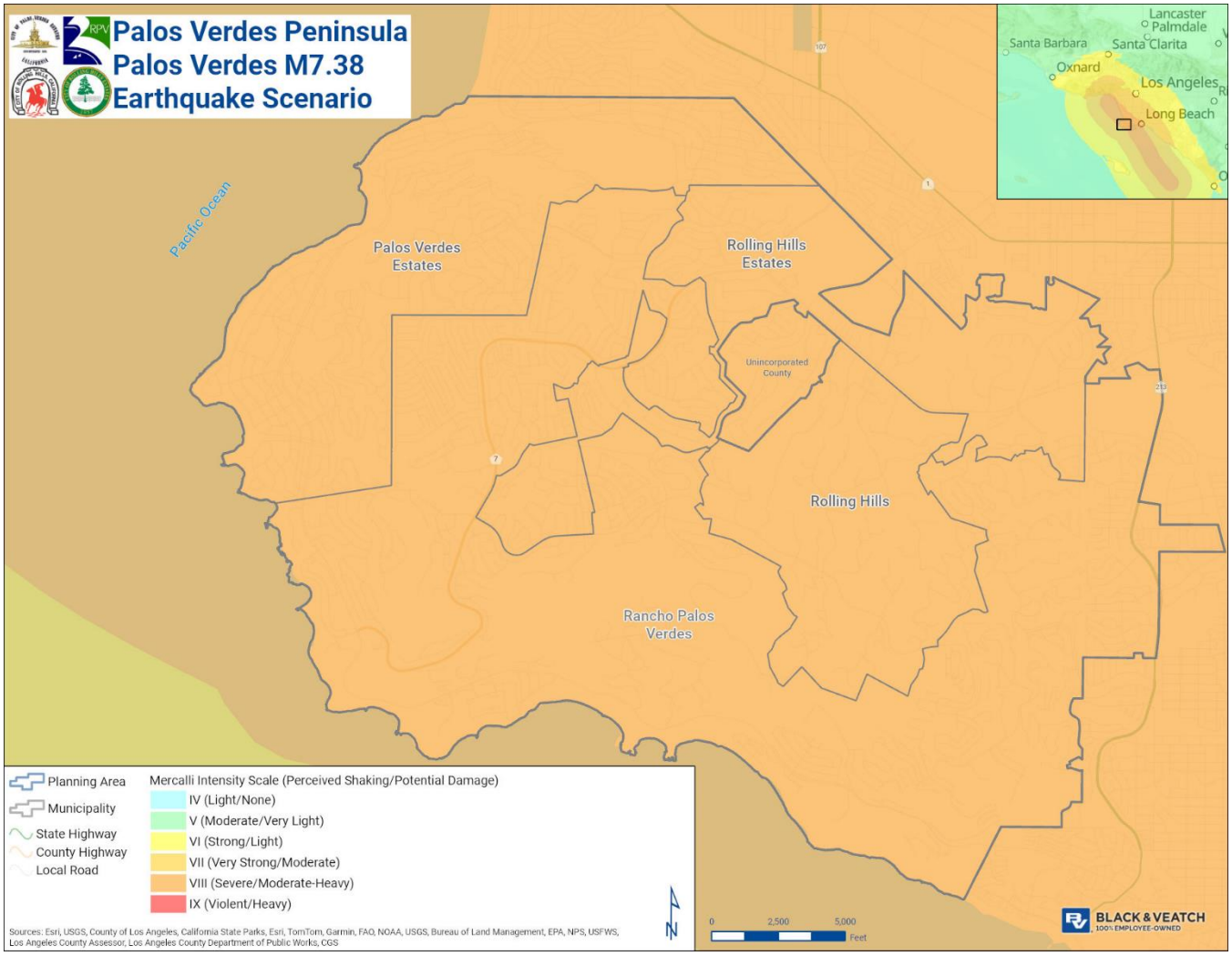


Figure 7-6. Palos Verdes M7.38 Scenario

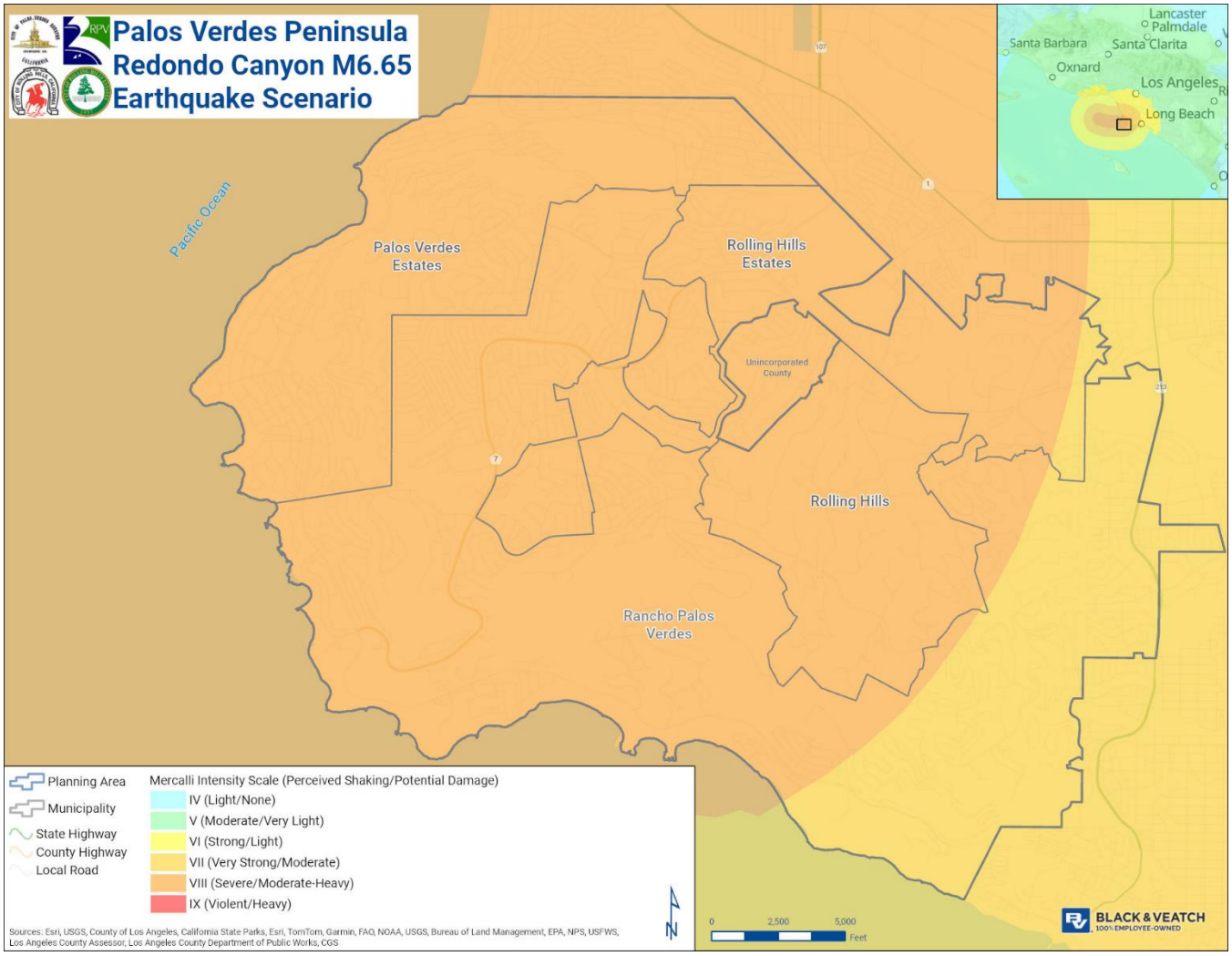


Figure 7-7. Redondo Canyon M6.65 Scenario

Worst-Case Scenario

With the abundance of fault exposure in southern California, the potential scenarios for earthquake activity are many. Any earthquake above a magnitude of 5.0 or greater on faults near the Planning Area would result in significant structural damage, particularly to older, unreinforced masonry buildings and infrastructure not built to modern seismic standards. Followed by earthquakes, secondary hazards such as severe landslides could worsen the situation. Ground shaking could trigger slope failures, blocking transportation and isolating neighborhoods. In dry and peak wildfire conditions, the combination of damaged infrastructure and power lines along with dry vegetation could ignite wildfires.

Potential warning systems could give approximately 40 seconds notice that a major earthquake is about to occur but would not provide enough warning other than to duck, cover and hold on for personal safety.

7.1.4 Previous Occurrences

The following sections provide a review of previous earthquake occurrences in Los Angeles County.

Declarations

Federal Declarations

Past federal disaster declarations for earthquakes in Los Angeles County have included the 1994 Northridge Earthquake (DR-1008), the 1987 Whittier Narrows Earthquake (DR-799), and the 1971 San Fernando Earthquake (DR-299, but no declarations have been made in the past 5 years since the last mitigation plan updates for Palos Verdes Peninsula communities (FEMA, 2025).

State Proclamations

In the past 5 years, California has not declared disasters related to earthquakes in Los Angeles County (Cal OES, 2025).

USDA Declarations

Between 2019 and 2025, the USDA has not declared disasters related to earthquakes in Los Angeles County (U.S. Department of Agriculture, 2025).

Summary of Significant Events

2024 Earthquake Near Highland Park

An unnamed 4.4 magnitude earthquake along the Puente Hills fault shook the greater Los Angeles area on August 12, 2024. Community members reportedly felt the quake as far north as Porterville and south to Chula Vista.

2010 Pico Rivera Earthquake

Pico Rivera was the epicenter of a magnitude 4.4 earthquake on March 16, 2010. The earthquake struck about 1.5 miles northeast of Pico Rivera at a depth of 11.7 miles, which is considered shallow. The USGS stated that the quake was likely from the Puente Hills' thrust fault. The epicenter was about 4.5 miles south of the epicenter of the 1987 Whittier Narrows earthquake. Both earthquakes exhibited thrust faulting. However, the 2010 earthquake strike rotated clockwise, suggesting that a different thrust system was activated. There were no injuries or major damage, but plenty of people felt the shaking. It was reported to have been felt from San Bernardino County to Santa Monica, and as far south as San Diego.

1994 Northridge Earthquake

The 1994 Northridge Earthquake was the costliest seismic event in California since the 1906 San Francisco Earthquake. The infrastructure of the metropolitan area was severely disrupted. Freeways collapsed, power systems for the city and linked communities as far away as Oregon were temporarily blacked out, and communications were disrupted. The California State HMP reports the Northridge Earthquake caused over $40 billion of disaster losses, 57 deaths, and 11,846 injuries (Cal OES, 2018).

Officially lasting approximately 30 seconds, and with a magnitude of 6.7, this earthquake caused significant damage to buildings. Of 57 fatalities attributed to this quake, 16 were a result of the collapse

of a single structure—the Northridge Meadows apartment building. The ground motion was measured throughout Southern California, including intensity readings of 1.82 g near the Ventura Freeway in the Tarzana area. Ground motions as strong as 1.21 g were measured as far away as Inglewood (approximately 25 miles from Northridge). One "g" of ground motion is enough to make unsecured buildings move off their foundations.

According to the USGS and the Southern California Earthquake Center, the Northridge Earthquake raised nearby mountains by as much as 70 centimeters. The fault, which was previously unknown, appears to be truncated by the fault that broke in the similarly sized 1971 San Fernando Earthquake, the two faults abutting at a depth of 5 miles. The Northridge Earthquake caused many times more damage than the 1971 event, primarily because its fault is directly under the densely populated valley, whereas the 1971 fault lies under the mountains.

The 1971 San Fernando Earthquake

The 1971 San Fernando earthquake (also known as the 1971 Sylmar earthquake) occurred in the early morning of February 9 in the foothills of the San Gabriel Mountains in Southern California. The origin of faulting was located 5 miles north of the San Fernando Valley. The unanticipated thrust earthquake had a magnitude of 6.5 on the Ms scale and 6.6 on the Mw scale, and a maximum Mercalli intensity of XI. Damage was locally severe in the northern San Fernando Valley and surface faulting was extensive to the south of the epicenter in the mountains, as well as urban settings along city streets and neighborhoods. Uplift and other effects affected private homes and businesses. The shaking surpassed building code requirements and exceeded what engineers had prepared for, and although most dwellings in the valley had been built in the prior two decades, even modern earthquake-resistant structures sustained serious damage.

Recent Events

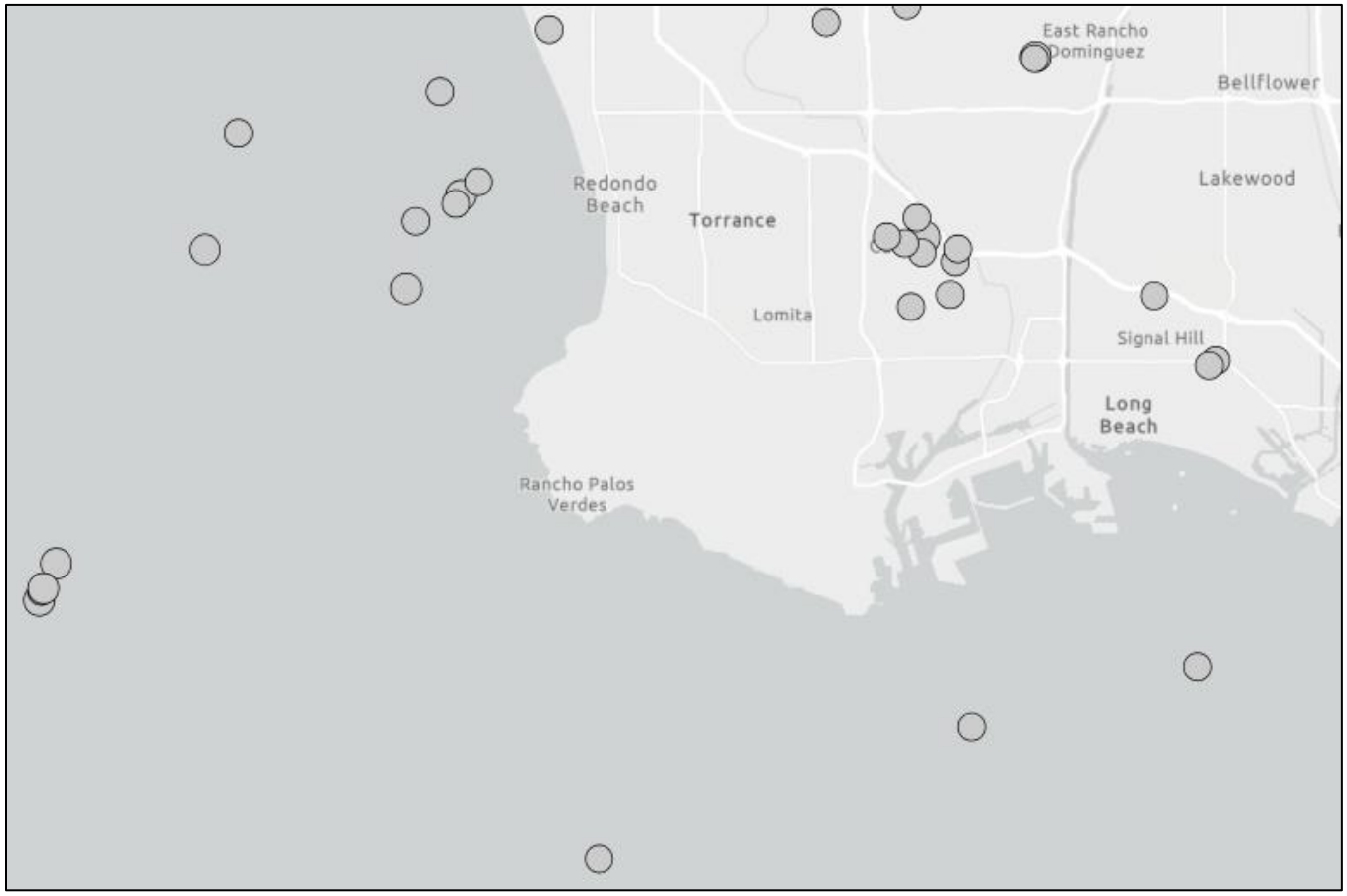
According to the USGS Search Earthquake Catalog, there have been no earthquakes in the Palos Verdes Peninsula in the 4.5+ Richter magnitude since January 2019. Earthquakes near the vicinity of the Palos Verdes Peninsula in the 2.5 – 4.5 Richter magnitude since January 2019 are listed in Table 7-3. None of these events resulted in notable impacts to the Planning Area. Locations of recent events are shown on Figure 7-8.

Table 7-3. USGS Earthquake Reports

Incident Period	Magnitude	Location
May 4, 2019	M 2.6	7 km WSW of Hermosa Beach
May 5, 2019	M 2.5	5 km WSW of Hermosa Beach
December 24, 2019	M 2.7	16 km S of Rancho Palos Verdes
December 24, 2019	M 2.7	16 km S of Rancho Palos Verdes
February 13, 2021	M 2.6	17km S of San Pedro
May 4, 2021	M 2.6	7km WSW of Hermosa Beach
May 9, 2021	M 2.5 - 3.5	5km WSW of Hermosa Beach
June 18, 2021	M 2.8	4 km WSW of Hermosa Beach
September 18, 2021	M 2.8	Carson, CA
September 24, 2021	M 2.6	Carson, CA

Incident Period	Magnitude	Location
January 11, 2022	M 2.8	Carson, CA
January 11, 2022	M 2.5	Carson, CA
October 12, 2022	M 2.5	Carson, CA
November 5, 2022	M 2.7;	Carson, CA
June 8, 2023	M 2.5	Carson, CA
August 25, 2023	M 2.7	Carson, CA
January 1, 2024	M 4.1	18 km S of Rancho Palos Verdes
April 17, 2024	M 2.6	13 km S of Rancho Palos Verdes
July 21, 2024	M 3.6	8km WNW of Palos Verdes Estates
September 2, 2024	M 3.1	22 km W of Rancho Palos Verdes;
September 7, 2024	M 2.8 – 3.2	22 km W of Rancho Palos Verdes
April 26, 2025	M 2.7	7 km W of Seal Beach
July 4, 2025	M2.5	9 km SSE of San Pedro

Source: (USGS, 2025)



Source: (USGS, 2025)

Figure 7-8. USGS Earthquake Catalog 2019 – 2025

7.1.5 Future Conditions

Future hazard conditions, including frequency and severity of future events, are discussed in the sections following.

Probability

California experiences hundreds of earthquakes each year, most with magnitudes below 3.0 and minimal damage. Earthquakes that cause moderate damage to structures occur several times a year. According to the USGS, a strong earthquake measuring greater than Magnitude 5.0 occurs statewide every 2 to 3 years, and major earthquakes of more than Magnitude 7.0 occur once a decade. The San Andreas Fault has the potential for experiencing major to great events.

Based on the most recent earthquake forecast model for California, scientists estimate that in the next 30 years the Los Angeles region has a 60 percent probability of an earthquake of Magnitude 6.7 or greater, a 46 percent probability of an earthquake of Magnitude 7 or greater, and a 31 percent probability of an earthquake of Magnitude 7.5 (USGS, 2025).

Fault rupture is the sliding movement of rock on either side of a fault. This phenomenon is responsible for causing the resulting shaking. The Third Uniform California Earthquake Rupture Forecast (UCERF3) is a comprehensive model of earthquake occurrence for California. It represents the best available science for authoritative estimates of the magnitude, location, and likelihood of potentially damaging earthquakes (SCEC, 2023). The UCERF3 predicts the probability of an earthquake of Magnitude 6.7 or greater over the next 30 years as shown on Figure 7-9. The UCERF3 also defined the following estimated 30-year probability for the deterministic earthquake scenarios used for the risk assessment in this LHMP:

- Compton M7.45 Scenario = 0.26 percent estimate 30-year probability
- Palos Verdes M7.38 Scenario = 2.73 percent estimate 30-year probability
- Redondo Canyon M6.65 Scenario = 0.20 percent estimate 30-year probability



Source: (Southern California Earthquake Center, 2025)

Figure 7-9. UCERF3 Earthquake Probability

Climate Change

It is unknown whether climate change has a direct impact on earthquake probability or severity. However, cascading hazards related to earthquakes are exacerbated by climate change. Increasing air temperatures and extreme weather events can affect soil integrity and affect erosion, sedimentation, and landslide occurrence associated with earthquakes.

Potential Future Impacts

Since all of the Planning Area is located within earthquake hazard zones, all future development will, to some extent, be exposed to the earthquake hazard. The municipal Planning Partners will strictly enforce all seismic building codes and design standards to prevent loss of life and property from earthquakes. Public education, cooperation with the development community, and individual preparedness are essential.

7.2 VULNERABILITY ASSESSMENT

Local Plan Requirement B1 – 44 CFR Part 201.6(c)(2)(ii)

The plan must include a description of the jurisdiction's vulnerability to the hazards of concern and include an overall summary of the hazard's impact on the community. The impacts need to include the types and numbers of existing and future buildings, infrastructure, and critical facilities located in the hazard areas, and estimate of potential dollar losses to vulnerable structures, and a description of land uses and development trends.

7.2.1 Summary of Vulnerability

The entire Planning Area is exposed to the earthquake hazard, so an earthquake has the potential to affect the entire population, and all buildings in the Planning Area, all of the Planning Area's identified critical facilities, and the entire environment of the Planning Area.

7.2.2 Impact on Life, Health, and Safety

Depending on the severity of the earthquake some people may be directly injured or killed. In addition, homes and businesses may be damaged, resources and supplies may be scarce, business interruptions may keep people from working, utilities may have outages, schools may be temporarily closed, and road closures may cause extra time and travel. All of these indirect effects could impact people who suffered no direct harm from the earthquake. Thus, the entire population must deal with the consequences of earthquakes to some degree.

Impacts on persons and households in the Planning Area were estimated for the scenario events assessed through the Level 2 Hazus analysis. Table 7-4 summarizes the results.

Table 7-4. Estimated Earthquake Impact on Persons and Households

City	Compton M7.45		Palos Verdes M7.38		Redondo Canyon M6.65	
	Displaced Households	Short-Term Shelter	Displaced Households	Short-Term Shelter	Displaced Households	Short-Term Shelter
Palos Verdes Estates	51	22	110	47	81	35
Rancho Palos Verdes	364	161	873	386	568	257
Rolling Hills	1	0	2	1	0	0
Rolling Hills Estates	3	1	10	4	8	3
Totals	**419**	**185**	**995**	**438**	**657**	**296**

Equity Priority Communities

While all people in the Planning Area are considered exposed and potentially vulnerable, those who may live in structures that do not conform to seismic building codes; and therefore, sustain more damage during an event, are more vulnerable. Those organizations with physical structures that provide care, services, and shelter may be impacted as a result of an earthquake. Loss of water, power, roads, phones,

and transportation due to earthquake events can be particularly dangerous for those with certain access and functional needs. Residents who live in neighborhoods with one point of egress may also be more vulnerable if the evacuation route is impacted.

7.2.3 Impact on General Building Stock

Building Age

Table 7-5 identifies significant milestones in building and seismic code requirements that directly affect the structural integrity of development. Using these time periods, the planning team used Hazus to identify the number of structures in the Planning Area by date of construction.

Table 7-5. Age of Structures in the Palos Verdes Peninsula

Time Period	Number of Current Structures Built in Period	Significance of General Time Frame for Building Requirements
Pre-1933	66	Before 1933, there were no explicit earthquake requirements in building codes. State law did not require local governments to have building officials or issue building permits.
1933 to 1940	102	In 1940, the first strong motion recording was made.
1941 to 1960	5,127	In 1960, the Structural Engineers Association of California published guidelines on recommended earthquake provisions.
1961 to 1975	11,081	In 1975, significant improvements were made to lateral force requirements.
1976 to 1993	3,973	In 1994, the Uniform Building Code was amended to include provisions for seismic safety.
1994 to Present	2,125	Seismic code is currently enforced.
Total	22,474	

The number of structures does not reflect the number of total housing units, as many multi-family units and attached housing units are reported as one structure. About 9 percent of the Planning Area's structures were constructed after the Uniform Building Code was amended in 1994 to include seismic safety provisions. Less than 1 percent of the structures were built before 1933 when there were no building permits or seismic standards.

Loss Potential

Property losses were estimated through the Level 2 Hazus analysis for the assessed earthquake fault scenarios. Table 7-6 shows the estimates for damage to structures and building contents with the percent of total replacement value. The Hazus analysis also estimated the amount of earthquake-caused debris in the Planning Area for the assessed events, as summarized in Table 7-7.

Table 7-6. Loss Estimates for Fault Scenarios

City	Estimated Loss Associated with Earthquake			% of Total Replacement Value
	Structure	Contents	Total	
Compton M7.45				
Palos Verdes Estates	$446,647,695	$146,765,435	$593,413,130	10.3%
Rancho Palos Verdes	$1,043,271,733	$348,773,413	$1,392,045,146	10.8%
Rolling Hills	$99,677,745	$30,707,295	$130,385,040	12.2%
Rolling Hills Estates	$468,250,162	$160,116,003	$628,366,164	14.4%
Total	**$2,057,847,334**	**$686,362,146**	**2,744,209,480**	**11.4%**
Palos Verdes M7.38				
Palos Verdes Estates	$538,584,168	$183,729,347	$722,313,516	12.5%
Rancho Palos Verdes	$1,281,027,168	$437,494,870	$1,718,522,038	13.3%
Rolling Hills	$112,505,474	$34,967,268	$147,472,741	13.8%
Rolling Hills Estates	$670,754,311	$230,028,018	$900,782,328	20.6%
Total	**$2,602,871,121**	**$886,219,503**	**3,489,090,624**	**14.5%**
Redondo Canyon M6.65				
Palos Verdes Estates	$531,917,704	$179,507,789	$711,425,492	12.3%
Rancho Palos Verdes	$1,075,689,302	$361,305,822	$1,436,995,124	11.2%
Rolling Hills	$94,397,701	$29,210,738	$123,608,439	11.5%
Rolling Hills Estates	$451,096,021	$156,780,926	$607,876,947	13.9%
Total	**$2,153,100,728**	**$726,805,274**	**2,879,906,001**	**11.9%**

Table 7-7. Estimated Earthquake-Caused Debris

City	Debris to Be Removed (tons)x 1000		
	Compton M7.45	Palos Verdes M7.38	Redondo Canyon M6.65
Palos Verdes Estates	19.59	27.65	25.40
Rancho Palos Verdes	43.78	69.42	47.23
Rolling Hills	3.34	5.28	2.81
Rolling Hills Estates	20.38	31.88	20.78
Total	**87.09**	**134.23**	**96.22**

7.2.4 Impact on Community Lifelines

The entire Planning Area is vulnerable to earthquakes, including all community lifelines. Functional downtime is the most significant earthquake impact on critical facilities and community lifelines. The severity of this impact is based on the amount of time it takes to restore damaged facilities to operational status. Hazus estimates damage and functional downtime for earthquake scenarios. Refer to Table 7-8 for a summary of community lifelines in the earthquake hazard areas.

Table 7-8. Community Lifelines in Earthquake Hazard Area

City	Communications	Energy	Food, Hydration, Shelter	Hazardous Materials	Health and Medical	Safety and Security	Transportation	Water Systems	Total
Palos Verdes Estates	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Rancho Palos Verdes	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Rolling Hills	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Rolling Hills Estates	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Total	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD

7.2.5 Impact on the Economy

In the Planning Area, loss of employment and lost property tax basis would be an economic impact. A major earthquake could disrupt, damage, or destroy computer facilities, which could curtail the operations of banks, insurance companies, and other elements of the financial community for a period of time. This may affect local government, businesses, and residents' ability to make payments and purchases.

7.2.6 Impact on Historic and Cultural Resources

Several sites of the Planning Area, such as the Point Vicente Interpretive Center and the Palos Verdes Library District, feature historic and cultural content dating back over a century. In the event of an earthquake, these sites face a heightened risk of severe damage or total collapse. The loss would not only be structural but also cultural, erasing irreplaceable links to the region's past.

7.2.7 Impact on Ecosystems and Natural Resources

Earthquakes can cause a range of environmental impacts. Earthquake-induced landslides may severely damage surrounding habitats, while shifts in the earth's structure can reroute streams, altering water quality and disrupting ecosystems. Groundwater-fed streams or springs may dry up because of changes in underlying geology. Additionally, earthquakes pose a significant risk of hazardous material release through various mechanisms, including the following:

- The toppling of elevated tanks or overturning of horizontal tanks
- Structural failures
- Dislodging of asbestos
- Sloshing from open-topped containers
- Storage container failures
- Under- or above-ground pipeline breaks

7.2.8 Change in Vulnerability Since the Prior Planning Area HMPs

There has been little change in earthquake vulnerability in the Planning Area since the prior Planning Area HMPs. The population remains small, and there has been minimal new construction that would alter the Planning Area's exposure. While seismic risk is inherent because of regional fault lines, the lack of significant development means that overall vulnerability has not increased meaningfully.

7.3 MITIGATION OPPORTUNITIES

Table 7-9 presents a range of potential opportunities considered by the Planning Partnership for mitigating the earthquake hazard.

Table 7-9. Potential Opportunities to Mitigate the Earthquake Hazard

Community Scale	Organizational Scale	Government Scale
Manipulate the Hazard		
• None	• None	• None
Reduce Exposure and Vulnerability		
• Locate outside of hazard area (off soft soils) • Retrofit structure (anchor house structure to foundation) • Secure household items that can cause injury or damage (such as water heaters, bookcases, and other appliances) • Build to higher design	• Locate or relocate critical functions outside hazard area where possible • Build redundancy for critical functions and facilities • Retrofit critical buildings and areas housing critical functions	• Locate critical facilities or functions outside hazard area where possible • Harden infrastructure • Provide redundancy for critical functions • Adopt higher regulatory standards • Perform seismic retrofits for vulnerable critical buildings and areas
Build Local Capacity		
• Practice "drop, cover, and hold" • Develop household mitigation plan, such as creating a retrofit savings account, communication capability with outside, 72-hour self-sufficiency during an event • Keep cash reserves for reconstruction	• Adopt higher standard for new construction; consider "performance-based design" when building new structures • Keep cash reserves for reconstruction • Inform your employees on the possible impacts of earthquakes and how to deal with them at your work facility.	• Provide better hazard maps • Provide technical information and guidance • Enact tools to help manage development in hazard areas (e.g., tax incentives, information) • Include retrofitting and replacement of critical system elements in capital improvement plan • Develop strategies to take advantage of post-disaster opportunities • Warehouse critical infrastructure components such as pipe fittings, valves, pumps, power line, and road repair materials • Solidify supplemental power supply to tanks and pump stations (generator program)

Community Scale	Organizational Scale	Government Scale
• Become informed on the hazard and risk reduction alternatives available • Develop a post-disaster action plan for your household • Sign up for early warning systems • Sign up for MyShake	• Develop a continuity of operations plan	• Develop and adopt a continuity of operations plan • Initiate triggers guiding improvements (such as <50% substantial damage or improvements) • Further enhance seismic risk assessment to target high hazard buildings for mitigation opportunities • Develop a post-disaster action plan that includes grant funding and debris removal components
Nature-based Opportunities		
• None identified		

8. FLOOD

8.1 HAZARD PROFILE

Local Plan Requirement B1 – 44 CFR Part 201.6(c)(2)(i)

Include a description of the type, location, and extent for the identified hazards of concern and include information on previous occurrences of hazard events and the probability of future hazard events.

8.1.1 Description of the Hazard

Defining the Hazard

Flooding is any overflowing of water onto land that is normally dry, due to rain, ocean waves, or the failure of a dam or levee (NOAA National Severe Storms Laboratory, 2023). Floods are the most common of all weather-related natural disasters. In urban areas, where buildings, highways, driveways, and parking lots reduce the ground's ability to absorb rainfall, the resulting increase in runoff can overwhelm constructed storm drain systems, resulting in flooding on nearby roads and buildings. The Palos Verdes Peninsula is typically exposed to the following flood types, with each further described below:

- **Inland flooding** which includes riverine flooding, flash flooding, and urban flooding.
- **Coastal flooding** which includes flood impact from long-term inundation from sea-level rise, tsunami, and coastal erosion.

Inland Flooding

Inland flooding can include riverine flooding, flash flooding, and localized flooding.

Riverine Flooding

Riverine flooding, or fluvial flooding, is when streams and rivers exceed the capacity of their natural or constructed channels to accommodate water flow and water overflows the banks, spilling out into adjacent low-lying, dry land. This occurs when the flow of a river exceeds the bank sides and causes damage or obstruction to a nearby floodplain. Riverine flooding can turn into a flash flood if the river is at or above its flood stage and if the soil is saturated (FEMA, 2025).

Flash Flooding

A flash flood is a rapid inundation of low-lying areas caused by heavy rain associated with severe thunderstorms, tropical systems, or melting water from ice or snow. Flash flooding also occurs far away from water bodies when a large volume of water cannot be absorbed by the soil or storm water systems and travels overland unimpeded (NWS, 2019).

Urban Flooding

Urban (stormwater) flooding occurs in developed areas when heavy rainfall runoff overwhelms the local stormwater drainage systems (NOAA, 2025). Water that does not evaporate or infiltrate into the ground is carried by conduits to waterways such as creeks, rivers, or the ocean. These drainage systems have two purposes: 1) to control storm water runoff during periods of heavy rainfall; and 2) to minimize disruption of activity from more frequently occurring, less significant storms. Urban flooding occurs when runoff exceeds system capacity, or because systems are blocked from lack of maintenance or other obstruction (NOAA NWS, 2025).

Coastal Flooding

Coastal areas can experience various kinds of flooding related hazards including storm surge, sea level rise, erosion, and tsunami. The combination of these events can result in the total perceived coastal flooding event. Coastal flooding can be caused by a combination of inputs including astronomical tides, El Niño, and storm surge from coastal storms.

Storm Surge

Storm surge is the abnormal rise in seawater level during a storm, measured as the height of the water above the normal predicted astronomical tide. The surge is caused primarily by a storm's winds pushing water onshore. The amplitude of the storm surge at any given location depends on the orientation of the coastline with the storm track; the intensity, size, and speed of the storm; and the local bathymetry (NOAA, n.d.).

Storm tide is the total observed seawater level during a storm, resulting from the combination of storm surge and the astronomical tide. Astronomical tides are caused by the gravitational pull of the sun and the moon and have their greatest effects on seawater level during new and full moons—when the sun, the moon, and the Earth are in alignment. As a result, the highest storm tides are often observed during storms that coincide with a new or full moon (NOAA, n.d.).

Sea Level Rise

Relative or local sea levels are affected by global sea level fluctuations, changes in land elevation, winds, and ocean circulation. It refers to the height of the water as measured along the coast relative to a specific point on land. Tide stations measure local sea level rise. Water measurements at the tide stations are referenced to stable vertical points on the land, and a known relationship is established. As the temperature of the Earth changes, so does sea level. Temperature and sea level are linked for the following two main reasons (USEPA, 2025):

- Land ice melt: Changes in the volume of water and ice on land (namely glaciers and ice sheets) can increase or decrease the volume of water in the ocean.
- Thermal expansion: As water warms, it expands slightly—an effect that is cumulative over the entire depth of the oceans.

Rising sea level inundates low-lying wetlands and dry land, erodes shorelines, contributes to coastal flooding, and increases the flow of salt water into estuaries and nearby groundwater aquifers. Higher sea level also makes coastal infrastructure more vulnerable to damage from storms (USEPA, 2025).

Tsunami

A tsunami is a series of ocean waves that sends surges of water (potentially reaching heights of over 100 feet) onto land. Tsunamis are primarily caused by underwater earthquakes. The earthquake's impact displaces the body of water above it, causing a tsunami. They can be unpredictable, continue for hours and cause severe damage along coastal communities. Most of the damage found in the aftermath of a tsunami is due to the surge of water, wave impacts, strong currents, erosion, and debris. This leads to the destruction or damage of structures; disruption of transportation, power and communications; and more (FEMA, 2023a).

Coastal Erosion

Coastal erosion is the loss of sediment along coastal waterways due to waves and currents. Loss of sediment along beaches can lead to a greater risk of collapse of coastal bluffs. Erosional events can occur rapidly from a single storm event or take place gradually with incremental losses taking place over weeks, months, and years.

Some methods used in the past to stop or reduce coastal erosion actually exacerbated the problem. Shore protection structures such as seawalls and revetments often are built to stabilize the upland property, but they can subject down-drift beaches to increased erosion. Typically, they eliminate natural wave run-up and sand deposition processes and can increase reflected wave action and currents at the waterline. Increased wave action can cause localized scour in front of structures and prevent settlement of suspended sediment (FEMA, 1996).

Cause of the Hazard

Inland flooding typically occurs when prolonged rain falls over several days, when intense rain falls over a short period of time, or when a debris jam causes a river or stream to overflow onto the surrounding area. The most common cause of flooding is water due to rain that accumulates faster than soils can absorb it or rivers can carry it away (NWS, n.d.).

The California DWR defines the following causes of inland and coastal flood hazards (DWR, 2019):

- **Riverine Flooding** occurs when rivers, streams, and lakes overflow their banks. This includes flooding caused by levee failure and channel erosion. Areas adjacent to local streams and creeks can also experience flooding as a result of excessive runoff from heavy rainfall and accumulation of water flowing over broad flat areas
- **Flash Flooding** is a sudden, rapid flooding of low-lying areas typically caused by intense rainfall. Flash floods can also occur from the collapse of a manmade structure. Rapidly rising water can reach heights of 30 feet or more.
- **Urban Flooding** occurs in both urban and non-urban areas during or after a storm. Any storm, particularly slow-moving, steady rainstorms, can overwhelm drainage systems. When the system backs up, pooling water can flood streets, yards, and even the lower floors of homes and

businesses. Even less intense storms can cause this type of flooding when leaves, sediment, and debris plug storm drains.

- **Coastal Flooding** happens through a process known as "storm surges," when ocean waves are significantly larger than normal. If a storm event corresponds with a higher than normal tide, extensive flooding can occur. Winds blowing in an onshore direction (from the sea toward the land) can cause the water to "pile up" against the coast, overtopping natural and manmade flood protection structures like sea walls. Coastal communities, especially in low-lying areas, are highly susceptible to this hazard (DWR 2019).

Tsunamis are primarily caused by underwater earthquakes. The earthquake's impact displaces the body of water above it, causing a tsunami. Other causes of tsunamis include landslides, volcanic activity, certain types of severe weather and—potentially—near-Earth objects like asteroids or comets that collide with or explode above the ocean (FEMA, 2023a).

Summary of Potential Impacts

Flooding in the Palos Verdes Peninsula can have significant impacts on the people, structures, infrastructure, and natural environment. Roads, bridges, and buildings can be severely damaged or destroyed, making transportation difficult and disrupting daily life and emergency response efforts. Hydrostatic pressures and flowing floodwaters can easily cause structures to collapse or float away. This can lead to costly repairs and loss of property value, impacting homeowners and businesses. Floodwaters can contaminate drinking water and lead to the spread of contaminants and diseases. During severe flood events, residents may need to evacuate their homes, which can lead to displaced residents and the potential increased risk of drowning during evacuation efforts. Flooding can result in scouring and erosion of sediment in areas with flow or wave action.

Cascading Hazard Impacts

Flooding often initiates a series of cascading hazards that extend beyond direct inundation caused by a flood event. One of the most significant secondary impacts is bank and bluff erosion. In many cases, the threat and effects of erosion are worse than actual flooding. This is particularly evident along steep river reaches, canyons, and coastal bluffs, where fast-moving floodwaters may recede quickly but aggressively scour banks and slopes, destabilizing land and progressively encroaching on adjacent properties.

Flood impacts can be further amplified when precipitation-driven riverine or urban flooding coincides with coastal flooding, resulting in elevated total water levels and more widespread or prolonged flooding than would occur from a single source alone. Prolonged soil saturation from high flows can also trigger landslides and slope failures, especially in areas with steep terrain or pre-existing instability. In addition, floodwaters can mobilize hazardous materials when storage tanks or containment systems fail, allowing pollutants to enter waterways or drainage systems.

Along coastal areas, flood events intensify erosion through increased storm-driven wave energy, coastal inundation, and surface runoff that undercut bluffs and destabilize slopes within active landslide complexes. Heavy rainfall combined with elevated ocean conditions has been shown to accelerate bluff retreat and landslide movement, increasing risks to coastal infrastructure, roadways, and residential development (NASA, 2025).

8.1.2 National Flood Insurance Program Participation

Properties constructed after adoption of a FIRM or DFIRM are considered less vulnerable to flooding because they were constructed after adoption of regulations and codes to decrease vulnerability. Properties built before adoption of a FIRM or DFIRM are more vulnerable to flooding because either they do not meet code or are within hazardous areas.

Table 8-2 lists flood insurance statistics for the cities of the Palos Verde Peninsula, the Planning Area municipalities that participate in the NFIP. As of December 31, 2025, 133 policies were in force for the Planning Area, providing more than $43.6 million in insurance. There were two repetitive loss (RL) properties in the City of Palos Verde Estates jurisdiction.

Table 8-1. Riverine Flooding Sources in the Palos Verde Peninsula

City	Date of Entry	Current FIRM Date	Flood Insurance Policies	Insurance in Force	Annual Premiums	Claims	RL or SRL Properties	Value of Claims
Palos Verdes Estates	November 21, 2001	April 21, 2021	49	$15,976,000	$42,514	15	2	$39,750
Rancho Palos Verdes	September 26, 2008	April 21, 2021	51	$16,218,000	$35,640	8	-	$261,095
Rolling Hills	September 26, 2008	NSFHA	19	$6,650,000	$11,000	1	-	-
Rolling Hills Estates	September 26, 2008	NSFHA	14	$4,727,000	$9,074	9	-	$12,344
Total			**133**	**$43,571,000**	**$98,228**	**33**	**2**	**$313,189**

Source: (FEMA, 2025)

To be eligible to participate in the NFIP, a local government must possess the authority to adopt codes and standards to regulate development in the Special Flood Hazard Area. The special purpose district planning partners do not possess these authorities and are therefore not listed in this section.

8.1.3 Location

Inland Flooding

Riverine and flash flooding occurs along rivers and streams in the Palos Verdes Peninsula. Table 8-2 identifies the potential riverine flooding sources for the Planning Area.

Table 8-2. Riverine Flooding Sources in the Palos Verde Peninsula

Flooding Source	Community	HUC-8 Subbasin(s)
Agua Amarge Canyon Creek	City of Palos Verdes Estates	18070104
Malaga Canyon Creek	City of Palos Verdes Estates	18070104
Unnamed Stream Main Reach	City of Palos Verdes Estates	18070104

Flooding Source	Community	HUC-8 Subbasin(s)
Unnamed Stream Tributary 1	City of Palos Verdes Estates	18070104
Unnamed Stream Tributary 2	City of Palos Verdes Estates	18070104
UNKNOWN 1 to Malaga Canyon Creek	City of Palos Verdes Estates	18070104
UNKNOWN 2 to Malaga Canyon Creek	City of Palos Verdes Estates	18070104

Source: (FEMA, 2021)

Floodplains

The land area susceptible to being inundated or flooded by water from any source (e.g., river, stream, lake, estuary) is referred to as a floodplain. The floodplain includes the floodway and the floodway fringe to convey the flood event and provide flood water storage. These areas form a complex physical and biological system that not only supports a variety of natural resources but also provides natural flood and erosion control. However, not all flooding occurs in such areas. Flash and urban flooding often occur outside of designated floodplain areas.

Flood hazard areas are identified as **Special Flood Hazard Area (SFHA)**. SFHAs are defined as the area that will be inundated by the flood event having a 1 percent chance of being equaled to or exceeded in any given year. The 1 percent annual chance floodplain establishes the area that has flood insurance and floodplain management requirements. The following are additional definitions relating to flood maps (FEMA 2025):

- Flood hazard areas identified on the Flood Insurance Rate Map (FIRM) are identified as a SFHA.
- SFHA is the area that will be inundated by the flood event having a 1 percent chance of being equaled or exceeded in any given year.
- SFHAs are labeled as Zone A, Zone AO, Zone AH, Zones A1-A30, Zone AE, Zone A99, Zone AR, Zone AR/AE, Zone AR/AO, Zone AR/A1-A30, Zone AR/A, Zone V, Zone VE, and Zones V1-V30.
- Zone B or Zone X (shaded) = Moderate flood hazard areas and are the areas between the limits of the base flood and the 0.2 percent annual chance (or 500-year) flood.
- Zone C or Zone X (unshaded) = Areas of minimal flood hazard, which are the areas outside the SFHA and higher than the elevation of the 0.2 percent annual chance flood, are labeled.

The 1-percent annual chance flood is also referred to as the base flood or **100-year flood**. The 1-percent annual chance floodplain is also commonly referred to as the **100-year floodplain**.

A 100-year flood is *not* a flood that will occur once every 100 years; the designation indicates a flood that has a 1-percent chance of being equaled or exceeded each year. Thus, the 100-year flood could occur

In the Planning Area, FEMA has designated several areas along canyons and creeks, such as the Malaga Creek and Margate Canyon Creek, as SFHAs due to their susceptibility to seasonal flooding and runoff from steep terrain. These mapped areas are subject to federal floodplain management regulations under the NFIP, and property owners in these zones may be required to carry flood insurance if they have federally backed mortgages.

Figure 8-1 displays the FEMA 1 percent annual chance flood zone for the Palos Verde Peninsula.

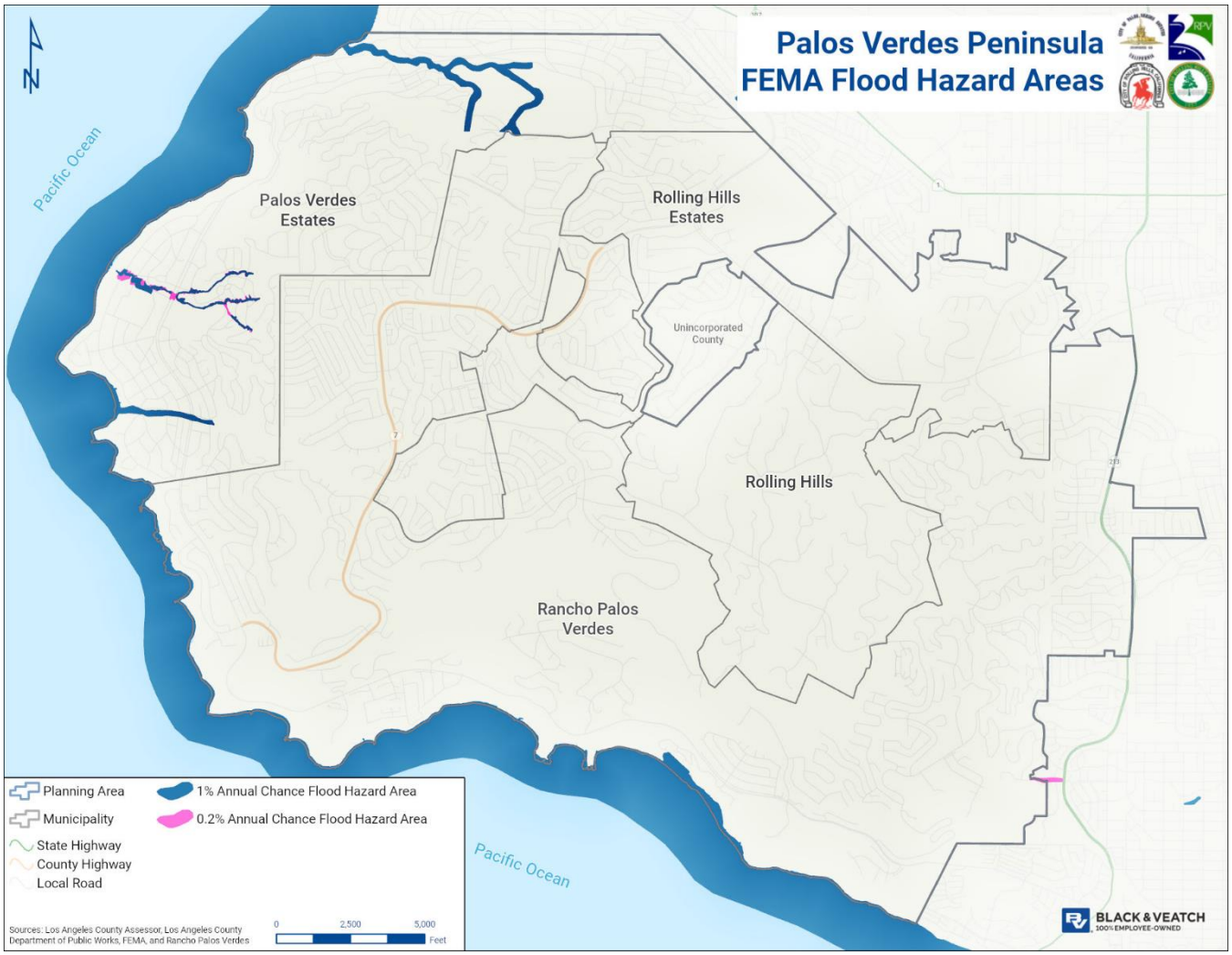


Figure 8-1. FEMA 1 Percent Annual Chance Flood Zone

Table 8-3 summarizes the number of acres in Planning Area in the mapped FEMA floodplain.

Table 8-3. Acres of Floodplain in FEMA 1 Percent Annual Chance Flood Zones

City	Acres of Floodplain
Palos Verdes Estates	111
Rancho Palos Verdes	70
Rolling Hills	0
Rolling Hills Estates	0
Total	**180**

Coastal Flooding

Storm Surge

The Southern California coastline is exposed to waves generated by winter and summer storms originating in the Pacific Ocean. It is not uncommon for these storms to cause 15-foot breakers. The occurrence of such a storm event in combination with high astronomical tides and strong winds can cause a significant wave runup and allow storm waves to attack higher than normal elevations along the coastline. When this occurs, shoreline erosion and coastal flooding frequently results in damage to inadequately protected structures and facilities located along low-lying portions of the shoreline.

Sea Level Rise

The potential for sea level rise flooding is confined to very limited Planning Areas along the coast because of the topography of the region, defined primarily by coastal bluffs.

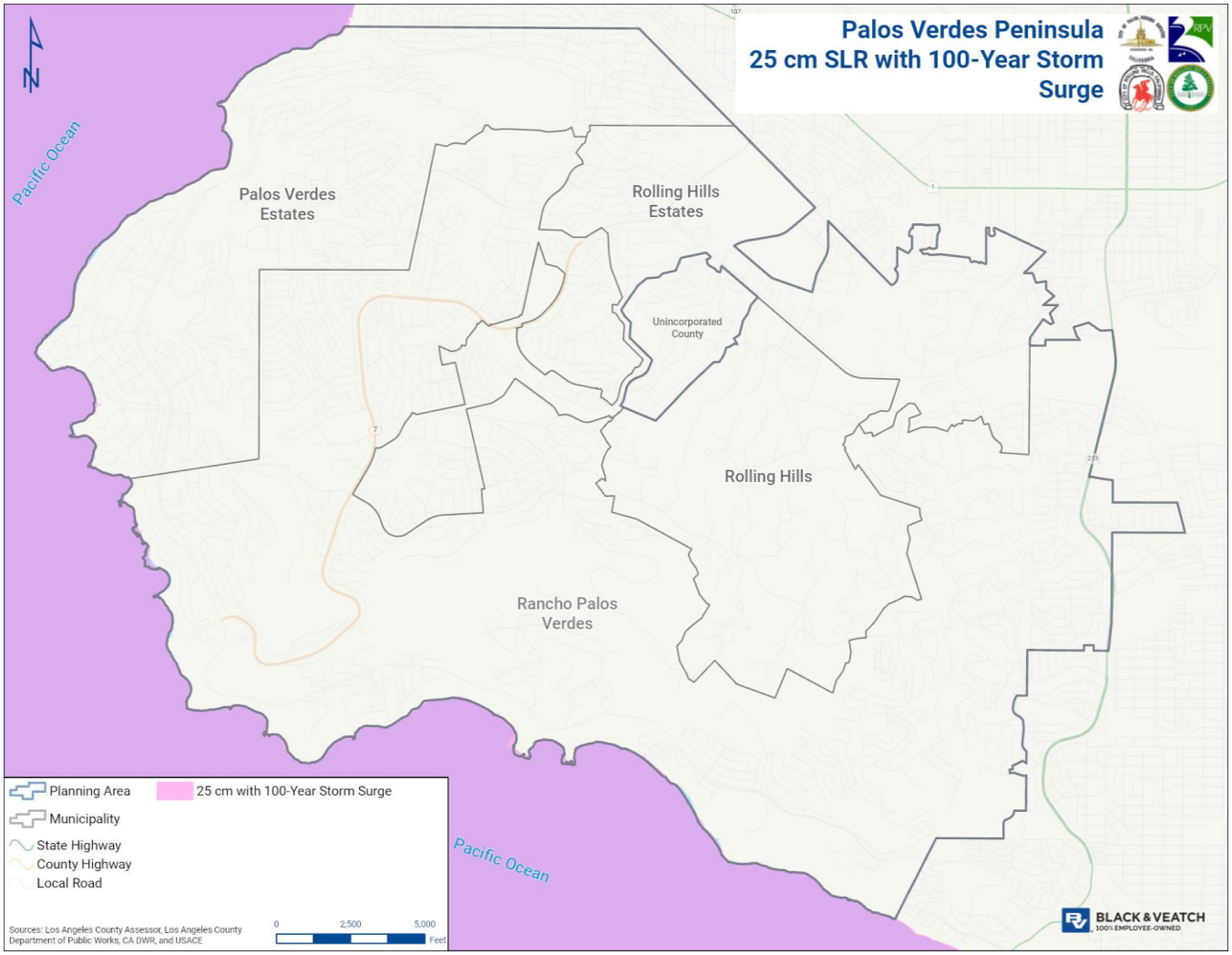


Figure 8-2. 25 cm Sea Level Rise with 100-Year Storm Surge

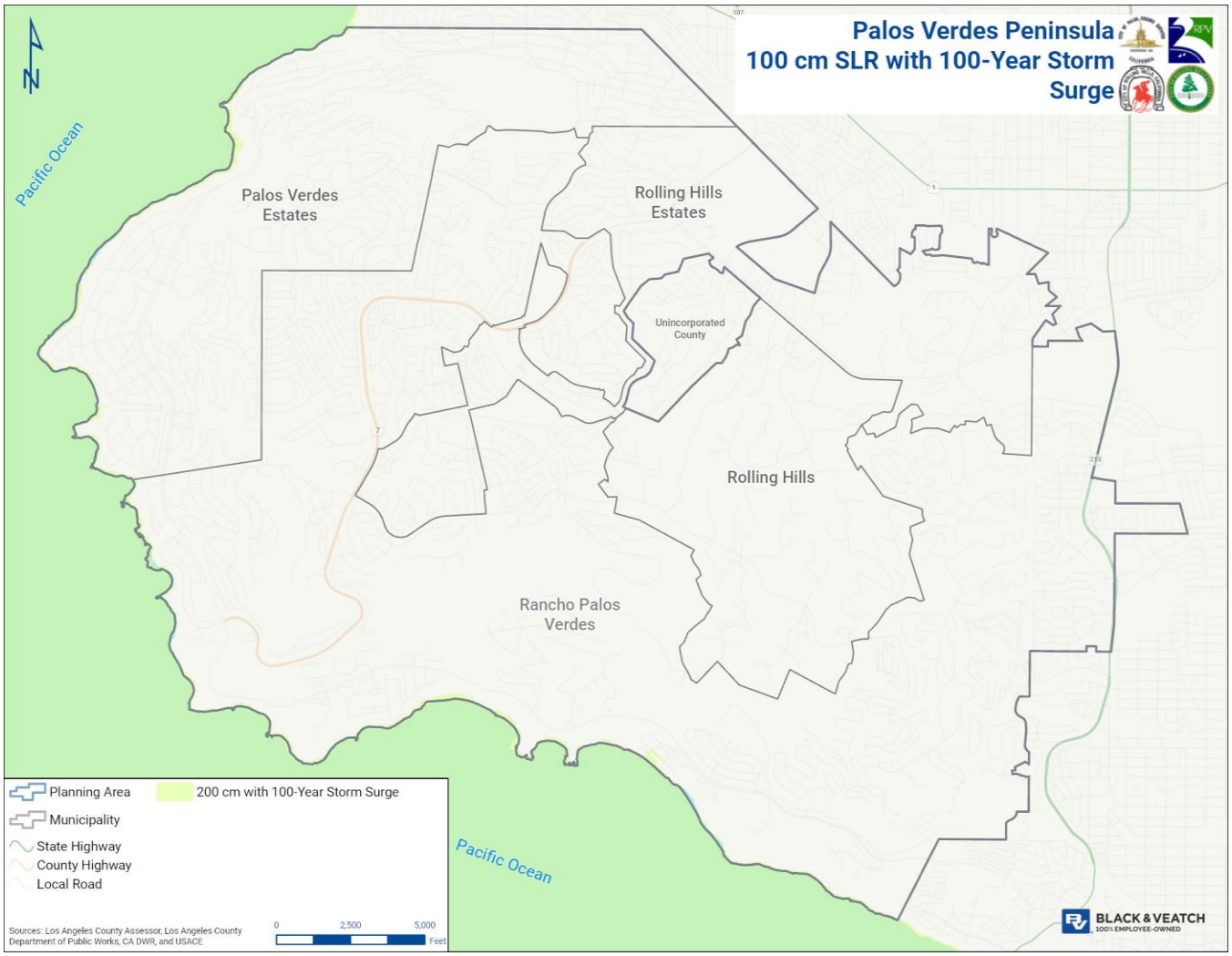


Figure 8-3. 100 cm Sea Level Rise with 100-Year Storm Surge

Tsunami

Areas prone to flooding from a tsunami include low-lying coastal areas. These are very limited in the Planning Area due to the topography of the region, defined primarily by coastal bluffs. Figure 8-4 displays the tsunami inundation area for the Planning Area.

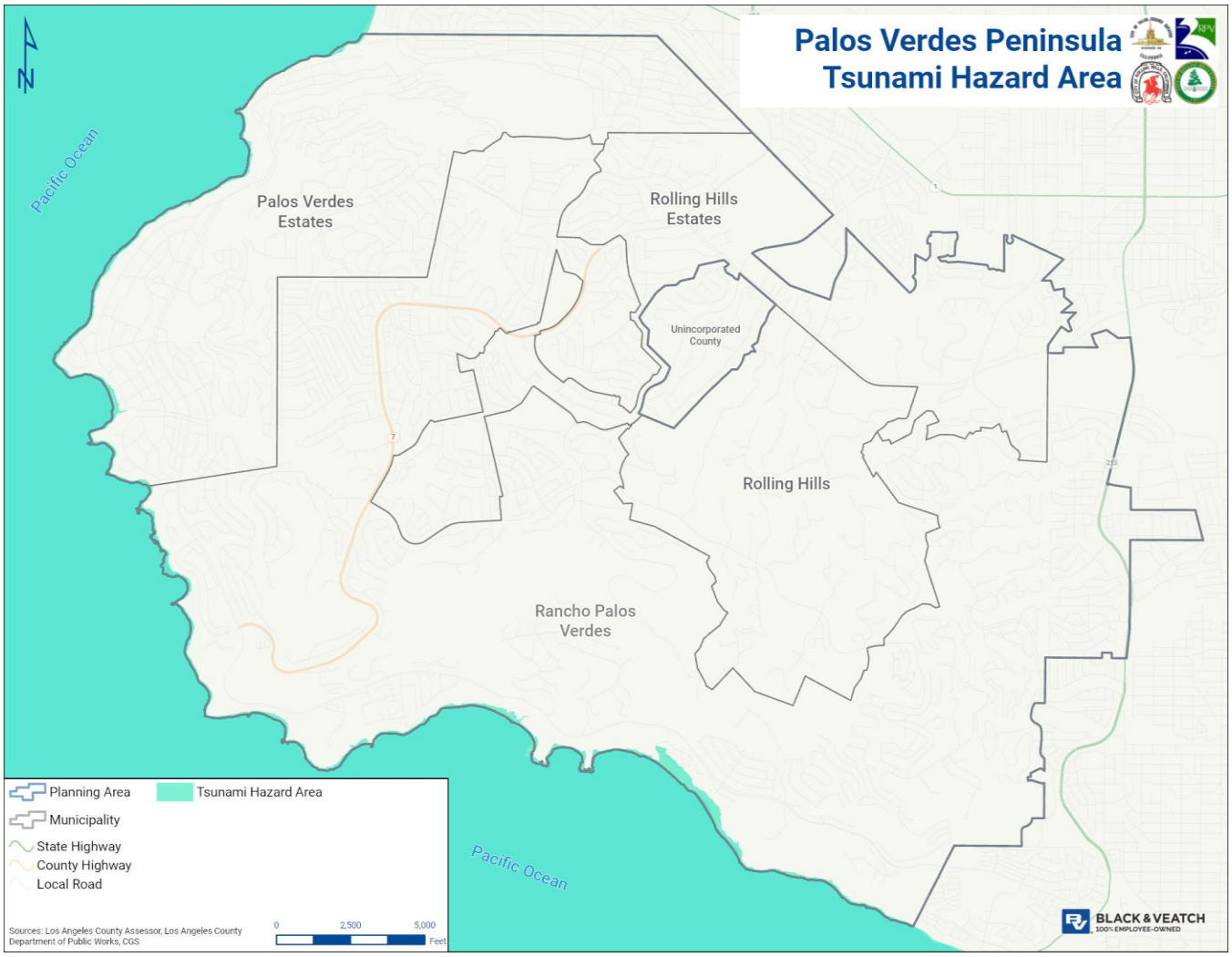


Figure 8-4 Tsunami Hazard Area

8.1.4 Extent

Measuring Intensity

Flood categories are defined for each gage location that describe or categorize the observed or expected severity of flood impacts in the corresponding stream segment or nearby stream. The severity of flooding at a given stage is not necessarily the same at all locations along a stream because of varying channel/bank characteristics on portions of the stream. Therefore, the stage for a given flood category is usually associated with lowest water level corresponding to the most significant flood impacts

somewhere in the reach. The flood categories used in the NWS are the following (NWS, High Water Level Terminology, n.d.):

- **Minor Flooding**—Minimal or no property damage, but possibly some public threat. A Flood Advisory product is issued to advise the public of events that are expected not to exceed the minor flood category.
- **Moderate Flooding**—Some inundation of structures and roads near streams. Some evacuations of people or transfer of property to higher elevations are necessary. A Flood Warning should be issued if moderate flooding is expected during the event.
- **Major Flooding**—Extensive inundation of structures and roads. Significant evacuations of people or transfer of property to higher elevations. A Flood Warning should be issued if major flooding is expected during the event.

The three flood categories do not necessarily exist for each gage location. Most commonly, gages in remote areas may not have a major flood stage assigned. Record flooding is flooding that equals or exceeds the highest stage or discharge at a given site during the period of recordkeeping.

The NWS also categorizes coastal flooding into three levels of severity: minor, moderate, and major. The classifications measure how much water levels exceed average astronomical high tide for that location (NOAA NOS, n.d.):

- **Minor High Tide Flooding**—water levels reach 0.55 meters (1.8 feet) above average high tide. This minor flooding is mostly disruptive, causing stormwater backups and road closures.
- **Moderate High Tide Flooding**—0.85 meters (2.8 feet) above average high tide. This can cause more disruption and damage homes and businesses.
- **Major Flooding**—1.20 meters (3.9 feet) above average high tide. Floods of this severity are destructive, may lead to evacuations, and often require repairs to infrastructure and property.

Warning Time

Because of the sequential pattern of meteorological conditions needed to cause serious flooding, it is unusual for a flood to occur without warning. Warning times for floods can be between 24 and 48 hours. Flash flooding can be less predictable, but potential hazard areas can be warned in advanced of potential flash flooding danger.

Each watershed has unique qualities that affect its response to rainfall. A hydrograph, which is a graph showing stream flow in relation to time, is a useful tool for examining a stream's response to rainfall. Once rainfall starts falling over a watershed, runoff begins, and the stream begins to rise. Water depth in the stream channel (stage of flow) will continue to rise in response to runoff even after rainfall ends. Eventually, the runoff will reach a peak and the stage of flow will crest. It is at this point that the stream stage will remain the most stable, exhibiting little change over time until it begins to fall and eventually subside to a level below flooding stage.

The potential warning time a community has to respond to a flooding threat is a function of the time between the first rainfall and the first occurrence of flooding. The time it takes to recognize a flooding threat reduces the potential warning time to the time that a community has to take actions to protect

lives and property. Another element that characterizes a community's flood threat is the length of time floodwaters remain above flood stage.

The NWS issues warnings or advisories when confidence is greater than 80 percent that an event will occur. Depending on the type of event, these may be issued anywhere from hours before an event to days in advance of an event. Warnings include the following (NWS, Flood Related Products, n.d.):

- **Flash Flood Warning**: A Flash Flood Warning is issued to inform the public, emergency management and other cooperating agencies that flash flooding is in progress, imminent, or highly likely. Flash Flood Warnings are urgent messages as dangerous flooding can develop very rapidly, with a serious threat to life and/or property. Flash Flood Warnings are usually issued minutes to hours in advance of the onset of flooding.
- **Flash Flood Watch**: A Flash Flood Watch is issued to indicate current or developing conditions that are favorable for flash flooding. The occurrence is neither certain nor imminent. A watch is typically issued within several hours to days ahead of the onset of possible flash flooding.
- **Flood Warning**: A Flood Warning is issued to inform the public of flooding that poses a serious threat to life and/or property. A Flood Warning may be issued hours to days in advance of the onset of flooding based on forecast conditions. Floods occurring along a river usually contain river stage (level) forecasts.
- **Flood Watch**: A Flood Watch is issued to indicate current or developing conditions that are favorable for flooding. The occurrence is neither certain nor imminent. A watch is typically issued within several hours to days ahead of the onset of possible flooding. In situations where a river or stream is expected to be the main source of the flooding, forecast confidence may allow for a Flood Watch to be issued several days in advance.
- **Flood Advisory**: A Flood Advisory is issued when a flood event warrants notification but is less urgent than a warning. Advisories are issued for conditions that could cause a significant inconvenience, and if caution is not exercised, could lead to situations that may threaten life and/or property.

A Flood Advisory product is issued to advise the public of events that are expected not to exceed the minor flood category. A Flood Warning should be issued if moderate or major flooding is expected during the event.

Worst-Case Scenario

The worst-case scenario is a series of storms that flood numerous drainage basins in a short time. This would overwhelm local response and floodplain management departments. Major roads would be blocked, preventing access for many residents and critical functions. High runoff flows could cause rivers to scour, possibly washing out roads and creating more isolation problems.

8.1.5 Previous Occurrences

The following sections provide a review of previous flood occurrences in the Planning Area.

Declarations

Federal Declarations

Between 2019 and 2025, the Planning Area experienced five major disaster (DR) or emergency declarations (EM) related to a flood hazard.

Table 8-4. Federal Flood Disaster Declarations

Disaster Number	Incident Period	Declaration Date	Description
DR-4683-CA	December 27, 2022 – January 31, 2023	January 14, 2023	Severe Winter Storms, Flooding, Landslides, and Mudslides
EM-3591-CA	January 8 – January 31, 2023	January 9, 2023	Severe Winter Storms, Flooding, and Mudslides
DR-4699-CA	February 21 – July 10, 2023	April 3, 2023	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, and Mudslides
EM-3592-CA	March 9 – July 10, 2023	March 10, 2023	Severe Winter Storms, Flooding, Landslides, and Mudslides
DR-4769-CA	January 31– February 9, 2024	April 13, 2024	Severe Winter Storms, Tornadoes, Flooding, Landslides, and Mudslides

Source: OpenFEMA Datasets (OpenFEMA Data Sets | FEMA.gov)

State Proclamations

Between 2019 and 2025, California included Los Angeles County in 10 state-proclaimed flood disasters.

Table 8-5. State Landslide Disaster Declarations

Disaster Number	Declaration Date	Description
-	November 17, 2021	January 2021 Winter Storms
-	September 16, 2022	Tropical Storm Kay
N-1-23, N-2-23, N-10-23	January 4, 2023	December 2022 to January 2023 Storms
CA23-1	January 4, 2023	Late December 2022 Storms
CA23-3	March 1, 2023	Late February-Early March 2023 Winter Storms
CA23-3	June 16, 2023	February 2023 Winter Storms
-	August 19, 2023	Tropical Storm Hilary
-	February 4, 2024	Early February 2024 Storms
-	March 3, 2024	March 2024 Storms
-	June 21, 2024	January 2024 Winter Storms

Source: (Cal OES, 2025)

USDA Declarations

Between 2019 and 2025, the USDA declared that Los Angeles County experienced one disaster relating to flood.

Table 8-6. USDA Drought Disaster Declarations

Designation Number	Event Begin Date	Description
S5658	August 9, 2023	Tropical Storm Hillary

Source: (U.S. Department of Agriculture, 2025)

Summary of Significant Events

Significant and damaging atmospheric river flood event that occurred in the winters of 2022-2023 which caused and resulted in land movement in the fall of 2023 and early 2024 in the Planning Area.

Recent Events

The NOAA NCEI Storm Events Database reported 75 flood events impacting Los Angeles County forecast zones from 2019 through 2025, three of which impacted areas adjacent to the Planning Area (NOAA NCEI, 2025). The Planning Area experienced the atmospheric river that occurred in the winter of 2023-2024, delivering short-duration rainfall events that resulted in flash flooding warnings from February 1 – February 5, 2024. Table 8-7 shows a summary of significant flood events impacting the Planning Area (NOAA NCEI, 2025).

Table 8-7. Recent Flood Hazard Events

Date (s) of Event	Event Type	FEMA / State Declaration Number (if applicable)	Los Angeles County included in declaration?	Description
January 9 – January 14, 2023	Flood/Severe Winter Storm	DR-4683-CA	Yes	Heavy rainfall across Los Angeles County resulting in flash flooding, landslides, and impact to transportation.
January 9, 2023	Flood/Severe Winter Storm	EM-3591-CA	Yes	Heavy rainfall generated flash flooding and significant mud and debris flows.
April 3, 2023	Flood/Severe Winter Storm	DR-4699-CA	Yes	Heavy rainfall generated flash flooding and significant mud and debris flows across Los Angeles County.
March 10, 2023	Flood/Severe Winter Storm	EM-3592-CA	Yes	Winter storm conditions developed across the mountains of Los Angeles County with heavy precipitation and resulting landslides.

Date (s) of Event	Event Type	FEMA / State Declaration Number (if applicable)	Los Angeles County included in declaration?	Description
August 9, 2023	Tropical Storm	NA	NA	Tropical Storm Hilary delivered record August rainfall for Los Angeles County and widespread flooding/debris flows across Southern California.
February 1 – February 5, 2024	Flood/Flash Flood	NA	NA	Flash Flood Warning covering Rancho Palos Verdes, Long Beach, Lomita, and Carson on February 1, 2024. Palos Verdes Drive South was temporarily closed because of mud and rock slides that morning.
April 13, 2024	Flood/Severe Winter Storm	DR-4769-CA	Yes	A powerful winter storm impacted all of Southwestern California including tornadoes, flooding, landslides, and mudslides.

Source: (NOAA NCEI, 2025); (FEMA, 2025)

8.1.6 Future Conditions

Future hazard conditions, including frequency and severity of future events, is discussed in the sections below.

Probability

The chance of heavy flooding and flash flooding is greatest during California's rainy season from November to April. However, the diversity of climate patterns in California makes flooding more than a seasonal risk. The following are some of the weather and climate conditions that have a significant impact on the occurrence of flooding (Cal OES, 2023):

- El Niño conditions
- La Niña conditions
- Desert monsoons
- Tropical storms
- Gulf of Alaska storms
- Atmospheric river patterns

The number of years between floods of any given size varies because of the natural variations in climate and weather events. FEMA conducts flood studies that use historical records to determine the probability of occurrence for different flood levels in a community. FEMA FIRMs identify the flood hazard area as the area that would be inundated by a flood with a 1 percent chance of occurring in any given year (the

1-percent annual chance flood). FIRMs also typically show the extent of the flood with a 0.2 percent chance of occurring in any given year (0.2 percent annual chance flood). These measurements reflect statistical averages only, and it is possible for two or more floods with a 1 percent annual chance to occur in a short time period (USGS, n.d.). Table 8-8summarizes the concept of recurrence intervals and probabilities.

Table 8-8. Recurrence Intervals and Probabilities of Occurrence

Recurrence Interval (in years)	Probability of Being Equaled or	Recurrence Interval (in years)
100	1 in 100	1%
50	1 in 50	2%
25	1 in 25	4%
10	1 in 10	10%
5	1 in 5	20%
2	1 in 2	50%

Source: (USGS, n.d.)

Flooding is common in California and can take place any time of the year. Based on historical flood events, the State has a high probability of future riverine, flash, localized, and alluvial fan flood events. The frequency and severity of fluvial flooding for river systems are based on “discharge probability.” The discharge probability is the probability that a certain river discharge (flow) level will be equaled or exceeded in a given year. Flood studies use historical records to determine the probability of occurrence for different discharge levels. These measurements reflect statistical averages only; it is possible for multiple floods with a low probability of occurrence (such as a 1 percent annual chance flood) to occur in a short time period. A single flood event can have flows at different points on a river or stream that correspond to different probabilities of occurrence.

Climate Change

Climate change plays a significant role in the increasing frequency and intensity of extreme weather events, particularly floods. According to scientific reports, as global temperatures rise, the hydrological cycle becomes more dynamic and unpredictable. Warmer air holds more moisture, which often leads to heavier and more intense rainfall. This accelerates the risk of flooding, as seen in numerous impactful events around the world. Additionally, the shift in weather patterns caused by climate change contributes to prolonged periods of drought in some regions, further exacerbating water-related challenges.

Use of historical hydrologic data has long been the standard of practice for designing and operating water supply and flood protection projects. For example, historical data are used for flood forecasting models and to forecast snowmelt runoff for water supply. This method of forecasting assumes that the climate of the future will be similar to that of the period of historical record. However, the hydrologic record cannot be used to predict changes in frequency and severity of extreme climate events such as floods. Scientists project greater storm intensity with climate change, resulting in more direct runoff and flooding. High frequency flood events in particular will likely increase with a changing climate. What is currently considered a 1 percent annual chance also may strike more often, leaving many communities at greater risk. Going forward, model calibration must happen more frequently, new forecast-based tools must be developed, and a standard of practice that explicitly considers climate change must be adopted.

Climate change is already impacting water resources, and resource managers have observed the following:

- Historical hydrologic patterns can no longer be solely relied upon to forecast the water future.
- Precipitation and runoff patterns are changing, increasing the uncertainty for water supply and quality, flood management and ecosystem functions.
- Extreme climatic events will become more frequent, necessitating improvement in flood protection, drought preparedness and emergency response.

Climate change will also increase other hazards that contribute to flood risk, most notably wildfires. According to California's Fourth Climate Change Assessment, continued increases in greenhouse gas emissions are expected to drive a substantial rise in large wildfires, with a projected 50 percent increase in fires over 25,000 acres and a 77 percent increase in average area burned by 2100. Post-fire landscapes are highly vulnerable: vegetation loss and soil damage make it easier for rain to trigger destructive debris flows and mudflows. When storms pass over recently burned areas, runoff can carry ash, sediment, and debris downslope, dramatically intensifying flood impacts and causing significant damage (Refer to Figure 8-5) (Cal OES, 2023).

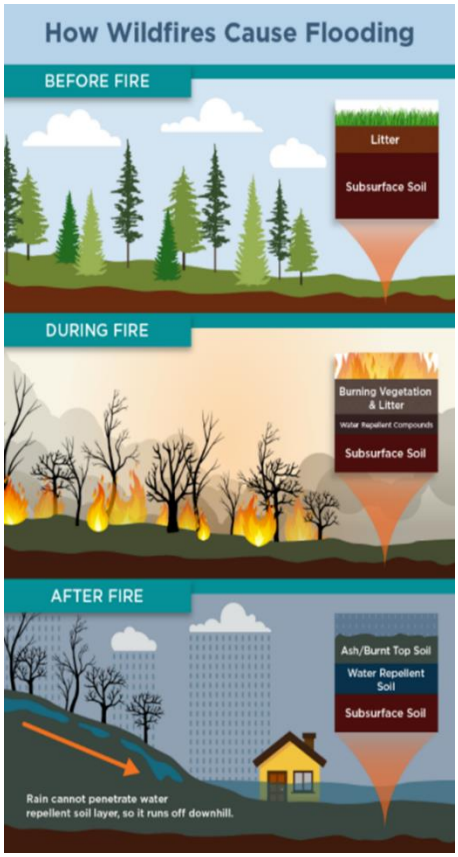


Figure 8-5. How Wildfires Cause Flooding

Potential Future Impacts

The Planning Area is well-equipped to manage growth in floodplains with flood damage prevention ordinances, its building codes, and the Safety Element of the municipal General Plans. Collectively, these tools help limit exposure to flood hazards by regulating development in floodplains, requiring flood-resistant construction standards, and guiding land-use decisions away from the highest-risk areas. Continued enforcement and periodic updates to these regulatory frameworks will be critical to maintaining community resilience, minimizing property damage, and protecting public safety over the long term.

8.2 VULNERABILITY ASSESSMENT

Local Plan Requirement B1 – 44 CFR Part 201.6(c)(2)(ii)

The plan must include a description of the jurisdiction's vulnerability to the hazards of concern and include an overall summary of the hazard's impact on the community. The impacts need to include the types and numbers of existing and future buildings, infrastructure, and critical facilities located in the hazard areas, and estimate of potential dollar losses to vulnerable structures, and a description of land uses and development trends.

8.2.1 Summary of Vulnerability

Flood vulnerability in the Planning Area is focused within the floodplain; however, flooding also takes place outside the floodplain during severe rainfall events and in areas of urban flooding. A Hazus Level 2 user-defined analysis was performed for general building stock, critical facilities and infrastructure in the flood zones.

8.2.2 Impact on Life, Health, and Safety

Floods present threats to public health and safety. Floodwater is generally contaminated by pollutants such as sewage, human and animal feces, pesticides and insecticides, fertilizers, oil, asbestos, and rusting building materials. The following health and safety risks are commonly associated with flood events:

- **Unsafe food**—Floodwaters contain disease-causing bacteria, dirt, oil, human and animal wastes, and farm and industrial chemicals. They carry away whatever lies on the ground and upstream. Their contact with food items, including food crops in agricultural lands, can make that food unsafe to eat and hazardous to human health. Power failures caused by floods damage stored food. Refrigerated and frozen foods are affected during the outage periods, and thus must be carefully monitored and examined prior to consumption. Foods kept inside cardboard, plastic bags, jars, bottles, and paper packaging are subject to disposal if contaminated by floodwaters. Even though the packages do not appear to be wet, they may be unhygienic with mold contamination and deteriorate rapidly.
- **Contaminated drinking/washing water and poor sanitation**—Flooding impairs clean water sources with pollutants and affects sanitary toilets. Direct and indirect contact with the contaminants—whether through direct food intake, vector insects such as flies, unclean hands, or dirty plates and utensils—can result in waterborne infectious disease. Wastewater treatment plants, if flooded and caused to malfunction, can be overloaded with polluted runoff waters and sewage beyond their disposal capacity, resulting in backflows of raw sewage to homes and low-lying grounds. Private wells can be contaminated or damaged severely by floodwaters, while private sewage disposal systems can become a cause of infection and illnesses if they are broken or overflow. Unclean drinking and washing water and sanitation, coupled with lack of adequate sewage treatment, can lead to disease outbreaks, including life-threatening cholera, typhoid, dysentery, and some forms of hepatitis.
- **Mosquitoes and animals**—Prolonged rainfall and floods provide new breeding grounds for mosquitoes—wet areas and stagnant pools—and can lead to an increase in the number of

mosquito-borne diseases such as malaria and dengue and West Nile fevers. Rats and other rodents and wild animals also can carry viruses and diseases. The public should avoid such animals and should dispose of dead animals in accordance with guidelines issued by local animal control authorities.

- **Molds and mildews**—Excessive exposure to molds and mildews can cause flood victims—especially those with allergies and asthma—to contract upper respiratory diseases and to trigger cold-like symptoms such as sore throat, watery eyes, wheezing and dizziness. Molds grow in as short a period as 24 to 48 hours in wet and damp areas of buildings and homes that have not been cleaned after flooding, such as water-infiltrated walls, floors, carpets, toilets, and bathrooms. Very small mold spores can be easily inhaled by human bodies and, in large enough quantities, cause allergic reactions, asthma episodes, and other respiratory problems. Infants, children, elderly people and pregnant women are considered most vulnerable to mold-induced health problems.
- **Carbon monoxide poisoning**—Carbon monoxide poisoning is a potential hazard after major floods. Carbon monoxide can be found in combustion fumes, such as those generated by small gasoline engines, stoves, generators, lanterns and gas ranges, or by burning charcoal or wood. In the event of power outages following floods, flood victims tend to use alternative sources of fuels for heating, cooling, or cooking inside enclosed or partly enclosed houses, garages or buildings without an adequate level of air ventilation. Carbon monoxide builds up from these sources and poisons the people and animals inside.
- **Hazards when reentering and cleaning flooded homes and buildings**—Flooded buildings can pose health hazards after floodwaters recede. Electrical power systems can become hazardous. People should avoid turning on or off the main power while standing in floodwater. Gas leaks from pipelines or propane tanks can trigger explosion when entering and cleaning damaged buildings or working to restore utility service. Flood debris—such as broken bottles, wood, stones, and walls—may cause wounds and injuries when cleaning damaged buildings. Containers of hazardous chemicals, including pesticides, insecticides, fertilizers, car batteries, propane tanks and other industrial chemicals, may be hidden or buried under flood debris. A health hazard can also occur when hazardous dust and mold in ducts, fans and ventilators of air-conditioning and heating equipment are circulated through a building and inhaled by those engaged in cleanup.
- **Mental stress and fatigue**—Exposure to extreme disaster events can cause psychological distress. Having experienced a devastating flood, seen loved ones lost or injured, and homes damaged or destroyed, flood victims can experience long-term psychological impact. The expense and effort required to repair flood-damaged homes places severe financial and psychological burdens on the people affected, in particular the unprepared and uninsured. Post-flood recovery—especially when prolonged—can cause anxiety, anger, depression, lethargy, hyperactivity, sleeplessness, and, in an extreme case, suicide. Behavior changes may also occur in children. There is also a long-term concern among the affected that their homes can be flooded again in the future.

Equity Priority Communities

Vulnerable populations are defined as individuals with physical or mobility limitations, cognitive impairments, and economic constraints that may hinder their ability to prepare for, respond to, or recover from flood hazard events. Within the Planning Area, these populations may reside in locations served by

a single means of ingress and egress, which can significantly increase their risk during flood events. High floodwaters, roadway washouts, or other flood-related infrastructure damage can delay or prevent evacuation, limit access for emergency responders, and isolate residents for extended periods. These conditions heighten the potential for injury, health complications, and delayed assistance, particularly for individuals who require mobility aids, medical support, or external assistance during emergencies.

8.2.3 Impact on General Building Stock

Many buildings, especially in older or rural communities, were constructed before modern floodplain management standards were adopted, making them more susceptible to water damage. Flooding can lead to significant structural damage, mold growth, and long-term deterioration of foundations and materials, especially in homes and public buildings not elevated above base flood elevations. These impacts not only threaten the physical integrity of the building stock but also strain local resources for repair and recovery.

Property exposure and losses were estimated through the Level 2 Hazus analysis for the assessed flood zones. Table 8-9 and Table 8-10 show the estimates for the flood exposure and damage to structures and building contents with the percent of total replacement value. Table 8-11 summarizes the number of structures and type of occupancy in the mapped flood risk areas.

Table 8-9. Exposure Estimates for Flood Hazard Areas

City	No. of Buildings Exposed	Value of Buildings Exposed	Value of Contents Exposed	Total Replacement Cost Value	% of Total Replacement Value
100-year Flood					
Palos Verdes Estates	4	$4,467,630	$2,233,815	$6,701,445	0.1%
Rancho Palos Verdes	3	$572,625	$286,312	$858,937	0.0%
Rolling Hills	0	$0	$0	$0	0.0%
Rolling Hills Estates	0	$0	$0	$0	0.0%
Total	7	$5,040,255	$2,520,127	$7,560,382	0.0%
Sea Level Rise					
Palos Verdes Estates	0	$0	$0	$0	0.0%
Rancho Palos Verdes	0	$0	$0	$0	0.0%
Rolling Hills	0	$0	$0	$0	0.0%
Rolling Hills Estates	0	$0	$0	$0	0.0%
Total	0	$0	$0	$0	0.0%
Tsunami					
Palos Verdes Estates	1	$678,902	$678,902	$1,357,804	0.0%
Rancho Palos Verdes	10	$2,119,499	$1,059,749	$3,179,248	0.0%
Rolling Hills	0	$0	$0	$0	0.0%
Rolling Hills Estates	0	$0	$0	$0	0.0%
Total	11	$2,798,401	$1,738,651	$4,537,052	0.0%

Table 8-10. Loss Estimates for 100-year Flood Hazard Areas

City	Structure Debris (Tons)	Buildings Impacted	Total Value Damaged (Structure & Contents)	% of Total Value
Palos Verdes Estates	193	2	$449,110	0.0%
Rancho Palos Verdes	140	2	$129,534	0.0%
Rolling Hills	0	0	$0	0.0%
Rolling Hills Estates	0	0	$0	0.0%
Total	334	4	$578,644	0.0%

Table 8-11. Estimated Number of Buildings by Type, Located in the Flood Hazard Areas

City	Residential	Commercial	Industrial	Agriculture	Religion	Government	Education	Total
100-year Flood								
Palos Verdes Estates	4	0	0	0	0	0	0	4
Rancho Palos Verdes	3	0	0	0	0	0	0	3
Rolling Hills	0	0	0	0	0	0	0	0
Rolling Hills Estates	0	0	0	0	0	0	0	0
Total	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**7**
Sea Level Rise								
Palos Verdes Estates	0	0	0	0	0	0	0	0
Rancho Palos Verdes	0	0	0	0	0	0	0	0
Rolling Hills	0	0	0	0	0	0	0	0
Rolling Hills Estates	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Tsunami								
Palos Verdes Estates	1	0	0	0	0	0	0	1
Rancho Palos Verdes	10	0	0	0	0	0	0	10
Rolling Hills	0	0	0	0	0	0	0	0
Rolling Hills Estates	0	0	0	0	0	0	0	0
Total	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**11**

8.2.4 Impact on Community Lifelines

As most flooding in the Planning Area are riverine, stream and waterway overflow and drainage events, these types of flooding often result in property damage, road washouts, and transportation disruptions. General impacts of these events may include commercial and residential structural damage. Loss of water, power, roads, phones, and transportation may occur, which can be particularly dangerous for those with certain medical conditions. Critical facilities and community lifelines exposed to the riverine flood hazard are likely to experience functional downtime following a flood event, which could increase the net impact of the event. Refer to Table 8-12 for a summary of community lifelines in the flood hazard areas.

Table 8-12. Community Lifelines in Flood Hazard Areas

City	Communications	Energy	Food, Hydration, Shelter	Hazardous Materials	Health and Medical	Safety and Security	Transportation	Water Systems	Total
100-year Flood									
Palos Verdes Estates	0	0	0	0	0	0	0	0	0
Rancho Palos Verdes	0	0	0	0	0	0	0	0	0
Rolling Hills	0	0	0	0	0	0	0	0	0
Rolling Hills Estates	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Sea Level Rise									
Palos Verdes Estates	0	0	0	0	0	0	0	0	0
Rancho Palos Verdes	0	0	0	0	0	0	0	0	0
Rolling Hills	0	0	0	0	0	0	0	0	0
Rolling Hills Estates	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Tsunami									
Palos Verdes Estates	0	0	0	0	0	0	0	0	0
Rancho Palos Verdes	0	0	0	0	0	1	0	0	1
Rolling Hills	0	0	0	0	0	0	0	0	0
Rolling Hills Estates	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**

8.2.5 Impact on the Economy

Flooding can lead to significant economic impacts, including damage to infrastructure, businesses, and property, as well as disruptions to transportation and supply chains.

8.2.6 Impact on Historic and Cultural Resources

Historic structures were not constructed to the modern building code and are less likely to be able to withstand the forces of flooding events. This may result in structures being pushed off their foundations, collapses, and other structural failures. Intense rainfall and runoff can also increase moisture intrusion, sediment deposition, and access limitations, complicating preservation efforts and potentially resulting in the loss of irreplaceable cultural resources over time.

8.2.7 Impact on Ecosystems and Natural Resources

Floods can have both beneficial and detrimental effects on ecosystems and natural resources, including habitat destruction, erosion, water contamination, and changes to soil fertility, while also potentially recharging groundwater and creating new habitats. Seasonal floods can renew ecosystems, providing

life-giving waters in more ways than one. Floods transport vital nutrients, such as nitrogen, phosphorus, and organic material, to the surrounding land. When the water recedes, it leaves behind nutrient-rich sediment on the floodplains, enhancing soil fertility and promoting biodiversity. Floods can also help recharge groundwater supplies and create new aquatic habitats that support a variety of species.

However, floods can also cause significant ecological disruption. Rapid or severe flooding may lead to habitat destruction, increased erosion, water contamination, and the displacement of wildlife. Heavy rainfall can quickly overwhelm river systems, leading to flash floods that threaten both natural environments and human infrastructure.

8.2.8 Change in Vulnerability Since the Prior Planning Area HMPs

The Planning Area is well-equipped to manage growth in floodplains with flood damage prevention ordinances, its building codes, and the Safety Element of the municipal General Plans.

8.3 MITIGATION OPPORTUNITIES

Table 8-13 presents a range of potential opportunities considered by the Planning Partnership for mitigating the flood hazard.

Table 8-13. Potential Opportunities to Mitigate the Flood Hazard

Community Scale	Organizational Scale	Government Scale
Manipulate the Hazard		
• Clear storm drains and culverts • Use low-impact development techniques	• Clear storm drains and culverts • Use low-impact development techniques	• Maintain drainage systems • Institute low-impact development techniques on property • Structural flood control, levees, channelization, or revetments • Stormwater management regulations and master planning • Acquire vacant land or promote open space uses in developing watersheds to control increases in runoff
Reduce Exposure and Vulnerability		
• Locate outside of hazard area • Elevate utilities above base flood elevation • Use low-impact development techniques • Raise structures above base flood elevation • Elevate items within house above base flood elevation	• Locate outside of hazard area • Use low-impact development techniques • Build critical function redundancy or retrofit critical buildings • Provide floodproofing when new critical infrastructure must be located in floodplains	• Locate or relocate critical facilities outside of hazard area • Acquire or relocate identified repetitive loss properties • Promote open space uses in identified high hazard areas via techniques such as planned unit developments, easements, setbacks, greenways, sensitive area tracks • Adopt land development criteria such as planned unit developments, density transfers, clustering Institute low impact development techniques on property

Community Scale	Organizational Scale	Government Scale
• Build new homes above base flood elevation • Flood-proof structures		• Acquire vacant land or promote open space uses in developing watersheds to control increases in runoff • Harden infrastructure, bridge replacement program • Provide redundancy for critical functions and infrastructure • Adopt regulatory standards such as freeboard standards, cumulative substantial improvement or damage, lower substantial damage threshold, compensatory storage, non-conversion deed restrictions • Stormwater management regulations and master planning • Adopt "no-adverse impact" floodplain management policies that strive to not increase the flood risk on downstream communities • Improve unpaved roads to reduce their likelihood to fail due to flooding
Build Local Capacity		
• Buy flood insurance • Develop household plan, such as retrofit savings, communication with outside, 72 hour self-sufficiency during and after an event	• Keep cash reserves for reconstruction • Support and implement hazard disclosure for sale of property in risk zones • Solicit cost-sharing through partnerships on projects with multiple benefits	• Produce better hazard maps • Provide technical information and guidance • Enact tools to help manage development in hazard areas (stronger controls, tax incentives, and information) • Incorporate retrofitting or replacement of critical system elements in capital improvement plan • Develop strategy to take advantage of post-disaster opportunities • Warehouse critical infrastructure components • Develop and adopt a continuity of operations plan • Consider participation in the Community Rating System • Maintain and collect data to define risks and vulnerability • Train emergency responders • Create an elevation inventory of structures in the floodplain • Develop and implement a public information strategy • Charge a hazard mitigation fee

Community Scale	Organizational Scale	Government Scale
		• Integrate floodplain management policies into other planning mechanisms within the Planning Area. • Consider impacts of climate change on the risk associated with the flood hazard • Consider the residual risk associated with structural flood control in future land use decisions • Enforce National Flood Insurance Program • Adopt a Stormwater Management Master Plan
Nature-based Opportunities		
• Restore and reconnect floodplains that have been degraded by development and structural flood control • Use soft approaches for stream bank restoration and hardening • Set back levees on systems that rely on levee protection to allow the channel to meander, which reduces erosion and scour potential • Preserve floodplain storage capacity by limiting or prohibiting the use of fill in the floodplain • Incorporated green infrastructure into stormwater management facilities • Protect and/or restore riparian buffers		

9. HEAT WAVE

9.1 HAZARD PROFILE

Local Plan Requirement B1 – 44 CFR Part 201.6(c)(2)(i)

Include a description of the type, location, and extent for the identified hazards of concern and include information on previous occurrences of hazard events and the probability of future hazard events.

9.1.1 Description of the Hazard

Defining the Hazard

In California, a heat wave, or extreme heat event, is defined as 3 days over 100 degrees Fahrenheit (° F) (FEMA National Risk Index, n.d.). Extreme heat overall is defined as temperatures that hover 10° F or more above the average high temperatures for a region for several days or weeks. Heat waves can lead to an increase in heat-related illnesses and deaths, worsen drought, and impact water supplies and other industries such as transportation, agriculture, and energy (California Office of Environmental Health Hazard Assessment, 2022).

Cause of the Hazard

Heat waves are usually a result of both high temperatures and high relative humidity. The higher the relative humidity or the more moisture in the air, the less likely that evaporation will take place. This becomes significant when high relative humidity is coupled with soaring temperatures, posing significant risk to human health. Anthropogenic climate change is fueling an increase in frequency of extreme heat days in California (California Office of Environmental Health Hazard Assessment, 2022).

The severity of heat waves can be amplified by the "urban heat island effect" which is the phenomena defined by the National Integrated Heat Health Information System in which cities experience more intense warming than their surrounding rural landscapes, particularly during the summer. This temperature difference occurs when cities' unshaded roads and buildings absorb heat during the day and release this heat slowly (California Office of Environmental Health Hazard Assessment, 2022). As a result, highly developed urban areas can experience mid-afternoon temperatures that are 15° F to 20° F warmer than surrounding, vegetated areas (California Office of Environmental Health Hazard Assessment, 2022).

Summary of Potential Impacts

Heat waves have significant impacts on human health and infrastructure. Extreme heat is the primary weather-related cause of death in the United States. In a 10-year record of weather fatalities across the nation (2015-2024), excessive heat claimed more lives each year than floods, tornadoes, and hurricanes (NOAA, n.d.). According to the *California Climate Adaptation Strategy*, heat waves have claimed more lives in California than all other declared disaster events combined.

Heat-related illness includes a spectrum of illnesses ranging from heat cramps to severe heat exhaustion and life-threatening heat stroke Those who work outside are at risk for heat stroke or sun stroke, heat

exhaustion, fatigue, and dehydration (California Office of Environmental Health Hazard Assessment, 2022). Elevated nighttime temperatures are likely key ingredients in causing heat-related illness and mortality. Heat-related illness includes a spectrum of illnesses ranging from heat cramps to severe heat exhaustion and life-threatening heat stroke Those who work outside are at risk for heat stroke or sun stroke, heat exhaustion, fatigue, and dehydration (California Office of Environmental Health Hazard Assessment, 2022). Elevated nighttime temperatures are likely key ingredients in causing heat-related illness and mortality. Heat impacts infrastructure safety and agencies' ability to provide timely and efficient services to their customers.

Cascading Hazard Impacts

Heat waves can lead to the cascading hazard of drought and wildfire, depending on the severity and length of the event. Existing drought and wildfire conditions can be severely exacerbated by extreme heat events, further drying out soil and vegetation and increasing electricity demand. These hazards are covered in Sections 6 and 0.

Extreme heat can also impact infrastructure and economies. Urban infrastructure is especially threatened by cascading effects of extreme heat stress on interdependent water, power, and transportation systems. High heat can deteriorate pavement, buckle railway tracks, and restrict aircraft operations. During hot weather, increased use of air conditioning and refrigeration increases electricity usage, thus straining the electrical grid (California Department of Water Resources, 2025).

9.1.2 Location

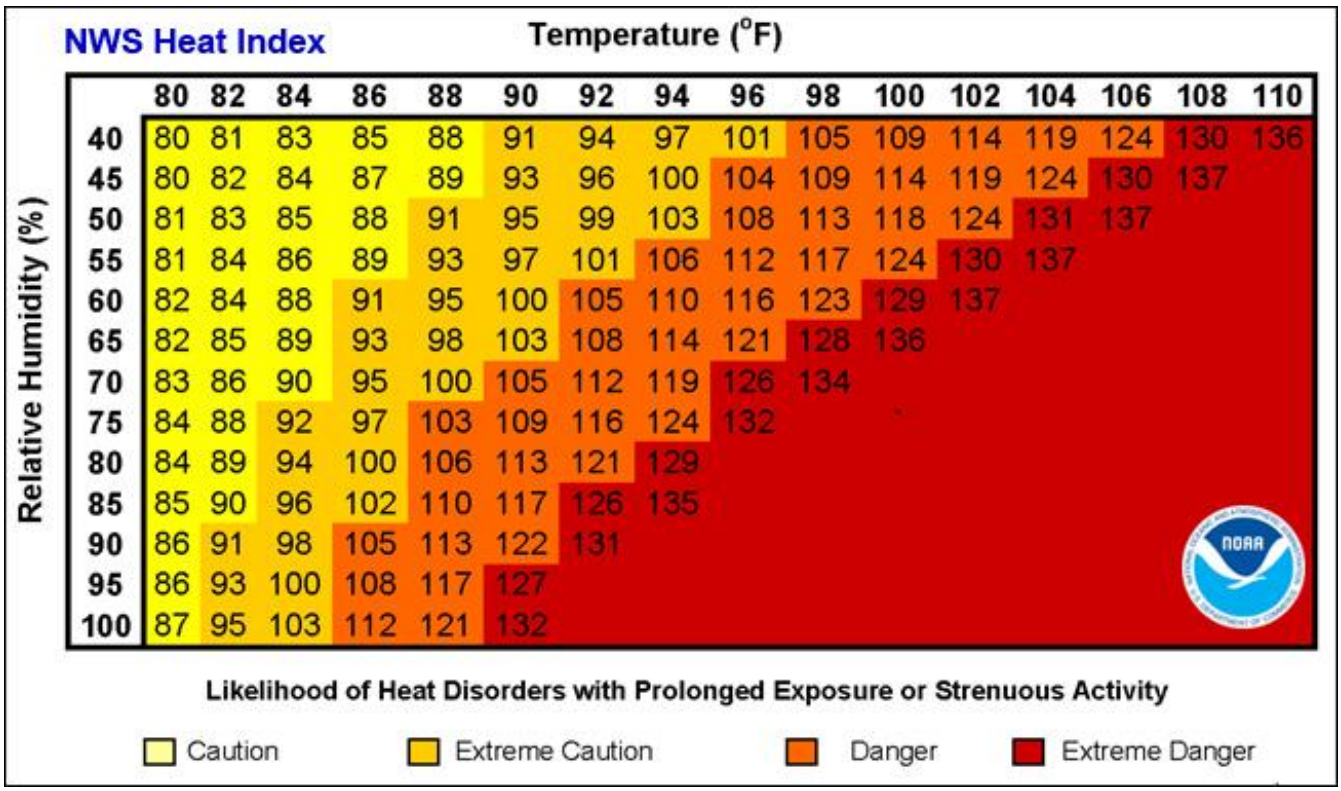
Extreme heat has not historically been a hazard of main concern for the Palos Verdes Peninsula. This is due to the Planning Area's coastal location and exposure to cooling winds from the sea (National Oceanic and Atmospheric Administration, n.d.). However, future projections indicate that the Planning Area could experience more frequent and intense episodes of extreme heat, which will impact the entire Planning Area, especially those without air conditioning.

9.1.3 Extent

Heat emergencies are often slow to develop and usually hurt vulnerable populations and already aging and damaged infrastructure. It could take several days of oppressive heat for a heat wave to have a significant or quantifiable impact in the Planning Area.

Measuring Intensity

Heat wave extent can be defined by local record highs and the NWS Heat Index. The NOAA and NWS devised the "Heat Index" chart shown on Figure 9-1, which uses air temperature and humidity to determine the heat index or apparent temperature. In addition, information regarding the likelihood of health dangers by temperature range is presented (National Weather Service & National Oceanic and Atmospheric Administration, 2024).



Source: NWS Heat Index (Heat Index)

Figure 9-1. NWS Heat Index

Warning Time

The NWS is producing experimental forecasts called HeatRisk to assess the heat risk to local thresholds in California, Nevada, Utah, and Arizona. The NWS issues excessive heat watches, excessive heat warnings, and heat advisories to warn of an extreme heat event (a "heat wave") within 36 hours of the predicted event (National Weather Service, 2023).

The NWS will use the HeatRisk Index (Table 9-1) to determine if an excessive heat watch/warning or heat advisory is warranted. The NWS issues the following types of heat-related advisories:

- **Heat Advisory**—HeatRisk Index category is on the orange/red that includes the Level 2 and Level 3 thresholds
- **Excessive Heat Watch/Warning**—HeatRisk Index category is on the red/magenta that includes the Level 3 and Level 4 thresholds

An Excessive Heat Watch is a way to give the public and emergency officials a warning that extreme temperatures are expected. If high temperatures remain forecasted for 24 to 28 hours, the excessive heat *watch* will be upgraded to an excessive heat *warning* (National Weather Service, 2023).

Table 9-1. NWS HeatRisk Index

Category	Risk of Heat-Related Impacts
Green 0	Little to no risk from expected heat.
Yellow 1	Minor - This level of heat affects primarily those individuals extremely sensitive to heat, especially when outdoors without effective cooling and/or adequate hydration.
Orange 2	Moderate - This level of heat affects most individuals sensitive to heat, especially those without effective cooling and/or adequate hydration. Impacts possible in some health systems and in heat-sensitive industries.
Red 3	Major - This level of heat affects anyone without effective cooling and/or adequate hydration. Impacts likely in some health systems, heat-sensitive industries and infrastructure.
Magenta 4	Extreme - This level of rare and/or long-duration extreme heat with little to no overnight relief affects anyone without effective cooling and/or adequate hydration. Impacts likely in most health systems, heat-sensitive industries and infrastructure.

Source: NWS HeatRisk (NWS HeatRisk)

Worst-Case Scenario

The worst-case scenario for an extreme heat wave in the Palos Verdes Peninsula would be a heat wave lasting longer than 3 days with an Excessive Heat Warning Level 4. This heat wave would have temperatures near or above 100° F with no overnight cooling, especially in densely developed areas. A heat wave of this magnitude would impact a broad swath of the population, including those with air conditioning.

Prolonged heat would put a strain on the Planning Area's energy grid, health system, and cause widespread damage to infrastructure. A prolonged heat wave can occur with cascading hazards, most importantly drought and wildfire. California's current projections indicate an increase in extreme heat days, which increase the likelihood of drought conditions in the Planning Area. Rising temperatures and a lack of precipitation can lead to ideal conditions for wildfires, which could impact all residents in the Planning Area. The destruction caused by these wildfires, including denuding vegetation and burn scars, increases the risk of mudslides and flooding when heavy rain occurs (NOAA NCEI, 2021).

9.1.4 Previous Occurrences

The following sections provide a review of previous heat wave occurrences in the Planning Area.

Declarations

Historically, FEMA has denied requests and subsequent appeals for federal disaster declarations related to extreme heat events, stating that the cascading impacts of heat-related events, such as wildfires, cause the damage for which states seek assistance (Congressional Research Service, 2024).

Federal Declarations

There have been no federal declarations for heat waves for Los Angeles County (FEMA, 2025).This is because of limitations in the Stafford Act, which allocates funds to states for natural disasters. While no recorded heat wave has occurred in the Planning Area since 2019, members of Congress have introduced legislation to include extreme heat in the Stafford Act (Congressional Research Service, 2024).

State Proclamations

There have been no state proclamations related to heat waves for Los Angeles County (Cal OES, 2025).

USDA Declarations

There have been no USDA declarations related to heat waves for Los Angeles County (U.S. Department of Agriculture, 2025).

Summary of Significant Events

Los Angeles County has 13 events listed in their record of extreme heat history. Of this, the all-time record occurred in 1955 when Los Angeles hit 110° F on September 1 of that year. The most recent extreme heat events are summarized below:

- **July/August 2023** – between July 11 and August 2, daytime temperatures only dipped below 90° F on 1 day.
- **August 2023** – Two multi-day heat events occurred with temperatures over 90° F, peaking at 102° F.
- **July 2024** – A weeklong extreme heat event occurred with temperatures between 90° F to 97° F.
- **September 2024** – An extreme heat wave impacted southern California the first week of the month, with daytime temperatures 10° to 20° above normal for that time of year. Persistent triple-digit temperatures drove a spike in emergency room visits for heat-related illnesses. Three fires burning in the eastern part of Los Angeles County exploded in intensity during this time period, impacting communities with smoke and short-notice evacuations (NOAA, 2024).
- **August/September 2025** – County-wide heat advisories, warm nights, and regional wildfire and air-quality impacts.

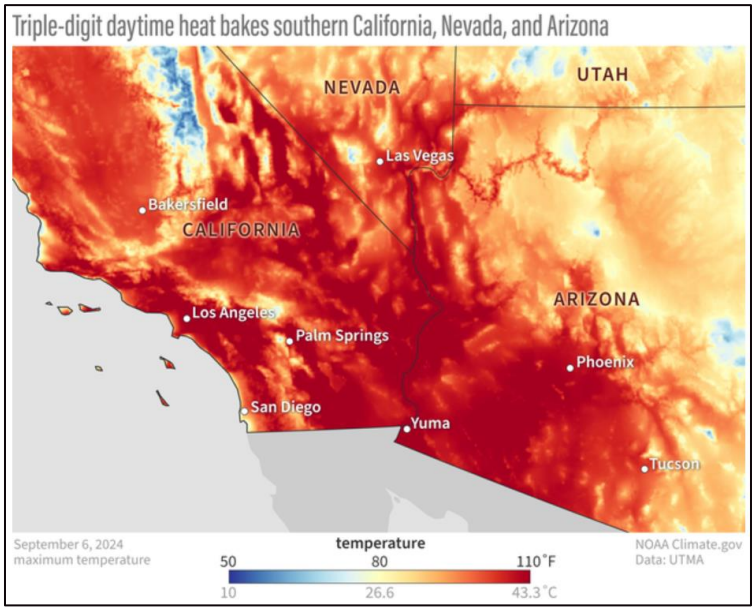


Figure 9-2. September 2024 Extreme Heat Map
Source: (NOAA , 2024)

Recent Events

The NOAA NCEI Storm Events Database have not reported any excessive or extreme heat events impacting the Planning Area's forecast zones from 2019 to 2025 (NOAA NCEI, 2025).

9.1.5 Future Conditions

Future hazard conditions, including frequency and severity of future events, are discussed in the sections below.

Probability

Extreme heat has become more frequent in California since 1950, especially at night. Heat waves – two or more consecutive heat events – vary from year to year but have become more frequent in the past decade (California Office of Environmental Health Hazard Assessment, 2022).

Climate Change

Projected warming temperatures will influence runoff, evaporation, and evapotranspiration, as well as drought and overall ecological health in the region. This includes longer growing seasons, shifts in vegetative populations, and invasive species encroachment.

Data projections from Cal-Adapt, a tool provided by the California Energy Commission, were utilized to obtain localized climate change projections as it relates to the hazard of extreme temperature (Cal Adapt, 2025). Data suggests that climatic changes may intensify the severity and frequency of extreme heat events in the Planning Area. The increase in average surface temperatures can also lead to more intense heat waves that can be exacerbated in the Planning Area.

According to the California HPI: Extreme Heat Edition, the Palos Verdes Peninsula is expected to experience 10.2 days over 90° F during years 2035 to 2064. While this number is lower than much of California, putting it at a Healthy Places Index rating of 98/100, this figure is expected to increase during years 2077 to 2099 (California Healthy Places Index, 2022).

Potential Future Impacts

Grid vulnerabilities to potential future heat waves described by climate change projections were assessed throughout Los Angeles County. Heat waves have posed serious challenges to power infrastructure in Southern California, including a major blackout in 2011 and emergency curtailment in 2014, and understanding how future temperature change might impact the power system is critically important for its continued reliable operation. Potential increases in peak demand, resource adequacy requirements, and component over-loadings were forecast for ranges of scenarios from 2021 to 2060.

9.2 VULNERABILITY ASSESSMENT

Local Plan Requirement B1 – 44 CFR Part 201.6(c)(2)(ii)

The plan must include a description of the jurisdiction's vulnerability to the hazards of concern and include an overall summary of the hazard's impact on the community. The impacts need to include the types and numbers of existing and future buildings, infrastructure, and critical facilities located in the hazard areas, and estimate of potential dollar losses to vulnerable structures, and a description of land uses and development trends.

9.2.1 Summary of Vulnerability

The entire Planning Area is exposed to the extreme heat hazard, so an event has the potential to affect the entire population. Extreme heat generally does not impact buildings, but all buildings in the Planning Area will have an increased energy demand for cooling. All of the Planning Area's identified critical facilities and the entire environment of the Planning Area are vulnerable to the extreme heat hazard.

9.2.2 Impact on Life, Health, and Safety

Extreme heat can cause illness such as heat exhaustion and heat stroke, and can induce or exacerbate illnesses related to cardiovascular, respiratory, renal, and mental health (UCLA Luskin Center for Innovation & Public Health Alliance of Southern California, 2025). According to the California Healthy Places Index: Extreme Heat Edition tool, the Palos Verdes Peninsula is projected to experience 10.2 days per year with temperatures exceeding 90° F between 2035 and 2064. This is significantly lower than the statewide median value of 79.9 days (California Healthy Places Index, 2022).

Equity Priority Communities

Equity Priority Community populations that may be more at risk from heat waves include older individuals and those with access and functional needs. Power outages triggered by overburdened electrical grids can be life threatening to those dependent on electricity for medical devices. Members of these communities who do not have access to air conditioning would lack nighttime relief from the heat, elevating their risk of health complications.

9.2.3 Impact on General Building Stock

Extreme heat events can significantly impact the built environment by causing infrastructure damage, increasing energy demand, exacerbating urban heat island effects, and posing health risks to residents and workers, necessitating adaptation strategies like green infrastructure and heat-resilient design. All of the general building stock within the Palos Verdes Peninsula is considered to be exposed to the extreme heat hazard with varying degrees of vulnerability based on the age and condition of the structures.

9.2.4 Impact on Community Lifelines

Extreme heat events can severely impact community lifelines by straining infrastructure, increasing energy demand, and disrupting essential services like healthcare, transportation, and food security, potentially leading to power outages, heat-related illnesses, and economic damage.

9.2.5 Impact on the Economy

The economic and societal consequences of extreme heat are pervasive. Impacts encompass reductions in gross domestic product, as workers and infrastructure systems become less productive, as well as wider detrimental effects on well-being, as healthcare outcomes worsen, and people are unable to access outdoor space. Impacts include transitory ones, from people enduring uncomfortable conditions and workers taking sick leave, and enduring losses, for example, due to interruptions to education or property damage from wildfires which can be more severe due to extreme heat's effect on the environment. Tourism and other leisure activities are also affected as temperatures rise, making walking, shopping, and sightseeing uncomfortable and potentially dangerous.

According to the Atlantic Council's Adrienne Arsht Rockefeller Foundation Resilience Center, extreme heat-related labor productivity losses already affect all regions and sectors of the U.S. economy. Under baseline climate conditions, the United States could lose on average approximately $100 billion annually from heat-induced lost labor productivity.

9.2.6 Impact on Historic and Cultural Resources

Extreme heat events pose significant threats to historic and cultural resources, leading to accelerated deterioration of materials, damage to structures and artifacts, and disruption of ecosystems around these sites.

9.2.7 Impact on Ecosystems and Natural Resources

Rising temperatures affect all types of ecosystems through shifts in species distribution and population structure and increase the risk of species extinction. These changes can impact ecosystem services, such as carbon storage, and affect crop production. Higher temperatures also naturally increase the risk of arid conditions and droughts.

9.2.8 Change in Vulnerability Since the Prior Planning Area HMPs

Extreme heat vulnerability may be increasing slightly, not due to population growth, but due to climate change and the aging population of the Palos Verdes Peninsula.

9.3 MITIGATION OPPORTUNITIES

Table 9-2 presents a range of potential opportunities considered by the Planning Partnership for mitigating the extreme heat hazard.

Table 9-2. Potential Opportunities to Mitigate the Heat Wave Hazard

Community Scale	Organizational Scale	Government Scale
Manipulate the Hazard		
• Plant trees to create shade in urban areas • Remove concrete and other hard surfaces and replace them with native vegetation	• Plant trees in urban areas experience urban heat island effects or with below average tree canopy coverage • Remove concrete and other hard surfaces and replace them with native vegetation	• Plant trees in urban areas experience urban heat island effects or with below average tree canopy coverage • Remove concrete and other hard surfaces and replace them with native vegetation
Reduce Exposure and Vulnerability		
• Insulate structures to provide greater thermal efficiency • Provide redundant power sources • Install air conditioning	• Relocate critical infrastructure underground • Provide cooling centers for employees • Install “cool roofs” and “green roofs”	• Relocate critical infrastructure underground • Trim trees away from power lines • Install “cool roofs” and “green roofs” • Establish and promote accessible cooling centers in the community • Use the best available technology to enhance the warning systems for extreme heat events
Build Local Capacity		
• Promote 72-hour self-sufficiency • Obtain a NOAA weather radio • Obtain an emergency generator	• Provide safety training and resources for employees that work primarily outside and at field locations • Create redundancy in power supply • Equip facilities with a NOAA weather radio • Equip vital facilities with emergency backup power	• Enhance public awareness and outreach to address actions to take during extreme heat events • Coordinate severe weather warning capabilities and the dissemination of warning among agencies with the highest degree of capability • Modify land use and environmental regulations to support vegetation management activities that improve reliability in utility corridors • Modify landscape and other ordinances to encourage appropriate planting near overhead power, cable, and phone lines

Community Scale	Organizational Scale	Government Scale
		• Provide NOAA weather radios to the public • Review and update heat response plan to account for climate change projections • Promote programs that support community-scale microgrids • Evaluate and revise building codes to address and mitigate extreme heat impacts on residents
Nature-based Opportunities		
• Manage invasive species that thrive in warmer temperatures • Incorporate nature-based heat-reduction measures with plantings in green spaces, trail areas, and community parks		

10. LANDSLIDE

10.1 HAZARD PROFILE

Local Plan Requirement B1 – 44 CFR Part 201.6(c)(2)(i)

Include a description of the type, location, and extent for the identified hazards of concern and include information on previous occurrences of hazard events and the probability of future hazard events.

10.1.1 Description of the Hazard

Defining the Hazard

A landslide is a mass of rock, earth or debris moving down a slope. Landslides may be minor or large and can move at slow to very high speeds. Mudslides are rivers of rock, earth, organic matter, and other soil materials saturated with water. They develop in the soil overlying bedrock on sloping surfaces when water rapidly accumulates in the ground, such as during heavy rainfall.

Mass Movement

Mass movement is the movement of rock and soil down slope under the influence of gravity. Landslides are the most commonly recognized type of mass movement. Other common mass movement types include the following:

- **Mudflows**, sometimes referred to as mudslides, mudflows, lahars, or debris avalanches, are fast-moving rivers of rock, earth, and other debris saturated with water. They develop when water rapidly accumulates in the ground, such as heavy rainfall or rapid snowmelt, changing the soil into a flowing river of mud or "slurry."
- **Slurry** can flow rapidly down slopes or through channels and can strike with little or no warning at avalanche speeds. Slurry can travel several miles from its source, growing larger as it picks up trees, cars, and other materials along the way. As the flows reach flatter ground, the mudflow spreads over a broad area where it can accumulate in thick deposits.
- **Creep** is the imperceptibly slow downward movement of slope forming rock or soil that can be accelerated during wet weather events or earthquakes. This slow-moving landslide is often only noticed through crooked trees and disturbed structures.
- **Coastal bluff erosion** is the collapse of coastal bluffs due to undercutting erosive forces of wave action.
- **Rock falls** are rapid movements of bedrock, which result in bouncing or rolling.
- **Rock topple** is a section or block of rock that rotates or tilts before falling to the slope below.
- **Block slides** are movements of soil or rock along a distinct surface of rupture, which separates the slide material from the more stable underlying material.
- **Earth flows** is the mass movement of fine-grained sediments that flow downhill and typically form a fan structure.

Deep-Seated Landslides

Deep-seated landslides (greater than 10 to 15 feet deep or below the rooting depth of vegetation) are typically triggered by prolonged ground saturation caused by deep infiltration of rainfall or other long-term hydrologic processes, earthquake shaking, or a combination of both rainfall and seismic activity. Some deep-seated landslides move very slowly, though others can move quickly and with little notice (California Governor's Office of Emergency Services, 2024).

Shallow Landslides

Shallow landslides typically originate in uppermost soil or rock layers (greater than 10 feet deep or in the rooting zone of vegetation) on steep slopes and often form slumps or fast-moving earth and debris flows (USGS, 2025). Shallow landslides can similarly be triggered by sustained rainfall or saturated soils.

Land Subsidence

Land subsidence is the gradual lowering of land-surface elevation due to changes in the soil or sediment. In California, subsidence has been documented for over a century and is a growing issue that impacts water infrastructure and communities (California Department of Water Resources, 2025).

Cause of the Hazard

Both natural and human-induced changes in the environment can trigger landslides and other forms of mass movement. Landslides are caused by a combination of geological and climate conditions and the influence of urbanization. They can be initiated by storms, earthquakes, fires, or human modification of the land or infrastructure. Vulnerable natural conditions are affected by human development and the infrastructure that supports it. The following factors can contribute to slide formation:

- Change in slope of the terrain
- Increased load on the land
- Shocks and vibrations
- Change in water content
- Groundwater movement (watershed)
- Weathering of rocks
- Removing or changing the type of vegetation covering slopes

Areas that are generally prone to landslide hazards include previous landslide areas (i.e. active or inactive ancient landslides), the bases of steep slopes, the bases of drainage channels, and developed hillsides where leach field septic systems are used. Areas that are typically considered safe from landslides include areas that have not moved in the past, relatively flat-lying areas away from sudden changes in slope, and areas at the top or along ridges set back from the tops of slopes.

While small landslides are frequently a result of human activity, the largest landslides are often naturally occurring phenomena with little or no human contribution. The sites of large landslides are typically areas of previous landslide movement that are periodically reactivated by significant precipitation or seismic events.

Summary of Potential Impacts

Landslides in hillside terrain can pose serious hazard to downslope property and structures. They can disrupt roadways and other infrastructure lifelines, destroy private property, and cause flooding, bank erosion, and rapid channel migration. A slide can move rapidly down slopes or through channels and can strike with little or no warning. It can travel miles from its source, growing as it descends, picking up trees, boulders, cars, and anything else in its path. Although slides behave as fluids, they convey many times the hydraulic force of water due to the mass of material they carry.

Despite their destructive potential, landslides can serve beneficial functions to the natural environment. They supply sediment and large wood to the channel network and can contribute to complexity and dynamic channel behavior critical for aquatic and riparian ecological diversity.

Cascading Hazard Impacts

Landslides that block rivers or streams can form unstable natural dams, trapping water and creating temporary lakes. These impoundments pose a serious risk of sudden failure, which can create destructive flash flooding downstream. Saturated soils from these events can likely destabilize nearby slopes, triggering additional landslides and cause cascading effects such as damaged infrastructure and roads, isolating rural communities, disrupting emergency services, and contaminating water sources.

10.1.2 Location

The analysis assumed, in general, that susceptibility to deep-seated landslides is low on very low slopes in all rock materials and increases with slope steepness and in weak rocks and soils. The analysis also factored in locations of past landslides. Figure 10-1 shows Californian Geological Survey (CGS) historic landslide occurrences for the Planning Area.

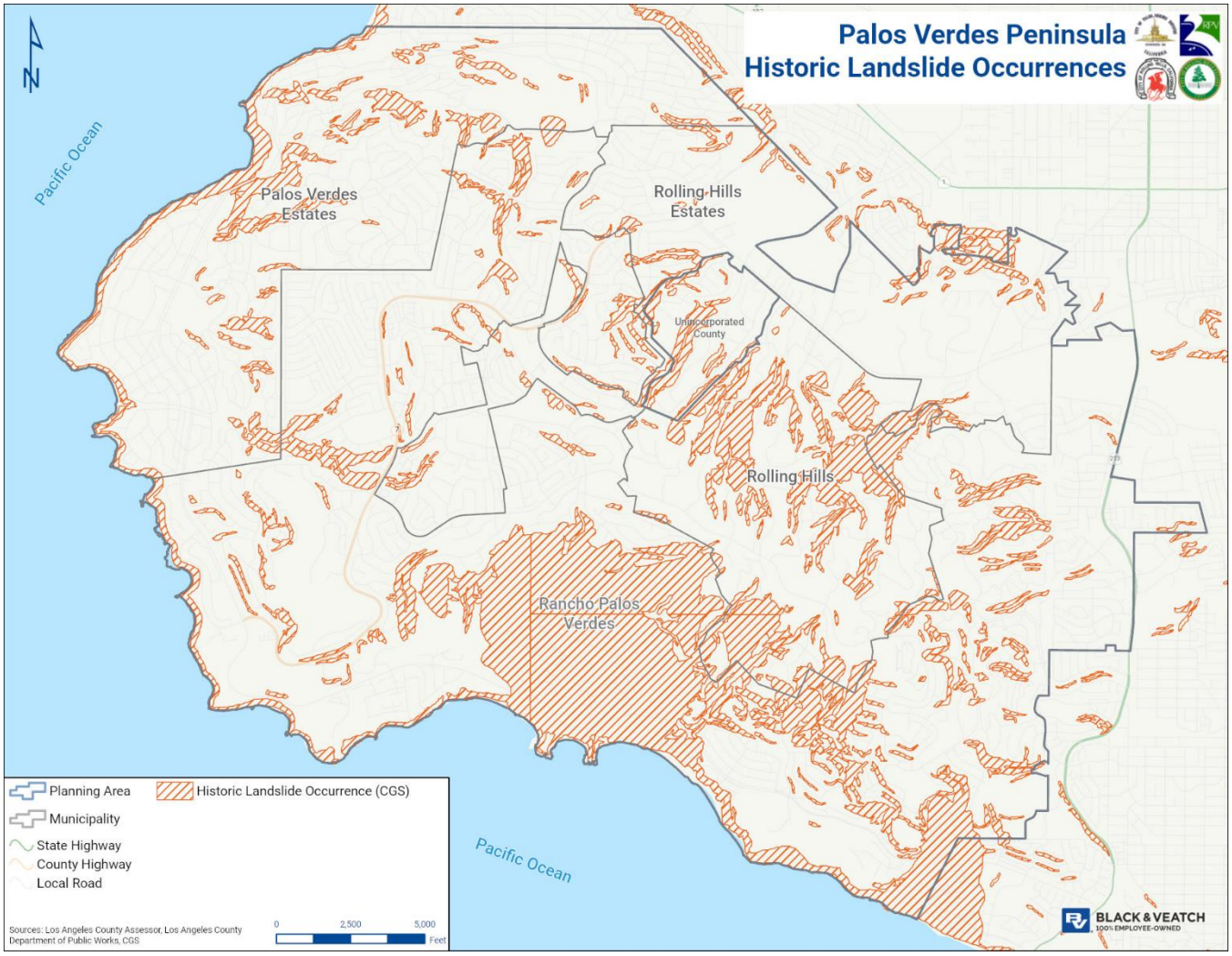


Figure 10-1. Historic Landslide Occurrences

10.1.3 Extent

Measuring Intensity

Landslides are typically a function of soil type and steepness of slope. Soil type is a key indicator for landslide potential and is used by geologists and geotechnical engineers to determine soil stability for construction standards. Figure 10-2 presents the steepness of slope and Figure 10-3 presents the soils map for the Planning Area. In general, landslide hazard areas are where the land has characteristics that contribute to the risk of the downhill movement of material, such as the following:

- A slope greater than 33 percent
- Post-wildfire areas
- A history of landslide activity or movement during the last 10,000 years
- Stream or wave activity, which has caused erosion, undercut a bank or cut into a bank to cause the surrounding land to be unstable

- The presence of an alluvial fan, indicating vulnerability to the flow of debris or sediments
- The presence of impermeable soils, such as silt or clay, mixed with granular soils, such as sand or gravel

The best predictor of where slides might occur is the location of past movements. Past landslides can be recognized by their distinctive topographic shapes, which can remain in place for thousands of years. Most landslides recognizable in this fashion range from a few acres to several square miles. Most show no evidence of recent movement and are not currently active. A small proportion of them may become active in any given year, with movements concentrated within all or part of the landslide masses or around their edges. The recognition of ancient dormant landslide sites is important in the identification of areas susceptible to flows and slides because they can be reactivated by earthquakes or by exceptionally wet weather. Also, because they consist of broken materials and frequently involve disruption of groundwater flow, these dormant sites are vulnerable to construction-triggered sliding.

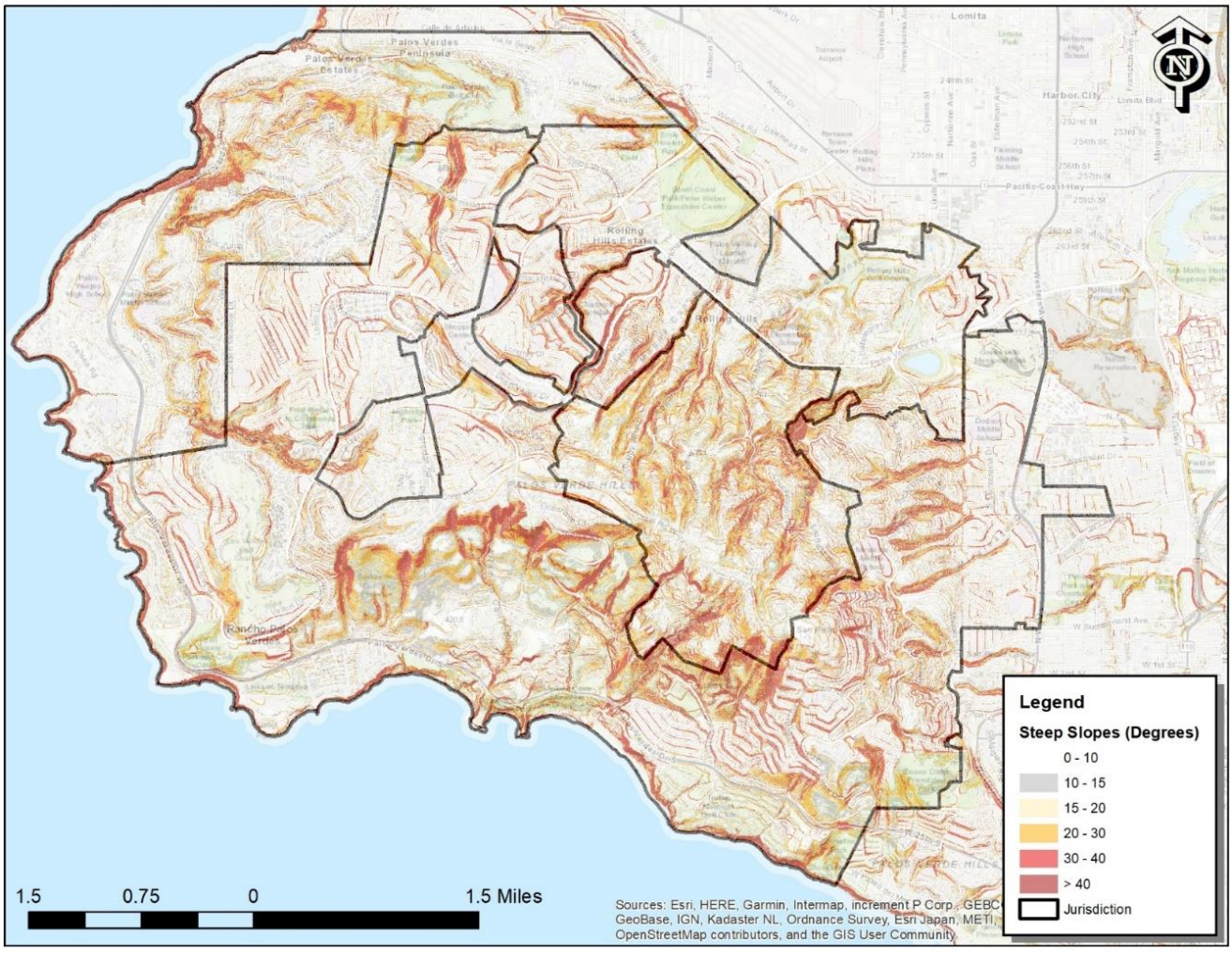


Figure 10-2. Steep Slope Map

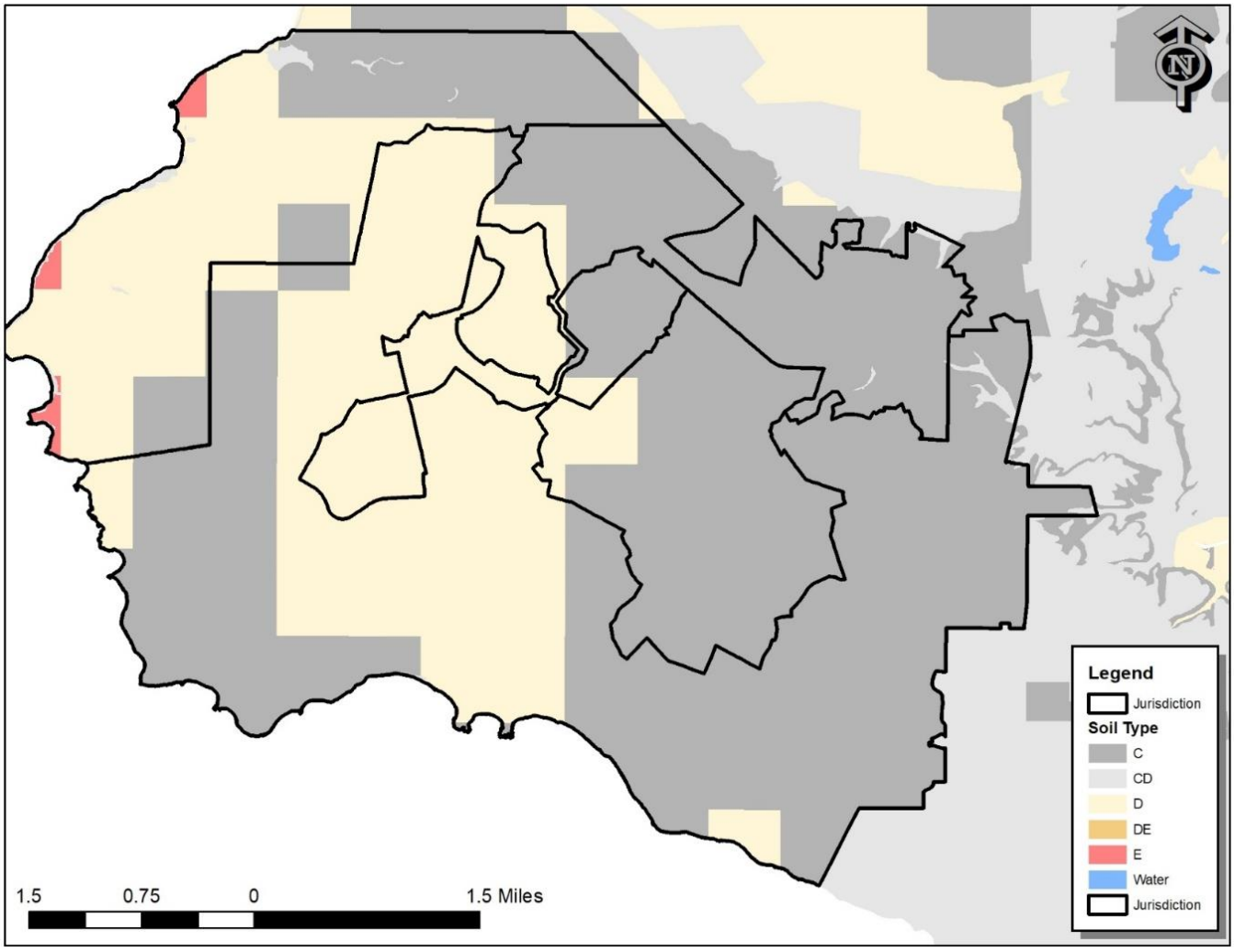


Figure 10-3. Soils Map

Warning Time

Landslides can occur suddenly or slowly. The velocity of slide may range from a slow creep of inches per year to many feet per second, depending on slope angle, material, and water content. Generally accepted warning signs for landslide activity include the following:

- Springs, seeps, or saturated ground in areas that have not typically been wet before
- New cracks or unusual bulges in the ground, street pavements, or sidewalks
- Soil moving away from foundations
- Ancillary structures such as decks and patios tilting or moving relative to the main house
- Tilting or cracking of concrete floors and foundations (doors and windows are difficult to move)
- Broken waterlines and other underground utilities
- Leaning telephone poles, trees, retaining walls or fences
- Offset fence lines
- Sunken or down-dropped road beds
- Rapid increase in creek water levels, possibly accompanied by increased turbidity (soil content)

- Sudden decrease in creek water levels though rain is still falling or just recently stopped
- Sticking doors and windows and visible open spaces indicating frames out of plumb
- A faint rumbling sound that increases in volume as the landslide nears
- Unusual sounds, such as trees cracking or boulders knocking together

Some methods used to monitor landslides can provide an idea of the type of slide and the amount of time prior to failure. Assessing the geology, vegetation, and amount of predicted precipitation for an area can help in predictions of what areas are at risk during general time periods. Currently, there is no practical warning system for individual landslides. The standard operating procedure is to monitor situations on a case-by-case basis and respond when an event occurs.

Worst-Case Scenario

The worst-case scenario for landslide hazards in the Planning Area would generally correspond to a severe storm with heavy rain that caused flooding in an area that had been burned by fire. Landslides are more likely during the late winter when the water table is high. After heavy rains, typically between November and March, soils become saturated with water. As water seeps downward through upper soils, it can weaken and destabilize the slope, especially in areas with weak, clay-rich soils. A short intense storm could cause saturated soil to move, resulting in landslides. As rainfall continues, the groundwater table rises, adding to the weakening of the slope. Gravity, poor drainage, a rising groundwater table, and poor soil exacerbate hazardous conditions.

10.1.4 Previous Occurrences

The following sections provide a review of previous landslide/mass movement occurrences in the Palos Verdes Peninsula.

Declarations

Federal Declarations

Between 2019 and 2025, the Planning Area experienced five major disaster (DR) or emergency declarations (EM) related to landslide/mass movement hazard.

Table 10-1. Federal Landslide Disaster Declarations

Disaster Number	Incident Period	Declaration Date	Description
DR-4683-CA	December 27, 2022 – January 31, 2023	January 14, 2023	California Severe Winter Storms, Flooding, Landslides, and Mudslides
EM-3591-CA	January 8 – January 31, 2023	January 9, 2023	California Severe Winter Storms, Flooding, and Mudslides
DR-4699-CA	February 21 – July 10, 2023	April 3, 2023	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, and Mudslides

Disaster Number	Incident Period	Declaration Date	Description
EM-3592-CA	March 9 – July 10, 2023	March 10, 2023	Severe Winter Storms, Flooding, Landslides, and Mudslides
DR-4769-CA	January 31– February 9, 2024	April 13, 2024	Severe Winter Storms, Tornadoes, Flooding, Landslides, and Mudslide

Source: (FEMA, 2025)

State Proclamations

Between 2019 and 2025, California declared one disaster related to landslide/mass movement in the Planning Area. This declaration was related to utility shutoffs caused by the winter storm induced landslides that began in 2023 and are still ongoing.

Table 10-2. State Landslide Disaster Declarations

Disaster Number	Declaration Date	Description
N/A	September 3, 2024	Rancho Palos Verdes Land Movement Impacts to Utility Services

Source: (Cal OES, 2025)

USDA Declarations

Between 2019 and 2025, the USDA declared no disasters related to landslide/mass movement in the Planning Area County (U.S. Department of Agriculture, 2025).

Summary of Significant Events

The Palos Verdes Peninsula has a long history of landslides, most notably the massive, ancient Greater Portuguese Bend Landslide Complex, first significantly activated by road construction in 1956, causing continuous movement and damaging hundreds of homes over decades.

A summary of significant events affecting the Planning Area is detailed below.

1956 Portuguese Bend Landslide

The largest landslide to occur in the Planning Area was the activation of the Portuguese Bend Landslide a subslide of the Greater Portuguese Bend Landslide Complex. The slide area encompasses approximately 270 acres. The weight of the moving material is estimated to be about 60 million tons, with a maximum thickness calculated to be 250 feet. The slide began in August 1956 in conjunction with a Los Angeles County roadway project to extend Crenshaw Boulevard from Crest Road to Palos Verdes Drive South. Initially, movement was 3 to 4 inches per day, quickly slowing to 1 inch per day a month later. The reactivation of this ancient landslide resulted in the loss of 134 residential dwellings, which were damaged beyond repair and razed. Relocation to safer ground saved a few homes (Reiter, 1984). The slide also destroyed the Portuguese Bend Beach Club a private recreational facility that included a large clubhouse, saltwater pool, boating pier, tennis courts, and volleyball courts. Between 1962 and 1970, movement slowed to 1/2 inch per day (Reiter, 1984).

The Portuguese Bend Landslide movement can range from 12 inches per year to 12 inches per week, depending on the amount of rainfall the previous season. Nearly all of the remaining homes in the active

slide area have been placed on elevated or so-called "floating" foundations that can be adjusted as the earth continues to slowly move and buckle beneath the homes. Refer to the summarized impacts of the 2023-2024 Atmospheric River Event for significant events impacting the Portuguese Bend Landslide.

1974 Abalone Cove Landslide

Activation of the 80-acre Abalone Cove Landslide a subslide of the Greater Portuguese Bend Landslide Complex was first noted at the shoreline in February 1974. Slow movement continued between the shoreline and Palos Verdes Drive South until 1978 but only impacted vacant land. In late April or early May 1978, following one of the rainiest seasons on record (29.61 inches fell during 1977-78 compared to an average annual rainfall of 11.38 inches), the slide began to accelerate, and cracking was seen in the roadway. The slide reached its maximum inland extent in February 1980, following 7.75 inches of rain during a 10-day period. Because the Abalone Cove Landslide started along the coastline and progressed landward, it was not triggered by drag from the abutting Portuguese Bend Landslide. The major factors attributed to reactivation of the slide appear to be rainfall and rising groundwater levels (Reiter, 1984). Although no homes were destroyed as a result of this slide, the visitor's center at the landmark Wayfarers Chapel was severely damaged and closed to the public in 1982. All but a small portion of the original structure was razed in 1995 and a new visitors center was constructed west of the slide scarp in 1999.

As a result of the Abalone Cove Landslide, the Abalone Cove Landslide Abatement District (ACLAD) was established as a geologic hazard abatement district. The ACLAD continues its mission of abating the Abalone Cove Landslide through the management of dewatering wells to remove ground water that fuels the Abalone Cove Landslide (RPV, 2025).

1979 Klondike Canyon Landslide

Activation of the Klondike Canyon Landslide, a subslide of the Greater Portuguese Bend Landslide Complex occurred in 1979 adjacent to the coastline and to the east of the much larger Portuguese Bend Landslide. Like the Portuguese Bend and the Abalone Cove Landslides, Woodring published the location of the ancient "Beach Club Landslide" in 1946. However, by that time, both Yacht Harbor Drive (in 1927) and Palos Verdes Drive South (in 1937) had been constructed across this landslide. Development of the two roadways was followed in the late 1940's by the construction of the Portuguese Bend Club and grading for the Seaview tract landward of Palos Verdes Drive South was completed in late 1956. Following record-breaking rainfall in 1977-1978, the first indications of movement of the Klondike Canyon Landslide were noted in September 1979 at the intersection of Dauntless Drive and Exultant Drive in the Seaview tract. Heavy rainfall continued during 1979-1980 and 1982-1983, accelerating land movement, which damaged local roads and eventually destroyed one home in the Seaview tract.

In 1981, the Klondike Canyon Landslide Geologic Abatement District (KCLAD) was established as a California State Geological Hazard Abatement District for the 50 acre Klondike Canyon Landslide. KCLAD manages dewatering wells to lower the ground water table within the slide mass (RPV, 2025). The dewatering efforts have been successful in stabilizing the area and additional landslide abatement efforts have continued since that time, such as drainage improvements in Klondike Canyon and the installation of a private sewer system in the Portuguese Bend Beach Club.

1980 Flying Triangle Landslide

The Flying Triangle landslide, a subslide of the Greater Portuguese Bend Landslide Complex, occupies an area of approximately 70 acres on the south side of the crest of the Palos Verdes Hills overlooking Portuguese Bend. Movement was first formally observed in March 1980, though displacement may have begun as early as 1974. The landslide represents the reactivation of a relatively large, complex compound ancient landslide of probable Pleistocene age that is unrelated to the main Portuguese Bend landslide. The reactivation is directly attributed to a period of unusually heavy precipitation during the early 1980s. As ground movement intensified, residential structures within the affected area were threatened; some homes were demolished, while others were retrofitted and supported on steel I-beam systems to accommodate continued movement. During this period, gas and water utilities were relocated above ground to reduce the risk of rupture and to maintain service continuity.

1997 Indian Peak Road

The 1997 Indian Peak Road caused a considerable amount of property damage. In March 1997, two office buildings located in the 900 block of Indian Peak Road in Rolling Hills Estates toppled and slid down a hillside, causing damage to another building near Deep Valley Drive.

1999 Ocean Trails Golf Course

In June 1999, just 1 week before its scheduled grand opening, the entire 18th fairway of the former Ocean Trails Golf Course in Rancho Palos Verdes collapsed into the ocean, resulting in the loss of approximately 12 acres of land.

2005 Poppy Trail Landslide

On March 5, 2005, a 300-foot-long portion of a steep hillside at No. 1 Poppy Trail Road in Rolling Hills sheared off and slid downhill, terminating just below the roadway easement for Poppy Trail Road. The slide buried a portion of the road, temporarily eliminating ingress and egress for nine residential lots. In response, the affected area was stabilized through emergency grading and other temporary protective measures to reduce erosion and further movement. The slide mass was subsequently reshaped, the roadway was rebuilt, and full ingress and egress were restored to the impacted homes.

2022-2023 Peartree Lane Landslide

The Peartree Lane Slope Failure in Rolling Hills Estates became apparent on July 8, 2023. The landslide moved laterally up to 45 feet into the adjacent canyon and destroyed and/or red-tagged five multi-family townhome structures containing 12 units. An additional five units were yellow-tagged due to utility damage (Rolling Hills Estates, n.d.). The City of Rolling Hills Estates and County of Los Angeles retained a consultant to investigate the Peartree Lane landslide event. The results of the investigation determined that record rainfall from atmospheric rivers in winter 2022–2023 caused a new landslide in a developed area, with precipitation levels not seen since the 1980s and early 2000s. This event was determined to be a new failure, not a reactivation of a previous slide. Secondary factors included the reduction in vegetation due to residential development and localized surficial failures on the steep slope.

As a result of the Peartree Lane Landslide, Rolling Hills Estates City Council declared a local emergency on January 11, 2023.

2023-2024 Atmospheric River Event

The atmospheric river event that occurred in the winter of 2023-2024 caused land movement in the fall 2023 and early 2024. Flooding resulted in saturated soils and accelerated the Greater Portuguese Bend Landslide Complex including the subslides, impacting areas like Abalone Cove and Klondike Canyon. It also activated the deeper Altamira Landslide that encompasses the Portuguese Bend Landslide, the Abalone Cove Landslide, the Klondike Canyon Landslide, and the Beach Club Landslide.

Analysis completed by NASA's Jet Propulsion Laboratory determined that, during a four-week period in the fall of 2024, land in the residential area slid toward the ocean by as much as 4 inches (10 centimeters) per week (NASA, 2025). The motion accelerated, and the active area expanded following record-breaking rainfall in Southern California in 2023 and heavy precipitation in early 2024 (Jet Propulsion Laboratory , 2025).

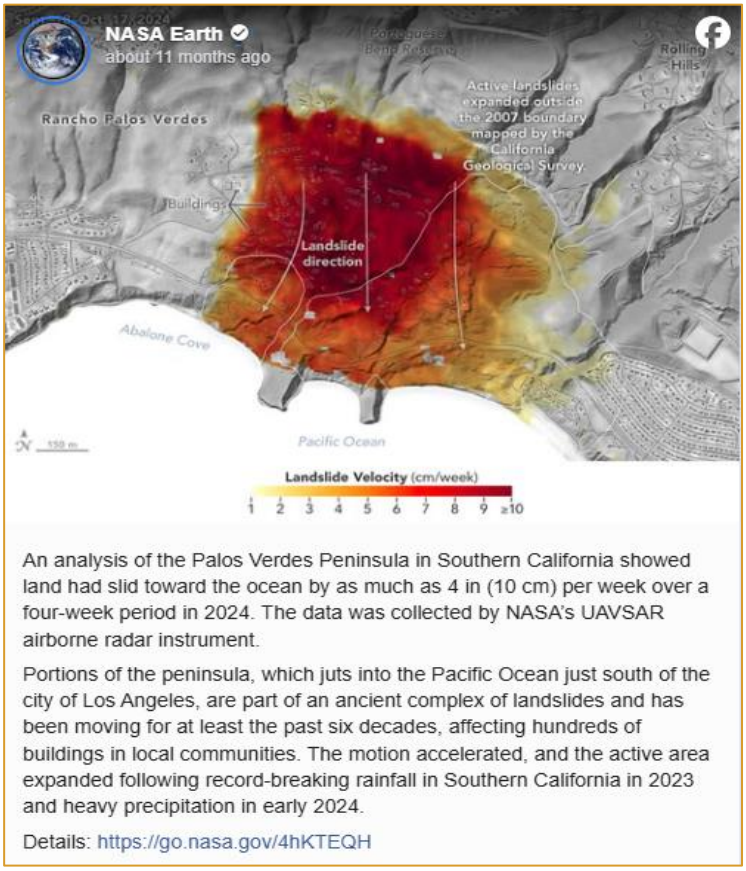


Figure 10-4. Fall 2024 Motion of Landslides on the Palos Verdes Peninsula
Source: (Jet Propulsion Laboratory , 2025)

Figure 10-4 presents a public engagement post by NASA, with the visualization characterizing the speed and direction of the landslide. The darkest reds indicating the highest speeds of earthen movement with the arrows represent the direction of horizontal motion.

Recent Events

The California Department of Conservation reports California landslides in an interactive map built on data provided by government agencies, media, and citizen scientists. Table 10-3 summarizes these events in addition to recent landslide events impacting the Planning Area.

Table 10-3. Recent Landslide Events

Disaster Date	Location	Description
December 9, 2022	Coastal bluff collapse impacting Rat Beach in Palos Verdes Estates.	A significant landslide in December 2022 in Palos Verdes Estates resulted in a massive cliff collapse that nearly destroyed a lifeguard tower and pushed a maintenance truck. The incident, which occurred along the coast near Rosita

Disaster Date	Location	Description
		Place, led to immediate, indefinite closure of the beach due to dangerous, ongoing instability. Following the initial slide, a second, smaller slide occurred within hours. Geologists warned of further instability, leading to the closure of the beach from the southern part of Rat Beach to the northern part of Torrance Beach
February 1, 2024	North of Palos Verdes Drive across from entrance to parking lot for Pelican Cover Park in the City of Rancho Palos Verdes.	Mud and debris deposited on eastbound and westbound lanes
September 27, 2025	Coastal bluff off Marguerite Drive near Palos Verdes Drive West in the City of Rancho Palos Verdes.	According to the Los Angeles County Fire Department, approximately 300-400 linear feet of the slope sloughed off, dropping approximately 50-60 feet toward the coastline. There was no reported damage to public property, no injuries and no structural damage to the four homes affected. This landslide is not related to the Greater Portuguese Bend Landslide.

Source: (CA Department of Conservation, 2025)

10.1.5 Future Conditions

Future hazard conditions, including frequency and severity of future events, as discussed in the sections below.

Probability

Mass movements are often triggered by other natural hazards such as earthquakes, heavy rain, floods, or wildfires, so their frequency is often related to the frequency of the precipitating hazards. Most weather-induced landslides occur in the winter after the water table has risen, but may also occur months following a wet season. Landslides that result from earthquakes can occur at any time.

Climate Change

Climate change may impact storm patterns, increasing the probability of more frequent, intense storms with varying duration. Warming temperatures also could increase the occurrence and duration of droughts, which would increase the probability of wildfire, reducing the vegetation that helps to support steep slopes. Each these factors would increase the probability of landslides.

Potential Future Impacts

According to the California Department of Finance, the population of the greater Los Angeles County region is expected to increase over the next 45 years. Within the past 5 years, the population of the Palos Verdes Peninsula region has gradually declined. The Planning Area has limited potential for expansion through annexation, as it is surrounded by other incorporated cities and is for the most part built out.

As a result, continued growth would occur through redevelopment rather than outward expansion.

10.2 VULNERABILITY ASSESSMENT

Local Plan Requirement B1 – 44 CFR Part 201.6(c)(2)(ii)

The plan must include a description of the jurisdiction's vulnerability to the hazards of concern and include an overall summary of the hazard's impact on the community. The impacts need to include the types and numbers of existing and future buildings, infrastructure, and critical facilities located in the hazard areas, and estimate of potential dollar losses to vulnerable structures, and a description of land uses and development trends.

10.2.1 Summary of Vulnerability

Summary findings of the risk assessment for landslide are shown below. Landslide susceptibility and vulnerability are defined by ten levels of severity, with one being the least susceptible and ten being the most susceptible. Please refer to *Chapter 5. Risk Assessment Methodology and Tools* for the detailed methodology.

10.2.2 Impact on Life, Health, and Safety

All people exposed to the landslide hazard are potentially vulnerable.

Equity Priority Communities

Vulnerable populations may experience greater impacts from landslides and other earth movements due to a financial inability to react or respond to these events. Vulnerable populations may reside in areas with only one means of ingress and egress, making them more vulnerable in the event of an evacuation. Populations with access and functional needs as well as elderly populations are more vulnerable to the landslide hazards as they may not be able to evacuate quickly enough to avoid the impacts of a quick-moving landslide. The table below displays the number of vulnerable populations exposed to landslides.

Table 10-4. Vulnerable Populations Exposed to Landslides

City	Total Population	Demographic Vulnerability Population	Demographic Vulnerability % of Total Population	Evacuation Vulnerability Population	Evacuation Vulnerability % of Total Population
Palos Verdes Estates	793	0	0.0%	0	0.0%
Rolling Hills Estates	2,746	712	25.9%	438	15.9%
Rancho Palos Verdes	322	322	100.0%	322	100.0%
Rolling Hills	276	79	28.7%	55	19.8%
Total	**4,136**	**1,113**	**26.9%**	**814**	**19.7%**

10.2.3 Impact on General Building Stock

Property exposure and losses were estimated through a Level 3 approach using Hazus protocols for a user-defined analysis for the landslide hazard areas. Table 10-5 shows the estimates for the exposure and damage to structures and building contents with the percent of total replacement value. Table 10-6 summarizes the number of structures and type of occupancy in the landslide risk areas.

Table 10-5. Exposure Estimates for Landslide Susceptibility Areas

City	No. of Buildings Exposed	Value of Buildings Exposed	Value of Contents Exposed	Total Replacement Cost Value	% of Total Replacement Value
Deep-Seated Landslide Loss					
Palos Verdes Estates	310	$266,036,027	$133,822,473	$399,858,500	6.9%
Rancho Palos Verdes	904	$575,221,081	$298,030,640	$873,251,721	6.8%
Rolling Hills	135	$132,731,604	$66,365,802	$199,097,406	18.6%
Rolling Hills Estates	103	$51,219,218	$26,879,904	$78,099,122	1.8%
Total	1,452	$1,025,207,930	$525,098,819	$1,550,306,749	6.4%

Table 10-6. Estimated Number of Buildings by Type, Located in the Landslide Susceptibility Areas

City	Residential	Commercial	Industrial	Agriculture	Religion	Government	Education	Total
Palos Verdes Estates	305	5	0	0	0	0	0	310
Rancho Palos Verdes	891	8	0	1	3	0	1	904
Rolling Hills	135	0	0	0	0	0	0	135
Rolling Hills Estates	101	0	0	1	0	0	1	103
Total	**1,432**	**13**	**0**	**2**	**3**	**0**	**2**	**1452**

10.2.4 Impact on Community Lifelines

Many types of infrastructure are exposed to impacts from landslides, including transportation, water, sewer, gas, power, and communication infrastructure. Highly susceptible areas of the Palos Verdes Peninsula include roads and utility infrastructure, including dewatering systems.

Access to major roads is crucial to life and safety, including evacuations. Landslides can block egress and ingress on roads, causing isolation for neighborhoods, traffic problems and delays for public and private transportation. Many roads are also conduits for utilities that are vulnerable to landslides or land movement.

Power lines can be subjected to landslides. A landslide could trigger failure of soil underneath a power pole, causing it to collapse and rip down the lines which could lead to fires or wildfires in heavily vegetated areas. Power and communication failures due to landslides can create problems for vulnerable

populations and businesses. Refer to Table 10-7 for a summary of community lifelines located in the Palos Verdes Peninsula that are in the moderate, high, and very high landslide hazard areas.

Landslide-induced deformation frequently ruptures buried water and sewer lines, leading to service outages, localized flooding, loss of sanitation, and potential contamination of surrounding soils and coastal waters. These failures disrupt essential community lifelines and can further destabilize slopes by increasing groundwater infiltration and erosion when pressurized pipes break.

Damage curves were not established for the slow-moving landslide hazard. However, the damage and loss associated with damage to the utilities, roads, buildings, and other infrastructure; and emergency spending primarily on dewatering is more than $10 million per year. Refer to Appendix D for more information.

Table 10-7. Community Lifelines in Deep-Seated Landslide Hazard Areas

City	Communications	Energy	Food, Hydration, Shelter	Hazardous Materials	Health and Medical	Safety and Security	Transportation	Water Systems	Total
Palos Verdes Estates	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Rolling Hills Estates	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Rancho Palos Verdes	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Rolling Hills	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Total	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD

10.2.5 Impact on the Economy

Large landslides can cause economic impacts, including losses from severely damaged or destroyed property and infrastructure, and indirect impacts like disruptions to businesses and supply chains (i.e. delivery of goods and services). Homes in the Planning Area that have been red- or yellow-tagged may impact finances of local jurisdictions with the reduction of property taxes.

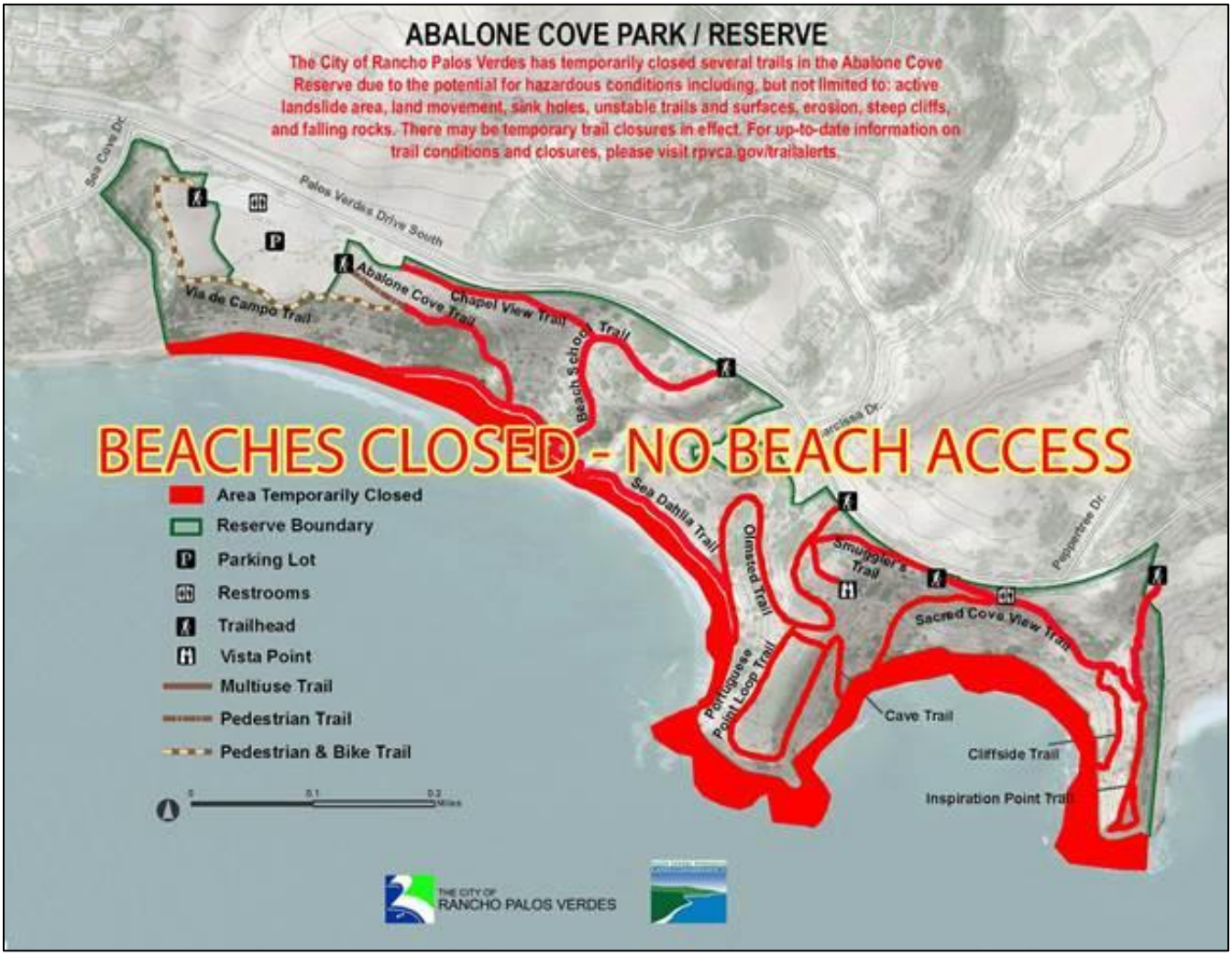
10.2.6 Impact on Historic and Cultural Resources

Landslides can cause damage to historical and cultural resources, ranging from structural damage to historic or protected buildings and monuments to the destruction of artifacts and archaeological sites, impacting cultural heritage.

10.2.7 Impact on Ecosystems and Natural Resources

Landslides can destroy natural resources valuable to the community. Landslides that fall into streams or the ocean may significantly impact fish and wildlife habitat, as well as affecting water quality. Hillsides that provide wildlife habitat can be lost due to landslides. Sensitive habitats may be located in areas prone to landslides, increasing the risk to biodiversity.

Landslide movement has also forced the closure of key recreational amenities in the Planning Area, examples include beach access trails in the Abalone Cove Reserve and the full closure of Abalone Cove Beach and Sacred Cove Beach in 2024 due to unsafe ground conditions (RPV, 2025). An example of the Abalone Cove Reserve Closure is presented on Figure 10-5. Shifting terrain has also damaged and restricted access to hiking and equestrian trails within the Palos Verdes Nature Preserve, particularly in the Portuguese Bend Reserve, where rapid land deformation has rendered portions of the trail network unstable and unsafe for public use. These impacts not only limit public recreation but also affect protected habitat areas, where ongoing land movement disrupts vegetation communities and alters ecological corridors essential for native wildlife.



Source: (RPV, 2025)

Figure 10-5. Example of Beach and Trail Closure (Abalone Cove Reserve Closure)

10.2.8 Change in Vulnerability Since the Prior Planning Area HMPs

The risk of landslides and mass movement continues to change as the Palos Verdes Peninsula is an active landslide area. Landslide mitigation activities such as drilling deep dewatering wells have reduced vulnerability in some areas.

Homes in the Planning Area that have been red or yellow tagged may be unoccupied due to landslide activity, therefore the decrease in residential population in those active landslide areas also reduces the population exposed to the hazard.

The changing climate may lead to increased and more frequent rainfall events, which may exacerbate slope instability and landslide hazards. Although population levels in landslide susceptible areas in the Planning Area have declined, the type and location of new or proposed development remain important factors to monitor. Since the prior mitigation planning efforts, areas within the Planning Area that were previously considered developable are now excluded from future development due to landslide activity.

10.3 MITIGATION OPPORTUNITIES

Table 10-8 presents a range of potential opportunities considered by the Planning Partnership for mitigating the landslide/mass movement hazard.

Table 10-8. Potential Opportunities to Mitigate the Landslide/Mass Movement Hazard

Community Scale	Organizational Scale	Government Scale
Manipulate the Hazard		
• Stabilize slope • Reduce weight on top of slope • Minimize vegetation removal and the addition of impervious surfaces	• Stabilize slope • Filling in fissures and lining canyons to minimize water infiltrating the ground and water table	• Stabilize slope • Filling in fissures and lining canyons to minimize water infiltrating the ground and water table • Reduce weight on top of slope
Reduce Exposure and Vulnerability		
• Locate structures outside of hazard area	• Locate structures outside of hazard area	• Armor/retrofit critical infrastructure against the impact of landslides • Support transition of high hazard areas to open space
Build Local Capacity		
• Subscribe to warning systems, and develop evacuation plan • Keep cash reserves for reconstruction • Educate yourself on risk reduction techniques for landslide hazards	• Institute warning system, and develop evacuation plan • Keep cash reserves for reconstruction • Develop a continuity of operations plan • Educate employees on the potential exposure to landslide hazards and emergency response protocol	• Provide public with information on landslide hazard and appropriate risk reduction alternatives
Nature-based Opportunities		
• Replace or restore native vegetation known to stabilize steep slopes • Hybrid solutions that combine engineering with a nature-based approach using appropriate vegetation		

11. STRONG WIND

11.1 HAZARD PROFILE

Local Plan Requirement B1 – 44 CFR Part 201.6(c)(2)(i)

Include a description of the type, location, and extent for the identified hazards of concern and include information on previous occurrences of hazard events and the probability of future hazard events.

11.1.1 Description of the Hazard

Defining the Hazard

Windstorms are generally short-duration events involving straight-line winds or gusts of over 50 miles per hour (mph), strong enough to cause property damage. Windstorms are especially dangerous in areas with significant tree stands and areas with exposed property, poorly constructed buildings, major infrastructure, and above-ground utility lines. A windstorm can topple trees and power lines, cause damage to residential, commercial, and critical facilities, and leave tons of debris in its wake. There are seven primary types of damaging winds (NOAA National Severe Storms Laboratory, n.d.):

- **Straight-line winds**—Any thunderstorm wind that is not associated with rotation; this term is used mainly to differentiate from tornado winds. Most thunderstorms produce some straight-line winds as a result of outflow generated by the thunderstorm downdraft.
- **Downdrafts**—A small-scale column of air that rapidly sinks toward the ground.
- **Downbursts—**A strong downdraft with horizontal dimensions larger than 2.5 miles resulting in an outward burst or damaging winds on or near the ground. Downburst winds may begin as a microburst and spread out over a wider area, sometimes producing damage similar to a strong tornado. Although usually associated with thunderstorms, downbursts can occur with showers too weak to produce thunder.
- **Microbursts**—A small, concentrated downburst that produces an outward burst of damaging winds at the surface. Microbursts are generally less than 2.5 miles across and short-lived, lasting only 5 to 10 minutes, with maximum wind speeds up to 168 mph. There are two kinds of microbursts: wet and dry. A wet microburst is accompanied by heavy precipitation at the surface. Dry microbursts, common in places like the high plains and the intermountain west, occur with little or no precipitation reaching the ground.
- **Gust front**—A gust front is the leading edge of rain-cooled air that clashes with warmer thunderstorm inflow. Gust fronts are characterized by a wind shift and gusty winds out ahead of a thunderstorm. Sometimes the winds push up air above them, forming a shelf cloud or detached roll cloud.
- **Derecho**—A derecho is a widespread thunderstorm wind caused when new thunderstorms form along the leading edge of an outflow boundary (the boundary formed by horizontal spreading of thunderstorm-cooled air). The word “derecho” is of Spanish origin and means “straight ahead.” Thunderstorms feed on the boundary and continue to reproduce. Derechos typically occur in summer when complexes of thunderstorms form over plains, producing heavy rain and severe wind. The damaging winds can last a long time and cover a large area (National Weather Service, n.d.).

- **Bow echo**—A bow echo is a linear wind front bent outward in a bow shape. Damaging straight-line winds often occur near the center of a bow echo. Bow echoes can be 200 miles long, last for several hours, and produce extensive damage at the ground (National Oceanic Atmospheric Association, 2023).

In addition to the seven primary types of damaging winds, Southern California also experiences a localized phenomenon known as Santa Ana winds. These strong, dry, gusty downslope winds known as Santa Ana winds form when air from a region of high pressure over the desert region of the southwestern United States flows westward toward low-pressure areas off the California coast (Figure 11-1) (Sosnowski, 2021). As the wind flows over the Sierra Nevada and Santa Ana mountains, it drops from high elevation to sea level. The air becomes compressed and heats up as it sinks, and its relative humidity drops. Gaps in mountains form wind tunnels that strengthen these winds as they pour warm air east to west through the canyons. These winds play a major role in increasing wildfire risk in the region because of the dryness of the winds and the speed with which they can cause a fire to spread, complicating containment efforts (National Weather Service, n.d.).



Source: (Sosnowski, 2021)

Figure 11-1. Santa Ana Winds

Cause of the Hazard

Longer-period windstorms have two main causes: (1) large differences in atmospheric pressure across a region and (2) strong jet stream winds overhead. Horizontal pressure differences may accelerate the surface winds substantially as air travels from a region of higher atmospheric pressure to one of lower (Pielke, 2025).

Santa Ana winds may occur year-round, but are most common during the cooler months, typically from September through March. A Santa Ana wind event can yield sustained winds of 40 mph; isolated wind gusts of over 90 mph have been recorded. Most Santa Ana wind events peak for a 12 to 24 hour period but can persist for a few days (National Weather Service, n.d.).

Summary of Potential Impacts

Windstorms can result in collapsed or damaged buildings, damaged or blocked roads and bridges, damaged traffic signals, streetlights and parks, and other damage. Wind speeds as low as 32 mph can cause structural damage, and winds of 100 mph can destroy wood-frame structures. High winds can also cause direct losses to buildings, people, and vital equipment. There are direct consequences to the local economy resulting from windstorms related to both physical damage and interrupted services.

Wind pressure can create a direct and frontal assault on a structure, pushing walls, doors, and windows inward. Conversely, passing winds can create lift and suction forces that act to pull building components and surfaces outward. As positive and negative forces impact a building's doors, windows, and walls, the result can be roof or building component failures and considerable structural damage. The effects of winds are magnified in the upper levels of multi-story structures.

Debris carried along by extreme winds can contribute directly to loss of life and indirectly to the failure of protective building envelopes. Falling trees and branches can damage buildings, power lines, and other property and infrastructure. Tree limbs breaking in winds of only 45 mph can be thrown over 75 feet, so overhead power lines can be damaged even in relatively minor windstorm events. During wet winters, saturated soils cause trees to become less stable and more vulnerable to uprooting from high winds. Utility lines brought down by summer thunderstorms have also been known to cause fires, which start in dry roadside vegetation. Electric power lines falling down to the pavement create the possibility of lethal electric shock.

Downed trees and power lines, and damaged property also can be major hindrances to emergency response and disaster recovery. Emergency response operations can be complicated when roads are blocked or when power supplies are interrupted. Industry and commerce can suffer losses from interruptions in electric service and from extended road closures.

Cascading Hazard Impacts

High winds can quickly cause or spread wildfires, inundating nearby areas with heavy smoke.

11.1.2 Location

Strong winds can impact the entirety of the Planning Area.

11.1.3 Extent

Measuring Intensity

Damage from such winds accounts for half of all severe weather reports in the lower 48 states. Wind speeds can reach up to 100 mph and can produce a damage path extending for hundreds of miles. The Beaufort Wind Chart in Table 11-1 provides terminology and a description of potential wind impacts at different levels (California State Water Resources Control Board, n.d.).

Table 11-1. Land Based Beaufort Scale

Beaufort Number	Range (mph)	Terminology	Description
0	0	Calm	Clam. Smoke rises vertically.
1	1-3	Light Air	Wind motion visible with smoke.

Beaufort Number	Range (mph)	Terminology	Description
2	4-7	Light breeze	Wind felt on exposed skin. Leave rustle.
3	8-12	Gentle breeze	Leaves and smaller twigs in constant motion.
4	13-18	Moderate breeze	Dust and loose paper is raised. Small branches begin to move.
5	19-24	Fresh breeze	Smaller trees sway.
6	25-31	Strong breeze	Large branches in motion. Whistling heard in overhead wires. Umbrella use is difficult.
7	32-38	Near gale	Whole trees in motion. Some difficulty when walking into the wind.
8	39-46	Gale	Twigs broken from trees. Cars veer on road.
9	47-54	Severe gale	Light structure damage
10	55-63	Storm	Trees uprooted. Considerable structural damage.
11	64-73	Violent Storm	Widespread structural damage.
12	74-95	Hurricane	Considerable and widespread damage.

Source: California State Water Resources Control Board (Beaufort Wind Force Scale)

Warning Time

NOAA issues watch, warning, and advisory information for high winds. Weather stations and media outlets warn residents of upcoming storms so they may prepare and plan accordingly.

Worst-Case Scenario

The worst-case scenario for strong wind recently occurred in Los Angeles County in January 2025 when wildfires spread rapidly due to strong winds. The Palisades Fire, driven by hurricane-force Santa Ana winds, it burned 23,707 homes, killed 12 people, and destroyed 6,837 structures.

The Eaton Fire began on the evening of January 7, 2025, in the Eaton Canyon in the San Gabriel Mountains, and was driven by powerful Santa Ana winds into foothill communities, particularly Altadena. The fire killed at least 17 people and destroyed more than 9,000 buildings.

These examples show how wildfires can spread by high velocity, warm winds. Wind-driven wildfire scenarios could occur within the Palos Verdes Peninsula.

11.1.4 Previous Occurrences

The following sections provide a review of previous strong wind occurrences in the Palos Verdes Peninsula.

Declarations

Federal Declarations

Between 2019 and 2025, the Palos Verdes Peninsula experienced three strong wind-related major disaster (DR) or emergency declarations (EM).

Table 11-2. Federal Strong Wind Disaster Declarations

Disaster Number	Incident Period	Declaration Date	Description
DR-4699-CA	February 21 – July 10, 2023	April 3, 2023	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, and Mudslides
DR-4769-CA	January 31– February 9, 2024	April 13, 2024	Severe Winter Storms, Tornadoes, Flooding, Landslides, and Mudslide
DR-4856-CA	January 7- January 31, 2025	January 8, 2025	Wildfires and Straight-Line Winds

Source: (FEMA, 2025)

State Proclamations

Between 2019 and 2025, California included Los Angeles County in seven state-proclaimed disasters relating to strong wind.

Table 11-3. State Strong Wind Disaster Proclamations

Disaster Name	Declaration Date	Disaster Number
Tropical Storm Kay	September 16, 2022	-
December 2022 to January 2023 Storms	January 4, 2023	N-1-23, N-2-23, N-10-23
February to March 2023 Storms	March 1, 2023	N-6-23, N-7-23, N-9-23, N-10-23
Tropical Storm Hilary	August 19, 2023	-
January 2024 Winter Storms	June 21, 2024	-
Early February 2024 Storms	February 4, 2024	-
Los Angeles County Fires and Windstorm Event	January 7, 2025	N-2-25 through N-24-25

Source: (Cal OES, 2025)

USDA Declarations

Between 2019 and 2025, there was one USDA declaration for Los Angeles County relating to strong wind.

Table 11-4. USDA Strong Wind Disaster Declarations

Disaster Number	Incident Period	Description
S5658	August 19 – August 21, 2023	Tropical Storm Hilary

Source: USDA Disaster Designation Information (https://www.fsa.usda.gov/programs-and-services/disaster-assistance-program/disaster-designation-information/index)

Summary of Significant Events

Due to its geographic conditions, southern California and Los Angeles County have an extensive history dealing with strong winds. California's all-time record for wind gusts was experienced in Los Angeles County on March 25, 1975, when wind gusts of 101 mph were recorded in the Community of Sandberg. (NWS, 2025). Beyond then, Santa Ana winds have seasonally affected Los Angeles County, especially in the San Gabriel and San Bernardino Mountain regions, often reaching above 60 mph (NWS, 2025).

The January 2025 high wind events throughout Los Angeles County ranked among the most damaging and deadliest wind-driven wildfire events in California history. Refer to Chapter 12 Wildfire for additional details.

Recent Events

Between 2019 and 2025, there were two NOAA NCEI Storm Events for Los Angeles County not included in disaster declarations, relating to strong wind.

Table 11-5. NOAA NCEI Storm Events

Disaster Number	Event Date	Description
1187889	February 20, 2024	A third, powerful, winter storm brought significant impacts to Southwestern California. Rainfall totals ranged between 2 and 12 inches. With the heavy rainfall, numerous reports of flooding and mud/debris flows were reported. Also, some gusty winds were reported.
1187947	March 7, 2024	A late-season storm brought significant rainfall to the area along with strong thunderstorms. Rainfall totals across the area ranged from 1 to 2 inches across Los Angeles County. Unstable air, associated with the storm, brought scattered strong thunderstorms to the area, producing gusty winds, large hail and even some flash flooding.

11.1.5 Future Conditions

Future hazard conditions, including frequency and severity of future events, are discussed in the sections below.

Probability

The Palos Verdes Peninsula regularly experiences strong wind events, especially during the fall and winter months when the Santa Ana winds occur (National Weather Service, n.d.). Based on historic events and projected conditions, there is a high probability of occurrence of strong wind events in the Planning Area every year.

Climate Change

It is uncertain whether strong wind events are becoming more or less frequent under a changing climate (CalOES, 2023). However, impacts from climate change are increasing the intensity and frequence of wildfires which spread quickly by strong winds (Lindsey, 2025).

Potential Future Impacts

The Palos Verdes Peninsula is located in California's most densely populated and developed County. It is surrounded by other incorporated cities so anticipated future growth will be managed through development, which creates an opportunity to build to current codes. The Planning Area will be well-equipped to manage development with its building codes, and the Safety Element of its cities' General Plans.

11.2 VULNERABILITY ASSESSMENT

Local Plan Requirement B1 – 44 CFR Part 201.6(c)(2)(ii)

The plan must include a description of the jurisdiction's vulnerability to the hazards of concern and include an overall summary of the hazard's impact on the community. The impacts need to include the types and numbers of existing and future buildings, infrastructure, and critical facilities located in the hazard areas, and estimate of potential dollar losses to vulnerable structures, and a description of land uses and development trends.

11.2.1 Summary of Vulnerability

The entire Planning Area may be impacted by the strong wind hazard.

11.2.2 Impact on Life, Health, and Safety

Damaging winds can cause injuries and fatalities. Downed trees may fall on homes or cars, killing or injuring those inside. Objects that are not secured can be picked up in wind events and become projectiles.

Equity Priority Communities

The entire population of the Planning Area is vulnerable to strong wind events. The elderly, residents with disabilities, and those with limited evacuation route access may be more vulnerable due to slower evacuation times. Residents who live in older homes that are not built in compliance with modern codes and standards may also be more vulnerable. Power outages from strong wind events can be life threatening to those dependent on electricity for medical devices.

11.2.3 Impact on General Building Stock

Loss estimates are represented by a percentage of the replacement cost value of structures in the Planning Area (Table 11-6).

Table 11-6. General Building Stock Replacement Cost Values

City	Total Building Value (Structure and contents)	10% of Total Building Value	30% of Total Building Value	50% of Total Building Value
Palos Verdes Estates	$5,778,400,360	$577,840,036	$1,733,520,108	$2,889,200,180
Rolling Hills Estates	$12,883,794,425	$1,288,379,443	$3,865,138,328	$6,441,897,213
Rancho Palos Verdes	$1,071,504,628	$107,150,463	$321,451,388	$535,752,314
Rolling Hills	$4,372,243,176	$437,224,318	$1,311,672,953	$2,186,121,588
Total	**$24,105,942,589**	**$2,410,594,259**	**$7,231,782,777**	**$12,052,971,294**

11.2.4 Impact on Community Lifelines

All community lifelines within the Palos Verdes Peninsula are vulnerable to direct and cascading impacts from strong wind events. Community lifelines that lack backup power generation capabilities are

especially vulnerable. Facilities located near trees or power lines that are likely to fall are vulnerable. Roads and other transportation infrastructure could be blocked by downed trees or other debris.

11.2.5 Impact on the Economy

Strong winds can cause damage to structure and infrastructure resulting in significant repair or construction costs. Businesses may temporarily close if power is lost due to a wind event.

11.2.6 Impact on Historic and Cultural Resources

Historic structures and those of cultural importance may not be built to standards to withstand strong winds. These historic and cultural resources may sustain damage, resulting in costly repairs or retrofits keeping in harmony with the original structure.

11.2.7 Impact on Ecosystems and Natural Resources

Natural resources are highly vulnerable to strong winds. Natural areas and parks may experience damage to trees and other plants.

11.2.8 Change in Vulnerability Since the Prior Planning Area HMPs

Vulnerability remains consistent since the prior mitigation planning efforts. While strong wind events continue to pose challenges, the lack of significant development or demographic shifts means that overall vulnerability has not increased. While the population has decreased slightly, aging infrastructure and changing climate patterns, could slightly elevate vulnerability.

11.3 MITIGATION OPPORTUNITIES

Table 11-7 presents a range of potential opportunities considered by the Planning Partnership for mitigating the strong wind hazard.

Table 11-7. Potential Opportunities to Mitigate the Strong Wind Hazard

Community Scale	Organizational Scale	Government Scale
Manipulate the Hazard		
• None	• None	• None
Reduce Exposure and Vulnerability		
• Provide redundant power • Plant appropriate trees near home and power lines (“Right tree, right place” National Arbor Day Foundation Program)	• Relocate critical infrastructure (such as power lines) underground • Reinforce or relocate critical infrastructure such as power lines to meet performance expectations • Install tree wire	• Harden infrastructure such as locating utilities underground • Trim trees back from power lines

Community Scale	Organizational Scale	Government Scale
Build Local Capacity		
• Trim or remove trees that could affect power lines • Promote 72 hour self-sufficiency • Obtain a NOAA weather radio • Obtain an emergency generator	• Trim or remove trees that could affect power lines • Create redundancy • Equip facilities with a NOAA weather radio • Equip vital facilities with emergency power sources	• Support programs such as “Tree Watch” that proactively manage problem areas through use of selective removal of hazardous trees, tree replacement, etc. • Increase communication alternatives • Modify land use and environmental regulations to support vegetation management activities that improve reliability in utility corridors. • Modify landscape and other ordinances to encourage appropriate planting near overhead power, cable, and phone lines. • Provide NOAA weather radios to the public
Nature-based Opportunities		
• None identified		

12. WILDFIRE

12.1 HAZARD PROFILE

Local Plan Requirement B1 – 44 CFR Part 201.6(c)(2)(i)

Include a description of the type, location, and extent for the identified hazards of concern and include information on previous occurrences of hazard events and the probability of future hazard events.

12.1.1 Description of the Hazard

Defining the Hazard

The National Wildfire Coordination Group (NWCG) defines wildfire as a wildland fire originating from an unplanned ignition, such as lightning, unauthorized and accidental human caused fires, and prescribed fires that are declared wildfires (NWCG, 2025). Wildfire can also be ignited by the transport of burning embers by high winds miles away from the initial ignition source. The potential for significant damage to life and property exists in or close proximity to areas designated as "wildland/urban interface areas," where development is adjacent to densely vegetated areas.

The active spread phase is when the fire begins to grow rapidly, driven by dry vegetation, strong winds and terrain. Fires in California have been found to spread up to 14 times faster under high winds. High winds not only accelerate the fire's spread but also carry embers and firebrands over long distances, igniting new spot fires far ahead of the main fire. These flying embers can travel up to a mile or more, making it difficult to predict and contain the fire's advance. Firefighting and resource coordination during this phase is challenging as high winds can hinder the deployment of aerial resources, such as water-dropping helicopters and firefighting planes.

In the fully developed phase, the fire reaches its peak intensity, consuming significant fuel and spreading aggressively. Extreme heat from wildfires can create pyrocumulonimbus clouds, which can spark new fires miles away. These clouds can exacerbate fire spread by generating erratic winds and even sparking new fires through lightning strikes.

In the decay phase, fire intensity decreases as it runs out of fuel or is under control. However, lingering hotspots can reignite under the favoring conditions (Institute of Energy and the Environment, 2025).

Cause of the Hazard

One of the most significant factors is climate change. Warmer temperatures, reduced precipitation, or a changed rainfall season and longer fire seasons have dried out California's landscapes, increasing the potential for ignition and rapid fire spread. Extended periods of drought further exacerbate the issue. Dry vegetation becomes ready to ignite with the slightest spark.

While some fires are fuel-dominated due to century-long fire suppression and changes in land management, others are wind-dominated, particularly in southern California, like the recent Los Angeles wildfires. Winds like Santa Ana and Diablo winds act as accelerants for wildfires. These strong, dry gusts

push flames across vast distances, spreading fires at an alarming rate. Combined with already dry conditions, these winds make controlling wildfires exceptionally challenging.

Wildfire spreads include phases of ignition, active spread, fully developed and decay. During the ignition phase, wildfires can be sparked by natural causes, such as lightning, or human activities like power line failures or campfires. Approximately 84 percent of wildfires in the United States are caused by human activities. Early detection of ignition would be the most critical but challenging thing to minimize the fire's impact.

Summary of Potential Impacts

California wildfires have devastating impacts, including loss of life, homes, and livelihoods, along with significant environmental and economic consequences, including air and water quality issues, and increased mental health challenges.

Human Impacts

- **Loss of Life and Property** – Wildfires can cause fatalities and destroy homes, businesses, and infrastructure.
- **Displacement and Evacuation** – Hundreds to thousands of people are forced to evacuate their homes, leading to temporary or long-term displacement.
- **Air Quality Issues** – Wildfire smoke contains harmful pollutants that can exacerbate respiratory and cardiovascular conditions and even lead to premature death.
- **Mental Health Impacts** – The trauma and uncertainty associated with wildfires can lead to increased rates of depression, anxiety, and post-traumatic stress.
- **Economic Costs** – Wildfires cause significant economic losses, including property damage, business closures, and increased insurance premiums.

Environmental Impacts

- **Air Pollution** – Wildfire smoke releases pollutants into the atmosphere, impacting air quality and human health both locally and downwind.
- **Water Quality Issues** – Ash and debris from fires can contaminate water sources, and burned watersheds are prone to increased flooding and erosion.
- **Habitat Loss and Ecosystem Changes** – Wildfires can destroy forests and other habitats, leading to changes in vegetation and wildlife populations.
- **Marine Ecosystems** – Firefighting runoff and ash can enter coastal waters, potentially harming marine life and ecosystems.
- **Soil Erosion** – Burned areas are more vulnerable to erosion, which can lead to landslides and further damage to the environment.

Economic Impacts

- **Property and Capital Losses** – Wildfires can cause billions of dollars in property damage and economic losses.
- **Increased Insurance Premiums** – The cost of wildfires can lead to higher insurance premiums or even un-insurability for homeowners and businesses.

- **Tourism Impacts** – Wildfires can disrupt tourism and negatively impact local economies.
- **Supply Chain Disruptions** – Wildfires can disrupt transportation and supply chains, leading to shortages and price increases.

Cascading Hazard Impacts

Wildfires can generate a range of secondary effects, which in some cases may cause more widespread and prolonged damage than the fire itself. A major fire can lead to ancillary effects such as landslides in steep ravine areas and flooding due to the effects of silt in local watersheds. The increased potential for flash flood impacts lasts until vegetation is restored, which can take up to a decade or longer. In these areas, flash flooding poses a threat not only from the massive force and amount of water, but also from debris and ash forming mudslides and debris flows (NOAA Physical Sciences Laboratory). Wildfires cause the contamination of reservoirs, destroy transmission lines and contribute to flooding. They strip slopes of vegetation, exposing them to greater amounts of runoff. This in turn can weaken soils and cause failures on slopes. Vegetation plays a vital role in stabilizing soil on slopes. When wildfires destroy this vegetation, the roots that bind the soil together decay, increasing the likelihood of landslides and debris flows, especially during subsequent rainstorms (USGS, 2025). Altering the soil structure can make the ground less permeable. This change increases stormwater runoff and raises the likelihood of flooding. Post-fire flooding tends to be more destructive due to the presence of sediment, ash, pollutants, and debris to surface water (USGS, 2023), which can mix with rainwater to form damaging mudflows that carry sediment and cause significant destruction.

Impacts from Smoke

Wildfires can have a significant effect on air quality, especially with prolonged periods of burning combined with climatic conditions. Smoke generated by wildfire consists of visible and invisible emissions that contain particulate matter (soot, tar, water vapor, and minerals), gases (carbon monoxide, carbon dioxide, nitrogen oxides), and toxics (formaldehyde, benzene). Emissions from wildfires depend on the type of fuel, the moisture content of the fuel, the efficiency (or temperature) of combustion, and the weather.

The danger of wildfire smoke comes primarily from particulate matter, consisting of fine particles that are 2.5 micrometers (about a ten-thousandth of an inch) or less in diameter ($PM_{2.5}$). On a given day, California wildfires can produce 10 times more $PM_{2.5}$ air pollution than is produced by all other pollution sources combined (Associated Press, 2020). The small particles in $PM_{2.5}$ pollution are capable of reaching deep into the lungs, causing a host of complications, including significantly increased risks of heart disease, respiratory disease, asthma, and premature mortality. Health problems related to wildfire smoke exposure can be as mild as eye and respiratory tract irritation and as serious as worsening of heart and lung disease, including asthma, and even death. Smoke from wildfires that burn homes and other structures can additionally contain toxic materials such as asbestos and heavy metals. Studies indicate that wildfire smoke is up to 10 times more harmful than other forms of $PM_{2.5}$ pollution (Aguilera, Corringham, Gershunov, & Benharhnia, 2021).

Not all individuals are equally exposed to the hazard of wildfire smoke, nor are they equally vulnerable. Outdoor workers and unhoused individuals have especially high exposure to outdoor air, and younger individuals are especially vulnerable to unhealthy air. On November 15, 2018, over 1 million California children had classes canceled due to wildfires and wildfire smoke (Holm, Miller, & Balmes, 2020).

Because $PM_{2.5}$ pollution affects the immune and cardiovascular systems, other vulnerable populations include people with medical conditions, including diabetes and heart and lung conditions. These vulnerable populations together represent a significant fraction of the California population and indicate inequity in impacts.

At least 95 percent of Californians suffered unhealthy levels of particle pollution due to wildfires in 2020 (Los Angeles Times, 2020). Worse air quality leads to illnesses, emergency room visits, and hospitalizations for chronic health conditions, including chronic obstructive pulmonary disease, asthma, chronic bronchitis, and other respiratory and cardiovascular conditions as well as increased risk for respiratory infections, which all result in greater health costs to the State (Romley, Hackbarth, & Goldman, 2010; Wang, Aaron, & Madrigano, 2019; Inserro, 2018).

12.1.2 Location

The entire Planning Area is susceptible to wildfire. California's seasonally dry climate lends itself to wildfires, and in an effort to better prepare, CAL FIRE is required to classify the severity of wildfire hazard in areas of California. The State Fire Marshal is mandated to classify lands within both State Responsibility Areas and Local Responsibility Areas into Fire Hazard Severity Zones (FHSZ). FHSZs fall into one of the Following Classifications:

- Moderate
- High
- Very High

The FHSZ maps are developed using a science-based and field-tested model that assigns a hazard score based on the factors that influence fire likelihood and fire behavior. Many factors are considered such as fire history, existing and potential fuel (natural vegetation), predicted flame length, blowing embers, terrain, and typical fire weather for the area. While these zones identify the wildfire hazard risk, they do not incorporate the impact of mitigation measures or lack thereof.

The California laws that require FHSZs include California Public Resources Code 4201-4204, California Code of Regulations Title 14, Section 1280 and California Government Code 51175-89. Figure 12-1 shows the FHSZ mapped by CAL FIRE within the Palos Verdes Peninsula.

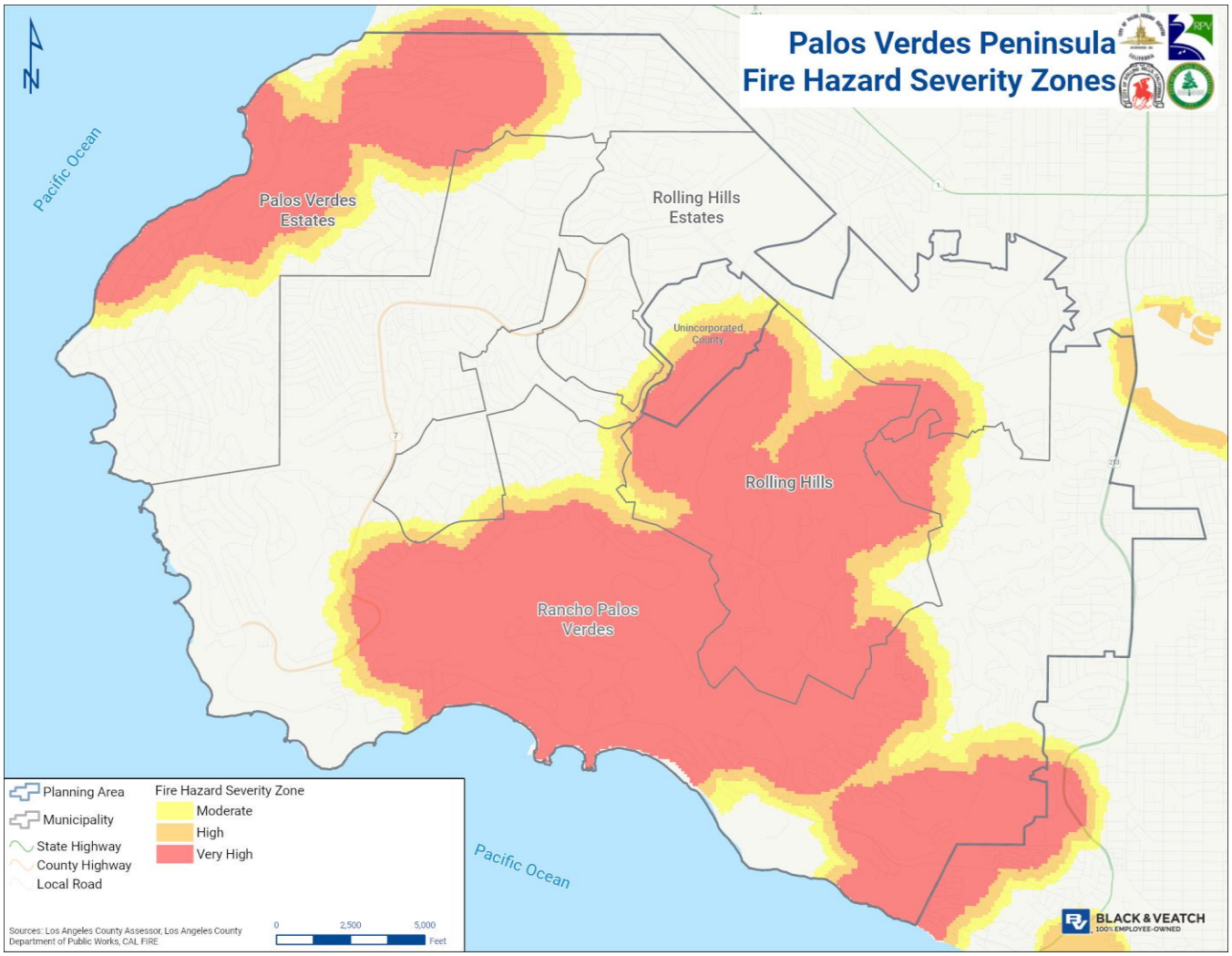


Figure 12-1. Palos Verdes Peninsula Fire Hazard Severity Zones

12.1.3 Extent

Measuring Intensity

The National Fire Danger Rating System is a system that allows fire managers to estimate today's or tomorrow's fire danger for a given area. It combines the effects of existing and expected states of selected fire danger factors into one or more qualitative or numeric indices that reflect an area's fire protection needs. Based on the fire danger, managers may impose restrictions or closures to public lands, plan for or pre-position staff and equipment to fight new fires and make decisions whether to suppress or allow fires to burn under prescribed conditions (National Park Service, 2023).

Five rating levels are used to describe danger levels in public information releases and fire prevention signing (USFS, n.d.):

- **Fire Danger Level: Low**—When the fire danger is "low," it means that fuels do not ignite easily from small embers, but a more intense heat source, such as lightning, may start fires in duff or dry

rotten wood. Fires in open, dry grasslands may burn easily a few hours after a rain, but most wood fires will spread slowly, creeping or smoldering. Control of fires is generally easy.

- **Fire Danger Level: Moderate**—When the fire danger is "moderate," it means that fires can start from most accidental causes, but the number of fire starts is usually pretty low. If a fire does start in an open, dry grassland, it will burn and spread quickly on windy days. Most wood fires will spread slowly to moderately. Average fire intensity will be moderate except in heavy concentrations of fuel, which may burn hot. Fires are still not likely to become serious and are often easy to control.
- **Fire Danger Level: High**—When the fire danger is "high," fires can start easily from most causes, and small fuels (such as grasses and needles) will ignite readily. Unattended campfires and brush fires are likely to escape. Fires will spread easily, with some areas of high-intensity burning on slopes or concentrated fuels. Fires can become serious and difficult to control unless they are put out while they are still small.
- **Fire Danger Level: Very High**—When the fire danger is "very high," fires will start easily from most causes. The fires will spread rapidly and have a quick increase in intensity, right after ignition. Small fires can quickly become large fires and exhibit extreme fire intensity, such as long-distance spotting and fire whirls. These fires can be difficult to control and will often become much larger and longer-lasting fires.
- **Fire Danger Level: Extreme**—When the fire danger is "extreme," fires of all types start quickly and burn intensely. All fires are potentially serious and can spread very quickly with intense burning. Small fires become big fires much faster than at the "very high" level. Spot fires are probable, with long-distance spotting likely. These fires are very difficult to fight and may become very dangerous and often last for several days.

A widely used measure of fire intensity is fire line intensity, which is the rate of heat transfer per unit length of the fire line (measured in kW m−1) and represents the radiant energy release in the flaming front. Fire line intensity is a good measure of how likely the fire is to propagate and how difficult it will be to stop, and thus, it is a critical component of fire behavior models used to inform fire suppression activities. Very seldom is fire line intensity actually measured, rather it is generally inferred based on flame length, which has been found to correlate with fire line intensity; however, this correlation has not been widely tested.

Factors that influence wildfire intensity include the following:

- Fuel: The type, amount, and moisture content of vegetation (fuel) significantly impact intensity.
- Topography: Steep slopes and canyons can concentrate wind and fuel, increasing intensity.
- Weather: Hot, dry, and windy conditions exacerbate fire intensity.

Warning Time

Wildfires are often caused by humans, intentionally or accidentally. There is no way to predict when a wildfire might break out. Since fireworks often cause brush fires, extra diligence is warranted around the Fourth of July when the use of fireworks is highest. Dry seasons and droughts are factors that greatly increase fire likelihood. Dry lightning may trigger wildfires. Severe weather can be predicted, so special attention can be paid during weather events that may include lightning and high winds that may spread

a wildfire. Reliable NWS lightning and wind warnings are available on average 24 to 48 hours prior to a significant storm.

The most common and effective methods used currently to detect wildfires in California are remote sensing and satellite monitoring. Satellites like NASA's MODIS and VIIRS provide real-time data on fire location, size, and intensity. These tools help identify new ignitions and monitor fire progression, even in remote areas. Thermal imaging from drones and ground-based radar complements satellite data, offering high-resolution insights for on-the-ground operations. California is also using an artificial intelligence (AI)-powered wildfire detection system using AI to train a forest-based camera network to recognize early signs of fire (https://alertcalifornia.org/).

There have been many controlled or prescribed burns implemented to reduce excess vegetation, like thinning dense forests and clearing underbrush, to mitigate fire severity. There have been robotics companies starting to try out these controlled burns with the help of robots, like the BurnBot. Autonomous helicopters have demonstrated the ability to detect and suppress fires independently.

Additionally, there are computational models, such as ELMFIRE with wildland-urban interface extensions, that simulate fire spread through communities. These tools incorporate data on vegetation, structure materials and fire dynamics to reconstruct past events and predict future risks.

Worst-Case Scenario

The worst-case scenario recently occurred in Los Angeles County in early 2025. For details, refer to *Summary of Significant Events* in this chapter.

12.1.4 Previous Occurrences

The following sections provide a review of previous wildfire occurrences in Los Angeles County.

Declarations

Federal Declarations

Between 2019 and 2025, Los Angeles County experienced 12 wildfire-related major disasters (DR) or emergency declarations (EM).

Table 12-1. Federal Wildfire Disaster Declarations

Disaster Number	Incident Period	Declaration Date	Description
FM-5293-CA	October 10 – October 22, 2019	October 11, 2019	Saddleridge Fire
FM-5296-CA	October 24 – October 29, 2019	October 24, 2019	Tick Fire
FM-5297-CA	October 28 – November 2, 2019	October 28, 2019	Getty Fire
DR-4569-CA	September 4 – November 17, 2020	October 16, 2020	Wildfires
FM-5374-CA	September 13, 2020	September 13, 2020	Bobcat Fire
FM-5537-CA	September 10 – September 24, 2024	September 11, 2024	Bridge Fire

Disaster Number	Incident Period	Declaration Date	Description
FM-5548-CA	December 10 – December 18, 2024	December 10, 2024	Franklin Fire
FM-5551-CA	January 7, 2025	January 8, 2025	Hurst Fire
FM-5550-CA	January 7, 2025	January 8, 2025	Eaton Fire
FM-5549-CA	January 7, 2025	January 7, 2025	Palisades Fire
DR-4856-CA	January 7 – January 31, 2025	January 8, 2025	Wildfires And Straight-Line Winds
FM-5605-CA	August 7, 2025	August 8, 2025	Canyon Fire

Source: (FEMA, 2025)

State Proclamations

Between 2019 and 2025, California included Los Angeles County in four state-proclaimed wildfire disasters.

Table 12-2. State Wildfire Disaster Declarations

Disaster Number	Declaration Date	Description
N-22-21 (statewide)	August 18, 2020	Fires - River, Jones, LNU Lightning Complex, Weather Conditions
N-81-20	September 25, 2020	Fire - Slater, Bobcat, Oak
N-4-24	September 11, 2024	Airport and Bridge Fires
Multiple	January 7, 2025	Los Angeles County Fires and Windstorm Event

Source: (Cal OES, 2025)

USDA Declarations

Between 2019 and 2025, there were no USDA declarations for Los Angeles County relating to wildfire (U.S. Department of Agriculture, 2025).

Summary of Significant Events

The Palisades Fire

The Palisades Fire was a highly destructive wildfire that began burning in the Santa Monica Mountains of Los Angeles County on January 7, 2025, which grew to destroy large areas of Pacific Palisades, Topanga, and Malibu before it was fully contained after 24 days on January 31. One of a series of wildfires in Southern California driven by hurricane-force Santa Ana winds, it burned 23,707 acres (9,594 ha; 95.94 km2; 37.042 sq mi), killed 12 people, and destroyed 6,837 structures, making it the 10th deadliest and third-most destructive California wildfire on record and the most destructive to occur in the history of the city of Los Angeles.

The Eaton Fire

The Eaton Fire was a highly destructive wildfire in Los Angeles County, Southern California. The fire began on the evening of January 7, 2025, in the Eaton Canyon in the San Gabriel Mountains, and was driven by powerful Santa Ana winds into foothill communities, particularly Altadena. The fire killed at least 17 people and destroyed more than 9,000 buildings, becoming the fifth deadliest and the second

most destructive wildfire in California history. The cause of the fire is under investigation; news reports and lawsuits have focused on the possible involvement of power lines operated by electrical utility Southern California Edison. The fire was fully contained on January 31 after burning for 24 days.

Both fires are examples of how wildfires can spread into areas not to be considered at risk due to the transport of burning embers by high velocity, warm air winds. Even in parts of the Peninsula not included in the very high fire hazard zone, either of these scenarios could occur in any part of the Planning Area under specific circumstances.

Additionally, heavy rains following the fires could cause post-fire debris flow flooding and landslides in areas stripped of vegetation.

Recent Events

The NOAA NCEI Storm Events Database reported 14 wildfire events impacting Los Angeles County from 2019 through 2025. Countywide impacts include 18,724 structures damaged or destroyed, 30 deaths, 38 injuries, and nearly 276,000 acres burned. Wildfire smoke was the only direct impact to the Palos Verdes Peninsula from the fires.

12.1.5 Future Conditions

Future hazard conditions, including frequency and severity of future events, is discussed in the sections below.

Probability

With 56 presidential disaster declarations in 55 years (1970 to 2025) the annual probability for wildfire events in Los Angeles County would be one per year based on past events. It is important note that none of the fires noted above occurred within the Planning Area. However, it is likely that the Planning Area experienced impacts from most if not all fires noted to some degree, due to smoke impacts, power outages, transportation interruption of other associated economic impacts. Considering risk potential associated with ember-casting by high winds, the Palos Verdes Peninsula's exposure to annual wildfire risks would be considered to be high.

Climate Change

One of the most significant factors is climate change. Warmer temperatures, reduced precipitation or a changed rainfall season, and longer fire seasons have dried out California's landscapes, increasing the potential for ignition and rapid fire spread. According to California's Fourth Climate Change Assessment, if greenhouse gas emissions continue to rise, California is likely to see a 50 percent increase in fires larger than 25,000 acres as well as a 77 percent increase in average area burned by 2100. Numerous climactic drivers will influence wildfire risk differently between California regions (California Energy Commission, Governor's Office of Planning and Research, & California Natural Resources Agency, 2019):

- **Increasing Temperatures:** Wildfire risk in the Southern California region is rising in tandem with increasing temperatures.

- **Shifting Wind Patterns:** The Santa Ana winds will continue to shape wildfire activity across Southern California. Modelers are still working to determine how these wind events will be impacted by climate change.
- **Shifting Water Patterns:** Climate change will cause shifting water patterns that can impact wildfire risk across the state. In Southern California, changing precipitation will factor heavily into post-fire risk assessments since these landscapes are especially vulnerable to post-fire flooding and landslides (USGS, n.d.).
- **Shifting Insect Habitat:** Bark beetle infestations are rising in response to the changing climate, increasing tree mortality—particularly in the southern Sierra Nevada —and reducing carbon storage.
- **Human Impacts:** Across all of California's landscapes, human factors, such as development patterns and risk mitigation strategies, will have a direct impact on communities' ability to mitigate and adapt to the impacts of climate change. Local decisions are a large factor in determining the future health of a community.

Potential Future Impacts

The future impacts of wildfires in the Planning Area could be profound. Ecologically, more frequent fires threaten ecosystem health and stability. Economically, wildfires can devastate local industries such as tourism, while also increasing insurance costs and straining emergency services. Socially, communities may face displacement, health risks from smoke exposure, and long-term recovery challenges. If current trends continue, the Planning Area could see a wildfire season that starts earlier, lasts longer, and includes more extreme fire events, potentially overwhelming local resources and infrastructure.

As the population of Palos Verdes Peninsula changes, impacts will change accordingly.

12.2 VULNERABILITY ASSESSMENT



Local Plan Requirement B1 – 44 CFR Part 201.6(c)(2)(ii)

The plan must include a description of the jurisdiction's vulnerability to the hazards of concern and include an overall summary of the hazard's impact on the community. The impacts need to include the types and numbers of existing and future buildings, infrastructure, and critical facilities located in the hazard areas, and estimate of potential dollar losses to vulnerable structures, and a description of land uses and development trends.

12.2.1 Summary of Vulnerability

For the vulnerability assessment of this hazard, the entire Planning Area has been considered to be exposed to wildfire impacts, either by direct impacts, or cascading impacts from wildfires within the region. There are currently no models available to measure direct impacts from wildfire risks, therefore, for this qualitative assessment on vulnerability has been associated with exposure to the mapped wildfire hazard severity zones.

12.2.2 Impact on Life, Health, and Safety

Larger and more intense wildfires are creating the potential for greater smoke production and chronic exposures in the United States, particularly in the West. Wildfires increase air pollution in surrounding areas and can affect regional air quality. The effects of smoke from wildfires can range from eye and respiratory tract irritation to more serious disorders, including reduced lung function, bronchitis, exacerbation of asthma and heart failure, and premature death. Children, pregnant women, and the elderly are especially vulnerable to smoke exposure. Emissions from wildfires are known to cause increased visits to hospitals and clinics by those exposed to smoke.

Within the Planning Area, an estimated 19,273 people are located in the FHSZs (Table 12-3).

Table 12-3. Estimated Number of People Living in the FHSZs

City	Total Population[1]	Population Exposed[2]	% Total
Moderate FHSZ			
Palos Verdes Estates	12,999	1,045	8.0%
Rancho Palos Verdes	40,727	2,619	6.4%
Rolling Hills	1,677	141	8.4%
Rolling Hills Estates	8,545	431	5.0%
Total	**63,948**	**4,236**	**6.6%**
High FHSZ			
Palos Verdes Estates	12,999	1,086	8.4%
Rancho Palos Verdes	40,727	2,487	6.1%
Rolling Hills	1,677	248	14.8%
Rolling Hills Estates	8,545	338	4.0%
Total	**63,948**	**4,160**	**6.5%**
Very High FHSZ			
Palos Verdes Estates	12,999	3,405	26.2%
Rancho Palos Verdes	40,727	6,142	15.1%
Rolling Hills	1,677	1,221	72.8%
Rolling Hills Estates	8,545	109	1.3%
Total	**63,948**	**10,877**	**17.0%**

Sources: (CAL FIRE, 2025a); (Hazus v6.1, 2023)

Notes: (1) Population calculated using 2020 Census data from Hazus v6.1.

(2) Percent of residential buildings exposed multiplied by the Estimated Population.

Equity Priority Communities

Equity Priority Community populations, including the elderly, people with disabilities, and those with limited evacuation access are disproportionately impacted by wildfires, facing greater risks due to the following:

- Elderly Populations—Physical difficulties and cognitive decline can hamper older adults' ability to keep their properties clear of flammable materials, such as dry shrubs and grasses, and can slow their ability to evacuate in an emergency. The fire that destroyed the town of Paradise, California, in 2018 was a tragic example. Of the 85 victims, 68 were 65 years or older.

- Disabled Populations—People with mobility or cognitive impairments may struggle to evacuate or cope with the aftermath of a wildfire.
- Evacuation Access—Residents who live in neighborhoods with only one way out are more vulnerable during an evacuation if their route is blocked or congested with traffic.

Table 12-4. Vulnerable Populations Exposed to FHSZs

City	Total Population	Demographic Vulnerability Population	Demographic Vulnerability % of Total Population	Evacuation Vulnerability Population	Evacuation Vulnerability % of Total Population
Moderate Fire Hazard Severity Zone					
Palos Verdes Estates	1,045	0	0.0%	0	0.0%
Rancho Palos Verdes	2,619	1,276	48.7%	724	27.6%
Rolling Hills	141	141	100.0%	141	100.0%
Rolling Hills Estates	431	297	69.0%	210	48.7%
Total	**4,236**	**1,714**	**40.5%**	**1,075**	**25.4%**
High Fire Hazard Severity Zone					
Palos Verdes Estates	1,086	0	0.0%	0	0.0%
Rancho Palos Verdes	2,487	860	34.6%	598	24.0%
Rolling Hills	248	239	96.2%	239	96.2%
Rolling Hills Estates	338	246	72.6%	183	54.0%
Total	**4,160**	**1,344**	**32.3%**	**1,019**	**24.5%**
Very High Fire Hazard Severity Zone					
Palos Verdes Estates	3,405	0	0.0%	0	0.0%
Rancho Palos Verdes	6,142	1,183	19.3%	1,149	18.7%
Rolling Hills	1,221	1,221	100.0%	1,221	100.0%
Rolling Hills Estates	109	106	97.5%	95	87.5%
Total	**10,877**	**2,511**	**23.1%**	**2,466**	**22.7%**

12.2.3 Impact on General Building Stock

Fire Hazard Severity Zone Exposure

CAL FIRE released updated FHSZ mapping for the California that included very high, high, and moderate severity zones within the Palos Verdes Peninsula. Table 12-5 presents the estimated number of buildings

located in the FHSZs. Table 12-6 presents the number of buildings by structure type. Of the structures exposed, the majority are residential structures.

Table 12-5. Estimated Buildings Located in FHSZs

City	Total Buildings	Total Buildings Exposed	% Total
Moderate FHSZ			
Palos Verdes Estates	5,063	402	7.9%
Rancho Palos Verdes	13,399	856	6.4%
Rolling Hills	710	60	8.5%
Rolling Hills Estates	3,302	169	5.1%
Total	**22,474**	**1,487**	**6.6%**
High FHSZ			
Palos Verdes Estates	5,063	424	8.4%
Rancho Palos Verdes	13,399	813	6.1%
Rolling Hills	710	105	14.8%
Rolling Hills Estates	3,302	125	3.9%
Total	**22,474**	**1,467**	**6.5%**
Very High FHSZ			
Palos Verdes Estates	5,063	1,340	26.5%
Rancho Palos Verdes	13,399	2,019	15.1%
Rolling Hills	710	516	72.7%
Rolling Hills Estates	3,302	41	1.2%
Total	**22,474**	**3,916**	**17.4%**

Table 12-6. Estimated Number of Buildings, by Structure Type, Located in FHSZs

City	Residential	Commercial	Industrial	Agriculture	Religion	Government	Education	Total
Moderate FHSZ								
Palos Verdes Estates	402	0	0	0	0	0	0	402
Rancho Palos Verdes	850	0	0	0	6	0	0	856
Rolling Hills	59	1	0	0	0	0	0	60
Rolling Hills Estates	158	10	0	0	0	0	1	169
Total	**1,469**	**11**	**0**	**0**	**6**	**0**	**1**	**1,487**
High FHSZ								
Palos Verdes Estates	418	0	0	0	2	1	3	424
Rancho Palos Verdes	807	4	0	0	0	0	2	813
Rolling Hills	104	1	0	0	0	0	0	105
Rolling Hills Estates	124	1	0	0	0	0	0	125
Total	**1,453**	**6**	**0**	**0**	**2**	**1**	**5**	**1,467**

City	Residential	Commercial	Industrial	Agriculture	Religion	Government	Education	Total
Very High FHSZ								
Palos Verdes Estates	1,310	24	0	0	0	4	2	1,340
Rancho Palos Verdes	1,993	8	0	2	6	4	6	2,019
Rolling Hills	512	2	0	0	0	2	0	516
Rolling Hills Estates	40	1	0	0	0	0	0	41
Total	**3,855**	**35**	**0**	**2**	**6**	**10**	**8**	**3,916**

Building Codes and Associated Vulnerability

Modern building codes significantly reduce wildfire vulnerability by mandating fire-resistant materials, construction practices, and features like enclosed eaves and meshed vents, ultimately increasing the likelihood of home survival in high-risk areas. Every wildfire creates an opportunity to mitigate future wildfire risk through recovery with the application of strong codes and standards.

The State of California is a mandatory building code state. California first mandated building code adopted locally in 1978 with state legislation (SB 331, Robbins) requiring that building standards be unified in a single code within the California Code of Regulations, designated as Title 24, the California Building Standards Code. The basis for the California Building Code has always been the International Building Code (IBC), or its predecessor, the Uniform Building Code. The IBC has always included requirements for fire and smoke protection features, but the first edition of the IBC, which was adopted in 2000, was the first time these requirements were codified in a single, comprehensive building code. Chapter 7 of the IBC includes detailed requirements for fire and smoke protection features, including the following:

- Fire-resistance-rated construction: This includes requirements for the fire resistance of structural members, walls, partitions, and horizontal assemblies.
- Fire alarm systems: The IBC specifies requirements for the installation and maintenance of fire alarm systems.
- Fire suppression systems: The IBC includes requirements for fire suppression systems, such as sprinkler systems.
- Smoke control systems: The IBC includes requirements for smoke control systems, such as smoke vents and exhaust fans.

Working under the premise that any structure not built to Chapter 7 of the IBC standards would be more vulnerable to fire starts from ember transport by high winds, and that any structure not held to any codes or standards would be the most vulnerable, an exposure analysis was performed using the date of construction as an identifier for potential vulnerability. Table 12-7 shows residential building counts in the following categories:

- Structures built before 1978, where codes and standards were not required by state mandate.

- Structures built between 1978 and 2000, where codes and standards applied to new construction, but not with specificity to smoke and fire protection.
- Structures built after 2000 where application of Chapter 7 of the IBC is applied.

Table 12-7. General Building Stock by Date of Construction

Building Code Milestone	Residential (includes multi-family)
Built before 1978	17,037
Built between 1978 and 2000	4,062
Built after 2000	1,375
Total	**22,474**

With over 17,037 residential structures in the Planning Area built before 1978, there could be an assumed level of vulnerability to that building stock from wildfire risk, assuming exposure to ember casting from regional wildfires. The degree of vulnerability is uncertain, but any structure built before 1978, surrounded by tree canopy, would be considered to be the highest degree of risk.

12.2.4 Impact on Community Lifelines

All community lifelines located in the FHSZ are exposed and vulnerable to the wildfire hazard and are likely to experience functional downtime following wildfire events that could increase the overall impact of such events. Wildfires can have an impact on water supplies because of residual pollutants like char or debris landing in water resources which can clog wastewater pipes, culverts, etc. Wildfires may also impact transportation routes, blocking residents and commuters from getting in and out of the City during a wildfire event because of heavy smoke making it difficult to drive, or where the flames have close proximity to the roadways, making the route an unsafe passageway.

Refer to Table 12-8 for a summary of community lifelines located in the Palos Verdes Peninsula that are in the moderate, high, and very high fire severity zones.

Table 12-8. Community Lifelines in Wildfire Severity Zones

City	Communications	Energy	Food, Hydration, Shelter	Hazardous Materials	Health and Medical	Safety and Security	Transportation	Water Systems	Total
Moderate FHSZ									
Palos Verdes Estates	0	0	0	0	0	0	0	0	0
Rancho Palos Verdes	1	0	0	0	0	1	0	0	2
Rolling Hills	0	0	0	0	0	0	0	1	1
Rolling Hills Estates	1	0	0	0	1	1	0	0	3
Total	2	0	0	0	1	2	0	1	6

City	Communications	Energy	Food, Hydration, Shelter	Hazardous Materials	Health and Medical	Safety and Security	Transportation	Water Systems	Total
High FHSZ									
Palos Verdes Estates	0	0	0	0	1	2	0	1	4
Rancho Palos Verdes	3	0	0	0	0	1	0	0	4
Rolling Hills	0	0	0	0	0	1	0	0	1
Rolling Hills Estates	0	0	0	0	0	0	0	1	1
Total	3	0	0	0	1	4	0	2	10
Very High FHSZ									
Palos Verdes Estates	11	1	0	0	0	5	1	1	19
Rancho Palos Verdes	92	1	0	0	0	5	0	7	105
Rolling Hills	1	0	0	0	0	2	0	0	3
Rolling Hills Estates	0	0	0	0	0	0	0	1	1
Total	104	2	0	0	0	12	1	9	128

12.2.5 Impact on the Economy

Wildfires can have both positive and negative effects on local economies. Positive effects come from economic activity generated in the community during fire suppression and post-fire rebuilding. However, local economies only experience positive effects if fire suppression spending and contracting is done locally. In addition, future benefits are only possible if the fire stimulates, rather than stops, economic development efforts associated with recovery.

Factors that affect state and local budgets in the long-term include the following:

- Replacement of lost facilities and associated infrastructure,
- Watershed and water quality mitigation, and
- Sensitive species and habitat restoration.

Of the Planning Area's $24.1 billion in total replacement cost values of structures, 32.9 percent ($7.94 billion) are exposed to the FHSZs.

Table 12-9. Estimated Replacement Cost Value of Buildings Located in the FHSZs

City	Total Replacement Cost Value	Exposed Structure Value	Exposed Contents Value	Total Exposed	% Total Value Exposed
Moderate FHSZ					
Palos Verdes Estates	$5,778,400,360	$281,620,930	$140,810,465	$422,431,394	7.3%
Rancho Palos Verdes	$12,883,794,425	$552,700,048	$286,401,758	$839,101,806	6.5%
Rolling Hills	$1,071,504,628	$50,298,617	$25,175,614	$75,474,231	7.0%
Rolling Hills Estates	$4,372,243,176	$175,944,992	$127,639,484	$303,584,475	6.9%
Total	**24,105,942,589**	**$1,060,564,586**	**$580,027,321**	**$1,640,591,906**	**6.8%**
High FHSZ					
Palos Verdes Estates	$5,778,400,360	$397,943,708	$240,159,438	$638,103,145	11.0%
Rancho Palos Verdes	$12,883,794,425	$589,902,680	$313,194,403	$903,097,083	7.0%
Rolling Hills	$1,071,504,628	$109,085,109	$60,866,035	$169,951,144	15.9%
Rolling Hills Estates	$4,372,243,176	$83,180,192	$42,629,284	$125,809,476	2.9%
Total	**24,105,942,589**	**$1,180,111,689**	**$656,849,159**	**$1,836,960,848**	**7.6%**
Very High FHSZ					
Palos Verdes Estates	$5,778,400,360	$1,116,478,024	$582,412,258	$1,698,890,281	29.4%
Rancho Palos Verdes	$12,883,794,425	$1,288,574,053	$665,222,293	$1,953,796,347	15.2%
Rolling Hills	$1,071,504,628	$521,353,242	$261,527,690	$782,880,932	73.1%
Rolling Hills Estates	$4,372,243,176	$18,484,982	$9,276,891	$27,761,872	0.6%
Total	**24,105,942,589**	**$2,944,890,301**	**$1,518,439,131**	**$4,463,329,432**	**18.5%**

12.2.6 Impact on Historic and Cultural Resources

The impact to historic cultural resources from direct and indirect exposure to fire and fire-related activities may be swift and detrimental. Wildfires can rapidly engulf historic buildings, archaeological sites, and culturally significant landscapes, leading to irreversible loss of heritage. The loss of such historic and cultural resources would not only erase tangible connections to the past but also diminish the cultural richness and historical continuity of the Palos Verdes Peninsula.

12.2.7 Impact on Ecosystems and Natural Resources

Wildfires present a serious threat to the Palos Verdes Peninsula because of its dry grasslands, which become highly flammable during the hot, dry summer months. Watersheds are particularly vulnerable, with fires potentially reducing water supply reliability and compromising water quality through increased

sedimentation and runoff. Air quality also deteriorates significantly during and after fire events, affecting both human health and environmental conditions.

The aesthetic and recreational value of the Planning Area is another major concern. Large-scale fires can scar scenic landscapes and recreational areas, diminishing the visual appeal that draws tourists and outdoor enthusiasts. The loss of these resources would have profound ecological and economic consequences.

12.2.8 Change in Vulnerability Since the Prior Planning Area HMPs

Wildfire vulnerability may have increased slightly due to prolonged drought conditions and increased fuel loads, but not due to population or development changes. The Planning Area's population has decreased slightly. However, climate-driven changes in fire behavior could elevate risk despite the population change. Climate change has intensified wildfire behavior, with longer fire seasons and more extreme fire weather.

12.3 MITIGATION OPPORTUNITIES

Table 12-10 presents a range of potential opportunities considered by the Planning Partnership for mitigating the wildfire hazard.

Table 12-10. Potential Opportunities to Mitigate the Wildfire Hazard

Community Scale	Organizational Scale	Government Scale
Manipulate the Hazard		
• Clear potential fuels on property such as dry overgrown underbrush and diseased trees	• Clear potential fuels on property such as dry overgrown underbrush and diseased trees	• Clear potential fuels on property such as dry overgrown underbrush and diseased trees • Implement best management practices on public lands
Reduce Exposure and Vulnerability		
• Create and maintain defensible space around structures and provide water on site • Locate outside of hazard area • Mow regularly • Use fire-resistant building materials	• Create and maintain defensible space around structures and infrastructure and provide water on site • Locate outside of hazard area • Use fire-resistant building materials • Use fire-resistant plantings in buffer areas of high wildfire threat	• Create and maintain defensible space around structures and infrastructure • Locate outside of hazard area • Enhance building code to include use of fire-resistant materials in high hazard area • Use fire-resistant plantings in buffer areas of high wildfire threat • Consider higher regulatory standards (such as Class A roofing) • Establish biomass reclamation activities

Community Scale	Organizational Scale	Government Scale
		• In high-risk areas, use heat-resistant materials like welded steel, and avoid heat-susceptible materials like polyvinyl chloride and high-density polyethylene
Build Local Capacity		
• Employ techniques from the National Fire Protection Association's Firewise Communities program to safeguard home • Identify alternative water supplies for firefighting • Install/replace roofing material with non-combustible roofing materials	• Support Firewise community initiatives • Create/establish stored water supplies to be utilized for firefighting	• More public outreach and education efforts, including an active Firewise program • Identify fire response and alternative evacuation routes • Seek alternative water supplies • Become a Firewise community • Use academia to study impacts/solutions to wildfire risk • Establish/maintain mutual aid agreements between fire service agencies • Develop, adopt, and implement integrated plans for mitigating wildfire impacts in wildland areas bordering on development • Consider the probable impacts of climate change on the risk associated with the wildfire hazard in future land use decisions • Provide incentives for existing structures to be hardened against wildfire • Use tools to detect, forecast, and take action ahead of wildfire
Nature-based Opportunities		
• Manage invasive species that are susceptible to increased wildfire risk • Create riparian corridors in wildfire hazard areas as fire breaks • Incorporate nature-based wildfire risk reduction buffers into existing ecosystem-friendly land uses (e.g., green space, trains, or parks)		

13. OTHER HAZARDS OF INTEREST

After reviewing the previous plan and considering options for other hazards of interest to address, the HMPC selected a limited number of hazards of interest to include in the development of this Multi-Jurisdictional Hazard Mitigation Plan. The sections below provide short profiles of each hazard of interest, including a qualitative discussion of their potential impact in the Planning Area. No formal risk assessment was performed, no mitigation actions have been developed to address them, and the hazards are not included in the risk ranking. However, all Planning Partners for this plan should be aware of these hazards and take steps to reduce the risks they present whenever it is practical to do so.

13.1 GROUNDWATER SEEPAGE

13.1.1 Overview

Malaga Cove Plaza in Palos Verdes Estates has experienced persistent groundwater seepage since the early 1980s, causing building damage and operational difficulties for businesses as water infiltrates foundations and basements. Despite installing dewatering wells, sump pumps, and a subdrain in 1997, these measures have become costly and increasingly ineffective, leaving the area vulnerable to recurring water intrusion. Geophysical studies show that variable subsurface conditions such as sand layers of differing thickness interspersed with low permeability clay cause groundwater to accumulate and flow laterally along permeable zones, producing seepage along streets aligned with these pathways. Additionally, fractured rock associated with the Palos Verdes and Cabrillo fault zones provides further conduits for groundwater movement toward the plaza. Combined with steep local topography that channels surface and subsurface water northward, along with infiltration from rainfall and irrigation at higher elevations, these factors continuously drive groundwater toward Malaga Cove Plaza.

13.1.2 Identified Groundwater Seepage

Groundwater seepage is the slow movement of water through soil or rock until it reaches the ground surface or enters nearby structures. It occurs when water stored below the surface follows natural openings or permeable layers and moves in response to pressure or elevation differences. This process can lead to moisture intrusion, flooding, or structural impacts when the water emerges in developed areas.

13.1.3 Past Events

While groundwater seepage has been present in the Malaga Cove area for many years, in the spring of 1993, water seeping through foundations prompted the City to implement dewatering measures. These measures proved effective for the time being but gradually decreased in effectiveness. Water intrusion occurred again in September of 2023, prompting the City to begin investigating a new solution.

13.1.4 Location and Extent

Malaga Cove Plaza has experienced periodic groundwater seepage along Via Campesina and Via Chico since the 1980s. Seepage occurs where natural drainage paths direct water from higher elevations

toward the plaza. This site sits atop fine-grained lagoon, beach, and dune sands that facilitate groundwater movement. Rainfall and irrigation from higher ground increase the amount of water soaking into these sandy soils, leading to more water movement below the surface and visible seepage. Hydrogeological studies show that this issue is shaped by a mix of drainage patterns, the area's landscape, how easily water passes through the soil, and the presence of geological faults.

13.2 HAZARDOUS MATERIALS

13.2.1 Overview

Hazardous substances including chemicals, petroleum products, explosives, radiological materials are regularly used and transported within and through the Planning Area. As technology continues to advance, the processes involving these materials are becoming increasingly complex. Their movement by rail, highway, air, and pipeline introduces distinct challenges in the event of an accidental release.

13.2.2 Identified Hazardous Materials Hazards

The Palos Verdes Peninsula does not contain any sites currently designated under the U.S. Environmental Protection Agency's (EPA) Superfund program. The former Montrose Chemical Corporation facility, located in the adjacent City of Torrance, is listed on the EPA's National Priorities List (NPL). This facility manufactured dichlorodiphenyltrichloroethane (DDT) until operations ceased in 1982. DDT has since been prohibited in most countries due to its well-documented adverse environmental effects, including persistence in ecosystems, bioaccumulation within the tissues of organisms, and long-term ecological and toxicological impacts. Concerns include soil contamination, groundwater contamination, and the effects of contaminated wastewater discharge. Cleanup and containment efforts have been ongoing since the facility closed.

Located just over a mile from the Montrose Superfund site lies the Del Amo site, where synthetic rubber was manufactured between 1943 and 1972. The site was placed on the National Priorities List in 1997 after soil and groundwater contamination was discovered. Today, much of the property has been transformed into an industrial park, though environmental cleanup continues. Groundwater contamination remains a significant issue, though no drinking water sources have been found to be affected at present. The site overlaps with the Montrose Superfund site and contamination from both sites have comingled to create "dual-site groundwater."

13.2.3 Past Events

According to the California Office of Emergency Services, 593 reported spills have occurred between 2019 and 2024 on the peninsula and in neighboring municipalities (Torrance, Long Beach, Lomita, and Wilmington). These spills include but are not limited to vapor, chemical, petroleum, and sewer. Hazardous spills most commonly occur on waterways, roadways, and at residences. Impacts of hazardous spills may include the following:

- Potential for fires and explosions
- Disruption of transportation systems
- Destruction of utilities and other public services
- Damage to public infrastructure and facilities

- Residential displacement, including evacuations
- Individuals trapped and injured in unsafe conditions
- Health issues related to discharges or releases
- Need for emergency food, shelter, and medical care
- Economic impacts, both short- and long-term
- Water pollution and quality degradation

13.2.4 Location and Extent

The Planning Area does not have any heavy industry, which reduces the amount of hazardous materials in the area. The following locations, however, could subject the Planning Area to significant hazardous materials incidents:

1. Kaiser Medical Hospital – located along the Planning Area's northeastern boundary
2. Pacific Coast Highway – arterial highway; potential transportation incidents
3. Interstate 110 – located east of the Planning Area; potential transportation incidents
4. Ports – Port of Los Angeles and Port of Long Beach; potential hazardous materials/ terrorism/ transportation incidents
5. Oil Refineries – located on Lomita Boulevard and the Crenshaw Boulevard Torrance Refinery; potential hazardous materials incident; oil refineries located in north Torrance could present air quality issues in the event of an accident
6. LAX Airport – located north of the Planning Area; potential hazardous materials/ terrorism/ transportation incidents

The Planning Area generally experiences mild to warm temperatures throughout the year, with light winds most of the time. During the day, gentle offshore breezes usually blow in from the northwest. At times, these breezes are replaced by powerful Santa Ana winds coming from the northeast. Santa Ana winds are strongest in the fall and winter and can reach speeds of up to 70 mph.

The regular offshore breezes often help clear away airborne pollutants. However, during the summer, a layer of warm air can form above the area. This prevents pollutants from dispersing and traps them near the ground. When pollutants build up, air quality worsens, which can increase health risks for the community.

13.3 HUMAN-CAUSED

13.3.1 Overview

Human-caused events are potentially life-threatening incidents initiated by individuals or groups with the intent to disrupt the public. Although no significant human-caused events have been documented within the Planning Area to date, it remains essential for municipalities to be prepared for these occurrences. Examples include terrorism, cyberterrorism, civil disorder, and active shooter incidents. Notably, areas immediately adjacent to the Planning Area have experienced such events, indicating that the peninsula should also be regarded as vulnerable to these potential threats.

13.3.2 Identified Human-Caused Hazards

Terrorism

Terrorism is defined as the unlawful use of force or violence against persons or property, carried out with the intent to intimidate, coerce, or extort. These acts are intending to instill fear within the public, sow doubt in governmental institutions, and generate publicity for political, ideological, or religious causes.

The Federal Bureau of Investigation recognizes two primary categories of terrorism within the United States:

- **Domestic Terrorism**: Activities perpetrated by individuals or groups whose operations are directed at elements of the U.S. government or civilian population without foreign influence.
- **International Terrorism**: Activities perpetrated by individuals or groups that are foreign based, directed by entities outside the United States, or that transcend national boundaries in scope, impact, or intent.

Terrorist incidents may take multiple forms, depending on the technological capabilities of the perpetrators, the motivations driving the act, and the vulnerabilities of the intended target. While bombings remain the most frequently employed method within the United States, other potential scenarios include attacks on transportation systems, utilities, public services, or the deployment of chemical, biological, radiological, or nuclear agents.

Cyberterrorism

Cyber terrorism refers to the deliberate use of digital technologies, computer systems, and networks to conduct terrorist activities. These intentional, large-scale disruptions of information systems and critical infrastructure are often carried out through malicious tools such as computer viruses or ransomware and may originate from anywhere in the world. Unlike conventional cybercrime, which is typically motivated by financial gain, cyber terrorism is distinguished by its intent to instill fear, cause widespread disruption, undermine public confidence, or advance political, ideological, or religious objectives. Potential impacts extend beyond individual users to include government operations, private-sector enterprises, and essential services that are part of the interconnected system.

Civil Disorder

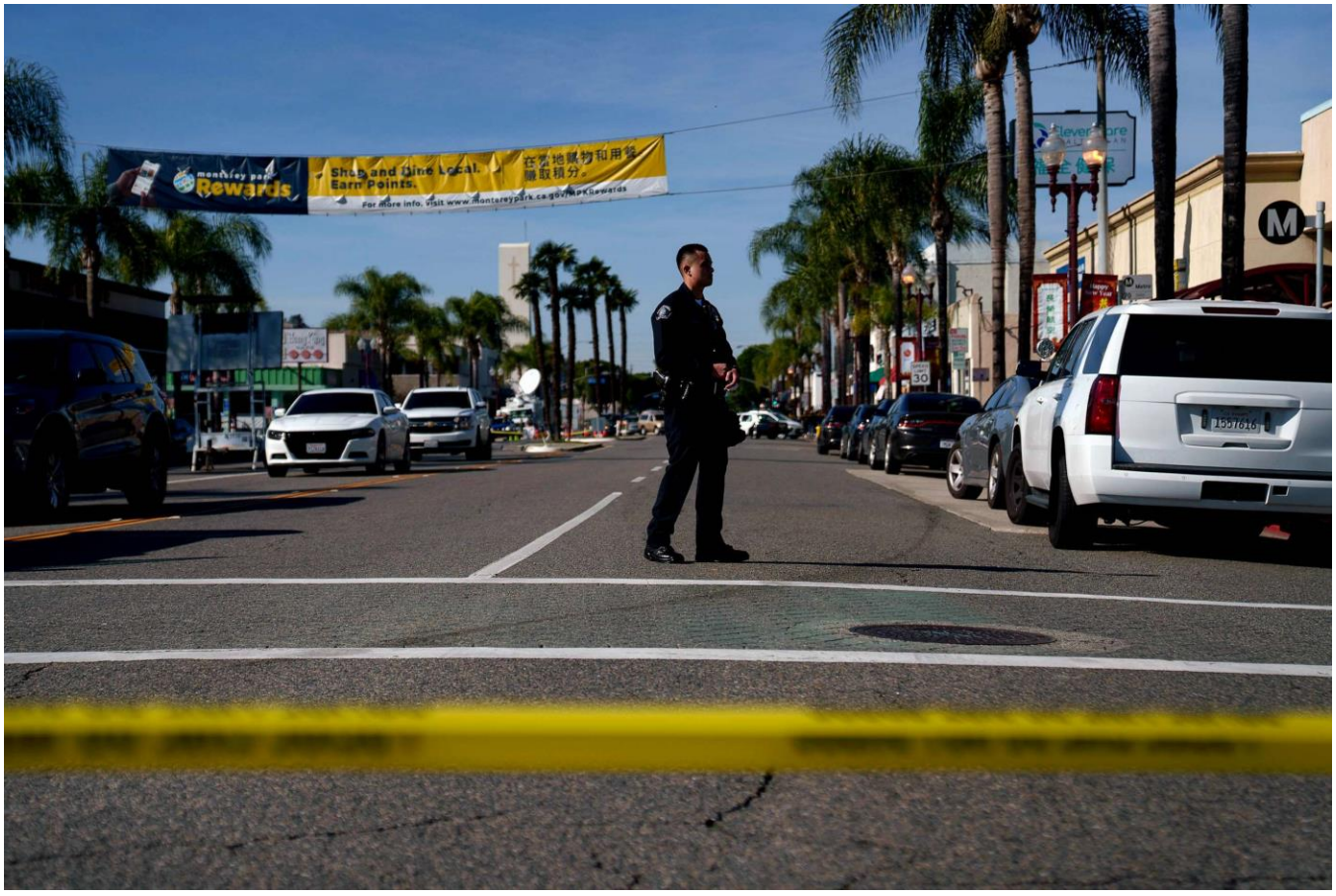
Civil disorder, also referred to as civil unrest or civil strife, is a broad term commonly used by law enforcement and emergency management agencies to describe disturbances involving groups of people. Such disturbances may arise as organized protests addressing significant socio-political issues, or they may manifest as expressions of antisocial behavior that disrupt public order and safety.

Civil disturbances can vary widely in scope and intent. While some events are peaceful demonstrations protected under constitutional rights, others may escalate into disruptive or violent activities that strain public safety resources, disrupt essential services, and create risks to both property and human life.

Active Shooter

To date, there have been no reported active shooter events within the Planning Area. However, active shooter incidents have tragically occurred in schools, workplaces, and public venues across the United States in recent years, underscoring the need for preparedness at the local level.

One of the most devastating examples occurred on February 14, 2018, when a gunman opened fire at Marjory Stoneman Douglas High School in Parkland, Florida, killing 17 students and staff members and injuring 17 others. This incident is recognized as one of the deadliest high school shootings in U.S. history. Similarly, on December 14, 2012, an active shooter at Sandy Hook Elementary School in Newtown, Connecticut, killed 20 children and six staff members, marking one of the most tragic school shootings in the nation. These events highlight the unpredictable nature of active shooter incidents, which can occur in any community, at any time.



A police officer stands outside the site of the deadly Monterey Park Shooting, the worst mass shooting in Los Angeles County History. Source: ABC News

13.3.3 Past Events

Over the past five years, Los Angeles County has experienced a number of human-driven crises. In 2023, a 72-year-old shooter killed 11 and injured 9 after opening fire on the Star Ballroom Dance Studio in Monterey Park. . In 2025, Immigration and Customs Enforcement (ICE) detentions and a sense of alarm over what many viewed as a weakening of democratic institutions caused civil unrest, as these operations impacted communities' abilities to continue their daily routines, increasing community need

for lifeline services and impacting the economy, as many workers were detained or feared going to work due to ICE operations. Between 2020-2024, 24 active shooter incidents occurred in California.

13.3.4 Location and Extent

Human-caused hazards can unfold anywhere, at any time. Within California and Los Angeles County, the spectrum of potential terrorist targets is extensive. These include government facilities, educational institutions, religious sites, public gathering venues (such as shopping centers and entertainment facilities), abortion clinics, energy and utility infrastructure, transportation networks, oil refineries, water storage facilities, financial institutions, and locations associated with high-profile individuals. Active shooter incidents likewise vary based on perpetrator target and can occur anywhere. Technological advancements have created opportunities for cybercriminals to launch attacks from any part of the world and impact any location.

13.4 UTILITY RELATED

13.4.1 Overview

Utility related events include power failure or stoppages, water stoppages, and natural gas stoppages. Utility service interruptions are usually initiated by providers in response to severe weather, necessary repairs, or safety concerns. Severe weather events such as high winds, wildfires, extreme heat and heavy rainfall can disrupt service delivery by placing strain on or damaging critical infrastructure. Restoring service after an outage can take anywhere from several hours to multiple days, depending on the severity of the damage. Repair crews are unable to begin restoration efforts until the immediate threat has subsided and preliminary cleanup is underway. Temporary interruptions in essential utilities may disproportionately harm vulnerable communities. When stoppages and outages coincide with severe weather, they can amplify already dire conditions in the community.

13.4.2 Identified Utility Related Hazards

Power Failure/Stoppages

Stoppages take place when electricity demand on the grid is set to exceed the available supply. Brownouts happen when utility companies intentionally lower the load to prevent full blackouts caused by system overload. These partial outages may involve rotating power outages across different parts of the service area or lowering the voltage being delivered. A power failure, by contrast, is an unplanned, complete loss of electricity that occurs when equipment in the grid breaks down or when severe weather damages power lines or transformers.

Water Stoppages

Although it is rare for water utilities to shut down during severe weather, service may be interrupted if water pressure falls below safe levels for public distribution. This can happen when extremely cold temperatures cause widespread pipe bursts, leading to significant water loss.

Natural Gas Stoppages

Stoppages are implemented by providers as a precaution against fires, explosions, and leaks, or as a direct response to these events. Landslides pose a massive threat to gas pipelines, as the ground movement may severely damage infrastructure. Gas lines are also often shut off in areas where there is a high risk of wildfire activity.

13.4.3 Past Events

Although the peninsula has not recently experienced a natural gas leak/spill, some residents have experienced prolonged periods of time without natural gas delivery due to land movement. Utilities shut off natural gas services in some areas and relocated pipelines in response to accelerating land movement in 2024. An example of a natural gas pipeline leak within Los Angeles County is outlined below.



Protesters sit outside of the Porter Ranch Neighborhood in response to the gas leak: LA Times

On October 23, 2015, a natural gas storage well in Porter Ranch failed, triggering a massive and uncontrolled leak. The incident forced 5,000 families to relocate, while more than 130,000 people lived within 5 miles of the site. The leak continued until February 12, 2016, releasing over 100,000 metric tons of methane and ethane into the atmosphere. Since then, many residents have reported ongoing health problems linked to the disaster. In December 2022, the University of California, Los Angeles launched a 5-year study to evaluate both the short- and long-term health impacts on those who lived near the affected area.

13.4.4 Location and Extent

Utility interruptions that affect residents on the peninsula may originate in the Planning Area, somewhere in Los Angeles County, or somewhere else in the state. Most natural gas is transported through pipelines, and pipelines can be found throughout the Planning Area.

14. HAZARD RANKING

The prioritization and categorization of identified hazards for the Planning Area is based on the Priority Risk Index (PRI), a tool used to measure the degree of risk for identified hazards in a particular Planning Area. The PRI was used to assist the Planning Partnership in identifying hazards that pose the most significant threat to the Peninsula.

The PRI results provide a numerical value for each hazard, allowing hazards to be ranked against one another (i.e., the higher the PRI value, the greater the hazard risk). PRI values are obtained by assigning varying degrees of risk to five categories for each hazard: probability, impact, spatial extent, warning time, and climate change.

Each degree of risk has been assigned a value (1 to 4) and a weighting factor.

To calculate the PRI value for a given hazard, the assigned risk value for each category is multiplied by the weighting factor. The sum of all five categories equals the final PRI value, as demonstrated in the example equation below:

PRI VALUE = [(PROBABILITY x .30) + (IMPACT x .30) + (SPATIAL EXTENT x .20) + (WARNING TIME x .10) + (CLIMATE CHANGE x .10)]

According to the weighting scheme applied, the highest possible PRI value is 4.0. Table 14-1 shows the weighting schemes for each category. The assigned weighting factors are typical for hazard mitigation planning efforts. The Planning Partners had the option to amend these values if desired if additional factors should be considered for their individual hazard rankings. The final rankings for each Planning Partner are included in the jurisdictional annexes in Volume 2. By determining a value for each hazard that can be compared to other hazards threatening the Planning Area, hazards can be ranked with greater ease.

Many of the PRI categories are described within the natural hazard profiles. A hazard risk ranking for each hazard of concern was assigned to the range of PRI values as follows:

- PRI Value 1 to 1.9 = Low Hazard Risk Ranking
- PRI Value 2.0 to 2.9 = Medium Hazard Risk Ranking
- PRI Value 3.0 to 4.0 = High Hazard Risk Ranking

The final PRI results, including the calculated values for each hazard in the Planning Area are found in Table 14-2.

Table 14-1. Priority Risk Index Scoring Criteria

PRI Category	Degree of Risk			Assigned Weighting Factor
	Level	Criteria	Index Value	
Probability	Unlikely	Less than 1% annual probability	1	30%
	Possible	Between 1% and 10% annual probability	2	
	Likely	Between 10% and 90% annual probability	3	
	Highly Likely	90%+ annual probability	4	
Impact	Minor	Only minor property damage and minimal disruption to government functions and services. No shutdown of critical facilities.	1	30%
	Limited	Minor injuries to the total and socially vulnerable population are possible, more than 10% of buildings damaged or destroyed, temporary shutdown of critical facilities (less than 1 week).	2	
	Critical	Multiple deaths/injuries to the total and socially vulnerable population are possible, more than 25% of buildings damaged or destroyed, complete shutdown of critical facilities for more than 1 week.	3	
	Catastrophic	High number of deaths/injuries to the total and socially vulnerable population are possible, more than 50% of buildings damaged or destroyed, complete shutdown of critical facilities for 30 days or more.	4	
Spatial Extent	Negligible	Limited to one specific area.	1	20%
	Small	Small areas affected.	2	
	Moderate	Large areas affected.	3	
	Large	All areas affected.	4	
Warning Time	More than 24 hours	Self-explanatory	1	10%
	12 to 24 hours	Self-explanatory	2	
	6 to 12 hours	Self-explanatory	3	
	Less than 6 hours	Self-explanatory	4	
Climate Change	Decreasing Risk	Climate change is likely to result in a decrease in the frequency and/or severity of hazard events.	1	10%
	No Impact	Climate change is not expected to impact frequency and/or severity of hazard events.	2	
	Risk Unknown	Not enough data currently exists to make accurate projections on the impact of climate change on hazard events.	3	
	Increasing Risk	Climate change is likely to result in an increase in the frequency/severity of hazard events.	4	

Table 14-2. Priority Risk Index Scoring Criteria

Hazard	Probability	Impact	Spatial Extent	Warning Time	Climate Change	PRI	Risk Ranking
Drought	1.2	.30	.80	.10	.40	2.8	Medium
Earthquake	1.2	.60	.80	.40	.20	3.2	High
Flood	1.2	.30	.20	.10	.40	2.2	Medium
Heat Wave	1.2	.90	.80	.20	.40	3.5	High
Landslide	1.2	.90	.60	.40	.40	3.5	High
Strong Wind	1.2	.90	.80	.20	.40	3.5	High
Wildfire	.90	.90	.60	.40	.40	3.2	High

Part 3
Mitigation Strategy



Foxtail Agave, Palos Verdes Peninsula (Photo Credit: Megan Brotherton)

15. MITIGATION STRATEGY

15.1 REVIEW OF PREVIOUS MITIGATION ACTIONS

Local Plan Requirement E2 – 44 CFR Part 201.6(d)(3)

The plan must document how the plan was reviewed and revised to document changes in development, progress in mitigation efforts, and changes in priorities.

The prior individual Planning Partner mitigation plans identified recommended mitigation actions. For this MJHMP, the actions were reviewed by the Planning Partners, who provided a status update using the following guidance:

- No Progress – The mitigation action has not been completed.
- In Progress – Implementation of the mitigation action has begun but has not been completed.
- Ongoing Capability – The mitigation action has been implemented and will be completed on an annual or regular basis (for example, maintenance activities, annual outreach, etc.). These actions were removed from the updated mitigation strategy and included as jurisdictional capabilities in their respective annexes in Volume 2.
- Completed – The mitigation action has been fully implemented and was removed from the updated mitigation strategy.

Actions that were in progress or had no progress were evaluated to determine if they should be discontinued or included in this MJHMP. Reasons for discontinuing an action include that the action has been evaluated as being duplicative, impractical, unfeasible, or undesirable, or if the problem that the action was originally developed for is no longer present. Actions that were identified for inclusion in the updated mitigation strategy received additional evaluation to determine if the action should be revised to reflect any new information obtained as part of the plan update process (for example, changes in risk, capabilities, lead agency, or available funding sources).

15.1.1 Mitigation Accomplishments Since the Prior Mitigation Planning Efforts

- Dewatering wells – Installed and maintained as funds are available.
- Stabilization of the San Ramon Canyon and adjacent roadways; diverting runoff to minimize Tarapaca landslide movement, mudslides, and flooding on PVDS/25th Street.

15.2 MITIGATION GOALS

Local Plan Requirement C3 – 44 CFR Part 201.6(c)(3)(i)

The mitigation strategy must include a description of mitigation goals to reduce or avoid long-term vulnerabilities to identified hazards.

Mitigation goals represent broad statements that are consistent with the hazards identified in the MJHMP and achieved through the implementation of specific mitigation actions. The HMPC developed mitigation goals to reflect the current focus of Palos Verde Peninsula and its participating jurisdictions. The HMPC determined the following goals for this MJHMP:



- **Goal 1.** Reduce risk to life, property, community lifelines, the environment, and infrastructure from natural hazards and climate change.
- **Goal 2.** Expand and improve public awareness of hazards, risk, and mitigation strategies.
- **Goal 3.** Strengthen partnerships and communication among government agencies, private sector businesses, community-based, and nonprofit organizations.
- **Goal 4.** Integrate mitigation principles into regulations, policies, programs, and guidance to support equitable outcomes to benefit the whole community.
- **Goal 5.** Conserve, enhance, rehabilitate, and protect natural and cultural resources from hazards to provide a more resilient and sustainable community.

Goals are directly linked to the mitigation actions identified in each jurisdictional annex in Volume 2.

15.3 MITIGATION ALTERNATIVES

Local Plan Requirement C3 – 44 CFR Part 201.6(c)(3)(ii)

The mitigation strategy shall include a section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effect of each hazard, with particular emphasis on new and existing buildings and infrastructure.

A range of potential mitigation opportunities is included in each hazard risk assessment in Chapter 6 through Chapter 0. The potential actions are categorized by the following:

- Who may implement the action:
  - Community scale (individuals or groups)
  - Organizational scale (businesses, nonprofits, community-based organizations)
  - Government scale (any government agency that has permit authorities and police powers within the Planning Area)

- What the alternative would do:
  - Manipulate the hazard (actions to prevent hazard events from occurring)
  - Reduce exposure and vulnerability (actions to safeguard people, property, and the environment from the impacts of the hazard)
  - Build local capacity (actions to improve abilities to mitigate and respond to hazard events)
  - Use nature-based solutions (actions that use green solutions to mitigate the hazard and provide additional environmental services)

15.4 DEVELOPING MITIGATION ACTIONS

Local Plan Requirement C3 – 44 CFR Part 201.6(c)(3)(ii)	Local Plan Requirement C3 – 44 CFR Part 201.6(c)(3)(iii)
The mitigation strategy shall include a section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effect of each hazard, with particular emphasis on new and existing buildings and infrastructure.	*The hazard mitigation strategy shall include an action plan, describing how the action identified in paragraph (c)(3)(ii) of this section will be prioritized, implemented, and administered by the local jurisdiction.*

Each jurisdiction reviewed the results of the risk and capability assessments, previous mitigation strategy, mitigation goals, catalogs of mitigation alternatives and selected actions to be included in their mitigation strategy in their jurisdictional annexes in Volume 2 of this plan.

15.5 PRIORITIZING MITIGATION ACTIONS

Local Plan Requirement E2 – 44 CFR Part 201.6(d)(3)	Local Plan Requirement C3 – 44 CFR Part 201.6(c)(3)(iii)
The plan must document how the plan was reviewed and revised to document changes in development, progress in mitigation efforts, and changes in priorities.	*The hazard mitigation strategy shall include an action plan, describing how the action identified in paragraph (c)(3)(ii) of this section will be prioritized, implemented, and administered by the local jurisdiction.*

A broad range of potential mitigation actions were considered in the prior mitigation plans for this Planning Partnership. Tables in each plan were developed to rank the mitigation projects based on the STAPLEE criteria or a series of 18 questions.

For this MJHMP, the Planning Partnership followed the same prioritization method used in the 2023 California State HMP.

15.6 MITIGATION ACTION CATEGORIZATION

The identified mitigation actions are classified by the following action types.

15.6.1 Local Plans and Regulations

These activities are intended to keep hazard problems from getting worse and are typically administered through programs or regulatory actions that influence the way land is developed and assets are built. In the context of this plan, these measures also include security initiatives. Planning and regulatory measures are particularly effective in reducing a jurisdiction's future vulnerability, especially in areas where development has not occurred, or capital improvements have not been substantial. Examples of these activities include the following:

- Planning and zoning
- Open space preservation
- Floodplain regulations
- Stormwater management regulations
- Drainage system maintenance
- Capital improvement programs
- Riverine / fault zone setbacks
- Security measures

15.6.2 Structure and Infrastructure Projects

These activities involve the modification of existing buildings, assets, and structures to help them better withstand the forces of a hazard, or removal of the structures from hazardous locations. Examples include the following:

- Acquisition
- Relocation
- Asset and building elevation
- Structural retrofitting
- Safe rooms, shutters, shatter-resistant glass
- Road and bridge infrastructure improvements
- Reservoirs
- Dams, levees, dikes, and floodwalls
- Diversions, detention, retention
- Stormwater infrastructure expansion
- Water, sewer, or other utility infrastructure improvements

15.6.3 Education and Awareness Programs

Education and awareness activities are used to advise residents, elected officials, business owners, potential property buyers, and visitors about hazards, hazardous areas, and mitigation techniques they can use to protect themselves and their property. Examples of measures to educate and inform the public include the following:

- Outreach projects
- Speaker series and demonstration events
- Hazard map information
- Library materials
- School-age educational programs
- Hazard expositions
- Social media campaigns
- Warning and communication systems

15.6.4 Natural Systems Protection

Natural systems protection activities reduce the impact of natural hazards by preserving or restoring natural areas and their protective functions. Such areas include floodplains, wetlands, and steep slopes, in addition to the following:

- Floodplain protection
- Watershed management
- Riparian buffers
- Habitat preservation
- Erosion and sediment control
- Wetland preservation and restoration
- Slope stabilization
- Forest and vegetation management (e.g., fire resistant landscaping, fuel breaks, etc.)
- Green infrastructure

15.6.5 Climate Resiliency

Climate resiliency actions incorporate methods to mitigate or adapt to the impacts of the changing climate. Examples include the following:

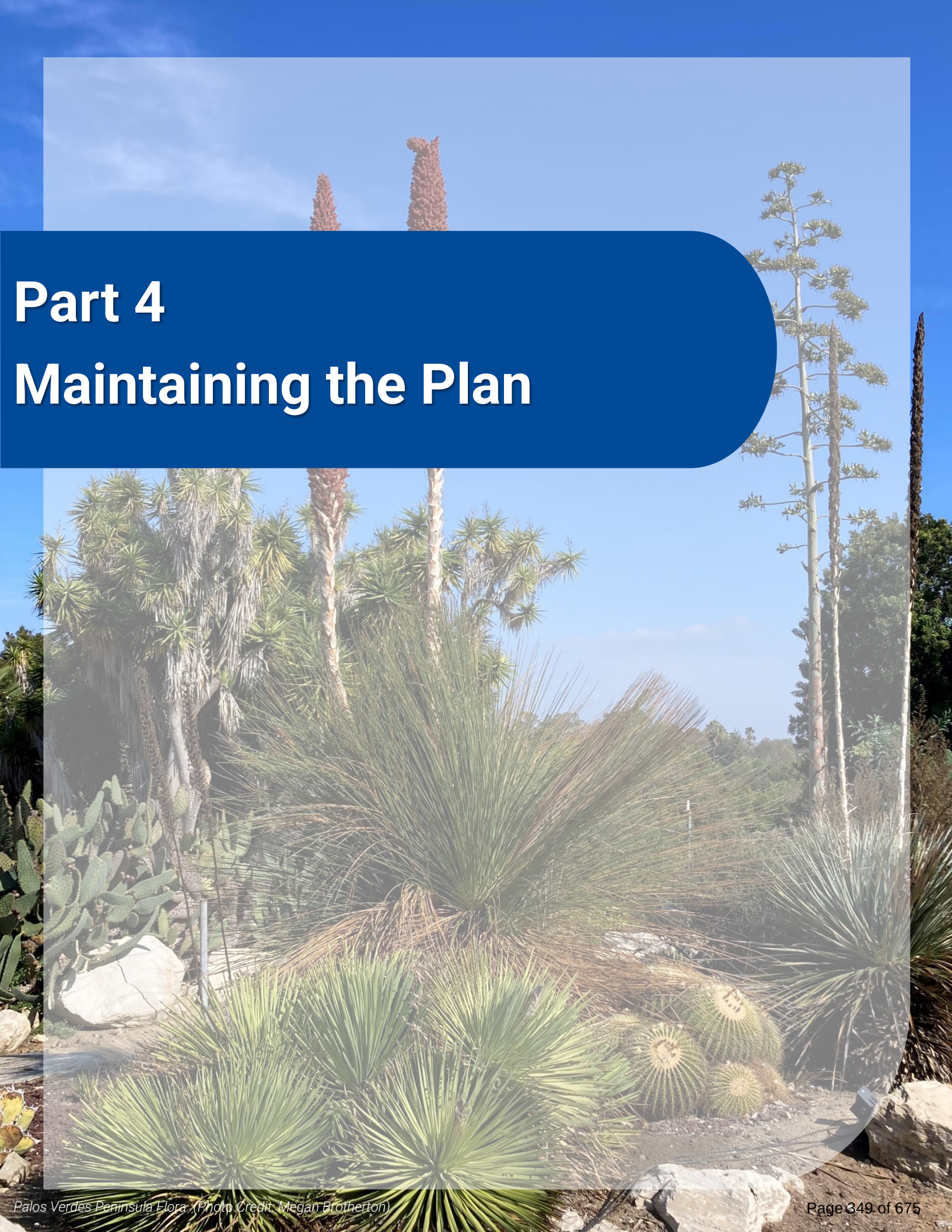
- Aquifer storage and recovery
- Incorporating future conditions projections in planning and project design
- Actions that specifically address climate change risks such as drought and extreme heat

15.6.6 Community Capacity Building

These actions increase local capabilities to adjust to potential damage, to take advantage of opportunities, or to respond to consequences of hazards. Examples include the following:

- Staff training
- Memorandums of understanding
- Development of plans and studies
- Monitoring programs

Part 4
Maintaining the Plan



Palos Verdes Peninsula Flora. (Photo Credit: Megan Brotherton)

16. ADOPTING AND MAINTAINING THE MITIGATION PLAN

16.1 PLAN ADOPTION

Local Plan Requirement F1 – 44 CFR Part 201.6(c)(5)

The plan shall include documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval of the plan.

DMA compliance and its benefits can only be achieved after the Plan is adopted. For multi-jurisdictional plans, each jurisdiction requesting approval must document that has been formally adopted. The Planning Partnership has chosen the option for pre-approval adoption. Each City Council and District Board will adopt this plan while it is being reviewed by Cal OES and FEMA Region 9. Copies of the FEMA approval and Planning Partner resolutions adopting this plan can be found in Appendix G of this volume.

16.2 PLAN MAINTENANCE

This section describes a formal plan maintenance process to ensure that the hazard mitigation plan remains an active and relevant document. The Assistant to the City Manager for Rolling Hills Estates will take the lead on monitoring, evaluating, and updating the MJHMP over the 5-year performance period, in coordination with all Planning Partners. This position will rotate among the participating cities for each subsequent update. Table 16-1 summarizes this plan maintenance strategy. The sections below further describe each element.

Table 16-1. Plan Maintenance Matrix

Approach	Timeline	Lead Responsibility
Plan Monitoring		
Track the implementation of plan actions	Continuous	All Planning Partners will report annually or in alignment with potential grant opportunities to Assistant to the City Manager for Rolling Hills Estates on action implementation. Points of contact are listed in Volume 2.
Plan Evaluation		
Review the status of previous actions; assess changes in risk; evaluate success of integration	Upon initiation of hazard mitigation plan update, comprehensive General Plan update, or major disaster	All Planning Partners
Grant Notification		

Approach	Timeline	Lead Responsibility
Assistant to the City Manager for Rolling Hills Estates will notify Planning Partners of grant funding opportunities to fund actions identified in this plan	Continuous, as grants become available	Assistant to the City Manager for Rolling Hills Estates
Plan Update		
Initiate the process to comprehensively update the plan at least every 5 years.	At the end of year 3, coordinate with the Planning Partners, and work to identify grant funding opportunity for update. Obtain grant funding by the end of year 4.	Assistant to the City Manager for Rolling Hills Estates will lead the plan update. All Planning Partners will support the effort.
Integration into Other Planning Mechanisms		
Create a linkage between the hazard mitigation plan and individual jurisdictions' general plans the Community Wildfire Protection Plan or similar plans identified in the core capability assessments	Continuous	All Planning Partners
Continuing Public Involvement		
Maintain and update the website with relevant hazard mitigation information and public participation opportunities.	Continuous	Assistant to the City Manager for Rolling Hills Estates will lead continuing public participation. All Planning Partners will support the effort.

16.2.1 Integrating the Plan

Local Plan Requirement D3 – 44 CFR Part 201.6(c)(4)(ii)

The plan maintenance process shall include a process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans, when appropriate.

The Planning Partners will integrate this MJHMP into relevant decision-making processes, plans, or mechanisms, where feasible. This includes integrating the requirements of the MJHMP into other planning documents, processes, or mechanisms, such as strategic planning initiatives, general plans, local capital improvement plans, stormwater plans, emergency plans, and other future plans. Opportunities to integrate the requirements of this plan into other planning mechanisms shall continue to be identified through future planning efforts. The Planning Partnership outlined the following mechanisms underway and under consideration:

- Ensuring that the goals and mitigation actions of new and updated local planning documents are consistent, or do not conflict with the goals and actions of the HMP and will not contribute to increased hazard vulnerability in the Planning Area.

- Integration of the HMP will be considered on a case-by-case basis and identified at the onset of plan development.
- Integration of the HMP into the capital improvement program scoring criteria (e.g., does the project advance mitigation) will be implemented if deemed feasible.

16.2.2 Implementing the Hazard Mitigation Plan Through Existing Programs

To successfully reduce future losses, implementing the actions within this plan is highly recommended. The Planning Partners involved a wide range of staff in the plan development process and many departments, divisions, or other partners participating in the Plan are responsible for implementing specific mitigation actions identified by each jurisdiction. Every proposed action listed in the mitigation action plan is assigned to a specific "lead" department or partner in order to assign responsibility and accountability and increase the likelihood of implementation.

In addition to the assignment of a local lead department or partner, an implementation time period or a specific implementation date has been assigned in order to assess whether actions are being implemented in a timely fashion. The Planning Partners will seek outside funding sources to implement mitigation projects in both the pre-disaster and post-disaster environments. When applicable, specific potential funding sources have been identified for proposed actions listed in the mitigation action plan.

The Planning Partnership will meet once annually during the 5-year performance period of this Plan. This frequency of meeting will also assist in implementation, as meetings will be coordinated with the strategic planning process. A key agenda item will be to determine which actions are being implemented by members of the Planning Partnership

16.2.3 Ongoing Public Involvement



Local Plan Requirement D1 – 44 CFR Part 201.6(c)(4)(iii)

The plan maintenance process shall include a discussion on how the community will continue public participation in the plan maintenance process.

Public participation is an integral component to the mitigation planning process and will continue to be essential as this plan evolves over time. Public involvement procedures were reviewed as part of the 2026 MJHMP development process. Significant changes or amendments to the plan shall require an opportunity for public comment prior to any adoption procedures by the Planning Partners. Assistant to the City Manager for Rolling Hills Estates also maintains a hazard mitigation planning website that can be used to provide updates and post the most current version of the plan:

https://www.pvpready.gov/resources/hazard-mitigation/

By keeping the plan available on the website with an invitation and instructions on providing feedback, public awareness will be maintained on a continuous basis. Public comment opportunities will be provided during any process to revise or update the plan, prior to jurisdictional approval and/or adoption. Other efforts to involve the public in the maintenance, monitoring, evaluation, and revision process will be made as necessary. These efforts may include the following:

- Posting minutes from Planning Partnership meetings to the hazard mitigation website.
- Utilizing available Planning Partner communication channels to update the public on any maintenance and/or periodic review activities taking place.
- Keeping a current version on the MJHMP at Planning Partner facilities and on the web page.

Additionally, continued public involvement will be accomplished through implementation of mitigation actions.

16.2.4 Monitoring the Plan



Local Plan Requirement D2 – 44 CFR Part 201.6(c)(4)(i)

The plan shall include a plan maintenance process that includes a section describing the method and schedule of monitoring, evaluating and updating the mitigation plan within a 5-year-cycle.

Periodic revisions and updates of the Plan are required to ensure that the goals of the Plan are kept current, taking into account potential changes in hazard vulnerability and mitigation priorities. In addition, revisions may be necessary to ensure that the Plan is in full compliance with applicable federal and state regulations. Periodic monitoring and evaluation of the plan will also ensure that specific mitigation actions are being reviewed and carried out according to the mitigation action plan. Monitoring refers to tracking the implementation of the plan over time. Evaluating refers to assessing the overall effectiveness of the plan intent and goals.

The Planning Partnership shall meet once annually to monitor and evaluate the progress attained and to revise, where needed, the activities set forth in the plan. The Assistant to the City Manager for Rolling Hills Estates will be responsible for reconvening the Planning Partnership for these reviews. Plan maintenance meeting agenda templates are included in Appendix E.

The annual meetings provide the Planning Partnership with an opportunity to perform the following:

- Review plan goals.
- Document hazard occurrences that occurred during the prior year and their impacts on the Planning Area.
- Document mitigation action implementation or status.
- Evaluate the mitigation actions that have been successful.
- Discuss why mitigation actions were not completed.
- Revise the action plan if new timelines need to be established for projects (e.g., changing a long-term project to a short-term project because of funding availability).
- Consider recommendations for new mitigation projects.
- Review new funding options, including grant opportunities, and determine if contract grant-writing support is needed to pursue the opportunities.
- Document potential losses avoided due to the implementation of specific mitigation measures or other planning programs, if feasible.
- Identify any new or additional vulnerabilities that may be faced by the Planning Partnership and may need to be addressed in a future update of this plan.

- Update the hazard mapping and impact tool to reflect new or revised hazard data.

Any findings or recommendations made during the annual review shall be documented in the form of a memo that can be shared with the governing bodies of the participating jurisdictions and interested stakeholders, including the public, through the website. Further, mitigation action progress can be monitored (i.e., tracked) in an Excel version of the mitigation action plan. The Planning Partnership will also meet following any disaster event warranting a reexamination of the mitigation actions being implemented or proposed for future implementation. This will ensure that the plan is continuously updated to reflect changing conditions and needs within the Palos Verdes Peninsula.

16.2.5 Updating the Plan

Updating



Local Plan Requirement D2 – 44 CFR Part 201.6(c)(4)(i)

The plan maintenance process shall include a section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a 5-year cycle.

The Palos Verdes Peninsula MJHMP will be thoroughly reviewed by the Planning Partnership every 5 years in alignment with federal regulations to ensure its consistency with these requirements. This update is also used to determine whether there have been any significant changes in the Planning Area that may, in turn, necessitate changes in the types of mitigation actions proposed, goals, or priorities. New development in identified hazard areas, an increased exposure to hazards, an increase or decrease in capability to address hazards, and changes to federal or state legislation are examples of factors that may affect the necessary content of the plan. The Assistant to the City Manager for Rolling Hills Estates will be responsible for reconvening the Planning Partnership and conducting the 5-year review. In general, the plan update development process begins approximately 2 years prior to plan expiration. First, resources to develop the plan must be obtained, such as obtaining a planning grant. This will be followed by the plan update process, led by the Core Planning Team and Steering Committee. Upon completion of the review and update/amendment process, the Palos Verdes Peninsula MJHMP will be submitted to the State Hazard Mitigation Officer at Cal OES for a compliance review in accordance with 44 CFR 201. The plan will then be reviewed by FEMA Region 9. Once an “approved pending adoption” status has been issued by FEMA Region 9, the Planning Partnership can then review, approve, and adopt the plan. The Planning Partnership review consists of final approval by the respective city councils and district boards during their public meetings.

Disaster Declaration

Following a federal disaster declaration, the Palos Verdes Peninsula MJHMP may be revised as necessary to reflect lessons learned, or to address specific issues and circumstances arising from the event. It will be the responsibility of the Assistant to the City Manager for Rolling Hills Estates to reconvene the Planning Partnership and ensure the appropriate stakeholders are invited to participate in the plan revision and update process following declared disaster events.

Plan Amendment Process

Unique circumstances, such as availability of critical data or an omission, may necessitate a plan amendment. Upon the initiation of the amendment process, Assistant to the City Manager for Rolling Hills Estates will forward information on the proposed change(s) to all interested parties including, but not limited to, all directly affected departments, community partners, and customers. Information will also be forwarded to Cal OES and FEMA. This information will be disseminated in order to seek input on the proposed amendment(s) for no less than a 45-day review and comment period (unless circumstances necessitate a shorter review). At the end of the 45-day review and comment period, the proposed amendment(s) and all comments will be forwarded to the Planning Partnership for final consideration. The Planning Partnership will review the proposed amendment along with the comments received from other parties, and if acceptable, the Planning Partnership will submit a recommendation for the approval and adoption of changes to the plan. In determining whether to recommend approval or denial of a plan amendment request, the following factors may be considered by the Planning Partnership:

- There are major errors, inaccuracies, or omissions made in the identification of issues or needs in the Plan.
- New or previously unknown issues or needs have been identified which are not adequately addressed in the Plan.
- There has been a change in information, data, or assumptions from those on which the Plan is based.

If the Planning Partnership opts to move forward with the amendment, the revised plan must be reviewed and approved by Cal OES and FEMA. The Planning Partners will also need to approve the revised plan. Prior to adoption, Assistant to the City Manager for Rolling Hills Estates shall post the updated plan to the website for public comment. Each participating jurisdiction will review the recommendation from the Planning Partnership (including the factors listed above) and comments received from the public. Following that review, the governing bodies will take one of the following actions:

- Adopt the proposed amendments as presented.
- Adopt the proposed amendments with modifications.
- Refer the amendments request back to the Planning Partnership for further revision.
- Defer the amendment request back to the Planning Partnership for further consideration and/or additional hearings.

APPENDIX A. PUBLIC OUTREACH

APPENDIX B. HAZARD SELECTION

Refer to the table below for a complete comparison of hazards included in the 2023 California State Hazard Mitigation Plan, the prior plans from the Planning Partnership, and this plan update.

Table B. Hazard Comparison—State and Palos Verdes Peninsula

2023 California State Hazard Mitigation Plan	Palos Verdes Estates 2018 Plan, Rancho Palos Verdes & Rolling Hills Estates 2020 Plan, Rolling Hills 2019 Plan	2026 Palos Verdes Peninsula Multi-Jurisdictional Hazard Mitigation Plan	Comment
Air Pollution	Not included	Wildfire	Air pollution from wildfire smoke is a concern for the Planning Area and is discussed in the Wildfire chapter
Civil Disorder	Human-Caused	Human-Caused	Discussed in Other Hazards of Interest
Cyber Threats	Human-Caused	Human-Caused	Discussed in Other Hazards of Interest
Dam Failure	Earth Movement	Not included	The only dam in the Planning Area is decommissioned and no longer in use
Drought	Drought	Drought	This local hazard aligns with the State
Earthquake	Earthquake	Earthquake	This local hazard aligns with the State
Electromagnetic Pulse Attack	Not included	Not included	Not a concern for the Planning Area
Energy Shortage	Not included	Utility-Related	Discussed in Other Hazards of Interest
Epidemic/Pandemic/Vector-Borne Disease	Not included	Not included	Addressed in other plans
Extreme Cold or Freeze	Not included	Not included	Not a concern for the Planning Area
Extreme Heat	Not included	Heat Wave	This local hazard aligns with the State
Geomagnetic Storm	Not included	Not included	Not a concern for the Planning Area
Hazardous Materials Release	Hazardous Materials	Hazardous Materials	Discussed in Other Hazards of Interest
Invasive and Nuisance Species	Not included	Not included	Addressed in other plans

2023 California State Hazard Mitigation Plan	Palos Verdes Estates 2018 Plan, Rancho Palos Verdes & Rolling Hills Estates 2020 Plan, Rolling Hills 2019 Plan	2026 Palos Verdes Peninsula Multi-Jurisdictional Hazard Mitigation Plan	Comment
Landslide, Debris Flow, and other Mass Movements	Landslide	Landslide	This local hazard aligns with the State
Levee Failure	Not included	Not included	No levees in the Planning Area
Natural Gas Pipeline Hazards	Not included	Utility-Related	Discussed in Other Hazards of Interest
Oil Spills	Not included	Not included	Not a concern for the Planning Area
Other Potential Long-Term Electrical Outrages	Not included	Not included	Addressed in other plans
Public Safety Power Shutoff	Utility-Related	Utility-Related	Discussed in Other Hazards of Interest
Radiological Accidents	Not included	Not included	Not a concern for the Planning Area
Riverine, Stream, and Alluvial Flood	Flood	Flood	This local hazard aligns with the State
Sea-Level Rise, Coastal Flooding and Erosion	Sea Level Rise	Flood	Discussed in the Flood chapter
Severe Wind, Weather, and Storms	Not included	Strong Wind	This local hazard aligns with subsections in the SHMP
Snow Avalanche	Not included	Not included	Not a concern for the Planning Area
Subsidence	Not included	Landslide	Discussed in the Landslide chapter
Terrorism	Not included	Human Caused	This local hazard aligns with the State
Transportation accidents Resulting in Explosions or Toxic Releases	Not included	Not included	Not a concern for the Planning Area
Tree Mortality	Not included	Wildfire	Discussed in the Drought and Wildfire chapters
Tsunami and Seiche	Not included	Flood	Tsunami discussed in the Flood chapter
Urban Structural Fire	Not included	Not included	Not a concern for the Planning Area
Volcano	Not included	Not included	Not a concern for the Planning Area
Well Stimulation and Hydraulic Fracturing	Not included	Not included	Does not occur in the Planning Area

2023 California State Hazard Mitigation Plan	Palos Verdes Estates 2018 Plan, Rancho Palos Verdes & Rolling Hills Estates 2020 Plan, Rolling Hills 2019 Plan	2026 Palos Verdes Peninsula Multi-Jurisdictional Hazard Mitigation Plan	Comment
Wildfire	Wildfire	Wildfire	This local hazard aligns with the State
Not included	Not included	Groundwater Seepage	This is a concern for the Planning Area due to flooding from the aquifer

APPENDIX C. MEETING DOCUMENTATION

APPENDIX D. RISK ASSESSMENT METHODOLOGY

LANDSLIDE ANALYSIS METHODOLOGY

To help understand the potential impact of the landslide hazard, a probabilistic approach was used to quantify potential impacts for a series of landslide scenarios. These impacts were used to calculate a landslide average annualized loss. The scenarios described in this section are generated using a computer model and are not historical events.

This region experiences two types of landslides: (1) deep-seated landslides which occur with little to no warning causing a range of loss depending on the location and magnitude of the event; and (2) slow, constant landslides which has a movement that is tracked several times a year and causes consistent damage across specific parts of the region. These differences required two approaches for the risk assessment. The deep-seated landslide model uses historical events, soil data, and elevation data to determine where a potential landslide may occur; an inventory model to identify the locations, values, and susceptibilities of the buildings and infrastructure; and damage functions which help quantify the loss. The shallow landslide methodology includes the annual loss due to the slow moving landslide and predicts future losses in the current areas of impact.

The following approach was used to assess the deep-seated landslide risk:

1) Identify Scenarios
2) Calculate Losses
3) Calculate Landslide Annual Average Loss

Step 1: Identify Scenarios

To determine which parts of the region are susceptible to landslides, the landslide inventory from CGS data was used. Figure D-1 shows a map of these historical landslide areas. The scenario areas are modeled in and adjacent to these areas as well as in areas with the same environmental conditions (slope and soil type). A map of the slopes is shown on Figure D-2.

The elevation model was then used to determine the slope's direction. Areas with a common direction were grouped together in polygons to identify potential landslide scenarios. 750 of these scenarios were identified using this approach. A map of the slope direction is shown on Figure D-3.

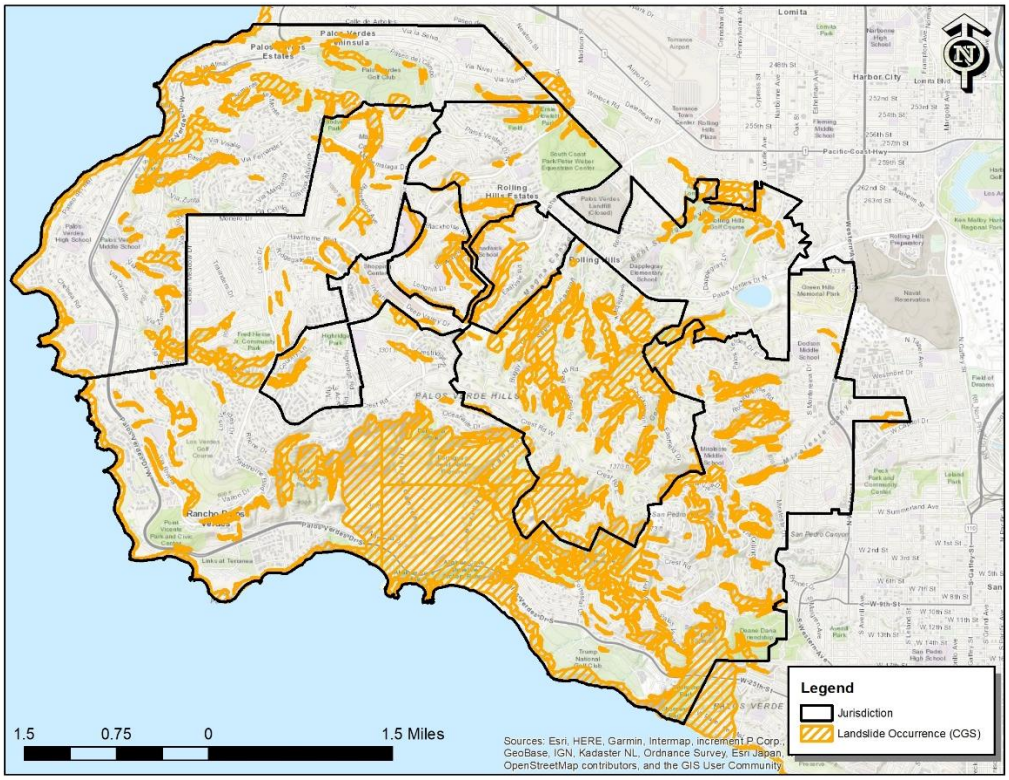


Figure D-1. Historical Landslide Occurrences (CGS, 2022)

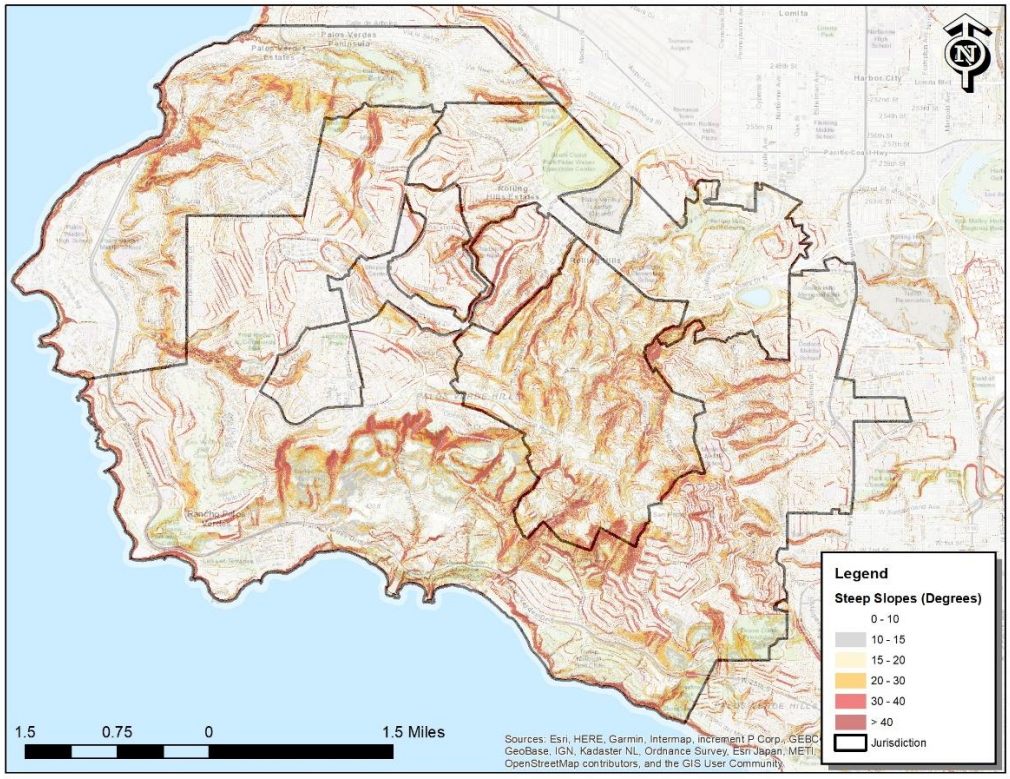


Figure D-2. Steep Slopes

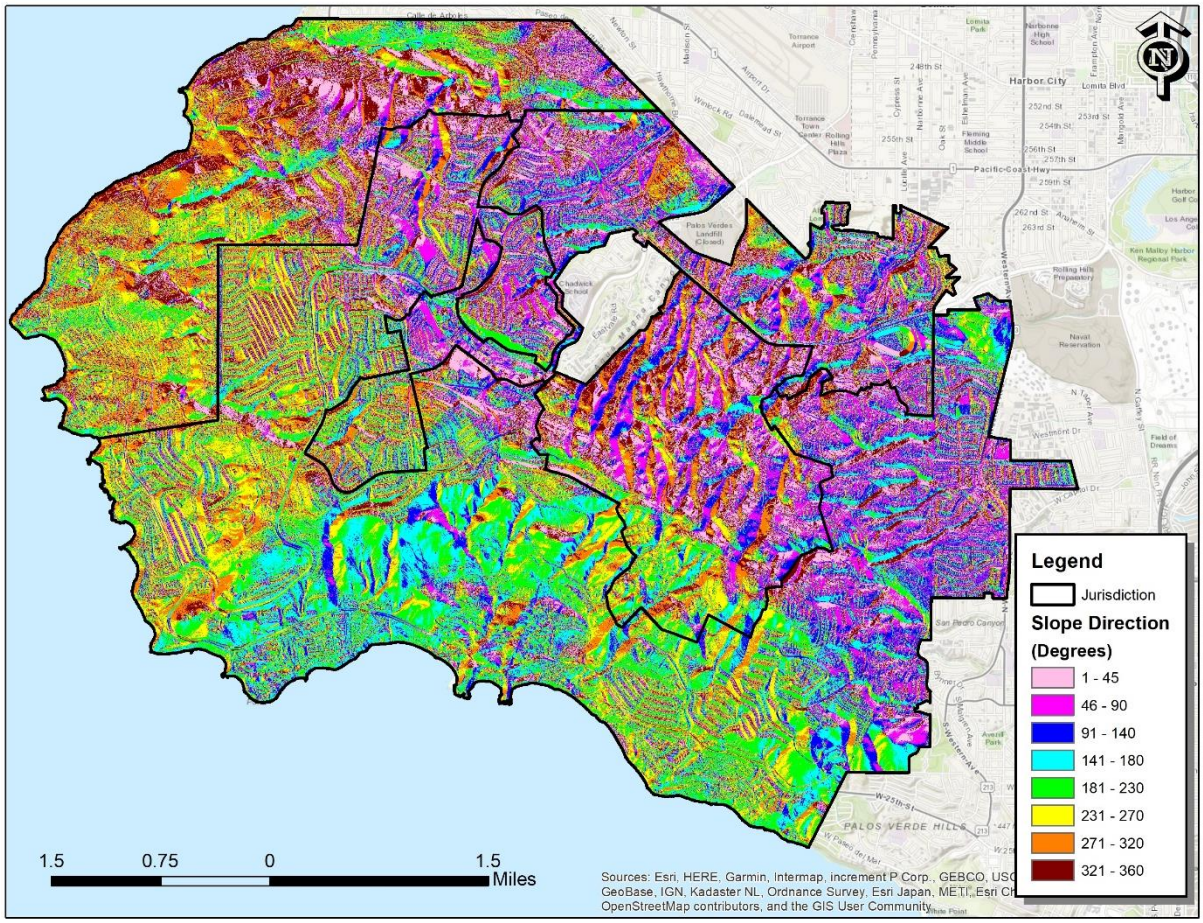


Figure D-3. Slope Direction (Aspect)

Step 2: Calculate Losses

To calculate losses, the building inventory which was developed for the other hazards in this HMP was used. This inventory includes the structure and content values for each structure. To assign damage and loss to these individual structures, a damage function was identified (refer to Figure D-4). This damage function provided minimum and maximum damage curves based on the overall landslide area so for each scenario, a minimum and maximum damage was identified and multiplied by the structure and contents values to get the loss values. The losses were added up for each scenario.

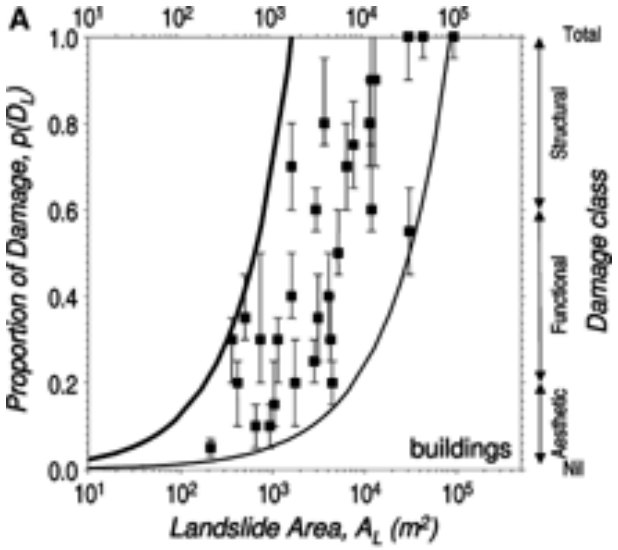


Figure D-4. Landslide Damage Function (CNR–IRPI, 2007)

Step 3: Calculate Landslide Annual Average Loss

Small landslides occur approximately once every 2 to 7 years in the region, while larger occurrences have a 1 to 2 percent chance of occurring every year[1]. The losses for the 750 scenarios were sorted based on magnitude and assigned a probability of the occurrence being exceeded. The values for five specific return periods are plotted on Figure D-6. The deep-seated landslide average annual loss is calculated to have an upper bounds of $77,505 and a lower bounds of $44,282.

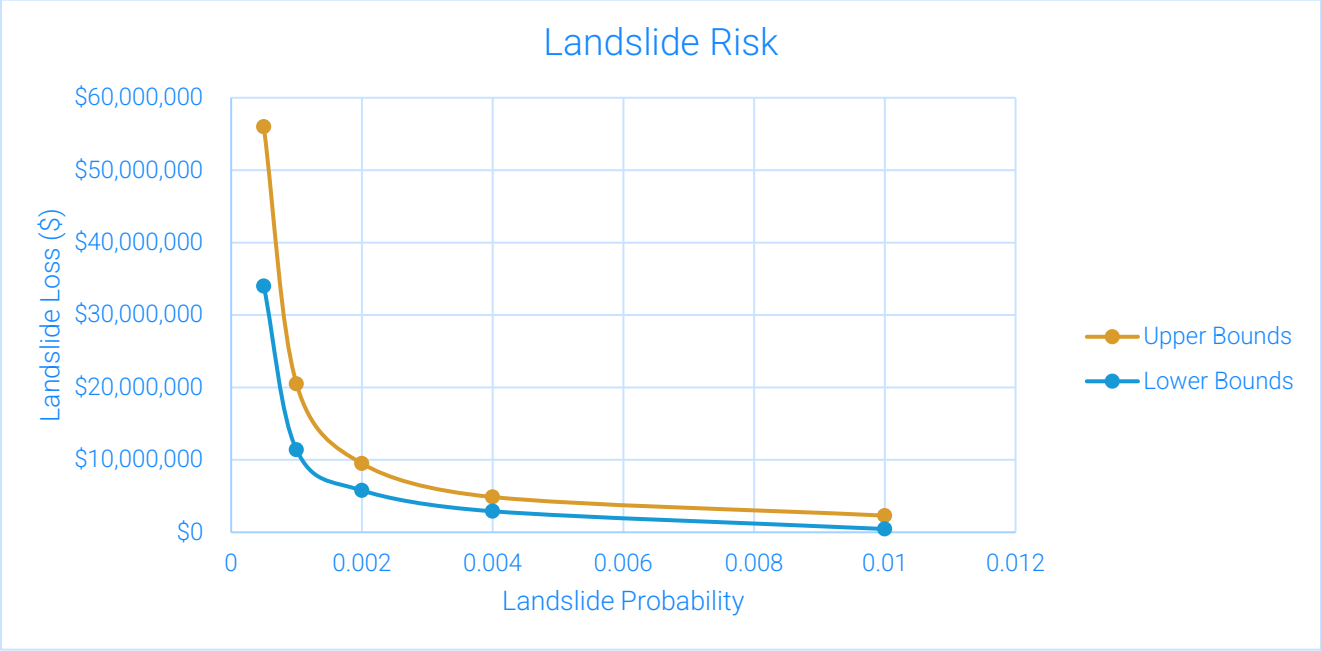


Figure D-6. Landslide Risk

[1] Los Angeles County Hazard Mitigation Plan, 2025.

For the shallow, constant landslides, the damage and loss associated with damage to the utilities, roads[2], buildings, and other infrastructure; and emergency spending primarily on dewatering is more than $10 million per year[3].

[2] Background | Rancho Palos Verdes, CA - Official Website
[3] Rancho Palos Verdes landslide has slowed with below average rainfall, but costs continue to mount | LAist

EQUITY PRIORITY COMMUNITY METHODOLOGY

In accordance with guidance provided by the California Office of Emergency Services (Cal OES) for Local Hazard Mitigation Plans (LHMPs), the Palos Verdes Peninsula Multijurisdictional Hazard Mitigation Plan (MJHMP) includes an assessment of populations that may experience disproportionate impacts during hazard events. Cal OES guidance emphasizes identifying communities that may be disadvantaged in preparing for, responding to, or recovering from disasters. This methodology was developed to align with the requirements outlined in the 2023 California State Hazard Mitigation Plan (SHMP) and Appendix M: Equity Priorities Communities Guidance for LHMPs.

Planning Process and Stakeholder Input

The methodology for identifying Equity Priorities Communities was developed through collaboration with the MJHMP Core Planning Team. Planning partners representing each participating jurisdiction provided local knowledge and guidance in defining vulnerability factors most relevant to the Palos Verdes Peninsula context. This collaborative process ensured that the selected indicators reflect both state guidance and local conditions influencing disaster risk and response capacity.

Rationale for Indicator Selection

Cal OES guidance encourages jurisdictions to use appropriate datasets and analytical approaches to identify populations that may be disproportionately affected by hazards. Commonly used indices, such as the Centers for Disease Control and Prevention's Social Vulnerability Index (SVI), rely heavily on socioeconomic variables including income, poverty, and housing conditions. However, given the overall affluence and relatively high socioeconomic status of Palos Verdes Peninsula communities, and the lack of differentiation in the SVI between property and income wealth that impacts the full understanding of vulnerability, particularly on the Peninsula, use of the SVI alone would not effectively capture locally relevant vulnerability conditions.

To address this limitation, the Core Planning Team identified alternative indicators that better reflect potential disaster-related disadvantage within the Planning Area. The selected indicators focus on demographic and physical access characteristics that influence residents' ability to receive warnings, evacuate safely, and recover following hazard events.

Selected Vulnerability Indicators

Three primary indicators were selected for the Equity Priorities Communities analysis:

1. **Age** – Census populations aged 65 years and older. Older adults may have mobility limitations, increased medical needs, and greater challenges during evacuation and recovery.
2. **Disability Status** – Census populations reporting a disability. Individuals with disabilities may face barriers in evacuation, communication, and access to post-disaster services.
3. **Evacuation Access Constraints** – Residential areas located along road segments with limited ingress and egress options to designated evacuation routes. Limited roadway connectivity may restrict evacuation options during emergencies, increasing exposure to hazard impacts.

These indicators collectively capture social and physical vulnerability factors consistent with CAL OES guidance on identifying communities that may be disproportionately impacted by disasters.

Data Sources

Demographic data for age and disability status were obtained from the U.S. Census Bureau's American Community Survey at the census tract level. Road network and evacuation route data were compiled from jurisdictional GIS datasets and regional transportation databases.

Demographic Vulnerability Analysis

Demographic vulnerability was evaluated using two indicators: population aged 65 years and older and population reporting a disability. These characteristics are recognized in CAL OES guidance as factors that may increase challenges in receiving warnings, evacuating safely, and accessing post-disaster services.

For each census tract, the percentage of residents aged 65 and older and the percentage of residents with disabilities were calculated. Census tracts were ranked separately for each indicator, with higher ranks representing higher concentrations of potentially vulnerable populations. The two ranks were then added together to produce a combined demographic vulnerability score for each census tract. This ranking approach provides a clear and consistent way to compare demographic vulnerability across the Planning Area.

Ranking of Demographic Vulnerability – Age and Disability Status

Census Tract	Total Population	% With Disability	Disability Rank	% of Population Over 65	Age Rank	Total Rank Score
6704.05	2640	17%	17	36%	16	33
6704.06;	1705	12%	15	29%	12	27
6704.17	2780	13%	16	28%	10	26
6705	1511	9%	11	32%	15	26
6707.02	5891	12%	14	28%	11	25
6703.26	3237	8%	8	32%	14	22
6706.04	4953	8%	9	29%	13	22
6703.24	5485	11%	13	26%	7	20
6702.01	3647	8%	10	28%	9	19
6706.03	1856	6%	2	36%	17	19
6704.18	4438	11%	12	22%	4	16
6703.28	4325	7%	5	26%	8	13
6704.16	4098	8%	6	26%	6	12
6707.01	6460	8%	7	24%	5	12
6704.07	5849	7%	4	22%	3	7
6702.02	2559	6%	3	20%	2	5
6704.13	4801	5%	1	19%	1	2

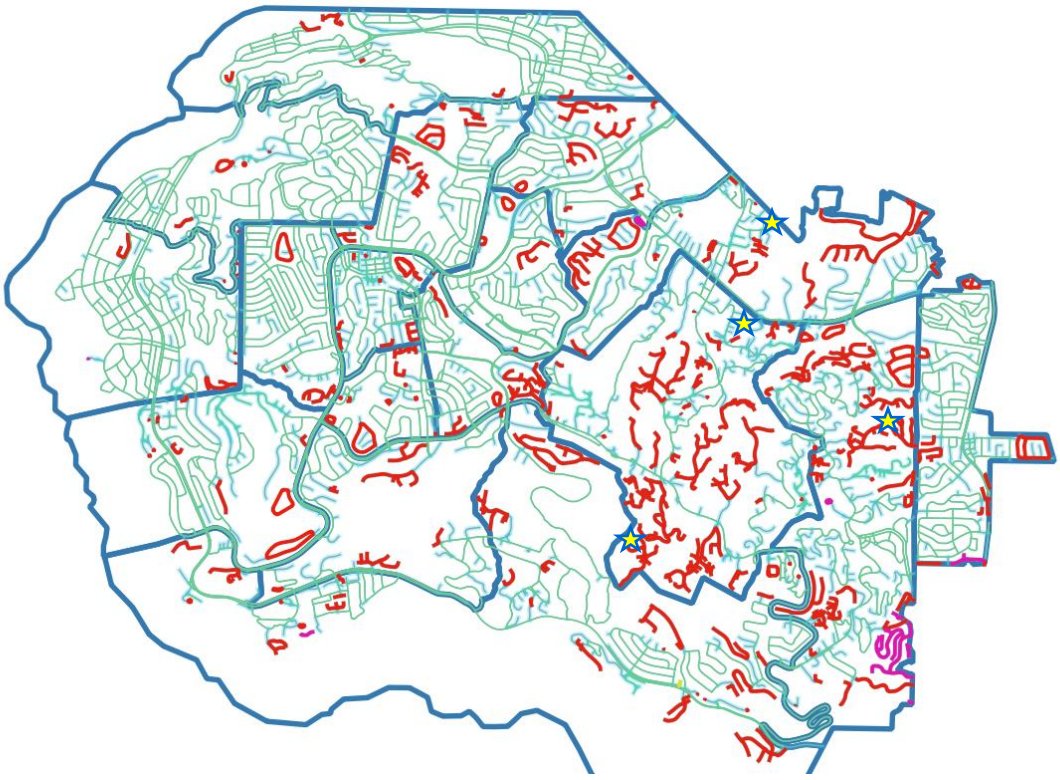
Evacuation Access Vulnerability Analysis

A geospatial analysis was conducted to identify neighborhoods that may have limited evacuation options due to roadway layout and connectivity. On the Palos Verdes Peninsula, steep terrain and a limited number of arterial roads mean that some residential areas have only one practical route to reach major evacuation corridors.

Using geographic information system (GIS) software, the local road network was analyzed to identify groups of residential streets that rely on a small number of exit points to connect to the broader road system. These groups of streets were treated as “network islands,” meaning areas that share internal road connections but have limited external connections to major roads.

Neighborhoods were considered vulnerable if they relied on only one practical route to reach an evacuation corridor or the broader road network. Vulnerable road segments and network islands were mapped, and residential address data were used to estimate the number of homes located along these vulnerable roadways. This number was then compared to the total number of residences in each census tract. Those tracts with a higher portion of single ingress/egress roads, including 6705, 6707.02, 6706.04 and 6702.01 are considered priority areas, as they would be more difficult to evacuate during an emergency.

Map of Palos Verdes Peninsula Vulnerability Analysis



Red represents streets. These streets have exactly **one viable path** leading to an evacuation route. If that path is disrupted, residents would be isolated from major evacuation corridors. Streets that terminate directly onto an evacuation route were **not** classified as vulnerable.

Integration of Vulnerability Dimensions

The demographic vulnerability analysis and the evacuation access vulnerability analysis measure two distinct dimensions of disaster disadvantage — social sensitivity and physical access constraints. Because these analyses rely on different units of measurement and represent different aspects of vulnerability, they were not combined into a single composite index.

Instead, both datasets were retained as complementary lenses of vulnerability. In subsequent hazard exposure analyses, hazard footprints were overlaid with the following:

- Census tracts exhibiting elevated demographic vulnerability, and
- Neighborhoods exhibiting evacuation access vulnerability.

This dual-overlay approach allows the plan to identify locations where hazard exposure intersects with one or both forms of vulnerability, supporting targeted mitigation strategies, equitable outreach, and informed prioritization of mitigation investments.

Census Tract	Total Population	Total Rank Score (Disability & 65+)	Evacuation Access Vulnerability
6704.05	2640	33	
6704.06;	1705	27	
6704.17	2780	26	
6705	1511	26	HIGH
6707.02	5891	25	HIGH
6703.26	3237	22	
6706.04	4953	22	HIGH
6703.24	5485	20	
6702.01	3647	19	HIGH

Use of Results

The resulting Equity Priorities Communities map and associated tract rankings are used to inform mitigation strategy development, prioritize outreach and engagement efforts, and guide equitable allocation of mitigation investments. This approach ensures that mitigation actions consider the needs of populations that may face increased barriers in disaster preparedness, response, and recovery.

Consistency with Cal OES Guidance

This two-part vulnerability assessment approach fulfills Cal OES LHMP requirements for identifying Equity Priorities Communities by the following:

- Using locally appropriate indicators and datasets,
- Incorporating stakeholder input in indicator selection,
- Applying transparent and repeatable analytical methods, and
- Demonstrating how identified vulnerable communities inform subsequent hazard and mitigation planning decisions.

APPENDIX E. FEDERAL AND STATE AGENCIES, PROGRAMS, AND REGULATIONS

FEDERAL

Americans with Disabilities Act

The Americans with Disabilities Act (ADA) seeks to prevent discrimination against people with disabilities in employment, transportation, public accommodation, communications, and government activities. Title II of the ADA deals with compliance with the Act in emergency management and disaster-related programs, services, and activities. It applies to state and local governments as well as third parties, including religious entities and private nonprofit organizations.

The ADA has implications for sheltering requirements and public notifications. During an emergency alert, officials must use a combination of warning methods to ensure that all residents have all necessary information. Those with hearing impairments may not hear radio, television, sirens, or other audible alerts, while those with visual impairments may not see flashing lights or other visual alerts. Two technical documents for shelter operators address physical accessibility needs of people with disabilities, as well as medical needs and service animals.

The ADA intersects with disaster preparedness programs in regard to transportation, social services, temporary housing, and rebuilding. Persons with disabilities may require additional assistance in evacuation and transit (e.g., vehicles with wheelchair lifts or paratransit buses). Evacuation and other response plans should address the unique needs of residents. Local governments may be interested in implementing a special-needs registry to identify the home addresses, contact information, and needs for residents who may require more assistance.

FEMA hazard mitigation project grant applications require full compliance with applicable federal acts. Any action identified in this plan that falls within the scope of this act will need to meet its requirements.

Civil Rights Act

The Civil Rights Act of 1964 prohibits discrimination based on race, color, religion, sex or nation origin and requires equal access to public places and employment. The Act is relevant to emergency management and hazard mitigation in that it prohibits local governments from favoring the needs of one population group over another. Local government and emergency response must ensure the continued safety and well-being of all residents equally, to the extent possible. FEMA hazard mitigation project grant applications require full compliance with applicable federal acts. Any action identified in this plan that falls within the scope of this act will need to meet its requirements.

Clean Water Act

The federal Clean Water Act (CWA) employs regulatory and non-regulatory tools to reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. These tools are employed to achieve the broader goal of restoring and maintaining the

chemical, physical, and biological integrity of the nation's surface waters so that they can support "the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water."

Evolution of CWA programs over the last decade has included a shift from a program-by-program, source-by-source, and pollutant-by-pollutant approach to more holistic watershed-based strategies. Under the watershed approach, equal emphasis is placed on protecting healthy waters and restoring impaired ones. Numerous issues are addressed, not just those subject to CWA regulatory authority. Involvement of stakeholder groups in the development and implementation of strategies for achieving and maintaining water quality and other environmental goals is a hallmark of this approach.

The CWA is important to hazard mitigation in several ways. There are often permitting requirements for any construction within 200 feet of water of the United States, which may have implications for mitigation projects identified by a local jurisdiction. Additionally, CWA requirements apply to wetlands, which serve important functions related to preserving and protecting the natural and beneficial functions of floodplains and are linked with a community's floodplain management program. Finally, the National Pollutant Discharge Elimination System is part of the CWA and addresses local stormwater management programs. Stormwater management plays a critical role in hazard mitigation by addressing urban drainage or localized flooding issues within jurisdictions.

FEMA hazard mitigation project grant applications require full compliance with applicable federal acts. Any action identified in this plan that falls within the scope of this act will need to meet its requirements.

Community Development Block Grant Disaster Resilience Program

In response to disasters, Congress may appropriate additional funding for the U.S. Department of Housing and Urban Development Community Development Block Grant programs to be distributed as Disaster Recovery grants (CDBG-DR). These grants can be used to rebuild affected areas and provide seed money to start the recovery process. CDBG-DR assistance may fund a broad range of recovery activities, helping communities and neighborhoods that otherwise might not recover due to limited resources. CDBG-DR grants often supplement disaster programs of FEMA, the Small Business Administration, and the U.S. Army Corps of Engineers. Housing and Urban Development generally awards noncompetitive, nonrecurring CDBG-DR grants by a formula that considers disaster recovery needs unmet by other federal disaster assistance programs. To be eligible for CDBG-DR funds, projects must meet the following criteria:

- Address a disaster-related impact (direct or indirect) in a presidentially declared county for the covered disaster.
- Be a CDBG-eligible activity (according to regulations and waivers).
- Meet a national objective.

Incorporating preparedness and mitigation into these actions is encouraged, as the goal is to rebuild in ways that are safer and stronger. CDBG-DR funding is a potential alternative source of funding for actions identified in this plan.

Community Rating System

The CRS is a voluntary program within the NFIP that encourages floodplain management activities that exceed the minimum NFIP requirements. Flood insurance premiums are discounted to reflect the reduced flood risk resulting from community actions meeting the following three goals of the CRS:

- Reduce flood losses.
- Facilitate accurate insurance rating.
- Promote awareness of flood insurance.

For participating communities, flood insurance premium rates are discounted in increments of 5 percent. For example, a Class 1 community would receive a 45 percent premium discount, and a Class 9 community would receive a 5 percent discount. (Class 10 communities are those that do not participate in the CRS; they receive no discount.) The discount partially depends on location of the property. Properties outside the special flood hazard area receive smaller discounts: a 10-percent discount if the community is at Class 1 to 6 and a 5 percent discount if the community is at Class 7 to 9. The CRS classes for local communities are based on 18 creditable activities in the following categories:

- Public information.
- Mapping and regulations.
- Flood damage reduction.
- Flood preparedness.

CRS activities can help to save lives and reduce property damage. Communities participating in the CRS represent a significant portion of the nation's flood risk; over 66 percent of the NFIP's policy base is located in these communities. Communities receiving premium discounts through the CRS range from small to large and represent a broad mixture of flood risks, including both coastal and riverine flood risks.

Disaster Mitigation Act

The DMA is the current federal legislation addressing hazard mitigation planning. It emphasizes planning for disasters before they occur. It specifically addresses planning at the local level, requiring plans to be in place before Hazard Mitigation Assistance grant funds are available to communities. This plan is designed to meet the requirements of DMA, improving eligibility for future hazard mitigation funds.

Emergency Relief for Federally Owned Roads Program

The U.S. Forest Service's Emergency Relief for Federally Owned Roads Program was established to assist federal agencies with repair or reconstruction of tribal transportation facilities, federal lands transportation facilities, and other federally owned roads that are open to public travel and have suffered serious damage by a natural disaster over a wide area or by a catastrophic failure. The program funds both emergency and permanent repairs. Eligible activities under this program meet some of the goals and objectives for this plan and the program is a possible funding source for actions identified in this plan.

Emergency Watershed Program

The USDA Natural Resources Conservation Service (NRCS) administers the Emergency Watershed Protection (EWP) Program, which responds to emergencies created by natural disasters. Eligibility for

assistance is not dependent on a national emergency declaration. The program is designed to help people and conserve natural resources by relieving imminent hazards to life and property caused by floods, fires, windstorms, and other natural occurrences. EWP is an emergency recovery program. Financial and technical assistance are available for the following activities:

- Remove debris from stream channels, road culverts, and bridges.
- Reshape and protect eroded banks.
- Correct damaged drainage facilities.
- Establish cover on critically eroding lands.
- Repair levees and structures.
- Repair conservation practices.

This federal program could be a possible funding source for actions identified in this plan.

Endangered Species Act

The federal Endangered Species Act (ESA) was enacted in 1973 to conserve species facing depletion or extinction and the ecosystems that support them. The act sets forth a process for determining which species are threatened and endangered and requires the conservation of the critical habitat in which those species live. The ESA provides broad protection for species of fish, wildlife and plants that are listed as threatened or endangered. Provisions are made for listing species, as well as for recovery plans and the designation of critical habitat for listed species. The ESA outlines procedures for federal agencies to follow when taking actions that may jeopardize listed species and contains exceptions and exemptions. It is the enabling legislation for the Convention on International Trade in Endangered Species of Wild Fauna and Flora. Criminal and civil penalties are provided for violations of the ESA and the Convention.

Federal agencies must seek to conserve endangered and threatened species and use their authorities in furtherance of the ESA's purposes. The ESA defines three fundamental terms:

- Endangered means that a species of fish, animal or plant is "in danger of extinction throughout all or a significant portion of its range." (For salmon and other vertebrate species, this may include subspecies and distinct population segments.)
- Threatened means that a species "is likely to become endangered within the foreseeable future." Regulations may be less restrictive for threatened species than for endangered species.
- Critical habitat means "specific geographical areas that are…essential for the conservation and management of a listed species, whether occupied by the species or not."

Five sections of the ESA are of critical importance to understanding it:

- Section 4: Listing of a Species—The National Oceanic and Atmospheric Administration Fisheries Service (NOAA Fisheries) is responsible for listing marine species; the U.S. Fish and Wildlife Service is responsible for listing terrestrial and freshwater aquatic species. The agencies may initiate reviews for listings, or residents may petition for them. A listing must be made "solely on the basis of the best scientific and commercial data available." After a listing has been proposed, agencies receive comment and conduct further scientific reviews for 12 to 18 months, after which they must decide if the listing is warranted. Economic impacts cannot be considered in this

decision, but it may include an evaluation of the adequacy of local and state protections. Critical habitat for the species may be designated at the time of listing.

- Section 7: Consultation—Federal agencies must ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of a listed or proposed species or adversely modify its critical habitat. This includes private and public actions that require a federal permit. Once a final listing is made, non-federal actions are subject to the same review, termed a "consultation." If the listing agency finds that an action will "take" a species, it must propose mitigations or "reasonable and prudent" alternatives to the action; if the proponent rejects these, the action cannot proceed.
- Section 9: Prohibition of Take—It is unlawful to "take" an endangered species, including killing or injuring it or modifying its habitat in a way that interferes with essential behavioral patterns, including breeding, feeding or sheltering.
- Section 10: Permitted Take—Through voluntary agreements with the federal government that provide protections to an endangered species, a non-federal applicant may commit a take that would otherwise be prohibited as long as it is incidental to an otherwise lawful activity (such as developing land or building a road). These agreements often take the form of a "Habitat Conservation Plan."
- Section 11: Citizen Lawsuits—Civil actions initiated by any citizen can require the listing agency to enforce the ESA's prohibition of taking or to meet the requirements of the consultation process.

FEMA hazard mitigation project grant applications require full compliance with applicable federal acts. Any action identified in this plan that falls within the scope of this act will need to meet its requirements.

Federal Energy Regulatory Commission Dam Safety Program

The Federal Energy Regulatory Commission (FERC) cooperates with a large number of federal and state agencies to ensure and promote dam safety. More than 3,000 dams are part of regulated hydroelectric projects in the FERC program. Two-thirds of these are more than 50 years old. As dams age, concern about their safety and integrity grows, so oversight and regular inspection are important. FERC inspects hydroelectric projects on an unscheduled basis to investigate the following:

- Potential dam safety problems
- Complaints about constructing and operating a project
- Safety concerns related to natural disasters
- Issues concerning compliance with the terms and conditions of a license.

Every 5 years, an independent engineer approved by the FERC must inspect and evaluate projects with dams higher than 32.8 feet (10 meters), or with a total storage capacity of more than 2,000 acre-feet.

FERC monitors seismic research and applies it in performing structural analyses of hydroelectric projects. FERC also evaluates the effects of potential and actual large floods on the safety of dams. During and following floods, FERC visits dams and licensed projects, determines the extent of damage, if any, and directs any necessary studies or remedial measures the licensee must undertake. The FERC publication Engineering Guidelines for the Evaluation of Hydropower Projects guides the FERC engineering staff and licensees in evaluating dam safety. The publication is frequently revised to reflect current information and methodologies.

FERC requires licensees to prepare emergency action plans and conducts training sessions on how to develop and test these plans. The plans outline an early warning system if there is an actual or potential sudden release of water from a dam due to failure. The plans include operational procedures that may be used, such as reducing reservoir levels and reducing downstream flows, as well as procedures for notifying affected residents and agencies responsible for emergency management. These plans are frequently updated and tested to ensure that everyone knows what to do in emergency situations.

National Dam Safety Act

Potential for catastrophic flooding due to dam failures led to passage of the National Dam Inspection Act in 1972, creation of the National Dam Safety Program in 1996, and reauthorization of the program through the Dam Safety Act in 2006. National Dam Safety Program, administered by FEMA requires a periodic engineering analysis of the majority of dams in the country; exceptions include the following:

- Dams under jurisdiction of the Bureau of Reclamation, Tennessee Valley Authority, or International Boundary and Water Commission
- Dams constructed pursuant to licenses issued under the Federal Power Act
- Dams that the Secretary of the Army determines do not pose any threat to human life or property.

The goal of this FEMA-monitored effort is to identify and mitigate the risk of dam failure so as to protect lives and property of the public. The National Dam Safety Program is a partnership among the states, federal agencies, and other stakeholders that encourages individual and community responsibility for dam safety. Under FEMA's leadership, state assistance funds have allowed all participating states to improve their programs through increased inspections, emergency action planning, and purchases of needed equipment. FEMA has also expanded existing and initiated new training programs. Grant assistance from FEMA provides support for improvement of dam safety programs that regulate most of the dams in the United States.

National Environmental Policy Act

The National Environmental Policy Act requires federal agencies to consider the environmental impacts of proposed actions and reasonable alternatives to those actions, alongside technical and economic considerations. The National Environmental Policy Act established the Council on Environmental Quality, whose regulations (40 CFR Parts 1500-1508) set standards for compliance. Consideration and decision-making regarding environmental impacts must be documented in an environmental impact statement or environmental assessment. Environmental impact assessment requires the evaluation of reasonable alternatives to a proposed action, solicitation of input from organizations and individuals that could be affected, and an unbiased presentation of direct, indirect, and cumulative environmental impacts. FEMA hazard mitigation project grant applications require full compliance with applicable federal acts. Any action identified in this plan that falls within the scope of this act will need to meet its requirements.

National Flood Insurance Program

The National Flood Insurance Program (NFIP) makes federally backed flood insurance available to homeowners, renters, and business owners in participating communities that enact floodplain regulations. Participation and good standing under NFIP are prerequisites to grant funding eligibility under the Robert T. Stafford Act.

For most participating communities, FEMA has prepared a detailed Flood Insurance Study. The study presents water surface elevations for floods of various magnitudes, including the 1-percent-annual-chance flood and the 0.2-percent-annual-chance flood. Base flood elevations and the boundaries of the flood hazard areas are shown on Flood Insurance Rate Maps, which are the principle tool for identifying the extent and location of the flood hazard. Flood Insurance Rate Maps are the most detailed and consistent data source available, and for many communities they represent the minimum area of oversight under the local floodplain management program. In recent years, Flood Insurance Rate Maps have been digitized as Digital Flood Insurance Rate Maps, which are more accessible to residents, local governments and stakeholders.

NFIP participants must, at a minimum, regulate development in floodplain areas in accordance with NFIP criteria. Before issuing a permit to build in a floodplain, participating jurisdictions must ensure that three criteria are met:

- New buildings and those undergoing substantial improvements must, at a minimum, be elevated to protect against damage by the 1 percent annual chance flood.
- New floodplain development must not aggravate existing flood problems or increase damage to other properties.
- New floodplain development must exercise a reasonable and prudent effort to reduce its adverse impacts on threatened salmonid species.

NFIP participation is limited to local governments that possess permit authority and have the ability to adopt and enforce regulations that govern land use. This does not typically apply to special purpose districts. None of the special purpose district planning partners covered by this plan are eligible to participate in the NFIP, so their action plans do not address NFIP participation.

National Incident Management System

The National Incident Management System (NIMS) is a systematic approach for government, nongovernmental organizations, and the private sector to work together to manage incidents involving hazards. The NIMS provides a flexible but standardized set of incident management practices. Incidents typically begin and end locally, and they are managed at the lowest possible geographical, organizational, and jurisdictional level. In some cases, success depends on the involvement of multiple jurisdictions, levels of government, functional agencies, and emergency responder disciplines. These cases necessitate coordination across a spectrum of organizations. Communities using NIMS follow a comprehensive national approach that improves the effectiveness of emergency management and response personnel across the full spectrum of potential hazards (including natural hazards, technological hazards, and human-caused hazards) regardless of size or complexity.

Although participation is voluntary, federal departments and agencies are required to make adoption of NIMS by local and state jurisdictions a condition to receive federal preparedness grants and awards. The content of this plan is considered to be a viable support tool for any phase of emergency management. The NIMS program is considered as a response function, and information in this hazard mitigation plan can support the implementation and update of all NIMS-compliant plans within the Planning Area.

National Landslide Preparedness Act

The 2021 National Landslide Preparedness Act authorized a national landslide hazards reduction program and a 3D elevation program within the USGS. This broadened the existing Landslide Hazards Program (under the Natural Hazards Mission Area) and the 3D Elevation Program (under the National Geospatial Program). The act required coordination among federal agencies through an Interagency Coordinating Committee on Landslide Hazards representing USGS and other agencies. The act calls for development of a national strategy for landslide loss reduction and a publicly accessible national landslide database of landslide hazard and risk.

Presidential Executive Order 11988, Floodplain Management

Executive Order 11988 requires federal agencies to avoid to the extent possible the long and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. It requires federal agencies to provide leadership and take action to reduce the risk of flood loss, minimize the impact of floods on human safety, health, and welfare, and restore and preserve the natural and beneficial values of floodplains. The requirements apply to the following activities:

- Acquiring, managing, and disposing of federal lands and facilities.
- Providing federally undertaken, financed, or assisted construction and improvements.
- Conducting federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulation, and licensing.

Presidential Executive Order 11990, Protection of Wetlands

Executive Order 11990 requires federal agencies to provide leadership and take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands. The requirements apply to the following activities:

- Acquiring, managing, and disposing of federal lands and facilities
- Providing federally undertaken, financed, or assisted construction and improvements
- Conducting federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulation, and licensing.

All actions identified in this plan will seek full compliance with all applicable presidential executive orders.

U.S. Army Corps of Engineers Dam Safety Program

The U.S. Army Corps of Engineers operates and maintains approximately 700 dams nationwide. It is also responsible for safety inspections of some federal and non-federal dams in the United States that meet the size and storage limitations specified in the National Dam Safety Act. The Corps has inventoried dams; surveyed each state and federal agency's capabilities, practices and regulations regarding design, construction, operation and maintenance of the dams; and developed guidelines for inspection and evaluation of dam safety. The Corps maintains the National Inventory of Dams, which contains information about a dam's location, size, purpose, type, last inspection and regulatory status.

U.S. Army Corps of Engineers Flood Hazard Management

The following U.S. Army Corps of Engineers authorities and programs related to flood hazard management:

- The Floodplain Management Services program offers 100 percent federally funded technical services such as development and interpretation of site-specific data related to the extent, duration and frequency of flooding. Special studies may be conducted to help a community understand and respond to flood risk. These may include flood hazard evaluation, flood warning and preparedness, or flood modeling.
- For more extensive studies, the Corps of Engineers offers a cost-shared program called Planning Assistance to States and Tribes. Studies under this program generally range from $25,000 to $100,000 with the local jurisdiction providing 50 percent of the cost.
- The Corps of Engineers has several cost-shared programs (typically 65 percent federal and 35 percent non-federal) aimed at developing, evaluating and implementing structural and non-structural capital projects to address flood risks at specific locations or within a specific watershed:
    - The Continuing Authorities Program for smaller-scale projects includes Section 205 for Flood Control, with a $7 million federal limit and Section 14 for Emergency Streambank Protection with a $1.5 million federal limit. These can be implemented without specific authorization from Congress.
    - Larger scale studies, referred to as General Investigations, and projects for flood risk management, for ecosystem restoration or to address other water resource issues, can be pursued through a specific authorization from Congress and are cost-shared, typically at 65 percent federal and 35 percent non-federal.
    - Watershed management planning studies can be specifically authorized and are cost-shared at 50 percent federal and 50 percent non-federal.
- The Corps of Engineers provides emergency response assistance during and following natural disasters. Public Law 84-99 enables the Corps to assist state and local authorities in flood fight activities and cost share in the repair of flood protective structures. Assistance is provided in the flowing categories:
    - Preparedness—The Flood Control and Coastal Emergency Act establishes an emergency fund for preparedness for emergency response to natural disasters; for flood fighting and rescue operations; for rehabilitation of flood control and hurricane protection structures. Funding for Corps of Engineers emergency response under this authority is provided by Congress through the annual Energy and Water Development Appropriation Act. Disaster preparedness activities include coordination, planning, training and conduct of response exercises with local, state and federal agencies.
    - Response Activities—Public Law 84-99 allows the Corps of Engineers to supplement state and local entities in flood fighting urban and other non-agricultural areas under certain conditions (Engineering Regulation 500-1-1 provides specific details). All flood fight efforts require a project cooperation agreement signed by the public sponsor and the sponsor must remove all flood fight material after the flood has receded. Public Law 84-99 also authorizes emergency water support and drought assistance in certain situations

and allows for "advance measures" assistance to prevent or reduce flood damage conditions of imminent threat of unusual flooding.

- Rehabilitation—Under Public Law 84-99, an eligible flood protection system can be rehabilitated if damaged by a flood event. The flood system would be restored to its pre-disaster status at no cost to the federal system owner, and at 20 percent cost to the eligible non-federal system owner. All systems considered eligible for Public Law 84-99 rehabilitation assistance have to be in the Rehabilitation and Inspection Program prior to the flood event. Acceptable operation and maintenance by the public levee sponsor are verified by levee inspections conducted by the Corps on a regular basis. The Corps has the responsibility to coordinate levee repair issues with interested federal, state, and local agencies following natural disaster events where flood control works are damaged.

These authorities and programs are all available to the planning partners to support any related mitigation actions.

U.S. Bureau of Reclamation Safety Evaluation of Existing Dams Program

The U.S. Bureau of Reclamation's Safety Evaluation of Existing Dams Program was officially implemented in 1978 with passage of the Reclamation Safety of Dams Act (Public Law 95-578). This act was amended in 1984 under Public Law 98-404, in 2000 under Public Law 106-377, in 2002 under Public Law 107-117, and in 2004 under Public Law 108-439. Program development and administration of dam safety activities is the responsibility of the Bureau of Reclamation's Dam Safety Office located in Denver, Colorado.

Dams must be operated and maintained in a safe manner, ensured through inspections for safety deficiencies, analyses utilizing current technologies and designs, and corrective actions if needed based on current engineering practices. In addition, future evaluations should include assessments of benefits foregone with the loss of a dam. For example, a failed dam can no longer provide needed fish and wildlife benefits.

The primary emphasis of the Safety Evaluation of Existing Dams program is to perform site evaluations and to identify potential safety deficiencies on Bureau of Reclamation and other Interior Department dams. The basic objective is to quickly identify dams which pose an increased threat to the public, and to quickly complete the related analyses in order to expedite corrective action decisions and safeguard the public and associated resources. The selected course of action relies on assessments of risks and liabilities with environmental and public involvement input to the decision-making process.

U.S. Fire Administration

There are federal agencies that provide technical support to fire agencies/organizations. For example, the U.S. Fire Administration, which is a part of FEMA, provides leadership, advocacy, coordination, and support for fire agencies and organizations.

STATE

AB 32: The California Global Warming Solutions Act

This bill identifies the following potential adverse impacts of global warming:

> "… the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems."

AB 32 establishes a state goal of reducing greenhouse gas emissions to 1990 levels by 2020 (a reduction of approximately 25 percent from forecast emission levels), with further reductions to follow. The law requires the state Air Resources Board to do the following:

- Establish a program to track and report greenhouse gas emissions.
- Approve a scoping plan for achieving the maximum technologically feasible and cost-effective reductions from sources of greenhouse gas emissions.
- Adopt early reduction measures to begin moving forward.
- Adopt, implement, and enforce regulations—including market mechanisms such as "cap and-trade" programs—to ensure that the required reductions occur.

The Air Resources Board has adopted a statewide greenhouse gas emissions limit and an emissions inventory, along with requirements to measure, track, and report greenhouse gas emissions by the industries it determined to be significant sources of greenhouse gas emissions.

AB 38: Fire Safety: Low-Cost Retrofits: Regional Capacity Review: Wildfire Mitigation

Requires the seller of any real property located in a high or very fire hazard severity zone to provide a disclosure notice, as specified, to the buyer with information relating to fire hardening improvements on the property.

Requires the California Natural Resources Agency, in consultation with the State Fire Marshal and the Forest Management Task Force, to review the regional capacity of each county that contains a very high fire hazard severity zone to improve forest health, fire resilience, and safety.

Requires the California Office of Emergency Services to enter into a joint powers agreement with the Department of Forestry and Fire Protection to administer a comprehensive wildfire mitigation and assistance program to encourage cost-effective structure hardening and facilitate vegetation management, contingent upon appropriation by the Legislature.

AB 70: Flood Liability

This bill provides that a city or county may be required to contribute a fair and reasonable share to compensate for property damage caused by a flood to the extent that it has increased the state's exposure to liability for property damage by unreasonably approving new development in a previously undeveloped area that is protected by a state flood control project, unless the city or county meets specified requirements.

AB 162: Flood Planning

This California State Assembly Bill passed in 2007 requires cities and counties to address flood-related matters in the land use, conservation, and safety and housing elements of their general plans. The land use element must identify and annually review the areas covered by the general plan that are subject to flooding as identified in floodplain mapping by either FEMA or the state Department of Water Resources (DWR). During the next revision of the housing element on or after January 1, 2009, the conservation element of the general plan must identify rivers, creeks, streams, flood corridors, riparian habitat, and land that may accommodate floodwater for the purpose of groundwater recharge and stormwater management. The safety element must identify information regarding flood hazards, including:

- Flood hazard zones.
- Maps published by FEMA, DWR, the U.S. Army Corps of Engineers, the Central Valley Flood Protection Board, and the Governor's Office of Emergency Services (Cal OES).
- Historical data on flooding.
- Existing and planned development in flood hazard zones.

The general plan must establish goals, policies and objectives related to flooding risks, including:

- Avoiding or minimizing the risks of flooding new development.
- Evaluating whether new development should be located in flood hazard zones.
- Identifying construction methods to minimize damage.

AB 162 establishes goals, policies and objectives related to flooding risks. It establishes procedures for the determination of available land suitable for urban development, which may exclude lands where FEMA or DWR has concluded that the flood management infrastructure is not adequate to avoid the risk of flooding.

AB 642: Wildfires

This omnibus fire prevention bill makes changes to support cultural and prescribed fire, including the creation of a Cultural Burning Liaison at the Department of Forestry and Fire Protection, and requires a proposal for creating a prescribed fire training center in California. The Act requires the Director of Forestry and Fire Protection to identify areas in the state as moderate and high fire hazard severity zones and to classify areas into fire hazard severity zones based on additional factors including possible lightning caused ignition. The bill requires a local agency, within 30 days of receiving a transmittal from the director that identifies fire hazard severity zones, to make the information available for public comment.

AB 747: Required Information for General Plan Safety Elements

This bill requires California communities with general plans to address evacuation routes in the safety element of the general plan. Information on the evacuation routes and their capacity, safety and viability under a range of emergency scenarios must be provided. For communities that have not adopted a local hazard mitigation plan, the safety element must be updated with this information by January 1, 2022. For those with a local hazard mitigation plan, the requirement applies upon the next revision of the hazard mitigation plan on or after January 1, 2022. Communities that have adopted a local hazard mitigation plan, emergency operations plan, or other document that fulfills the goals and objectives of this law may

comply with this requirement by summarizing and incorporating by reference the other plan or document in the safety element.

In subsequent revisions to the safety element, communities also will be required to identify new information relating to flood and fire hazards and climate adaptation and resiliency strategies applicable to the city or county that was not available during the previous revision of the safety element. These subsequent updates must occur upon each revision of the general plan housing element or local hazard mitigation plan and not less than once every eight years.

AB 800: Wildfires: Local General Plans: Safety Elements: Fire Hazard Severity Zones

Existing law requires the Director of Forestry and Fire Protection to identify areas of the state as very high fire hazard severity zones, and requires each planning agency to prepare, and the legislative body of each county and city to adopt, a comprehensive, long-term general plan, including a safety element, for the physical development of the county or city. Existing law requires each city or county that contains a very high fire hazard severity zone to submit the draft element of, or draft amendment to the safety element its general plan to the State Board of Forestry and Fire Protection and to every local agency that provides fire protection to territory in the city or county at least 90 days before adoption or amendment.

This requires the director to also identify areas of the state as moderate and high fire hazard severity zones. It requires the draft element of, or draft amendment to, the safety element of a county or city's general plan to be submitted to the state board and to every local agency that provides fire protection to territory in the city or county at least 90 days before the adoption or amendment to the safety element of its general plan for each city or county that contains a moderate or high fire hazard severity zone.

Existing law requires the state board and authorizes a local agency to review the draft or an existing safety element and recommend changes to the planning agency regarding uses of land and policies in state responsibility areas and very high fire hazard severity zones and regarding methods and strategies for wildland fire risk reduction and prevention within state responsibility areas and very high fire hazard severity zones.

This bill also requires the state board and authorizes a local agency to review the draft or an existing safety element and recommend changes to the planning agency regarding uses of land and policies in moderate and high fire hazard severity zones and regarding methods and strategies for wildland fire risk reduction and prevention within moderate and high fire hazard severity zones.

The existing Subdivision Map Act vests the authority to regulate and control the design and improvement of subdivisions in the legislative body of a local agency, and sets forth procedures governing the local agency's processing, approval, conditional approval, or disapproval, and filing of tentative, final, and parcel maps, and the modification thereof. The act generally requires a subdivider to file a tentative map or vesting tentative map with the local agency, and requires the local agency to approve, conditionally approve, or disapprove the map within a specified time period. Before approving a tentative map, or a parcel map for which a tentative map was not required, for an area located in a state responsibility area or a very high fire hazard severity zone, existing law requires a legislative body of a county to make specified findings. Existing law requires a legislative body of a county to transmit these findings to the State Board of Forestry and Fire Protection.

This requires a legislative body of a county to make specified findings before approving a tentative map, or a parcel map for which a tentative map was not required, for areas located in moderate and high fire hazard severity zones, and requires these findings to be transmitted to the state board.

By requiring new duties on a county, the bill imposes a state-mandated local program. The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement. This bill provides that, if the Commission on State Mandates determines that the bill contains costs mandated by the state, reimbursement for those costs shall be made pursuant to statutory provisions.

AB 2140: General Plans—Safety Element

This bill provides that the state may allow for more than 75 percent of public assistance funding under the California Disaster Assistance Act only if the local agency is in a jurisdiction that has adopted a local hazard mitigation plan as part of the safety element of its general plan. The local hazard mitigation plan needs to include elements specified in this legislation. In addition, this bill requires Cal OES to give preference for federal mitigation funding to cities and counties that have adopted local hazard mitigation plans. The intent of the bill is to encourage cities and counties to create and adopt hazard mitigation plans.

AB 2800: Climate Change—Infrastructure Planning

This California State Assembly bill passed in 2016 and until July 1, 2020, requires state agencies to take into account the current and future impacts of climate change when planning, designing, building, operating, maintaining, and investing in state infrastructure. The bill, by July 1, 2017, and until July 1, 2020, requires an agency to establish a Climate-Safe Infrastructure Working Group to examine how to integrate scientific data concerning projected climate change impacts into state infrastructure engineering.

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was enacted in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. The Alquist-Priolo Earthquake Fault Zoning Act's main purpose is to prevent construction of buildings used for human occupancy on the surface trace of active faults. Before a new project is permitted, cities and counties require a geologic investigation to demonstrate that proposed buildings will not be constructed on active faults. The act addresses only the hazard of surface fault rupture and is not directed toward other earthquake hazards, such as liquefaction or seismically induced landslides. The law requires the State of California Geologist to establish regulatory zones around the surface traces of active faults and to issue appropriate maps. The maps are distributed to all affected cities, counties, and state agencies for their use in planning and controlling new or renewed construction. Local agencies must regulate most development projects within the zones. Projects include all land divisions and most structures for human occupancy. All seismic hazard mitigation actions identified in this plan will seek full compliance with the Alquist-Priolo Earthquake Fault Zoning Act.

California Department of Forestry and Fire Protection

CAL FIRE has responsibility for wildfires in areas of the county that are not under the jurisdiction of the Forest Service or a local fire organization, including lands designated as State Responsibility Areas. CAL FIRE also has fire protection responsibilities by contract and mutual aid agreements. For example, CAL FIRE provides year-round fire protection under Amador Plan agreements with certain local government agencies (Public Resources Code §4144). Through these agreements, CAL FIRE provides local structural and wildfire protection or dispatch services to a community and maintains a staffing level that otherwise would be available only during the fire season. The local entity pays the additional cost of the service.

California Department of Parks and Recreation

State Parks manages portions of the California coastline including coastal wetlands, estuaries, beaches, and dune systems. The State Parks Resources Management Division has limited wildfire protection resources available to suppress fires on State Park lands.

California Department of Water Resources

In California, the DWR is the coordinating agency for floodplain management. The DWR works with FEMA and local governments by providing grants and technical assistance, evaluating community floodplain management programs, reviewing local floodplain ordinances, participating in statewide flood hazard mitigation planning, and facilitating annual statewide workshops. Compliance is monitored by FEMA regional staff and by the DWR.

California Division of Safety of Dams

California's Division of Safety of Dams (a division of the DWR) monitors the dam safety program at the state level and maintains a working list of dams in the state. When a new dam is proposed, Division engineers and geologists inspect the site and the subsurface. Upon submittal of an application, the Division reviews the plans and specifications prepared by the owner to ensure that the dam is designed to meet minimum requirements and that the design is appropriate for the known geologic conditions. After approval of the application, the Division inspects all aspects of the construction to ensure that the work is done in accordance with the approved plans and specifications. After construction, the Division inspects each dam to ensure that it is performing as intended and is not developing problems. The Division periodically reviews the stability of dams and their major appurtenances in light of improved design approaches and requirements, as well as new findings regarding earthquake hazards and hydrologic estimates in California. Over 1,200 dams are inspected by Division engineers on a yearly schedule to ensure performance and maintenance of dams.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) was passed in 1970, shortly after the federal government enacted the National Environmental Policy Act, to institute a statewide policy of environmental protection. CEQA requires state and local agencies in California to follow a protocol of analysis and public disclosure of the potential environmental impacts of development projects. CEQA makes environmental protection a mandatory part of every California state and local agency's decision-making process.

CEQA establishes a statewide environmental policy and mandates actions all state and local agencies must take to advance the policy. Jurisdictions conduct analysis of the project to determine if there are potentially significant environmental impacts, identify mitigation measures, and possible project alternatives by preparing environmental reports for projects that requires CEQA review. This environmental review is required before an agency takes action on any policy, program, or project. Any project action identified in this plan will seek full CEQA compliance upon implementation.

California Fire Safe Council

In 1993, the statewide Fire Safe Council, consisting of private and public membership, was formed to educate and encourage Californians to plan and prepare for wildfires by reducing the risk of fire to property, communities, and natural/structural resources. In 2002, this group created a nonprofit organization and board of directors, called the California Fire Safe Council. The Council works with the California Fire Alliance to facilitate the distribution of National Fire Plan grants for wildfire risk reduction and education (www.grants.firesafecouncil.org). The Council also provides assistance to local Fire Safe Councils through its website (www.firesafecouncil.org), the distribution of educational materials, and technical assistance, primarily through regional representatives. More than 130 local Fire Safe Councils have formed in California to plan, coordinate, and implement fire prevention activities.

California Fire Service and Rescue Emergency Mutual Aid Plan

The Governor's Office of Emergency Services Fire and Rescue Branch administers the California Fire Service and Rescue Emergency Mutual Aid Plan. The agency provides guidance and procedures for agencies developing emergency operations plans, as well as training and technical support, primarily to overall emergency service organizations and urban search and rescue teams.

California General Planning Law

California state law requires that every county and city prepare and adopt a comprehensive long-range plan to serve as a guide for community development. The general plan expresses the community's goals, visions, and policies relative to future land uses, both public and private. The general plan is mandated and prescribed by state law (Cal. Gov. Code §65300 et seq.), and forms the basis for most local government land use decision-making.

The plan must consist of an integrated, internally consistent set of goals, policies, and implementation measures. In addition, the plan must focus on issues of the greatest concern to the community and be written in a clear and concise manner. City and county actions, such as those relating to land use allocations, annexations, zoning, subdivision and design review, redevelopment, and capital improvements, must be consistent with the plan.

California Hazard Mitigation Plan

Under the DMA, California must adopt a federally approved state multi-hazard mitigation plan to be eligible for certain disaster assistance and mitigation funding. The intent of the State of California Multi-Hazard Mitigation Plan is to reduce or prevent injury and damage from hazards in the state through the following:

- Documenting statewide hazard mitigation planning in California
- Describing strategies and priorities for future mitigation activities

- Facilitating the integration of local and tribal hazard mitigation planning activities into statewide efforts
- Meeting state and federal statutory and regulatory requirements.

The plan is an annex to the State Emergency Plan, and it identifies past and present mitigation activities, current policies and programs, and mitigation strategies for the future. It also establishes hazard mitigation goals and objectives. The plan will be reviewed and updated annually to reflect changing conditions and new information, especially information on local planning activities.

Under 44 CFR Section 201.6, local hazard mitigation plans must be consistent with their state's hazard mitigation plan. In updating this plan, the Steering Committee reviewed the California State Hazard Mitigation Plan to identify key relevant state plan elements (refer to Section 3.7).

California Residential Mitigation Program

The California Residential Mitigation Program was established in 2011 to help Californians strengthen their homes against damage from earthquakes. The program is a joint powers authority created by Cal OES and the California Earthquake Authority, which is a not-for-profit, publicly managed, privately funded provider of home earthquake insurance to California homeowners and renters.

Earthquake Brace + Bolt was developed to help homeowners lessen the potential for damage to their houses during an earthquake. A residential seismic retrofit strengthens an existing older house, making it more resistant to earthquake activity such as ground shaking and soil failure. The seismic retrofitting involves bolting the house to its foundation and adding bracing around the perimeter of the crawl space. Most homeowners hire a contractor to do the retrofit work, and owners of houses in ZIP Codes with house characteristics suitable for this type of retrofit are eligible for up to $3,000 toward the cost. A typical retrofit by a contractor may cost between $3,000 and $7,000, depending on the location and size of the house, contractor fees, and the amount of materials and work involved. If the homeowner is an experienced do-it-yourselfer, a retrofit can cost less than $3,000.

California State Building Code

California Code of Regulations Title 24 (CCR Title 24), also known as the California Building Standards Code, is a compilation of building standards from three sources:

- Building standards that have been adopted by state agencies without change from building standards contained in national model codes
- Building standards that have been adopted and adapted from the national model code standards to meet California conditions
- Building standards authorized by the California legislature that constitute extensive additions not covered by the model codes adopted to address particular California concerns.

The state Building Standards Commission is authorized by California Building Standards Law (Health and Safety Code Sections 18901 through 18949.6) to administer the processes related to the adoption, approval, publication, and implementation of California's building codes. These building codes serve as the basis for the design and construction of buildings in California. The national model code standards adopted into Title 24 apply to all occupancies in California, except for modifications adopted by state

agencies and local governing bodies. Since 1989, the Building Standards Commission has published new editions of Title 24 every three years.

On January 1, 2014, California Building Code Accessibility Standards found in Chapter 11B incorporated the 2010 Americans with Disabilities Act (ADA) Standards as the model accessibility code for California. The purpose was to ensure consistency with federal guidelines. As a result of this incorporation, the California standards will fully implement and include 2010 ADA Standards within the California Building Code while maintaining enhanced levels of accessibility already provided by existing California accessibility regulations.

Disadvantaged and Low-income Communities Investments

Senate Bill (SB) 535 directs state and local agencies to make investments that benefit California's disadvantaged communities. It also directs the California Environmental Protection Agency to identify disadvantaged communities for the purposes of these investments based on geographic, socio-economic, public health, and environmental hazard criteria. Assembly Bill (AB) 1550 increased the percent of funds for projects located in disadvantaged communities from 10 to 25 percent and added a focus on investments in low-income communities and households. This program is a potential alternative source of funding for actions identified in this plan.

Division of the State Architect's AB 300 List of Seismically At-Risk Schools

In 2002, California's Division of the State Architect completed an inventory of public school buildings built before 1978 that identifies buildings with characteristics that might make them unsafe in future earthquakes. This inventory provides a list of potentially at-risk schools known as the AB 300 list (the inventory was authorized by Assembly Bill 300 in 1999). Using available information on school buildings' dates of construction, seismic retrofits, and structural systems (wood frame, concrete shear wall, or steel moment frame, etc.), the inventory categorized California public school buildings into one of two categories: those expected to perform well in future earthquakes; and those that are not expected to perform well and require more detailed seismic evaluation.

The Division of the State Architect recommends that public schools on this list undergo detailed seismic evaluations to determine if they pose life safety risks, but the state has neither required nor funded school districts to do this.

Governor's Executive Order S-13-08

Governor's Executive Order S-13-08 enhances the state's management of climate impacts from sea-level rise, increased temperatures, shifting precipitation and extreme weather events. There are four key actions in the executive order:

- Initiate California's first statewide climate change adaptation strategy to assess expected climate change impacts, identify where California is most vulnerable, and recommend adaptation policies. This effort will improve coordination within state government so that better planning can more effectively address climate impacts on human health, the environment, the state's water supply and the economy.
- Request that the National Academy of Science establish an expert panel to report on sea-level rise impacts in California, to inform state planning and development efforts.

- Issue interim guidance to state agencies for how to plan for sea-level rise in designated coastal and floodplain areas for new projects.
- Initiate a report on critical infrastructure projects vulnerable to sea-level rise.

Office of the State Fire Marshal

The Office of the State Fire Marshal is a division of CAL FIRE that has a wide variety of fire safety and training responsibilities and provides technical support to fire agencies/organizations.

Senate Bill 12: Local Government: Planning and Zoning: Wildfires

This bill imposes new planning requirements on local governments, as follows:

- Defines "very high fire risk areas" to be the VHFHSZ in both the SRA and the Local Responsibility Area.
- Requires each city or county, upon the next revision of the housing element or local hazard mitigation plan on or after July 1, 2024, whichever occurs first, to review and update its safety element to include a comprehensive retrofit strategy that includes specified contents.
- Requires a city or county with VHFHSZ within its jurisdiction to amend the land use element of its general plan upon the next revision of the housing element on or after July 1, 2024. This amendment of the land use element must include the locations of all VHFHSZ within the city or county, the data and analysis described in the Office of Planning and Research's publication *Fire Hazard Planning–General Plan Technical Advice Series*, and other specified goals, objectives, and implementation measures.
- Requires, after the initial amendment to the land use element, that a city or county review upon each revision of the housing element the implementation of the wildfire risk reduction standards within the jurisdiction and the designation of VHFHSZ.
- Provides for review and comment on draft findings by the Board and local fire agencies on whether the city or county has implemented the standards or made adequate progress, as defined.
- Requires, on or before January 1, 2023, to develop and post on its web site a clearinghouse of local ordinances, policies, and best practices relating to land use planning in VHFHSZ, wildfire risk reduction, and wildfire preparedness. The Office of Planning and Research must also regularly update the clearinghouse.

Senate Bill 79: Housing Development: Transit-Oriented Development

Senate Bill 79, enacted in October 2025, establishes a statewide framework that significantly increases allowable residential density near major transit stops and corridors. Beginning July 1, 2026, Senate Bill 79 requires cities within designated urban transit counties to allow qualifying transit-oriented housing projects "as an allowed use" on land zoned for residential, mixed-use, or commercial development within one-quarter to one-half mile of major transit stations.

Senate Bill 99: Evacuation Route Planning

Senate Bill 99, enacted in 2019, requires that cities' and counties' general plans address evacuation routes from any hazard area identified in the safety element. Under this law, the safety element must include information to identify residential developments in hazard areas that do not have at least two

emergency evacuation routes. Each city or county must update its safety element with the new information upon the next revision of its housing element on or after January 1, 2020.

Senate Bill 182 Local Government: Planning and Zoning: Wildfires

California Senate Bill 182 made a number of changes to state law regarding planning for and permitting development in areas designated as very high fire risk areas. The bill requires a local jurisdiction to do the following:

- Include a comprehensive retrofit strategy in its safety element to reduce the risk of property loss and damage during wildfires.
- Amend its land use element to identify all very high fire risk areas and to establish measures to protect lives and property from unreasonable risk of wildfire.
- Adopt a very high fire risk overlay zone for its zoning ordinance.
- Allocate a lower portion of projected future housing to very high fire hazard severity zones

This bill prohibits local governments from entering into a development agreement for property in a very high fire risk area, approving a permit for a project in a very high fire risk area, or approving a tentative map for a subdivision in a very high fire risk area, unless the jurisdiction makes specified findings based on substantial evidence.

Senate Bill 379: General Plans: Safety Element—Climate Adaptation

Senate Bill 379 builds upon the flood planning inclusions into the safety and housing elements and the hazard mitigation planning safety element inclusions in general plans outlined in AB 162 and AB 2140, respectively. SB 379 focuses on a new requirement that cities and counties include climate adaptation and resiliency strategies in the safety element of their general plans beginning January 1, 2017. In addition, this bill requires general plans to include a set of goals, policies and objectives, and specified implementation measures based on the conclusions drawn from climate adaptation research and recommendations.

Senate Bill 1000: General Plan Amendments—Safety and Environmental Justice Elements

In 2016, Senate Bill 1000 amended California's Planning and Zoning Law in two ways:

- The original law established requirements for initial revisions of general plan safety elements to address flooding, fire, and climate adaptation and resilience. It also required subsequent review and revision as necessary based on new information. Senate Bill 1000 specifies that the subsequent reviews and revision based on new information are required to address only flooding and fires (not climate adaptation and resilience).
- Senate Bill 1000 adds a requirement that, upon adoption or revision of any two other general plan elements on or after January 1, 2018, an environmental justice element be adopted for the general plan or environmental justice goals, policies and objectives be incorporated into other elements of the plan.

Senate Bill 1035: Fire, Flood, and Adaptation Safety Element Updates

Senate Bill 1035 clarifies that revisions to a community's General Plan Safety Element—to address fire hazards, flood hazards, and climate adaptation and resilience strategies—must occur upon each revision to a Housing Element or Local Hazard Mitigation Program.

Senate Bill 1241: General Plans: Safety Element—Fire Hazard Impacts

In 2012, Senate Bill 1241 passed requiring that the safety elements of all future general plans address fire risk in state responsibility areas and very high fire hazard severity zones. The bill requires cities and counties to make findings regarding available fire protection and suppression services before approving a tentative map or parcel map.

Standardized Emergency Management System

CCR Title 19 establishes the Standardized Emergency Management System (SEMS) to standardize the response to emergencies involving multiple jurisdictions. SEMS is intended to be flexible and adaptable to the needs of all emergency responders in California. It requires emergency response agencies to use basic principles and components of emergency management. Local governments must use SEMS by December 1, 1996, to be eligible for state funding of response-related personnel costs under CCR Title 19 (Sections 2920, 2925 and 2930). The roles and responsibilities of Individual agencies contained in existing laws or the state emergency plan are not superseded by these regulations. This hazard mitigation plan is considered to be a support document for all phases of emergency management, including those associated with SEMS.

APPENDIX F. PLAN MAINTENANCE AGENDAS

APPENDIX G. FEMA APPROVAL AND PLANNING PARTNER ADOPTION

2026 PALOS VERDES PENINSULA

Multi-Jurisdictional Hazard Mitigation Plan

Volume 2

Planning Partner Annexes

PUBLIC COMMENT DRAFT
FEBRUARY 2026

BLACK & VEATCH

CITY OF PALOS VERDES ESTATES INCORPORATED 1939 CALIFORNIA

RPV

CITY OF ROLLING HILLS, CALIFORNIA

CITY OF ROLLING HILLS ESTATES 1957

ACLAD



ABALONE COVE LANDSLIDE ABATEMENT DISTRICT

Klondike Canyon Geologic Hazard Abatement District

TABLE OF CONTENTS

1. Introduction....1-7
1.1 Background....1-7
1.2 The Planning Partnership....1-8
1.2.1 Initial Solicitation and Letters of Commitment....1-8
1.2.2 Planning Partner Expectations....1-8
1.2.3 Final Coverage....1-9
1.3 Annex Development....1-9
1.3.1 Capability Assessment....1-9
1.3.2 Mitigation Action Plan Development....1-11
1.3.3 Annex-Preparation Process....1-13
2. Palos Verdes Estates....2-1
2.1 Local Hazard Mitigation Planning Team....2-1
2.2 Jurisdictional Profile....2-2
2.2.1 Location and Features....2-2
2.2.2 History....2-2
2.2.3 Governance....2-2
2.3 Current Trends....2-3
2.3.1 Population....2-3
2.3.2 Development....2-3
2.4 Capability Assessment....2-4
2.4.1 Planning and Regulatory Capabilities....2-4
2.4.2 Development and Permitting Capabilities....2-7
2.4.3 Fiscal Capabilities....2-7
2.4.4 Administrative and Technical Capabilities....2-8
2.4.5 Education and Outreach Capabilities....2-9
2.4.6 Community Classifications....2-11
2.4.7 Adaptive Capacity for Climate Change....2-11
2.5 National Flood Insurance Program Compliance....2-13
2.6 Integration....2-15
2.6.1 Existing Integration....2-15
2.6.2 Opportunities for Future Integration....2-16

2.7 Risk Assessment 2-16
2.7.1 Jurisdiction-Specific Natural Hazard Event History 2-16
2.7.2 Hazard Ranking 2-17
2.7.3 Jurisdiction-Specific Vulnerabilities 2-18
2.8 Status of Previous Plan Mitigation Actions 2-19
2.9 Hazard Mitigation Strategy 2-21
2.10 Public Outreach 2-26
2.11 Information Sources Used for This Annex 2-26
3. Rancho Palos Verdes 3-42
3.1 Local Hazard Mitigation Planning Team 3-42
3.2 Jurisdictional Profile 3-43
3.2.1 Location and Features 3-43
3.2.2 History 3-43
3.2.3 Governance 3-44
3.3 Current Trends 3-44
3.3.1 Population 3-44
3.3.2 Development 3-44
3.4 Capability Assessment 3-45
3.4.1 Planning and Regulatory Capabilities 3-45
3.4.2 Development and Permitting Capabilities 3-1
3.4.3 Fiscal Capabilities 3-1
3.4.4 Administrative and Technical Capabilities 3-2
3.4.5 Education and Outreach Capabilities 3-3
3.4.6 Community Classifications 3-3
3.4.7 Adaptive Capacity for Climate Change 3-4
3.5 National Flood Insurance Program Compliance 3-5
3.6 Integration 3-6
3.6.1 Existing Integration 3-7
3.6.2 Opportunities for Future Integration 3-8
3.7 Risk Assessment 3-8
3.7.1 Jurisdiction-Specific Natural Hazard Event History 3-8

3.7.2 Table 3-11 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area,

including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan. 3-8
3.7.3 Hazard Ranking 3-9
3.7.4 Jurisdiction-Specific Vulnerabilities 3-10
3.8 Status of Previous Plan Mitigation Actions 3-12
3.9 Hazard Mitigation Strategy 3-23
3.10 Public Outreach 3-50
4. Rolling Hills 4-1
4.1 Local Hazard Mitigation Planning Team 4-1
4.2 Jurisdictional Profile 4-2
4.2.1 Location and Features 4-2
4.2.2 History 4-3
4.2.3 Governance 4-3
4.3 Current Trends 4-3
4.3.1 Population 4-3
4.3.2 Development 4-3
4.4 Capability Assessment 4-5
4.4.1 Planning and Regulatory Capabilities 4-5
4.4.2 Development and Permitting Capabilities 4-8
4.4.3 Fiscal Capabilities 4-8
4.4.4 Administrative and Technical Capabilities 4-9
4.4.5 Education and Outreach Capabilities 4-10
4.4.6 Community Classifications 4-11
4.4.7 Adaptive Capacity for Climate Change 4-11
4.5 National Flood Insurance Program Compliance 4-12
4.6 Integration 4-14
4.6.1 Existing Integration 4-14
4.6.2 Opportunities for Future Integration 4-14
4.7 Risk Assessment 4-15
4.7.1 Jurisdiction-Specific Natural Hazard Event History 4-15
4.7.2 Hazard Ranking 4-16
4.7.3 Jurisdiction-Specific Vulnerabilities 4-17
4.8 Status of Previous Plan Mitigation Actions 4-18

4.9 Hazard Mitigation Strategy 4-25
4.10 Public Outreach 4-43
4.11 Information Sources Used for This Annex 4-44
5. Rolling Hills Estates 5-1
5.1 Local Hazard Mitigation Planning Team 5-1
5.2 Jurisdictional Profile 5-2
5.2.1 Location and Features 5-2
5.2.2 History 5-2
5.2.3 Governance 5-2
5.3 Current Trends 5-3
5.3.1 Population 5-3
5.3.2 Development 5-3
5.4 Capability Assessment 5-4
5.4.1 Planning and Regulatory Capabilities 5-4
5.4.2 Development and Permitting Capabilities 5-7
5.4.3 Fiscal Capabilities 5-7
5.4.4 Administrative and Technical Capabilities 5-8
5.4.5 Education and Outreach Capabilities 5-9
5.4.6 Community Classifications 5-10
5.4.7 Adaptive Capacity for Climate Change 5-11
5.5 National Flood Insurance Program Compliance 5-11
5.6 Integration 5-13
5.6.1 Existing Integration 5-13
5.6.2 Opportunities for Future Integration 5-14
5.7 Risk Assessment 5-15
5.7.1 Jurisdiction-Specific Natural Hazard Event History 5-15
5.7.2 Hazard Ranking 5-16
5.7.3 Jurisdiction-Specific Vulnerabilities 5-17
5.8 Status of Previous Plan Mitigation Actions 5-18
5.9 Hazard Mitigation Strategy 5-26
Public Outreach 5-35
5.10 Information Sources Used for This Annex 5-36
6. Abalone Cove Landslide Abatement District ..... **Error! Bookmark not defined.**

7. Klondike Canyon Geological Hazard Abatement Distrcit ..... **Error! Bookmark not defined.**

Figure 1-1. Malaga Cove, Palos Verdes Estates....2-1
Figure 1-2. Facebook Post 2-26
Figure 1-3. Earthquake Hazard Map – 100-Year Probability Earthquake Scenario....2-28
Figure 1-4. Earthquake Hazard Map – Compton M7.45 Earthquake Scenario....2-29
Figure 1-5. Earthquake Hazard Map – Palos Verdes M7.38 Earthquake Scenario....2-30
Figure 1-6. Earthquake Hazard Map – Redondo Canyon M6.65 Earthquake Scenario....2-31
Figure 1-7. Flood Hazard Map – FEMA Flood Hazard Areas....2-32
Figure 1-8.Landslide Hazard Map – Landslide Scenario Losses....Error! Bookmark not defined.
Figure 1-9. Landslide Hazard Map – Landslide Occurrences....2-33
Figure 1-10. Landslide Hazard Map – Landslide Susceptibility 2-34
Figure 1-11. Landslide Hazard Map – Steep Slope Areas....2-35
Figure 1-12. Liquefaction Hazard Map – Liquefaction Zones....2-36
Figure 1-13. Liquefaction Hazard Map – NEHRP Seismic Site Class....2-37
Figure 1-14. Sea Level Rise Hazard Map – 25-cm Sea Level Rise with 100-Year Storm Surge 2-38
Figure 1-15. Sea Level Rise Hazard Map – 200-cm Sea Level Rise with 100-Year Storm Surge....2-39
Figure 1-16. Tsunami Hazard Map – Tsunami Hazard Area....2-40
Figure 1-17.Fire Hazard Map – Fire Hazard Severity Zones....2-41
Figure 3-1. Rancho Palos Verdes Point Vicente Lighthouse....3-42
Figure 3-2. RPV Virtual Outreach Infographic for the MJLHMP Community Survey 3-51
Figure 3-3. Earthquake Hazard Map – 100-Year Probability Scenario 3-52
Figure 3-4. Earthquake Hazard Map – Compton M7.45 Scenario 3-53
Figure 3-5. Earthquake Hazard Map – Palos Verdes M7.78 Scenario....3-54
Figure 3-6. Earthquake Hazard Map – Redondo Canyon M6.65 Scenario 3-55
Figure 3-7. Flood Hazard Map – FEMA Flood Hazard Areas....3-56
Figure 3-8. Landslide Hazard Map – Landslide Scenario Losses....Error! Bookmark not defined.
Figure 3-9. Landslide Hazard Map – Landslide Occurrences....3-57
Figure 3-10. Landslide Hazard Map – Landslide Susceptibility 3-58
Figure 3-11. Landslide Hazard Map – Steep Slope Areas....3-59
Figure 3-12. Liquefaction Hazard Map – Liquefaction Susceptibility 3-60
Figure 3-13. Liquefaction Hazard Map – NEHRP Seismic Site Class....3-61
Figure 3-14. Sea Level Rise Hazard Map – 25 cm with 100-Year Storm Surge....3-62
Figure 3-15. Sea Level Rise Hazard Map – 200 cm with 100-Year Storm Surge 3-63
Figure 3-16. Tsunami Hazard Map – Tsunami Hazard Area....3-64
Figure 3-17. Wildfire Hazard Map – Fire Hazard Severity Zones....3-65
Figure 4-1. Rolling Hills 4-1
Figure 4-2. Outreach Materials Posted to Promote the Survey....4-43
Figure 4-3. Earthquake Hazard Map – 100-Year Probability Scenario 4-45
Figure 4-4. Earthquake Hazard Map – Compton M7.45 Scenario 4-46
Figure 4-5. Earthquake Hazard Map – Palos Verdes M7.78 Scenario....4-47
Figure 4-6. Earthquake Hazard Map – Redondo Canyon M6.65 Scenario 4-48
Figure 4-7. Flood Hazard Map – FEMA Flood Hazard Areas....4-49

Figure 4-8. Landslide Hazard Map – Landslide Scenario Losses.....Error! Bookmark not defined.
Figure 4-9. Landslide Hazard Map – Landslide Occurrences.....4-50
Figure 4-10. Landslide Hazard Map – Landslide Susceptibility.....4-51
Figure 4-11. Landslide Hazard Map – Steep Slope Areas.....4-52
Figure 4-12. Liquefaction Hazard Map – Liquefaction Susceptibility.....4-53
Figure 4-13. Liquefaction Hazard Map – NEHRP Seismic Site Class.....4-54
Figure 4-14. Wildfire Hazard Map – Fire Hazard Severity Zones.....4-55
Figure 5-1. City of Rolling Hills Estates 2024 Mayor's Ride.....5-1
Figure 5-2. Screenshot of the City's Emergency Preparedness Page.....5-14
Figure 5-3. City Facebook Post from January 15, 2026.....5-36
Figure 5-4. Earthquake Hazard Map – 100-Year Probability Earthquake Scenario.....5-37
Figure 5-5. Earthquake Hazard Map – Compton M7.45 Earthquake Scenario.....5-38
Figure 5-6. Earthquake Hazard Map – Palos Verdes M7.38 Earthquake Scenario.....5-39
Figure 5-7. Earthquake Hazard Map – Redondo Canyon M6.65 Earthquake Scenario.....5-40
Figure 5-8. Flood Hazard Map – FEMA Flood Hazard Areas.....5-41
Figure 5-9. Landslide Hazard Map – Landslide Scenario Losses.....Error! Bookmark not defined.
Figure 5-10. Landslide Hazard Map – Landslide Occurrences.....5-42
Figure 5-11. Landslide Hazard Map – Landslide Susceptibility.....5-43
Figure 5-12. Landslide Hazard Map – Steep Slope Areas.....5-44
Figure 5-13. Liquefaction Hazard Map – Liquefaction Susceptibility.....5-45
Figure 5-14. Liquefaction Hazard Map – NEHRP Seismic Site Class.....5-46
Figure 5-15. Wildfire Hazard Map – Fire Hazard Severity Zones.....5-47

1. INTRODUCTION

1.1 BACKGROUND

The Palos Verdes Peninsula cities and two special-purpose districts have jointly developed a hazard mitigation plan (HMP) to advance their shared commitment to reducing natural hazard risks to residents, community assets, and critical lifelines throughout the Palos Verdes Peninsula (Planning Area). This plan includes annexes for each of the jurisdictions, outlining their unique capabilities, vulnerabilities, and mitigation opportunities.

While the cities of Palos Verdes Estates, Rancho Palos Verdes, Rolling Hills, and Rolling Hills Estates previously maintained existing local hazard mitigation plans, the 2026 update marks their first combined, multi-jurisdictional planning effort. The City of Rolling Hills Estates served as the lead agency for the 2026 Palos Verdes Peninsula Multi-Jurisdictional Hazard Mitigation Plan (MJHMP).

Multi-jurisdictional hazard mitigation planning can be an effective process to build partnerships between communities that face common hazard risks, leading to shared solutions. It can also help build a foundation to shift priorities as risks and vulnerabilities change. Multi-jurisdictional planning processes are encouraged by the Federal Emergency Management Agency (FEMA), and offer the following advantages:

- Improves communication and coordination among jurisdictions and other regional entities
- Enables comprehensive mitigation approaches to reduce risks that affect multiple jurisdictions
- Maximizes economies of scale by leveraging individual capabilities and sharing costs and resources
- Avoids duplication of efforts, and
- Provides an organizational structure that local jurisdictions may find supportive.

For the Palos Verde Peninsula MJHMP 2026, a planning partnership was formed and was made up of jurisdictional representatives seeking Disaster Mitigation Act of 2000 (DMA 2000) compliance. They were responsible for participating throughout the process, reviewing information and providing input, informing the risk assessment, developing mitigation strategies, and adopting the MJHMP. The DMA 2000 defines a local government as follows:

> "Any county, municipality, city, town, township, public authority, school district, special district, intrastate district, council of governments (regardless of whether the council of governments is incorporated as a nonprofit corporation under State law), regional or interstate government entity, or agency or instrumentality of a local government; any Indian tribe or authorized tribal organization, or Alaska Native village or organization; and any rural community, unincorporated town or village, or other public entity."

All participating jurisdictions in a multi-jurisdictional plan must meet the requirements of Chapter 44 of the Code of Federal Regulations (44 CFR):

> "Multi-jurisdictional plans (e.g., watershed plans) may be accepted, as appropriate, as long as each jurisdiction has participated in the process and has officially adopted the plan." (Section 201.6(a)(4)).

Each participating planning partner prepared a jurisdiction-specific annex to this plan. These annexes, as well as information on the process by which they were created, are contained in this volume.

1.2 THE PLANNING PARTNERSHIP

1.2.1 Initial Solicitation and Letters of Commitment

The City of Rolling Hills Estates coordinated with the Peninsula jurisdictions to participate in this planning effort. The contacts each jurisdiction identified in the letter of intent to participate were informed of the planning process, attended meetings, provided direct input, and reviewed plan documents.

Municipalities	**Special-Purpose Districts**
City of Palos Verdes Estates	Klondike Canyon Geologic Hazard Abatement District
City of Rancho Palos Verdes	Abalone Cove Landslide Abatement District
City of Rolling Hills	
City of Rolling Hills Estates	

Risk assessment maps for the planning areas are provided in Volume 1 of this MJHMP while maps showing the risk assessment results for each of the participating jurisdictions are provided in the individual annexes for each jurisdiction.

1.2.2 Planning Partner Expectations

The planning team and consultant, Black & Veatch Corporation (Black & Veatch), developed the following list of planning partner expectations, which were provided and discussed at a formal kickoff meeting held in May 2025:

- Re-confirm lead and primary points of contact for the update effort.
- Support and participate in the Planning Committee meetings.
- Provide support required to implement the public involvement strategy.
- Participate in the planning process through the following:
  - Planning Committee meetings
  - Public meetings and outreach efforts
  - Workshops and planning partner-specific training sessions, and
  - Public review and comment periods prior to adoption.
- Perform a "consistency review" of all technical studies, plans, and ordinances specific to hazards.
- Review the risk assessment and identify hazards and vulnerabilities specific to the jurisdiction.
- Attend the mandatory jurisdictional annex workshop.
- Review and determine if the mitigation recommendations chosen in Volume 1 will meet the needs of the jurisdiction.

- Create an action plan that identifies each project, who will oversee the task, how it will be financed, and when it is estimated to occur.
- Formally adopt the MJHMP.

By adopting the MJHMP, each planning partner also agrees to the plan implementation and maintenance protocol established in Volume 1. Failure to meet these criteria would result in a planning partner being dropped from the planning partnership by the Planning Committee, and thus losing eligibility under the scope of the plan. All planning partners met the planning partner expectations, including attendance at mandatory workshops.

1.2.3 Final Coverage

All of the above jurisdictions submitted letters of commitment to participate, completed an annex template, fully met the participation requirements for this update, and will be covered by the 2026 Palos Verde Peninsula Multi-Jurisdiction Hazard Mitigation Plan upon FEMA's approval of the plan and adoption of the plan by their individual governing bodies.

1.3 ANNEX DEVELOPMENT

1.3.1 Capability Assessment

A capability assessment creates an inventory of a jurisdiction's mission, programs, and policies, and evaluates its capacity to carry them out. All participating jurisdictions compiled a capability assessment which helped to identify potential gaps in the jurisdictions' capabilities. Specifically, if the capability assessment identified an opportunity to add a missing core capability or expand an existing one, then doing so has been selected as an action in the jurisdiction's action plan. The sections below describe specific capabilities evaluated under the assessment.

Planning and Regulatory Capabilities

Jurisdictions can develop policies and programs and implement rules and regulations to protect and serve residents. Local policies are typically identified in planning documents, implemented via a local ordinance, and enforced by a governmental body. Because the planning and regulatory authority of counties and municipalities is generally broader than that of special-purpose districts, the assessment of these capabilities is more detailed for those partners.

Development and Permitting Capability

The County and its municipalities regulate land use through the adoption and enforcement of zoning, subdivision, and land development ordinances, building codes, building permit ordinances, floodplain, and stormwater management ordinances. When effectively prepared and administered, these regulations can mitigate hazards. As special-purpose districts typically do not have the ability to regulate land use, this capability was assessed only for the County and municipality.

Fiscal Capability

Assessing a jurisdiction's fiscal capability provides an understanding of the ability to fulfill the financial needs associated with hazard mitigation projects. This assessment identifies both outside resources, such as grant-funding eligibility, and local jurisdictional authority to generate internal financial capability, such as through impact fees (fees charged to a development project).

Administrative and Technical Capability

Without appropriate personnel, the mitigation strategy may not be implemented. Administrative and technical capabilities focus on the availability of personnel resources responsible for implementing all the facets of hazard mitigation. These resources include technical experts, such as engineers, scientists, and grant writers.

Education and Outreach Capability

Regular engagement with the public on hazard mitigation provides opportunities to open a two-way dialogue that can result in a more resilient community. Use of a jurisdictional website, social media outlets, and other outreach resources to communicate mitigation information are assessed for each planning partner. Assessing outreach and education capability illustrates the connection between the government and community members.

Compliance with National Flood Insurance Program Requirements

Flooding is the costliest natural hazard in the United States and homeowners face increasingly high flood insurance premiums. Community participation in the National Flood Insurance Program (NFIP) opens up opportunities for additional grant funding associated specifically with flooding issues. Assessment of a jurisdiction's current NFIP status and compliance provides a greater understanding of the local flood management program, opportunities for improvement, and available grant funding opportunities. The NFIP is not available to special-purpose districts, so this set of capabilities was assessed only for the County and municipality.

Participation in Voluntary Programs

Participation in voluntary programs, such as the National Weather Service's StormReady and the National Fire Protection Association's Firewise USA, can enhance a jurisdiction's ability to mitigate, prepare for, and respond to natural hazards. These programs complement each other by focusing on communication, mitigation, and community preparedness to save lives and minimize the impact of natural hazards on a community. Participation in these programs demonstrates a jurisdiction's commitment to go beyond the minimum requirements set forth by local, state, and federal regulations to create a more resilient community. The programs reviewed here are only applicable to the County and municipality, so were not included in the capability assessments for the special-purpose districts.

Adaptive Capacity

An adaptive capacity assessment evaluates a jurisdiction's ability to anticipate impacts that may occur in the future. By looking at public support, technical adaptive capacity, and other factors, jurisdictions can identify their core capability for resilience against issues such as sea level rise and climate change. The assessment provides jurisdictions with an opportunity to identify areas for improvement by ranking their adaptive capacity as high, medium, or low.

1.3.2 Mitigation Action Plan Development

Risk Ranking

The risk-ranking methodology for partner annexes was the same as that used for the Planning Area risk ranking described in Volume 1. Each planning partner was asked to review the ranked risk for its jurisdiction, based on the impact on its population and/or facilities. The cities based this ranking on the probability of occurrence of each hazard, and its potential impact on people, property, and the economy. Special-purpose districts based this ranking on probability of occurrence and the potential impact on their constituency, vital facilities, and the facilities' functionality after a hazard event.

The objectives of this exercise were to familiarize the planning partnership with how to use the risk ranking, part of the assessment results, as a tool to support other planning and hazard mitigation processes and to help prioritize types of mitigation actions that should be considered. Hazards that were ranked as "high" and "medium" for each jurisdiction were considered to be priorities for identifying mitigation actions, although jurisdictions also identified actions to mitigate hazards ranked "low," as appropriate.

Information Reviewed to Develop the Action Plan

In July 2025, each planning partner was provided with a toolkit of relevant documents to assist in developing their jurisdiction's action plan and was required to attend a workshop that provided guidance to develop their action plans. The toolkits were used during the mandatory workshops and in follow-up work conducted by the planning partners. Planning partners reviewed the following information included in the toolkit to assist in the identification of proposed mitigation actions:

- **Capability assessment**—Reviewed to identify capabilities that the jurisdiction does not currently have but should consider pursuing, or capabilities that should be revisited and updated to include best available information; also reviewed to determine how existing capabilities can be leveraged to increase or improve hazard mitigation in the jurisdiction.
- **NFIP compliance table**—Reviewed to identify opportunities to increase floodplain management capabilities.
- **Adaptive capacity**—Reviewed to identify ways to leverage or continue to improve existing capacities and to improve understanding of other capacities.
- **Future integration opportunities**—Reviewed to identify specific integration actions to be included in the mitigation strategy.
- **Jurisdiction-specific vulnerabilities**—Reviewed to identify actions that could reduce known vulnerabilities.
- **Mitigation best practices catalog**—Reviewed to identify actions that the jurisdiction should consider including in its action plan.
- **Public input**—Reviewed to identify potential actions and community priorities.

Action Plan Prioritization

The mitigation actions recommended in each jurisdiction's action plan were prioritized using the same prioritization method in the 2023 California State HMP. Each action is reviewed and scored based on 15 questions, as presented in Table 1-1.

Table 1-1. Mitigation Action Prioritization Categories

Category	Question
Life Safety	Will the action result in life safety?
Property Protection	Will the action result in property protection?
Cost-Effective	Will the action be cost-effective (future benefits exceed cost)?
Technically Feasible	Is the action technically feasible?
Legal Authority	Does the jurisdiction have the legal authority to implement?
Funding Available	Is funding available for the action?
Environmental	Will the action have a positive impact on the natural environment?
Climate Change	Will the action mitigate impacts from climate change?
Equity Priority Community	Does the action benefit equity priority communities?
Administrative Capacity	Does the jurisdiction have the administrative capability to execute the action?
Multi-Hazard	Will the action reduce risk to more than one hazard?
Timeline	Can the action be completed in less than 5 years?
Stakeholder Support	Is there stakeholder (outside of jurisdiction staff) support for the action?
Other Local Objective	Will the action meet other local objectives (such as capital improvements, economic development, environmental quality, or open space preservation?)
Support Policies	Does the action support the policies of other plans and programs?

The answers to each of these questions are weighted as follows:

- Yes = 3 points
- Not sure/could be either yes or no/question is difficult to quantify = 1 point
- No = 0 points

After the scoring of each action, priorities are assigned based on the following:

- 31 or more = High Priority
- 15 to 30 = Medium Priority
- 0 to 14 = Low Priority

Classification of Actions

Each recommended action was also classified based on the hazard it addresses and the type of mitigation it involves. Mitigation types used for this classification are as follows:

- **Local Plans and Regulations**—Government, administrative or regulatory actions that influence the way land and buildings are developed to reduce hazard losses. Includes planning and zoning, floodplain laws, capital improvement programs, open space preservation, and stormwater management regulations.
- **Structure and Infrastructure Projects**—Modification of buildings or structures to protect them from a hazard or removal of structures from a hazard area. Includes acquisition, elevation, relocation, structural retrofit, storm shutters, and shatter-resistant glass.
- **Education and Awareness Programs**—Actions to inform residents and elected officials about hazards and ways to mitigate them. Includes outreach projects, real estate disclosure, hazard information centers, and school-age and adult education.
- **Natural Resource Protection**—Actions that minimize hazard loss and preserve or restore the functions of natural systems. Includes sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, wetland restoration and preservation, and green infrastructure.

- **Climate Resiliency**—Actions that incorporate methods to mitigate and/or adapt to the impacts of climate change. Includes aquifer storage and recovery activities, incorporating future conditions projections in project design or planning, or actions that specifically address jurisdiction-specific climate change risks, such as sea-level rise or urban heat island effects.
- **Community Capacity Building**—Actions that increase or enhance local capabilities to adjust to potential damage, to take advantage of opportunities to build capacity, or to respond to consequences of insufficient capacity. Includes staff training, memorandums of understanding, development of plans and studies, and monitoring programs.

1.3.3 Annex-Preparation Process

Templates

Templates were created for the two types of jurisdictions (municipalities and special districts) participating in this plan to help the planning partners prepare their jurisdiction-specific annexes. The templates were designed so that all criteria of Section 201.6 of 44 CFR for local governments would be met based on the partners' capabilities and mode of operation.

The templates were designed to lead all partners through the necessary steps to generate the Disaster Mitigation Act-required elements specific to their jurisdictions. The templates and accompanying instructions were used by every planning partner to develop the jurisdictional annexes.

Toolkit

Each planning partner was provided with a toolkit to assist in completing the annex template and developing their jurisdiction's action plan. The toolkits contained the following:

- Information on past hazard events that have impacted the planning area.
- The risk assessment results developed for the plan update.
- Jurisdiction-specific annex templates, with instructions for completing them.
- A catalog of mitigation best practices and suggested actions to enhance adaptive capacity.
- The results of the public survey on community awareness of hazards conducted as part of the public involvement strategy.

Workshop

All partners were required to attend and participate in a virtual technical assistance workshop held December 2, 2025, where key elements of the annex template were discussed. The workshops focused on how the toolkit could be used to facilitate completion of the template and develop each jurisdiction's mitigation action plan. The templates were subsequently completed by a designated point of contact for each partner and a member of the planning team. The workshop addressed the following topics:

- The jurisdictional annex templates and the toolkit.
- Natural events history.
- Jurisdiction-specific issues.
- Risk ranking.

- Status of prior actions.
- Developing the action plan.
- Benefit-cost review.
- Prioritization protocol.
- Next steps.

Following the conclusion of the workshop, a copy of the presentation given at the workshop session was provided to each of the planning partners.

2. PALOS VERDES ESTATES

Figure 2-1. Malaga Cove, Palos Verdes Estates



Source: (City of Palos Verdes Estates 2025)

2.1 LOCAL HAZARD MITIGATION PLANNING TEAM

Table 2-1. Local Planning Team

	Primary Point of Contact	Alternate Point of Contact
Name and Title:	Kristen Jo, Emergency Preparedness & Community Outreach Coordinator	George Gabriel, Deputy City Manager
Address:	340 Palos Verdes Drive West Palos Verdes Estates, CA 90274	340 Palos Verdes Drive West Palos Verdes Estates, CA 90274
Phone Number:	310-750-9788	424-506-8623
Email:	kjo@pvestates.org	ggabriel@pvestates.org
Contributors:		
Name and Title: Method of Participation:	Kristen Jo, Emergency Preparedness & Community Outreach Coordinator Served as the primary point of contact for the City throughout the planning process, participated on the Steering Committee, attended meetings, provided input on the City's annex, identified mitigation strategies, and reviewed the draft plan.	
Name and Title: Method of Participation:	Kerry Kallman, City Manager Attending meetings, provided input and feedback on the City's annex, and reviewed the draft plan.	
Name and Title: Method of Participation:	Oscar Antillon, Public Works Director	

	Attended meetings, provided input on the City's annex, identified mitigation strategies, and reviewed the draft plan.
Name and Title: Method of Participation:	Sheryl Brady, Community Development Director Attended meetings, provided input on the City's annex, identified mitigation strategies, and reviewed the draft plan.

2.2 JURISDICTIONAL PROFILE

2.2.1 Location and Features

The City of Palos Verdes Estates is within the Los Angeles, Long Beach metropolitan area, approximately 30 miles southwest of downtown Los Angeles. The City is a coastal community advantageously sited on the beautiful rugged shoreline of the Palos Verdes Peninsula. Elevations range from sea level to 217 feet above sea level (City of Palos Verdes Estates 2019).

Palos Verdes Estates lies on the western side of the Palos Verdes Hills from the coastal bluffs up to western crest of the hills. The Palos Verdes Hills constitute an isolated land peninsula projecting into the ocean at the southwest border of the Los Angeles Basin. In general, the peninsula resembles the islands off the coast of Southern California. Northwest of the Palos Verdes Hills, a belt of irregular dune-sand topography extends inland from the coast and overlaps the lowland and northwest border of the hills (City of Palos Verdes Estates 2019).

The Palos Verdes Hills represent a miniature Coast Range mountainous area of low altitude. They have a maximum northwest-southeast length of about 9.5 miles and a width of four to five miles. The crest and greater part of the upper slopes of the hills form a rolling land, characterized by smoothly rounded hills and wide, gently sloping valleys. The lower slopes are marked by a series of coastal terraces, with canyons, some deep, advancing inland across the terraces. The west and south coasts are bordered by a sea cliff that has in general a height of 100 to 150, but up to 300 feet in Palos Verdes Estates. At Bluff Cove and Malaga Cove, the cliffs are 300 and 200 feet high, respectively (City of Palos Verdes Estates 2019).

2.2.2 History

The City of Palos Verdes Estates, incorporated on December 20, 1939, is the oldest of the four cities on the Palos Verdes Peninsula (City of Palos Verdes Estates 2025). Palos Verdes Estates first functioned as an unincorporated community and the Homes Association was liable for taxes on all parkland. After the economic crash in 1929, the association owed parkland taxes to Los Angeles County and area residents were afraid that the parklands might be sold for payment. City incorporation was voted in 1939 and the parklands were deeded to the new City in 1940 by the Homes Association (City of Palos Verdes Estates 2019).

2.2.3 Governance

Palos Verdes Estates, which was incorporated in 1939, is a General Law City operating within rules established by the California Legislature. The organizational structure of the local government is of the City Council–City Manager form. The City Manager, hired by the City Council, is responsible for Planning, organizing, and directing all administrative activities such as enforcing municipal laws, directing the daily operations of the City, and preparing and observing the municipal budget. The City Council is composed

of five City Council members elected at large by the citizens of Palos Verdes Estates, with one member elected by the City Council to serve as Mayor. The City Council acts upon all legislative matters concerning Palos Verdes Estates, approving and adopting all ordinances, resolutions, contracts, and other matters requiring overall policy decisions and leadership (City of Palos Verdes Estates 2019).

The City of Palos Verdes Estates City Council assumes responsibility for adoption of this plan; Emergency Preparedness will oversee its implementation.

2.3 CURRENT TRENDS

2.3.1 Population

According to the California Department of Finance, the population of City of Palos Verdes Estates as of January 2024 was 12,999. Since 1970, the population has declined by an average annual rate of 0.6 percent.

2.3.2 Development

Table 2-2. Recent and Expected Future Development Trends

Criterion	Response					
Has your jurisdiction annexed any land since the preparation of the previous hazard mitigation plan?	No.					
Is your jurisdiction expected to annex any areas during the performance period of this plan?	No.					
Provide the number of new construction permits for each hazard area or provide a qualitative description of where development has occurred.	Infill development occurs within the city. According to the updated California Fire Hazard Severity Zones Map, adopted July 8, 2025 by Ordinance No 768, the majority of the City has been removed from the Very High Fire Hazard Severity Zone. Regardless of the location within the city, all structures and building continue to be subject to the code required under CBC Chapter 7A					
Are any areas targeted for development or major redevelopment in the next five years?	No.					
How many permits for new construction were issued in your jurisdiction since the preparation of the previous hazard mitigation plan?		2020	2021	2022	2023	2024
	Single Family	12	4	8	10	16
	Multi-Family	0	0	0	0	0
	Other (mobile homes, accessory dwellings, mixed use, etc.)	12	8	8	7	14
	Commercial	0	0	0	0	0
	Total	24	12	16	17	30
Describe the level of buildout in the jurisdiction, based on your jurisdiction's buildable lands inventory. If no such	Infill development occurs throughout the city. This includes new single-family residences, structure additions to existing single-family residences, and remodeling existing residences					

Criterion	Response
inventory exists, provide a qualitative description.	

2.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand or improve upon capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan.

2.4.1 Planning and Regulatory Capabilities

Jurisdictions have the ability to develop policies and programs and to implement rules and regulations to protect and serve residents. Local policies are typically identified in community plans, implemented through local ordinance, and enforced through a governing body. An assessment of planning and regulatory capabilities is presented in Table 3-3.

Table 2-3. Planning and Regulatory Capabilities

		Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
Codes, Ordinances, & Requirements					
Building Code		Yes	No	Yes	No
Comment:	*Chapter 15 (Buildings and Construction); passed January 28, 2025; provides requirements for buildings in the City and includes the Floodplain Management regulations (Chapter 15.50).*				
Zoning Code		Yes	No	Yes	No
Comment:	• *Chapter 17 (Zoning Procedures) was established to provide the economic and social advantages resulting from an orderly planned use of land resources and to conserve and promote the public interest, health, comfort, and convenience of the city and its inhabitants, and to preserve the public peace, safety, morals, order, and general welfare of the city and its inhabitants.* • *Chapter 18 (Zoning Requirements) has specific permitted and prohibited uses for each zone within the City. The City has a coastal zone overlay zone to protect the coastal bluffs and protect parklands within the coastal zone.*				
Subdivisions		Yes	No	Yes	No
Comment:	*Chapter 16 (Subdivisions)*				
Stormwater Management		Yes	No	Yes	No
Comment:	*Chapter 13.08 (Storm Drains and Stormwater Management and Pollution Control) is for the protection and enhancement of the quality of surface waters and surface water bodies, including the Santa Monica Bay and Machado Lake, in a manner consistent with the Federal Clean Water Act (33 U.S.C. Sections 1251 et seq.), the California Porter-Cologne Water Quality Control Act (Cal. Water Code*				

		Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
	Sections 13000 et seq.), and the municipal National Pollutant Discharge Elimination System (NPDES) permit.				
Post-Disaster Recovery		No	No	No	No
Comment:	-				
Real Estate Disclosure		No	Yes	Yes	No
Comment:	*California Civil Code 1102*				
Growth Management		Yes	No	No	No
Comment:	*The City's General Plan sets forth broad policy guidance in the areas of land use, circulation, conservation, recreation, open space, housing, scenic highways, seismic safety, safety and noise. The various General Plan elements provide a consistent set of policies and programs intended to preserve and enhance the quality of life, while accommodating growth and change in a proactive manner.* *As part of the Housing Element, the City incorporated findings of the Southern California Association of Governments (SCAG) Regional Housing Needs Assessment to identify the total new housing needed for the City between 2021 and 2029. The City included a goal in the element to provide adequate sites for new housing consistent with the capacity of roadways, sewer lines, and other infrastructure to handle increased growth.*				
Site Plan Review		Yes	No	No	No
Comment:	*Chapter 17.22 (Site Plan Permits) which requires site plan reviews in the R-M and C zones when a new structure is added, when a second story is added, when one thousand square feet or more of floor area is added, or when a grading permit is required. The site plan review process shall ensure that the development standards and other city land use regulatory ordinances are applied in a coordinated fashion. The process shall incorporate architectural review conducted by the Palos Verdes Homes Association art jury and any other function of the Homes Association in order to assist in project coordination. This process is intended to promote coordination and consistency by providing all interested parties with sufficient facts to fully understand the implications and merits of a project and by facilitating well-informed decisions.*				
Environmental Protection		Yes	No	Yes	No
Comment:	• *Chapter 17.10 (Environmental Quality) provides guidelines for study of proposed activities and the effect that such activities would have on the environment in accordance with the requirements of the California Environmental Quality Act ("CEQA")* • *Chapter 19 (Coastal Regulations)*				
Flood Damage Prevention		Yes	Yes	Yes	No
Comment:	*Chapter 15.5 (Floodplain Management); appoints the Planning Director as the floodplain administrator; new or substantial improvement of structures in the floodplain must have the lowest floor, including basement, elevated one foot above the effective base flood elevation. The City requires a development permit for any construction or development within any area of special flood hazard established in PVEMC.*				
Emergency Management		Yes	No	Yes	No
Comment:	*Chapter 2.28 (Emergency Services) – Chapter 2.28.080 establishes the City's response organization, responsibilities, functions, and interactions required to mitigate the effects of hazards affecting the City. Hazards identified in this Plan include earthquakes, hazardous material, multi-casualty incident, storm/flood, wildland/major fire, and civil disturbance/terrorism.*				

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
Climate Change	No	No	Yes	No
Comment:	-			
Planning Documents				
General Plan	Yes	No	Yes	No
Is the General Plan compliant with Assembly Bill 2140?	Yes			
Comment:	• *Establishes policies, programs, goals and objectives to protect the community from risks associated with seismic, tsunami, flood, land movement, and fire hazards.* • *Safety Element was updated in November 2023 and compliant with SB 379. The Safety Element integrates climate change and discusses how the element relates to the LHMP. It also includes summarizes the impacts of the hazards of concern in the City.* • *Housing Element was updated in May 2024 and was certified by HCD as being in substantial compliance with State Housing Law.*			
Capital Improvement Plan	Yes	No	No	Yes
How often is the plan updated?	*Every 5 years*			
Comment:	*Palos Verdes Estates' Capital Improvement Program (CIP) lays out the 5-year (Fiscal Year 2025-26 through Fiscal Year 2029-30) plan for the financing, scheduling, and maintenance of the City's major public assets.*			
Disaster Debris Management Plan	No	No	No	No
Comment:				
Floodplain or Watershed Plan	No	No	No	No
Comment:				
Stormwater Plan	Yes	No	No	Yes
Comment:	*The City's Storm Water Master Plan is currently being updated to ensure it continues to mitigate the impacts of flooding, water pollution, erosion, and property damage throughout the City. During the update process, the City will review the current LHMP and integrate where appropriate.*			
Urban Water Management Plan	No	No	No	No
Comment:				
Habitat Conservation Plan	No	No	No	No
Comment:				
Economic Development Plan	No	No	No	No
Comment:				
Community Wildfire Protection Plan	No	No	No	No
Comment:				
Forest Management Plan	No	No	No	No
Comment:				
Climate Action Plan	Yes	No	Yes	Yes
Comment:	*The City's Climate Action Plan (CAP) was finalized in January 2018 which was developed to reduce greenhouse gas (GHG) emissions within the City. The plan serves as a guide for action by setting GHG emission reduction goals and establishing strategies and policies to achieve over the next 20 years (through 2038). The CAP aligns with the State's Climate Change Action Plan by advancing its goals and identifying specific initiatives and programs that target greenhouse gas emission reduction.*			

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
Threat & Hazard Identification & Risk Assessment (THIRA)	No	No	No	No
Comment: -				
Post-Disaster Recovery Plan	No	No	No	No
Comment:				
Continuity of Operations Plan	No	No	No	No
Comment:				
Public Health Plan	No	No	No	No
Comment:				
Other	No	-	-	No
Comment: -				

Opportunities to Expand Planning and Regulatory Capabilities

The City has identified several opportunities to integrate the LHMP into plans, codes, and ordinances. During the LHMP update process, the Capital Improvement Plan, Storm Water Master Plan, and Climate Action Plan were all identified as integration opportunities. Refer to Table 3-14 for a mitigation action to integrate these plans.

2.4.2 Development and Permitting Capabilities

Jurisdictions regulate land use through the adoption and enforcement of zoning, subdivision and land development ordinances, building codes, building permit ordinances, floodplain, and stormwater management ordinances. When effectively prepared and administered, these regulations can lead to hazard mitigation. Development and permitting capabilities are presented in Table 3-4.

Table 2-4. Development and Permitting Capabilities

Criterion	Response
Does your jurisdiction issue development permits?	Yes
If no, who does? If yes, which department?	Planning Commission – has final authority on housing and commercial development projects, neighborhood compatibility applications, conditional use permits and variances. The Commission makes recommendations to the Council for pre-zoning and rezoning projects, tentative parcel and tract maps, annexations, General Plan amendments and zone text (municipal code) amendments.
Does your jurisdiction track permits by hazard area?	No, it is based on address.
Does your jurisdiction have a buildable lands inventory?	Yes – located in Chapter III of the 2021-2029 Housing Element

2.4.3 Fiscal Capabilities

Assessing a jurisdiction's fiscal capability provides an understanding of the ability to fulfill the financial needs associated with hazard mitigation projects. This assessment identifies both outside resources, such as grant funding eligibility, and local jurisdictional authority to generate internal financial capability, such as through impact fees. An assessment of fiscal capabilities is presented in Table 3-5.

Table 2-5. Fiscal Capabilities

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes – can be used for any hazard mitigation activity; however, it is only eligible for use with voter approval.
User Fees for Water, Sewer, Gas or Electric Service	No
If yes, specify: -	
Incur Debt through General Obligation Bonds	Accessible – can be used for any hazard mitigation activity; however, it is only eligible for use with voter approval.
Incur Debt through Special Tax Bonds	Accessible – can be used for any hazard mitigation activity; however, it is only eligible for use with voter approval.
Incur Debt through Private Activity Bonds	Accessible – can be used for any hazard mitigation activity; however, it is only eligible for use with voter approval.
Withhold Public Expenditures in Hazard-Prone Areas	Yes
State-Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	Accessible - can be used for both on-site and off-site capital improvements, including seismic hazard repair and maintenance, drainage, and critical facilities.

Opportunities to Expand Fiscal Capabilities

Through the City's Capital Improvement Plan, the City will identify projects that can reduce hazard risk in the City. If feasible, the City will prioritize those projects and implement accordingly. The City will continue to identify grant opportunities as well to fund mitigation projects.

2.4.4 Administrative and Technical Capabilities

Planning regulatory, and fiscal capabilities provide the backbone for successfully developing a mitigation strategy; however, without the appropriate personnel, the strategy may not be implemented. Administrative and technical capabilities focus on the availability of personnel resources responsible for implementing all the facets of hazard mitigation. These resources include technical experts, such as engineers and scientists, as well as personnel with capabilities that may be found in multiple departments, such as grant writers. An assessment of administrative and technical capabilities is presented in Table 3-6.

Table 2-6. Administrative and Technical Capabilities

Staff/Personnel Resource		Available?
Planners or engineers with knowledge of land development and land management practices		Yes
If Yes, Department /Position:	Director of Building and Planning	
Engineers or professionals trained in building or infrastructure construction practices		Yes
If Yes, Department /Position:	Director of Public Works/City Engineering	
Planners or engineers with an understanding of natural hazards		Yes
If Yes, Department /Position:	Director of Public Works/City Engineering	
Staff with training in benefit-cost analysis		No
If Yes, Department /Position:	-	
Surveyors		No
If Yes, Department /Position:	-	
Personnel skilled or trained in GIS applications		Yes
If Yes, Department /Position:	Director of Public Works/City Engineering	
Scientist familiar with natural hazards in local area		No
If Yes, Department /Position:	-	
Emergency manager		Yes
If Yes, Department /Position:	City Manager	
Grant writers		No
If Yes, Department /Position:	-	
Procurement Services and Management		No
If Yes, Department /Position:	-	

Opportunities to Expand Administrative and Technical Capabilities

Due to the size of the City, hiring additional dedicated personnel is not feasible. However, there are opportunities for City personnel to get cross-trained in certain areas to help expand the current capabilities of the City.

2.4.5 Education and Outreach Capabilities

Regular engagement with the public on issues regarding hazard mitigation provides an opportunity to directly interface with community members. Assessing the education and outreach capability illustrates the connection between the government and community members, which opens a two-way dialogue that can result in a more resilient community, based on awareness and engagement. An assessment of education and outreach capabilities is presented in Table 3-7.

Table 2-7. Education and Outreach Capabilities

Criterion	Response
Do you have a public information officer or communications office?	Yes
Do you have personnel skilled or trained in website development?	Yes
Do you have hazard mitigation information available on your website?	Yes
If yes, briefly describe:	The City has a disaster preparedness page on its website that the City uses to communicate hazard-related information. The four cities of the Palos Verdes Peninsula launched the Know Your Zone evacuation readiness website. With the aim to prepare Peninsula residents and businesses to evacuate in the event of an emergency, the site houses Zonehaven, a

Criterion	Response
	cloud-based evacuation platform with pre-established, Peninsula-wide evacuation zone maps. The evacuation zones will help fire, police and other emergency service agencies prepare for emergencies, streamline the evacuation process, and reduce confusion by enabling a single verified source of emergency information.
Do you use social media for hazard mitigation education and outreach?	Yes
If yes, briefly describe:	The City uses Facebook, X (formerly Twitter), Nextdoor, and Nixle for education and outreach purposes.
Do you have any citizen boards or commissions that address issues related to hazard mitigation?	Yes
If yes, briefly describe:	PVP CERT (Palos Verdes Peninsula Community Emergency Response Team) is a government/community resource that provides basic training in disaster preparedness and disaster response to help residents, their neighborhoods, and their city in an emergency. This program prepares teams of residents as first responders to support regular emergency personnel in a disaster. The DDP (Disaster District Program) is a comprehensive community-based resource that supports disaster preparedness and disaster response. The DDP is comprised of six disaster districts, each containing a cache of emergency supplies, resources, and communication equipment for disaster service workers to use during an incident. This program aims to increase disaster preparedness and survivability in neighborhoods during a disaster. Additionally, the PVE NART (Palos Verdes Estates Neighborhood Amateur Radio Team) group is designed to support the city of Palos Verdes Estates by providing critical emergency radio communication through the equipment installed in the disaster caches and/or the EOC. The program is comprised of dedicated volunteers who can provide a redundant source of emergency communication.
Do you have any other programs in place that could be used to communicate hazard-related information?	Yes
If yes, briefly describe:	The City uses Alert SouthBay where residents can sign up to receive emergency alerts. Lastly, the City utilizes their social media accounts to relay information before, during, and after emergencies.
Do you have any established warning systems for hazard events?	Yes
If yes, briefly describe:	The City uses Alert SouthBay which is an emergency alert and warning notification system established as part of an integrated, interoperable regional platform by thirteen South Bay cities including the City of Palos Verdes Estates. The Alert SouthBay emergency notification system aims to keep communities informed about disasters and major emergencies via SMS (text), email, phone, and other means of communication. The notification system gives the police, fire department, the L.A. County Office of Emergency Management, and specific contract cities, the ability to deliver critical notifications to the City. The City of Palos Verdes Estates has developed a comprehensive community-based disaster preparedness and response program known as the Palos Verdes Estates Disaster District Program (DDP). With a select group of volunteers, the program is designed to increase disaster readiness and survivability at the neighborhood level during a disaster. The program divides the City into 6 Disaster

Criterion	Response
	Districts, each equipped with a cache of equipment and supplies to support community responders. Managed by sworn Disaster Service Worker Volunteers under the City's Disaster Services Coordinator, the program integrates the resources of disaster services including area CERT members, Neighborhood Amateur Radio Team (NART), Disaster Service Workers (DSW) and the Palos Verdes Estates Police Department's Reserve Corps.

Opportunities to Expand Education and Outreach Capabilities

The City will continue to review, evaluate, and expand its current education and outreach capabilities as needed.

2.4.6 Community Classifications

Table 2-8. Community Classifications

	Participating?	Classification or Number	Date Classified
FIPS Code	N/A	06-037-2670	N/A
UEI#	No	N/A	N/A
Community Rating System	No	-	-
Building Code Effectiveness Grading Schedule (BCEGS)	No	N/A	N/A
Public Protection (ISO for Fire)	Yes – LA County Fire Division 1	2	May 11, 2018
Storm Ready	No	N/A	N/A
Tsunami Ready	No	N/A	N/A
Firewise	No	N/A	N/A

2.4.7 Adaptive Capacity for Climate Change

Table 2-9. Adaptive Capacity for Climate Change

Criterion		Jurisdiction Rating[a]
Technical Capacity		
Jurisdiction-level understanding of potential climate change impacts		High
Comment:	*The City developed a Climate Action Plan (CAP) in 2018 to reduce GHG emissions within the city. The City's CAP serves as a guide for action by setting GHG emission reduction goals and establishing strategies and policies to achieve desired outcomes over the next 20 years. The CAP includes an overview of GHG emissions in the City. The City's LHMP was completed in 2018 and was developed to met SB 379 requirements for assessing vulnerabilities associated with climate change. Lastly, the City has access to numerous resources at the state and federal level to understand potential climate change impacts.*	
Jurisdiction-level monitoring of climate change impacts		Medium
Comment:	*The City has access to county and state data to monitor projected impacts of climate change.*	
Technical resources to assess proposed strategies for feasibility and externalities		Medium
Comment:	-	

Criterion		Jurisdiction Rating[a]
Jurisdiction-level capacity for development of greenhouse gas emissions inventory		High
Comment:	*Appendix A of the City's CAP provides a complete report of the City's GHG inventory*	
Capital planning and land use decisions informed by potential climate impacts		High
Comment:	*The City's Capital Improvement Program (CIP) provides a five-year plan for financing, scheduling, and maintenance of the City's major public assets. It serves as the blueprint for how the City will maintain, protect, and improve, both the functions and ascetics of its systems. Projects focus on making improvements throughout, so the City remains efficient and prepared for the future.*	
Participation in regional groups addressing climate risks		Medium
Comment:	-	
Implementation Capacity		
Clear authority/mandate to consider climate change impacts during public decision-making processes		Medium
Comment:		
Identified strategies for greenhouse gas mitigation efforts		High
Comment:	*Chapters 6 through 11 of the CAP provide goals and mitigation measures in reducing the impacts of GHG and climate change. Chapter 12 of the CAP provides the City's plan for implementation and monitoring of GHG emissions and climate change impacts.*	
Identified strategies for adaptation to impacts		High
Comment:	*Chapters 6 through 11 of the CAP provide goals and mitigation measures in reducing the impacts of GHG and climate change. Chapter 12 of the CAP provides the City's plan for implementation and monitoring of GHG emissions and climate change impacts.*	
Champions for climate action in local government departments		Medium
Comment:	*Through the integration and implementation of projects and improvements identified in the CAP and LHMP*	
Political support for implementing climate change adaptation strategies		High
Comment:	*Ensuring the City is in alignment with state and federal policies to address climate change and GHG emissions*	
Financial resources devoted to climate change adaptation		Medium
Comment:	*The City's CIP identifies projects to protect the City and its residents. While not stand-alone funding devoted to climate change, the City has resources to make improvements that can factor in climate change projections when identifying and designing projects.*	
Local authority over sectors likely to be negative impacted		Medium
Comment:	-	
Public Capacity		
Residents' knowledge of and understanding of climate risk		Medium
Comment:	*The City has its CAP and LHMP posted online for residents.*	
Residents' support of adaptation efforts		Unsure
Comment:	-	
Residents' capacity to adapt to climate impacts		Medium
Comment:	*Most residents have the capacity to adapt to climate impacts; however, some may require funding or assistance to implement any adaptation measures to their homes.*	
Local economy current capacity to adapt to climate impacts		Medium
Comment:	*Overall, the local economy has the capacity to adapt to climate impacts; however, funding and assistance may be required to implement any necessary measures.*	

Criterion	Jurisdiction Rating[a]
Local ecosystems capacity to adapt to climate impacts	Unsure
Comment:	*This depends on ecosystem health and how well it can adapt to changing climates.*

a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement; Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

2.5 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

Table 2-10. National Flood Insurance Program Compliance

Criterion	Response
Flood Risk Summary	
Please describe areas of the jurisdiction prone to flooding, specifically those outside of the mapped floodplain.	The City does not have any identified areas that are consistently prone to flooding outside of the mapped floodplain. While the City actively maintains its storm drain system and clears inlets prior to rain events, localized flooding can occasionally occur. This is typically due to temporary blockages caused by debris from the large forested areas within the City or during storms that exceed the design capacity of the drainage infrastructure. These occurrences are unpredictable and not tied to specific locations.
Do FEMA flood maps adequately address flood risk in the jurisdiction?	FEMA flood maps generally address the primary flood risk within the jurisdiction; however, they do not account for localized flooding that may result from intense storm events or temporary inlet blockages. Recent changes in storm frequency and intensity have introduced conditions that can exceed system design capacity, which is not reflected in FEMA mapping.
How many structures in the jurisdictions Special Flood Hazard Area (SFHA) have been determined to be substantially damaged from any hazard event?	To date, the City has no record of any structures within the SFHA being substantially damaged from any hazard event.
Additional comments on flood risk	Localized flooding may occur during severe storms due to factors such as debris accumulation at storm drain inlets or rainfall exceeding system capacity. Additionally, the regional flood control district maintains larger conveyance systems that carry water from other jurisdictions. During major storm events, these systems can also become overwhelmed, which may contribute to flooding impacts within the City. The City has no control over these regional systems.
Staff Resources	
Provide an explanation of the jurisdiction's NFIP administration services (e.g. permit review, GIS, education/outreach, inspections, engineering capability)	Permit review, review and use of any other base flood data, notification of other agencies, base flood elevation changes due to physical alterations, documentation of floodplain development, map determinations, and remedial action

Criterion	Response
What local department is responsible for floodplain management?	Planning
Who is your floodplain administrator? (department/position)	Chapter 15.5 (Floodplain Management); appoints the Planning Director as the floodplain administrator
Are any staff certified floodplain managers (CFMs)?	No
Does your floodplain management staff need any assistance or training to support its floodplain management program?	No, we contract engineering services. The city utilizes consultants to update our storm water master plan.
If yes, what type of assistance/training is needed?	
Insurance Summary [a]	
How many flood insurance policies are in force in your jurisdiction?	51
What is the insurance in force?	$16,654,000
What is the premium in force?	$42,657
How many total loss claims have been filed in your jurisdiction?	15
What were the total payments for losses?	$39,750
Does the jurisdiction maintain a list of properties that have been damaged by flooding?	No
Does the jurisdiction maintain a list of property owners interested in flood mitigation?	No
How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	N/A
How many properties have been mitigated (elevation or acquisition)?	Unknown
Compliance History	
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, state the violations.	No
Does your jurisdiction have a Substantial Damage Response Plan?	No
If yes, what is the date of the plan?	-
Summarize the jurisdiction's Substantial Damage determination procedures.	The City's floodplain management code defines substantial damage as damage of any origin sustained by a structure whereby the cost of restoring the structure to its before-damaged condition would equal or exceed fifty percent of the market value of the structure before the damage occurred.
Summarize the jurisdiction's Substantial Improvement procedures.	The City's floodplain management code defines substantial improvement as any reconstruction, rehabilitation, addition, or other proposed new development of a structure, the cost of which equals or exceeds fifty percent of the market value of the structure before the "start of construction" of the improvement. This term includes structures that have incurred "substantial damage," regardless of the actual repair work performed.
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	Unknown

Criterion	Response
Are any RiskMAP projects currently underway in your jurisdiction?	No.
Regulation	
What is the date that your flood damage prevention ordinance was last amended?	2021
Does the jurisdiction's administration of the floodplain exceed NFIP requirements? (freeboard, mapping, etc.)	Meets the minimum
Community Rating System	
Does your jurisdiction participate in the Community Rating System (CRS)?	No
If yes, is your jurisdiction interested in improving its CRS Classification?	-

a. According to FEMA statistics as of (August 31, 2025)

2.6 INTEGRATION

For hazard mitigation planning, "integration" means that hazard mitigation information is used in other relevant planning mechanisms, such as capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

2.6.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- **Education and Outreach** — The City has a disaster preparedness page on its website that the City uses to communicate hazard-related information.
  - The four cities of the Palos Verdes Peninsula launched the Know Your Zone evacuation readiness website. With the aim to prepare Peninsula residents and businesses to evacuate in the event of an emergency, the site houses Zonehaven, a cloud-based evacuation platform with pre-established, Peninsula-wide evacuation zone maps. The evacuation zones will help fire, police and other emergency service agencies prepare for emergencies, streamline the evacuation process, and reduce confusion by enabling a single verified source of emergency information.
- **Disaster Shed Assessments** – The City is currently in the process of completing an assessment of six disaster sheds to ensure they are with the necessary equipment and supplies needed to support disaster service workers before, during, and after disasters.
- **Grant Application** – The City is working on preparing and submitting a grant for defensible space. The title of the project is called Hazardous Fuels Reduction and Defensible Space, and it aims to reduce or prevent vegetation-related fire hazards and habitat degradation by removing flammable invasive vegetation and replanting with fire-resistant native species. The funding source is through the Hazard Mitigation Grant Program.

2.6.2 Opportunities for Future Integration

The capability assessment in this annex indicates opportunities to integrate this mitigation plan with other jurisdictional planning/regulatory capabilities. Capabilities were identified as integration opportunities if they can support or enhance the actions identified in this plan or be supported or enhanced by components of this plan. The capability assessment identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- **Capital Improvement Plan —** The City will review the Capital Improvement Plan to identify potential projects that could be funded through FEMA's HMA program.
- **Storm Water Master Plan —** The City's current Storm Water Master Plan is in need of an update to ensure it continues to mitigate the impacts of flooding, water pollution, erosion, and property damage throughout the City. During the update process, the City will review the current LHMP and integrate where appropriate.
- **Climate Action Plan -** The City's Climate Action Plan (CAP) was finalized in January 2018 which was developed to reduce greenhouse gas (GHG) emissions within the City. The plan serves as a guide for action by setting GHG emission reduction goals and establishing strategies and policies to achieve over the next 20 years (through 2038). While the CAP aligns with the State's Climate Change Action Plan, it does integrate the LHMP. Upon the next update of the CAP, the City will review the LHMP and integrate into the CAP where appropriate.

2.7 RISK ASSESSMENT

2.7.1 Jurisdiction-Specific Natural Hazard Event History

Table 3-11 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

Table 2-11. Past Natural Hazard Events

Type of Event	Declaration Title	State or Federal Disaster #	Declaration Date	Damage Assessment
Fire	Woolsey Fire	FM-5280-CA	November 9, 2018	-
Fire	Wildfires	EM-3409-CA	November 9, 2018	-
Fire	Wildfires	DR-4407-CA	November 12, 2018	-
Fire	Saddleridge Fire	FM-5293-CA	October 11, 2019	-
Fire	Tick Fire	FM-5296-CA	October 24, 2019	-
Fire	Getty Fire	FM-5297-CA	October 28, 2019	-
Biological	Covid-19 Pandemic	EM-3428-CA DR-4482-CA CA20-01	March 13, 2020 March 22, 2020 March 4, 2020	Restrictions in place where necessary
Fire	Bobcat Fire	FM-5374-CA	September 13, 2020	-
Fire	Wildfires	DR-4569-CA	October 16, 2020	-
Flood	Severe Winter Storms, Flooding, and Mudslides	EM-3591-CA	January 9, 2023	-

Type of Event	Declaration Title	State or Federal Disaster #	Declaration Date	Damage Assessment
Flood	Severe Winter Storms, Flooding, Landslides, and Mudslides	DR-4683-CA CA23-1	January 14, 2023 January 4, 2023	-
Flood	Severe Winter Storms, Flooding, Landslides, and Mudslides	EM-3592-CA CA23-3	March 10, 2023 March 1, 2023	-
Severe Storm	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, and Mudslides	DR-4699-CA	April 3, 2023	-
Severe Storm	Severe Winter Storms, Tornadoes, Flooding, Landslides, and Mudslides	DR-4769-CA	April 13, 2024	-
Fire	Bridge Fire	FM-5537-CA	September 11, 2024	-
Fire	Franklin Fire	FM-5548-CA	December 10, 2024	-
Fire	Palisades Fire	FM-5549-CA	January 7, 2025	-
Fire	Hurst Fire	FM-5551-CA	January 8, 2025	-
Fire	Eaton Fire	FM-5550-CA	January 8, 2025	-
Fire	Wildfires and Straight-Line Winds	DR-4856-CA	January 8, 2025	-
Fire	Canyon Fire	FM-5605-CA	August 8, 2025	-

2.7.2 Hazard Ranking

The prioritization and categorization of identified hazards for the City of Palos Verdes Estates is based principally on the Priority Risk Index (PRI), a tool used to measure the degree of risk for identified hazards in a particular planning area. The PRI was used to assist the City in identifying hazards that pose the most significant threat. Table 3-12 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property and the economy.

Table 2-12. Hazard Risk Ranking Summary

Hazard	Weighted Risk Factors					PRI	Risk Ranking
	Probability	Impact	Spatial Extent	Warning Time	Climate Change		
Drought	1.2	0.3	0.8	0.1	0.4	2.8	Medium
Earthquake	0.9	0.9	0.8	0.4	0.2	3.2	High
Flood	0.9	0.3	0.2	0.1	0.4	1.9	Low
Landslide	1.2	0.6	0.6	0.4	0.4	3.2	High
Sea Level Rise	0.9	0.3	0.2	0.1	0.4	1.9	Low
Severe Weather - Heat Wave	0.9	0.6	0.8	0.1	0.4	2.8	Medium
Severe Weather - Strong Wind	1.2	0.6	0.8	0.1	0.4	3.1	High
Tsunami	0.6	0.3	0.4	0.1	0.2	1.6	Low
Wildfire	0.9	0.9	0.6	0.4	0.4	3.2	High

Note: PRI Value 1 to 1.9 = Low Hazard Risk Ranking

PRI Value 2.0 to 2.9 = Medium Hazard Risk Ranking
PRI Value 3.0 to 4.0 = High Hazard Risk Ranking

2.7.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. This section provides information on a few key vulnerabilities for this jurisdiction. Available jurisdiction-specific risk maps of the hazards are provided at the end of this annex.

Repetitive Loss Properties

Repetitive loss records are as follows:

- Number of FEMA-identified Repetitive-Loss Properties: 1
- Number of FEMA-identified Severe-Repetitive-Loss Properties: 0
- Number of Repetitive-Loss Properties or Severe-Repetitive-Loss Properties that have been mitigated: 0

Other Noted Vulnerabilities

The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- No additional vulnerabilities noted.

Mitigation actions addressing these issues were prioritized for consideration in the action plan presented in this annex.

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2.8 STATUS OF PREVIOUS PLAN MITIGATION ACTIONS

Table 3-13 summarizes the mitigation actions that were recommended in the prior plan and their implementation status at the time this update was prepared.

Table 2-13. Status of Prior Plan Actions

Action from Prior Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
Identify potential landslide vulnerabilities and consult with subject matter experts to implement mitigation activities	Ongoing/in progress as part of the LHMP update	Identified as a Current Capability	-	-
Perform a building audit to identify soft story structures and develop an implementation Plan to retrofit the buildings for seismic activity	-	No Longer Feasible	-	-
The Los Angeles County Fire Department Forester promotes the Ready Set Go program that focuses on the wildland urban interface	Ongoing – the City actively participates in this program and conducts outreach and education throughout the City.	Identified as a Current Capability	-	-
Provide links on city's website to flood zone maps from FEMA and assist residents in identifying best practices in developing property outside of the flood zone.	-	Removed	-	-
Link the EOP hazards to the LHMP hazard	Ongoing – the City will be updating the EOP and link the identified hazards in LHMP to the EOP.	-	Yes	PVE-02
Integrate the LHMP into existing programs, ordinances, and building codes	Ongoing/In Progress	-	Yes	PVE-02
Perform a building audit to identify soft story structures and develop implementation Plan to retrofit for seismic activity.	-	No Longer Feasible	-	-
Encourage citizens to take water-saving measures, such as the following: • Installing low-flow water-saving showerheads and toilets. • Turning water off while brushing teeth or during other cleaning activities.	Ongoing – the City actively participates in educational outreach to encourage residents to adopt best practices before and during inclement weather.	Identified as Current Capability	-	-

Action from Prior Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
• Adjusting sprinklers to water the lawn and not the sidewalk or street. • Running the dishwasher and washing machine only when they are full. • Checking for leaks in plumbing or dripping faucets. • Installing rain-capturing devices for irrigation.				
Continue to monitor. Study future impacts of sea level rise and the impact on existing facilities.	Ongoing Capability	-	-	-
Study the potential impacts of a tsunami on existing facilities. Identify potential impacts to the Beach Club.	Ongoing Capability	-	-	-

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2.9 HAZARD MITIGATION STRATEGY

This section includes the following components of the mitigation strategy for this jurisdiction:

- Hazard Mitigation Action Plan Matrix
- Mitigation Action Prioritization
- Mitigation Action Classification and Natural Hazards Addressed

Table 2-14. Hazard Mitigation Action Plan Matrix

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
PVE-01	Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are in high- or medium-risk hazard areas.	Food, hydration, shelter; Energy; Communications; Transportation	Existing	1, 2	Lead: Planning Support: Public Works	Yes	Very High ($1,000,000 and above)	FEMA HMGP and FEMA FMA, Staff Time, CIP Budget	Long-Term (5 years or more)
PVE-02	Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including: • Storm Water Master Plan Update • Sewer Master Plan • Capital Improvement Plan • EOP	Safety and Security; Communications; Transportation	Both	4	Lead: Planning, Public Works Support: City Manager	Yes	Low ($0-$50,000)	Staff Time, General Fund	Short-Term (less than 5 years)
PVE-03	Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements: • Evaluate the current floodplain ordinance to determine if updates are needed • Upon FEMA flood map revisions, update and adopt the City's floodplain ordinance	All located in the floodplain	Both	1, 2, 4	Lead: Planning Support: City Manager	Yes	Low ($0-$50,000)	Staff Time, General Fund	Short-Term (less than 5 years)

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
PVE-04	Identify and pursue strategies to increase adaptive capacity to climate change including but not limited to the following: • Public outreach • Integrate into appropriate plans and programs	Communications; Safety and Security	Both	1, 2, 4	Lead: Planning Support: City Manager	Yes	Low ($0-$50,000)	Staff Time, General Fund	Short-Term (less than 5 years)
PVE-05	Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.	N/A	N/A	2, 4	Lead: Emergency Management Support: Planning, Public Works, City Manager	Yes	Low ($0-$50,000)	Staff Time, General Fund	Short-Term (less than 5 years)
PVE-06	Storm Water Master Plan Update – The City will update the current Storm Water Master Plan. The Plan mitigates impacts of flooding, water pollution, erosion, and property damage by identifying deficiencies in existing drainage systems. This action will include the update of the master plan and the integration of the LHMP, where applicable.	Safety and Security; Water Systems	Both	1, 2, 4	Lead: Cal OES & Public Works Support: Community Development	Yes	High ($250,000 - $1 million)	Staff Time, General Fund	Short Term (less than 5 years)
PVE-07	Fire Safety Weed Abatement Program – The City will expand its current wildfire fuel reduction efforts through vegetation management programs (contractor services and goat grazing). Contractor services will be performed in high-risk areas and include removal of weeds, brush, and dead shrubs; tree/shrub trimming; and hazard tree and shrub removal. Goat grazing will provide fuel modification by using goats to seasonally graze between April and September each year. Lastly, the City will incorporate a no-fee community weed abatement permit program to allow residents to participate in removing vegetation in public areas adjacent to their properties. This will also	Safety and Security	Both	1, 2, 4, 5	Lead: Public Works Support: Community Development, City Manager's Office, Fire Department	Yes	High ($250,000 - $1 million)	Staff Time, General Fund, FEMA HMGP, California Climate and Wildfire Resilience Grants	Short Term (less than 5 years)

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
	include public education programs on defensible space, wildfire preparedness, and allowable community vegetation removal.								
PVE-08	Sewer Master Plan – The City will work on preparing a Sewer Master Plan that will aim at mitigating potential public health and safety issues that may arise with seismic activity or land movements by identifying infrastructure flaws, reducing stormwater flow/ infiltration, and upgrading pipes. This action will include the preparation of the master plan and the integration of the LHMP, where applicable.	Safety and Security; Food, Hydration, Shelter; Water Systems	Both	1, 2, 4	Lead: Cal Water Support: Public Works	Yes	Moderate ($50,001 - $250,000)	Staff Time, General Fund	Short Term (less than 5 years)
PVE-09	Retaining Wall Repair – The City will repair the retaining wall along Palos Verdes Drive and Blufftop Trail to mitigate potential safety hazards that arise with landslides, earthquakes, and erosion.	Safety and Security	New	1	Lead Public Works Support: Community Development	Yes	Moderate ($50,001 - $250,000)	General Fund, CIP Budget, FEMA HMGP	Short Term (less than 5 years)
PVE-010	Tree Trimming – The City will expand its current tree trimming program. This action will include the expansion and implementation of a tree trimming program that will reduce the impact of falling hazards, such as branches and limbs, during strong wind events.	Safety and Security	Both	1, 2, 4	Lead: Public Works Support: Bennett Landscaping	Yes	Moderate ($50,001 - $250,000)	General Fund, CIP Budget	Short Term (less than 5 years)
PVE-011	Disaster District Program (DDP) Container Audits – The City will complete DDP audits to determine if all six emergency containers in PVE are fully updated and stocked with equipment and supplies Disaster Service Workers need to support themselves and emergency operations during an activation. If items are needed, the City will purchase those items and restock the containers accordingly.	Safety and Security; Food, Hydration, Shelter; Communications	Existing	2, 3, 4	Lead: Emergency Management Support: City Manager, Police Department	Yes	Moderate ($50,001 - $250,000)	Staff Time, General Fund	Short Term (less than 5 years)

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
PVE-012	Communication Capabilities – There is a need in the City to increase internal communication capabilities among city staff members to promote effective coordination and response during events through Alert SouthBay and other internal communication methods, including developing communication protocols, internal newsletters, training, and shared radio systems. The City will work on increasing capabilities to mitigate misunderstandings and confusion during emergencies. This will create more effective and timely responses.	Safety and Security; Communications	N/A	4	Lead: Emergency Management Support: City Manager	Yes	Low (less than $50,000)	Staff Time, General Fund, CIP Budget, FEMA HMGP	Short Term (less than 5 years)

Table 2-15. Mitigation Action Prioritization

Action Number	Life Safety	Property Protection	Cost-Effectiveness	Technically Feasible	Legal Authority	Funding Available	Grant Eligible	Environmental	Climate Change	Equity Priority Community	Administrative Capacity	Multi-Hazard	Timeline	Other Local Objective	Support Policies	Total Score	Priority
PVE-01	3	3	3	3	3	1	3	1	3	3	1	1	1	1	1	31	High
PVE-02	3	3	3	3	3	1	0	1	1	3	3	1	3	3	1	32	High
PVE-03	3	3	3	3	3	1	0	1	1	3	3	1	3	1	1	30	Medium
PVE-04	3	3	3	3	3	1	0	1	3	3	3	3	3	3	1	36	High
PVE-05	3	3	3	3	3	1	0	1	1	3	3	3	3	1	1	32	High
PVE-06	3	3	3	3	3	1	0	1	3	3	3	3	3	1	1	34	High
PVE-07	3	3	3	3	3	1	0	1	3	3	3	3	3	1	1	34	High
PVE-08	3	3	3	3	3	1	0	1	3	3	3	1	3	1	1	32	High
PVE-09	3	3	3	3	1	1	3	1	1	3	1	3	3	1	1	31	High
PVE-010	3	3	3	3	1	1	1	1	1	3	1	3	3	1	1	29	Medium

Action Number	Life Safety	Property Protection	Cost-Effectiveness	Technically Feasible	Legal Authority	Funding Available	Grant Eligible	Environmental	Climate Change	Equity Priority Community	Administrative Capacity	Multi-Hazard	Timeline	Other Local Objective	Support Policies	Total Score	Priority
PVE-011	3	3	3	3	3	1	1	1	1	3	1	3	3	1	1	31	High
PVE-012	3	3	3	3	3	1	1	1	1	3	3	3	3	3	1	35	High

Note: 31 or more = High Priority
15 to 30 = Medium Priority
0 to 14 = Low Priority

Table 2-16. Mitigation Action Classification and Natural Hazards Addressed

Action	Mitigation Classification						Natural Hazards								
	Local Plans and Regulations	Structure and Infrastructure Projects	Education and Awareness Programs	Natural Systems Protection	Climate Resiliency	Community Capacity Building	Drought	Earthquake	Flood	Landslide	Sea Level Rise	Severe Weather – Heat Wave	Severe Weather – Strong Wind	Tsunami	Wildfire
PVE-01	X	X	X						X						
PVE-02	X						X	X	X	X	X	X	X	X	X
PVE-03	X								X						
PVE-04	X		X		X	X	X	X	X	X	X	X	X	X	X
PVE-05	X					X	X	X	X	X	X	X	X	X	X
PVE-06	X								X						
PVE-07	X	X		X		X	X								X
PVE-08	X	X				X			X						
PVE-09		X						X		X					
PVE-010		X					X								X
PVE-011	X					X	X	X	X	X	X	X	X	X	X
PVE-012	X		X			X	X	X	X	X	X	X	X	X	X

2.10 PUBLIC OUTREACH

Table 2-17. Public Outreach

Local Outreach Activity	Date	Number of People Involved
Facebook post through the City of Palos Verdes Estates city page to inform residents of the LHMP update process beginning	February 19, 2025	-
Facebook post through Palos Verdes Estates Police Department page to invite residents to complete the public survey	September 13, 2025	-

Figure 2-2. Facebook Post



Source: Palos Verdes Estates Police Department 2025

2.11 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- City of Palos Verdes Estates municipal website
- City of Palos Verdes Estates Housing Element (2021-2029)

- City of Palos Verdes Estates Safety Element (November 2023)
- City of Palos Verdes Estates Municipal Code

The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**. The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.

DRAFT

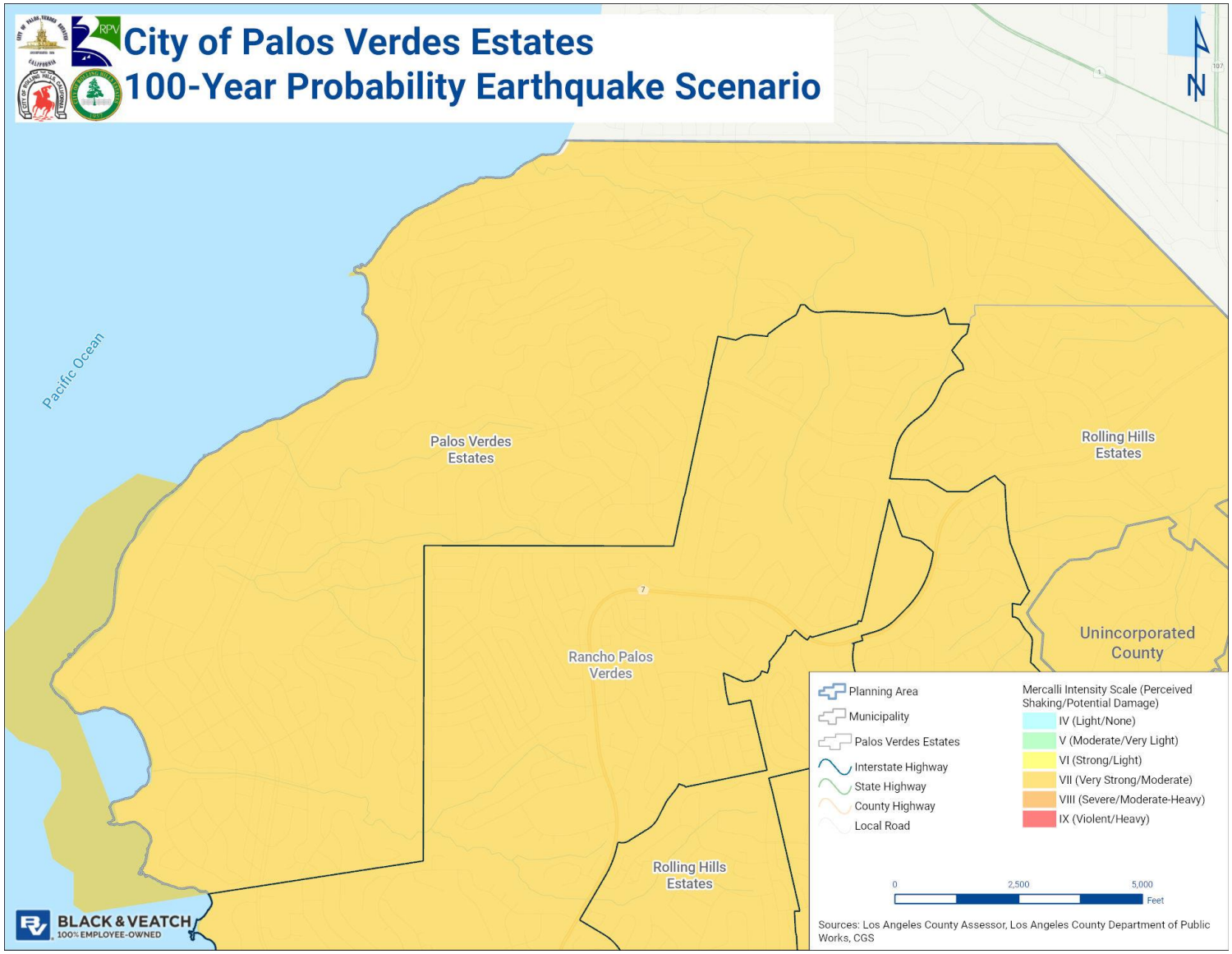


Figure 2-3. Earthquake Hazard Map – 100-Year Probability Earthquake Scenario

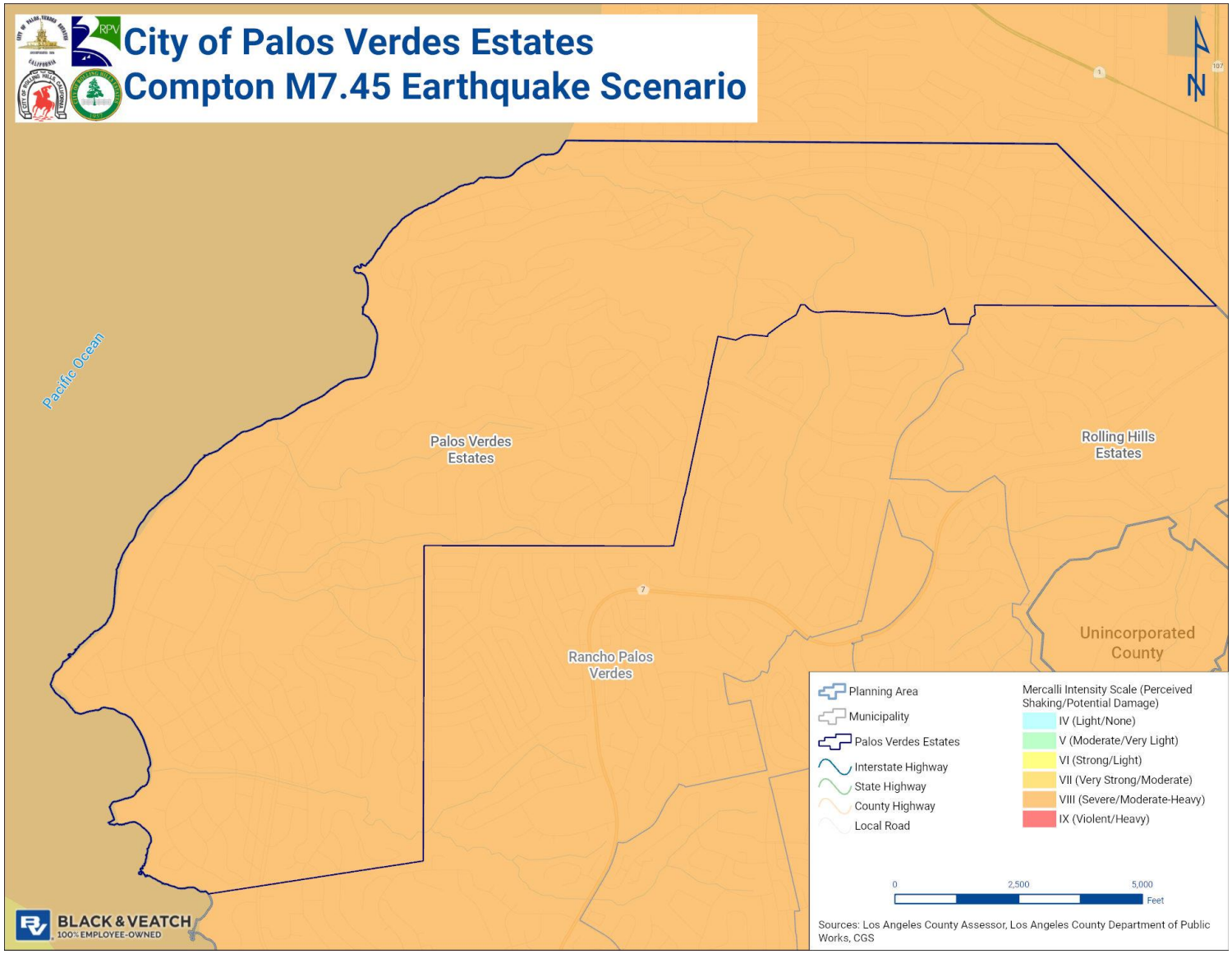


Figure 2-4. Earthquake Hazard Map – Compton M7.45 Earthquake Scenario

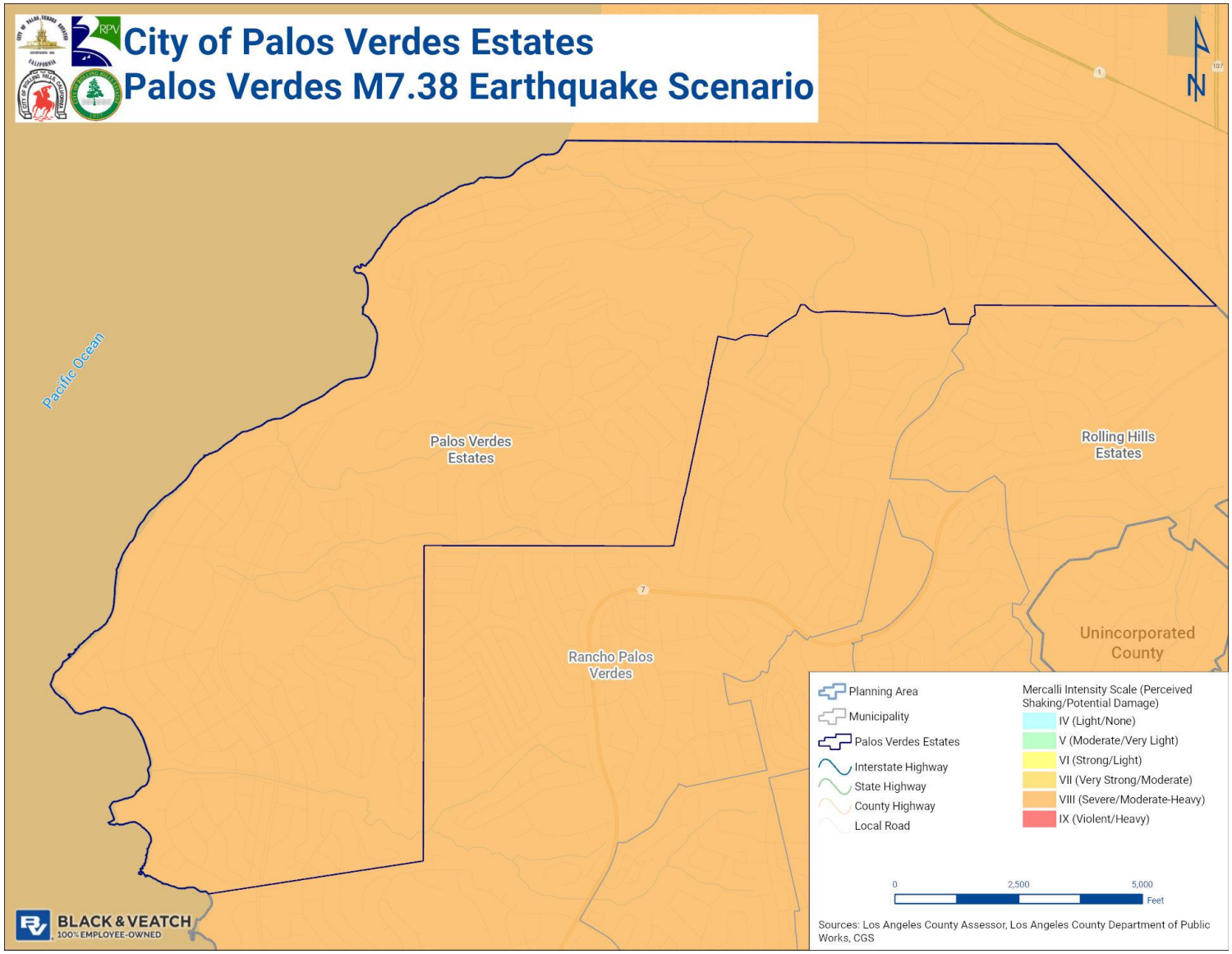


Figure 2-5. Earthquake Hazard Map – Palos Verdes M7.38 Earthquake Scenario

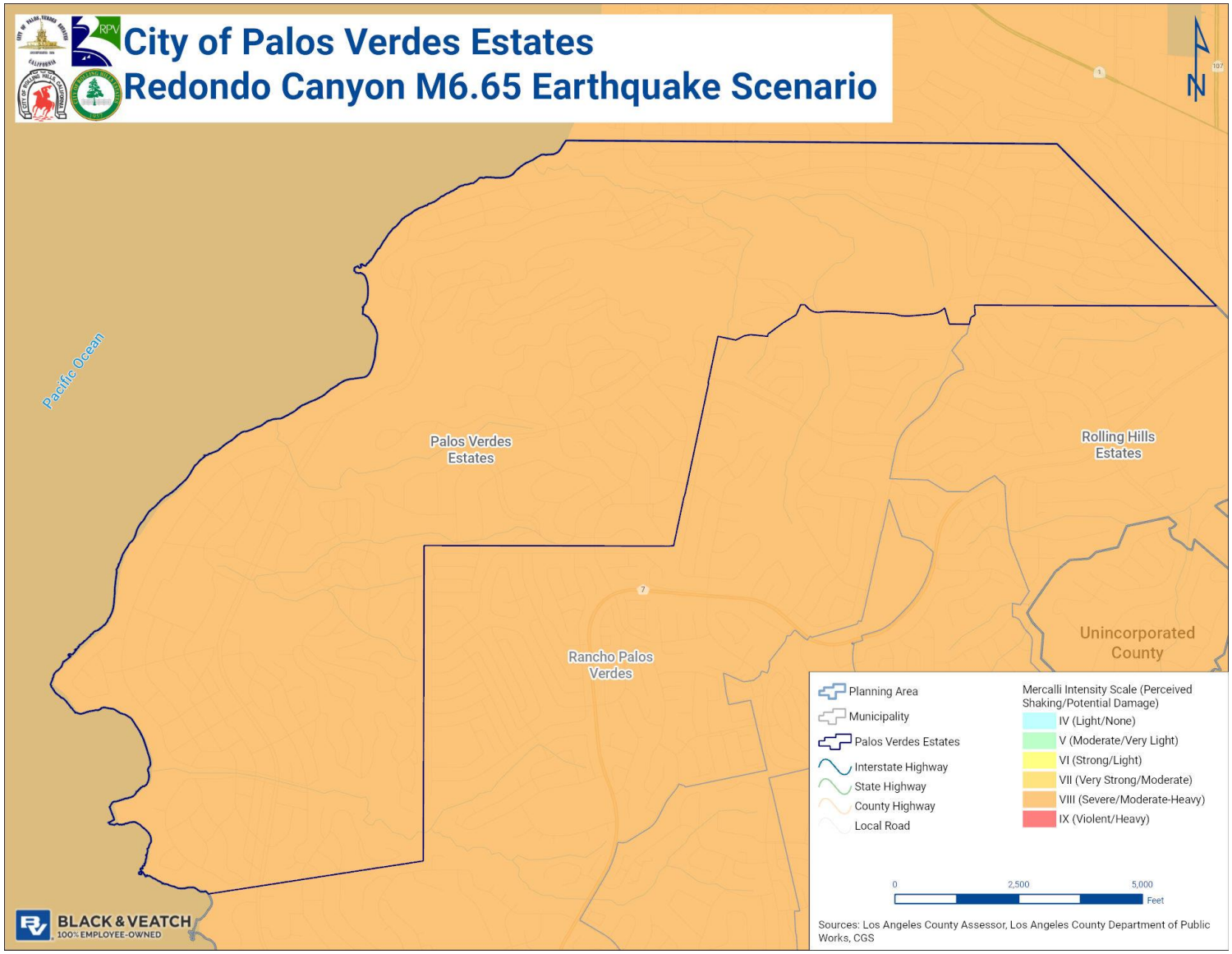


Figure 2-6. Earthquake Hazard Map – Redondo Canyon M6.65 Earthquake Scenario

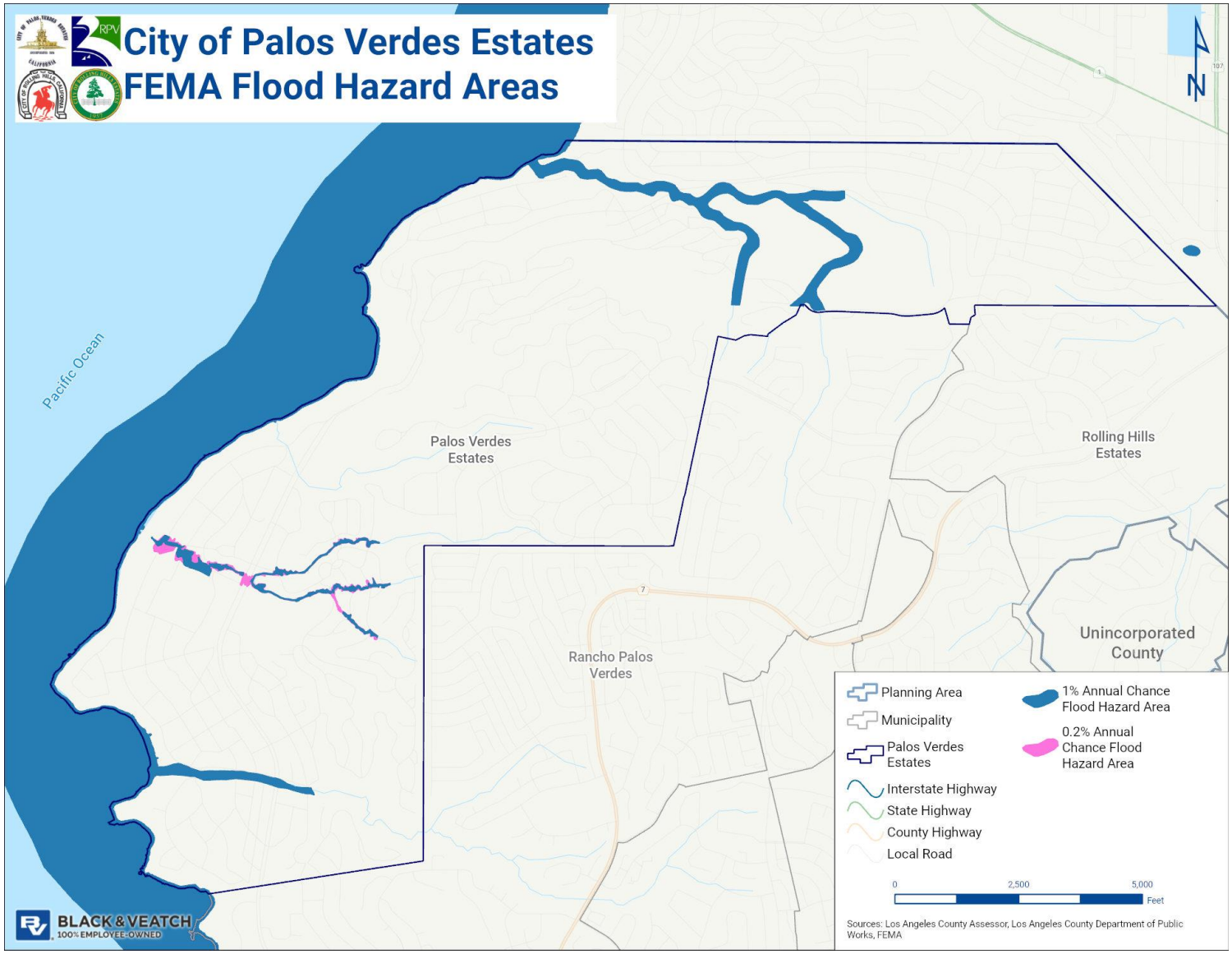


Figure 2-7. Flood Hazard Map – FEMA Flood Hazard Areas

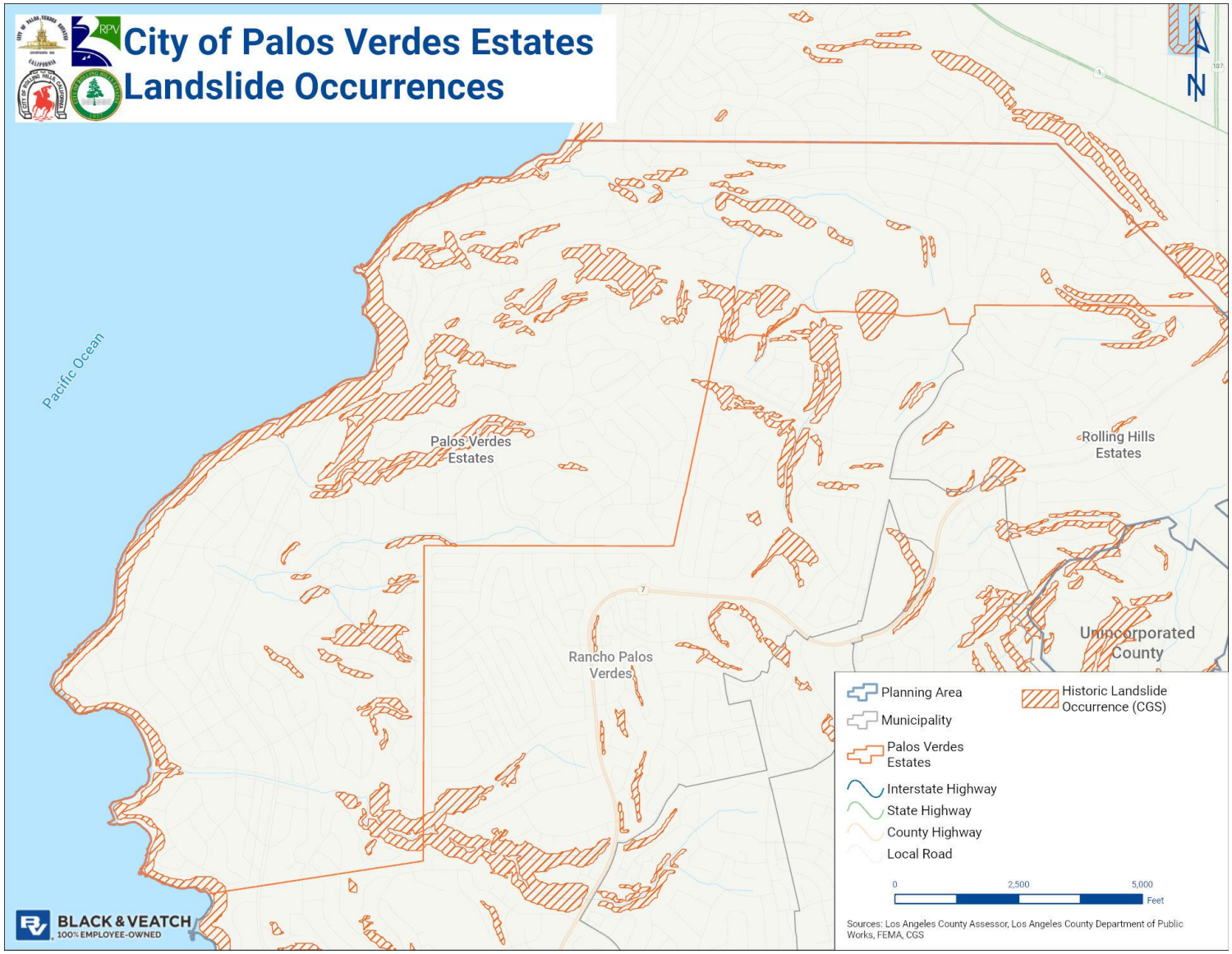


Figure 2-8. Landslide Hazard Map – Landslide Occurrences

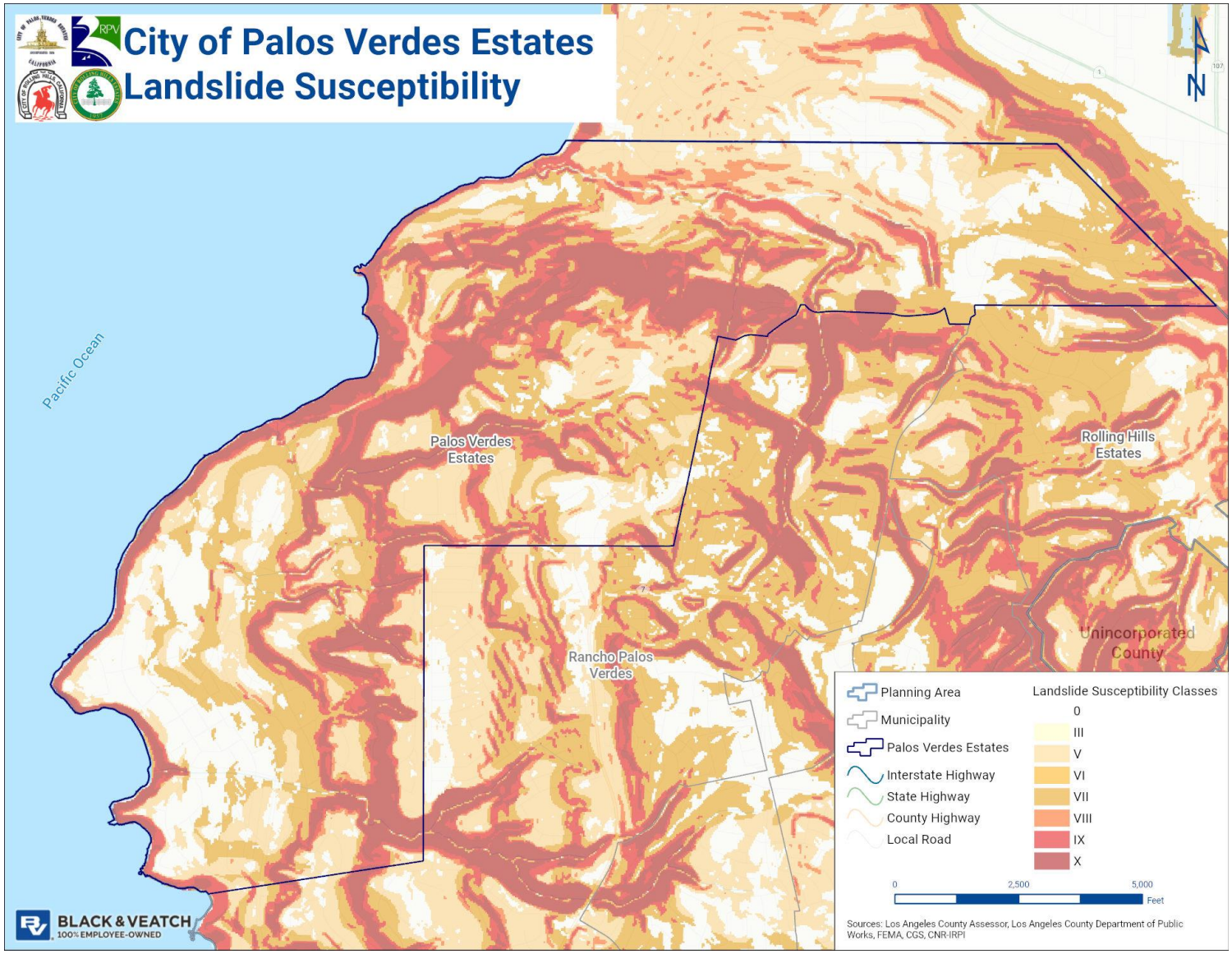


Figure 2-9. Landslide Hazard Map – Landslide Susceptibility

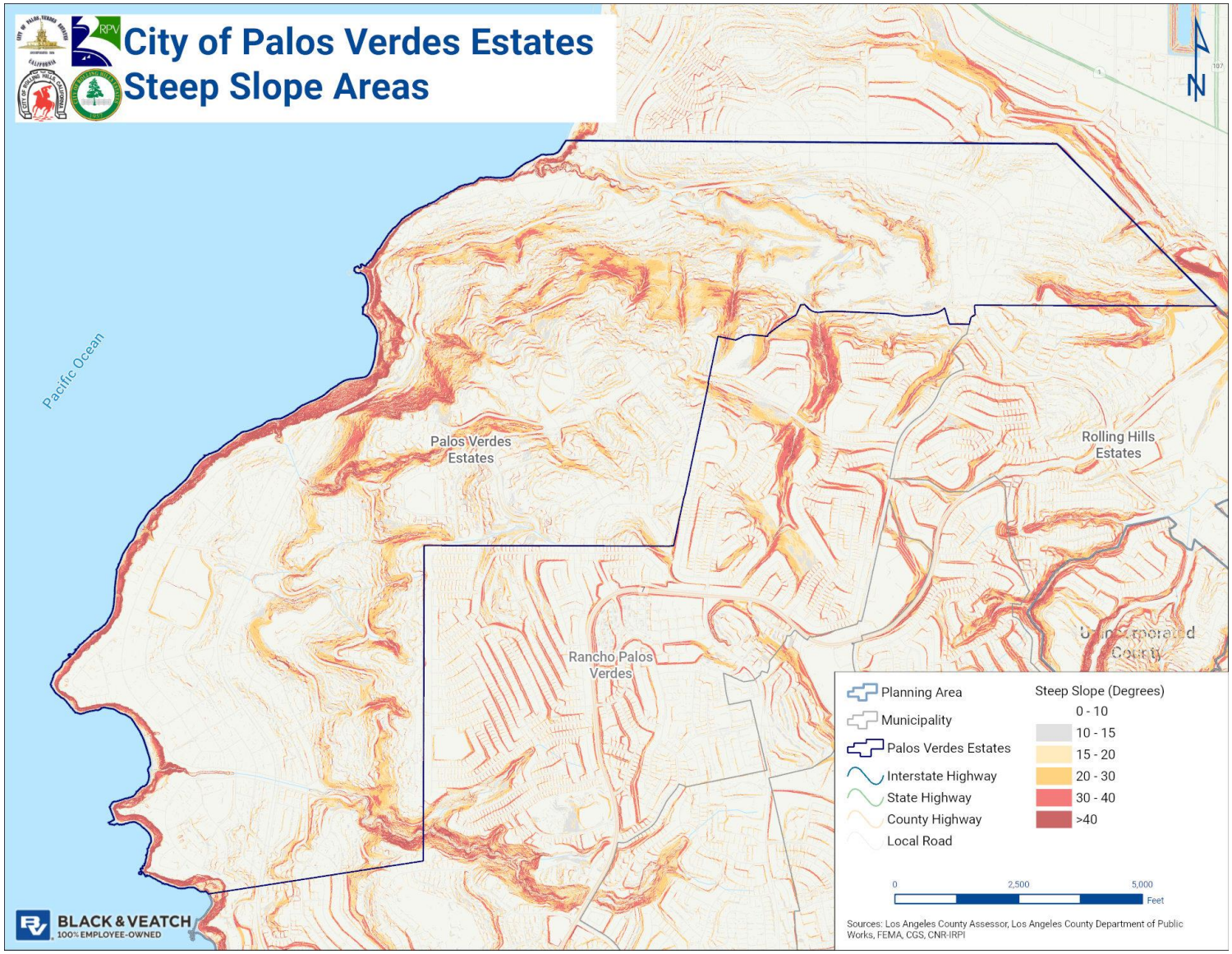


Figure 2-10. Landslide Hazard Map – Steep Slope Areas

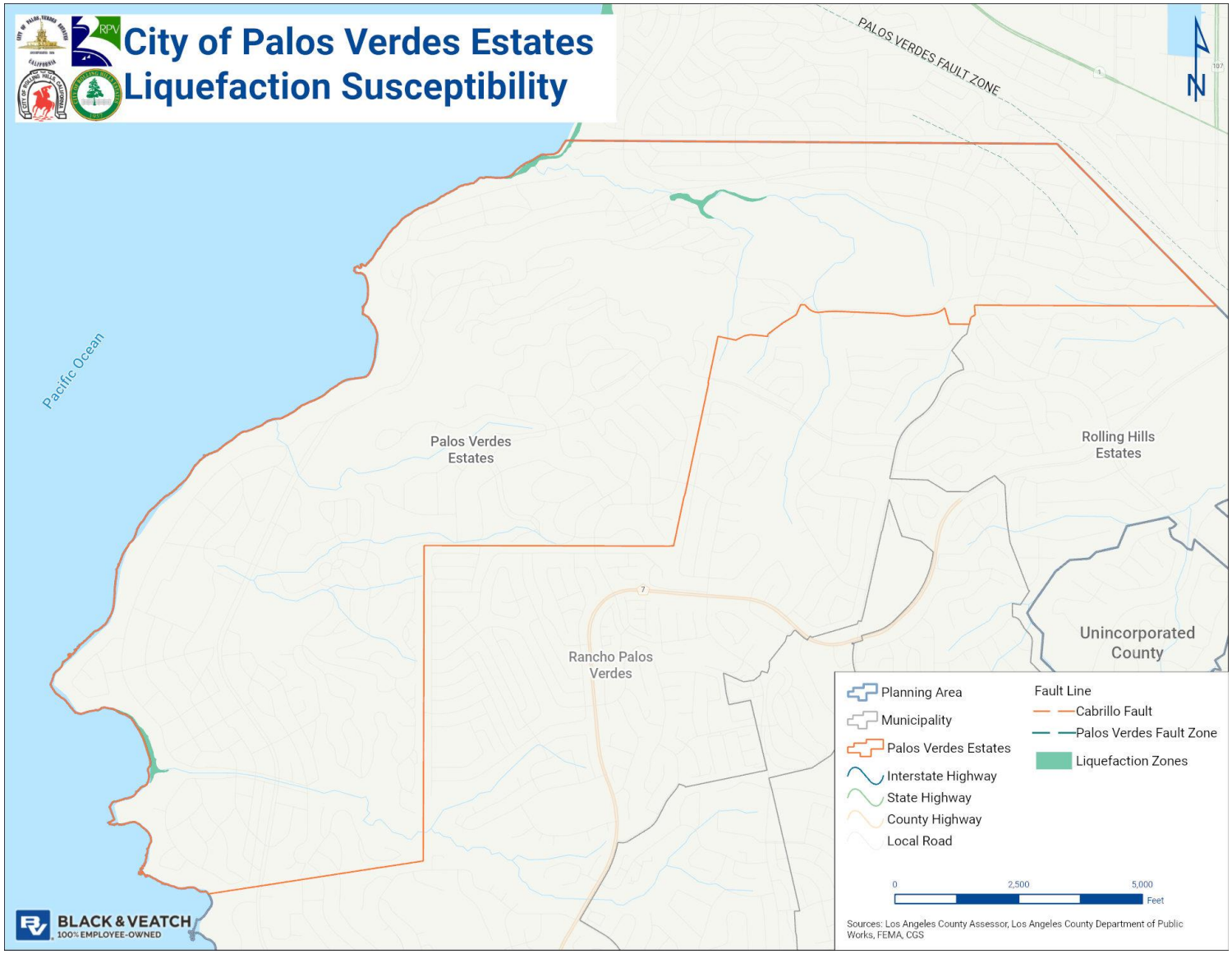


Figure 2-11. Liquefaction Hazard Map – Liquefaction Zones

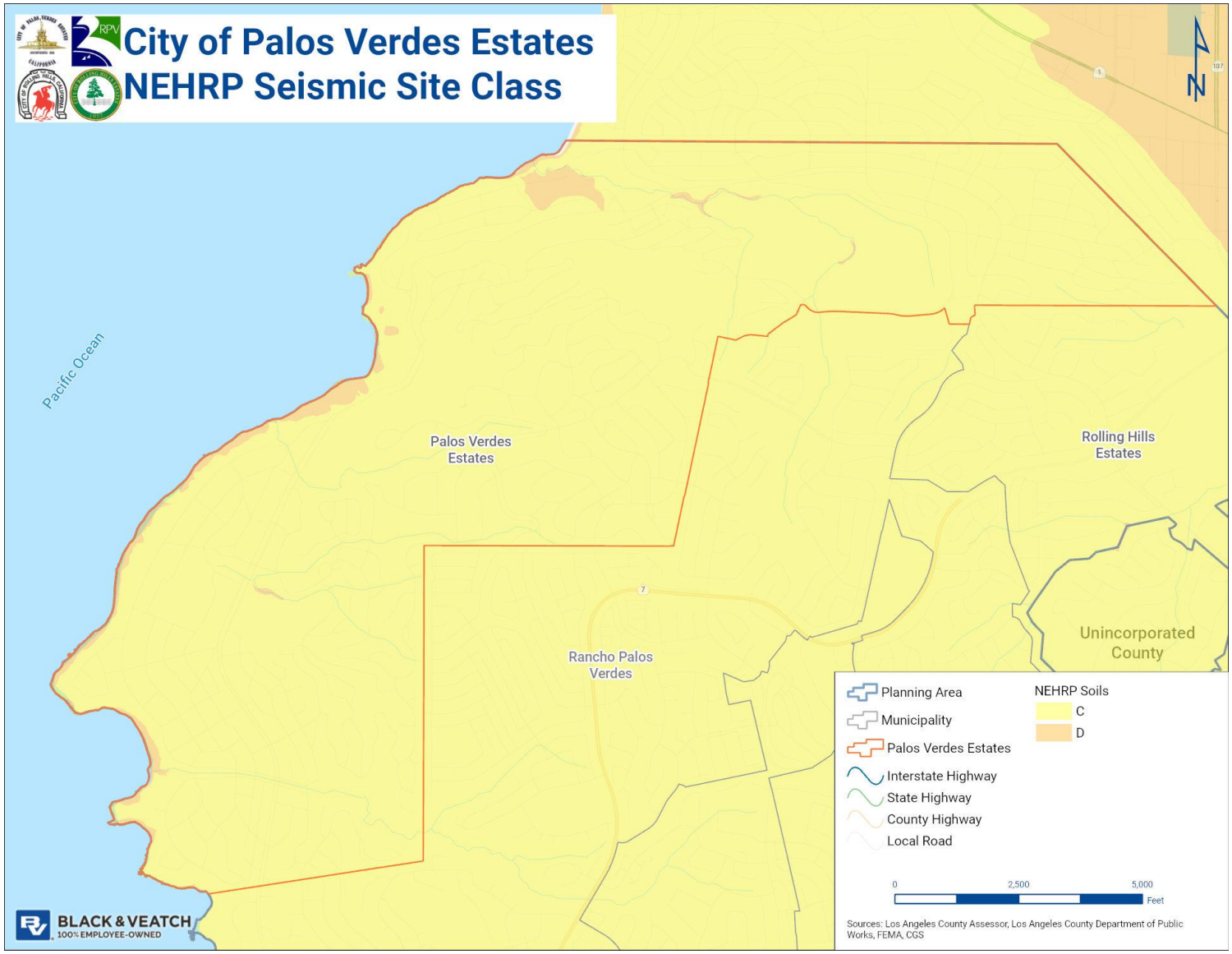


Figure 2-12. Liquefaction Hazard Map – NEHRP Seismic Site Class

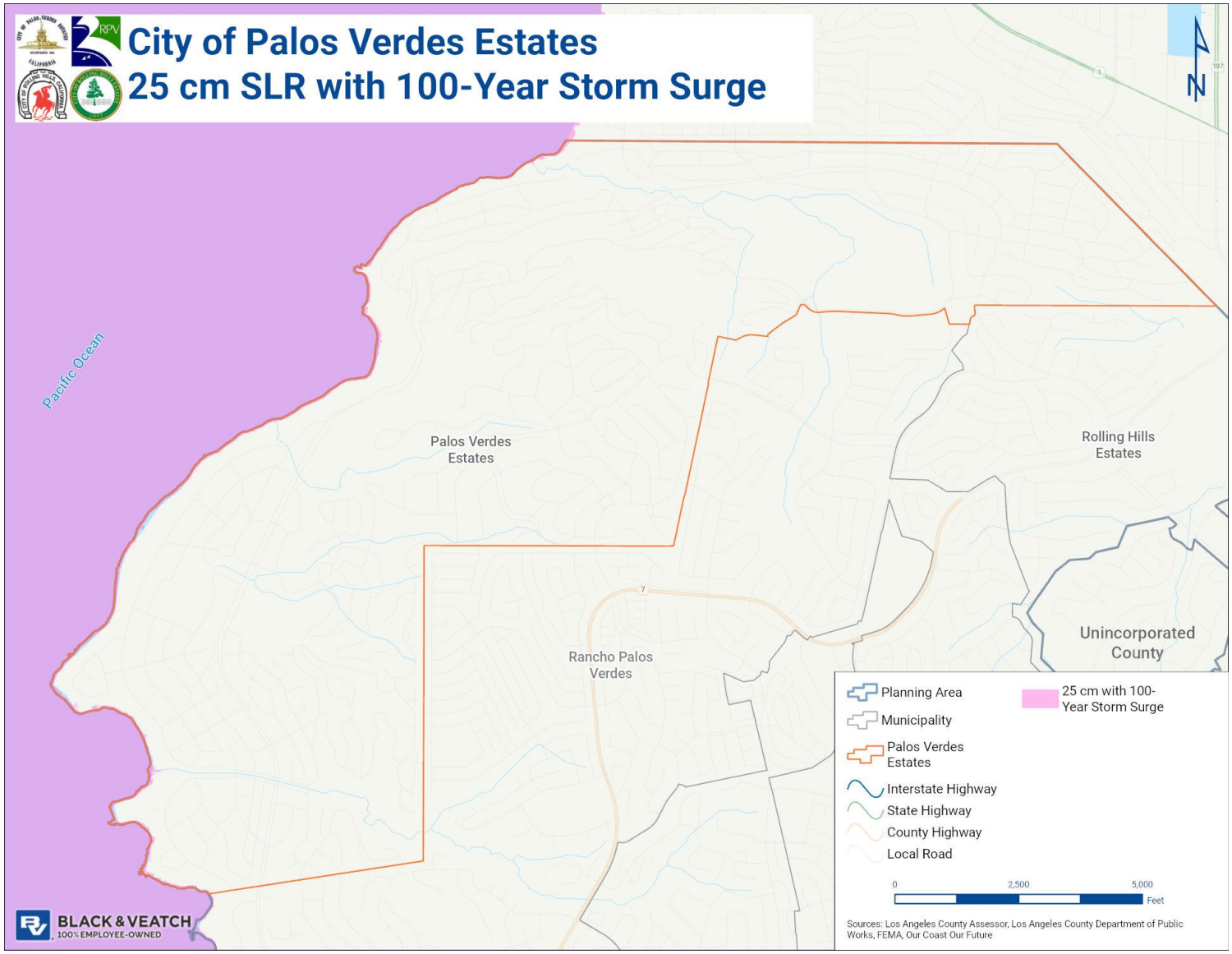


Figure 2-13. Sea Level Rise Hazard Map – 25-cm Sea Level Rise with 100-Year Storm Surge

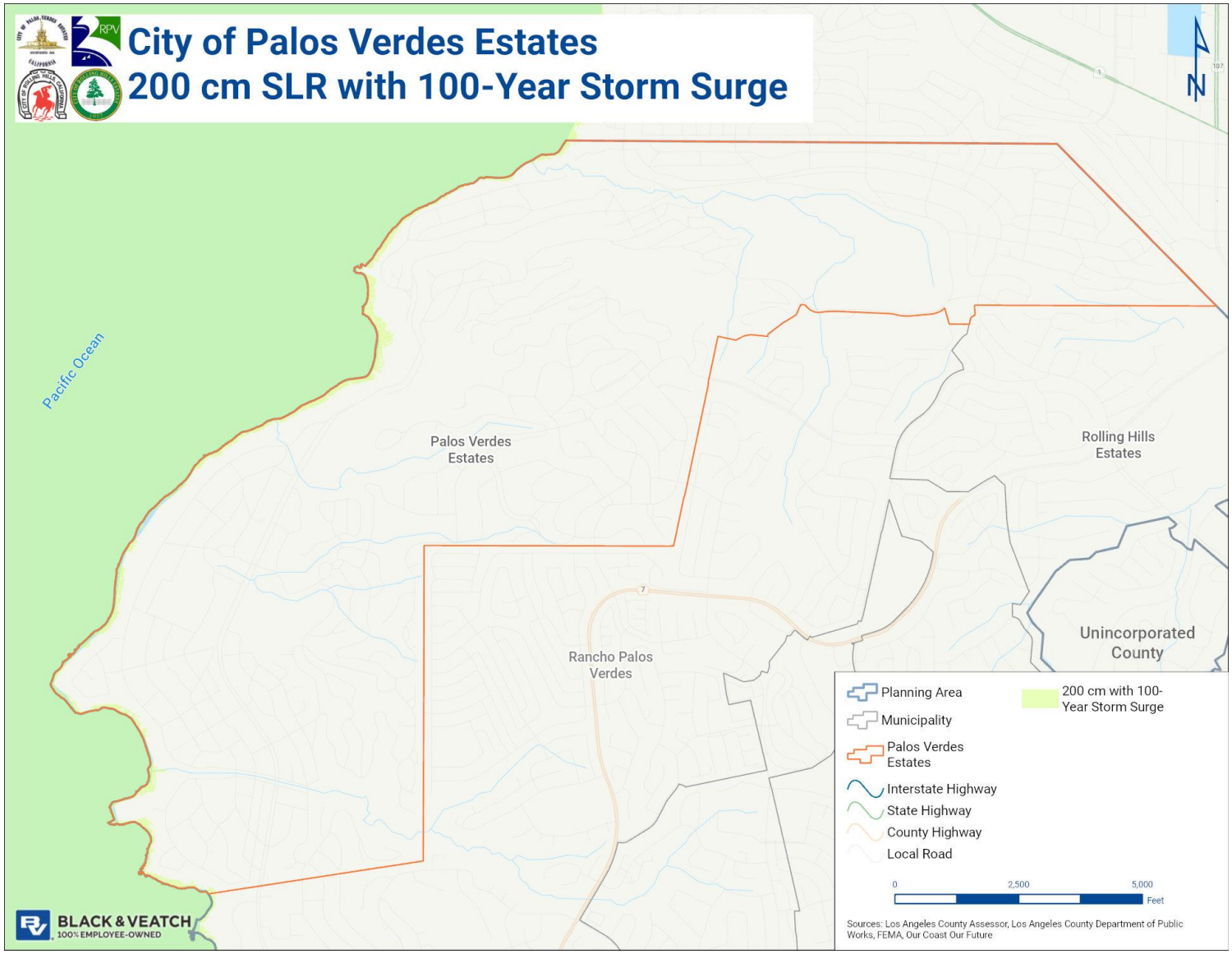


Figure 2-14. Sea Level Rise Hazard Map – 200-cm Sea Level Rise with 100-Year Storm Surge

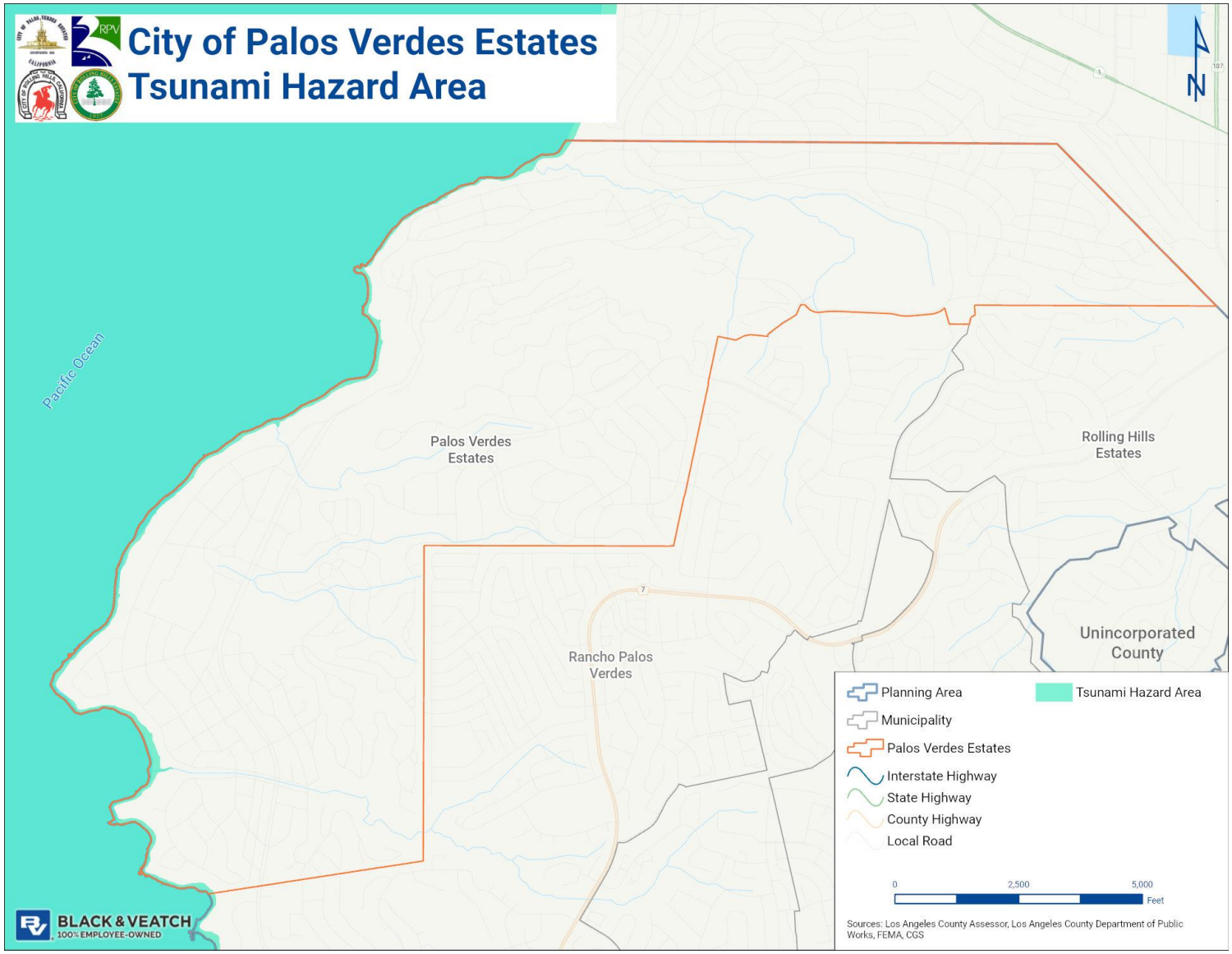


Figure 2-15. Tsunami Hazard Map – Tsunami Hazard Area

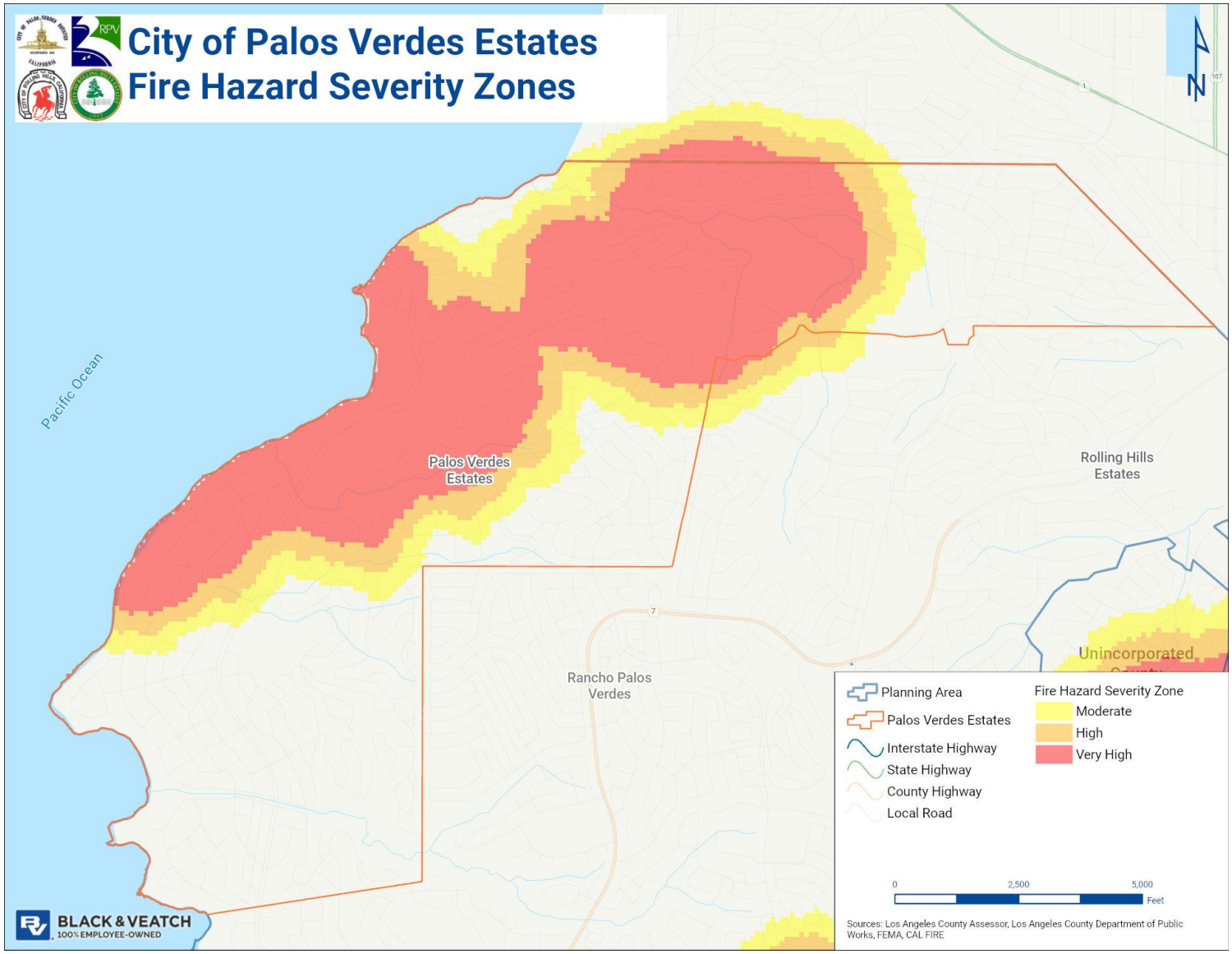


Figure 2-16.Fire Hazard Map – Fire Hazard Severity Zones

3. RANCHO PALOS VERDES

Figure 3-1. Rancho Palos Verdes Point Vicente Lighthouse



Source: (Rancho Palos Verdes 2025)

3.1 LOCAL HAZARD MITIGATION PLANNING TEAM

Table 3-1. Local Planning Team

	Primary Point of Contact	Alternate Point of Contact
Name and Title:	Luna Mohammad	Catherine Jun
Address:	30940 Hawthorne Blvd., Rancho Palos Verdes, CA 90275	30940 Hawthorne Blvd., Rancho Palos Verdes, CA 90275
Phone Number:	310-923-3282	310-544-5203
Email:	Lmohammad@rpvca.gov	CJun@rpvca.gov
Contributors:		
Name and Title: Method of Participation:	Ara Mihranian, City Manager Plan Feedback, Landslide Committee	
Name and Title: Method of Participation:	Brandy Forbes, Community Development Director Plan Feedback	
Name and Title: Method of Participation:	Amy Seeraty, Community Development Senior Planner Plan Feedback	
Name and Title: Method of Participation:	David Copp, Deputy Public Works Director Landslide Subcommittee	
Name and Title: Method of Participation:	Matt Waters, Rec and Parks Senior Administrative Analyst Plan Feedback	
Name and Title: Method of Participation:	Deanna Fraley, Public Works Principal Engineer Plan Feedback	
Name and Title: Method of Participation:	Ramzi Awaad, Public Works Director Planning Committee	
Name and Title: Method of Participation:	Megan Barnes, Public Information Officer Planning Committee	
Name and Title: Method of Participation:	Robert Moya, Deputy Finance Director Plan Feedback	
Name and Title: Method of Participation:	Daniel Trautner, Recs and Park Director Plan Feedback	

Name and Title: Method of Participation:	Lukasz Buchwald, IT Manager Plan Feedback
Name and Title: Method of Participation:	Octavio Silva, Community Development Deputy Director Plan Feedback
Name and Title: Method of Participation:	Irantzu Pujadas, City Management Administrative Analyst Plan Feedback
Name and Title: Method of Participation:	James O'Neil, Finance Senior Administrative Analyst Plan Feedback
Name and Title: Method of Participation:	Jane Lin, Finance Senior Accountant Plan Feedback
Name and Title: Method of Participation:	Juan Hernandez, Public Works Superintendent Plan Feedback
Name and Title: Method of Participation:	Katie Lozano, Open Space and Trails Manager Plan Feedback
Name and Title: Method of Participation:	Robert Moya, Finance Deputy Director Plan Feedback
Name and Title: Method of Participation:	Russ Bryden, Public Works Dept Principal Engineer Plan Feedback
Name and Title: Method of Participation:	Vina Ramos, Finance Director Plan Feedback
Name and Title: Method of Participation:	Eric Wolterding, Recs & Parks Dept, Administrative Analyst Plan Feedback
Name and Title: Method of Participation:	David Rasor, Building Official Plan Feedback

3.2 JURISDICTIONAL PROFILE

3.2.1 Location and Features

The City of Rancho Palos Verdes is located on the Palos Verdes Peninsula in the southwest tip of Los Angeles County. The City has a total area of 13.6 square miles. The Palos Verdes Peninsula (Peninsula) has a unique physiography, formed over millions of years of submerging and lifting from the Pacific Ocean. Once an island, the Peninsula is nine miles wide by four miles deep, now rises above the Los Angeles Basin, with the highest elevation at 1,480 feet. The terrain of much of the planning area is rolling hills, steep slopes, canyons and coastal bluffs (Multi-Jurisdictional Hazard Mitigation Plan for Rancho Palos Verdes and Rolling Hills Estates 2020).

The City is predominately built out with single-family residential development with scattered concentrations of multi-family residential and commercial development. The remaining vacant parcels are mostly steep slopes, canyons and areas impacted by land movement. Several park sites and an extensive amount of preserved natural open space and passive parkland, particularly along the City's coastline, provide the majority of recreational resources for residents. (Multi-Jurisdictional Hazard Mitigation Plan for Rancho Palos Verdes and Rolling Hills Estates 2020).

3.2.2 History

Rancho Palos Verdes, located on the Palos Verdes Peninsula in Southern California, began as a sparsely populated area inhabited by cattle ranchers and shepherds in the late 19th century. In the early 1900s, it became a prosperous farming region. In 1913, Frank A. Vanderlip, a prominent banker, purchased the entire 16,000-acre Peninsula with the vision of creating an exclusive residential community. However,

plans were delayed by the Great Depression and World War II. In 1953, the Great Lakes Carbon Corporation acquired 7,000 acres from the Vanderlip family and eventually shifted from mining to residential development (Rancho Palos Verdes 2025).

As development accelerated in the 1950s and 1960s, concerns grew over the environmental impact and lack of planning. This led to the formation of the Peninsula Advisory Council and later the grassroots group Save Our Coastline (SOC), which opposed unchecked development. These efforts culminated in the incorporation of Rancho Palos Verdes as a city. The County agency responsible for conducting incorporations, the Local Agency Formation Commission (LAFCO), set the election for the proposed city of Rancho Palos Verdes on August 28, 1973 (Rancho Palos Verdes 2025). City incorporation officially occurred and is recognized as September 7, 1973.

3.2.3 Governance

The City of Rancho Palos Verdes is governed by a Council-Manager form of government. The Rancho Palos Verdes City Council assumes responsibility for adoption of this plan, and the Rancho Palos Verdes City Manager will oversee its implementation.

3.3 CURRENT TRENDS

3.3.1 Population

According to the California Department of Finance, the population of the City of Rancho Palos Verdes as of May 2025 was 40,727. Since 1980, the population has grown at an average annual rate of two percent.

3.3.2 Development

Table 3-2. Recent and Expected Future Development Trends

Criterion	Response
Has your jurisdiction annexed any land since the preparation of the previous hazard mitigation plan?	No
• If yes, give the estimated area annexed and estimated number of parcels or structures.	N/A
Is your jurisdiction expected to annex any areas during the performance period of this plan?	No
• If yes, describe land areas and dominant uses.	N/A
• If yes, who currently has permitting authority over these areas?	N/A
Provide the number of new construction permits for each hazard area or provide a qualitative description of where development has occurred.	77 new construction permits (new SFRs and ADUs combined) City-wide since 2020.

Criterion	Response
Are any areas targeted for development or major redevelopment in the next five years?	The City's Housing Element identifies 31 potential housing sites throughout the City as part of the 2021-2029 housing cycle.
• If yes, briefly describe, including whether any of the areas are in known hazard risk areas	Sites are located along existing and developed commercial corridors (Western Avenue, Hawthorne Blvd., and Silver Spur Road). Other sites include previously developed institutional uses along PVDS and two vacant residential lots (one on Clipper Rd. and one on Montemalaga Dr.)
How many permits for new construction were issued in your jurisdiction since the preparation of the previous hazard mitigation plan?	

	2020	2021	2022	2023	2024
Single Family	6	2	8	8	2
Multi-Family	0	0	0	0	0
Other (mobile homes, accessory dwellings, mixed use, etc.)	5	5	14	14	13
Commercial	0	0	0	0	0
Total	11	7	22	22	15

Describe the level of buildout in the jurisdiction, based on your jurisdiction's buildable lands inventory. If no such inventory exists, provide a qualitative description.	No buildable land inventory is available. Buildout throughout the City has been limited to single-family residential development including the construction of new single-family structures on vacant lots along with demo and rebuilding of single-family structures. ADU development focused on existing and developing single-family residential lots.

3.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand or improve upon capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan.

3.4.1 Planning and Regulatory Capabilities

Jurisdictions can develop policies and programs and implement rules and regulations to protect and serve residents. Local policies are typically identified in community plans, implemented through local ordinance, and enforced through a governing body. An assessment of planning and regulatory capabilities is presented in Table 3-3.

Table 3-3. Planning and Regulatory Capabilities

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
Codes, Ordinances, and Requirements				
Building Code	Yes	No	Yes	Yes
Comment: *Building Code (Chapter 15) specifies how new structures can be built. It includes the California Building Code, in addition to any amendments made by the City. Mitigation actions may involve amending the Building Code to improve a building's safety or structural stability.*				
Zoning Code	Yes	No	Yes	Yes
Comment: *Zoning Ordinance (Chapter 17) implements the City's General Plan by establishing specific regulations for development. It includes standards for where development can be located, how buildings must be sized, shaped, and positioned, and what types of activities can occur in an area. Hazard mitigation actions that pertain to new or substantially redeveloped buildings can be adopted into the Zoning Ordinance.*				
Subdivisions	Yes	No	Yes	Yes
Comment: *Chapter 16 (Subdivisions) regulates and controls the design and improvement of subdivisions and to coordinate subdivision planning with the city's general and specific plans.*				
Stormwater Management	Yes	No	No	Yes
Comment: *Chapter 13.10 (Stormwater and Urban Runoff Pollution Control) ensures the future health, safety and general welfare of the citizens of the city and the water quality of the Santa Monica Bay and surrounding coastal areas.*				
Post-Disaster Recovery	Yes	Yes	No	Yes
Comment: *Temporary housing ordinance - No. 687U, adopted September 3, 2024*				
Real Estate Disclosure	No	Yes	Yes	No
Comment: *California Civil Code 1102 and 1103 which requires disclosure by the seller and/or seller's agent to the potential buyer if the property is subject to flooding or fire hazards.*				
Growth Management	Yes	No	No	Yes
Comment: *Landslide Moratorium On August 19, 2025, the City Council adopted an ordinance amending the Rancho Palos Verdes Municipal Code to prohibit new residential construction within the landslide complex, including home additions, effective September 18, 2025.*				
Site Plan Review	Yes	No	No	No
Comment: *Chapter 17.70 (Site Plan Review) provides procedures that enable the director and/or planning commission to check development proposals for conformity with the provisions of this title and for the manner in which they are applied when no other application is required under this code. The code requires that no new impacts, including, but not limited to, grading, grubbing, development, or conversion to agriculture, within CSS anywhere in the plan area or within any habitat type within the preserve or on vacant lots abutting the preserve, requiring discretionary approval within the City be approved without the City making a determination of conformance to the NCCP/HCP, adopted by the City Council pursuant to Resolution 2019-61, and as may later be amended. Conformance will be demonstrated if the impact is associated with a covered project or activity defined in the NCCP/HCP and all relevant avoidance and minimization measures are included per sections 5.5 and 5.6 of the NCCP/HCP.*				
Environmental Protection	Yes	No	No	Yes
Comment: *Chapter 17.56 (Environmental Protection) protects properties and people from environmental nuisances and hazards and sets tolerance levels for adverse environmental effects created by any use or development of land.*				

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
Flood Damage Prevention	Yes	No	No	Yes
Comment:	*Chapter 15.42 (Floodplain Management) establishes land use regulation for properties situated in flood prone areas. The director of public works is the designated floodplain administration who is responsible for administering, implementing, and enforcing the code by reviewing development permits in flood prone areas of the City, by ensuring compliance with the provisions of this chapter, and by preventing development in flood prone areas in the city unless the applicant has obtained all necessary permits from those governmental agencies whose approval is required by federal, state, or local law. The City requires that all new construction and substantial improvements within the special flood hazard area must have the bottom of their first floor elevated to at least one foot above the base flood elevation.* *Chapter 13.08 (Flood Control Channels)*				
Emergency Management	Yes	No	Yes	Yes
Comment:	*Chapter 2.24 (Disaster Council) – the purpose of the council is to develop and recommend for adoption by the city council, emergency and mutual aid plans and agreements as are necessary to implement such plans and agreements.*			
Climate Change	No	No	No	No
Comment:	-			
Planning Documents				
General Plan	Yes	No	Yes	Yes
Is the General Plan compliant with Assembly Bill 2140?	Yes			
Comment:	*General Plan outlines long-term direction for development and policy in a community. There are opportunities to coordinate local hazard mitigation actions with policies governed by the General Plan. Next update to General Plan Safety Element should include integration with the Hazard Mitigation Plan. Also, General Plan is an excellent resource to assist with implementing many of the mitigation action items identified in the Hazard Mitigation Plan.*			
Capital Improvement Plan	Yes	No	No	Yes
How often is the plan updated?	*Five years*			
Comment:	*The Capital Improvement Program plans activities for City-owned facilities and infrastructure for the next five years. Mitigation actions may involve construction of new or upgraded facilities and infrastructure.*			
Disaster Debris Management Plan	No	No	No	No
Comment:	-			
Floodplain or Watershed Plan	Yes	Yes	No	Yes
Comment:	*Enhanced Watershed Management Program (EWMP) (2019) was developed to implement the requirements of the MS4 Permit on a watershed scale. The goal of these requirements is to reduce the discharge of pollutants to meet the requirements of the regional water quality control board.*			
Stormwater Plan	Yes	No	No	No
Comment:	*The Master Plan of Drainage (2013) provides an analysis of existing storm drain facilities located within the City of Rancho Palos Verdes. The goal of the MPD is to provide comprehensive long-range planning for the implementation and development of drainage facility improvements, determine the cost of implementing such facilities, discuss funding priorities, and provide an implementation schedule of the improvements within the City.*			

		Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
Urban Water Management Plan		Yes	No	No	Yes
Comment:	*Cal Water Urban Water Management Plan (2021) supports the Palos Verdes District's historical and projected water demands, water supplies, supply reliability and potential vulnerabilities, water shortage contingency planning, and demand management programs.*				
Habitat Conservation Plan		Yes	Yes (HCP)	Yes (NCCP)	Yes
Comment:	*Natural Communities Conservation Plan/Habitat Conservation Plan (NCCP/HCP) (2019) – The Natural Community Conservation Planning Act of 1991, as amended (NCCP Act, California Fish and Game Code Section 2800, et seq.) provides for the preparation and implementation of large-scale natural resource conservation plans. A **Natural Community Conservation Plan** (NCCP) must identify and provide for the regional or area-wide protection and management of natural wildlife diversity while allowing for compatible and appropriate development and growth. A **Habitat Conservation Planning** (HCP) process of the Endangered Species Act (ESA) provides an opportunity for species protection and habitat conservation within the context of non-Federal development and land use activities.* *The City developed an NCCP/HCP that covers the entire City with the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS). It was prepared to maximize the benefits to wildlife and vegetation communities while accommodating appropriate economic development within the City pursuant to the requirements of the NCCP Act and section 10(a) of the ESA. This NCCP/HCP is intended to provide for the comprehensive management and conservation of multiple species, including but not limited to those species protected under the ESA.*				
Economic Development Plan		No	No	No	No
Comment:	-				
Community Wildfire Protection Plan		No	No	No	No
Comment:	-				
Forest Management Plan		No	No	No	No
Comment:	-				
Climate Action Plan		Yes	No	No	No
Comment:	*RPV Emission Reduction Action Plan (2017) – this plan was developed to help the City reduce Greenhouse Gas (GHG) emissions within in the City. It serves as a guide for action by setting GHG emissions reduction goals and establishing strategies and policies to achieve desired outcomes over the next 20 years. The plan identifies community-wide strategies to lower GHG emissions from a range of sources within the City, including transportation, land use, energy generation and consumption, water, and waste. The plan also aligns with California's policies that address climate change.*				
Threat and Hazard Identification and Risk Assessment (THIRA)		No	No	No	No
Comment:	-				
Post-Disaster Recovery Plan		No	No	No	No
Comment:	-				
Continuity of Operations Plan		No	No	No	No
Comment:	-				

		Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
Emergency Operations Plan		Yes	No	No	Yes
Comment:	***Emergency Operations Plan*** *was recently updated in December 2025 and is a reference and guidebook to operations during a major emergency impacting Rancho Palos Verdes. The Plan includes a discussion on a wide range of hazards, organization and staffing of the Emergency Operations Center, and connectivity with field responders and external agencies. The Emergency Operations Plan is an excellent source of hazard information for the Hazard Mitigation Plan. Following the activation of the EOP/EOC it is routine to prepare an After-Action Plan. The AAR should include documentation of changes in hazards and vulnerability. That information could be very useful during future HMP updates.*				
Public Health Plan		No	No	No	No
Comment:	-				
Other		Yes	No	No	No
Comment:	*The 2015 Parks Master Plan Update (PMPU) updated the 1989 Parks Master Plan and established a comprehensive strategy for addressing the future planning of the City's parks, recreation, and open space resources. The PMPU will function as a living document to help guide and respond to changes in the City's future park, open space and recreational needs. The PMPU is not intended to be strictly binding to present and future City Councils and the City residents but instead should function as a long-range vision for providing recreation opportunities, with a flexible framework that can be adapted to changes in technology, demographics, economic realities, and recreational trends and preferences.* *Trails Network Plan – On November 27, 1984, the City Council adopted the City's Trail Network Plan which is intended to serve as an advisory tool for the City decision makers for the implementation and funding of City trails. In the past twenty years, the City has actively sought to acquire and permanently preserve open space within its boundaries. Over this span of time, the City, with active participation from the City's Preserve Habitat Manager, the Palos Verdes Peninsula Land Conservancy (PVPLC), the City has built the 1,400-acre Palos Verdes Nature Preserve.* *As a means of implementing the Trails Network Plan, on January 22, 1990, the City Council adopted the Conceptual Trails Plan (CTP) and Conceptual Bikeways Plan (CBP), as two separate documents. Collectively, the CTP and CBP serve as the City's Trails Network Plan (TNP). The CTP was revised on May 21, 1991, September 16, 1991, and October 26, 1991. The CBP was revised on October 15, 1996. The TNP has not been updated since the mid-1990's.* • *Conceptual Trails Plan* • *Conceptual Bicycle Plan* *Public Use Master Plan – The NCCP required the City to prepare this plan for the nature preserve. It addresses issues pertaining to the preserve including public access, trail and trailhead locations, parking, trail use, fencing, signage, and lighting.*				

Opportunities to Expand Planning and Regulatory Capabilities

The table above, Section 3.6 (Integration), and Section 3.9 (Hazard Mitigation Strategy) identifies opportunities for the City to strengthen planning and regulatory capabilities through hazard mitigation integration. Aligning mitigation efforts with updates to codes, ordinances, and planning initiatives fosters a coordinated approach to reducing hazard risk, supporting resilient development and a safer community. During the MJLHMP update process, the City identified the following areas as priorities for potential integration:

- Building Code
- Zoning Code
- Subdivision
- Stormwater Management
- Post-Disaster Recovery
- Real Estate Disclosure
- Growth Management
- Environmental Protection
- Flood Damage Prevention
- Emergency Management
- General Plan
- Capital Improvement Plan
- Urban Water Management Plan
- Habitat Conservation Plan
- Emergency Operations Plan

3.4.2 Development and Permitting Capabilities

Jurisdictions regulate land use through the adoption and enforcement of zoning, subdivision and land development ordinances, building codes, building permit ordinances, floodplain, and stormwater management ordinances. When effectively prepared and administered, these regulations can lead to hazard mitigation. Development and permitting capabilities are presented in Table 3-4.

Table 3-4. Development and Permitting Capabilities

Criterion	Response
Does your jurisdiction issue development permits?	Yes
If no, who does? If yes, which department?	Community Development Department
Does your jurisdiction track permits by hazard area?	No
Does your jurisdiction have a buildable lands inventory?	No

3.4.3 Fiscal Capabilities

Assessing a jurisdiction's fiscal capability provides an understanding of the ability to fulfill the financial needs associated with hazard mitigation projects. This assessment identifies both outside resources, such as grant funding eligibility and local jurisdictional authority to generate internal financial capability, such as through impact fees. An assessment of fiscal capabilities is presented in Table 3-5.

Table 3-5. Fiscal Capabilities

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	No
Authority to Levy Taxes for Specific Purposes	No
User Fees for Water, Sewer, Gas or Electric Service	No
Incur Debt through General Obligation Bonds	No
Incur Debt through Special Tax Bonds	No
Incur Debt through Private Activity Bonds	No
Withhold Public Expenditures in Hazard-Prone Areas	No
State-Sponsored Grant Programs	No
Development Impact Fees for Homebuyers or Developers	No

Opportunities to Expand Fiscal Capabilities

The table above, Section 3.6 (Integration), and Section 3.9 (Hazard Mitigation Strategy) identifies opportunities for the City to strengthen fiscal capabilities through hazard mitigation integration. Through the City's Capital Improvement Plan, the City seeks to identify projects that can reduce hazard risk in the

City. If feasible, the City will prioritize those projects and implement them accordingly. The City will continue to identify grant opportunities as well to fund mitigation projects.

3.4.4 Administrative and Technical Capabilities

Planning, regulatory, and fiscal capabilities provide the backbone for successfully developing a mitigation strategy; however, without the appropriate personnel, the strategy may not be implemented. Administrative and technical capabilities focus on the availability of personnel resources responsible for implementing all the facets of hazard mitigation. These resources include technical experts, such as engineers and scientists, as well as personnel with capabilities that may be found in multiple departments, such as grant writers. An assessment of administrative and technical capabilities is presented in Table 3-6.

Table 3-6. Administrative and Technical Capabilities

Staff/Personnel Resource		Available?
Planners or engineers with knowledge of land development and land management practices		Yes
If Yes, Department /Position:	*Community Development Department – Planning Division; Public Works Department*	
Engineers or professionals trained in building or infrastructure construction practices		Yes
If Yes, Department /Position:	*Public Works Department – engineer; Building and Safety – Building Official and Inspectors, plan checker*	
Planners or engineers with an understanding of natural hazards		Yes
If Yes, Department /Position:	*Public Works Department – engineers; Community Development - Planners*	
Staff with training in benefit-cost analysis		Yes
If Yes, Department /Position:	*Finance Department; Public Works Department*	
Surveyors		Yes
If Yes, Department /Position:	*Public Works Department*	
Personnel skilled or trained in GIS applications		Yes
If Yes, Department /Position:	*Community Development Department – Planning Division AND contracted; Public Works Department*	
Scientist familiar with natural hazards in local area		No
If Yes, Department /Position:		
Emergency Manager		Yes
If Yes, Department /Position:	*City Administration Department, Senior Management Analyst; The Emergency Preparedness Committee advises and assists the City Council and staff to ensure that the City of Rancho Palos Verdes develops and maintains a high state of readiness to respond to a wide variety of emergencies and disasters.*	
Grant writers		Yes
If Yes, Department /Position:	*Contracted out or done by department heads and senior level staff*	
Procurement Services and Management		Yes
If Yes, Department /Position:	*Finance Department* *Public Works Department*	

Opportunities to Expand Administrative and Technical Capabilities

The table above, Section 3.6 (Integration), and Section 3.9 (Hazard Mitigation Strategy) identifies opportunities for the City to strengthen administrative and technical capabilities through hazard mitigation integration. When possible, City personnel will complete training to expand their existing

capabilities. Developing and expanding these skills will help improve decision-making, make implementation more efficient, and support ongoing progress toward building a more resilient community.

3.4.5 Education and Outreach Capabilities

Regular engagement with the public on issues regarding hazard mitigation provides an opportunity to directly interface with community members. Assessing the education and outreach capability illustrates the connection between the government and community members, which opens a two-way dialogue that can result in a more resilient community, based on awareness and engagement. An assessment of education and outreach capabilities is presented in Table 3-7.

Table 3-7. Education and Outreach Capabilities

Criterion	Response
Do you have a public information officer or communications office?	Yes
Do you have personnel skilled or trained in website development?	Yes
Do you have hazard mitigation information available on your website?	Yes
If yes, briefly describe:	*The City of Rancho Palos Verdes hosts numerous special programs related to public safety, in coordination with the Sheriff's and Fire Departments, and other community partners. The City's website has information on emergency preparedness and links to the EOP and HMP.*
Do you use social media for hazard mitigation education and outreach?	Yes
If yes, briefly describe:	*RPV has a YouTube channel, Facebook, Instagram, X, and Nextdoor accounts that are used to conduct outreach to residents.*
Do you have any citizen boards or commissions that address issues related to hazard mitigation?	Yes
If yes, briefly describe:	*Emergency Preparedness Committee; Infrastructure Management Advisory Committee*
Do you have any other programs in place that could be used to communicate hazard-related information?	Yes
If yes, briefly describe:	*PVP CERT, RPV CHOA, RPVtv, PVAN, PVPready.gov*
Do you have any established warning systems for hazard events?	Yes
If yes, briefly describe:	*Alert South Bay*

Opportunities to Expand Education and Outreach Capabilities

The table above, Section 3.6 (Integration), and Section 3.9 (Hazard Mitigation Strategy) identifies opportunities for the City to strengthen education and outreach capabilities through hazard mitigation integration. This can be done by building on current efforts like the city website, social media pages, and through CERT and the emergency preparedness committee. Focusing on these efforts, the City will continue increasing awareness and help the community become better prepared for future natural hazards.

3.4.6 Community Classifications

Table 3-8. Community Classifications

	Participating?	Classification or Number	Date Classified
FIPS Code	Yes	06-037-2929	N/A
UEI#	Yes	JNBQJPKHKMF9	N/A
Community Rating System	No	-	-
Building Code Effectiveness Grading Schedule (BCEGS)	Yes	59573	2022
Public Protection (ISO for Fire)	Yes	2	2017
Storm Ready	No	N/A	N/A
Tsunami Ready	No	N/A	N/A
Firewise	No	N/A	N/A

3.4.7 Adaptive Capacity for Climate Change

Table 3-9. Adaptive Capacity for Climate Change

Criterion		Jurisdiction Rating[a]
Technical Capacity		
Jurisdiction-level understanding of potential climate change impacts		High
Comment:	*The City has a good understanding of potential climate change impacts and integrates the projections and risks into planning and decision-making, where applicable.*	
Jurisdiction-level monitoring of climate change impacts		Medium
Comment:	*The City does some monitoring of climate change impacts; however, expanded additional data collection and coordination can help strengthen monitoring and understanding.*	
Technical resources to assess proposed strategies for feasibility and externalities		Low
Comment:	*We'd need to identify and contract out, dependent on budget, time, and other conditions.*	
Jurisdiction-level capacity for development of greenhouse gas emissions inventory		Low
Comment:	*Low, since it is not currently a priority.*	
Capital planning and land use decisions informed by potential climate impacts		High
Comment:	*Potential climate change impacts are integrated into planning, land use decisions, and capital improvement projects which helps make the City more resilient and ensures projects reduce risk and/or provide protection against future hazards.*	
Participation in regional groups addressing climate risks		Low
Comment:	-	
Implementation Capacity		
Clear authority/mandate to consider climate change impacts during public decision-making processes		Low
Comment:	-	
Identified strategies for greenhouse gas mitigation efforts		Low
Comment:	-	
Identified strategies for adaptation to impacts		Medium
Comment:	*As part of this HMP update, the City identified strategies for adapting to potential impacts from natural hazards, while considering climate change projections in developing the strategies.*	
Champions for climate action in local government departments		Low
Comment:	-	
Political support for implementing climate change adaptation strategies		Medium
Comment:	*There is some political support for implementing climate change strategies.*	

Criterion		Jurisdiction Rating[a]
Financial resources devoted to climate change adaptation		Low
Comment:	-	
Local authority over sectors likely to be negative impacted		High
Comment:	*The City has the authority over sectors likely to be impacted by climate change, which helps the City put plans and actions in place to help reduce those impacts.*	
Public Capacity		
Residents' knowledge of and understanding of climate risk		High
Comment:	*Community awareness of climate risks is generally strong, supported by visible local impacts and public information efforts.*	
Residents' support of adaptation efforts		Medium
Comment:	*There is support from residents; however, it can vary depending on the issue, costs, or visible benefits. The City will continue expanding public outreach efforts to help inform residents of adaptation efforts.*	
Residents' capacity to adapt to climate impacts		Medium
Comment:	*Residents have some ability to prepare for and adapt to climate change; however, funding, resources, and access to information may limit adaptive capacity across the City.*	
Local economy current capacity to adapt to climate impacts		Medium
Comment:	*Some local businesses have the ability to adapt to climate change; however, funding, resources, and access to information may limit adaptive capacity across the City.*	
Local ecosystems capacity to adapt to climate impacts		Medium
Comment:	*The City's ecosystems and natural environment can adapt to climate impacts; however, there are certain habitats that remain vulnerable or have limited ability to adjust without protection or restoration efforts.*	

a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement; Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

3.5 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

Table 3-10. National Flood Insurance Program Compliance

Criterion	Response
Flood Risk Summary	
Please describe areas of the jurisdiction prone to flooding, specifically those outside of the mapped floodplain.	None identified outside of mapped floodplain
Do FEMA flood maps adequately address flood risk in the jurisdiction?	Yes
How many structures in the jurisdictions Special Flood Hazard Area (SFHA) have been determined to be substantially damaged from any hazard event?	0/3
Additional comments on flood risk	-
Staff Resources	
Provide an explanation of the jurisdiction's NFIP administration services (e.g. permit review, GIS, education/outreach, inspections, engineering capability)	RPV Municipal Code: Chapter 15.42 "Floodplain Management" establishes land use regulations for properties situated in floodprone areas.
What local department is responsible for floodplain management?	Public Works
Who is your floodplain administrator? (department/position)	Public Works Director

Criterion	Response
Are any staff certified floodplain managers (CFMs)?	No
Does your floodplain management staff need any assistance or training to support its floodplain management program?	Yes
If yes, what type of assistance/training is needed?	Basic overview/refresher
Insurance Summary [a]	
How many flood insurance policies are in force in your jurisdiction?	53
What is the insurance in force?	$16,968,000
What is the premium in force?	$35,458
How many total loss claims have been filed in your jurisdiction?	Unknown
What were the total payments for losses?	$261,095
Does the jurisdiction maintain a list of properties that have been damaged by flooding?	No
Does the jurisdiction maintain a list of property owners interested in flood mitigation?	No
How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	Unknown
How many properties have been mitigated (elevation or acquisition)?	Zero
Compliance History	
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, state the violations.	Zero/None known
Does your jurisdiction have a Substantial Damage Response Plan?	No
Summarize the jurisdiction's Substantial Damage determination procedures.	N/A
Summarize the jurisdiction's Substantial Improvement procedures.	N/A
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	December 15, 2020
Are any RiskMAP projects currently underway in your jurisdiction?	No
Regulation	
What is the date that your flood damage prevention ordinance was last amended?	4/21/21
Does the jurisdiction's administration of the floodplain exceed NFIP requirements? (freeboard, mapping, etc.)	No
Community Rating System	
Does your jurisdiction participate in the Community Rating System (CRS)?	No
If yes, is your jurisdiction interested in improving its CRS Classification?	N/A

a. According to FEMA statistics as of (August 30, 2025)

3.6 INTEGRATION

For hazard mitigation planning, "integration" means that hazard mitigation information is used in other relevant planning mechanisms, such as capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in

place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

3.6.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- **RPV General Plan –** Outlines long-term direction for development and policy in a community. There are opportunities to coordinate local hazard mitigation actions with policies governed by the General Plan. Next update to General Plan Safety Element should include integration with the Hazard Mitigation Plan. Also, General Plan is an excellent resource to assist with implementing many of the mitigation action items identified in the Hazard Mitigation Plan. Last updated 2018 – currently undergoing an update.
- **RPV Emergency Operations Plan** - Reference and guidebook for operations during a major emergency impacting Rancho Palos Verdes. The Plan includes a discussion on a wide range of hazards, organization and staffing of the Emergency Operations Center, and connectivity with field responders and external agencies. The Emergency Operations Plan is an excellent source of hazard information for the Hazard Mitigation Plan. Following an activation of the EOP/EOC it is routine to prepare an After-Action Plan. The AAR should include documentation of changes in hazards and vulnerability. That information could be very useful during future HMP updates. Last updated 2018 – currently undergoing an update.
- **RPV Continuity of Operations Plan** – Provides information and procedures on how the City of Rancho Palos Verdes can continue government operations and services during emergencies. Last updated 2018 – currently undergoing an update.
- **RPV Capital Improvement Program -** Plans activities for City-owned facilities and infrastructure for the next five years. Mitigation actions may involve construction of new or upgraded facilities and infrastructure.
- **RPV Master Plan of Drainage -** Provides an analysis of existing storm drain facilities located within the City of Rancho Palos Verdes. The goal of the MPD is to provide comprehensive long-range planning for the implementation and development of drainage facility improvements, determine the cost of implementing such facilities, discuss funding priorities, and provide an implementation schedule of the improvements within the City.
- **Enhanced Palos Verdes Peninsula Watershed Management Plan -** Collaborative effort among jurisdictions of the Palos Verdes Peninsula to comply with federal and state water quality regulations.
- **RPV Natural Communities Conservation Plan/Habitat Conservation Plan -** Provide for regional protection of sensitive species and their habitats, while streamlining appropriate economic activity.
- **South Bay Cities Council of Governments Climate Action Plan 2017 -** Outlines strategies for reducing greenhouse gas (GHG) emissions in the South Bay region of Los Angeles County.
- **RPV Emission Reduction Action Plan 2017 -** Comprehensive plan to reduce greenhouse gas (GHG) emissions within the community.

- **RPV Parks Master Plan Update 2015 -** Comprehensive strategy for addressing the future planning of the City's parks, recreation, and open space resources.

3.6.2 Opportunities for Future Integration

The capability assessment in this annex indicates opportunities to integrate this mitigation plan with other jurisdictional planning/regulatory capabilities. Capabilities were identified as integration opportunities if they can support or enhance the actions identified in this plan or be supported or enhanced by components of this plan. The capability assessment identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- **Regional Mass Care and Evacuation Plan** (see action RPV-29 in Table 3-14) – This plan will be developed by the four Peninsula cities in 2026 to provide the procedures for coordination and response during emergencies requiring mass care and sheltering and/or evacuation operations
- **Regional Utility Disruption Plan** (see action RPV-91 in Table 3-14) – This plan will be developed by the four Peninsula cities to expand on the current utility white paper and provide coordination and response procedures for significant utility disruptions.
- **RPV EOP Hazard Specific Annexes** (see actions RPV-9, 24, 49, 50, 51, 61, 80, 85, and 87 in Table 3-14) – RPV will develop several hazard specific annexes to its Emergency Operations Plan, for all hazards the City is at risk of experiencing, along with the following annexes:
  - **Debris Management Annex –** This plan will provide the procedures and roles for managing debris after an emergency.
  - **Recovery Annex** This plan will provide the procedures and roles for repopulation, reconstruction, and recovery after a disaster
- **Communication and Warning Plan –** This plan will provide the procedures and roles for managing public information and alerts during emergencies.
- **RPV Emergency Exercise and Training Schedule** – This program will be developed in 2026 to ensure RPV City staff who will play a role in the Emergency Operations Center are properly trained and familiar with City emergency operations, procedures, and plans.

3.7 RISK ASSESSMENT

3.7.1 Jurisdiction-Specific Natural Hazard Event History

Table 3-11 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

Table 3-11. Past Natural Hazard Events

Type of Event	Declaration Title	State or Federal Disaster #	Declaration Date	Damage Assessment
Fire	Woolsey Fire	FM-5280-CA	November 9, 2018	N/A
Fire	Wildfires	EM-3409-CA	November 9, 2018	N/A

Type of Event	Declaration Title	State or Federal Disaster #	Declaration Date	Damage Assessment
Fire	Wildfires	DR-4407-CA	November 12, 2018	N/A
Fire	Saddleridge Fire	FM-5293-CA	October 11, 2019	N/A
Fire	Tick Fire	FM-5296-CA	October 24, 2019	N/A
Fire	Getty Fire	FM-5297-CA	October 28, 2019	N/A
Biological	Covid-19 Pandemic	EM-3428-CA DR-4482-CA CA20-01	March 13, 2020 March 22, 2020 March 4, 2020	$712,793.00
Fire	Bobcat Fire	FM-5374-CA	September 13, 2020	N/A
Fire	Wildfires	DR-4569-CA	October 16, 2020	N/A
Flood	Severe Winter Storms, Flooding, and Mudslides	EM-3591-CA	January 9, 2023	N/A
Flood	Severe Winter Storms, Flooding, Landslides, and Mudslides	DR-4683-CA CA23-1	January 14, 2023 January 4, 2023	$349,298.00
Flood	Severe Winter Storms, Flooding, Landslides, and Mudslides	EM-3592-CA CA23-3	March 10, 2023 March 1, 2023	N/A
Severe Storm	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, and Mudslides	DR-4699-CA	April 3, 2023	$3,415,145.00
Severe Storm	Severe Winter Storms, Tornadoes, Flooding, Landslides, and Mudslides	DR-4769-CA	April 13, 2024	$38,406,512.00
Fire	Bridge Fire	FM-5537-CA	September 11, 2024	N/A
Fire	Franklin Fire	FM-5548-CA	December 10, 2024	N/A
Fire	Palisades Fire	FM-5549-CA	January 7, 2025	N/A
Fire	Hurst Fire	FM-5551-CA	January 8, 2025	N/A
Fire	Eaton Fire	FM-5550-CA	January 8, 2025	N/A
Fire	Wildfires And Straight-Line Winds	DR-4856-CA	January 8, 2025	$150,000.00
Fire	Canyon Fire	FM-5605-CA	August 8, 2025	N/A

3.7.2 Hazard Ranking

The prioritization and categorization of identified hazards for the City of Rancho Palos Verdes is based principally on the Priority Risk Index (PRI), a tool used to measure the degree of risk for identified hazards in a particular planning area. The PRI was used to assist the City in identifying hazards that pose the most significant threat. Table 3-12 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property and the economy.

Table 3-12. Hazard Risk Ranking Summary

Hazard	Weighted Risk Factors					PRI	Risk Ranking
	Probability	Impact	Spatial Extent	Warning Time	Climate Change		
Drought	1.2	0.3	0.8	0.1	0.4	2.8	Medium
Earthquake	0.9	0.9	0.8	0.4	0.2	3.2	High
Flood	0.9	0.3	0.2	0.1	0.4	1.9	Low
Landslide	1.2	0.6	0.6	0.4	0.4	3.2	High
Sea Level Rise	0.9	0.3	0.2	0.1	0.4	1.9	Low
Severe Weather - Heat Wave	0.9	0.6	0.8	0.1	0.4	2.8	Medium
Severe Weather - Strong Wind	1.2	0.6	0.8	0.1	0.4	3.1	High
Tsunami	0.6	0.3	0.4	0.1	0.2	1.6	Low
Wildfire	0.9	0.9	0.6	0.4	0.4	3.2	High

Note: PRI Value 1 to 1.9 = Low Hazard Risk Ranking
PRI Value 2.0 to 2.9 = Medium Hazard Risk Ranking
PRI Value 3.0 to 4.0 = High Hazard Risk Ranking

3.7.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. This section provides information on a few key vulnerabilities for this jurisdiction. Available jurisdiction-specific risk maps of the hazards are provided at the end of this annex.

Repetitive Loss Properties

Repetitive loss records are as follows:

- Number of FEMA-identified Repetitive-Loss Properties: 0
- Number of FEMA-identified Severe-Repetitive-Loss Properties: 0
- Number of Repetitive-Loss Properties or Severe-Repetitive-Loss Properties that have been mitigated: 0

Other Noted Vulnerabilities

The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- Landslide – refer to the following actions in Table 3-14 (RPV-38, 48, 75, 76, 78, and 80)
  - Over 13,000 buildings are exposed to deep-seated landslides
  - Portuguese Bend Landslide area
- Wildfire – Approximately 15% of the City's population is living within very high wildfire hazard areas – refer to the following actions in Table 3-14 (RPV-34, 51, 92, 93, 97, 100, 101, 102, and 103)
- Vegetation management related to power outages and wildfire fuel - refer to the following action in Table 3-14 (RPV-102)
- Stormwater and drainage systems - refer to the following actions in Table 3-14 (RPV-68 through 73)

- Lack of backup power in the City
- Limited access and evacuation routes - refer to the following actions in Table 3-14 (RPV-26 and 30)

Mitigation actions addressing these issues were prioritized for consideration in the action plan presented in this annex.

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3.8 STATUS OF PREVIOUS PLAN MITIGATION ACTIONS

Table 3-13 summarizes the mitigation actions that were recommended in the prior plan and their implementation status at the time this update was prepared.

Table 3-13. Status of Prior Plan Actions

Action from Prior Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
MH-1 Integrate the goals and action items from the Plan into existing regulatory documents and programs, where appropriate. • The Joint Hazard Mitigation Plan and its contents are discussed in the 2018 update to the Safety Element of the City's General Plan.	Completed/Ongoing	-	Yes	RPV-002
MH-2 Identify and pursue funding opportunities to develop and implement local mitigation activities. • Successful California Water Resources Storm Water / Flood Management Grant. • Tiger 4 Federal Grant (San Ramon Stabilization) • FEMA HMGP	Completed/Ongoing	-	Yes	RPV-002
MH-3 HMS will continue to develop a sustainable process for implementing, monitoring, and evaluating regional mitigation activities. • The HMS will meet semi-annually to monitor and evaluate regional mitigation activities.	Completed/Ongoing	-	Yes	RPV-002
MH-4 Identify, improve, and sustain collaborative programs focusing on, public and private sector organizations, and individuals to avoid activity that increases risk to hazards.	Completed/Ongoing	-	Yes	RPV-002
MH-5 Develop inventories of critical facilities and infrastructure. • Assess deterioration, deficiencies, and vulnerability to the identified hazards and prioritize mitigation projects. • Planning Division is working with the South Bay Cities Council of Governments on Adaptation Planning document, which identifies critical facilities throughout the City.	In Progress	-	Yes	RPV-041
MH-6 Strengthen emergency management program with maintained plans, training, and exercises.	Emergency Operations Plan was updated in 2019, including EOC Section training. The City holds at least one annual emergency preparedness exercise activating the EOC at its highest level and utilizing the majority of staff in EOC positions.	-	Yes	RPV-009

Action from Prior Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
MH-7 Use updated technical knowledge and tools to inform the public of hazard potential. • Provide a separate public GIS web service that can be linked from the City's website to show hazard maps.	In Progress through Genasys	-	Yes	PRV-059
MH-8 Maintain hazard warning systems to ensure effectiveness and efficiency and increase coordination between local jurisdictions and emergency service providers. • Alert LA, Los Angeles County Regional Interoperability Community System • Breaking News System • Twitter Network	Completed/Ongoing	-	Yes	RPV-040
MH-10 Prepare a Pre-Disaster Recovery Plan including development of priorities for restoration of the community's infrastructure and vital public facilities following a disaster. • Establish restoration implementation procedures for vital facilities and establish decision making tools framework in the event of multiple site losses.	Ongoing	-	Yes	RPV-038 RPV-043 RPV-044
MH-11 Develop policy for government to determine what reconstruction criteria should be applied to structures damaged during a disaster. • Develop additional zoning, building and reconstruction policies and requirements for post-disaster situations.	• Adopted Chapter 34 and new State Existing Buildings Code • Adopted California Building Code in 2016	Ongoing Capability	-	-
MH-12 Develop and implement programs to coordinate maintenance and mitigation activities to reduce risk to public infrastructure. • Continue Landslide Road Maintenance Program. • Continue CIP program. • Continue Pavement Management Program • Continue Fuel Modification Program.	Completed/Ongoing	-	Yes	RPV-102
MH-13 Place information on website and cable access channels to include information specific to residents, building code information, and educational information on damage prevention.	Completed task now maintaining	Removed – project has been completed.	-	-
MH-14 Incorporate the building inventory into the Mitigation Plan update	• Completed during 2014 update to the Mitigation Plan. • Future changes to the building inventory will be incorporated into future updates to the Mitigation Plan.	-	Yes	RPV-045

Action from Prior Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
MH-15 Educate City staff on federal cost-share and grant programs, and other related federal programs so the full array of assistance available is understood. • Register appropriate staff for courses in the federal Public Assistance Reimbursement Process. • Develop an internal process for tracking and preparing reimbursement requests following a disaster.	Completed/Ongoing	-	Yes	RPV-021
MH-16 Developed a Climate Action Plan.	Completed through the South Bay Cities Council of Governments in 2017.	Removed – project has been completed.	-	-
MH-17 Installation of an Emergency Communications Center (ECC) trailer and communications antenna on Rancho Palos Verdes City Hall Campus.	City staff worked with outside vendors and members of the Palos Verdes Alert Network to install project in 2007.	Removed – project has been completed.	-	-
MH-18 Implementation of Emergency Preparedness Committee "Beauty and the Beast" emergency preparedness presentation for community education.	Initiated 2010-2011	Removed – project has been completed.	-	-
MH-19 Emergency Preparedness Committee emergency preparedness public service announcements program.	Program initiated in the FY 2010-11.	Removed – project has been completed.	-	-
MH-20 Implemented 3-day Emergency Personal Preparedness Kits City Council prize drawing program.	Program began in FY 2011-12. Ongoing	-	Yes	RPV-017
MH-21 Maintain Disaster Service Volunteer Program.	Implemented program in 2013. Plans to expand	-	Yes	RPV-024
MH-22 Conduct functional emergency preparedness exercise with a theme of mitigation or recovery. • At least one functional staff emergency preparedness exercise is held by the City each year as recommended by Cal OES and FEMA in order to received disaster reimbursement funds.	Ongoing – but remove the theme of mitigation or recovery	-	Yes	RPV-009
MH-23 Implemented emergency cache supply system.	City staff and emergency preparedness consultant completed program and training of staff in 2011. Plans to restock.	-	Yes	RPV-037
MH-24 Explore possibility of purchasing a mobile EOC in case primary and secondary EOC's are rendered out of commission and/or another Peninsula City needs assistance.	In Progress	-	Yes	RPV-013
MH-25 Secure funding for seismic retrofit or reconstruction of the City Hall Campus with independent EOC.	Civic Center Master Plan approved for independent EOC. The City is seeking funding for this project. RPV needs to build that facility in four years on the Civic Center	-	Yes	RPV-013

Action from Prior Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
	property designated for emergency management or risks the federal government repurposing that property.			
MH-26 Secure funding for utility vehicles and earthmoving equipment - 4-wheel drive vehicles, ATV's and/or "Gator" utility vehicles.	Not yet started	Remove – no longer feasible	-	-
MH-27 Secure funding for an emergency management consultant to provide Memorandums of Understanding (MOUs) between the City and vendors for food, water, temporary housing, and heavy equipment. • Cal OES and FEMA recommend cities be prepared by having MOUs in place first available service, protection from price gouging practices, and to simplify business transactions.	MOUs in place with ARC and Salvation Army. Signed in 2024, conducted by City staff, not consultant.	-	Yes	RPV-055
MH-28 Secure funding for consultant to update Joint Hazard Mitigation Plan. • Joint Hazard Mitigation Plans need to be updated every five years and a consultant with expertise in the subject matter is highly recommended.	Completed	Removed – project has been completed.	-	-
MH-29 Secure funding for EOC Map Plotter. • Following an emergency, the ability to create and post maps would greatly enhance the City's ability to mitigate against additional damages.	Completed. The City has two plotters, with CDD and Public Works, that can easily be used for EOC operations.	Removed – project has been completed.	-	-
MH-30 The City's EOC could use more equipment including computers and telecommunication upgrades.	In Progress	-	Yes	RPV-013
MH-31 Construction to stabilize San Ramon Canyon and roadways - Divert runoff to minimize Tarapaca landslide movement, mudslides, and flooding on PVDS/25th Street.	Completed	Removed – project has been completed.		
MH-32 Emergency Generator Upgrades.	• Installation of emergency generators and propane fuel storage at City Hall (7-day supply), PVIC and Hesse Park (3-day fuel supply, each). • Completed in 2011. • Consideration of additional generator purchases, including a stock of generator for sewer pump stations in Abalone Cove.	-	Yes	RPV-043

Action from Prior Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
MH-33 Hazardous Waste Roundup - Hold free collection events for public drop off of hazardous waste.	Completed/ongoing	-	Yes	RPV-074
MH-34 Brush and Landscape Materials Collection. • Hold free collection events for public drop off of brush and vegetation waste.	Completed/ongoing	-	Yes	RPV-100
MH-35 Heating System dedicated circuit at City Hall.	• Installed dedicated electrical circuit for space heaters to prevent overloading. • Completed in 2010	Removed – project has been completed.	-	-
MH-36 Urban Forest Maintenance • Continue regular trimming of urban street trees.	Completed/ongoing	Ongoing Capability	-	-
MH-37 Update GIS system to assist staff and first responders with preparing, planning, response, and recovery operations.	Completed manually mapped incidents reported during EOC drill to assist staff in decision making.	Removed – project has been completed.	-	-
MH-38 Maintain an off-site backup computer server. • Backup server available in the event the main system is deemed inoperable.	Ongoing. Just signed a contract to provide cloud disaster recovery services, and the implementation project is currently ongoing. The expected completion time is 3-4 months, at which point we should have a fully functional cloud infrastructure ready to be activated in case of a disaster affecting the City Hall.	-	Yes	RPV-023
MH-39 Establish Preserve Access Protocol to (1) identify and (2) establish maintenance criteria for vehicular access trails in the Preserve to serve public safety personnel and efforts. Will also establish protocols for entering/working in Preserve during hazardous weather (high fire danger, dangerous swell, etc.). • This will be part of the Preserve Access Protocol required 90 days after NCCP/HCP approval. • Expansion of fire roads	Ongoing. The Natural Communities Conservation Plan/Habitat Conservation Plan (NCCP/HCP) requires us to put together a Preserve Access Protocol. The City does not currently have a Preserve access protocol. The City, in coordination with PVPLC, USFWS, and CDFW can define maintenance criteria for fire roads, but has not yet. Periodically, Public Works gets a request from the Fire Department to maintain Fire Roads to make them wide enough for Fire Dept. access. The last request was in	-	Yes	RPV-048

Action from Prior Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
	2019, along PVDS near the southernmost portion of Ishibashi Trail before the reactivation of the slide area. City had discussions with LACFD and LASD on fire road expansion in 2024. Preserve closures are also noted in the fire weather protocol developed in 2025.			
MH-40 Identify grant funding sources for public right of ways impacted by the Preserve Access Protocol.	Paused. Not yet started. No protocol currently. VPLC has received grant funding for trail maintenance, but not to get the trail to meet any sort of fire road maintenance standards. (Fire roads are all dirt trails, with the exception of Beach School Trail, which is partially paved).	-	Yes	RPV-060
MH-41 Additional equipment to communicate with residents both in events with and without power.	In progress – exploring the development of an emergency radio station	-	Yes	RPV-006
EQ-1 Integrate new earthquake hazard mapping data and improve technical analysis of earthquake hazards using GIS technology. • Incorporate Fault Lines layer from USGS for EOC 2011; Integrate GIS files produced by HAZUS analysis into City GIS system for future implementation.	In progress	-	Yes	RPV-059
EQ-2 Identify funding sources for structural and nonstructural retrofitting of structures that are identified as seismically vulnerable for private property owners and businesses. • Started in 2008 with fee reductions and retrofit standard plans for residential structures. • Seek grant funding	In progress	-	Yes	RPV-060
EQ-3 Encourage seismic strength evaluations of critical facilities and public infrastructure in the City to meet current seismic standards. • Started 2010: Completed for Administration, CDD and RPV TV buildings	Completed/ongoing	-	Yes	RPV-058
EQ-4 Encourage reduction of nonstructural and structural earthquake hazards in homes, businesses, and government offices through public awareness.	Completed/ongoing	-	Yes	RPV-035

Action from Prior Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
EQ-5 Hazard mitigation of seismic concerns, maintenance, and code related deficiencies at Ladera Linda. • Building assessment conducted • Feasibility Evaluation began in 2011 • Facility built in accordance with relevant building codes at the time permits were issued, which includes conforming to zone-specific seismic design criteria.	Completed	Removed – project has been completed.	-	-
EQ-6 Participate in the OES SAP evaluator program.	Building and Safety inspection staff members are now certified.	-	Yes	RPV-061
EQ-7 Ceiling Tile Seismic Retrofit in City Hall, PVIC and Hesse Park.	All three facilities completed in 2012.	Removed – project has been completed.	-	-
EQ-8 Funding for a seismically sound EOC.	In progress	-	Yes	RPV-013
WF-1 Encourage development and dissemination of information relating to the fire hazard to help educate and assist builders and homeowners in being engaged in wildfire mitigation activities, and to help guide emergency services during response.	Materials developed and being distributed on an ongoing basis.	-	Yes	RPV-101
WF-2 Increase communication, coordination and collaboration between wildland/urban interface property owners, local planners and fire prevention crews and officials to address risks, existing mitigation measures, and federal assistance programs. • City and LACoFD work together to manage, communicate, coordinate, and mitigate wildland interface projects within City boundaries.	Completed/ongoing	-	Yes	RPV-107
WF-3 Encourage implementation of wildfire mitigation activities through enforcement in a manner consistent with the goals of promoting sustainable ecological management and community stability. • LACoFD and the City's Planning Department continue to implement wildfire mitigation activities through community education programs and written policy.	Completed/ongoing	-	Yes	RPV-101
WF-4 Conduct a Home Hardening Expo.	Conducted in 2009 by LACoFD. Businesses attended and provided information on products for retrofitting homes to protect them from wildfire (hardened homes). Conducting a home hardening expo in September 2025.	Ongoing Capability	No	-
WF-5 Establish and implement Weed Abatement Enforcement Program. • Weed abatement notices were mailed to residents annually with information as to what they need to comply with.	Completed/ongoing	-	Yes	RPV-106

Action from Prior Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
• Properties inspected annually.				
WF-6 Defensible home and fuel modification model project that shows building changes residents can implement.	Shows landscape examples of what can be done to lower wildfire risk (defensible space). EPC is working on this project.	-	Yes	RPV-096
WF-7 Burma Road Maintenance Agreement • Partner with Edison, Cal Water, and LACoFD to maintain Burma Road by preserving for emergency access. • Expansion of fire roads.	Ongoing. Worked with Bellfree to install water control features on Fire Roads which are extremely important to keep them drivable. Currently working with Bellfree for more water control features on fire roads before the end of 2025.	-	Yes	RPV-099
WF-8 Fuel Modification Program • Remove brush and debris within defensible space of development using hand crews and goats. • Annual maintenance program.	Completed/ongoing	-	Yes	RPV-102
WF-9 GIS mapping of fuel modification defensible space areas - add new or updated Fuel Modification areas to layer on City GIS system.	Completed/ongoing	-	Yes	RPV-102
WF-10 Continue to contract for heat camera monitoring (Catalina). Completed installation of 4 wildfire smoke detection cameras.	Completed/ongoing.	Removed – project has been completed.	-	-
WF-11 Seek additional funding for undergrounding utilities outside of the landslide affected area.	Paused.	-	Yes	RPV-089
EM-1 Improve knowledge of landslide hazard areas and understanding of vulnerability and risk to life and property in hazard-prone areas. • Established two landslide abatement districts (Abalone Cove and Klondike Canyon). • Published related information on website.	Completed	Removed – project has been completed.	-	-
EM-2 Address construction and subdivision design within steep slopes to reduce the potential adverse impacts from development. • Public awareness of landslides area is provided regularly. • Geology/soils report required for review and approval by City Geologist prior to application completeness. • Code prohibits most activity over extreme slope areas.	Completed	-	Yes	RPV-064
EM-3 Regulate activities and provide public outreach in identified potential and historical landslide areas. • Information regarding location of landslide areas are provided on the City's website. All code/policy changes/ordinances are available online.	Completed	Removed – project has been completed	-	-

Action from Prior Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
• Building and Safety regulates all activities after approval through Planning Department and City Geologist reviews.				
EM-4 Develop public information programs regarding proper maintenance of steep slopes and surface drainage structures located on private property. • Vegetation management and flood control brochures made available.	Completed/ongoing	-	Yes	RPV-070
EM-5 PVDS Shoulder Abutment	• 1,200-foot shoulder rebuild along south side of PVDS in landslide area to mitigate road movement -Completed 2010. • Reestablish drainage through area, completed 2011. • Ongoing maintenance.	Removed – project has been completed	-	-
EM-6 Install/maintain dewatering wells in landslide areas to mitigate land movement.	Annually or as funds are available for these agencies.	-	Yes	RPV-076
EM-7 Identify funding sources for sewer disruption and water quality issues resulting from landslides.	Completed/ongoing	-	Yes	RPV-038
TS-1 Tsunami Ready: Pursue status as a Tsunami Ready through the National Weather Service.	-	-	Yes	RPV-087
TS-2 Increase Tsunami awareness: Add tsunami awareness information to City's website. Add link to State of California's Tsunami Awareness resources.	Completed	Removed – project has been completed	-	-
HM-1 Continue to participate in household hazardous waste events and programs. • Continue to publicize collection sites and periodic events for hazardous materials. • Continue to participate in stormwater pollution programs (i.e. Clean Bay program).	Completed/ongoing	-	Yes	RPV-074
HM-2 Continue to monitor lead contamination site at the Point Vincente Interpretive Center. • Performed lead remediation work removing any hot spots, removing 1 foot of soil from the area around the Point Vicente Interpretive Center building and replacing it with clean fill. • Prepared a Lead Contamination Work Plan in 2009, which contains a protocol for potential lead exposure.	Closed. Remediated and closed out. Note: There is a deed restriction recorded over the property that limits grading in certain hot spots to no more than one foot, which serves as the cap. The majority of the hot spot is under the paved parking lot and building addition.	Removed – project has been completed	-	-
HC-1 Cyberterrorism: Mitigation: Additional training for IT Staff especially and potentially regular staff; Additional security measures (security software, cloud, firewalls, etc.).	Ongoing. RPV uses Arctic Wolf's Managed Awareness program which delivers cyber awareness training sessions and quizzes to all	-	Yes	RPV-085

Action from Prior Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
	City employees. IT also occasionally organizes workshops which cover various subjects relevant to cyber security and IT best practices.			
HC-2 Establish trainings in response to active shooter incidents. • The City has shared information with residents about numerous active shooter trainings over the years hosted by the Palos Verdes Estates Police Department and Palos Verdes Peninsula Unified School District. • The City can work with the Los Angeles County Sheriff's Department to develop trainings for RPV residents.	Completed/ongoing	-	Yes	RPV-084
HC-3 Strengthen anti-cyber terrorism efforts to protect computer network, operations, and financial harm • 24/7 cybersecurity monitoring • Multiple levels of data backups • Advanced network and endpoints security features • Ongoing end-user education and testing • Continuous efforts to keep all software and hardware current and in a supportable state • Threat intelligence subscriptions • Cybersecurity incident tabletop exercise • Disaster recovery and business continuity plans	RPV IT's adopted a layered approach to cybersecurity and since 2018 several major initiatives have been completed (the list below includes some of the bigger ones): • An MDR (Managed Detection and Response) solution has been implemented. • Firewalls have been updated to the new generation devices including advanced automated protection and limited access. • A modern comprehensive endpoint security platform has been implemented. • Advanced security features utilizing Microsoft solutions have been introduced to RPV's email and identity platforms (including MFA protected logins and remote access). • A comprehensive multi-layer back strategy is in place including cloud replication and off-site air-gapped storage media.	-	Yes	RPV-085
UR-1 Continue communication, coordination, and collaboration with Southern California Edison for the Public Safety Power Shutoff (PSPS) program	Completed/ongoing	-	Yes	RPV-090

Action from Prior Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
• Ongoing vegetation management, system hardening, and aerial inspections. • Distributing public information to educate residents about the shutoffs and where they can find real-time information from SCE.				
UR-2 Development of white paper including all utility companies. • Ongoing education efforts of utility company preparedness plan and customer contact updates. • Collaborate with other Peninsula cities and all utility companies for the development of a white paper.	Completed	Removed – project has been completed.	-	-

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3.9 HAZARD MITIGATION STRATEGY

This section includes the following components of the mitigation strategy for this jurisdiction:

- Hazard Mitigation Action Plan Matrix
- Mitigation Action Prioritization
- Mitigation Action Classification and Natural Hazards Addressed

Table 3-14. Hazard Mitigation Action Plan Matrix

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
RPV-01	Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are in high- or medium-risk hazard areas.	Food, hydration, shelter; Energy; Communications; Transportation	Existing	1, 2	Lead: Public Works Support: City Management	Yes	Very High ($1,000,000 and above)	FEMA HMGP and FEMA FMA, Staff Time, CIP Budget	Long-Term (5 years or more)
RPV-02	Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community.	Safety and Security; Communications; Transportation; and	Both	4	Lead: City Management Support: CDD Planning Division	Yes	Low ($0-$50,000)	Staff Time, General Fund	Short-Term (less than 5 years)
RPV-03	Identify and pursue strategies to increase adaptive capacity to climate change including public outreach and integration into appropriate plans and programs.	Communications; Safety and Security	Both	1, 2, 4	Lead: Planning Division Support: All Departments	Yes	Low ($0-$50,000)	Staff Time, General Fund	Short-Term (less than 5 years)
RPV-04	Actively participate in the plan maintenance protocols outlined in Volume 1 of this Hazard Mitigation Plan.	N/A	N/A	2, 4	Lead: City Management Support: All Departments	Yes	Low ($0-$50,000)	Staff Time, General Fund	Short-Term (less than 5 years)
RPV-05	Develop an emergency radio station Provide A proposal will be provided to City Council with more details regarding the radio station in early 2026, with the goal of installing the radio station, if approved, in May 2026.	Communications; Safety and Security	Both	1 and 2	Lead: City Management	Yes - All	Low (less than $50,000)	Staff Time	Less than 5 years
RPV-06	Distribute NOAA weather radios to City staff and committee members	Communications; Safety and Security	Existing Assets	1 and 2	Lead: City Management	Yes - All	Low (less than $50,000)	Staff Time	Less than 5 years

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
RPV-07	Complete City accessibility improvements including compliant curb ramps and associated improvements at existing sidewalk areas. Three active projects running from 2022-2027.	Health and Medical; Safety and Security	Existing Assets	1 and 4	Lead: Public Works	Yes - Disabled	High ($250,001 - $1 million)	Community Development Block Grant	Less than 5 years
RPV-08	Strengthen the City emergency management program with routine training, and exercises, including • 2-3 annual EOC exercises ranging from drills to full scale exercises • Annual EOC staff training schedule	Safety and Security	Existing Assets	4	Lead: City Management	Yes - All	Low (less than $50,000)	Staff Time and Regular Budget	More than 5 years
RPV-09	Review and update EOP Annex and EOC position binders every three years.	Safety and Security	Existing Assets	1, 3, and 4	Lead: City Management	Yes - Disabled	Low (less than $50,000)	Staff Time	Less than 5 years
RPV-10	Incorporation of DLAN software into City regional emergency coordination	Communications	N/A	3	Lead: City Management	No	Low (less than $50,000)	County provided	Less than 5 years
RPV-11	RICs Incorporation - Incorporation of 23 radios and associated accessories that are compatible with the Los Angeles Regional Interoperable Communications System (LA-RICS) Land Mobile Radio network from Mobile Relay Associates - Raycom (MRA-Raycom) for use by public safety liaisons (to communicate with LASD) and rangers.	Communications	Existing Assets	1 and 4	Lead: City Management and Recs and Parks	No	Low (less than $50,000)	Regular Budget	Less than 5 years
RPV-12	Secure funding for construction of an independent active EOC to strengthen training, response, and regional coordination capabilities. Through the Civic Center Master Plan, the City approved construction of an independent EOC. The City is seeking funding for this project, with a deadline to complete construction of the EOC within four years to prevent potential repurposing of the federal government property.	Safety and Security	New Asset	1, 3, and 4	Lead: Public Works; Support: City Management	No	Very High (more than $1 million)		Less than 5 years

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
RPV-13	Maintain amateur radio capabilities via maintenance of the Emergency Communications Center (ECC) trailer and communications antenna at the Ken Dyda Civic Center; in coordination with PVAN, the volunteer group managing the ECC.	Communications; Safety and Security	Existing Assets	1, 2 and 3	Lead: City Management	Yes - All	Low (less than $50,000)	Staff Time, CIP Fund	Less than 5 years
RPV-14	Community Organization Support – 1. Neighborhood and HOA Presentations 2. CERT coordination with first responder agencies	Safety and Security	Existing Assets	2 and 3	Lead: City Management	Yes - All	Low (less than $50,000)	Staff Time	More than 5 years
RPV-15	Emergency Preparedness Committee Work 1. Monthly EPC Message and Meeting focused on emergency management 2. EPC Booth at events (on average 1-2 per month) sharing emergency management information 3. City Liaison collects EPC advice on all matters pertaining to emergency management	Safety and Security	Existing Assets	2 and 3	Lead: City Management	Yes - All	Low (less than $50,000)	Staff Time	More than 5 years
RPV-16	Monthly raffle providing a 3-day Emergency Personal Preparedness Kits via a City Council prize drawing program for those participating in the recycling program.	Safety and Security	Existing Assets	2 and 5	Lead: City Management	No	Low (less than $50,000)	Staff Time and Regular Budget	Less than 5 years
RPV-17	CWRIS Radio Testing and Utilization for regional communication during emergencies, particularly when cell and data services are impacted. CWRIS radios are lent out by the County. RPV participates in a monthly radio test with the other Area G Cities and DMAC.	Communications	Existing Assets	3	Lead: City Management	No	Low (less than $50,000)	County provided	More than 5 years
RPV-18	Adopt and update municipal codes to manage hazard risk - Municipal codes aligns with State and County Buildings Codes (CA Chapter 34) and will be routinely updated to maintain this alignment.	Safety and Security	N/A	1	Lead: CDD	No	Low (less than $50,000)	Staff Time	Less than 5 years
RPV-19	Integrate the hazard mitigation plan into relevant plans, ordinances and programs, including hazard related ordinances and codes, emergency	Safety and Security	N/A	4	Lead: City Management; Support: CDD	No	Low (less than $50,000)	Staff Time	Less than 5 years

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
	and safety plans, and programs, plans, and regulations that dictate land use decisions in the community								
RPV-20	Educate City staff on federal cost-share and grant programs, and other related federal programs so the full array of assistance available is understood. 1. Register appropriate staff for courses in the federal Public Assistance Reimbursement Process. 2. Maintain the internal process for tracking and preparing reimbursement requests following a disaster.	Safety and Security	N/A	4	Lead: Finance	No	Low (less than $50,000)	Staff Time	Less than 5 years
RPV-21	Update the Continuity of Operations Plan that outlines the plans for continuity of City services during emergencies (aligned with 2026 HMGP).	Safety and Security	Existing Assets	4	Lead: City Management; Support: All Depts	No	Low (less than $50,000)	Staff Time	Less than 5 years
RPV-22	Maintain an off-site backup computer server, in the event the main system is deemed inoperable. Implementation is currently ongoing to create a fully functional cloud infrastructure ready to be activated in case of a disaster affecting the City Hall.	Safety and Security	Existing Assets	4	Lead: City Management	No	Low (less than $50,000)	Staff Time and Regular Budget	Less than 5 years
RPV-23	Maintain and expand the Disaster Service Volunteer Program. - California's state-wide initiative for volunteers to assist during emergencies, offering training and legal protections (worker's comp) for registered volunteers activated by authorized agencies like cities or counties. Implemented program in 2013. Plans to expand.	Safety and Security	Existing Assets	2 and 3	Lead: City Management	No	Low (less than $50,000)	Staff Time	Less than 5 years
RPV-24	Debris Management EOP Annex - This plan will provide the procedures and roles for managing debris after an emergency.	Safety and Security; Hazardous Materials	N/A	1 and 4	Lead: City Management; Support: Public Works	Yes - Disabled	Low (less than $50,000)	Staff Time	Less than 5 years
RPV-25	Equine Evacuation Drill - Collaboration between City, County Sheriff's Department, and County Animal Care and Control to test alternative options	Safety and Security; Transportation	N/A	1 and 3	Lead: City Management; Support: Public Works	Yes - Disabled and Isolated	Low (less than $50,000)	Staff Time	Less than 5 years

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	for evacuating horse trailers near the Greater Portuguese Bend Landslide Area.								
RPV-26	Implementation of sound the alarm events, in coordination with the Red Cross to ensure residents have working fire alarms.	Safety and Security	Existing Assets	1, 2 and 3	Lead: City Management	Yes - Disabled	Low (less than $50,000)	Staff Time	Less than 5 years
RPV-27	Cooling/Warming center protocol - Develop protocol for implementation to develop cooling/warming centers within the City during extreme temperatures; incorporate in climate emergency annex.	Food, Hydration, Shelter; Safety and Security	Existing Assets	1	Lead: City Management; Support: Recs and Parks	Yes - All	Low (less than $50,000)	Staff Time	Less than 5 years
RPV-28	Identify and pursue strategies to increase adaptive capacity to climate change, including, but not limited, to: 1. Implementation and Maintenance of the RPV Emission Reduction Action Plan (2017). 2. Implementation of the South Bay Cities Council of Governments Climate Action Plan 2017.	Safety and Security; Transportation	Both	1, 4 and 5	Lead: CDD; Support: All Depts	No	Low (less than $50,000)	Staff Time	More than 5 years
RPV-29	Development of a Regional Mass Care and Evacuation Plan - This plan will be developed by the four peninsula cities in 2026 to provide the procedures for coordination and response during emergencies needing mass care or evacuation.	Safety and Security; Transportation	Existing Assets	1 and 3	Lead: City Management	Yes - Disabled and Isolated	Moderate ($50,001 - $250,000)	Cal Fire Grant (applied and denied)	Less than 5 years
RPV-30	Enhance current EOC technological capabilities - The City EOC could use more equipment including computers and telecommunication upgrades.	Safety and Security; Communications	Existing Assets	1, 2, 3 and 4	Lead: City Management	No	Low (less than $50,000)	Staff Time and Regular Budget	Less than 5 years
RPV-31	Reduce congestion and strengthen the capacity of egress routes within the City through Right-of-Way Improvements.	Safety and Security; Transportation	Existing Assets	1 and 4	Lead: Public Works	No	Very High (more than $1 million)	Measure M and R; CIP Funds; Proposition C; CDBG; ARPA; Gas Tax	More than 5 years
RPV-32	Annual Prepared Peninsula Expo - Expo providing emergency preparedness information to Palos Verdes Peninsula residents. Held each October.	Safety and Security	Existing Assets	2	Lead: City Management	Yes - All	Low (less than $50,000)	Staff Time and Regular Budget	More than 5 years
RPV-33	Equine Readiness Annual Event – Collaboration between the four Palos	Safety and Security	Both	2	Lead: City Management	Yes - Limited Access	Low (less than $50,000)	Staff Time	More than 5 years

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	Verdes Peninsula Cities to provide an equine readiness educational event for all peninsula residents. It started 2025.								
RPV-34	Encourage residents to engage in mitigation projects – 1. Encourage reduction of nonstructural and structural earthquake hazards in homes, businesses, and government offices through public awareness. 2. Conduct a Wildfire Resource Fair annually, in partnership with local community organizations) that provides booths, demonstrations, and/or presentations on wildfire preparedness, mitigation, and response.	Safety and Security	Existing Assets	1 and 2	Lead: City Management; Support: Public Works	Yes - All	Low (less than $50,000)	Staff Time	More than 5 years
RPV-35	Development of educational videos - Routine development and distribution of emergency preparedness, public safety and hazard mitigation educational videos for the public.	Safety and Security	Existing Assets	2	Lead: City Management	Yes - Seniors and Disabled	Low (less than $50,000)	Staff Time	Less than 5 years
RPV-36	Update City Emergency Supply Cache - The City has three trailers with emergency supplies for the City needing inventory and updates.	Food, Hydration, Shelter; Safety and Security	Existing Assets	3	Lead: City Management	No	Moderate ($50,001 - $250,000)	Staff Time and Regular Budget	Less than 5 years
RPV-37	Reduce risk to public infrastructure. - 1. Develop and implement programs to coordinate maintenance and mitigation activities to reduce risk to public infrastructure.	Safety and Security	Existing Assets	1	Lead: Public Works	No	Moderate ($50,001 - $250,000)	Staff Time; CIP Funds	More than 5 years
RPV-38	Inform the public of emergency management updates and education information; including hazard mitigation information and programs - Updates provided regularly and as needed via 1. Listserv 2. RPVtv 3. EPC 4. MyRPV App 5. Rpvca.gov 6. Pvpready.gov	Safety and Security	Existing Assets	2	Lead: City Management	No	Moderate ($50,001 - $250,000)	Staff Time; Regular Budget	More than 5 years

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	7. RPV Social Media (X, IG, FB, ND) 8. Seasonal Newsletter								
RPV-39	Inform the public of potential and current hazards using updated technical knowledge and tools – 1. Pre-load key emergency facilities onto the Genasys map to help share emergency information with the public during an active disaster. 2. Maintain PVP Ready Site Hosting the Genasys Map and other emergency information. 3. Maintain and Utilize Alert South Bay for public alerts and warning.	Safety and Security	Both	2	Lead: City Management	No	Moderate ($50,001 - $250,000)	Staff Time; County funding	More than 5 years
RPV-40	Routine Hazard Mitigation Assessment - Assess deterioration, deficiencies, and vulnerability to the identified hazards and prioritize mitigation projects.	Safety and Security	Both	4	Lead: City Management; Support: Public Works	No	Moderate ($50,001 - $250,000)	FEMA HMGP	More than 5 years
RPV-41	Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are in high- or medium-risk hazard areas.	Safety and Security	Both	1 and 4	Lead: Public Works; Support: City Management	No	High ($250,001 - $1 million)	FEMA HMGP	More than 5 years
RPV-42	Ensure City facilities are ready to be used in emergencies, by conducting: 1. EOC Maintenance annually (including generator). 2. Shelter Site Survey for PVIC, Hesse Park, and Ladera Linda every three years (last complete 2024). 3. Exploration of generators for additional City facilities and infrastructure. 4. Maintenance of emergency generators and propane fuel storage at City Hall , PVIC and Hesse Park.	Safety and Security	Both	3 and 4	Lead: City Management; Support: Public Works; Recs and Park	No	Low (less than $50,000)	Staff Time and Regular Budget	More than 5 years

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RPV-43	Identify and strengthen critical facilities and infrastructure in the City 1. Work with South Bay Cities Council of Governments on Adaptation Planning documents to identify critical facilities throughout the City. 2. Conduct an analysis of building resilience to earthquakes. 3. Maintain an up-to-date GIS map with City vulnerabilities and emergency response assets for City Staff use throughout the disaster cycle. 4. Work with communication providers to strengthen cell service in the City and explore options for reducing the impact of power outages on communication capabilities. 5. Explore back up power options for traffic lights to maintain functionality during power outages.	Safety and Security	Both	1	Lead: CDD and Public Works; Support: City Management	No	Low (less than $50,000)	CIP Funds	Less than 5 years
RPV-44	Building Inventory incorporation - Incorporate future changes to building inventory into Mitigation Plan updates.	Safety and Security	Existing Assets	4	Lead: City Management; Support: CDD	No	Low (less than $50,000)	Staff Time	Less than 5 years
RPV-45	General Plan Safety Element 2026 Update - City general plan section providing an overview of safety policies and hazards. Aligned with the 2026 HMGP.	Safety and Security	Both	1, 2 and 4	Lead: CDD; Support: City Management	No	Moderate ($50,001 - $250,000)	Staff Time and Regular Budget	Less than 5 years
RPV-46	Pavement Management Program - 1. Roadway rehabilitation in Areas 1, 2, 5, 6 and 9 ongoing (Areas 3 and 4 scheduled for FY28-29, Area 7 scheduled for FY26-27, Area 8 scheduled for FY27-28). 2. Arterial Roadway pavement management on Silver Spur Rd, Palos Verdes Drive South, Palos Verdes Drive East, and Indian Peak.	Safety and Security; Transportation	Existing Assets	1	Lead: Public Works	No	Very High (more than $1 million)	Measure R; CIP Funds	Less than 5 years
RPV-47	Establish Preserve Access – 1. Complete routine fire access tours with first responders in canyons within the landslide impact area (Last	Safety and Security; Transportation	Existing Assets	1 and 3	Lead: Public Works; Support: City Management	No	Low (less than $50,000)	FEMA HMGP; Staff Time	Less than 5 years

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	discussion 2024). 2. Preserve Protocol to identify and establish maintenance criteria for vehicular access trails in the Preserve to serve public safety personnel and efforts; along with establishing protocols for entering/working in Preserve during hazardous weather (high fire danger, dangerous swell, etc.). 3. Expansion of fire roads as needed and periodic maintenance of fire roads, per the Fire Department's request. (Last request 2019).								
RPV-48	Communication and Warning Plan - Provides the procedures and roles for managing public information and alerts during emergencies.	Communications; Safety and Security	Both	1, 2 and 4	Lead: City Management	Yes - All	Low (less than $50,000)	Staff Time	Less than 5 years
RPV-49	Recovery Annex to EOP - Provides the procedures and roles for repopulation, reconstruction, and recovery after a disaster.	Safety and Security	N/A	2 and 4	Lead: City Management	Yes - All	Low (less than $50,000)	Staff Time	Less than 5 years
RPV-50	Climate Emergency Annex to EOP – Includes response procedures for drought, winter storms, extreme temperatures, wind, floods, and landslides.	Safety and Security	N/A	2, 4 and 5	Lead: City Management; Support: Public Works	No	Low (less than $50,000)	Staff Time	Less than 5 years
RPV-51	Wildfire EOP Annex – Provides wildfire management guidance.	Safety and Security	N/A	2 and 4	Lead: City Management	Yes - Disabled and Isolated	Low (less than $50,000)	Staff Time and Regular Budget	Less than 5 years
RPV-52	The City will support and encourage community groups to engage in the Firewise program.	Safety and Security	Both	2	Lead: City Management	No	Low (less than $50,000)	Staff Time	More than 5 years
RPV-53	Identify grant funding sources for public rights impacted by the Preserve Access Protocol. VPLC has received grant funding for trail maintenance, but none to ensure trail meets Fire Road maintenance standards. Fire roads are all dirt trails, with the exception of Beach School Trail, which is partially paved.	Safety and Security	Both	1	Lead: Public Works	No	Low (less than $50,000)	Staff Time; Grant Funds	Less than 5 years
RPV-54	Expand MOUs to support emergency response to ensure protection from	Safety and Security	Both	3	Lead: City Management	No	Moderate ($50,001 - $250,000)	Staff Time; SHSGP	Less than 5 years

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	price gouging practices, and to simplify business transactions. • MOUs are currently in place with ARC and Salvation Army. • The City plans to secure funding for an emergency management consultant to provide Memorandum of Understanding's (MOU's) between the City and vendors for food, water, temporary housing, and heavy equipment. • The City will develop a regional MOU and inventory list once State Homeland Security Grant funding is awarded to hire a consultant.								
RPV-55	Exploration into the development of a community volunteer brigade to support emergency response efforts.	Safety and Security	Both	1, 2 and 3	Lead: City Management	No	Low (less than $50,000)	Staff Time	Less than 5 years
RPV-56	Secure funding for utility vehicles and earthmoving equipment - Equipment: Front Loader, Haul Truck, 4-wheel drive vehicles, ATV's and/or "Gator" utility vehicles.	Safety and Security; Transportation	Both	1 and 3	Lead: Recs and Park	No	Moderate ($50,001 - $250,000)		Less than 5 years
RPV-57	Strengthen City building seismic resilience - Started 2010: Completed for Administration, CDD and RPV TV buildings in 2010. The City will consider evaluations of additional City facilities (Hesse Park, PVIC).	Safety and Security	Both	1	Lead: Public Works; Support: City Management	No	Low (less than $50,000)	CIP Funds	Less than 5 years
RPV-58	Integrate new earthquake hazard mapping data and improve technical analysis of earthquake hazards using GIS technology. - Incorporate Fault Lines layer from USGS for EOC 2011; Integrate GIS files produced by HAZUS analysis into City GIS system for future implementation.	Communications	Both	2 and 4	Lead: CDD; Support: City Management	No	Low (less than $50,000)	Staff Time	Less than 5 years
RPV-59	Identify funding sources for structural and nonstructural retrofitting of structures that are identified as seismically vulnerable for private property owners and businesses. -	Safety and Security	N/A	1 and 4	Lead: Public Works; Support: City Management	No	Low (less than $50,000)	CIP Funds	More than 5 years

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	Started in 2008 with fee reductions and retrofit standard plans for residential structures. The City will seek additional grant funding.								
RPV-60	Participate in the OES SAP evaluator program - Building and Safety inspection staff members are now certified; new staff will be required to obtain certification.	Safety and Security	Existing Assets	4	Lead: Public Works	No	Low (less than $50,000)	Staff Time	Less than 5 years
RPV-61	Earthquake EOP Annex – Provides procedures for response to earthquakes.	Safety and Security	N/A	2 and 4	Lead: City Management	Yes - Disabled	Low (less than $50,000)	Staff Time	Less than 5 years
RPV-62	Early Earthquake Warning System Pilot Program - State program allowing local jurisdictions to test out their early earthquake warning systems; the City signed up to participate.	Safety and Security	New Asset	1 and 4	Lead: City Management	No	Low (less than $50,000)	State funded	Less than 5 years
RPV-63	The City addresses construction and subdivision design within steep slopes to reduce the potential adverse impacts from development through codes that prohibit most activity over extreme slope areas.	Safety and Security	Both	1, 4 and 5	Lead: Public Works; Support: City Management	No	Low (less than $50,000)	Staff Time	Less than 5 years
RPV-64	Flood Control Management – 1. LA County Flood control funding. Awarded 2,000,000 2. Lift Station Improvement at Lower Point Vicente	Safety and Security	Existing Assets	1 and 5	Lead: Public Works; Support: Finance	No	Very High (more than $1 million)	LA County Flood control funding; CIP Funds	More than 5 years
RPV-65	Sand Bag Distribution – The City offers free sand and sand bags to residents before storms.	Safety and Security	Existing Assets	1 and 2	Lead: Public Works	No	Low (less than $50,000)	Staff Time and Regular Budget	More than 5 years
RPV-66	Storm Drain Asset Mgmt. Program and Master Plan Update - Master Plan of Drainage (MPD) was developed to identify deficiencies with maintenance, upgrades, and capital improvements, to ensure flood protection, especially important due to RPV's landslide-prone geology.	Safety and Security	Existing Assets	1 and 5	Lead: Public Works	No	Very High (more than $1 million)	CIP Funds; FEMA FMA, FEMA HMGP	Less than 5 years
RPV-67	Maintain Stormwater Management Program through: 1. Successful California Water Resources Storm Water / Flood Management Grant.	Safety and Security	Existing Assets	1 and 5	Lead: Public Works; Support: City Management	No	High ($250,001 - $1 million)	Regular Budget; FEMA FMA, FEMA HMGP; California	Less than 5 years

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	2. RPV Storm Water Management Plan implementation. 3. Stormwater quality management program. 4. Compliance with federal and state requirements including 60 miles of storm sewer pipes and 1,500 catch basins.							Flood Management Grant	
RPV-68	A vegetation management and flood control brochures have been developed and shared with the public to provide education on proper maintenance of steep slopes and surface drainage structures located on private property.	Safety and Security	Existing Assets	1, 2 and 4	Lead: City Management; Support: Public Works	No	Low (less than $50,000)	Staff Time and Regular Budget	Less than 5 years
RPV-69	Continue CIP Program projects for stormwater and drainage improvements.	Safety and Security	Existing Assets	1 and 5	Lead: Public Works	No	Very High (more than $1 million)	CIP Funds; FEMA FMA, FEMA HMGP	Less than 5 years
RPV-70	Ensure NFIP Compliance – RPV was participating in the NFIP, per RPV ordinance 645, which was adopted on 4/21/21. According to FEMA's Community Status Book, RPV's status as a NFIP participant has been suspended as of 4/21/21. As part of the NFIP, the City will ensure compliance through implementing a floodplain management program that, at a minimum, meets the NFIP requirements: • Evaluate the current floodplain ordinance to determine if updates are needed. Upon FEMA flood map revisions, update and adopt the City's floodplain ordinance.	Safety and Security	Both	1	Lead: Public Works; Support: City Management	No	Low (less than $50,000)	Staff Time	Less than 5 years

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RPV-71	Enhance stormwater drainage projects 1. Bayend drive catch basin inlets and storm drain lateral (200k) 2. Upper point Vicente storm water runoff control project - underground drainage systems around the helipad at upper point Vicente near the Civic Center (335k) 3. Crest Rd. to Crest Ridge Canyon stormwater drainage improvement ($1.365 million) 4. Corsini Place stormwater drainage improvement (960k) 5. Hawthorne Blvd. at Hawkhurst drive stormwater drainage improvement (3.925 million) 6. Stormwater drainage improvement on also Verdes Dr. S at pepper tree drive (1.195 million)	Safety and Security	Both	1 and 5	Lead: Public Works	No	Very High (more than $1 million)	CIP Funds; FEMA FMA, FEMA HMGP	Less than 5 years
RPV-72	The City supports proper disposal of hazardous material by: a. Participating in household hazardous waste events and programs. b. Publicizing collection sites and periodic events for hazardous materials. b. Participating in stormwater pollution programs (i.e. Clean Bay program).	Hazardous Materials	Existing Assets	1 and 2	Lead: Public Works; Support: Recs and Park	No	Low (less than $50,000)	Staff Time and Regular Budget	More than 5 years
RPV-73	PVDS Landslide Area Management - 1. Debris Clearance 2. Resurfacing Program - this project repairs and maintains PVDS through the PB Landslide area, repairing and maintaining asphalt roadway, storm drain lines, curbs, gutters, signs, and roadway stripping.	Safety and Security	Existing Assets	1	Lead: Public Works	No	High ($250,001 - $1 million)	CIPand Proposition Funds	More than 5 years
RPV-74	The City continues Landslide Remediation projects including: 1. Installation and maintenance of dewatering wells 2.Canyon lining	Safety and Security	Existing Assets	1	Lead: Public Works	No	Very High (more than $1 million)	CIP Funds; FEMA HMGP	More than 5 years

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	3.Infilling fractures Note: FEMA Public Assistance reimbursement denied.								
RPV-75	The City winterizes its property each year prior to the rainy season by: 1. Preparing facilities for rain. 2. Checking City-wide drainage "hotspots" where the potential for issues has been identified. 3. Winterization grading, checking pumps, sand bagging, sealing cracks in roads, and draining areas with ponding in landslide area.	Safety and Security	Existing Assets	1	Lead: Public Works	No	Very High (more than $1 million)	LA County Flood control funding; CIP Funds	More than 5 years
RPV-76	Landslide Buyout Program - FEMA HMGP Funded program to buy property in the landslide area and turn it into open space in perpetuity.	Safety and Security	Both	1 and 4	Lead: Public Works	No	Very High (more than $1 million)	FEMA HMGP	Less than 5 years
RPV-77	Moratorium in landslide zone - No new construction in the landslide area, and limited permitting for re-construction purposes.	Safety and Security	N/A	1 and 4	Lead: Public Works; Support: City Management	No	Low (less than $50,000)	Staff Time	Less than 5 years
RPV-78	Creation of a Portuguese Bend Abatement District - Two abatement districts currently in operation to manage landslide impacts in the Abalone Cove and Klondike Canyon areas of the landslide complex. City is in the process to form a third and separate district to cover the Portuguese Bend Landslide sub-area that is not already managed by a district.	Safety and Security	New Asset	1	Lead: City Management; Support: Public Works	No	Low (less than $50,000)	Staff Time	Less than 5 years
RPV-79	Public Health EOP Annex – Provides procedures for City emergency response to Public Health Emergencies.	Health and Medical	N/A	2 and 4	Lead: City Management	Yes - Disabled and Senior	Low (less than $50,000)	Staff Time	Less than 5 years
RPV-80	Flock camera program - The City provides reimbursement for half of the cost of flock and security cameras, up to $2,500 for neighborhoods and up to $100 for individuals.	Safety and Security	Existing Assets	1	Lead: City Management	Yes - All	Low (less than $50,000)	Staff Time and Regular Budget	More than 5 years

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RPV-81	The City's Public Safety Division aims to enhance public safety through increased coordination with the Sherriff's department and the deployment of public safety liaisons. The Division implements a public safety program consisting of public education, liaison training, and equipment, including, but not limited to, Radar, ALPR Cameras, Radios, and Vehicles with haul equipment to support LASD.	Safety and Security	Both	1	Lead: City Management	Yes - All	High ($250,001 - $1 million)	Staff Time and Regular Budget	More than 5 years
RPV-82	Active shooter training and education a. The City has shared information with residents about numerous active shooter training over the years. Hosted by the Palos Verdes Estates Police Department and Palos Verdes Peninsula Unified School District. b. The City will work with Los Angeles County Sheriff's Department to support active shooter training for RPV residents.	Safety and Security	Existing Assets	1 and 2	Lead: City Management	Yes - All	Low (less than $50,000)	Staff Time	Less than 5 years
RPV-83	Strengthen anti-cyber terrorism efforts to protect the City's computer network and operations, through: a. 24/7 cybersecurity monitoring b. Multiple levels of data backups c. Advanced network and endpoints security features d. Ongoing end-user education and testing e. Continuous efforts to keep all software and hardware current and in a supportable state f. Threat intelligence subscriptions g. Enhance cybersecurity incident exercise and training h. Incorporation of cybersecurity into Public Safety Annex. i. Firewalls updated to the new generation devices including advanced automated protection and limited access k. A comprehensive multi-layer back	Safety and Security	Both	1	Lead: City Management	No	High ($250,001 - $1 million)	Staff Time and Regular Budget	More than 5 years

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	strategy that includes cloud replication and off-site air-gapped storage media								
RPV-84	Public Safety EOP Annex – Provides procedures for City response to public safety emergencies.	Safety and Security	N/A	2 and 4	Lead: City Management	Yes - All	Low (less than $50,000)	Staff Time	Less than 5 years
RPV-85	Pursue status as a Tsunami Ready Community through the National Weather Service.	Safety and Security	Both	1 and 2	Lead: City Management	Yes - Seniors and Disabled	Low (less than $50,000)	Staff Time	Less than 5 years
RPV-86	Tsunami EOP Annex - Provides procedures for City response to tsunamis.	Safety and Security	N/A	2 and 4	Lead: City Management	Yes - Disabled	Low (less than $50,000)	Staff Time	Less than 5 years
RPV-87	Explore undergrounding of electric lines within the City, particularly in areas with high fire risk.	Safety and Security; Energy	Both	1 and 5	Lead: Public Works; Support: City Management	No	Very High (more than $1 million)	SCE	More than 5 years
RPV-88	Continue communication, coordination, and collaboration with SCE for the Public Safety Power Shutoff (PSPS) program and strengthening of infrastructure, including: a. Ongoing vegetation management, system hardening, and aerial inspections. b. Distributing public information to educate residents about the shutoffs and where they can find real-time information from SCE.	Safety and Security; Energy	Existing Assets	1, 2 and 5	Lead: SCE; Support: Public Works	Yes - Disabled	High ($250,001 - $1 million)	SCE budget	More than 5 years
RPV-89	Strengthen City run utility infrastructure. City sanitation maintenance is ongoing.	Safety and Security; Water Systems	Existing Assets	1 and 4	Lead: Public Works	No	Very High (more than $1 million)	CIP Funds	More than 5 years
RPV-90	Expand on utility infrastructure interdependency white paper - Regional Utility Disruption Plan – This plan will be developed by the four peninsula cities to expand on the current utility white paper and provide coordination and response procedures for significant utility disruptions.	Safety and Security; Energy; Water Systems	N/A	1	Lead: City Management; Support: Public Works	No	Low (less than $50,000)	Staff Time	Less than 5 years

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RPV-91	Explore and implement projects that reduce wildfire spread, such as 1. Reducing non-native plants in the City. 2. Volunteer Vegetation Management Program - A cleanup day program where residents could gather and work with a professional crew of volunteers to remove brush. Could be done through a sign up system where senior and disabled people can apply for assistance with defensible space on their properties.	Safety and Security	New Asset	1, 2, 4, and 5	Lead: Public Works; Support: City Management	No	Moderate ($50,001 - $250,000)	CIP Funds; FEMA HMGP; Cal Fire	More than 5 years
RPV-92	Wildfire mitigation match program - Research on the feasibility of implementing a citywide wildfire mitigation match program to help offset the cost of resident's home hardening and/or defensible space projects.	Safety and Security	New Asset	1, 2 and 4	Lead: City Management	No	Moderate ($50,001 - $250,000)	Cal Fire	More than 5 years
RPV-93	Support, where needed the maintenance and installation of Helopods throughout the peninsula. There are currently two Helopods installed, at the RPC Civic Center and RHE Reservoir. Athird helopod is planned for installation in PVE.	Safety and Security	Both	1	Lead: LACoFD; Support: City Management	No	Moderate ($50,001 - $250,000)	County funds	Less than 5 years
RPV-94	With support from the City, the EPC is working on a project that provides a model demonstration of how to reduce wildfire risk through home hardening and defensible space.	Safety and Security	Both	2	Lead: City Management	No	Low (less than $50,000)	Staff Time and Regular Budget	Less than 5 years
RPV-95	The City Completed an application to be added to the Board of Forestry's Fire Risk Reduction Community List; which will help the City be more competitive for grant funds. Waiting on response.	Safety and Security	N/A	4	Lead: City Management	No	Low (less than $50,000)	Staff Time	Less than 5 years
RPV-96	Pano AI Camera Installation – Four wildfire smoke detection cameras installed to monitor the peninsula for smoke to alert and address fires more quickly.	Safety and Security; Communications	Existing Assets	1, 2 and 3	Lead: City Management; Support: CDD	No	High ($250,001 - $1 million)	FEMA HMGP; State Funding	Less than 5 years

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
RPV-97	Burma Road Maintenance Agreement to: a. Partner with Edison, Cal Water, and LACoFD to maintain Burma Road for emergency access. b. Expand fire roads. Working with Bellfree to install water control features on Fire Roads to keep them drivable and on increasing water control features on fire roads in early 2026.	Transportation	Existing Assets		Lead: Recs and Park; Support: Public Works	No	Moderate ($50,001 - $250,000)	CIP Funds, FEMA HMGP	Less than 5 years
RPV-98	Brush and Landscape Materials Collection – The City holds free collection events for public drop off of brush and vegetation waste.	Safety and Security	Existing Assets	1, 2, and 5	Lead: Public Works	Yes - Disabled	Low (less than $50,000)	Regular Budget	More than 5 years
RPV-99	Encourage development and dissemination of information relating to fire hazard to help educate and assist builders and homeowners in wildfire mitigation activities, and to help guide emergency services during response. Materials developed and distributed on an ongoing basis.	Safety and Security	N/A	1 and 2	Lead: City Management	No	Low (less than $50,000)	Staff Time and Regular Budget	More than 5 years
RPV-100	The City's Fuel Modification Program includes: a. Removal of brush and debris following defensible space guidelines using hand crews and goats. b. Annual maintenance program. C. GIS map updates/maintenance of fuel modification areas	Safety and Security	Both	1 and 5	Lead: Public Works; Support: CDD	No	High ($250,001 - $1 million)	CIP Funds; FEMA HMGP	More than 5 years
RPV-101	Maintenance and implementation of the newly developed fire weather protocol.	Safety and Security	Both	1, 2 and 3	Lead: City Management; Support: Public Works; Recs and Park	No	Low (less than $50,000)	Staff Time	More than 5 years
RPV-102	Support ongoing wildfire mitigation activities 1. LACoFD and the City's Planning Department continue to implement wildfire mitigation activities through community education programs and written policy. 2. Updated Fire Hazard Severity Zones were adopted by the City in	Safety and Security	N/A	1, 2 and 3	Lead: CDD; Support: City Management	No	Low (less than $50,000)	Staff Time	More than 5 years

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
	2025 and will be enforced by the fire department during 2026 inspections.								
RPV-103	Distribution of pool signs for residents to display to indicate to fire fighters that they have a pool that can be used as an emergency water source.	Safety and Security	New Asset	1 and 2	Lead: City Management	No	Low (less than $50,000)	Staff Time	Less than 5 years
RPV-104	Establish and implement Weed Abatement Enforcement Program - a. Weed abatement notices were mailed to residents annually with information as to what they need to comply with. b. Properties inspected annually.	Safety and Security	Both	1, 2 and 4	Lead: Public Works	No	High ($250,001 - $1 million)	CIP Funds; FEMA HMGP	Less than 5 years
RPV-105	Increase communication, coordination and collaboration between wildland/urban interface property owners, local planners and fire prevention crews and officials to address risks, existing mitigation measures, and federal assistance programs. City and LACoFD work together to manage, communicate, coordinate, and mitigate wildland interface projects within City boundaries.	Safety and Security; Communications	Both	1, 2, 3 and 4	Lead: City Management	No	Low (less than $50,000)	Staff Time and Regular Budget	More than 5 years

Table 3-15. Mitigation Action Prioritization

Action Number	Life Safety	Property Protection	Cost-Effectiveness	Technically Feasible	Legal Authority	Funding Available	Grant Eligible	Environmental	Climate Change	Equity Priority Community	Administrative Capacity	Multi-Hazard	Timeline	Other Local Objective	Support Policies	Total Score	Priority
RPV-01	3	3	3	3	3	1	3	1	3	3	1	1	1	1	1	31	High
RPV-02	3	3	3	3	3	1	0	1	1	3	3	1	3	3	1	32	High
RPV-03	3	3	3	3	3	1	0	1	3	3	3	3	3	3	1	36	High
RPV-04	3	3	3	3	3	1	0	1	1	3	3	3	3	1	1	32	High
RPV-05	3	0	3	3	3	3	1	0	0	3	3	3	3	3	3	34	High
RPV-06	3	0	3	3	3	3	1	0	0	3	3	3	3	3	3	34	High

Action Number	Life Safety	Property Protection	Cost-Effectiveness	Technically Feasible	Legal Authority	Funding Available	Grant Eligible	Environmental	Climate Change	Equity Priority Community	Administrative Capacity	Multi-Hazard	Timeline	Other Local Objective	Support Policies	Total Score	Priority
RPV-07	3	0	3	3	3	3	1	0	0	3	3	3	3	3	0	31	High
RPV-08	3	0	3	3	3	3	1	0	0	3	3	3	0	3	3	31	High
RPV-09	3	0	3	3	3	3	1	0	0	3	3	3	3	3	0	31	High
RPV-10	3	0	3	3	3	3	1	0	0	3	3	1	3	3	0	29	Medium
RPV-11	3	0	3	3	3	3	1	0	0	0	3	3	3	3	0	28	Medium
RPV-12	3	3	3	3	3	3	1	0	0	0	3	3	3	3	0	31	High
RPV-13	3	0	3	3	3	3	1	0	0	3	3	3	3	3	3	34	High
RPV-14	3	0	3	3	3	3	1	0	0	3	3	3	0	3	3	31	High
RPV-15	3	0	3	3	3	3	1	0	0	3	3	3	0	3	3	31	High
RPV-16	3	0	3	3	3	3	1	0	0	3	3	3	3	3	3	34	High
RPV-17	3	0	3	3	3	3	1	0	0	0	3	1	0	3	0	23	Medium
RPV-18	3	3	3	3	3	3	1	0	3	1	3	3	3	3	0	35	High
RPV-19	3	0	3	3	3	3	1	0	3	1	3	3	3	3	0	32	High
RPV-20	3	0	3	3	3	3	1	0	0	0	3	0	3	3	0	25	Medium
RPV-21	3	0	3	3	3	3	1	0	0	0	3	3	3	3	0	28	Medium
RPV-22	3	0	3	3	3	3	1	0	0	0	3	3	3	3	0	28	Medium
RPV-23	3	0	3	3	3	3	1	0	0	0	3	1	3	3	3	29	Medium
RPV-24	3	0	3	3	3	1	1	3	3	3	3	3	3	3	0	35	High
RPV-25	3	0	3	3	3	3	1	0	0	1	3	3	3	3	0	29	Medium
RPV-26	3	0	3	3	3	3	1	0	0	3	3	0	3	3	3	31	High
RPV-27	3	0	3	3	3	1	0	0	3	3	3	0	3	3	3	31	High
RPV-28	3	3	3	3	3	1	3	3	3	3	1	3	0	3	1	36	High
RPV-29	3	0	3	3	3	1	3	0	0	3	3	1	3	3	3	32	High
RPV-30	3	0	3	3	3	3	3	0	0	3	3	3	3	3	0	33	High
RPV-31	3	0	3	3	3	3	3	0	0	3	3	3	0	3	0	30	Medium
RPV-32	3	0	3	3	3	3	3	0	0	3	3	3	0	3	3	33	High
RPV-33	3	0	3	3	3	3	3	0	0	3	3	3	0	3	3	33	High
RPV-34	3	0	3	3	3	3	3	0	3	3	3	3	0	3	3	36	High
RPV-35	3	0	3	3	3	3	3	0	0	3	3	3	3	3	3	36	High
RPV-36	3	0	3	3	3	3	3	0	0	0	3	3	3	3	0	30	Medium
RPV-37	3	3	3	3	3	3	3	0	3	3	3	3	0	3	0	36	High
RPV-38	3	0	3	3	3	3	3	0	0	3	3	3	0	3	3	33	High
RPV-39	3	0	3	3	3	3	3	0	0	3	3	3	0	3	3	33	High
RPV-40	3	0	3	3	3	3	3	0	3	3	3	3	0	3	0	33	High
RPV-41	3	3	3	3	3	3	3	3	0	3	3	3	0	3	1	37	High
RPV-42	3	3	3	3	3	3	3	0	0	0	3	3	0	3	0	30	Medium
RPV-43	3	3	3	3	3	3	3	0	3	0	3	3	3	3	0	36	High
RPV-44	3	3	3	3	3	3	3	0	0	0	3	3	3	3	0	33	High
RPV-45	3	3	3	3	3	1	3	0	1	0	3	1	3	3	1	31	High

Action Number	Life Safety	Property Protection	Cost-Effectiveness	Technically Feasible	Legal Authority	Funding Available	Grant Eligible	Environmental	Climate Change	Equity Priority Community	Administrative Capacity	Multi-Hazard	Timeline	Other Local Objective	Support Policies	Total Score	Priority
RPV-46	3	3	3	3	3	3	3	0	3	1	3	3	3	3	0	37	High
RPV-47	3	0	3	3	3	3	3	1	0	0	3	3	3	3	0	31	High
RPV-48	3	0	3	3	3	1	3	0	0	3	3	3	3	3	3	34	High
RPV-49	3	3	3	3	3	1	3	0	0	3	3	1	3	3	3	35	High
RPV-50	3	0	3	3	3	1	3	1	3	3	3	3	3	3	3	38	High
RPV-51	3	0	3	3	3	1	3	1	3	3	3	0	3	3	3	35	High
RPV-52	3	3	3	3	3	0	3	1	3	3	3	0	0	3	3	34	High
RPV-53	3	0	3	3	3	3	1	0	0	0	3	3	3	3	0	28	Medium
RPV-54	3	0	3	3	3	1	3	0	0	1	3	3	3	3	0	29	Medium
RPV-55	3	0	3	3	3	0	1	0	3	3	1	3	3	3	3	32	High
RPV-56	3	0	3	3	3	1	3	0	0	0	3	0	3	3	0	25	Medium
RPV-57	3	3	3	3	3	0	3	0	0	0	1	0	3	3	0	25	Medium
RPV-58	3	0	3	3	3	3	3	0	0	3	3	0	3	3	0	30	Medium
RPV-59	3	3	3	3	3	3	1	0	0	0	3	0	0	3	0	25	Medium
RPV-60	3	0	3	3	3	3	1	0	0	0	3	0	3	3	0	25	Medium
RPV-61	3	0	3	3	3	1	1	0	0	0	3	0	3	3	3	26	Medium
RPV-62	3	0	3	3	3	3	1	0	0	0	3	0	3	3	0	25	Medium
RPV-63	3	3	3	3	3	3	3	1	3	1	3	0	3	3	0	35	High
RPV-64	3	3	3	3	3	3	3	0	3	1	3	0	0	3	0	31	High
RPV-65	3	3	3	3	3	3	1	3	3	3	3	0	0	3	3	37	High
RPV-66	3	3	3	3	3	3	3	1	3	1	3	0	3	3	0	35	High
RPV-67	3	3	3	3	3	3	3	1	3	1	3	0	3	3	0	35	High
RPV-68	3	3	3	3	3	3	1	0	3	3	3	0	3	3	3	37	High
RPV-69	3	3	3	3	3	3	1	0	3	0	3	0	3	3	0	31	High
RPV-70	3	3	3	3	3	1	1	1	3	3	1	0	3	3	0	31	High
RPV-71	3	3	3	3	3	1	3	1	3	1	3	0	3	3	0	33	High
RPV-72	3	0	3	3	3	3	1	1	3	3	3	0	0	3	3	32	High
RPV-73	3	3	3	3	3	3	3	0	3	1	3	0	0	3	0	31	High
RPV-74	3	3	3	3	3	3	3	0	3	1	3	0	0	3	0	31	High
RPV-75	3	3	3	3	3	3	3	1	3	1	3	0	0	3	0	32	High
RPV-76	3	3	3	3	3	3	3	3	3	1	3	0	3	3	0	37	High
RPV-77	3	3	3	3	3	3	0	3	3	0	3	0	3	3	0	33	High
RPV-78	3	0	3	3	3	3	1	1	3	0	3	0	3	3	0	29	Medium
RPV-79	3	0	3	3	3	1	1	0	0	3	3	0	3	3	3	29	Medium
RPV-80	3	0	3	3	3	3	1	0	0	3	3	0	0	3	3	28	Medium
RPV-81	3	0	3	3	3	3	1	0	0	3	3	0	0	3	1	26	Medium
RPV-82	3	0	3	3	3	3	3	0	0	3	3	0	3	3	1	31	High
RPV-83	3	0	3	3	3	3	3	0	0	0	3	0	0	3	0	24	Medium
RPV-84	3	0	3	3	3	1	3	0	0	3	3	0	3	3	3	31	High

Action Number	Life Safety	Property Protection	Cost-Effectiveness	Technically Feasible	Legal Authority	Funding Available	Grant Eligible	Environmental	Climate Change	Equity Priority Community	Administrative Capacity	Multi-Hazard	Timeline	Other Local Objective	Support Policies	Total Score	Priority
RPV-85	3	0	3	3	3	1	3	0	0	3	3	0	3	3	3	31	High
RPV-86	3	0	3	3	3	1	3	0	0	3	3	0	3	3	3	31	High
RPV-87	3	3	3	3	3	0	3	0	1	1	1	0	0	3	0	24	Medium
RPV-88	3	0	3	3	3	3	1	0	0	1	3	0	0	3	3	26	Medium
RPV-89	3	3	3	3	3	3	3	0	1	3	3	0	0	3	0	31	High
RPV-90	3	3	3	3	3	1	3	0	1	3	3	0	3	3	0	32	High
RPV-91	3	3	3	3	3	0	3	3	3	3	1	0	0	3	3	34	High
RPV-92	3	0	3	3	3	3	3	1	3	3	3	0	0	3	3	34	High
RPV-93	3	0	3	3	3	3	1	0	0	1	3	0	3	3	0	26	Medium
RPV-94	3	0	3	3	3	3	1	0	0	1	3	0	3	3	3	29	Medium
RPV-95	3	0	3	3	3	3	0	0	0	1	3	0	3	3	0	25	Medium
RPV-96	3	0	3	3	3	3	3	0	3	1	3	0	3	3	0	31	High
RPV-97	3	0	3	3	3	3	3	0	0	1	3	0	3	3	0	28	Medium
RPV-98	3	0	3	3	3	3	1	0	3	3	3	0	0	3	0	28	Medium
RPV-99	3	0	3	3	3	3	3	0	3	3	3	0	0	3	3	33	High
RPV-100	3	3	3	3	3	3	3	3	3	1	3	0	0	3	0	34	High
RPV-101	3	0	3	3	3	3	0	1	0	1	3	0	0	3	0	23	Medium
RPV-102	3	3	3	3	3	3	3	0	0	1	3	0	0	3	0	28	Medium
RPV-103	3	0	3	3	3	3	1	0	0	1	3	0	3	3	3	29	Medium
RPV-104	3	3	3	3	3	3	3	0	3	1	3	0	3	3	0	34	High
RPV-105	3	0	3	3	3	3	1	0	3	3	3	0	0	3	3	31	High

Note: 31 or more = High Priority
15 to 30 = Medium Priority
0 to 14 = Low Priority

Table 3-16. Mitigation Action Classification and Natural Hazards Addressed

Action	Mitigation Classification						Natural Hazards								
	Local Plans and Regulations	Structure and Infrastructure Projects	Education and Awareness Programs	Natural Systems Protection	Climate Resiliency	Community Capacity Building	Drought	Earthquake	Flood	Landslide	Sea Level Rise	Severe Weather – Heat Wave	Severe Weather – Strong Wind	Tsunami	Wildfire
RPV-001	X	X	X						X						
RPV-002	X						X	X	X	X	X	X	X	X	X

Action	Mitigation Classification						Natural Hazards								
	Local Plans and Regulations	Structure and Infrastructure Projects	Education and Awareness Programs	Natural Systems Protection	Climate Resiliency	Community Capacity Building	Drought	Earthquake	Flood	Landslide	Sea Level Rise	Severe Weather – Heat Wave	Severe Weather – Strong Wind	Tsunami	Wildfire
RPV-003	X		X		X	X	X	X	X	X	X	X	X	X	X
RPV-004	X					X	X	X	X	X	X	X	X	X	X
RPV-005			X			X	X	X	X	X	X	X	X	X	X
RPV-006			X				X	X	X	X	X	X	X	X	X
RPV-007		X					X	X	X	X	X	X	X	X	X
RPV-008	X					X	X	X	X	X	X	X	X	X	X
RPV-009						X	X	X	X	X	X	X	X	X	X
RPV-010						X	X	X	X	X	X	X	X	X	X
RPV-011						X	X	X	X	X	X	X	X	X	X
RPV-012						X	X	X	X	X	X	X	X	X	X
RPV-013						X	X	X	X	X	X	X	X	X	X
RPV-014			X				X	X	X	X	X	X	X	X	X
RPV-015	X		X				X	X	X	X	X	X	X	X	X
RPV-016			X				X	X	X	X	X	X	X	X	X
RPV-017						X	X	X	X	X	X	X	X	X	X
RPV-018	X						X	X	X	X	X	X	X	X	X
RPV-019	X					X	X	X	X	X	X	X	X	X	X
RPV-020						X	X	X	X	X	X	X	X	X	X
RPV-021	X					X	X	X	X	X	X	X	X	X	X
RPV-022						X	X	X	X	X	X	X	X	X	X
RPV-023						X	X	X	X	X	X	X	X	X	X
RPV-024	X					X	X	X	X	X	X	X	X	X	X
RPV-025							X	X	X	X	X	X	X	X	X
RPV-026	X														X

Action	Mitigation Classification						Natural Hazards								
	Local Plans and Regulations	Structure and Infrastructure Projects	Education and Awareness Programs	Natural Systems Protection	Climate Resiliency	Community Capacity Building	Drought	Earthquake	Flood	Landslide	Sea Level Rise	Severe Weather – Heat Wave	Severe Weather – Strong Wind	Tsunami	Wildfire
RPV-027	X											X			
RPV-028	X			X	X		X	X	X	X	X	X	X	X	X
RPV-029	X					X	X	X	X	X	X	X	X	X	X
RPV-030						X	X	X	X	X	X	X	X	X	X
RPV-031		X				X	X	X	X	X	X	X	X	X	X
RPV-032			X				X	X	X	X	X	X	X	X	X
RPV-033			X				X	X	X	X	X	X	X	X	X
RPV-034			X				X	X	X	X	X	X	X	X	X
RPV-035			X				X	X	X	X	X	X	X	X	X
RPV-036						X	X	X	X	X	X	X	X	X	X
RPV-037		X				X	X	X	X	X	X	X	X	X	X
RPV-038			X				X	X	X	X	X	X	X	X	X
RPV-039			X				X	X	X	X	X	X	X	X	X
RPV-040	X					X	X	X	X	X	X	X	X	X	X
RPV-041							X	X	X	X	X	X	X	X	X
RPV-042		X				X	X	X	X	X	X	X	X	X	X
RPV-043	X					X	X	X	X	X	X	X	X	X	X
RPV-044	X					X	X	X	X	X	X	X	X	X	X
RPV-045	X					X	X	X	X	X	X	X	X	X	X
RPV-046		X					X	X	X	X	X	X	X	X	X
RPV-047							X	X	X	X	X	X	X	X	X
RPV-048	X		X			X	X	X	X	X	X	X	X	X	X
RPV-049	X					X	X	X	X	X	X	X	X	X	X
RPV-050	X				X	X	X	X	X	X	X	X	X	X	X

Action	Mitigation Classification						Natural Hazards								
	Local Plans and Regulations	Structure and Infrastructure Projects	Education and Awareness Programs	Natural Systems Protection	Climate Resiliency	Community Capacity Building	Drought	Earthquake	Flood	Landslide	Sea Level Rise	Severe Weather – Heat Wave	Severe Weather – Strong Wind	Tsunami	Wildfire
RPV-051	X					X									X
RPV-052			X												X
RPV-053						X	X	X	X	X	X	X	X	X	X
RPV-054						X	X	X	X	X	X	X	X	X	X
RPV-055			X			X	X	X	X	X	X	X	X	X	X
RPV-056						X	X	X	X	X	X	X	X	X	X
RPV-057							X	X	X	X	X	X	X	X	X
RPV-058						X	X	X	X	X	X	X	X	X	X
RPV-059		X	X				X	X	X	X	X	X	X	X	X
RPV-060						X	X	X	X	X	X	X	X	X	X
RPV-061	X					X	X	X	X	X	X	X	X	X	X
RPV-062						X	X	X	X	X	X	X	X	X	X
RPV-063	X	X							X						
RPV-064	X	X		X					X						
RPV-065	X		X			X			X						
RPV-066	X	X		X					X						
RPV-067			X						X						
RPV-068	X	X							X						
RPV-069	X								X						
RPV-070	X	X		X					X						
RPV-071	X		X			X	X	X	X	X	X	X	X	X	X
RPV-072	X		X							X					
RPV-073	X	X								X					
RPV-074	X	X								X					

Action	Mitigation Classification						Natural Hazards								
	Local Plans and Regulations	Structure and Infrastructure Projects	Education and Awareness Programs	Natural Systems Protection	Climate Resiliency	Community Capacity Building	Drought	Earthquake	Flood	Landslide	Sea Level Rise	Severe Weather – Heat Wave	Severe Weather – Strong Wind	Tsunami	Wildfire
RPV-075	X	X								X					
RPV-076	X									X					
RPV-077	X	X								X					
RPV-078						X				X					
RPV-079	X					X	X	X	X	X	X	X	X	X	X
RPV-080	X						X	X	X	X	X	X	X	X	X
RPV-081	X		X				X	X	X	X	X	X	X	X	X
RPV-082			X				X	X	X	X	X	X	X	X	X
RPV-083							X	X	X	X	X	X	X	X	X
RPV-084	X					X	X	X	X	X	X	X	X	X	X
RPV-085			X			X	X	X	X	X	X	X	X	X	X
RPV-086	X					X	X	X	X	X	X	X	X	X	X
RPV-087				X			X	X	X	X		X	X		
RPV-088			X	X			X	X	X	X		X	X		
RPV-089		X					X	X	X	X		X	X		
RPV-090	X					X	X	X	X	X		X	X		
RPV-091	X			X											X
RPV-092	X			X											X
RPV-093															X
RPV-094	X		X												X
RPV-095						X									X
RPV-096						X									X
RPV-097															X
RPV-098	X			X											X

Action	Mitigation Classification						Natural Hazards								
	Local Plans and Regulations	Structure and Infrastructure Projects	Education and Awareness Programs	Natural Systems Protection	Climate Resiliency	Community Capacity Building	Drought	Earthquake	Flood	Landslide	Sea Level Rise	Severe Weather – Heat Wave	Severe Weather – Strong Wind	Tsunami	Wildfire
RPV-099	X		X	X											X
RPV-100	X			X											X
RPV-101	X														X
RPV-102	X														X
RPV-103															X
RPV-104	X		X												X
RPV-105			X												X

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3.10 PUBLIC OUTREACH

Table 3-17. Public Outreach

Local Outreach Activity	Date	Number of People Involved
City Council Meeting	9/15/25	20-40 people on average per meeting.
Shared with Community Partners (CHOA, chamber of commerce, neighborhood watch, rotary foundation, library district and school district)	Shared in September and December 2025	6 organizations reaching thousands of residents.
Posted at City facilities (City Hall, Ladera Linda and Hesse Park)	Posted since Fall 2025	Reached dozens to hundreds of visitors to these facilities.
Emergency Preparedness Committee Meeting	Updates provided at all monthly meetings since plan development began	5-10 people per meeting, including members.
Social Media Outreach (Instagram, NextDoor, X, Facebook)	Routine posts from September 2025	Over 44,000 accounts follow RPV social media across platforms.
Breaking News ListServ	Routine posts from September 2025	1,528 subscribers to this listserv.
Weekly City Manager's Report	Included since September 2025	159 subscribers to this listserv, not including those who access through the website.
Seasonal Quarterly Newsletter	December 2025	Shared throughout the City to approximately 15,000 households.
Website post	Posted since September 2025	Thousands of people view the rpvca.gov website.
EPC Monthly Message	Included since September 2025	413 subscribers for the EPC List Serv, not including those who access the message online.
RPVtv PSA	1/7/2026	Several hundred people.
EPC Booth	Home Hardening Expo 9/26/25 Prep. Peninsula Expo 10/26/25	500-700 people between both events.



Figure 3-2. RPV Virtual Outreach Infographic for the MJLHMP Community Survey

Source: RPV social media, website, and weekly report

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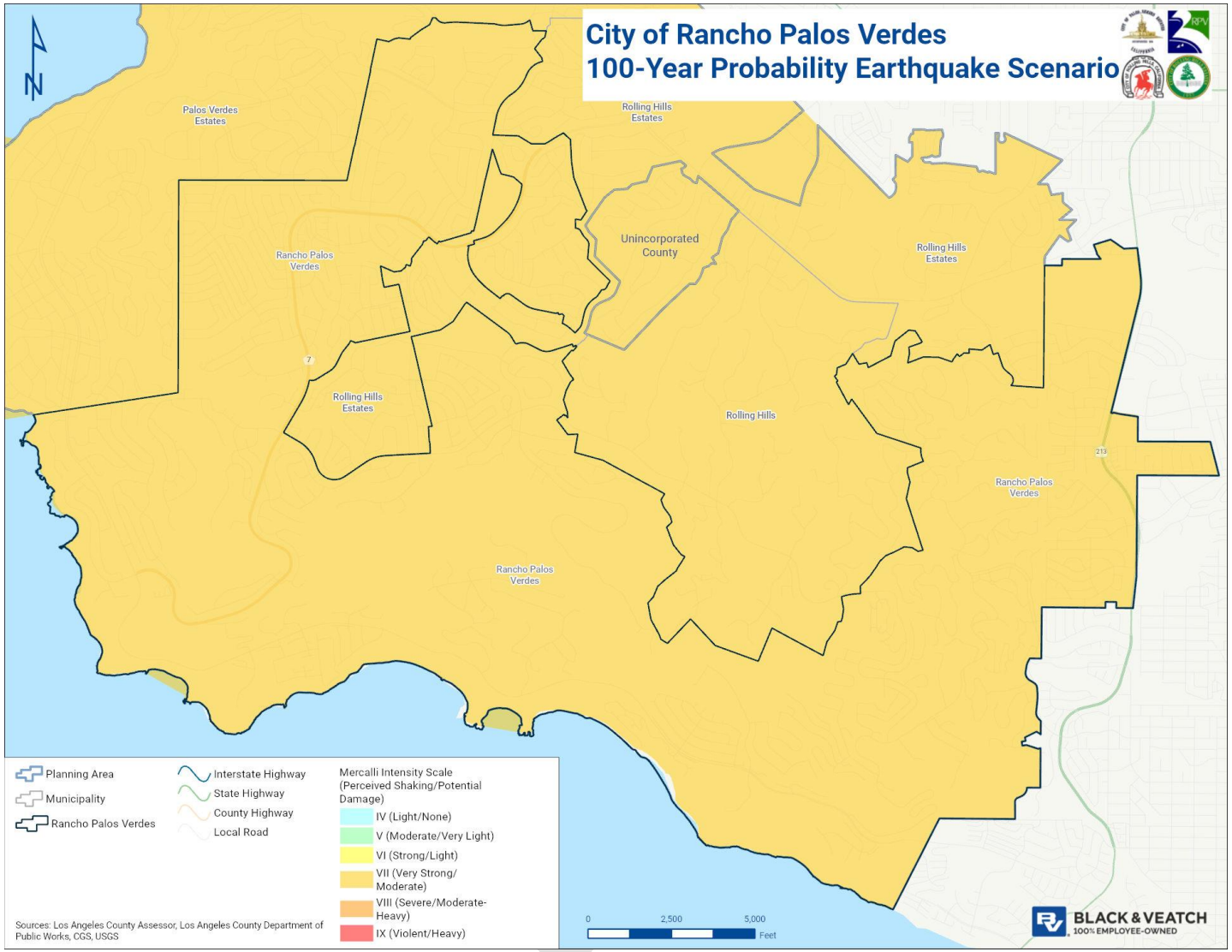


Figure 3-3. Earthquake Hazard Map – 100-Year Probability Scenario

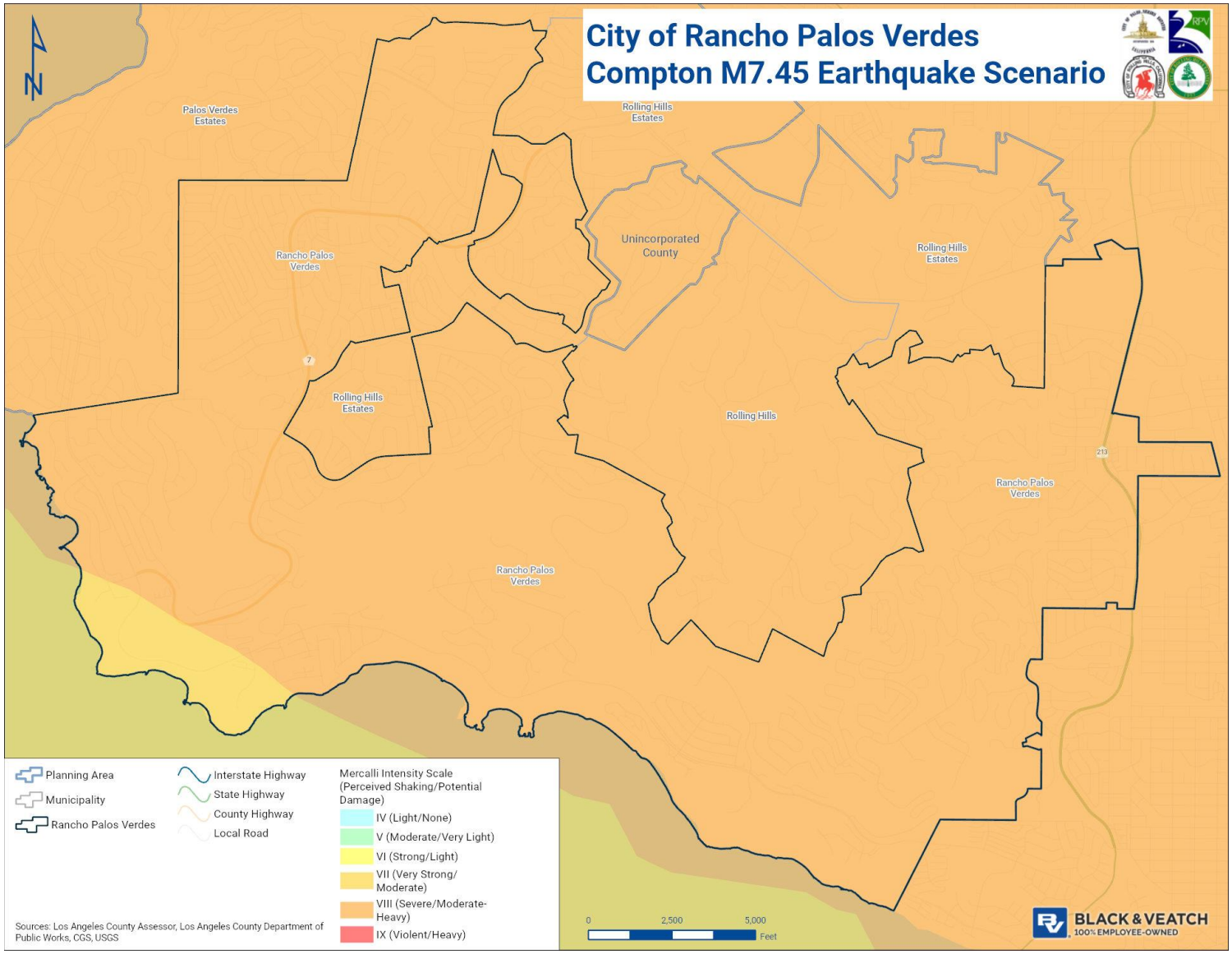


Figure 3-4. Earthquake Hazard Map – Compton M7.45 Scenario

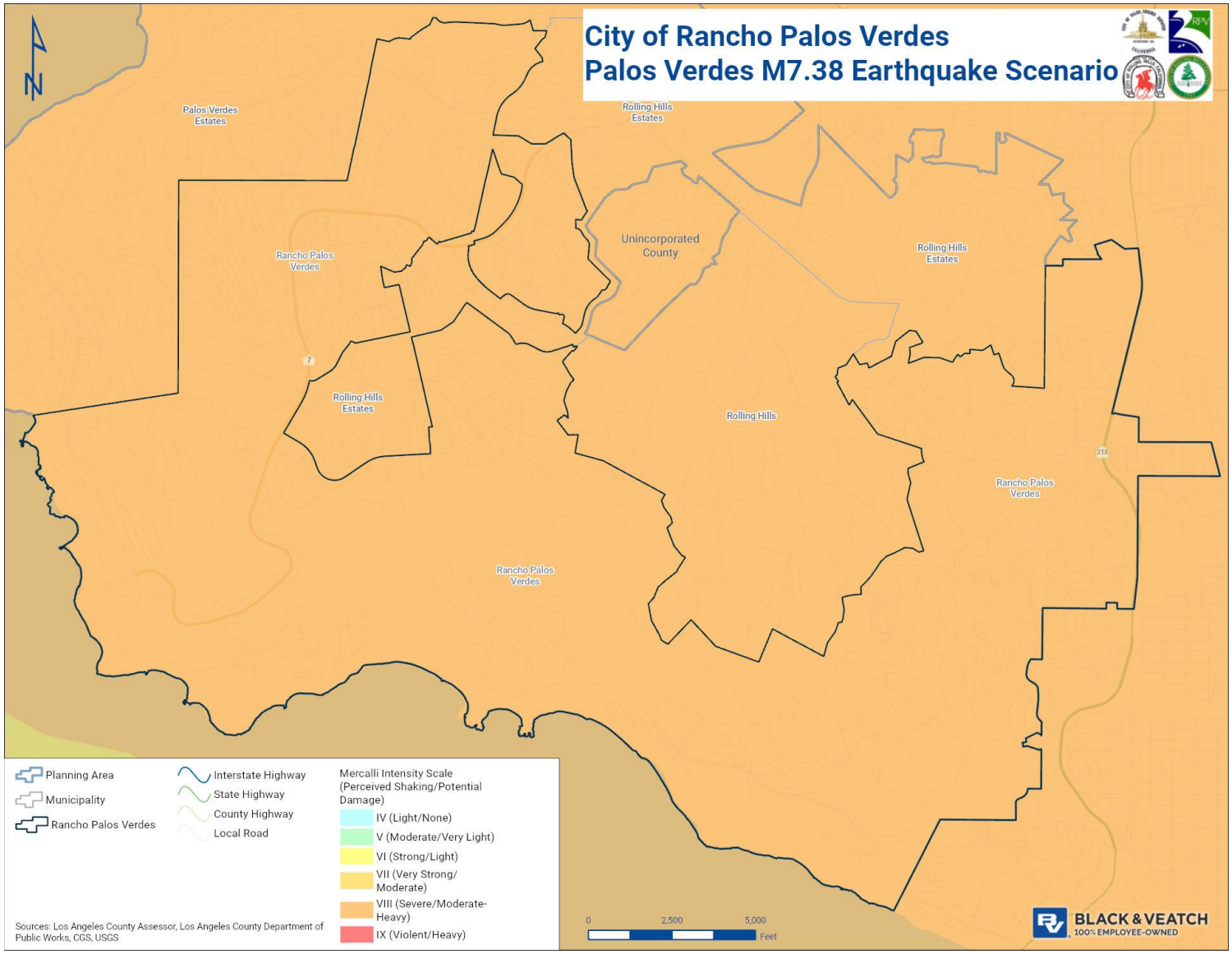


Figure 3-5. Earthquake Hazard Map – Palos Verdes M7.78 Scenario

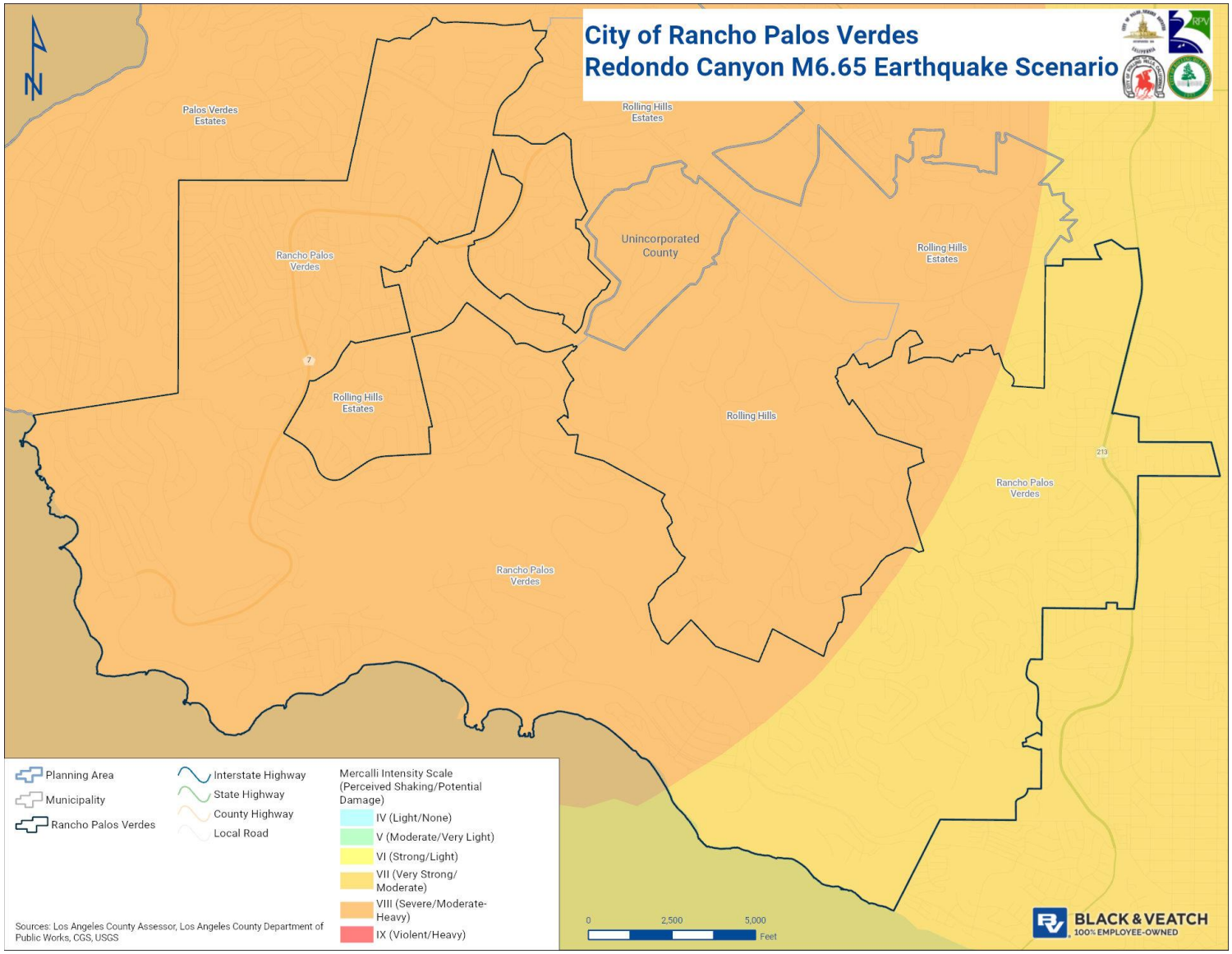


Figure 3-6. Earthquake Hazard Map – Redondo Canyon M6.65 Scenario

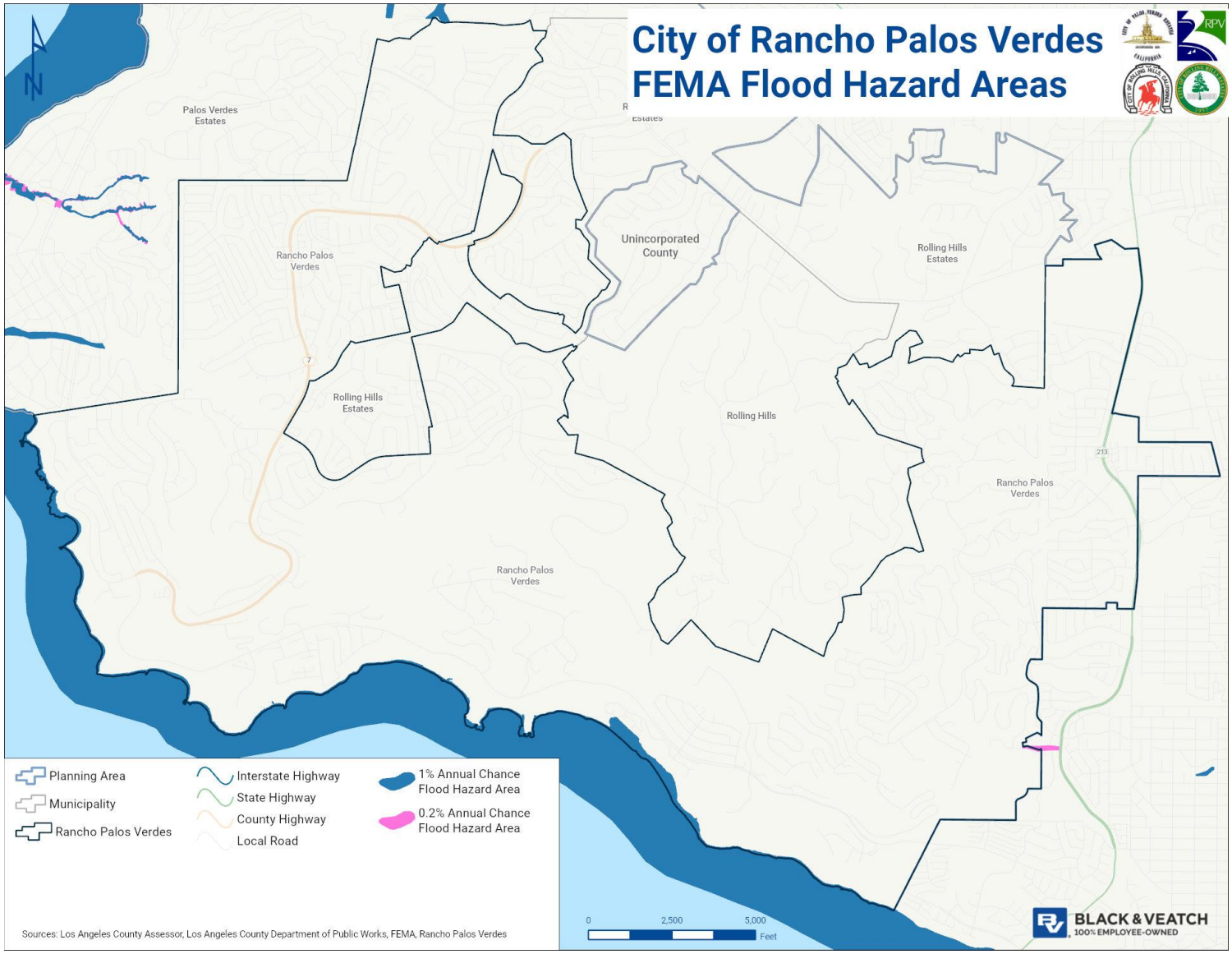


Figure 3-7. Flood Hazard Map – FEMA Flood Hazard Areas

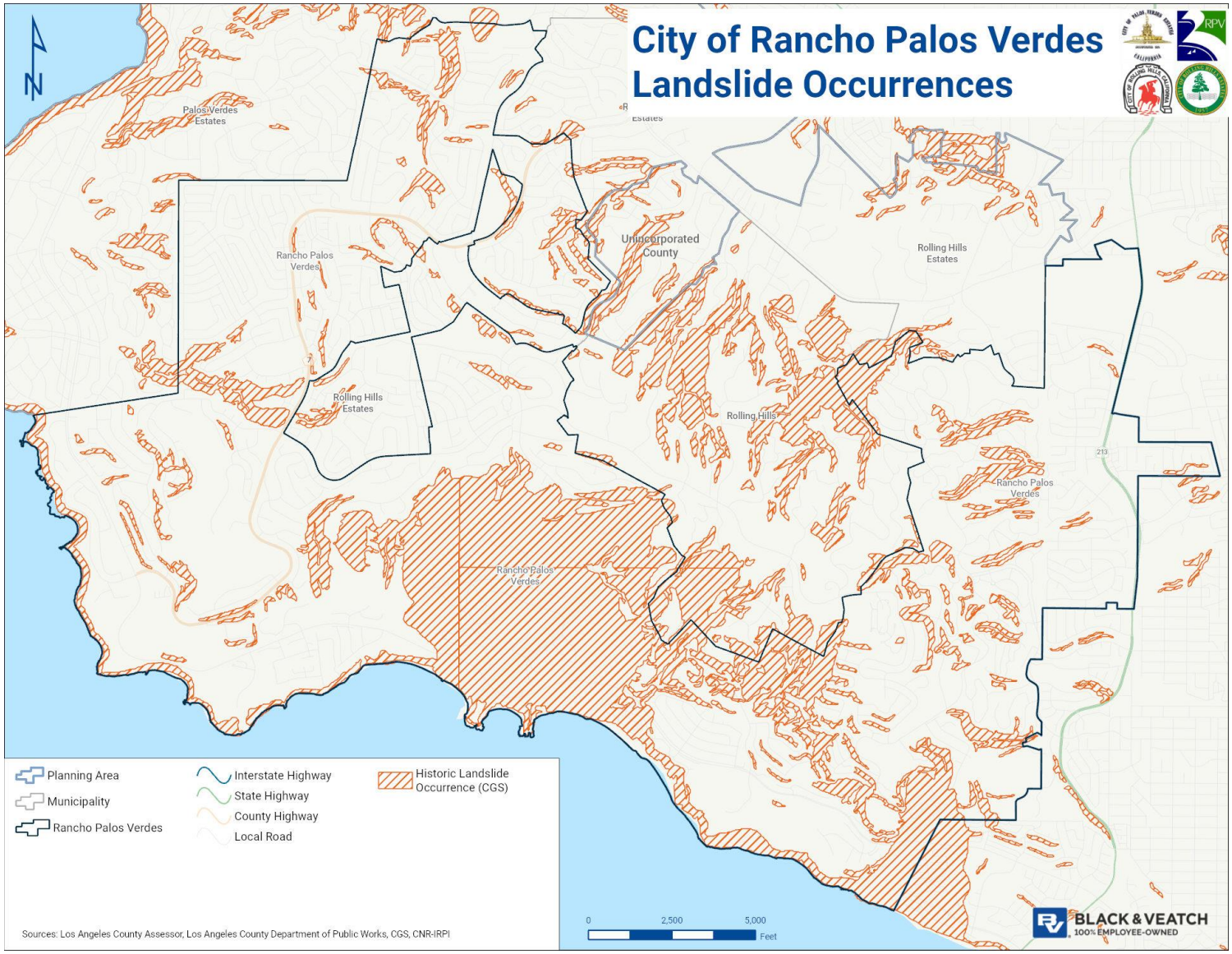


Figure 3-8. Landslide Hazard Map – Landslide Occurrences

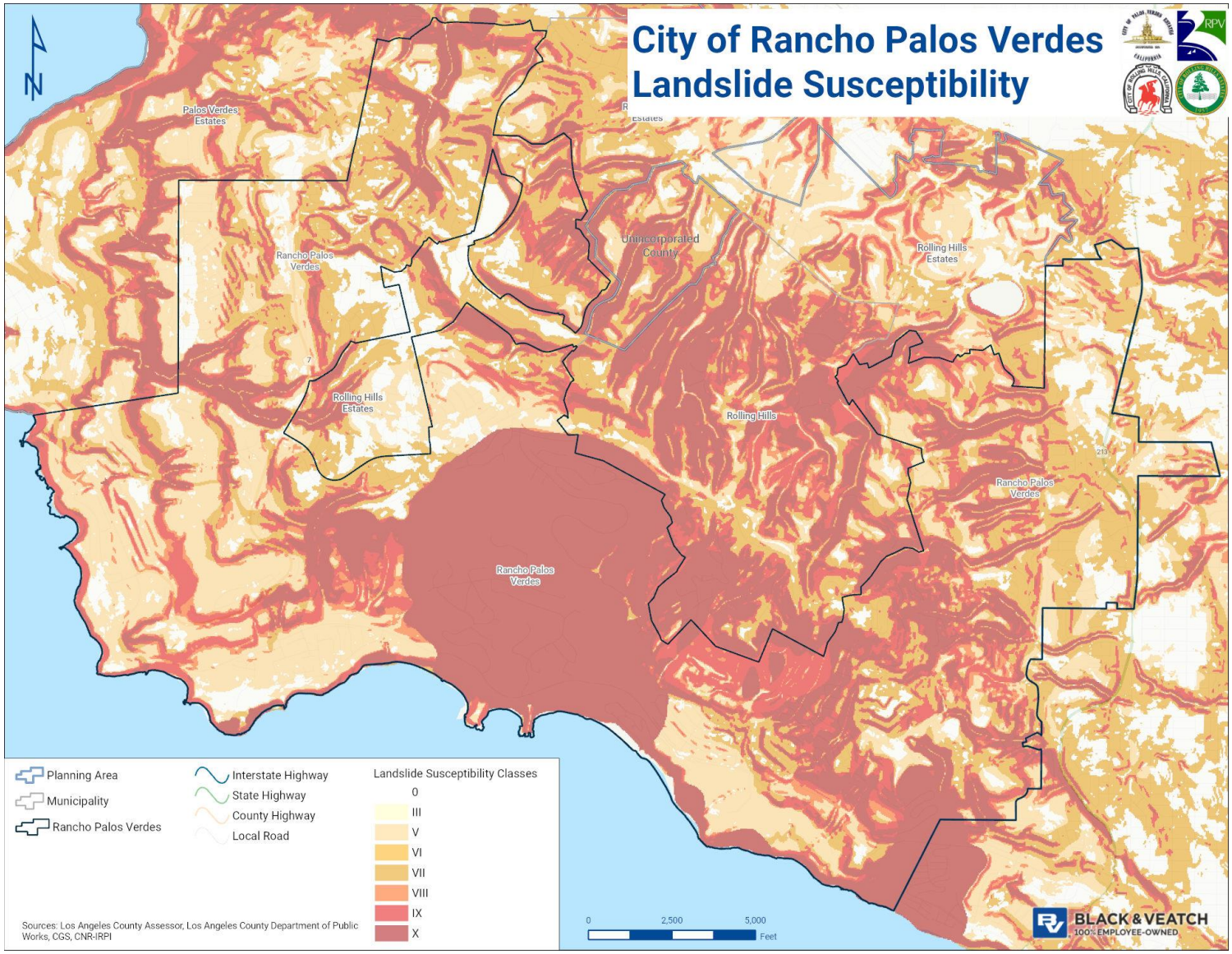


Figure 3-9. Landslide Hazard Map – Landslide Susceptibility

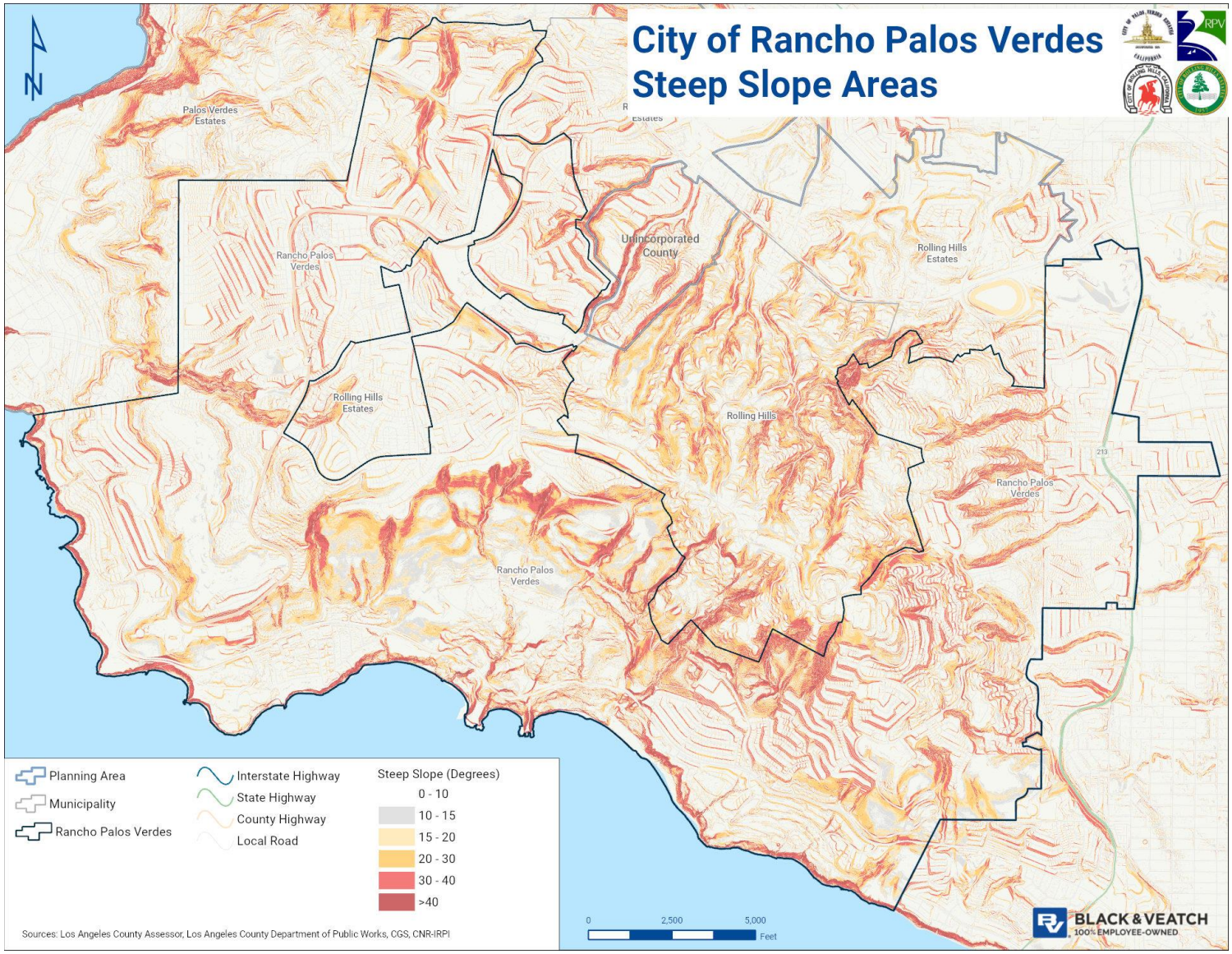


Figure 3-10. Landslide Hazard Map – Steep Slope Areas

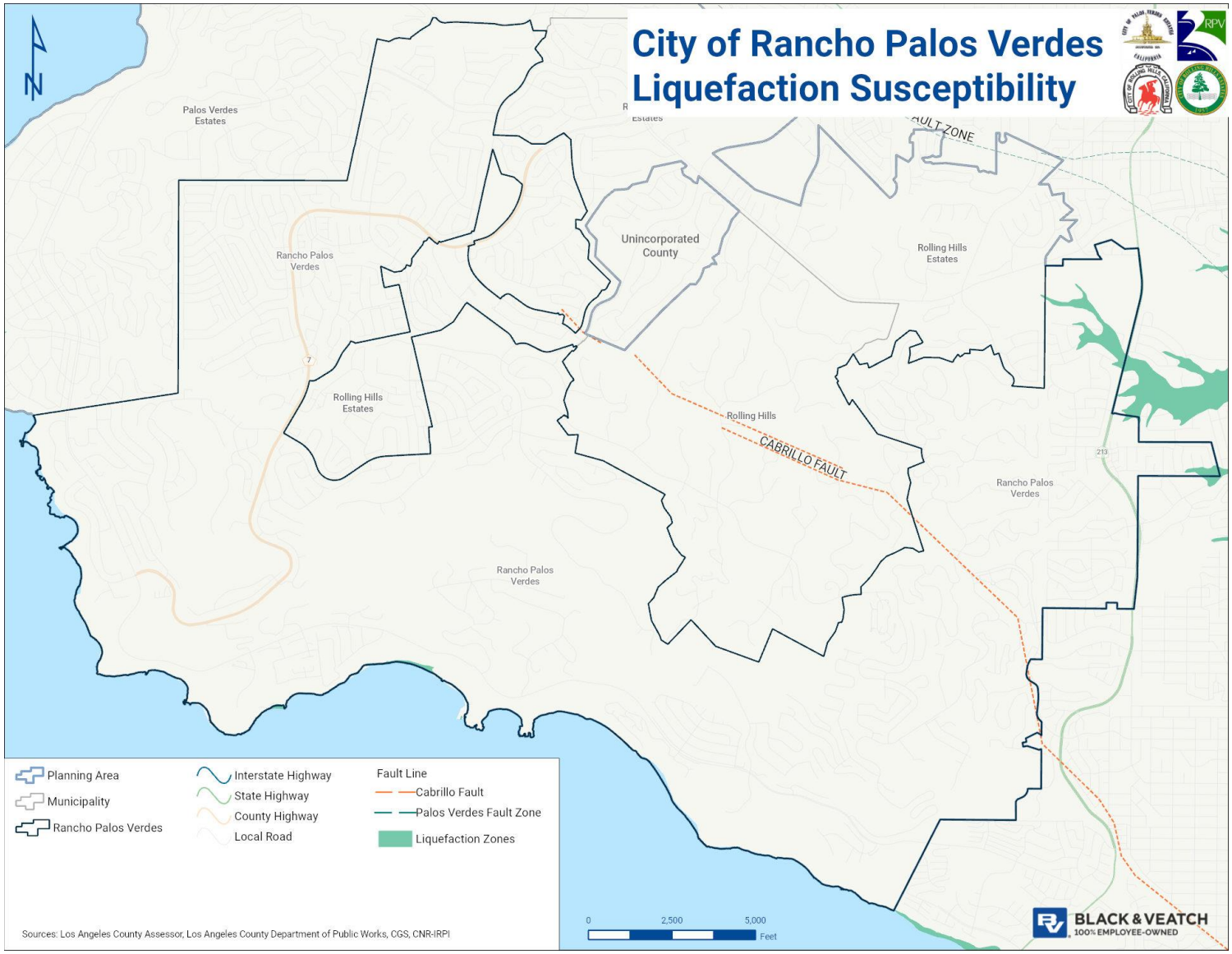


Figure 3-11. Liquefaction Hazard Map – Liquefaction Susceptibility

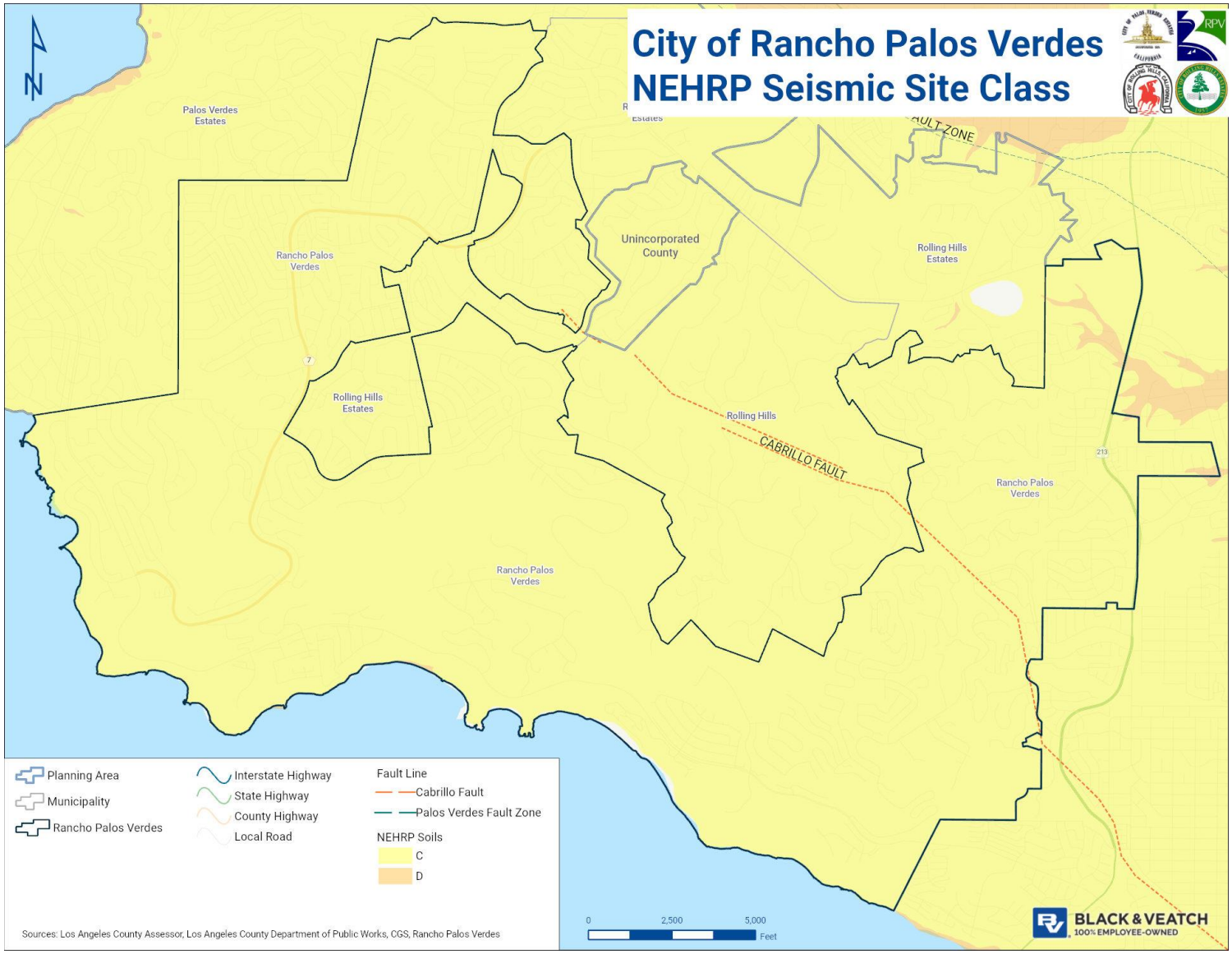


Figure 3-12. Liquefaction Hazard Map – NEHRP Seismic Site Class

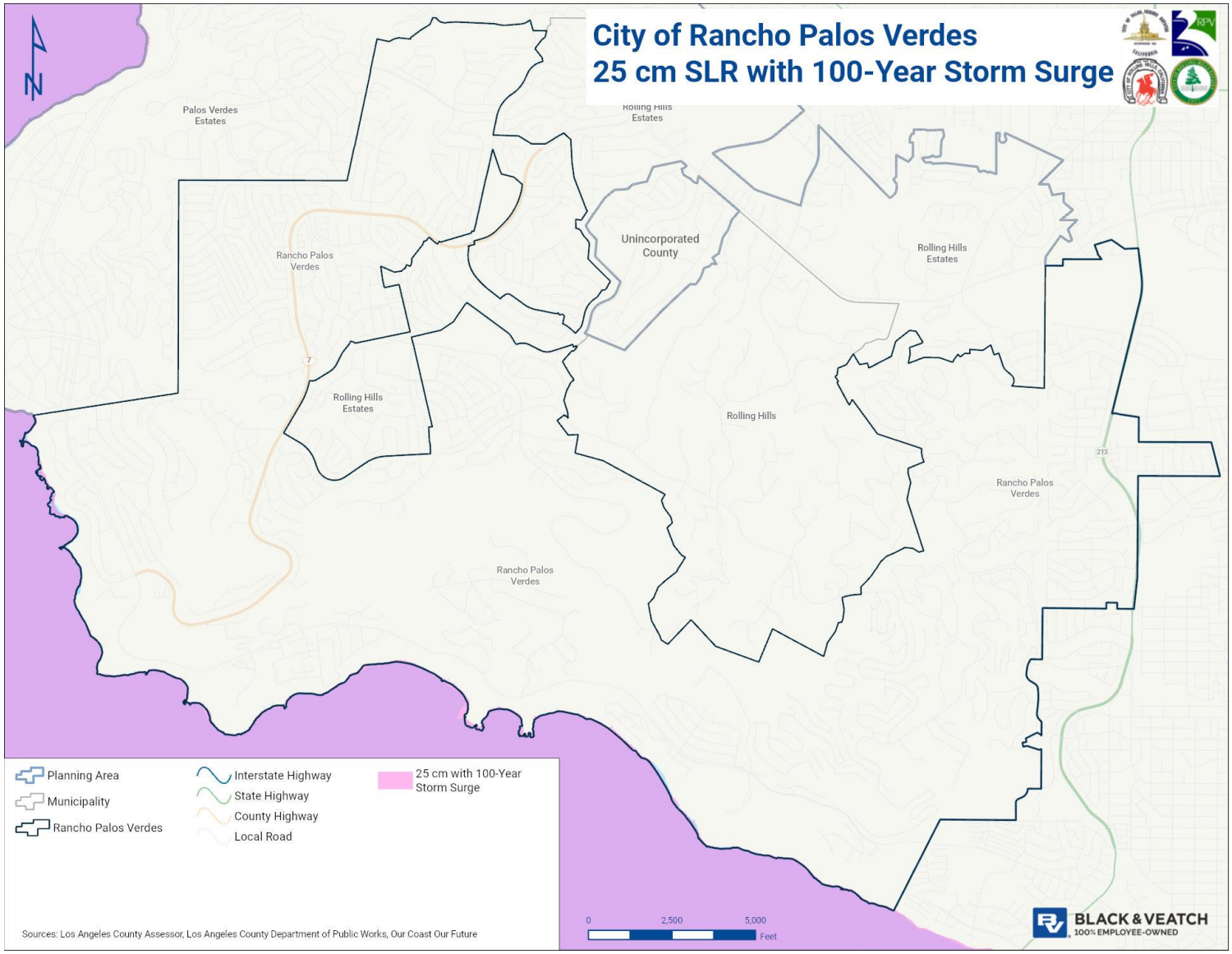


Figure 3-13. Sea Level Rise Hazard Map – 25 cm with 100-Year Storm Surge

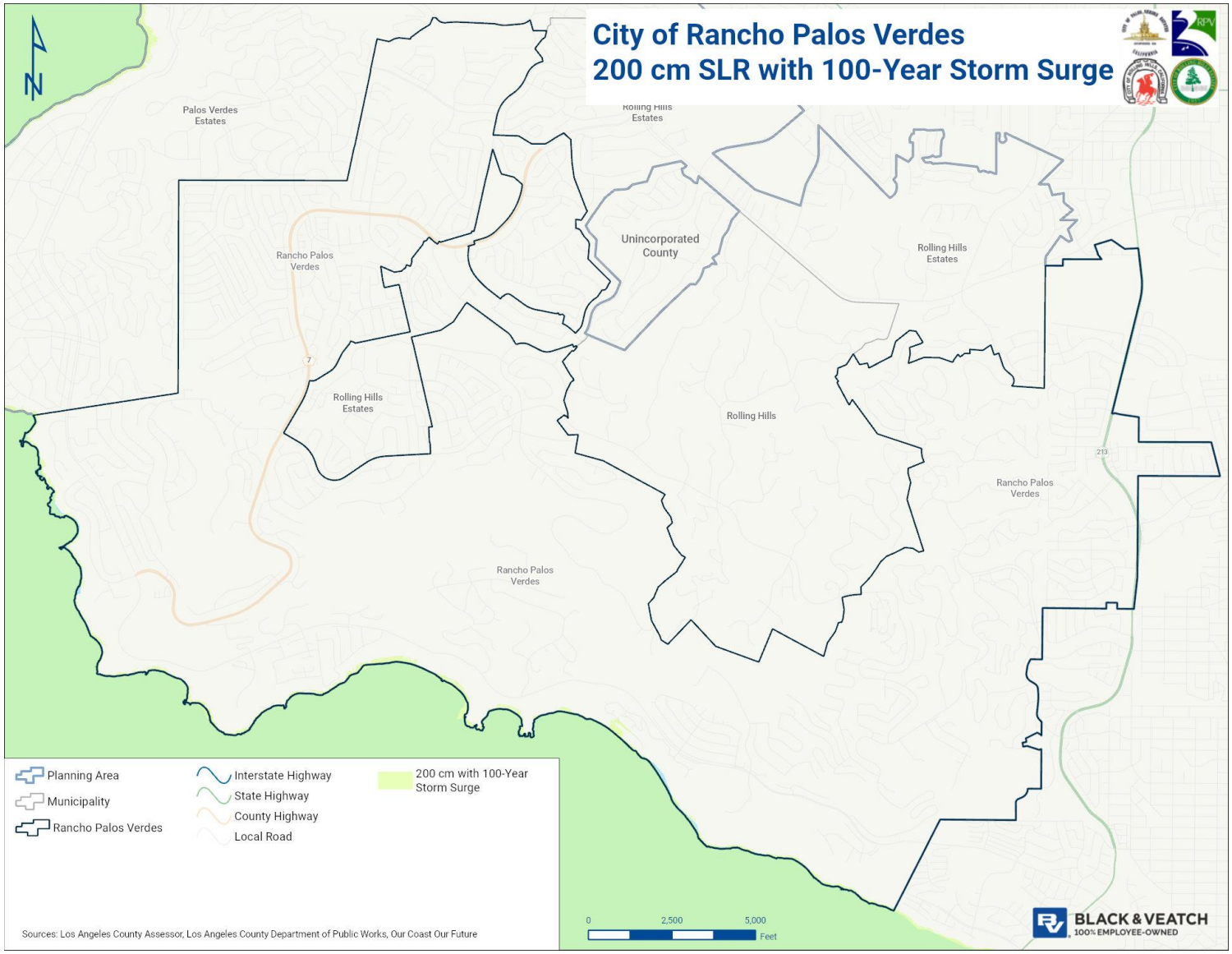


Figure 3-14. Sea Level Rise Hazard Map – 200 cm with 100-Year Storm Surge

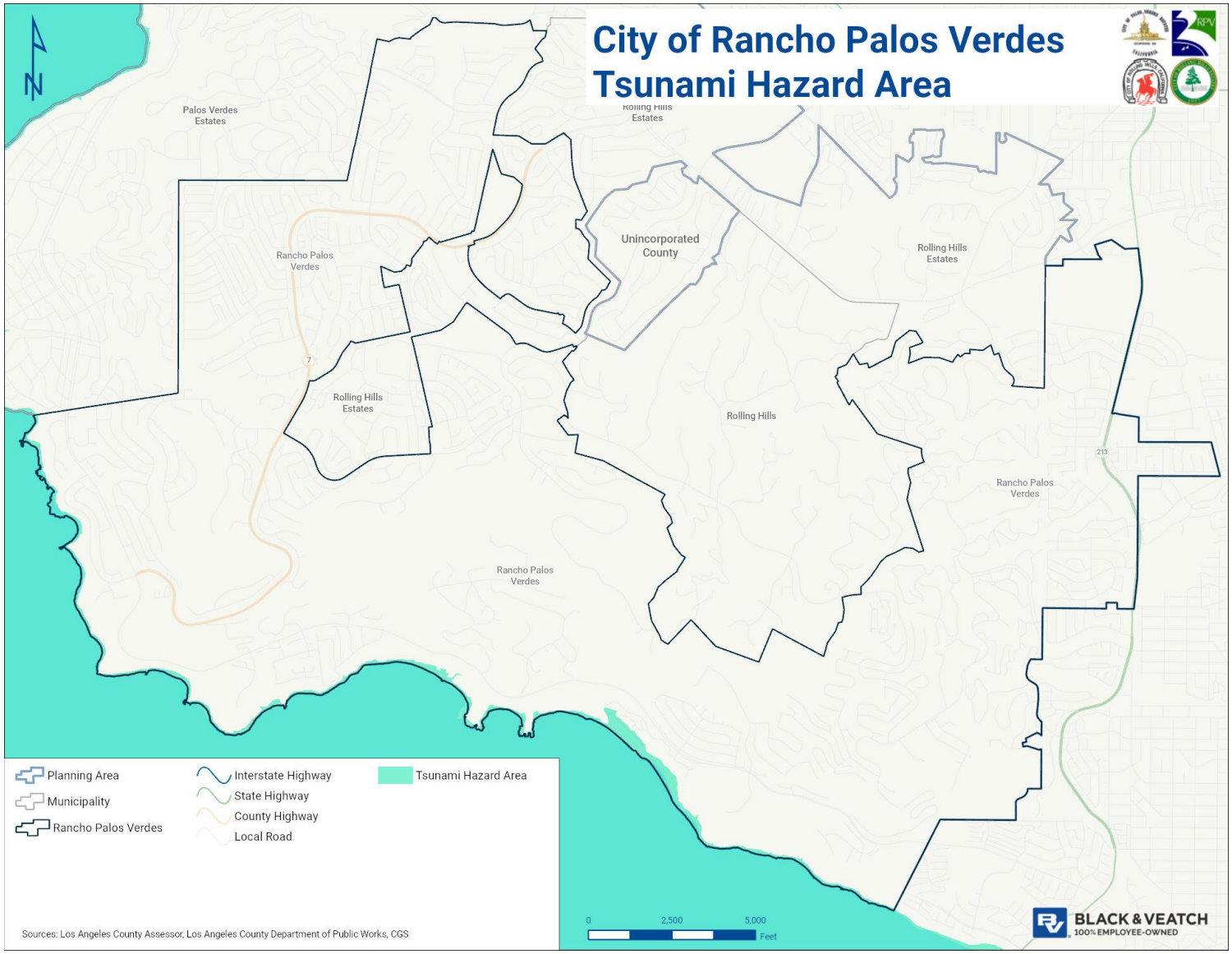


Figure 3-15. Tsunami Hazard Map – Tsunami Hazard Area

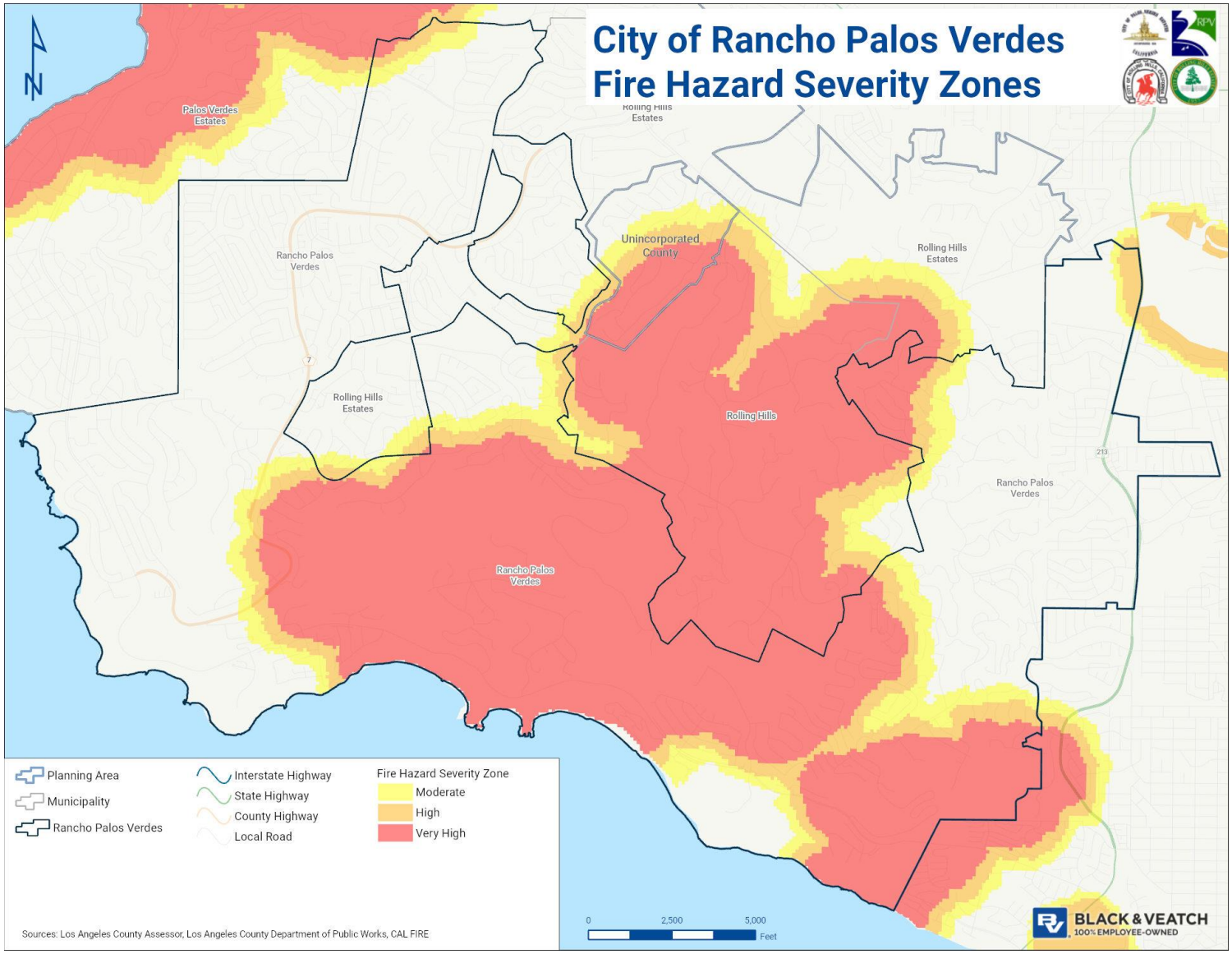


Figure 3-16. Wildfire Hazard Map – Fire Hazard Severity Zones

4. ROLLING HILLS



Figure 4-1. Rolling Hills

Source: Samantha Crew

4.1 LOCAL HAZARD MITIGATION PLANNING TEAM

Table 4-1. Local Planning Team

	Primary Point of Contact	Alternate Point of Contact
Name and Title:	Samantha Crew – Management Analyst	Karina Banales – City Manager
Address:	2 Portuguese Bend Road, Rolling Hills, CA 90274	2 Portuguese Bend Road, Rolling Hills, CA 90274
Phone Number:	310 377-1521	310 377-1521
Email:	Sjcrew@CityofRH.net	Kbanales@CityofRH.net
Contributors:		
Name and Title: Method of Participation:	Samantha Crew – Management Analyst Primary point of contact for the City's annex; participated on the Steering Committee; attended meeting; provided input throughout the planning process; identified mitigation actions; reviewed documents	
Name and Title: Method of Participation:	Stephanie Grant – Assistant Planner Attended meetings; provided input; reviewed documents	

Name and Title: Method of Participation:	Reina Schaetzl – Contract Senior Planner, Willdan Attended meetings; provided input; reviewed documents
Name and Title: Method of Participation:	Kristen Raig, RHCA Manager Provided input and reviewed the City annex

4.2 JURISDICTIONAL PROFILE

4.2.1 Location and Features

The City of Rolling Hills is characterized by its wooded, deep canyons and steep hilly terrain, situated within the San Pedro Hills of the Palos Verdes Peninsula in Southern California. Encompassing approximately three square miles, Rolling Hills is entirely residential and preserves its unique identity as a private, gated equestrian community.

Located in the northwestern portion of Los Angeles County, Rolling Hills is bordered on three sides by the City of Rancho Palos Verdes and on the north and northeast by the City of Rolling Hills Estates. Adjoining neighborhoods include Miraleste (east/southeast) and Portuguese Bend (south/southeast) in Rancho Palos Verdes, as well as Westfield to the northeast/east-northeast in the unincorporated Palos Verdes Peninsula.

Rolling Hills is known for its semi-rural environment, equestrian lifestyle, and strict residential land-use policies. The City's private roadways, large residential lots, and scenic canyon and ridgeline ocean views reinforce its rural atmosphere, setting it apart from the more urbanized communities surrounding it.

The Rolling Hills Community Association (RHCA) plays a central role in preserving the unique character and quality of life within the City of Rolling Hills. As the homeowners' association for all properties in the City, RHCA is responsible for maintaining the community's private roadways, security gates, equestrian trails, and common areas, as well as overseeing the architectural review process to ensure that development is consistent with the City's rural, equestrian, and residential character. The Association works in close partnership with the City of Rolling Hills to support public safety, emergency preparedness, and community standards.

While the terrain defines Rolling Hills' rural character, it also introduces hazard risks. The steep canyons and ridgelines make the community susceptible to landslides, wildfires, and drainage-related hazards. Prior to incorporation, Los Angeles County soil and geology studies in 1948 identified the "Flying Triangle" as a landslide area. Despite these findings, development occurred due to limited regulations and scientific understanding at the time. When the City incorporated in 1957, it adopted the Los Angeles County Building Code, which still guides local development. In 1973, a large wildfire swept through the Flying Triangle, destroying homes, stables, and other structures. Rebuilding was permitted under waivers requiring property owners to acknowledge landslide risks and indemnify the City and County of liability. This history reflects both the community's resilience and its ongoing exposure to wildfire and slope instability.

Land-use decisions made before incorporation continue to affect the community today. Development in geologically unstable areas, combined with the aging of private infrastructure, has created ongoing and future vulnerabilities. These risks became evident in September 2024, when the City of Rolling Hills experienced prolonged utility shutoffs that left some residents without electricity and gas service. The

outages had a significant impact on daily life and placed a financial burden on affected households. While the disruptions were tied to ongoing land movement in the area of the Flying Triangle, they also extended into previously stable ground, including streets east of the Flying Triangle such as Quail Ridge and Cinchring. This event underscored both the long-standing challenges of building in geologically sensitive terrain and the emerging risks to newer areas of the City.

On March 24, 2025, the California Office of the State Fire Marshal (OSFM) released its 2025 Recommended Fire Hazard Severity Zone (FHSZ) maps for Local Responsibility Areas (LRA) in Los Angeles County, including Rolling Hills.

Today, Rolling Hills' jurisdictional profile highlights both its distinctive community identity, private, equestrian-oriented, and strictly residential and its vulnerabilities, particularly to natural hazards shaped by the hilly terrain, the legacy of past land-use decisions, and its designation within a Very High Fire Hazard Severity Zone.

4.2.2 History

From its inception in 1936, the community of Rolling Hills was guided by a set of deed restrictions established by its original developer, A. E. Hanson, who envisioned a private, gated equestrian community characterized by large lots, open space, and a rural ranch-style environment. These deed restrictions shaped the community's unique character, ensuring the preservation of horse trails, limited residential density, and architectural consistency. Building upon this foundation, the City was formally incorporated on January 24, 1957, to provide a stronger governmental structure while continuing to uphold the principles established by its founding documents.

4.2.3 Governance

The City of Rolling Hills is governed by a five-member City Council, including a Mayor selected by the Council on a rotating basis. As a contract city, Rolling Hills provides most municipal services through agreements with Los Angeles County and other agencies, while retaining direct responsibility for core functions such as planning, permitting, and local ordinances. The City assumes responsibility for the adoption of this plan and will oversee its implementation in coordination with partner agencies and stakeholders.

4.3 CURRENT TRENDS

4.3.1 Population

According to the California Department of Finance, the population of City of Rolling Hills as of May 2025 was 1,677. Since 1970, the population has decreased by at an average annual rate of 2.8 percent.

4.3.2 Development

Table 4-2. Recent and Expected Future Development Trends

Criterion	Response					
Has your jurisdiction annexed any land since the preparation of the previous hazard mitigation plan?	No					
• If yes, give the estimated area annexed and estimated number of parcels or structures.	N/A					
Is your jurisdiction expected to annex any areas during the performance period of this plan?	No					
• If yes, describe land areas and dominant uses.	N/A					
• If yes, who currently has permitting authority over these areas?	N/A					
Provide the number of new construction permits for each hazard area or provide a qualitative description of where development has occurred.	-					
Are any areas targeted for development or major redevelopment in the next five years?	Case by case – development is ongoing and reviewed on a site by site submittal; no major redevelopment is targeted in the next five years.					
• If yes, briefly describe, including whether any of the areas are in known hazard risk areas	See above.					
How many permits for new construction were issued in your jurisdiction since the preparation of the previous hazard mitigation plan?		2020	2021	2022	2023	2024
	Single Family	1	1	1		
	Multi-Family					
	Other (mobile homes, accessory dwellings, mixed use, etc.)		1		2	3
	Commercial					
	Total	1	2	1	2	3
Describe the level of buildout in the jurisdiction, based on your jurisdiction's buildable lands inventory. If no such inventory exists, provide a qualitative description.	The City is essentially fully built out, with nearly all of its three square miles developed as large-lot residential properties. Rolling Hills was designed from the outset as a strictly residential, equestrian-oriented community, and its land use is governed by deed restrictions that prohibit commercial or industrial development. Lots are generally two to five acres in size, with homes, stables, and equestrian facilities spread across the hillside terrain. What remains in terms of "buildable" land is primarily tied to reconstruction, remodels, or limited infill on existing lots rather than the creation of new housing tracts.					

4.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand or improve upon capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan.

4.4.1 Planning and Regulatory Capabilities

Jurisdictions have the ability to develop policies and programs and to implement rules and regulations to protect and serve residents. Local policies are typically identified in community plans, implemented through local ordinance, and enforced through a governing body. An assessment of planning and regulatory capabilities is presented in Table 3-3.

Table 4-3. Planning and Regulatory Capabilities

		Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
Codes, Ordinances, & Requirements					
Building Code		Yes	No	Yes	Yes
Comment:	*Chapter 15 (Buildings and Construction) specifies how new structures can be built. It includes the California Building Code, in addition to any amendments made by the City. Mitigation actions may involve amending the Building Code to improve a building's safety or structural stability.*				
Zoning Code		Yes	No	Yes	Yes
Comment:	*Chapter 17 (Zoning) was adopted and established in order to provide the economic and social advantages resulting from an orderly and planned use of land resources; to conserve and promote the public interest, health, comfort, and convenience of the City and its inhabitants; and to preserve the public peace, safety, morals, order and general welfare of the City and its inhabitants.*				
Subdivisions		Yes	No	Yes	Yes
Comment:	*Chapter 16 (Subdivision) promotes the conservation, stabilization and protection of property values through orderly growth and development, the provisions of necessary public and private facilities, and generally, the public health, safety and general welfare within the corporate boundaries of the City.*				
Stormwater Management		Yes	No	Yes	Yes
Comment:	*Chapter 8.32 (Stormwater Management and Pollution Control) is set to comply with the Federal Clean Water Act, the California Porter-Cologne Water Quality Control Act, and the Municipal NPDES Permit*				
Post-Disaster Recovery		No	No	No	No
Comment:	-				
Real Estate Disclosure		No	Yes	Yes	No
Comment:	*California Civil Code 1102*				
Growth Management		No	No	No	No
Comment:					
Site Plan Review		Yes	No	No	Yes
Comment:	*Chapter 17.46 (Site Plan Review) is established to provide discretionary review of certain development projects in the City for the purposes of ensuring that the proposed project is consistent with the City's*				

		Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
	General Plan; incorporates environmentally and aesthetically sensitive grading practices; preserves existing mature vegetation; is compatible and consistent with the scale, massing and development pattern in the immediate project vicinity; and otherwise preserves and protects the health, safety and welfare of the citizens of Rolling Hills.				
Environmental Protection		Yes	No	Yes	Yes
Comment:	*General Plan Open Space/Conservation Element outlines long-term direction for development and environmental protection policy in Rolling Hills. There are opportunities to coordinate environmental protection actions with policies governed by the General Plan. Next update to General Plan Open Space/Conservation Element should include integration with the Hazard Mitigation Plan. Also, General Plan is an excellent resource to assist with implementing many of the mitigation action items identified in the Hazard Mitigation Plan.*				
Flood Damage Prevention		Yes	Yes	Yes	Yes
Comment:	*Chapter 8.36 (Floodplain Management Regulations) promotes the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas. The Cit requires a flood damage prevention permit for all proposed construction or other development in the community, including substantial damage, and the placement of manufactured homes, so that it may be determined whether such construction or other development is within flood-prone areas.*				
Emergency Management		Yes	No	Yes	Yes
Comment:	*General Plan Safety Element outlines long-term direction for safety measures and emergency response preparedness and recovery policy in Rolling Hills. There are opportunities to mitigate the impacts of natural disasters governed by the General Plan. Next update to General Plan Safety Element should include integration with the Hazard Mitigation Plan. Also, General Plan is an excellent resource to assist with implementing many of the mitigation action items identified in the Hazard Mitigation Plan.*				
Climate Change		Yes	No	Yes	Yes
Comment:	*General Plan Open Space/Conservation Element outlines long-term direction for air quality and climate change policy in Rolling Hills. There are opportunities to mitigate the impacts of climate change with policies governed by the General Plan. Next update to General Plan Open Space/Conservation Element should include integration with the Hazard Mitigation Plan. Also, General Plan is an excellent resource to assist with implementing many of the mitigation action items identified in the Hazard Mitigation Plan.*				
Planning Documents					
General Plan		Yes	No	Yes	Yes
Is the General Plan compliant with Assembly Bill 2140?	Yes				
Comment:	*General Plan outlines long-term direction for development and policy in Rolling Hills. The Local Hazard Mitigation Plan (LHMP or HMP) is a separate document adopted into the Safety Element of the General Plan by Resolution No. 1314 in compliance with AB 2140. It is available electronically at https://www.rolling-hills.org/government/planning_and_community_services/index.php*				

		Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
Capital Improvement Plan		No	No	No	Yes
How often is the plan updated?	*The City of Rolling Hills adopts a three-year Capital Improvement Plan (CIP) as part of its annual budget process, and that CIP is updated every fiscal year to provide a forward-looking multi-year project outlook.*				
Comment:	*The Capital Improvement Program directs construction activities for City-owned facilities and infrastructure for the next three years. Mitigation actions may involve construction of new or upgraded facilities and infrastructure.*				
Disaster Debris Management Plan		No	No	No	No
Comment:	*The City does not maintain a stand-alone debris removal plan; however, debris management is addressed in the Hazard Mitigation Plan. Debris clearance is coordinated through the Los Angeles County Department of Public Works, while the Rolling Hills Community Association is responsible for ongoing road maintenance.*				
Floodplain or Watershed Plan		No	No	No	No
Comment:	*The City does not maintain its own standalone floodplain management plan; however, it is included in regional efforts such as the Los Angeles County Comprehensive Floodplain Management Plan, which references Rolling Hills.*				
Stormwater Plan		No	No	Yes	No
Comment:	*Rolling Hills participates in stormwater and watershed management through regional collaboration as part of the Coordinated Integrated Monitoring Program (CIMP) under the NPDES municipal stormwater permit, in coordination with other Palos Verdes Peninsula agencies.*				
Urban Water Management Plan		No	No	No	No
Comment:	*California Water Service is the water utility operator.*				
Habitat Conservation Plan		No	No	No	No
Comment:	*The General Plan includes elements like Land Use, Housing, Conservation, Safety, and Open Space.*				
Economic Development Plan		No	No	No	No
Comment:	*None – all residential*				
Community Wildfire Protection Plan		No	No	No	No
Comment:	*The General Plan includes elements like Land Use, Housing, Conservation, Safety, and Open Space.*				
Forest Management Plan		No	No	No	No
Comment:	*The General Plan includes elements like Land Use, Housing, Conservation, Safety, and Open Space.*				
Climate Action Plan		Yes	No	Yes	No
Comment:	*A CAP was developed and adopted in 2018, outlining greenhouse gas (GHG) reduction targets, strategies, and implementation measures tailored to the City's circumstances.*				
Threat & Hazard Identification & Risk Assessment (THIRA)		No	Yes	No	No
Comment:	*Rolling Hills is a small rural City and relies on its Hazard Mitigation Plan (HMP), from 2019, for hazard identification and risk assessment. That plan covers earthquakes, land movement, wildfire, and drought as the City's highest-risk hazards.*				
Post-Disaster Recovery Plan		No	No	No	No
Comment:	*No standalone plan. The City's Hazard Mitigation Plan (HMP), most recently adopted in January 2019, includes elements related to recovery.*				
Continuity of Operations Plan		No	Yes	No	No
Comment:	*No standalone plan. However, broader continuity planning responsibilities fall under the County of Los Angeles Emergency Operations Plan (EOP).*				

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
Public Health Plan	No	Yes	No	No
Comment:	*Rolling Hills relies on Los Angeles County's public health efforts, such as health oversight, environmental health services, and planning, rather than having its own city-specific plan.*			
Other	Yes	No	No	No
Comment:	*Emergency Operations Plan is a reference and guidebook to operations during a major emergency impacting Rolling Hills. The Plan includes a discussion on a wide range of hazards, organization and staffing of the Emergency Operations Center, and connectivity with field responders and external agencies. The Emergency Operations Plan is an excellent source of hazard information for the Hazard Mitigation Plan.*			

Opportunities to Expand Planning and Regulatory Capabilities

As the City updates its plans, codes, and ordinances, there are opportunities to expand current planning and regulatory capabilities that can better address hazard mitigation. This can be done by adopting hazard-resilient policies and implementing local ordinances that protect residents, properties, and community lifelines. Strengthening these tools helps the City with integrated mitigation into land use decisions, development standards, and long-range planning efforts.

4.4.2 Development and Permitting Capabilities

Jurisdictions regulate land use through the adoption and enforcement of zoning, subdivision and land development ordinances, building codes, building permit ordinances, floodplain, and stormwater management ordinances. When effectively prepared and administered, these regulations can lead to hazard mitigation. Development and permitting capabilities are presented in Table 3-4.

Table 4-4. Development and Permitting Capabilities

Criterion	Response
Does your jurisdiction issue development permits?	Yes
If no, who does? If yes, which department?	--
Does your jurisdiction track permits by hazard area?	No (in process to create new maps via new GIS program recently purchased)
Does your jurisdiction have a buildable lands inventory?	No (in process to create new maps via new GIS program recently purchased)

4.4.3 Fiscal Capabilities

Assessing a jurisdiction's fiscal capability provides an understanding of the ability to fulfill the financial needs associated with hazard mitigation projects. This assessment identifies both outside resources, such as grant funding eligibility, and local jurisdictional authority to generate internal financial capability, such as through impact fees. An assessment of fiscal capabilities is presented in Table 3-5.

Table 4-5. Fiscal Capabilities

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	No
Authority to Levy Taxes for Specific Purposes	No
User Fees for Water, Sewer, Gas or Electric Service	No
Incur Debt through General Obligation Bonds	No
Incur Debt through Special Tax Bonds	No
Incur Debt through Private Activity Bonds	No
Withhold Public Expenditures in Hazard-Prone Areas	No
State-Sponsored Grant Programs	No
Development Impact Fees for Homebuyers or Developers	No

Opportunities to Expand Fiscal Capabilities

The City can strengthen its fiscal capabilities for hazard mitigation by integrating mitigation priorities into its Capital Improvement Plan and by assessing and enhancing financial resources available to support reducing hazard risk, including federal and state grant programs (e.g., FEMA HMA).

4.4.4 Administrative and Technical Capabilities

Planning regulatory, and fiscal capabilities provide the backbone for successfully developing a mitigation strategy; however, without the appropriate personnel, the strategy may not be implemented. Administrative and technical capabilities focus on the availability of personnel resources responsible for implementing all the facets of hazard mitigation. These resources include technical experts, such as engineers and scientists, as well as personnel with capabilities that may be found in multiple departments, such as grant writers. An assessment of administrative and technical capabilities is presented in Table 3-6.

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Table 4-6. Administrative and Technical Capabilities

Staff/Personnel Resource		Available?
Planners or engineers with knowledge of land development and land management practices		Yes
If Yes, Department /Position:	Stephanie Grant/Assistant Planner	
Engineers or professionals trained in building or infrastructure construction practices		Yes
If Yes, Department /Position:	Contract with LA County and Willdan	
Planners or engineers with an understanding of natural hazards		Yes
If Yes, Department /Position:	Contract with LA County and Willdan	
Staff with training in benefit-cost analysis		Yes
If Yes, Department /Position:	Samantha Crew/Management Analyst	
Surveyors		Yes
If Yes, Department /Position:	Contract with LA County and Willdan	
Personnel skilled or trained in GIS applications		Yes
If Yes, Department /Position:	Stephanie Grant/Assistant Planner	
Scientist familiar with natural hazards in local area		Yes
If Yes, Department /Position:	Contract with LA County and Willdan	
Emergency manager		Yes
If Yes, Department /Position:	Samantha Crew/Management Analyst	
Grant writers		No
If Yes, Department /Position:	-	
Procurement Services and Management		Yes
If Yes, Department /Position:	Christian Horvath/Assistant to the City Manager / City Clerk	

Opportunities to Expand Administrative and Technical Capabilities

The City can expand its administrative and technical capabilities for hazard mitigation by strengthening internal coordination, expanding staff expertise, and improving systems that support planning and project implementation. This can include providing training for municipal personnel on hazard mitigation programs, regulations, and tools, as well as establishing contracts to increase staff capacity as needed.

4.4.5 Education and Outreach Capabilities

Regular engagement with the public on issues regarding hazard mitigation provides an opportunity to directly interface with community members. Assessing the education and outreach capability illustrates the connection between the government and community members, which opens a two-way dialogue that can result in a more resilient community, based on awareness and engagement. An assessment of education and outreach capabilities is presented in Table 3-7.

Table 4-7. Education and Outreach Capabilities

Criterion	Response
Do you have a public information officer or communications office?	Yes
Do you have personnel skilled or trained in website development?	Yes
Do you have hazard mitigation information available on your website?	Yes
If yes, briefly describe:	Please see Hazard Mitigation Plan posted here: City of Rolling Hills
Do you use social media for hazard mitigation education and outreach?	No
If yes, briefly describe:	
Do you have any citizen boards or commissions that address issues related to hazard mitigation?	Yes

Criterion		Response
If yes, briefly describe:	*The Rolling Hills Community Association post hazard mitigation items for the city through their community outreach platform, Dwelling Live.*	
Do you have any other programs in place that could be used to communicate hazard-related information?		Yes
If yes, briefly describe:	*Blue Newsletter mail out (twice a month); Block Captain Program – an emergency preparedness volunteer group (emails and meetings).*	
Do you have any established warning systems for hazard events?		Yes
If yes, briefly describe:	*Emergency Outdoor Sirens and Alert Notifications through Alert SouthBay.*	

Opportunities to Expand Education and Outreach Capabilities

The City can expand current education and outreach capabilities through broadening outreach efforts on the City's website and newsletter. This may include sharing progress on mitigation projects, developing clear and accessible educational materials, and creating opportunities for residents to learn more about disaster preparedness and actions they can take to reduce their risk of hazards. Strengthening and expanding these efforts can help build a more resilient community.

4.4.6 Community Classifications

Table 4-8. Community Classifications

	Participating?	Classification or Number	Date Classified
FIPS Code	Yes	037-60602	N/A
UEI#	Yes	018945170	N/A
Community Rating System	No	-	-
Building Code Effectiveness Grading Schedule (BCEGS)	Yes	Generally score in the 1–4 range on BCEGS.	N/A
Public Protection (ISO for Fire)	Yes	PPC Class 2 or 3	N/A
Storm Ready	No	-	-
Tsunami Ready	No	-	-
Firewise	No	-	-

4.4.7 Adaptive Capacity for Climate Change

Table 4-9. Adaptive Capacity for Climate Change

Criterion		Jurisdiction Rating[a]
Technical Capacity		
Jurisdiction-level understanding of potential climate change impacts		Low
Jurisdiction-level monitoring of climate change impacts		Low
Technical resources to assess proposed strategies for feasibility and externalities		Low
Jurisdiction-level capacity for development of greenhouse gas emissions inventory		Low
Capital planning and land use decisions informed by potential climate impacts		Medium
Participation in regional groups addressing climate risks		Medium
Comment:	*Yes, Rolling Hills is a member of the South Bay Cities Council Of Government, a Joint Powers Authority comprising 16 South Bay cities plus unincorporated LA County areas.*	

Criterion	Jurisdiction Rating[a]
Implementation Capacity	
Clear authority/mandate to consider climate change impacts during public decision-making processes	Medium
Identified strategies for greenhouse gas mitigation efforts	Medium
Identified strategies for adaptation to impacts	Low
Champions for climate action in local government departments	Low
Political support for implementing climate change adaptation strategies	Medium
Financial resources devoted to climate change adaptation	Low
Local authority over sectors likely to be negative impacted	Medium
Public Capacity	
Residents' knowledge of and understanding of climate risk	High
Residents' support of adaptation efforts	High
Residents' capacity to adapt to climate impacts	High
Local economy current capacity to adapt to climate impacts	High
Local ecosystems capacity to adapt to climate impacts	High

a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement; Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

4.5 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

Table 4-10. National Flood Insurance Program Compliance

Criterion	Response
Flood Risk Summary	
Please describe areas of the jurisdiction prone to flooding, specifically those outside of the mapped floodplain.	Flooding outside of FEMA-designated floodplains in Rolling Hills is primarily linked to canyon drainage systems, slope runoff, and roadway depressions. These risks are often compounded by the City's steep terrain and limited formal drainage infrastructure, meaning that even outside mapped flood zones, localized flooding and debris-laden flows can occur during significant storm events.
Do FEMA flood maps adequately address flood risk in the jurisdiction?	Flood risk extends beyond FEMA-designated areas. Localized flooding, debris-laden flows, and erosion can occur outside of mapped zones.
How many structures in the jurisdictions Special Flood Hazard Area (SFHA) have been determined to be substantially damaged from any hazard event?	None
Additional comments on flood risk	None at this time
Staff Resources	
Provide an explanation of the jurisdiction's NFIP administration services (e.g. permit review, GIS, education/outreach, inspections, engineering capability)	No dedicated NFIP staffing or standalone floodplain management program exists. Only a small portion of the City is mapped within a FEMA-designated Special Flood Hazard Area (SFHA). As such, NFIP administration is integrated into the City's broader development review and stormwater compliance processes rather than maintained as a stand-alone program.
What local department is responsible for floodplain management?	The Planning Department oversees floodplain management as part of its development review and permitting process. The City contracts with the Los Angeles County Department of Public Works (LACDPW) for engineering review, drainage analysis, and flood-related technical expertise. The Rolling Hills Community Association (RHCA) is responsible for private road and natural drainage corridor

Criterion	Response
	maintenance, which indirectly supports stormwater and flood management.
Who is your floodplain administrator? (department/position)	City Managers Office/Management Analyst
Are any staff certified floodplain managers (CFMs)?	No
Does your floodplain management staff need any assistance or training to support its floodplain management program?	No. Staff receive training related to stormwater monitoring, water quality standards, and drainage best practices through a consultant.
If yes, what type of assistance/training is needed?	-
Insurance Summary [a]	
How many flood insurance policies are in force in your jurisdiction?	19
What is the insurance in force?	$6,650,000
What is the premium in force?	$10,916
How many total loss claims have been filed in your jurisdiction?	1
What were the total payments for losses?	$0.00
Does the jurisdiction maintain a list of properties that have been damaged by flooding?	No
Does the jurisdiction maintain a list of property owners interested in flood mitigation?	No
How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	None
How many properties have been mitigated (elevation or acquisition)?	None
Compliance History	
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, state the violations.	No
Does your jurisdiction have a Substantial Damage Response Plan?	No
If yes, what is the date of the plan?	
Summarize the jurisdiction's Substantial Damage determination procedures.	The City of Rolling Hills Planning Department would conduct reviews for substantial damage, with technical engineering support from Los Angeles County Department of Public Works (LACDPW). There would be an Initial Damage Assessment by City staff or a contracted building official to perform site inspections to evaluate structural damage. The City would compare repair costs to pre-damage market value of the structure with ≥50% triggering "substantial damage". The City would keep determination records to comply with NFIP and FEMA guidance.
Summarize the jurisdiction's Substantial Improvement procedures.	Rolling Hills requires that any substantial improvement (≥50% of value) in mapped flood hazard areas meet current NFIP floodplain regulations. The City's Planning Department manages the process, with LACDPW support, ensuring compliance through the building permit system.
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	The City has not had a recent CAV or CAC on record.
Are any RiskMAP projects currently underway in your jurisdiction?	No
Regulation	
What is the date that your flood damage prevention ordinance was last amended?	The ordinance was last updated in 2008, when the City adopted the Los Angeles County Building Code amendments (which include NFIP-

Criterion	Response
	compliant floodplain management provisions) to remain in good standing with FEMA's National Flood Insurance Program (NFIP).
Does the jurisdiction's administration of the floodplain exceed NFIP requirements? (freeboard, mapping, etc.)	Rolling Hills' floodplain administration meets but does not exceed NFIP minimum requirements.
Community Rating System	
Does your jurisdiction participate in the Community Rating System (CRS)?	No
If yes, is your jurisdiction interested in improving its CRS Classification?	-

a. According to FEMA statistics as of (08/31/2025)

4.6 INTEGRATION

For hazard mitigation planning, "integration" means that hazard mitigation information is used in other relevant planning mechanisms, such as capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

4.6.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- **Site Plan Review** — Chapter 17.46 (Site Plan Review) is established to provide discretionary review of certain development projects in the City for the purposes of ensuring that the proposed project is consistent with the City's General Plan; incorporates environmentally and aesthetically sensitive grading practices; preserves existing mature vegetation; is compatible and consistent with the scale, massing and development pattern in the immediate project vicinity; and otherwise preserves and protects the health, safety and welfare of the citizens of Rolling Hills.
- **General Plan** — The City's General Plan outlines long-term direction for development and policy in Rolling Hills. The Local Hazard Mitigation Plan (LHMP or HMP) is a separate document adopted into the Safety Element of the General Plan by Resolution No. 1314 in compliance with AB 2140. It is available electronically at https://www.rolling-hills.org/government/planning_and_community_services/index.php

4.6.2 Opportunities for Future Integration

The capability assessment in this annex indicates opportunities to integrate this mitigation plan with other jurisdictional planning/regulatory capabilities. Capabilities were identified as integration opportunities if they can support or enhance the actions identified in this plan or be supported or enhanced by components of this plan. The capability assessment identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- **Municipal Codes** — During revisions or updates to the local codes, the City can integrate aspects of mitigation to improve structural safety and stability, prevent construction in hazard-prone areas, and create a more resilient community.
- **General Plan —** There are opportunities to coordinate environmental protection actions with policies governed by the General Plan. Next update to General Plan Open Space/Conservation Element should include integration with the Hazard Mitigation Plan. Also, General Plan is an excellent resource to assist with implementing many of the mitigation action items identified in the Hazard Mitigation Plan.
- **Capital Improvement Plan —** The City can review the LHMP prior to the update of the next CIP to identify any mitigation projects that can be funding and implemented through the CIP.

4.7 RISK ASSESSMENT

4.7.1 Jurisdiction-Specific Natural Hazard Event History

Table 4-11 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

Table 4-11. Past Natural Hazard Events

Type of Event	Declaration Title	State or Federal Disaster #	Declaration Date	Damage Assessment
Fire	Woolsey Fire	FM-5280-CA	November 9, 2018	-
Fire	Wildfires	EM-3409-CA	November 9, 2018	-
Fire	Wildfires	DR-4407-CA	November 12, 2018	-
Fire	Saddleridge Fire	FM-5293-CA	October 11, 2019	-
Fire	Tick Fire	FM-5296-CA	October 24, 2019	-
Fire	Getty Fire	FM-5297-CA	October 28, 2019	-
Biological	Covid-19 Pandemic	EM-3428-CA DR-4482-CA CA20-01	March 13, 2020 March 22, 2020 March 4, 2020	Temporary Prohibition of Group Events and Gatherings
Fire	Bobcat Fire	FM-5374-CA	September 13, 2020	-
Fire	Wildfires	DR-4569-CA	October 16, 2020	-
Flood	Severe Winter Storms, Flooding, and Mudslides	EM-3591-CA	January 9, 2023	-
Flood	Severe Winter Storms, Flooding, Landslides, and Mudslides	DR-4683-CA CA23-1	January 14, 2023 January 4, 2023	-
Flood	Severe Winter Storms, Flooding, Landslides, and Mudslides	EM-3592-CA CA23-3	March 10, 2023 March 1, 2023	-
Severe Storm	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, and Mudslides	DR-4699-CA	April 3, 2023	-
Severe Storm	Severe Winter Storms, Tornadoes, Flooding, Landslides, and Mudslides	DR-4769-CA	April 13, 2024	-
Fire	Bridge Fire	FM-5537-CA	September 11, 2024	-
Fire	Franklin Fire	FM-5548-CA	December 10, 2024	-
Fire	Palisades Fire	FM-5549-CA	January 7, 2025	-

Type of Event	Declaration Title	State or Federal Disaster #	Declaration Date	Damage Assessment
Fire	Hurst Fire	FM-5551-CA	January 8, 2025	-
Fire	Eaton Fire	FM-5550-CA	January 8, 2025	-
Fire	Wildfires And Straight-Line Winds	DR-4856-CA	January 8, 2025	-
Fire	Canyon Fire	FM-5605-CA	August 8, 2025	-

In addition to the recent events listed in the table above, the City identified the following events that caused significant impacts in the City.

- **1980 Flying Triangle Landslide** - The Flying Triangle landslide, a subslide of the Greater Portuguese Bend Landslide Complex, occupies an area of approximately 70 acres on the south side of the crest of the Palos Verdes Hills overlooking Portuguese Bend. Movement was first formally observed in March 1980, though displacement may have begun as early as 1974. The landslide represents the reactivation of a relatively large, complex compound ancient landslide of probable Pleistocene age that is unrelated to the main Portuguese Bend landslide. The reactivation is directly attributed to a period of unusually heavy precipitation during the early 1980s. As ground movement intensified, residential structures within the affected area were threatened; some homes were demolished, while others were retrofitted and supported on steel I-beam systems to accommodate continued movement. During this period, gas and water utilities were relocated above ground to reduce the risk of rupture and to maintain service continuity.
- **2005 Poppy Trail Landslide** - On March 5, 2005, a 300-foot-long portion of a steep hillside at No. 1 Poppy Trail Road in Rolling Hills sheared off and slid downhill, terminating just below the roadway easement for Poppy Trail Road. The slide buried a portion of the road, temporarily eliminating ingress and egress for nine residential lots. In response, the affected area was stabilized through emergency grading and other temporary protective measures to reduce erosion and further movement. The slide mass was subsequently reshaped, the roadway was rebuilt, and full ingress and egress were restored to the impacted homes.

4.7.2 Hazard Ranking

The prioritization and categorization of identified hazards for the City of Rolling Hills is based principally on the Priority Risk Index (PRI), a tool used to measure the degree of risk for identified hazards in a particular planning area. The PRI was used to assist the City in identifying hazards that pose the most significant threat. Table 3-12 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property and the economy.

Table 4-12. Hazard Risk Ranking Summary

Hazard	Weighted Risk Factors					PRI	Risk Ranking
	Probability	Impact	Spatial Extent	Warning Time	Climate Change		
Drought	1.2	0.3	0.8	0.1	0.4	2.8	Medium
Earthquake	0.9	0.9	0.8	0.4	0.2	3.2	High
Flood	0	0	0	0	0	0	No Risk
Landslide	1.2	0.6	0.6	0.4	0.4	3.2	High
Sea Level Rise	0	0	0	0	0	0	No Risk
Severe Weather - Heat Wave	0.9	0.6	0.8	0.1	0.4	2.8	Medium
Severe Weather - Strong Wind	1.2	0.6	0.8	0.1	0.4	3.1	High
Tsunami	0	0	0	0	0	0	No Risk
Wildfire	0.9	0.9	0.6	0.4	0.4	3.2	High

Note: PRI Value 1 to 1.9 = Low Hazard Risk Ranking
PRI Value 2.0 to 2.9 = Medium Hazard Risk Ranking
PRI Value 3.0 to 4.0 = High Hazard Risk Ranking

4.7.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. This section provides information on a few key vulnerabilities for this jurisdiction. Available jurisdiction-specific risk maps of the hazards are provided at the end of this annex.

Repetitive Loss Properties

Repetitive loss records are as follows:

- Number of FEMA-identified Repetitive-Loss Properties: 0
- Number of FEMA-identified Severe-Repetitive-Loss Properties: 0
- Number of Repetitive-Loss Properties or Severe-Repetitive-Loss Properties that have been mitigated: 0

Other Noted Vulnerabilities

The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- No additional vulnerabilities noted.

Mitigation actions addressing these issues were prioritized for consideration in the action plan presented in this annex.

4.8 STATUS OF PREVIOUS PLAN MITIGATION ACTIONS

Table 3-13 summarizes the mitigation actions that were recommended in the prior plan and their implementation status at the time this update was prepared.

Table 4-13. Status of Prior Plan Actions

Action from Prior Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
MH 1 - Continue policy to ensure mitigation measures are in place to safeguard critical facilities located in Rolling Hills.	In Progress	-	Yes	RH-06
MH 2 - Adopt and enforce updates to the Los Angeles County Building Code and Fire Code.	In Progress	-	Yes	RH-06
MH 3 - Develop additional building and reconstruction policies and requirements in the Building and Fire Code for post-disaster situations	Ongoing Capability	Identified as a Current Capability and updated as necessary	-	-
MH 4 - Ensure compliance to rebuilding in conformance with applicable codes, specifications and standards.	Ongoing Capability	Identified as a Current Capability and updated as necessary	-	-
MH 5 - Develop training and information program for actions to take to mitigate against hazards on individual properties.	Ongoing Capability	Identified as a Current Capability and completed as necessary	-	-
MH 6 - Integrate and coordinate with adjoining cities and providers to develop Hazard Mitigation Plans that are consistent with the goals and framework of the City's Hazard Mitigation Plan.	In Progress	-	Yes	RH-02
MH 7 - Underground communications and electric utility lines to reduce risk of arcing line in high winds, earthquake, and fire.	In Progress	-	Yes	RH-22
MH 8 - Review existing regulations to ensure adequacy in reducing the amount of future development in identified hazard areas.	In Progress	-	Yes	RH-08
MH 9 - Provide adequate and consistent enforcement of ordinances and codes within and between jurisdictions.	Ongoing Capability	Identified as a Current Capability and completed as necessary	-	-
MH 10 - Integrate the goals and action items from the City's Hazard Mitigation Plan into existing regulatory documents and programs, where appropriate.	In Progress	-	Yes	RH-09 RH-10
MH 11 - Coordinate and integrate hazard mitigation activities, where appropriate, with emergency operations plans and procedures.	In Progress	-	Yes	RH-09

Action from Prior Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
MH 12 - Identify critical facilities at risk from hazard events.	Complete	Remove – this was completed as part of the 2026 LHMP update	-	-
MH 13 - Enforce construction and subdivision design that can be applied to steep slopes to reduce the potential adverse impacts from development	Ongoing Capability	Identified as a Current Capability and part of the City's day-to-day operations	-	-
MH 14 - Develop public and private partnerships to foster hazard mitigation program coordination and collaboration in the city.	Ongoing Capability	Identified as a Current Capability and conducted where feasible	Yes	RH-02
MH 15 - Encourage the development of unifying organizations to ensure communication and dissemination of hazard mitigation information.	In Progress	-	Yes	RH-17
MH 16 - Provide new home and property buyers with information on quality redevelopment and safe housing development. The information is probably most efficiently dispersed through city bi-weekly newsletter	In Progress	-	Yes	RH-01
MH 17 - Minimize the risk of erosion through development of a Hillside Review Ordinance	Ongoing enforcement of grading, drainage, and development standards in the Municipal Code to reduce erosion and slope instability.	-	Yes	RH-08
MH 18 - Install and improve back-up power in critical facilities	In Progress	-	Yes	RH-04
MH 19 - Following an emergency, examine damage and update codes to mitigate against future disasters.	In Progress	-	Yes	RH-26
MH 20 - Bury utility lines on Crest Road. Assist with funding as possible and revise Code Regulations in an effort to spearhead utility line burial projects.	In Progress	-	Yes	RH-22
MH 21 - Minimize suffering and disruption caused by disasters.	In Progress	-	Yes	RH-03
MH 22 - Provide technical assistance to help the community develop disaster management operations capabilities	Ongoing Capability	Identified as a Current Capability and conducted where feasible	-	-
MH 23 -Determine temporary protection measures; install plastic sheeting on roofs, cover exterior openings such as windows or doors, draining trapped water in ceilings or draining accumulated flood waters, temporary shoring to avoid imminent building collapse or damage	In Progress	-	Yes	RH-07

Action from Prior Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
MH 24 -Partner with other organizations and agencies in the community to identify grant programs and foundations that may support mitigation activities.	In Progress	-	Yes	RH-11
MH-25 - Allocate city resources and assistance to mitigation projects when possible.	Ongoing Capability	Identified as a Current Capability and conducted where feasible	-	-
MH 26 -Identify and pursue funding opportunities to develop and implement local mitigation activities	Ongoing Capability	Identified as a Current Capability and conducted where feasible	-	-
MH 27 Following a disaster, determine which costs will be reimbursed to government for the demolition of government buildings	Complete	Identified as a Current Capability and conducted where feasible	-	-
MH 28 -Ensure repairs or construction funded by Federal disaster assistance conforms to applicable codes and standards	Ongoing Capability	Identified as a Current Capability and conducted where feasible	-	-
MH 29 -Promote hazard mitigation as a public value in recognition of its importance to the health, safety, and welfare of the population.	In Progress	-	Yes	RH-01 RH-13
MH 30 -Identify opportunities for partnering with citizens, private contractors, and other jurisdictions to increase availability of equipment and manpower for efficiency of response efforts	In Progress	-	Yes	RH-13
MH 31 -Enhance outreach and education programs aimed at mitigating wildfire hazards and reducing or preventing the exposure of citizens, public agencies, private property owners, and businesses to other hazards	In Progress	-	Yes	RH-01 RH-13 RH-19 RH-18
MH 32 -Encourage implementation of wildfire mitigation activities in a manner consistent with the goals of promoting sustainable ecological management and community stability	In Progress	-	Yes	RH-19
MH 33 -Conduct a full review and update of the Hazard Mitigation Plan every 5 years by evaluating mitigation successes, failures, and updated hazard information	In Progress	-	Yes	RH-01 RH-12
MH 34 During next update to the EOP, establish a committee representative of all areas of the City and surrounding areas that will include vets, pet store owners, the Humane Society, animal shelters, the Extension Office and other interested parties to work on animal-specific evacuation and sheltering needs	In Progress	-	Yes	RH-26
MH 35 -Coordinate public education to increase awareness of hazards and opportunities for mitigation.	In Progress	-	Yes	RH-01 RH-13

Action from Prior Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
MH 36 -Encourage interested individuals to participate in hazard mitigation planning and training activities.	In Progress	-	Yes	RH-01 RH-13
MH 37 -Educate the public about procedures for reporting human-caused incidents	Ongoing Capability	Identified as a Current Capability and part of the City's outreach procedures	-	-
MH 38 -Educate the public about emergency sheltering and evacuation procedures.	In Progress	-	Yes	RH-15
MH 39 -Educate the public about hazards prevalent to their geographic location.	In Progress	-	Yes	RH-01 RH-13
MH 40 -Publicize the documents associated with emergency response and mitigation.	Ongoing Capability	Identified as a Current Capability and part of the City's outreach procedures	-	-
MH 41 Develop and distribute maps of evacuation routes that will facilitate the evacuation.	Ongoing Capability	Identified as a Current Capability and conducted where feasible	Yes	RH-15
MH 42 -Develop informational literature on animal (including livestock) disaster plans and supply kits and have them available at City Hall.	In Progress	-	Yes	RH-16
MH 43 -Distribute packets of information to all property owners of the city including the following information of property protection measures: Maintenance for Fire and Watershed Safety, Do It Yourself Planning for Emergency Supplies, Emergency Numbers, List of Roofers, and List of Retail/Wholesale Supply Vendors.	In Progress	-	Yes	RH-01
MH 44 -Maintain materials at City Hall on disaster supplies kits and plans, etc.	In Progress	-	Yes	RH-01
MH 45 -Work with the County Office of Emergency Services, the American Red Cross, the Board of Education, County Fire Department, churches and Social Services to hold work session to share information about local shelters. Information to include the site of each shelter, how many people it can house and feed, if it has back-up power available on site, completed site survey forms and types of resources that they have or that they need. This will benefit all areas of the City in the need to open shelters.	In Progress	-	Yes	RH-15
MH 46 -Encourage residents to participate in existing LA County CERT Program in coordination with the Community Association.	In Progress	-	Yes	RH-14
MH 47 -Conduct occasional tabletop disaster exercises with local law enforcement, emergency managers, town and county officials, the LEPC and other disaster response agencies.	In Progress	-	Yes	RH-02

Action from Prior Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
MH 48 -Conduct a detailed vulnerability assessment in the future in order to accurately identify the extent of damages to vulnerable buildings, infrastructure, and critical facilities.	Ongoing Capability	Identified as a Current Capability and conducted where feasible	Yes	RH-13
MH 49 Seek funding to update the General Plan Safety Element in advance of the next Mitigation Plan update. (Note: as required in Senate Bill 1241, 2012)	In Progress	-	Yes	RH-25 RH-26
MH 50 Seek funding to update the City's Emergency Operations Plan	In Progress	-	Yes	RH-25 RH-26
MH 51 Work with residents to establish a volunteer City HAM radio operator program utilizing City equipment.	Ongoing Capability	Identified as a Current Capability and conducted where feasible	Yes	RH-13
EQ 1 -Adopt County of Los Angeles earthquake Building Codes.	In Progress	-	Yes	RH-20
EQ 2 -Minimize earthquake damage risk by retrofitting critical facilities owned by City as needed.	In Progress	-	Yes	RH-25 RH-26
EQ 3 -Integrate new earthquake hazard mapping data for the city and improve technical analysis of earthquake hazards as they become available.	In Progress	-	Yes	RH-21
EQ 4 -Allocate City resources and assistance to mitigation projects when possible.	In Progress	-	Yes	RH-25 RH-26
EQ 5 -Encourage reduction of non-structural and structural earthquake hazards in homes, school, and government offices.	In Progress	-	Yes	RH-20
LM 1 -Improve knowledge of landslide hazard areas and understanding of vulnerability and risk to life and property in hazard-prone areas.	In Progress	-	Yes	RH-21
LM 2 -Identify safe evacuation routes in high-risk debris flow and landslide areas.	Ongoing Capability	Identified as a Current Capability and conducted where feasible	Yes	RH-15
LM 3 -Limit activities in identified potential and historical landslide areas through regulation and public outreach.	In Progress	-	Yes	RH-21
LM 4 -Improve data and mapping on specific landslide risks by: • Location where riparian landslides may occur. • Creating an inventory of locations where critical facilities, other buildings, and infrastructure are vulnerable to landslides. • Using GIS to identify and map landslide hazard areas. • Creating and maintaining a database to track community vulnerability to landslides.	In Progress	-	Yes	RH-21

Action from Prior Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
• Showing vegetation in wildfire-prone areas to prevent landslides after fires (e.g., encourage plants with strong root systems).				
WF 1 -Continue to require Class A roofing standards and "draft hydrants" for new pools per Building and Fire Codes	In Progress	-	Yes	RH-18
WF 2 -Improve water systems to assist with wildfire and drought conditions	In Progress	-	Yes	RH-19 RH-18
WF 3 -Inventory alternative firefighting water sources and encourage the development of additional sources.	In Progress	-	Yes	RH-18
WF 4 -Enhance emergency services to increase the efficiency of wildfire response and recovery activities.	In Progress	-	Yes	RH-19 RH-18
WF 5 -Increase communication, coordination, and collaboration between wildland/urban interface property owners, local and county planners, and fire prevention crews and officials to address risks, existing mitigation measures, and federal assistance programs	In Progress	-	Yes	RH-19 RH-18
WF 6 -Work with LACoFD to seek funding and develop a Community Wildfire Protection Plan (CWPP). The Plan must include certain components: Collaboration -must be collaboratively developed by local and state government representatives, in consultation with federal agencies and other interested parties; Prioritized Fuel Reduction -must identify and prioritize areas for hazardous fuel reduction treatments and recommend the types and methods of treatment that will protect one or more at-risk communities and essential infrastructure; Treatment of Structural Ignitability -must recommend measures that homeowners and communities can take to reduce the ignitability of structures throughout the area addressed by the plan.	In Progress	-	Yes	RH-19 RH-18
WF 7 -Work with Southern California Edison and LACoFD to seek funding for undergrounding of utility lines.	In Progress	-	Yes	RH-22
WF 8 Provide fuel reduction/fire prevention training for Rolling Hills Community Association landscaping staff and homeowners	In Progress	-	Yes	RH-19 RH-18
WF 9 -Distribution of wildfire safety and prevention information to residents and businesses residing within identified forested land.	In Progress	-	Yes	RH-19 RH-18
WF 10 Publicize and Enforce Ordinance 345 (Abatement of Fire Fuel Hazards)	Ongoing public outreach and enforcement of Chapter 8.30 (Fire Fuel Abatement) of the Rolling Hills Municipal Code, in	Identified as a Current Capability and conducted where feasible	Yes	RH-01 & RH-05

Action from Prior Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
	coordination with the adopted California Fire Code, to reduce wildfire risk through vegetation management and hazardous plant restrictions.			
DR 1 Inform residents of Landscape Efficiency Ordinance applicability and requirements and other water conservation methods	In Progress	-	Yes	RH-23
DR 2 Enforce Landscape Efficiency Ordinance city-wide	In Progress	-	Yes	RH-23
DR 3 -Replace existing landscaping and watering systems at City Hall with water saving materials and watering schedule/system	Complete	Identified as a Current Capability and conducted where feasible	-	-
DR 4 -Provide information regarding drought status and water saving mandates and requirements established by local water purveyor to city residents	In Progress	-	Yes	RH-23

DRAFT

4.9 HAZARD MITIGATION STRATEGY

This section includes the following components of the mitigation strategy for this jurisdiction:

- Hazard Mitigation Action Plan Matrix
- Mitigation Action Prioritization
- Mitigation Action Classification and Natural Hazards Addressed

Table 4-14. Hazard Mitigation Action Plan Matrix

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
RH-01	**Community-Based Mitigation Education and Engagement** - Promote hazard mitigation as a shared community value through coordinated public education, outreach, and engagement focused on locally relevant hazards. Implement these efforts by producing, maintaining, and distributing preparedness materials through City Hall, the City website, the bi-weekly newsletter, and the Rolling Hills Community Association (RHCA). Conduct workshops and educational events to increase awareness of mitigation actions, personal responsibility, and opportunities to reduce risk to life, property, and the environment.	Safety and Security; Health and Medical; Communications; Transportation	Both	1, 2, 3	Lead: City of Rolling Hills Support: RHCA; Block Captains; LA County Fire (LACoFD); Los Angeles Sheriff's Department (LASD); Peninsula cities; American Red Cross; Community groups	Yes – older adults/ seniors; disabled or mobility impaired; isolated or limited access	Low (less than $50,000)	Staff Time, LA County/ Cal OES outreach resources; sponsorships	Short-Term (less than 5 years)
RH-02	**Interagency and Partner Coordination for Mitigation and Response Capacity** - Actively engage, expand, and coordinate with existing and emerging public agencies, private-sector partners, non-governmental organizations, contractors, and neighboring jurisdictions to strengthen hazard-	Safety and Security; Energy; Communications; Transportation	N/A	1, 3	Lead: City of Rolling Hills Support: LACoFD; LASD; Peninsula cities; Area G; Cal OES; utilities; NGOs; contractors	Yes – isolated or limited access	Low (less than $50,000)	Staff Time, Mutual-Aid Programs	Short-Term (less than 5 years)

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
	mitigation collaboration, improve preparedness, and increase the availability of shared equipment, expertise, and manpower to support efficient and effective response efforts.								
RH-03	**Utility Coordination, System Resilience, and Continuity of Service** - Coordinate with utility providers to support public safety, system reliability, and continuity of essential services for all Rolling Hills properties. Foster collaborative long-term infrastructure planning, communication, information sharing, and emergency response and recovery. Support ongoing system upgrades, modernization, and innovative mitigation strategies that reduce vulnerability to hazards, minimize service interruptions, and improve the overall safety and reliability of utility systems.	Safety and Security; Energy; Communications; Water Systems	Existing	1, 3, 4	Lead: City of Rolling Hills Support: California Water Service (Cal Water); Southern California Edison (SCE); Southern California Gas Company; Communication providers; RHCA; Peninsula cities; Area G	Yes – older adults; disabled or mobility impaired	Low to Moderate (up to $250,000)	Staff Time; CIP Budget; Utility Capital Programs; Cal OES; CPUC-related programs	Long-Term (5 or more years)
RH-04	**Critical Facilities Backup Power and Continuity of Operations Enhancement** - Install, upgrade, safeguard and maintain reliable backup power systems at critical facilities, including the City's Emergency Operations Center (EOC), to ensure continuity of operations and communications during power outages caused by hazardous events.	Safety and Security; Communications; Energy	New	1, 4	Lead: City of Rolling Hills Support: SCE; communication vendors; generator vendors; LACoFD; LASD	Yes – older adults/ seniors; disabled or mobility impaired; isolated or limited access	Moderate to High ($50,001 - $1 million)	FEMA HMGP; FEMA HHPD; Staff Time; CIP Budget	Short-Term (less than 5 years)
RH-05	**Hazard Mitigation Ordinance Enforcement, Defensible Space, and Public Compliance Education** - Provide consistent enforcement	Safety and Security	Both	1, 2, 4	Lead: City of Rolling Hills Support: LACoFD; RHCA; Block Captains	Yes – older adults/ seniors	Low (less than $50,000)	Staff Time; County Fire Prevention Resources	Short-Term (less than 5 years)

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
	of applicable hazard-mitigation ordinances and codes, including vegetation management requirements, and coordinate with Los Angeles County Fire to support defensible space standards, while concurrently educating the public on regulatory requirements, compliance responsibilities, and the role these measures play in reducing risks to life, property, and the environment.								
RH-06	**Adoption and Enforcement of Updated Building and Fire Codes** - Adopt, implement, and enforce updates to the Los Angeles County Building Code and Fire Code to ensure that new development, redevelopment, and building modifications incorporate current hazard-resistant standards that reduce vulnerability to locally identified hazards.	Safety and Security; Food, Hydration, Shelter	Both	1, 4	Lead: City of Rolling Hills Support: LA County Building & Safety; LACoFD; planning consultants	Yes – older adults/ seniors; disabled or mobility impaired; isolated or limited access	Low (less than $50,000)	Staff Time; Planning Consultant	Short-Term (less than 5 years)
RH-07	**Temporary Protective Measures and Emergency Stabilization Planning** - Identify and evaluate appropriate temporary protective measures, such as plastic sheeting, temporary weatherproofing materials, sandbags, shoring, and other interim stabilization methods, to reduce the risk of imminent structural damage or collapse during or following hazard events. Establish general procedures for the timely	Safety and Security; Communications; Transportation	Existing	1, 4	Lead: City of Rolling Hills Support: Contractors; LA County; vendors; LACoFD (as applicable)	Yes – older adults/ seniors; disabled or mobility impaired	Moderate ($50,001 - $250,000)	FEMA HMGP; Staff Time; CIP Budget	Short-Term (less than 5 years)

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
	procurement, staging, and deployment of such measures, as feasible.								
RH-08	**Land Use Review and Development Oversight in Hazard Areas** - Review existing land use regulations and development standards to assess their adequacy in limiting future development within identified hazard areas. Maintain and periodically evaluate enhanced plan-check requirements to reduce hazard exposure and ensure new development incorporates appropriate mitigation measures. Following emergency events, evaluate observed damage and the performance of existing standards to inform potential updates or refinements that further reduce vulnerability to future hazards.	Safety and Security; Transportation	New	1, 4	Lead: City of Rolling Hills Support:	No	Low (less than $50,000)	Staff Time; Consultants	Short-Term (less than 5 years)
RH-09	**Integration of Hazard Mitigation into City Planning and Emergency Management** - Integrate applicable goals and action items from the City's Hazard Mitigation Plan into existing regulatory documents and City programs where appropriate. Coordinate hazard mitigation activities with the City's Emergency Operations Plan, procedures, and emergency management practices. Update the Emergency Operations Plan and advance development of a Disaster Recovery Plan to	Safety and Security; Energy; Communications; Transportation; Water Systems	N/A	1, 3, 4	Lead: City of Rolling Hills Support: LA County; Peninsula cities; Area G; EOP stakeholders	Yes – older adults/ seniors; disabled or mobility impaired; isolated or limited access	Low (less than $50,000)	Staff Time; Cal OES Planning Support	Short-Term (less than 5 years)

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
	support coordinated response, continuity of operations, and long-term recovery.								
RH-10	**Post-Adoption Update of the General Plan Safety Element -** Following adoption and FEMA approval of the City's Hazard Mitigation Plan, review and update the General Plan Safety Element, as necessary, to reflect updated hazard data, risk assessments, and mitigation strategies, consistent with applicable state requirements.	Safety and Security	Both	1, 4	Lead: City of Rolling Hills Support: Planning consultants; Cal OES; (as needed) LA County	Yes – older adults/ seniors; disabled or mobility impaired; isolated or limited access	Moderate ($50,001 - $250,000)	Staff Time; General Fund; Planning Budget	Long-Term (5 years or more)
RH-11	**Grant Identification and Partnership Development for Hazard Mitigation** - Monitor applicable state, federal, and private funding sources and pursue opportunities, where feasible, to advance mitigation projects and initiatives.	Safety and Security; Food, Hydration, Shelter; Health and Medical; Energy; Communications; Hazardous Materials; Water Systems	N/A	1, 3	Lead: City of Rolling Hills Support: Cal OES; FEMA (program interface); LA County; NGOs; Peninsula partners	Yes – older adults/ seniors; disabled or mobility impaired; isolated or limited access	Low (less than $50,000)	FEMA HMGP, FMA, and HHPD; Staff Time; CIP Budget	Short-Term (less than 5 years)
RH-12	**Periodic Review and Evaluation of the Hazard Mitigation Plan** - Conduct a comprehensive review of the City's Hazard Mitigation Plan on a five-year cycle to evaluate mitigation accomplishments, challenges, and lessons learned, and to incorporate updated hazard data, risk assessments, and regulatory guidance. As part of this process, assess the effectiveness of the current planning approach and determine the most appropriate framework for future plan updates.	Safety and Security; Food, Hydration, Shelter; Health and Medical; Energy; Communications; Hazardous Materials; Water Systems	N/A	1, 4	Lead: City of Rolling Hills Support: Cal OES; FEMA; plan consultant; stakeholders	Yes – older adults/ seniors; disabled or mobility impaired; isolated or limited access	Moderate ($50,001 - $250,000)	FEMA HHPD; Staff Time	Long-Term (5 or more years)
RH-13	**Emergency Preparedness Training, Exercises, and**	Safety and Security; Communications	N/A	1, 2, 3	Lead: City of Rolling Hills	Yes – older adults/	Low (less than $50,000)	FEMA HHPD; Staff Time; LA	Short-Term (less

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
	Community Participation - Conduct tabletop and functional exercises with City staff and first responders to strengthen preparedness, response, and recovery capabilities. Maintain ongoing training to ensure staff are EOC-ready and familiar with emergency operations, coordination procedures, and recovery roles across a range of hazards. Where appropriate, include the City's emergency preparedness volunteers (Block Captains) and the Rolling Hills Community Association in training and exercise activities to promote coordinated response, situational awareness, and community resilience.				Support: LACoFD; LASD; Area G; Peninsula cities; RHCA; Block Captains	seniors; disabled or mobility impaired; isolated or limited access		County Training	than 5 years)
RH-14	**Community Emergency Response Training and Participation** - Encourage resident participation in Community Emergency Response Team (CERT) training to strengthen community preparedness and response capabilities. Provide information, logistical support, and resources, where feasible, to assist in hosting CERT training and related educational opportunities in coordination with appropriate partners.	Safety and Security; Communications; Health and Medical	N/A	1, 2, 3	Lead: City of Rolling Hills Support: LACoFD; CERT providers; community groups; RHCA	Yes – older adults/ seniors; disabled or mobility impaired; isolated or limited access	Low (less than $50,000)	FEMA HHPD; Staff Time; LA County CERT Resources	Short-Term (less than 5 years)
RH-15	**Evacuation Preparedness, and Emergency Sheltering Coordination** - Enhance community readiness and life safety by educating the public on evacuation procedures and emergency sheltering options	Safety and Security; Food, Hydration, Shelter; Health and Medical; Communications	N/A	1, 2, 3	Lead: City of Rolling Hills Support: LASD; LACoFD; American Red Cross; PVPUSD; faith-based orgs; Peninsula cities; Area G	Yes – older adults/ seniors; disabled or mobility impaired; isolated or	Moderate ($50,001 - $250,000)	FEMA HHPD; Staff Time; Red Cross support; LA County	Short-Term (less than 5 years)

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
	before, during, and after hazard events. Work with the Los Angeles County Sheriff's Department (LASD) and the Los Angeles County Fire Department (LACoFD) to support clear and consistent evacuation communication and preparedness. Partner with the Palos Verdes Peninsula Unified School District, local faith-based organizations, the American Red Cross, and neighboring Peninsula cities to establish a sheltering strategy that includes backup power and supports continuity of operations during extended incidents. Train staff and educate residents on the use of the Genasys evacuation zone system to improve situational awareness and compliance during emergencies.					limited access			
RH-16	**Animal Evacuation, Shelter Planning, and Emergency Management Integration** - Coordinate with County agencies, local non-profit organizations, and community groups to support education, planning, and preparedness for equine, large animal, and pet evacuation, identification, sheltering, and biosecurity needs. Address both animal welfare and the health and well-being of owners and caregivers responsible for their care. Integrate applicable animal-related evacuation and sheltering considerations into the City's Emergency Operations Plan and incorporate relevant recovery-	Safety and Security; Food, Hydration, Shelter; Health and Medical	N/A	1, 3, 4	Lead: City of Rolling Hills Support: LA County Animal Care & Control; equine groups; nonprofits; RHCA; PVPUSD/partner sites; Peninsula cities	Yes – isolated or limited access	Low (less than $50,000)	FEMA HHPD; Staff Time; Non-Profits	Short-Term (less than 5 years)

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
	related information into the forthcoming Disaster Recovery Plan to support coordinated response and long-term recovery.								
RH-17	**Public Safety Communications and Alerting Systems** - Strengthen public safety communications through coordination with private communications and technology partners to support reliable service delivery and targeted, innovative improvements. Maintain and enhance the City's emergency alerting programs through infrastructure investments, updated standard operating procedures, staff training, and regular testing. Maintain open and practiced communication channels with first responders, Peninsula cities, and Area G jurisdictions through the Disaster Management Area Coordinator to support effective multi-jurisdictional coordination. Conduct ongoing public outreach to increase awareness, participation, and confidence in emergency alerting systems, including Alert SouthBay and equine-specific alerting. Expand and enhance the Outdoor Emergency Siren System, including the addition of strategically located siren poles where feasible, and integrate supporting indoor alerting technologies, including the SAFE Network, a resilient alerting platform capable of delivering audible and visual notifications	Safety and Security; Communications	Both	1, 2, 3	Lead: City of Rolling Hills Support: HQE Systems; communication partners; Area G DMAC; Peninsula cities; first responders; RHCA; Block Captains	Yes – older adults/ seniors; disabled or mobility impaired; isolated or limited access	High ($25,000 - $1 million)	FEMA HMGP and HHPD; Staff Time; CIP Budget	Long-Term (5 or more years)

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
	inside homes without reliance on cellular or AC power. Facilitate access to SAFE Network units and weather radios to improve redundancy, reach, and reliability of emergency communications.								
RH-18	**Wildfire Risk Reduction, Water System Reliability, and Community Preparedness** - Continue to require and enforce Class A roofing standards to reduce structural ignition risk. Work with California Water Service on ongoing and planned infrastructure improvements to enhance system reliability, fire protection capacity, and water quality, and encourage additional water sources and strategies that improve long-term fire protection and wildfire response capability. Provide opportunities for the Los Angeles County Fire Department to increase familiarity with the City's rural terrain, access routes, and water resources prior to wildfire events. Encourage homeowners to identify swimming pools as supplemental water sources on address signage. Implement and maintain wildfire mitigation practices, including vegetation management programs, chipping events, and expanded green waste disposal. Educate the community through multiple channels, including the City's Block Captain program, in partnership with the Los Angeles County Fire Department, using ongoing outreach, preparedness	Safety and Security; Communications; Water Systems	Both	1, 2, 3, 5	Lead: City of Rolling Hills Support: LACoFD; Cal Water; RHCA; Block Captains; fuel reduction partners	Yes – older adults/ seniors; disabled or mobility impaired; isolated or limited access	Moderate ($50,000 - $250,000)	FEMA HMGP and HMGP Post-Fire; Staff Time; Cal FIRE Grants	Long-Term (5 or more years)

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
	resources, and educational opportunities such as firescaping and home hardening workshops and City-produced videos. Develop and distribute Red Flag Warning educational materials to encourage residents, landscapers, and contractors to limit spark-generating activities during Red Flag Warning conditions. Implement and update the Community Wildfire Protection Plan (CWPP), prioritize hazardous fuel reduction areas, seek available funding to support fuel reduction projects, and continue to apply home hardening and fire-resistant design practices to public infrastructure where feasible.								
RH-19	**Wildfire Mitigation and Sustainable Resilience Initiatives** - Encourage and support the implementation of wildfire mitigation activities that are consistent with principles of sustainable ecological management and long-term community resilience. Promote participation in recognized community-based wildfire preparedness and risk-reduction programs, provide educational opportunities for residents on topics such as firescaping, weather patterns, and fire behavior, and develop strategies that reduce wildfire risk while fostering meaningful community engagement and shared responsibility.	Safety and Security	Existing	1, 2, 5	Lead: City of Rolling Hills Support: LACoFD; RHCA; community groups; regional partners	Yes – isolated or limited access	Low (less than $50,000)	Staff Time; Cal FIRE/Local Grants	Long-Term (5 or more years)

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
RH-20	**Earthquake Mitigation, Preparedness, and Advanced Alerting Adopt and maintain earthquake-related building code provisions consistent with Los Angeles County requirements to reduce structural vulnerability and enhance life safety**. Educate residents on earthquake preparedness through the City website, bi-weekly newsletter, and preparedness events, and promote participation in the Bolt and Brace Program and other applicable retrofit initiatives. Incorporate earthquake scenarios into the City's tabletop and functional exercises and training programs to strengthen preparedness, response, and recovery capabilities. Participate in state-led initiatives such as the Earthquake Datacasting Receiver Pilot Project to evaluate the use of advanced earthquake alerting receivers and enhance situational awareness.	Safety and Security; Communications	Both	1, 2, 4	Lead: City of Rolling Hills Support:	Yes – older adults or seniors; disabled or mobility impaired	Moderate ($50,000 - $250,000)	FEMA HMGP, FMA, HHPD; Staff Time; State Seismic Programs	Long-Term (5 or more years)
RH-21	**Landslide Hazard Assessment, Monitoring, and Risk Awareness** - Improve understanding of landslide hazard areas and associated risks to life and property through monitoring, data collection, and technical studies. Explore opportunities to partner with neighboring Peninsula cities to conduct hydrologic, and drainage studies that inform regional landslide risk conditions. Evaluate the use of regulatory tools and public outreach, as	Safety and Security; Water Systems	Existing	1, 3, 4	Lead: City of Rolling Hills Support: Peninsula cities; geotechnical/hydrology consultants; LA County (as needed)	Yes – isolated or limited access	Moderate ($50,000 - $250,000)	FEMA HMGP, Staff Time, CIP Budget, State Geohazard Grants	Long-Term (5 or more years)

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
	appropriate, to limit activities in identified landslide-prone areas and reduce exposure to risk. Develop and maintain a database to track landslide hazard information, community vulnerability, and observed conditions to support planning, permitting, and emergency response.								
RH-22	**Severe Wind Hazard Assessment, Infrastructure Protection, and Mitigation Planning** - existing building codes and standards for their effectiveness in reducing wind-related damage to older structures. Continue to support vegetation management efforts by the Rolling Hills Community Association (RHCA) and Southern California Edison to clear roadway easements of shallow-rooted, dead, or high-risk trees to reduce road blockages, infrastructure damage, and property impacts during severe wind events. Coordinate with the City's established Red Flag Warning Ad Hoc Subcommittee to improve communication methods when Red Flag Warning conditions are declared and to support the development and dissemination of local policies and guidance aimed at reducing hazardous activities during high-wind conditions. Work with residents, the Los Angeles County Fire Department, and RHCA to educate property owners on potential risks associated with tall trees during	Safety and Security; Energy; Communications	Existing	1, 2, 3, 4	Lead: City of Rolling Hills Support: RHCA; Southern California Edison; Los Angeles County Fire Department; arborists/contractors; first responders.	Yes – older adults/ seniors; disabled or mobility impaired; isolated or limited access	Moderate ($50,000 - $250,000)	Staff Time, CIP Budget, Southern California Edison vegetation management programs	Short-Term (less than 5 years)

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
	severe wind events and encourage voluntary crown reduction and vegetation management practices to reduce hazards to roadways, structures, animals, and people.								
RH-23	**Water Conservation Education and Landscape Sustainability -** Inform residents of the Water Efficient Landscape Ordinance (Ordinance No. 361), which advances water conservation and supports public health, safety, and welfare. Provide ongoing water conservation education through the City website, bi-weekly newsletter, and regional outreach coordinated through the South Bay Cities Council of Governments, and continue to fulfill water conservation outreach obligations under the City's MS4 permit with the Regional Water Quality Control Board. Promote water-efficient practices and programs, including composting, firescaping workshops, and rain barrel distribution events. Continue to maintain and enhance drought-tolerant landscaping at City Hall, including the removal of turf and replacement with drought-tolerant vegetation and water-retaining accent materials such as gravel and stone, to serve as a demonstration of water-efficient design. Implement water-efficient site improvements through capital projects, including the ADA accessibility project at the publicly owned tennis courts,	Safety and Security; Health and Medical; Water Systems	Both	1, 2, 4, 5	Lead: City of Rolling Hills Support:	Yes - older adults/ seniors; disabled or mobility impaired	Low (less than $50,000)	Staff Time, CIP Budget, California Water Service Program, Regional Grants	Long-Term (5 years or more)

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
	which will remove turf and select hardscape areas and replace them with drought-tolerant landscaping and water-conserving, water-retaining materials. Encourage community-wide water conservation efforts through example-based practices. Develop and maintain a drought communication and early warning approach to support timely, consistent communication regarding water supply conditions, conservation measures, and response actions. Continue to support California Water Service efforts to install and utilize leak detection devices on water distribution lines to improve system efficiency, reduce water loss, and enhance water supply reliability.								
RH-24	**Heat Wave Preparedness, Public Information, and Vulnerable Population Awareness -** Educate residents on heat-related risks and preparedness actions and provide timely public information when heat wave conditions are forecast to support advance planning and protective actions. Although the City does not operate an official cooling center, provide residents with information on available nearby cooling centers and regional resources during extreme heat events. Coordinate heat-related messaging through existing City communication channels to promote hydration, heat illness awareness, and	Safety and Security; Food, Hydration, Shelter; Health and Medical; Communications	N/A	1, 2, 3	Lead: City of Rolling Hills Support: LA County Public Health; nearby jurisdictions/cooling centers; utilities; RHCA; Block Captains.	Yes – older adults/ seniors; disabled or mobility impaired	Low (less than $50,000)	Staff Time; County public health resources; Cal OES climate resilience programs	Short-Term (less than 5 years)

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
	protective measures for vulnerable populations. Encourage residents to check on neighbors, family members, and pets during prolonged heat events. Where feasible, coordinate with regional partners and utility providers to share heat safety information, energy conservation guidance, and outage preparedness messaging.								
RH-25	Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are in high- or medium-risk hazard areas.	Food, hydration, shelter; Energy; Communications; Transportation	Existing	1, 2	Lead: City of Rolling Hills Support:	Yes – older adults/ seniors; disabled or mobility impaired; isolated or limited access	Very High ($1,000,000 and above)	FEMA HMGP and FEMA FMA, Staff Time, CIP Budget	Long-Term (5 years or more)
RH-26	Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including: • Codes • Site Plan Review • General Plan • Capital Improvement Plan	Safety and Security; Communications; Transportation; and	Both	4	Lead: City of Rolling Hills Support:	Yes – older adults/ seniors; disabled or mobility impaired; isolated or limited access	Low ($0-$50,000)	Staff Time, General Fund	Short-Term (less than 5 years)
RH-27	Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements: • Evaluate the current floodplain ordinance to determine if updates are needed • Upon FEMA flood map revisions, update and adopt the City's floodplain ordinance	All located in the floodplain	Both	1, 2, 4	Lead: City of Rolling Hills Support:	Yes – older adults/ seniors; disabled or mobility impaired; isolated or limited access	Low ($0-$50,000)	Staff Time, General Fund	Short-Term (less than 5 years)

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
RH-28	Identify and pursue strategies to increase adaptive capacity to climate change including but not limited to the following: • Public outreach • Integrate into appropriate plans and programs	Communications; Safety and Security	Both	1, 2, 4	Lead: City of Rolling Hills Support:	Yes – older adults/ seniors; disabled or mobility impaired; isolated or limited access	Low ($0-$50,000)	Staff Time, General Fund	Short-Term (less than 5 years)

Table 4-15. Mitigation Action Prioritization

Action Number	Life Safety	Property Protection	Cost-Effectiveness	Technically Feasible	Legal Authority	Funding Available	Grant Eligible	Environmental	Climate Change	Equity Priority Community	Administrative Capacity	Multi-Hazard	Timeline	Other Local Objective	Support Policies	Total Score	Priority
RH-01	3	1	3	3	3	3	1	1	3	3	3	3	3	3	3	39	High
RH-02	3	1	3	3	3	3	1	0	1	3	3	3	3	3	3	36	High
RH-03	3	3	1	3	3	1	1	1	3	3	1	3	0	3	3	32	High
RH-04	3	1	1	3	3	3	1	0	0	3	3	3	3	3	3	33	High
RH-05	3	3	3	3	3	1	1	1	3	3	3	3	3	3	3	39	High
RH-06	3	3	3	3	3	1	1	0	3	3	3	3	3	3	3	38	High
RH-07	1	3	1	3	3	1	1	0	1	3	1	3	3	3	3	30	Medium
RH-08	1	3	3	3	3	3	1	0	1	1	3	3	0	3	1	29	Medium
RH-09	3	1	3	3	3	1	1	0	3	3	3	3	3	3	3	36	High
RH-10	1	1	1	3	3	1	1	0	3	1	1	3	0	3	1	23	Medium
RH-11	1	1	3	3	3	1	1	0	3	1	3	3	3	3	3	32	High
RH-12	1	1	1	3	3	1	1	0	3	3	1	3	1	3	3	28	Medium
RH-13	3	1	3	3	3	1	1	0	3	3	3	3	3	3	3	36	High
RH-14	3	1	3	3	3	1	1	0	1	3	1	3	3	3	3	32	High

Action Number	Life Safety	Property Protection	Cost-Effectiveness	Technically Feasible	Legal Authority	Funding Available	Grant Eligible	Environmental	Climate Change	Equity Priority Community	Administrative Capacity	Multi-Hazard	Timeline	Other Local Objective	Support Policies	Total Score	Priority
RH-15	3	1	1	3	3	1	1	0	3	3	3	3	3	3	3	34	High
RH-16	3	1	1	3	3	1	1	0	0	3	3	3	1	3	3	29	Medium
RH-17	3	3	1	3	3	1	1	3	3	3	1	0	1	3	3	32	High
RH-18	3	3	1	3	3	1	1	3	3	3	1	0	1	3	3	32	High
RH-19	3	3	1	3	3	1	1	3	3	3	1	0	1	3	3	32	High
RH-20	3	3	1	3	3	1	1	0	1	3	1	0	1	3	3	27	Medium
RH-21	3	3	1	3	3	1	1	0	1	3	1	1	1	3	1	26	Medium
RH-22	1	3	1	3	3	1	1	1	1	3	3	3	3	3	3	33	High
RH-23	1	1	3	3	3	1	1	3	3	3	3	3	3	3	3	37	High
RH-24	3	0	3	3	3	1	1	0	3	3	1	0	3	3	3	30	Medium
RH-25	3	3	3	3	3	1	3	1	3	3	1	1	1	1	1	31	High
RH-26	3	3	3	3	3	1	0	1	1	3	3	1	3	3	1	32	High
RH-27	3	3	3	3	3	1	0	1	1	3	3	1	3	1	1	30	High
RH-28	3	3	3	3	3	1	0	1	3	3	3	3	3	3	1	36	High

Note: 31 or more = High Priority
15 to 30 = Medium Priority
0 to 14 = Low Priority

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Table 4-16. Mitigation Action Classification and Natural Hazards Addressed

Action	Mitigation Classification						Natural Hazards								
	Local Plans and Regulations	Structure and Infrastructure Projects	Education and Awareness Programs	Natural Systems Protection	Climate Resiliency	Community Capacity Building	Drought	Earthquake	Flood	Landslide	Sea Level Rise	Severe Weather – Heat Wave	Severe Weather – Strong Wind	Tsunami	Wildfire
RH-01	X		X			X	X	X	X	X	X	X	X	X	X
RH-02	X					X	X	X	X	X	X	X	X	X	X
RH-03	X				X	X	X	X		X		X	X		X
RH-04	X	X				X	X	X	X	X	X	X	X	X	X
RH-05	X		X							X					X
RH-06	X							X		X			X		X
RH-07	X							X		X			X		
RH-08	X									X			X		X
RH-09	X					X	X	X	X	X	X	X	X	X	X
RH-10	X						X	X	X	X	X	X	X	X	X
RH-11	X					X	X	X	X	X	X	X	X	X	X
RH-12	X					X	X	X	X	X	X	X	X	X	X
RH-13	X		X			X	X	X	X	X	X	X	X	X	X
RH-14			X			X	X	X	X	X	X	X	X	X	X
RH-15	X		X					X				X	X		X
RH-16	X		X			X		X					X		X
RH-17	X	X	X				X	X	X	X	X	X	X	X	X
RH-18	X		X		X										X
RH-19	X		X	X		X									X
RH-20	X	X	X					X							
RH-21	X					X				X					
RH-22	X		X										X		X
RH-23	X		X	X	X		X					X			X
RH-24	X		X		X							X			
RH-25	X	X	X						X						
RH-26	X						X	X	X	X	X	X	X	X	X
RH-27	X								X						
RH-28	X		X		X	X	X	X	X	X	X	X	X	X	X

4.10 PUBLIC OUTREACH

Table 4-17. Public Outreach

Local Outreach Activity	Date	Number of People Involved
Blue Newsletter	August 20, 2025	700 copies distributed
Block Captain Meeting	August 21, 2025	35
Prepared Peninsula Expo	October 26, 2025	Undetermined due to the open nature of the event, though community outreach was broad and widely accessible.
Block Captain Meeting	November 11, 2025	35
Blue Newsletter	January 8, 2026	700 copies distributed
Blue Newsletter	January 18, 2026	700 copies distributed
City Hall – Flyers at front counter	August, 2025 – January 2026	Undetermined due to the open nature

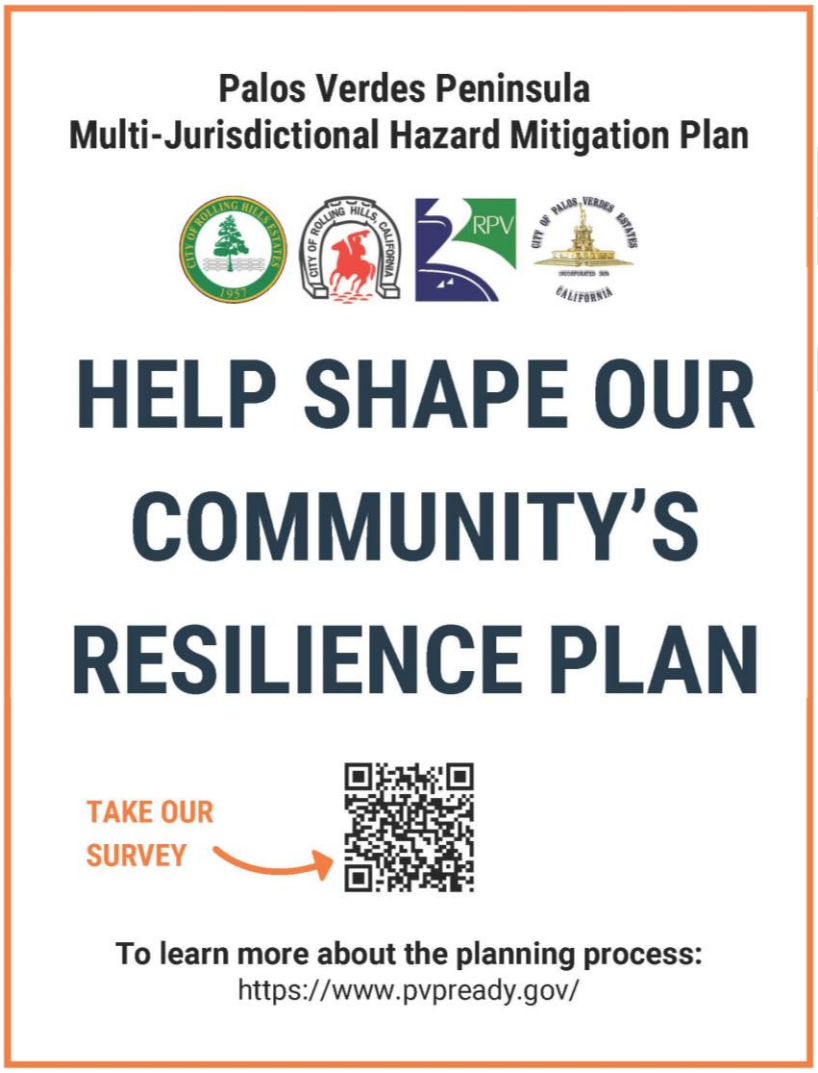


Figure 4-2. Outreach Materials Posted to Promote the Survey

Source: PVP 2025

4.11 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **City Website.** The City's website was used to populate the annex.
- **General Plan and Elements.** The City's General Plan was reviewed to identify current and potential capabilities and integration.
- **2019 Hazard Mitigation Plan.** The 2019 HMP was reviewed to identify previous mitigation actions and populate sections of the annex.
- **Rolling Hills Municipal Code.** The City's codes were reviewed to populate current capabilities and identify future capabilities and areas of integration.

The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**. The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.

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Figure 4-3. Earthquake Hazard Map – 100-Year Probability Scenario

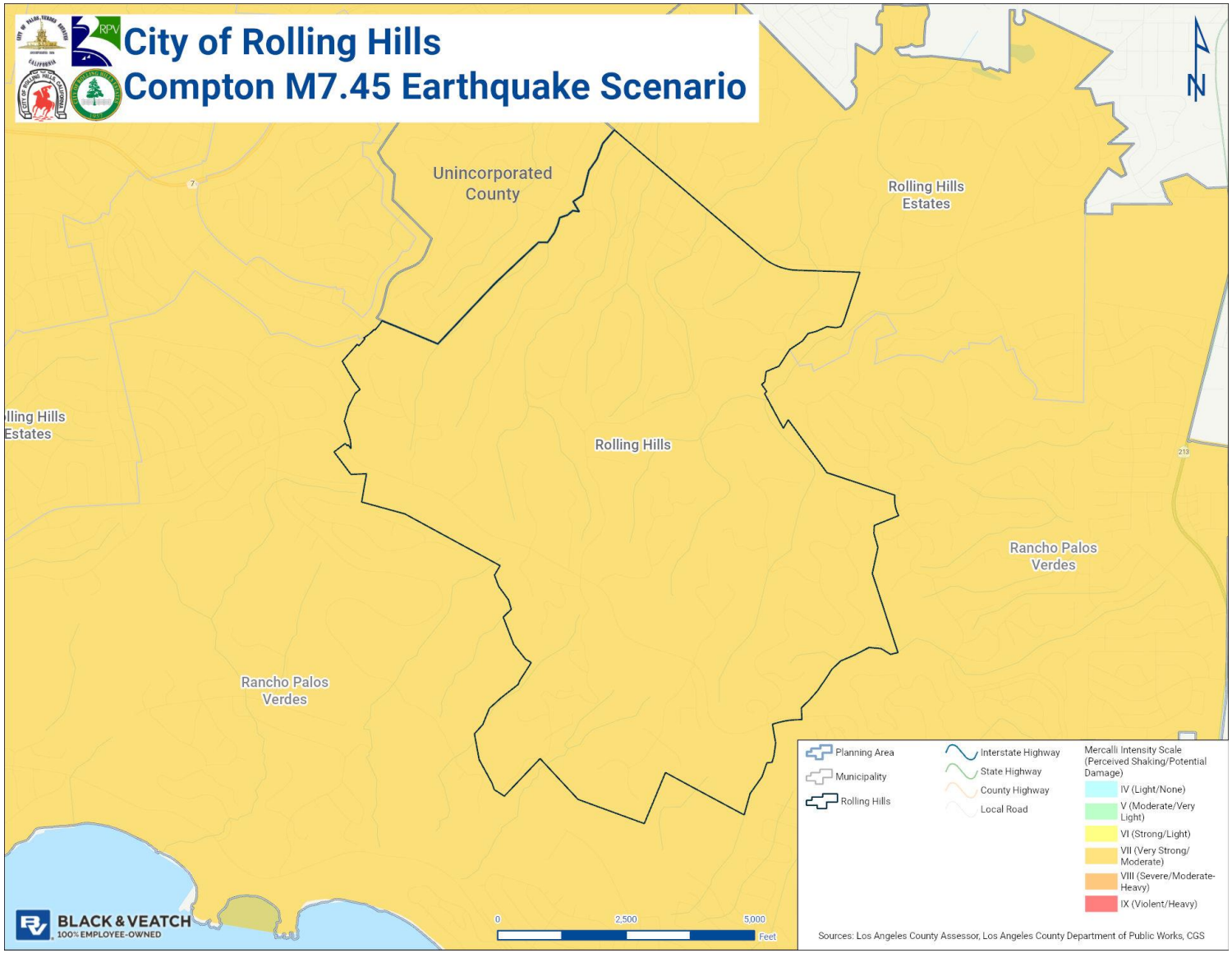


Figure 4-4. Earthquake Hazard Map – Compton M7.45 Scenario

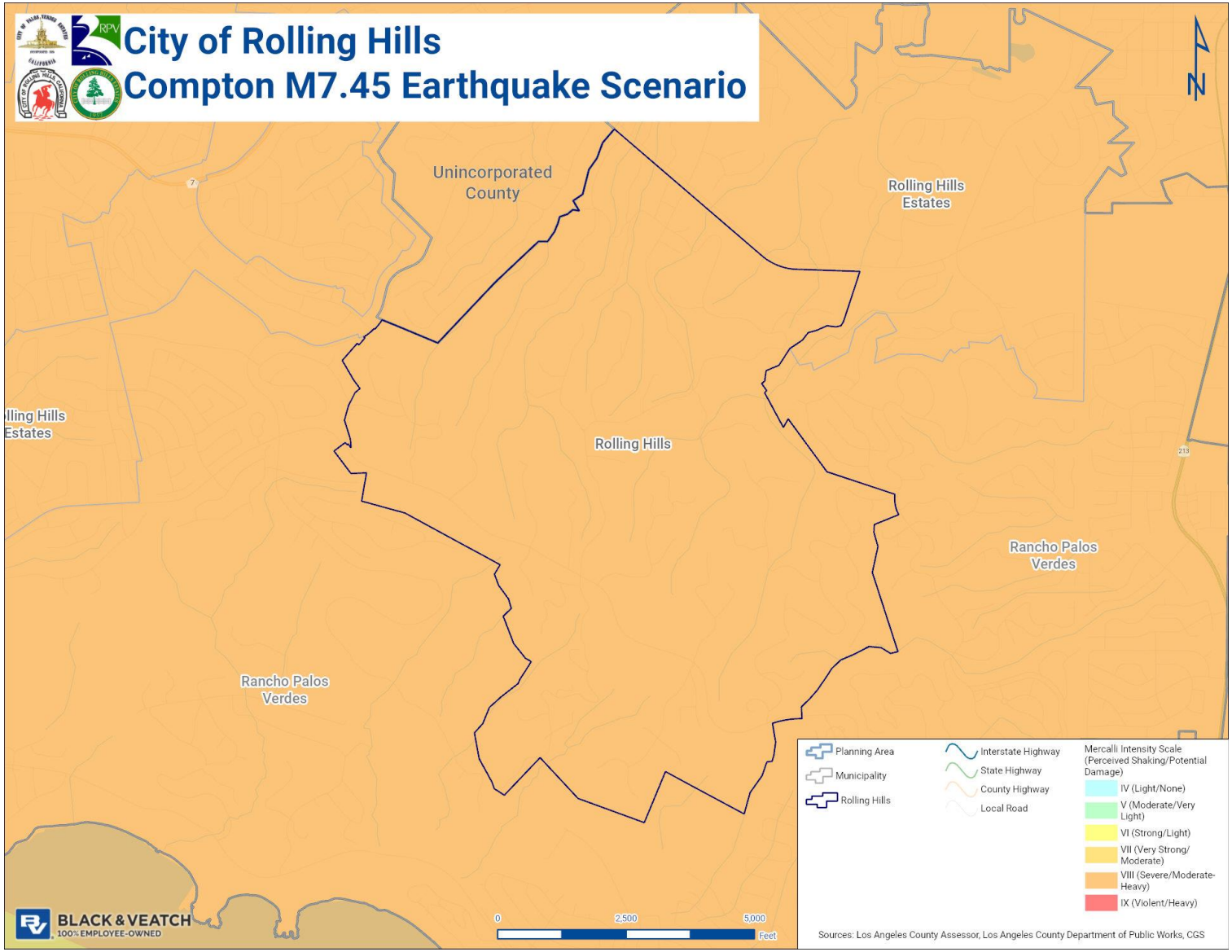


Figure 4-5. Earthquake Hazard Map – Palos Verdes M7.78 Scenario

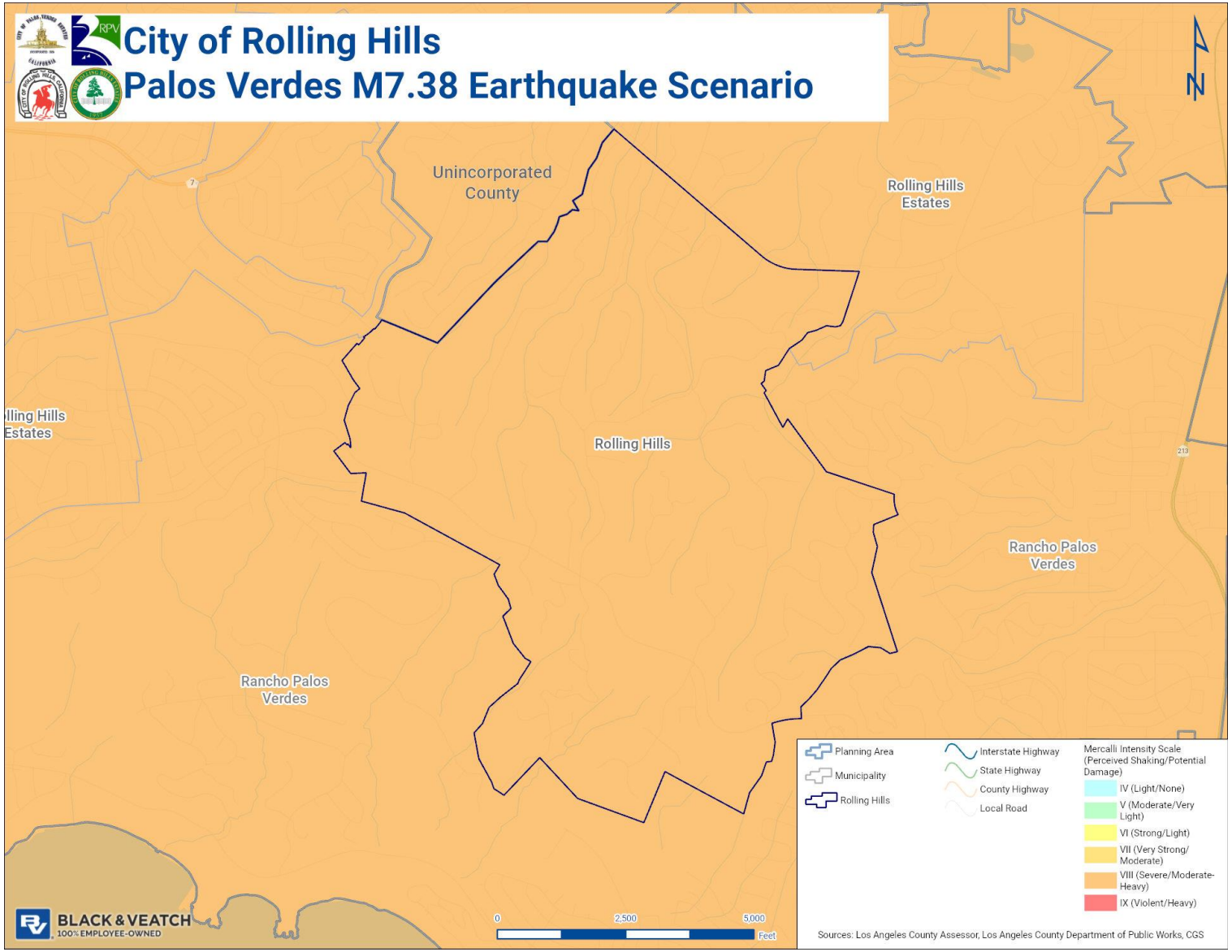


Figure 4-6. Earthquake Hazard Map – Redondo Canyon M6.65 Scenario

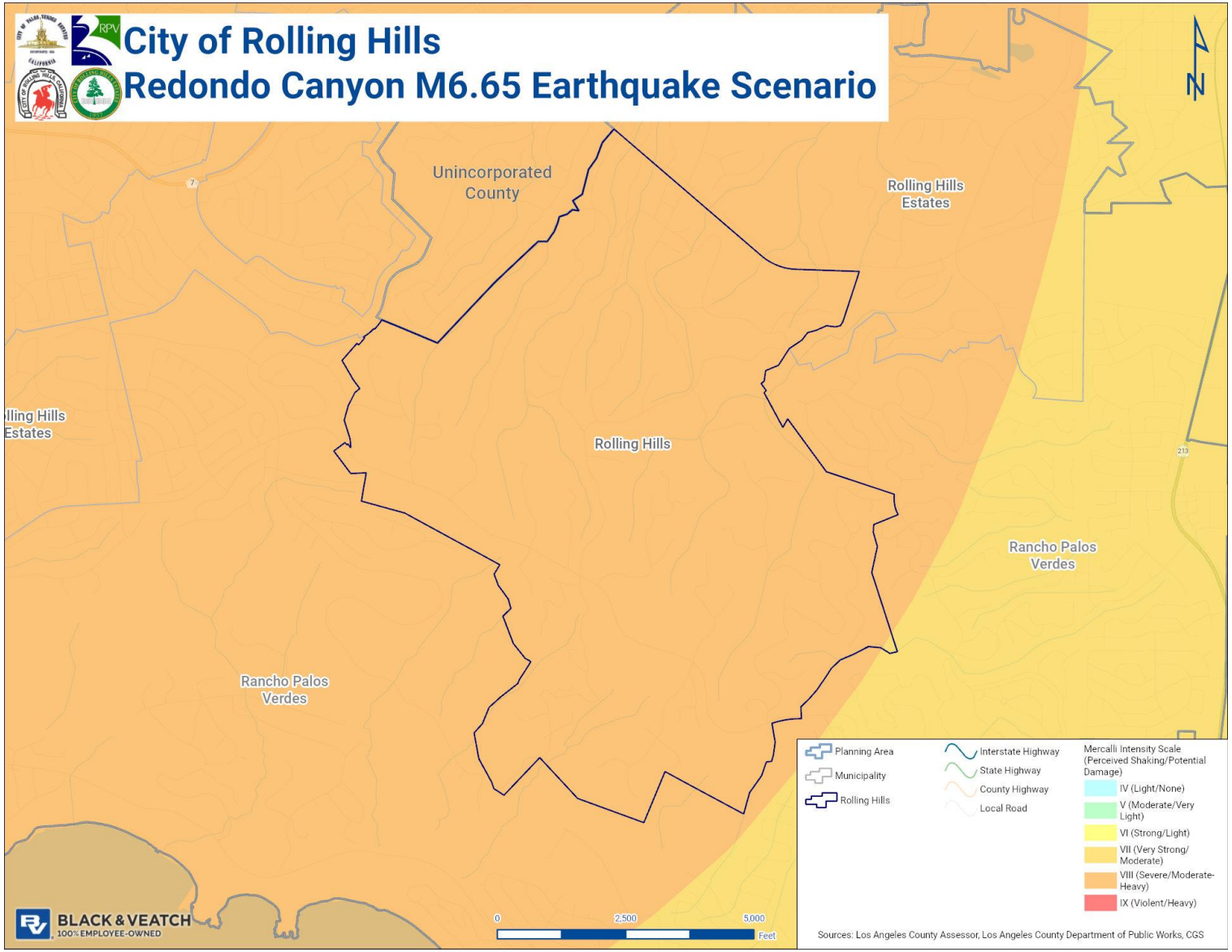


Figure 4-7. Flood Hazard Map – FEMA Flood Hazard Areas

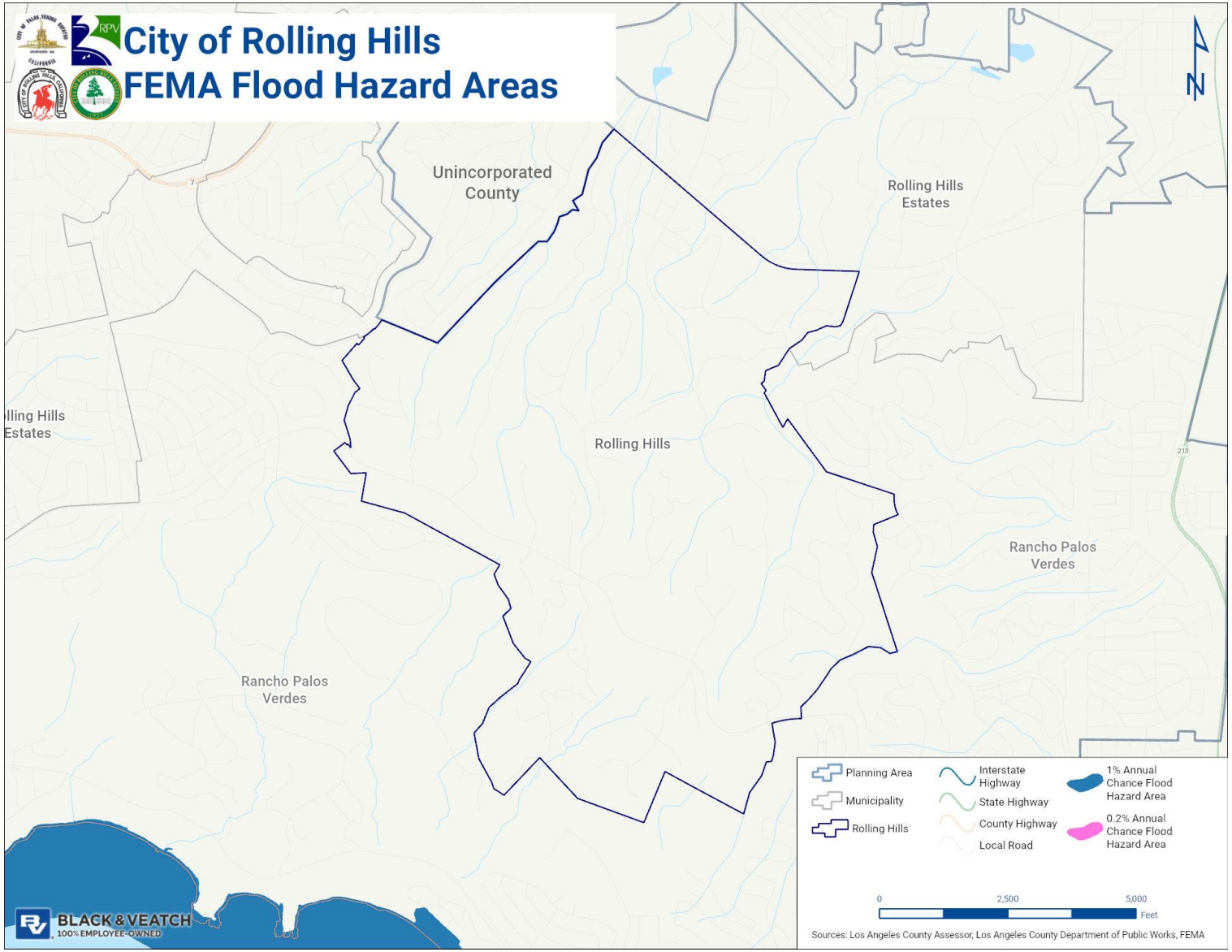


Figure 4-8. Landslide Hazard Map – Landslide Occurrences

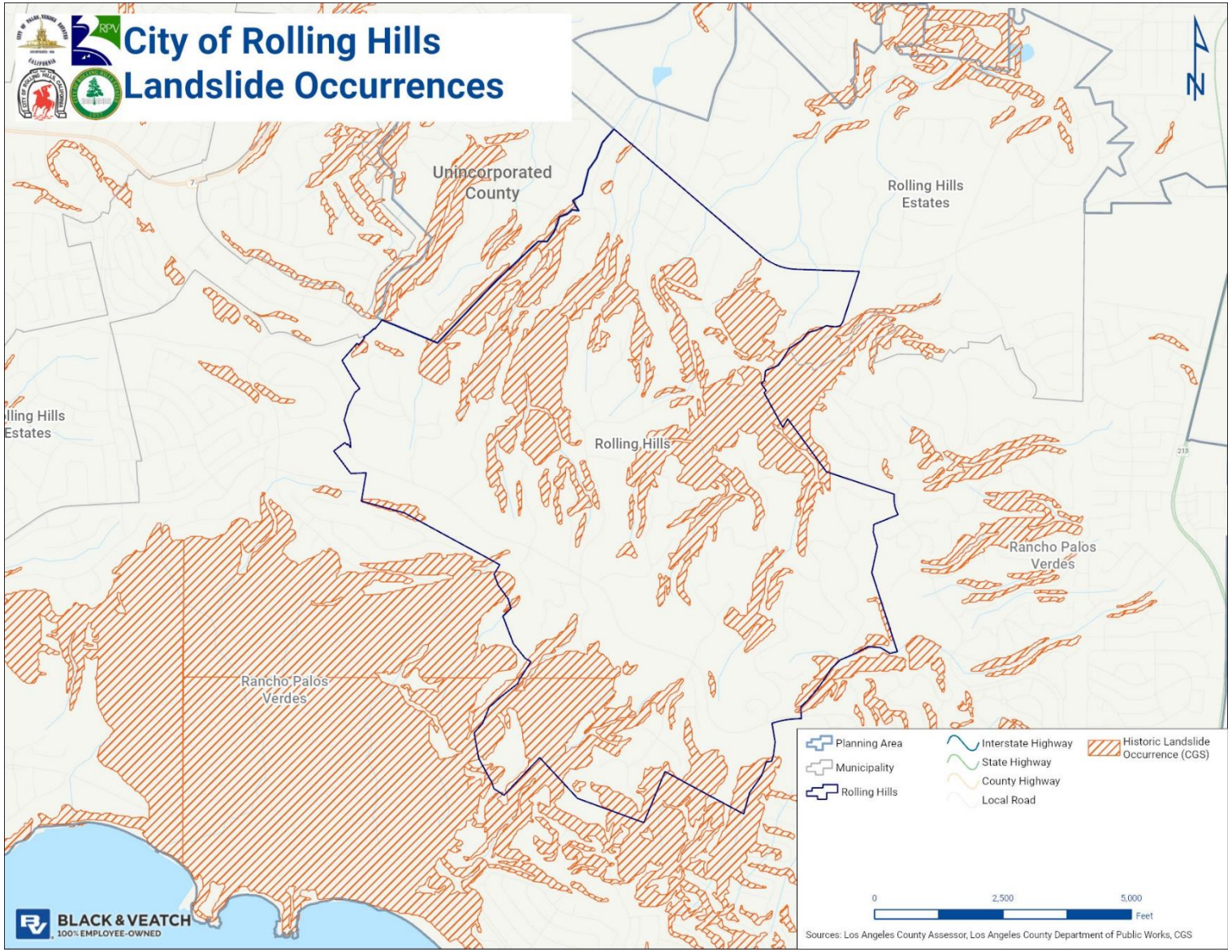


Figure 4-9. Landslide Hazard Map – Landslide Susceptibility

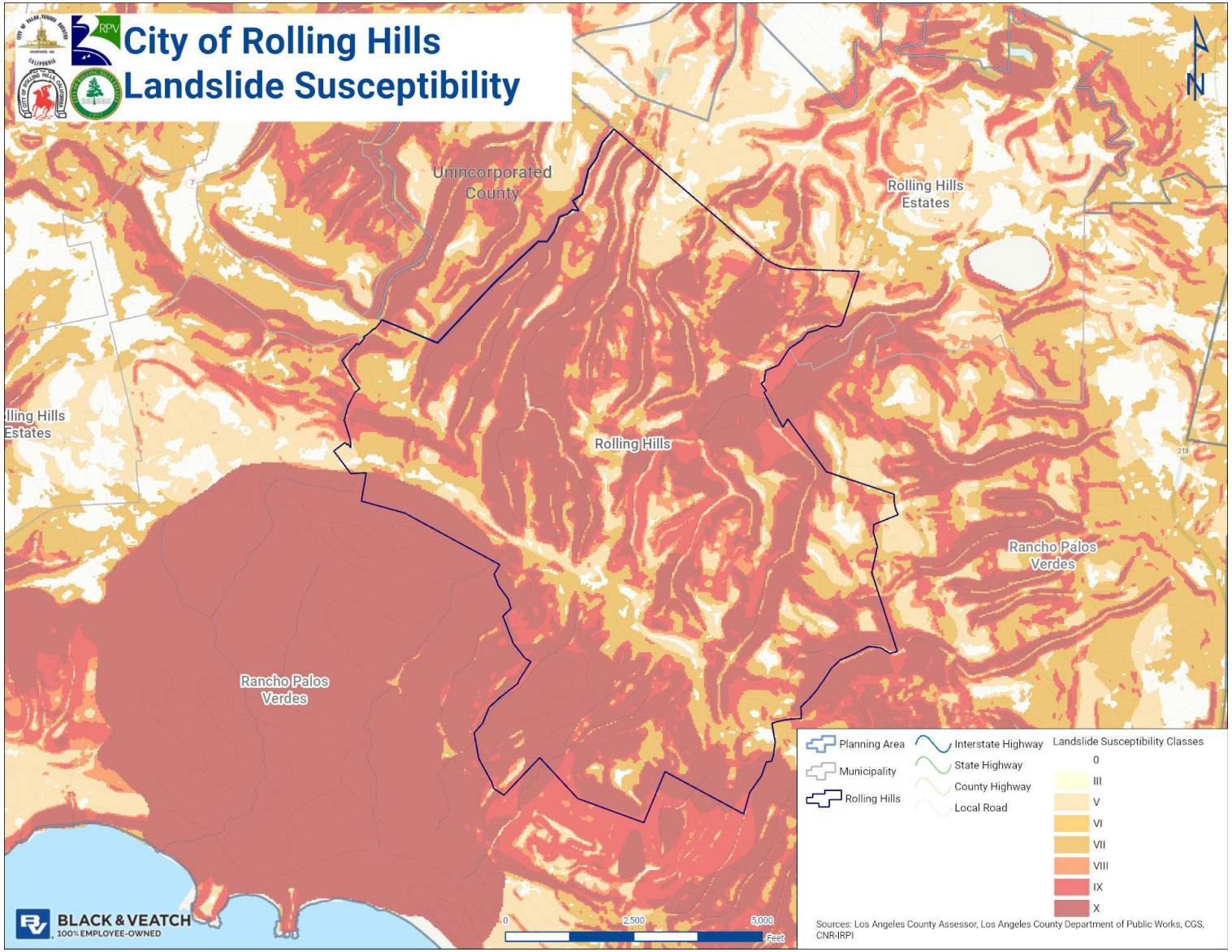


Figure 4-10. Landslide Hazard Map – Steep Slope Areas

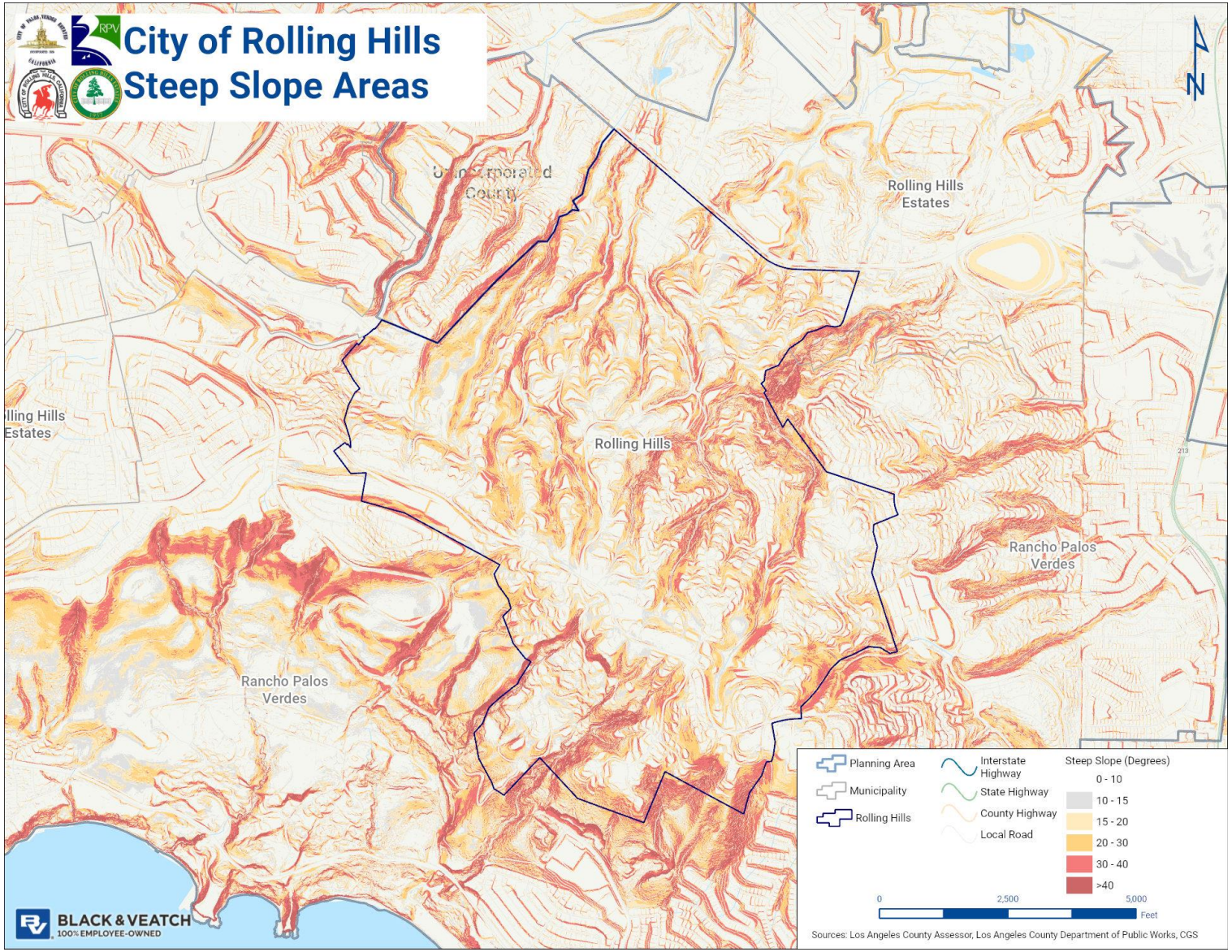


Figure 4-11. Liquefaction Hazard Map – Liquefaction Susceptibility

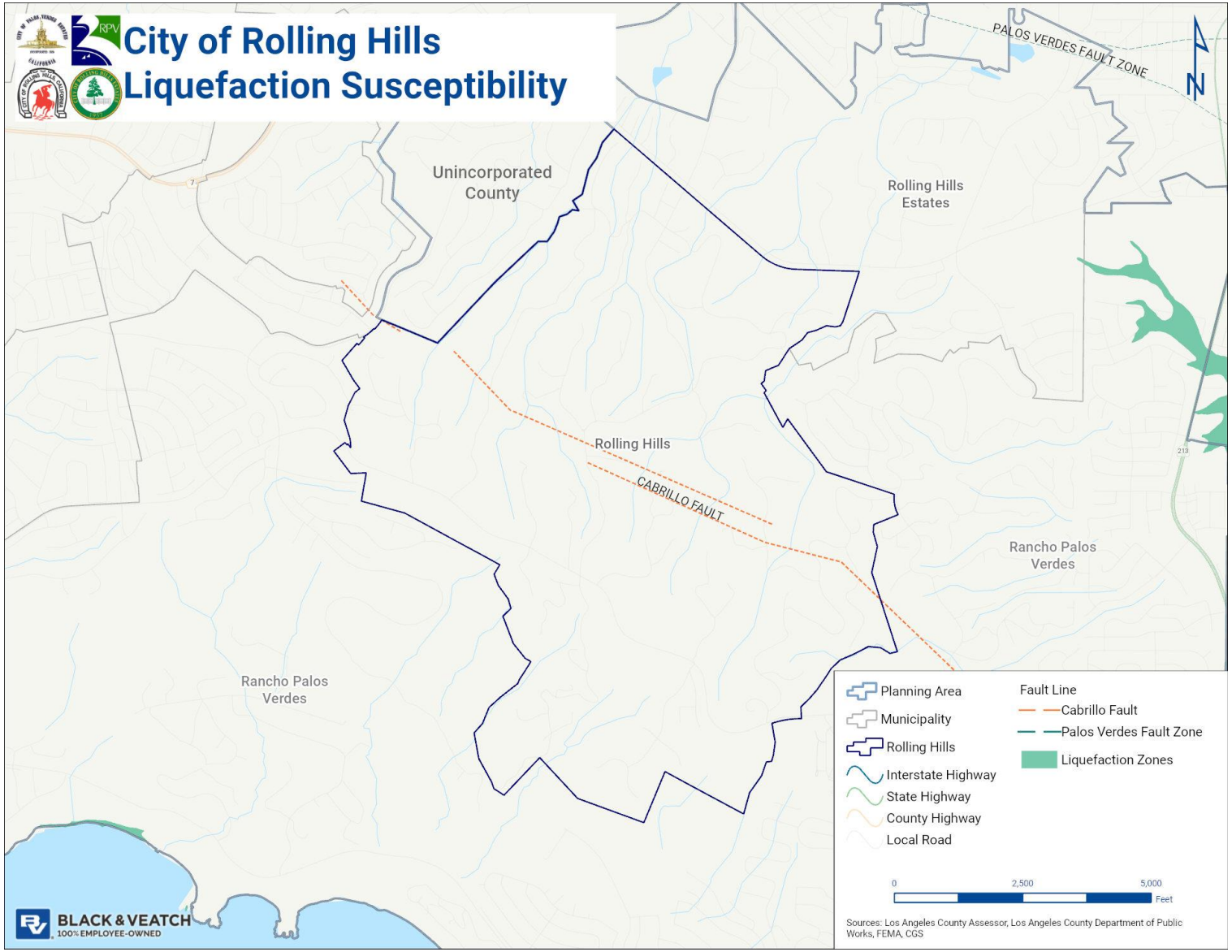


Figure 4-12. Liquefaction Hazard Map – NEHRP Seismic Site Class

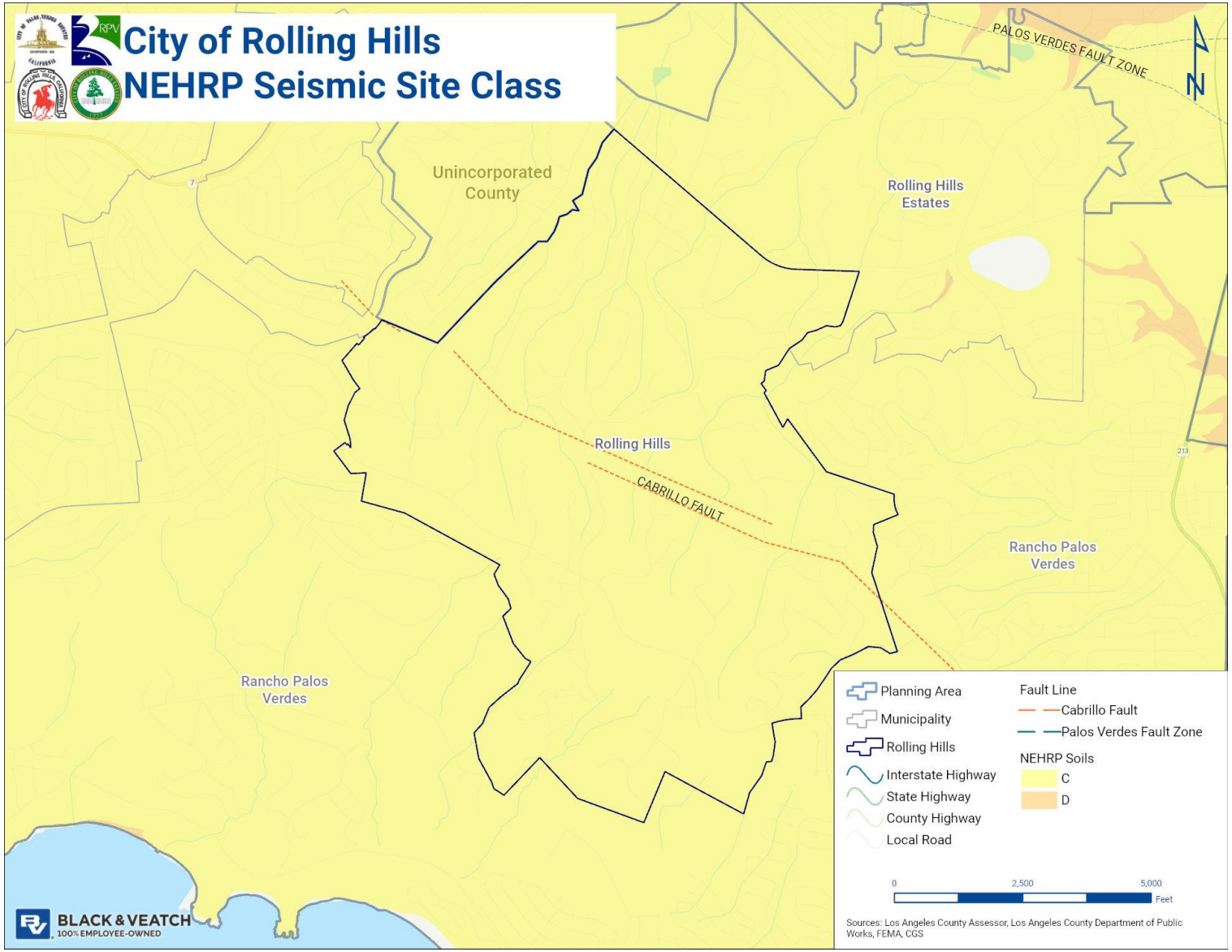
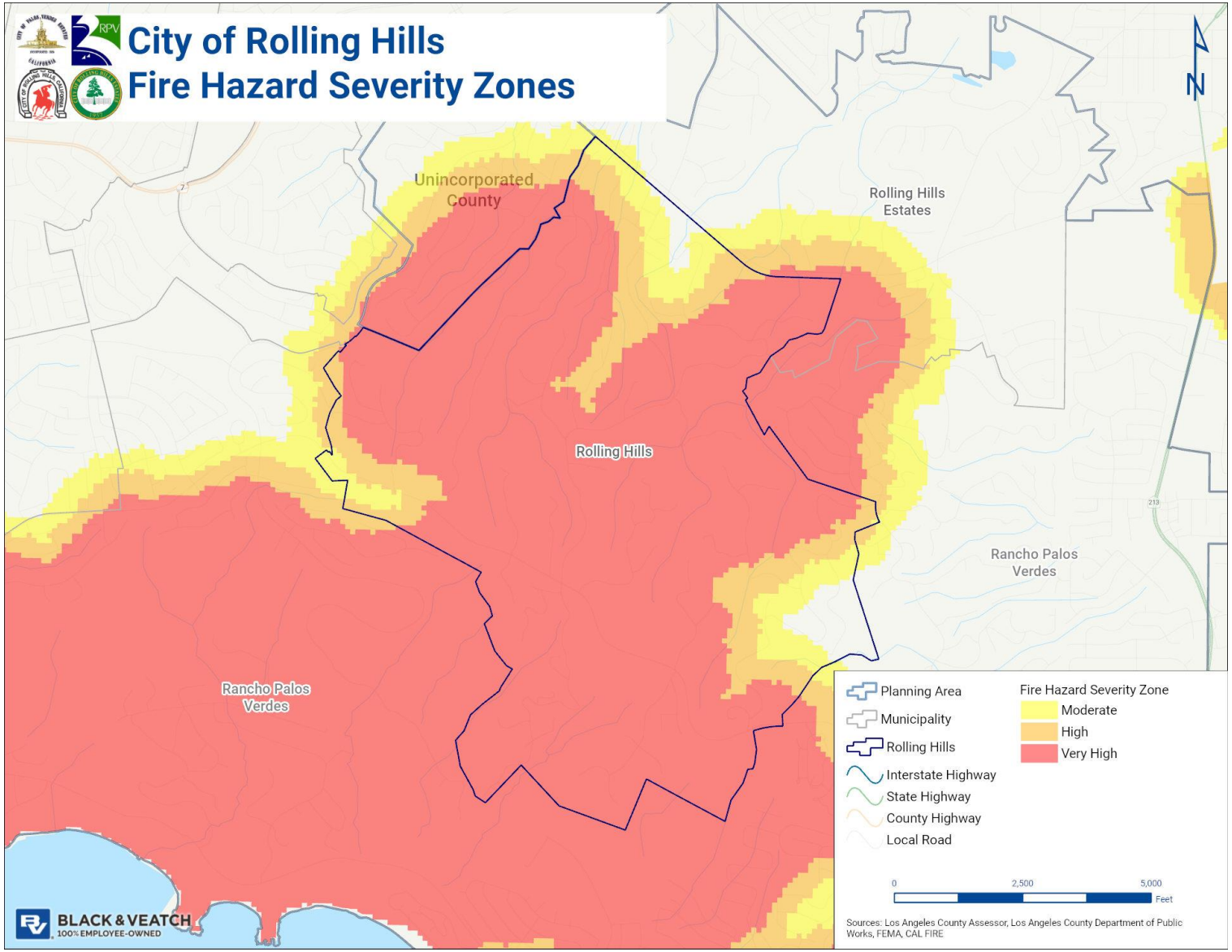


Figure 4-13. Wildfire Hazard Map – Fire Hazard Severity Zones



5. ROLLING HILLS ESTATES

Figure 5-1. City of Rolling Hills Estates 2024 Mayor's Ride



Source: (City of Rolling Hills Estates 2025)

5.1 LOCAL HAZARD MITIGATION PLANNING TEAM

Table 5-1. Local Planning Team

	Primary Point of Contact	Alternate Point of Contact
Name and Title:	Jessica Slawson, Assistant to the City Manager	Alexa Davis, Assistant City Manager
Address:	4045 Palos Verdes Drive North, Rolling Hills Estates, CA 90274	4045 Palos Verdes Drive North, Rolling Hills Estates, CA 90274
Phone Number:	(310) 377-1577	(310) 377-1577
Email:	JessicaS@RollingHillsEstates.Gov	AlexaD@RollingHillsEstates.Gov
Contributors:		
Name and Title: Method of Participation:	Greg Grammer, City Manager Virtual and in-person meetings; e-mail correspondence	
Name and Title: Method of Participation:	Alexa Davis, Assistant City Manager Virtual and in-person meetings; e-mail correspondence	
Name and Title: Method of Participation:	Jessica Slawson, Assistant to the City Manager Virtual and in-person meetings; e-mail correspondence	

Name and Title: Method of Participation:	Jeannie Naughton, Public Works and Community Development Director Virtual and in-person meetings; e-mail correspondence
Name and Title: Method of Participation:	Kirsten Graham, Public Works Manager Virtual and in-person meetings; e-mail correspondence
Name and Title: Method of Participation:	Gabby Swain, Administrative Aide Virtual and in-person meetings; e-mail correspondence

5.2 JURISDICTIONAL PROFILE

5.2.1 Location and Features

The City of Rolling Hills Estates is located in the center of the Palos Verdes Peninsula in southern Los Angeles County. The peninsula's golf courses, beaches, and nature reserves attract visitors from across the region. Rolling Hills Estates is accessible via SR-1, SR-107, and SR-213, which are all located just outside City borders. The City is about 20 miles south of downtown Los Angeles and 10 miles west of Long Beach (City of Rolling Hills Estates 2022).

5.2.2 History

The City of Rolling Hills Estates officially became Los Angeles County's 60th municipality on September 18, 1957. In that first year, the City's population totaled only 3,500, but its new citizens were united in their concern over maintaining the community's rural atmosphere and equestrian lifestyle, characterized by rolling hills, white fences, bridle trails, and vast open spaces (City of Rolling Hills Estates 2025).

The City was also concerned in its early years with annexation of new areas. In 1959, the City added the Montecillo, Chandler Quarry, Country Club Estates and northern Masongate areas to its eastern and western portions. Between 1960 and 1966, the City annexed the research and development land behind the Northrop Corporation; the Peninsula Center, Harbor Sight, the Ranch, Rolling Hills Park Estates, Highridge, Hillcrest Manor, Hillcrest Meadows, Terraces, and Cresta Verdes areas. Finally, in 1982, the City added the site of the former Palos Verdes Landfill to assure that concerns regarding this closed facility would be recognized (City of Rolling Hills Estates 2025).

Today there are 30 neighborhood areas within the community, each with its own special character, architectural style, and Homeowners' Association. These Associations often represent citizens directly before the City Council and serve as neighborhood social organizations as well (City of Rolling Hills Estates 2025).

5.2.3 Governance

Rolling Hills Estates is a "general law city" and provides services to the public as mandated by the California State Government Code. As provided by state law, our City's legislative body is the City Council, comprised of five residents elected at large on a non-partisan ballot to serve four-year overlapping terms. On an annual basis, one member is selected by the Council to serve as Mayor.

The City Council assumes responsibility for adoption of this plan; the City Manager's Office will oversee its implementation.

5.3 CURRENT TRENDS

5.3.1 Population

According to the California Department of Finance, the population of Rolling Hills Estates as of May 2025 was 8,545. Since 1970, the population has grown by at an average annual rate of 3.6 percent.

5.3.2 Development

Table 5-2. Recent and Expected Future Development Trends

Criterion	Response
Has your jurisdiction annexed any land since the preparation of the previous hazard mitigation plan?	No.
• If yes, give the estimated area annexed and estimated number of parcels or structures.	-
Is your jurisdiction expected to annex any areas during the performance period of this plan?	No.
• If yes, describe land areas and dominant uses.	-
• If yes, who currently has permitting authority over these areas?	-
Provide the number of new construction permits for each hazard area or provide a qualitative description of where development has occurred.	Most development has generally occurred in the northwestern area of the City, in one new subdivision that included 114 new single-family homes (construction began in 2015 and generally was completed in 2022). New accessory dwelling unit construction occurred throughout the single-family residential areas throughout the City.
Are any areas targeted for development or major redevelopment in the next five years?	The proposed project is a 454-unit residential mixed-use project on a 10.42-acre site located on five lots at 615-855 Deep Valley Drive and 924-950 Indian Peak Road. The project would include 10,229 square feet (SF) of commercial space and 881 parking spaces across four buildings. The project would remediate the steeply sloped hillside that experienced a landslide failure in 1997. The project would provide 44 units for very low-income households, which qualifies it for mandatory benefits under California's Density Bonus Law. The three buildings proposed along Deep Valley Drive would be seven (7) stories, consisting of three- and five-story portions over two levels of podium parking. The building proposed on the Indian Peak Road site would be five stories over one level of podium parking.
• If yes, briefly describe, including whether any of the areas are in known hazard risk areas	See above

Criterion	Response					
How many permits for new construction were issued in your jurisdiction since the preparation of the previous hazard mitigation plan?		2020	2021	2022	2023	2024
	Single Family	31	22	1	1	0
	Multi-Family					
	Other (mobile homes, accessory dwellings, mixed use, etc.)	94	4	7	6	7
	Commercial					
	Total	125	26	8	7	7
Describe the level of buildout in the jurisdiction, based on your jurisdiction's buildable lands inventory. If no such inventory exists, provide a qualitative description.	The City is largely built-out, with only two single-family residential lots that are undeveloped. All future development opportunities will be redevelopment of existing sites. The General Plan increased allowable density in the City's Commercial District, which projects the possible build-out of several hundred units within the 2040 Planning horizon.					

5.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand or improve upon capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan.

5.4.1 Planning and Regulatory Capabilities

Jurisdictions have the ability to develop policies and programs and to implement rules and regulations to protect and serve residents. Local policies are typically identified in community plans, implemented through local ordinance, and enforced through a governing body. An assessment of planning and regulatory capabilities is presented in Table 3-3.

Table 5-3. Planning and Regulatory Capabilities

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
Codes, Ordinances, & Requirements				
Building Code	Yes	No	Yes	Yes
Comment: *Building Code (Chapter 15) specifies how new structures can be built. It includes the California Building Code, in addition to any amendments made by the City. Mitigation actions may involve amending the Building Code to improve a building's safety or structural stability.*				
Zoning Code	Yes	No	Yes	Yes
Comment: *Zoning Ordinance (Chapter 17) implements the City's General Plan by establishing specific regulations for development. It includes standards for where development can be located, how buildings must be sized, shaped, and positioned, and what types of activities can occur in an area. Hazard mitigation actions that pertain to new or substantially redeveloped buildings can be adopted into the Zoning Ordinance.*				
Subdivisions	Yes	No	Yes	Yes
Comment: *Subdivisions (Chapter 16)*				
Stormwater Management	Yes	No	Yes	Yes
Comment: -				
Post-Disaster Recovery	Yes	Yes	No	Yes
Comment: *The City of RHE contract with LA County to provide Fire and Police services, both of which assist in post-disaster recovery.*				
Real Estate Disclosure	No	Yes	Yes	No
Comment: *California Civil Code 1102 and 1103 which requires disclosure by the seller and/or seller's agent to the potential buyer if the property is subject to flooding or fire hazards.*				
Growth Management	Yes	No	No	Yes
Comment: *The City of RHE has land use authority to set permissible levels of development throughout the City, in accordance with the adopted General Plan.*				
Site Plan Review	Yes	No	No	Yes
Comment: -				
Environmental Protection	No	No	No	No
Comment: -				
Flood Damage Prevention	Yes	No	No	Yes
Comment: *Chapter 15.28 (Flood Damage Prevention)*				
Emergency Management	Yes	No	Yes	Yes
Comment: -				
Climate Change	No	No	No	No
Comment: -				
Planning Documents				
General Plan	Yes	No	Yes	Yes
Is the General Plan compliant with Assembly Bill 2140?	Yes			
Comment: *General Plan outlines long-term direction for development and policy in a community. There are opportunities to coordinate local hazard mitigation actions with policies governed by the General Plan. Next update to General Plan Safety Element should include integration with the Hazard Mitigation Plan. Also, General Plan is an excellent resource to assist with implementing many of the mitigation action items identified in the Hazard Mitigation Plan.*				

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
Capital Improvement Plan	Yes	No	No	Yes
How often is the plan updated?	*5 years*			
Comment:	*The Capital Improvement Program directs construction activities for City-owned facilities and infrastructure for the next five years. Mitigation actions may involve construction of new or upgraded facilities and infrastructure.*			
Disaster Debris Management Plan	No	No	No	No
Comment:	-			
Floodplain or Watershed Plan	Yes	No	No	Yes
Comment:	-			
Stormwater Plan	Yes	No	No	Yes
Comment:	*Storm Water Management Plan provides long-range planning of water supplies and water use to ensure a stable water supply and compliance with water conservation efforts. Mitigation actions that involve reducing water use may be incorporated into the next update to the Storm Water Management Plan.*			
Urban Water Management Plan	No	No	No	No
Comment:	*Cal Water is the water purveyor for the PV Peninsula*			
Habitat Conservation Plan	No	No	No	No
Comment:	*The City of RHE has no HCPs.*			
Economic Development Plan	No	No	No	No
Comment:	*The City of RHE does not currently have an economic development plan.*			
Community Wildfire Protection Plan	No	No	No	No
Comment:	-			
Forest Management Plan	No	No	No	No
Comment:	-			
Climate Action Plan	Yes	No	No	Yes
Comment:	*As a part of these efforts, the City of Rolling Hills Estates, in cooperation with the South Bay Cities Council of Governments, has developed a Climate Action Plan (CAP) to reduce Greenhouse Gas (GHG) emissions within the city. The City's CAP serves as a guide for action by setting GHG emission reduction goals and establishing strategies and policy to achieve desired outcomes over the next 20 years.*			
Threat & Hazard Identification & Risk Assessment (THIRA)	No	No	No	No
Comment:	-			
Post-Disaster Recovery Plan	No	No	No	No
Comment:	-			
Emergency Operations Plan	Yes	No	No	Yes
Comment:	*An Emergency Operations Plan (EOP) is a reference and guidebook to operations during a major emergency impacting Rolling Hills Estates. The Plan includes a discussion on a wide range of hazards, organization and staffing of the Emergency Operations Center, and connectivity with field responders and external agencies. The EOP is an excellent source of hazard information for the Hazard Mitigation Plan. (Rolling Hills Estates Plan completed in 2025).*			
Public Health Plan	No	No	No	No
Comment:	We contract with the County of Los Angeles to provide Public Health services.			

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
Other	No	No	No	No
Comment:	-			

Opportunities to Expand Planning and Regulatory Capabilities

The table above, Section 5.6 (Integration), and Section 5.9 (Hazard Mitigation Strategy) highlights opportunities for the City to strengthen planning and regulatory capabilities through hazard mitigation integration. Aligning mitigation efforts with updates to codes, ordinances, and planning initiatives fosters a coordinated approach to reducing hazard risk, supporting resilient development and a safer community.

5.4.2 Development and Permitting Capabilities

Jurisdictions regulate land use through the adoption and enforcement of zoning, subdivision and land development ordinances, building codes, building permit ordinances, floodplain, and stormwater management ordinances. When effectively prepared and administered, these regulations can lead to hazard mitigation. Development and permitting capabilities are presented in Table 3-4.

Table 5-4. Development and Permitting Capabilities

Criterion	Response
Does your jurisdiction issue development permits?	Yes
If no, who does? If yes, which department?	Community Development
Does your jurisdiction track permits by hazard area?	No
Does your jurisdiction have a buildable lands inventory?	We maintain surplus (government owned) lands database, but not general privately held buildable lands inventory.

5.4.3 Fiscal Capabilities

Assessing a jurisdiction's fiscal capability provides an understanding of the ability to fulfill the financial needs associated with hazard mitigation projects. This assessment identifies both outside resources, such as grant funding eligibility, and local jurisdictional authority to generate internal financial capability, such as through impact fees. An assessment of fiscal capabilities is presented in Table 3-5.

Table 5-5. Fiscal Capabilities

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants	Yes
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	No
User Fees for Water, Sewer, Gas or Electric Service	No
Incur Debt through General Obligation Bonds	No
Incur Debt through Special Tax Bonds	No
Incur Debt through Private Activity Bonds	No
Withhold Public Expenditures in Hazard-Prone Areas	No
State-Sponsored Grant Programs	No

Financial Resource	Accessible or Eligible to Use?
Development Impact Fees for Homebuyers or Developers	No

Opportunities to Expand Fiscal Capabilities

Section 5.6 (Integration), and Section 5.9 (Hazard Mitigation Strategy) highlights opportunities for the City to strengthen its fiscal capabilities through hazard mitigation integration. Various funding sources are available to support mitigation projects that reduce natural hazard risk. By implementing mitigation measures, updating codes, and improving infrastructure, the City can continue working towards minimizing damage and recovery costs. Additionally, investing in more resilient infrastructure and mitigation projects, it can lower long-term maintenance and response costs.

5.4.4 Administrative and Technical Capabilities

Planning regulatory, and fiscal capabilities provide the backbone for successfully developing a mitigation strategy; however, without the appropriate personnel, the strategy may not be implemented. Administrative and technical capabilities focus on the availability of personnel resources responsible for implementing all the facets of hazard mitigation. These resources include technical experts, such as engineers and scientists, as well as personnel with capabilities that may be found in multiple departments, such as grant writers. An assessment of administrative and technical capabilities is presented in Table 3-6.

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Table 5-6. Administrative and Technical Capabilities

Staff/Personnel Resource		Available?
Planners or engineers with knowledge of land development and land management practices		Yes
If Yes, Department /Position:	In house staff: Senior Planner, Community Development & Public Works Director. Contract staff: Willdan Engineering; full engineering services.	
Engineers or professionals trained in building or infrastructure construction practices		Yes
If Yes, Department /Position:	Contract staff with Willdan Engineering: Building Officials, plan checkers, building inspectors.	
Planners or engineers with an understanding of natural hazards		Yes
If Yes, Department /Position:	Community Development & Public Works Director	
Staff with training in benefit-cost analysis		Yes
If Yes, Department /Position:	Finance: Senior accountant and Administrative Services Director	
Surveyors		Yes
If Yes, Department /Position:	Contract staff with Willdan Engineering	
Personnel skilled or trained in GIS applications		Yes
If Yes, Department /Position:	Community Development Department Staff: Administrative Analyst, Assistant Planner, Community Development and Public Works Director	
Scientist familiar with natural hazards in local area		No
If Yes, Department /Position:	-	
Emergency manager		Yes
If Yes, Department /Position:	City Manager's Office: Assistant to the City Manager	
Grant writers		No
If Yes, Department /Position:	-	
Procurement Services and Management		Yes
If Yes, Department /Position:	City Manager's Office: Assistant City Manager / Finance Director	

Opportunities to Expand Administrative and Technical Capabilities

Section 5.6 (Integration), and Section 5.9 (Hazard Mitigation Strategy) highlights opportunities for the City to expand its administrative and technical capabilities through hazard mitigation integration. By maintaining and expanding these resources, including planning, engineering, GIS, and emergency planning, the City can better identify vulnerabilities, evaluate mitigation options, and design effective risk-reduction projects. These capabilities provide informed decision-making, efficient implementation, and ongoing progress toward a more resilient City.

5.4.5 Education and Outreach Capabilities

Regular engagement with the public on issues regarding hazard mitigation provides an opportunity to directly interface with community members. Assessing the education and outreach capability illustrates the connection between the government and community members, which opens a two-way dialogue that can result in a more resilient community, based on awareness and engagement. An assessment of education and outreach capabilities is presented in Table 3-7.

Table 5-7. Education and Outreach Capabilities

Criterion	Response
Do you have a public information officer or communications office?	Yes
Do you have personnel skilled or trained in website development?	Yes
Do you have hazard mitigation information available on your website?	Yes

Criterion	Response
If yes, briefly describe:	*The City uses its website to provide information to its residents including meetings and events, news, and hazard information. The City includes hazard extent maps, like fire severity zones, on its website as well. On the City's Public Safety webpage, they provide information on emergency preparedness and a link to sign up for emergency alerts and notifications. Additionally, the City hosts a regional emergency preparedness and informational website with the four Palos Verdes Peninsula City jurisdictions.*
Do you use social media for hazard mitigation education and outreach?	Yes
If yes, briefly describe:	*The City has social media accounts used to provide its residents with news, upcoming meetings and events, and alerts (including hazard events).*
Do you have any citizen boards or commissions that address issues related to hazard mitigation?	Yes
If yes, briefly describe:	The City participates in a regional (Peninsula) Public Safety Committee comprised of city council representatives that serve on the board to discuss and direct regional emergency preparedness efforts. The City additionally has an established Equine Emergency Preparedness Sub-committee.
Do you have any other programs in place that could be used to communicate hazard-related information?	Yes
If yes, briefly describe:	The City communicates hazard-related information at an annual Emergency Preparedness Expo event held in partnership with the Palos Verdes Peninsula cities. The City also participates in the annual National Night Out event which local officials, staff, and public safety partners attend neighborhood gatherings to discuss public safety/emergency preparedness. A Peninsula Community Emergency Response Team (CERT) has been established.
Do you have any established warning systems for hazard events?	Yes
If yes, briefly describe:	Local Alert and Warning Communication System – Alert South Bay through the Everbridge Platform. The City participates in the County of Los Angeles emergency evacuation communication tool through the Genasys platform.

Opportunities to Expand Education and Outreach Capabilities

The table above, Section 5.6 (Integration), and Section 5.9 (Hazard Mitigation Strategy) identifies opportunities for the City to strengthen education and outreach capabilities through hazard mitigation integration. This can be done by building on current efforts like the city website, social media pages, and through the Public Safety Committee and CERT. Focusing on these efforts, the City will continue increasing awareness and help the community become better prepared for future natural hazards.

5.4.6 Community Classifications

Table 5-8. Community Classifications

	Participating?	Classification or Number	Date Classified
FIPS Code	Yes	037-62644	N/A
UEI#	Yes	TFBXN1M3MYA1	N/A
Community Rating System	No	-	-
Building Code Effectiveness Grading Schedule (BCEGS)	Yes	-	-

	Participating?	Classification or Number	Date Classified
Public Protection (ISO for Fire)	Yes	Class 1or 2	1957
Storm Ready	No	N/A	N/A
Tsunami Ready	No	N/A	N/A
Firewise	No	N/A	N/A

5.4.7 Adaptive Capacity for Climate Change

Table 5-9. Adaptive Capacity for Climate Change

Criterion	Jurisdiction Rating[a]
Technical Capacity	
Jurisdiction-level understanding of potential climate change impacts	Medium
Jurisdiction-level monitoring of climate change impacts	Unsure
Technical resources to assess proposed strategies for feasibility and externalities	Low
Jurisdiction-level capacity for development of greenhouse gas emissions inventory	Unsure
Capital planning and land use decisions informed by potential climate impacts	Medium
Participation in regional groups addressing climate risks	Medium
Implementation Capacity	
Clear authority/mandate to consider climate change impacts during public decision-making processes	Medium
Comment: State requirements and regulation imposed mandates may direct decision-making processes.	
Identified strategies for greenhouse gas mitigation efforts	Medium
Identified strategies for adaptation to impacts	Medium
Champions for climate action in local government departments	High
Political support for implementing climate change adaptation strategies	High
Financial resources devoted to climate change adaptation	Unsure
Comment: *Grant funding, and other programs are reviewed.*	
Local authority over sectors likely to be negative impacted	Low
Public Capacity	
Residents' knowledge of and understanding of climate risk	Medium
Residents' support of adaptation efforts	High
Residents' capacity to adapt to climate impacts	Unsure
Local economy current capacity to adapt to climate impacts	Unsure
Local ecosystems capacity to adapt to climate impacts	Medium

a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement; Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

5.5 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

Table 5-10. National Flood Insurance Program Compliance

Criterion	Response
Flood Risk Summary	
Please describe areas of the jurisdiction prone to flooding, specifically those outside of the mapped floodplain.	According to the Safety Element of the General Plan, flooding in the City includes storm-induced flooding like flash floods in the canyon areas (generally

Criterion	Response
	classified as open space), saturated mudflows of the hillsides, and shallow flooding in streets and homes associated with poor storm drainage.
Do FEMA flood maps adequately address flood risk in the jurisdiction?	Yes
How many structures in the jurisdictions Special Flood Hazard Area (SFHA) have been determined to be substantially damaged from any hazard event?	N/A
Additional comments on flood risk	There are no high-risk flood zones that have been mapped within the jurisdictional boundaries.
Staff Resources	
Provide an explanation of the jurisdiction's NFIP administration services (e.g. permit review, GIS, education/outreach, inspections, engineering capability)	Permit review, review and use of base flood data, and agency notification.
What local department is responsible for floodplain management?	Public Works
Who is your floodplain administrator? (department/position)	Director
Are any staff certified floodplain managers (CFMs)?	No
Does your floodplain management staff need any assistance or training to support its floodplain management program?	No
Insurance Summary [a]	
How many flood insurance policies are in force in your jurisdiction?	15
What is the insurance in force?	$3,663,000
What is the premium in force?	$9,712
How many total loss claims have been filed in your jurisdiction?	9
What were the total payments for losses?	$12,344
Does the jurisdiction maintain a list of properties that have been damaged by flooding?	-
Does the jurisdiction maintain a list of property owners interested in flood mitigation?	-
How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	-
How many properties have been mitigated (elevation or acquisition)?	-
Compliance History	
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, state the violations.	No
Does your jurisdiction have a Substantial Damage Response Plan?	No
If yes, what is the date of the plan?	-
Summarize the jurisdiction's Substantial Damage determination procedures.	1) Initial field assessment (rapid evaluation to determine green, yellow or red tag); 2) detailed data collection (square footage, foundation type, quality of finishes) and calculate repair/replacement costs; 3) communicate either repair (<50% replacement costs) or considered new construction (>50%)

Criterion	Response
Summarize the jurisdiction's Substantial Improvement procedures.	1) Applicants must submit a valuation for the proposed work which includes costs for materials and labor; 2) if the valuation of the work is <50% of the adjusted assessed value, standard permits are issued; 3) if the valuation of the work is >50% of the adjusted assessed value, the project is considered a substantial improvement and the entire structure must be brought into compliance with current codes. There are limited exceptions for work related to code enforcement/life/health & safety codes and for historic structures.
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	N/A
Are any RiskMAP projects currently underway in your jurisdiction?	N/A
Regulation	
What is the date that your flood damage prevention ordinance was last amended?	2021
Does the jurisdiction's administration of the floodplain exceed NFIP requirements? (freeboard, mapping, etc.)	Meets the minimum
Community Rating System	
Does your jurisdiction participate in the Community Rating System (CRS)?	No
If yes, is your jurisdiction interested in improving its CRS Classification?	-

a. According to FEMA statistics as of (08/31/2025)

5.6 INTEGRATION

For hazard mitigation planning, "integration" means that hazard mitigation information is used in other relevant planning mechanisms, such as capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

5.6.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- **City of Rolling Hills Estates Emergency Operations Plan** —City specific document that outlines strategies and responses to emergencies and disasters by establishing roles, actions, and procedures to effectively prepare for, respond to, and recover from a wide range of potential hazards.
- **Safety Element of the City's General Plan** —The purpose of the Safety Element is to identify potential hazards to the City of Rolling Hills Estates' jurisdiction, including the community's

citizens, structures, public facilities, and infrastructure. Policies in the Safety Element address various public safety hazards and emergency preparedness. The Safety Element is linked to both the Open Space and Recreation Element and Conservation Element, as many designated open space or conservation areas are also documented as earthquake fault zones, unstable soils or slope zones, floodplains, or watersheds. Open space can also be used as a buffer zone between uses that may create or have public safety hazards, such as hazardous materials use or production. Development within designated open space and conservation areas would be inconsistent with the goals and policies in the Safety Element. The Safety Element is also linked to the Circulation Element, which provides a policy framework for a safe and efficient circulation system, which is critical during the response to an emergency or in the event that an evacuation is necessary. The Sustainability Element addresses climate resiliency issues and is interrelated with Safety Element's climate resiliency policies.

- **Public Outreach** – The City maintains a website and social media pages where they share information with residents. The Emergency Preparedness webpage has information for residents on how to receive notifications and emergency alerts, provides information on reducing fire risk, and links to other resources.



Figure 5-2. Screenshot of the City's Emergency Preparedness Page

5.6.2 Opportunities for Future Integration

The capability assessment in this annex indicates opportunities to integrate this mitigation plan with other jurisdictional planning/regulatory capabilities. Capabilities were identified as integration opportunities if they can support or enhance the actions identified in this plan or be supported or enhanced by components of this plan. The capability assessment identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- **Codes and Ordinances –** As the City updates, revises, and develops codes and ordinances, there are opportunities for integrating the hazard mitigation plan that can include amending codes to withstand hazards, development standards for building in hazard areas, prohibiting development in hazard areas, and setbacks to minimize hazard exposure.
- **Capital Improvement Plan –** As part of the updating process of the CIP, the City can review the mitigation action identified in the current HMP to identify and prioritize projects that can be included in the CIP that will reduce hazard risk. The HMP can also be used to guide project selection so capital funding can support long-term resilience from natural hazards.

- **Stormwater Plan –** Prior to updating the Stormwater Plan, the City should review the HMP to identify and integrate critical areas prone to repetitive flooding and develop a targeted plan to upgrade the stormwater systems in those areas.
- **Climate Action Plan –** The Climate Action Plan can be reviewed to understand climate projections prior to designing and implementing mitigation and capital improvement projects. Those projects should be factor in projections so they can be built to withstand future projections and increase their project useful life.
- **Emergency Operations Plan –** During the next update of the EOP, the City can integrate hazard mitigation principles into evacuation planning, continuity of operations, sheltering, and emergency notifications. The natural hazards in the EOP should align with the hazards included in the HMP.
- **General Plan -** There are opportunities to coordinate local hazard mitigation actions with policies governed by the General Plan. Next update to General Plan Safety Element should include integration with the Hazard Mitigation Plan. Prior to applying for funding for mitigation projects, the City can review the General Plan to identify areas to focus on mitigation hazards.
- **Palos Verdes Peninsula Evacuation and Mass Care Plan—** Regional document that will identify evacuation and mass care vulnerabilities and gaps to better inform future mitigation strategies related to mass care/shelter and evacuations.

5.7 RISK ASSESSMENT

5.7.1 Jurisdiction-Specific Natural Hazard Event History

Table 3-11 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

1. Table 5-11. Past Natural Hazard Events

Type of Event	Declaration Title	State or Federal Disaster #	Declaration Date	Damage Assessment
Fire	Woolsey Fire	FM-5280-CA	November 9, 2018	Reduced air quality; intake of evacuated equine
Fire	Wildfires	EM-3409-CA	November 9, 2018	Reduced air quality
Fire	Wildfires	DR-4407-CA	November 12, 2018	Reduced air quality
Fire	Saddleridge Fire	FM-5293-CA	October 11, 2019	N/A
Fire	Tick Fire	FM-5296-CA	October 24, 2019	N/A
Fire	Getty Fire	FM-5297-CA	October 28, 2019	N/A
Biological	Covid-19 Pandemic	EM-3428-CA DR-4482-CA CA20-01	March 13, 2020 March 22, 2020 March 4, 2020	Workforce functions/day-to-day transition; economic impact
Fire	Bobcat Fire	FM-5374-CA	September 13, 2020	N/A
Fire	Wildfires	DR-4569-CA	October 16, 2020	N/A
Flood	Severe Winter Storms, Flooding, and Mudslides	EM-3591-CA	January 9, 2023	N/A
Flood	Severe Winter Storms, Flooding, Landslides, and Mudslides	DR-4683-CA CA23-1	January 14, 2023 January 4, 2023	N/A

Type of Event	Declaration Title	State or Federal Disaster #	Declaration Date	Damage Assessment
Flood	Severe Winter Storms, Flooding, Landslides, and Mudslides	EM-3592-CA CA23-3	March 10, 2023 March 1, 2023	N/A
Severe Storm	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, and Mudslides	DR-4699-CA	April 3, 2023	Storm drain damage; Isolated landslide
Severe Storm	Severe Winter Storms, Tornadoes, Flooding, Landslides, and Mudslides	DR-4769-CA	April 13, 2024	N/A
Fire	Bridge Fire	FM-5537-CA	September 11, 2024	N/A
Fire	Franklin Fire	FM-5548-CA	December 10, 2024	N/A
Fire	Palisades Fire	FM-5549-CA	January 7, 2025	Reduced air quality
Fire	Hurst Fire	FM-5551-CA	January 8, 2025	N/A
Fire	Eaton Fire	FM-5550-CA	January 8, 2025	Reduced air quality
Fire	Wildfires And Straight-Line Winds	DR-4856-CA	January 8, 2025	N/A
Fire	Canyon Fire	FM-5605-CA	August 8, 2025	N/A

5.7.2 Hazard Ranking

The prioritization and categorization of identified hazards for Rolling Hills Estates is based principally on the Priority Risk Index (PRI), a tool used to measure the degree of risk for identified hazards in a particular planning area. The PRI was used to assist the City in identifying hazards that pose the most significant threat. Table 3-12 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property and the economy.

Table 5-12. Hazard Risk Ranking Summary

Hazard	Weighted Risk Factors					PRI	Risk Ranking
	Probability	Impact	Spatial Extent	Warning Time	Climate Change		
Drought	1.2	0.3	0.8	0.1	0.4	2.8	Medium
Earthquake	0.9	0.9	0.8	0.4	0.2	3.2	High
Flood	0	0	0	0	0	0	No Risk
Landslide	1.2	0.6	0.6	0.4	0.4	3.2	High
Sea Level Rise	0	0	0	0	0	0	No Risk
Severe Weather - Heat Wave	0.9	0.6	0.8	0.1	0.4	2.8	Medium
Severe Weather - Strong Wind	1.2	0.6	0.8	0.1	0.4	3.1	High
Tsunami	0	0	0	0	0	0	No Risk
Wildfire	0.6	0.6	0.4	0.4	0.4	2.4	Medium

Note: PRI Value 1 to 1.9 = Low Hazard Risk Ranking
PRI Value 2.0 to 2.9 = Medium Hazard Risk Ranking
PRI Value 3.0 to 4.0 = High Hazard Risk Ranking

5.7.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. This section provides information on a few key vulnerabilities for this jurisdiction. Available jurisdiction-specific risk maps of the hazards are provided at the end of this annex (see Figure 5-4 through Figure 5-14).

Repetitive Loss Properties

Repetitive loss records are as follows:

- Number of FEMA-identified Repetitive-Loss Properties: 0
- Number of FEMA-identified Severe-Repetitive-Loss Properties: 0
- Number of Repetitive-Loss Properties or Severe-Repetitive-Loss Properties that have been mitigated: 0

Other Noted Vulnerabilities

The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- No additional vulnerabilities noted.

Mitigation actions addressing these issues were prioritized for consideration in the action plan presented in this annex.

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5.8 STATUS OF PREVIOUS PLAN MITIGATION ACTIONS

Table 3-13 summarizes the mitigation actions that were recommended in the prior plan and their implementation status at the time this update was prepared.

Table 5-13. Status of Prior Plan Actions

Action from Prior Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
MH-1 Integrate the goals and action items from the Joint Natural Hazards Mitigation Plan into existing regulatory documents and programs, where appropriate.	Ongoing Capability	Identified as a Current Capability	Yes	RHE-03
MH-2 Identify and pursue funding opportunities to develop and implement local mitigation activities.	• FEMA HMGP • 2018-Awarded $40,882 in recovery funds from Cal OES/FEMA for Disaster #DR-4305	Identified as a Current Capability	Yes	RHE-03
MH-3 Hazard Mitigation Planning Subcommittee will continue to develop a sustainable process for implementing, monitoring, and evaluating regional mitigation activities.	Ongoing Capability	Identified as a Current Capability	Yes	RHE-05
MH-4 Identify, improve, and sustain collaborative programs focusing on, public and private sector organizations, and individuals to avoid activity that increases risk to natural hazards. • Cal Water – Palos Verdes Peninsula Water Reliability Project. • Southern California Edison PSPS • Southern California Gas Company programs.	Ongoing Capability	Identified as a Current Capability	Yes	RHE-06
MH-5 Develop public and private partnerships to foster natural hazard mitigation program coordination and collaboration with the City's Hazard Mitigation Subcommittee. • Continue Waste Management disposal of brush clearance material and curb side pickup of hazardous waste	Ongoing Capability	Identified as a Current Capability	Yes	RHE-02
MH-6 Develop inventories of critical facilities and infrastructure. • Assess structural vulnerability to the identified hazards and prioritize mitigation projects.	Ongoing Capability	Identified as a Current Capability	Yes	RHE-04
MH-7 Strengthen emergency management program with maintained plans, training, and exercises.	Ongoing Capability	Identified as a Current Capability	Yes	RHE-05

Action from Prior Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
• Completion and ongoing review of our Continuity and Operations Plan • Development of Horse Census. • NIMS/SEMS training for staff and city council • Disaster drills and exercises for staff. • Emergency operations training for staff. • Equine preparedness • Development of Emergency Operations Plan and COOP. • CERT Trainings for community.				
MH-8 Develop, enhance, and implement education programs aimed at mitigating natural hazards, and reducing the risk to citizens, public agencies, private property owners, businesses, and schools. • "Nextdoor" is a social network that enables neighbors to communicate with each other and allows the City to post important information during times of emergency. • Launched Social Media Platforms/City Accounts- FB, ND, IG, Twitter – (as above reasoning for use) • Annual Preparedness Expo – Large scale event promoting • emergency preparedness. • Launched Mass Notification System – Nixle/Everbridge. Alert system used for urgent notifications & advisories. Ability to apply IPAWS. • Setting up emergency webpage.	-	Identified as a Current Capability as it is part of the City's day-to-day operations	-	-
MH-9 Use updated technical knowledge and tools to inform the public of hazard potential. • Safety Element Update, website, City newsletter • Nixle / Everbridge – Mass Notification System. • Social Media Platforms (FB, ND, IG, Twitter) • E-notify (city e-mail list).	Ongoing Capability	Identified as a Current Capability	Yes	RHE-26
MH-10 Maintain hazard warning systems to ensure effectiveness and efficiency and increase coordination between local jurisdictions and emergency service providers. • Alert LA (Sheriff's Dept) • Los Angeles County Regional Interoperability Community System	Ongoing Capability	Identified as a Current Capability	Yes	RHE-06

Action from Prior Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
• South Bay Alerts – Regional Multijurisdictional Notification System.				
MH-11 Develop an Evacuation Plan as a Function-Specific Annex to the Emergency Operations Plan. • Development of EOP • Identifying exits and entrances of Peninsula.	Ongoing Capability	Identified as a Current Capability	Yes	RHE-26
MH-12 Develop Pre-Disaster Recovery Plan including priorities for restoration of the community's infrastructure and vital public facilities following a disaster. • Development of COOP (Continuity of Operations Plan).	Ongoing Capability	Identified as a Current Capability	Yes	RHE-22
MH-13 Adopt and implement State Building Code Chapter 34. • Develop policy for government to determine what reconstruction criteria should be applied to structures damaged during a disaster. Develop additional zoning, building and reconstruction policies and requirements in the local government development and building codes for post-disaster situations (Post-Disaster Recovery Plan).	Ongoing Capability	Identified as a Current Capability	Yes	RHE-26
MH-14 Develop and implement programs to coordinate maintenance and mitigation activities to reduce risk to public infrastructure. • Safety Element Update • Promote emergency preparedness through public awareness campaigns (social media, annual emergency expo. And newsletters).	Ongoing Capability	Identified as a Current Capability	Yes	RHE-26
MH-15 Maintain information on website and cable access channels to include information specific to residents, building code information, and educational information on damage prevention.	Completed task; now maintaining.	Remove – action has been completed	-	-
MH-16 Incorporate the building and infrastructure inventory into the Mitigation Plan update. • Incorporate future building inventory revisions into future updates of the Mitigation Plan.	Completed 2012.	Remove – action has been completed	-	-
MH-17 Educate City staff on federal cost-share & grant programs, and other related federal programs so the full array of assistance available is understood. • Attend Cal OES and FEMA workshops and briefings including Notice of Interests (NOI).	Ongoing Capability	Identified as a Current Capability as it is part of the City's day-to-day operations	-	-

Action from Prior Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
• LA County programs – South Bay Cities Council of Governments Programs.				
MH-18 Update Climate Action Plan. • To be completed through the South Bay Cities Council of Governments. • Energy Efficiency CAP Completed in 2015; Complete CAP December 2017.	Ongoing Capability	Identified as a Current Capability	Yes	RHE-26
MH-19 Update the Continuity of Operations Plan (COOP).	Continuity of Operations Plan completed in 2014; updated every 5 years	Identified as a Current Capability	Yes	RHE-22
MH-20 Provide updated mobile communication devices for key personnel. • Research and purchase updated equipment • Mobile devices and computer tablets purchased for department heads, City Management, and key staff.	Ongoing Capability	Identified as a Current Capability as it is part of the City's day-to-day operations	-	-
MH-21 Solicit grant funds for emergency supplies. Solicit grant funds for emergency equipment and supplies caches including equine cache and supplies. • Request for local funding submitted; Safety Element Update to address appropriate placement of supplies • Request/solicit grant funding and use General Fund for emergency preparedness supplies and strategic caches.	Ongoing Capability	Identified as a Current Capability	Yes	RHE-23
MH-22 Coordinate with the Los Angeles County Sanitation District to ensure that an appropriate mitigation action plan and disaster response plan is in place for the Palos Verdes Landfill. • Safety Element Update	Ongoing Capability	Identified as a Current Capability	Yes	RHE-26
MH-23 Identify neighborhoods in the City that are currently on septic tank systems. Using grant funds, tie into main line sewer system. Mitigation activity to reduce risk to public health, environment, and public/private property and/or infrastructure. • Assess neighborhoods that are currently on septic systems.	Ongoing Capability	Identified as a Current Capability	Yes	RHE-07
MH-24 Purchase of an electric utility cart/ATV for City Maintenance Department. The electric cart/ATV will be used for trail inspections including: weed abatement, trail maintenance, delivery of supplies and tools in the event of an emergency or disaster.	Ongoing Capability	Identified as a Current Capability	Yes	RHE-24

Action from Prior Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
• Research ATV/Utility vehicles with clean energy				
MH-25 Install curb and gutter and/or drywell systems in areas lacking adequate drainage to prevent flooding and ensure stormwater compliance. • Storm drain tie into existing infrastructure.	Ongoing Capability	Identified as a Current Capability		
MH-26 Stabilization work of county sewer line in canyon area of Academy Hill • Feasibility Study • Partner with LA County Public Works	Ongoing Capability	Identified as a Current Capability	Yes	RHE-12
MH-27 Continue to participate in the National Flood Insurance Program • Continue through the development review process and issuance of building permits.	Ongoing Capability	Identified as a Current Capability	Yes	RHE-27
MH-28 Fund, Design, and Construct storm drainpipe repairs for infrastructure identified in major need of repair. Work includes relining of priority storm drains to ensure the integrity of the system for flooding purposes, and supports clean and efficient drainage to outlets • Storm drain assessment completed • Relining of severe storm drains as first priority. • Continue improvements on assessed storm drains. • Continue maintenance on storm drains and outlets.	Ongoing Capability	Identified as a Current Capability	Yes	RHE-28
EQ-1 Integrate new earthquake hazard mapping data and improve technical analysis of earthquake hazards using GIS technology. • Information to be generated through Safety Element Update and incorporated into City GIS	Ongoing Capability	Identified as a Current Capability	Yes	RHE-01
EQ-2 Encourage seismic strength evaluations of critical facilities and public infrastructure in the City to meet current seismic standards.	Completed evaluation in 2006.	Removed – action has been completed	-	-
EQ-3 Encourage reduction of nonstructural and structural earthquake hazards in homes, businesses, and government offices through public awareness. • City Website • Social Media PSAs and Annual Emergency Preparedness Expo.	Ongoing Capability	Identified as a Current Capability as it is part of the City's day-to-day operations	-	-
WF-1 Encourage development and dissemination of information relating to the fire hazard to help educate and assist builders &	Ongoing Capability	Identified as a Current Capability as it is part of	-	-

Action from Prior Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
homeowners in being engaged in wildfire mitigation activities, and to help guide emergency services during response. • Materials developed and being distributed on an ongoing basis and posted on City website. • 2019 Natural Disaster Town Hall for Peninsula community – Assembly Member, LA County Fire, Cal OES, and Utility company presentations. • Development of LA County's Ready, Set, Go campaign. • Social Media PSAs. • Prepared Peninsula Expo • National Fire Prevention Week		the City's day-to-day operations		
WF-2 Continue communication, coordination & collaboration between wildland/urban interface property owners, local planners and fire prevention crews & officials to address risks, existing mitigation measures, and federal assistance programs. • Annual brush clearance coordinated by LA County Fire, LA County Ag Comm Weights and Measures, and City.	Ongoing Capability	Identified as a Current Capability	Yes	RHE-10
WF-3 Encourage implementation of wildfire mitigation activities through enforcement in a manner consistent with the goals of promoting sustainable ecological management & community stability. • Plan Check for fire code compliance, and Planning Department Code Enforcement and Fire Department inspections.	Ongoing Capability	Identified as a Current Capability	Yes	RHE-09 RHE-10
WF-4 Conduct Annual Fire Department Open House. • Annual Fire Department Open House at local station 106 – in coordination with City Emergency Preparedness Expo	Ongoing Capability	Identified as a Current Capability as it is part of the City's day-to-day operations	-	-
WF-5 Establish and implement Weed Abatement Enforcement Program. • Weed abatement notices were mailed to residents annually with information. • Properties inspected annually.	Ongoing Capability	Identified as a Current Capability	Yes	RHE-11
WF-6 Defensible home and fuel modification model project that shows building changes residents can implement. • Shows landscape examples of what can be done to lower wildfire risk (defensible space) on City website.	Ongoing Capability	Identified as a Current Capability as it is part of the City's day-to-day operations	-	-

Action from Prior Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
WF-7 Participation in the Alert Wildfire Camera program and Fire Detection Network in partnership with neighboring jurisdictions and outside research and/or utility companies.	Ongoing Capability	Identified as a Current Capability	Yes	RHE-09
WF-8 Undergrounding of electrical utilities for wildfire prevention.	Ongoing Capability	Identified as a Current Capability	Yes	RHE-08
EM-1 Improve knowledge of landslide hazard areas and understanding of vulnerability and risk to life and property in hazard-prone areas. • Safety Element Update • Identified in GIS	Ongoing Capability	Identified as a Current Capability	Yes	RHE-03 RHE-04 RHE-05
EM-2 Address construction and subdivision design within steep slopes to reduce the potential adverse impacts from development. • Safety Element Update	Ongoing Capability	Identified as a Current Capability	Yes	RHE-26
EM-3 Regulate activities in identified potential and historical landslide areas. • Safety Element Update	Ongoing Capability	Identified as a Current Capability	Yes	RHE-01
EM-4 Develop public information programs regarding proper maintenance of steep slopes and surface drainage structures located on private property. • Safety Element Update • Sandbags	Ongoing Capability	Identified as a Current Capability as it is part of the City's day-to-day operations	-	-
HM-1 Continue to participate in household hazardous waste events and programs. • Publicize collection sites and events for hazardous materials monthly. • Participation in stormwater pollution programs (i.e. Clean Bay program). • Waste Management Services	Ongoing Capability	Identified as a Current Capability	Yes	RHE-16
HM-2 Develop emergency plans and responses to hazardous material chemical releases. • Create annex in Emergency Operations Plan. • Create Standard Operating Procedure for emergency alerting authorities.	Ongoing Capability	Identified as a Current Capability	Yes	RHE-04
HC-1 Establish trainings in response to active shooter incidents. 2018 held a situational awareness training for public, including active shooter component. o Provide "stop the bleed" training for staff and public.	Ongoing Capability	Identified as a Current Capability	Yes	RHE-14

Action from Prior Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
o Purchase of tourniquet kits for public facilities.				
HC-2 Strengthen Cyber terrorism efforts to protect computer network, operations, and financial harm. • 24/7 cyber monitoring • Change out of hardware devices • Membership and information sharing with (HSIN & MISAC). • Cyber security expert for evaluation of vulnerabilities (internal & external) • Future funding for trainings, malware protection, software and devices.	Ongoing Capability	Identified as a Current Capability	Yes	RHE-15
UR-1 Continue communication, coordination, and collaboration with Southern California Edison for Public Safety Power Shutoff (PSPS) program. • Held education / awareness meetings for PSPS. • Ongoing vegetation management, system hardening, and aerial inspections. • Create annex in Emergency Operations Plan. • Create Standard Operating Procedure for emergency alerting authorities. • Purchase of generators and City maintenance equipment for vegetation management.	Ongoing Capability	Identified as a Current Capability	Yes	RHE – 18
UR-2 Development of White Paper for all utility companies. • Ongoing education efforts of utility company preparedness plan and customer contact updates. • Collaborate with other Peninsula cities and all utility companies for the development of a White Paper.	Ongoing Capability	Identified as a Current Capability	Yes	RHE-19

5.9 HAZARD MITIGATION STRATEGY

This section includes the following components of the mitigation strategy for this jurisdiction:

- Hazard Mitigation Action Plan Matrix
- Mitigation Action Prioritization
- Mitigation Action Classification and Natural Hazards Addressed

Table 5-14. Hazard Mitigation Action Plan Matrix

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
RHE-01	Mitigate current and future land movement risks affecting public and private properties through appropriate land use planning, regulation, geotechnical review, and development practices.	Safety and Security	Both	1, 3, 4	Lead: City Community Development and Public Works Dept. & City Manager's Office	No	Moderate ($50,001 - $250,000)	Staff Time, General Fund	Long-Term (5 or more years)
RHE-02	Develop a multi-jurisdictional Evacuation and Mass Care Plan that incorporates and coordinates evacuation routes, shelter operations, and communication procedures across the City and partner agencies.	Safety and Security; Communications; Transportation	Both	1, 2, 3, 5	Lead: City Manager's Office and PVP Cities Support: LA County Fire and Sheriff's Depts.	Yes – older adults or seniors; disabled or mobility impaired; isolated or limited access	Moderate ($50,001 - $250,000)	FEMA HMGP and HMGP Post-Fire; Staff Time; General Fund Budget	Short-Term (less than 5 years)
RHE-03	Seek funding to support hazard mitigation goals and strategies by identifying and pursuing funding opportunities to develop and implement local mitigation activities identified in the City's mitigation strategy.	All	Both	All	Lead: City Manager's Office	Yes – older adults or seniors; disabled or mobility impaired; isolated or limited access	Low (less than $50,000)	FEMA HMGP, FMA, HMGP Post-Fire, HHPD; Staff Time; CIP Budget	Short-Term (less than 5 years)
RHE-04	Develop inventories of critical facilities, community lifelines, and infrastructure - Identifying infrastructure and critical facility vulnerabilities and useful lifespan for maintenance,	Safety and Security; Health and Medical; Energy; Communications; Transportation;	Both	1, 3, 4, 5	Lead: Public Works / Community Development Department	Yes – older adults or seniors; disabled or mobility impaired;	Low to Very High	FEMA HMGP, FMA, HMGP Post-Fire, HHPD; Staff Time; CIP Budget	Short-Term (less than 5 years)

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
	improvements and/or replacement.	Hazardous Materials; Water Systems			Support: Building and Safety	isolated or limited access			
RHE-05	Strengthen ongoing emergency and disaster planning and training, with a focus on natural hazards that can impact the City, to improve preparedness, response readiness, and community resilience.	All	Both	All	Lead: City Manager's Office Support: LA County OEM, LA County Fire, LA County LASD, LA County Animal Care and Control	Yes – older adults or seniors; disabled or mobility impaired; isolated or limited access	Moderate ($50,001 - $250,000)	FEMA HMGP; Staff Time	Short-Term (less than 5 years)
RHE-06	Maintain hazard and alert warning systems (Alert South Bay, Genasys, PVP Wildfire Cameras, Area G Radio System) and seek other technological advances to support emergency planning efforts.	Safety and Security; Communications	Both	1, 2, 4	Lead: City Manager's Office Support: LA County OEM, LA County Fire, LA County Sheriff Depts.	Yes – older adults or seniors; disabled or mobility impaired; isolated or limited access	Low ($0-$50,000)	FEMA HMGP Post-Fire; Staff Time; General Fund	Short-Term (less than 5 years)
RHE-07	Identify neighborhoods that are on a septic tank system and identify programs, community-led efforts, and potential grant funding opportunities to connect these neighborhoods to the municipal sewer system. This will held in reducing vulnerability to natural hazards (flood, earthquake, landslides) that can cause system failures during these events.	Health and Medical; Hazardous Materials; Water Systems	Existing	5	Lead: Public Works Department Support: LA County Sewer/Sanitation Departments, Residents	No	High ($250,001 - $1 million)	CIP Budget; Property Owners	Long-Term (5 years or more)
RHE-08	Underground electrical utilities and/or harden electrical infrastructure, in partnership with the utility providers, to reduce vulnerability to natural hazards that lead to power outages and protect critical infrastructure in the City.	Energy	Both	1, 2, 3	Lead: Public Works and City Manager's Office Support: Electrical Public Utility Company – SCE	Yes – older adults or seniors; disabled or mobility impaired; isolated or limited access	Very High (more than $1 million)	FEMA HMGP; Staff Time; CIP Budget	Long-Term (5 years or more)

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
RHE-09	Maintain and expand participation in the regional wildfire detection camera program with a focus on mitigating fast-spreading wildfires through early detection. Incorporate the use of AI wildfire camera program established by the Palos Verdes Peninsula cities.	Safety and Security	Both	3, 4	Lead: City Manager's Office, Public Works Department Support: LA County Fire Dept. and LA County Weights and Measures – weed abatement division	Yes – older adults or seniors; disabled or mobility impaired; isolated or limited access	High ($250,001 - $1 million)	FEMA HMGP Post-Fire; CIP Budget	Short-Term (less than 5 years)
RHE-10	Conduct city fuel reduction projects (brush clearance, thinning, mowing) along evacuation routes, utility corridors, and wildland -urban interface areas.	Safety and Security	Both	All	Lead: City Manager's Office, Public Works Department Support: LA County Fire Dept. and LA County Weights and Measures – weed abatement division	Yes – older adults or seniors; disabled or mobility impaired; isolated or limited access	Low (less than $50,000)	FEMA HMGP Post-Fire; CIP Budget	Short-Term (less than 5 years)
RHE-11	Maintain building and safety code requirements related to the Los Angeles County Fire Code. Regardless of location in the City, all structures and buildings are subject to codes required under the Very High Fire Hazard Severity Zone (VHFHSZ).	Safety and Security	Both	1, 4	Lead: City Community Development Department Support: City Public Works, City Manager's Office, LA County Fire Dept. CAL Fire	Yes – older adults or seniors; disabled or mobility impaired; isolated or limited access	Low (less than $50,000)	FEMA HMGP Post-Fire; CIP Budget	Short-Term (less than 5 years)
RHE-12	Stabilization work of county sewer line in canyon area of Academy Hill to reduce the potential for sewage spills in the Canyon area.	Hazardous Materials; Water Systems	Existing	5	Lead: City Public Works Department Support: County Public Works Department / City	Yes – older adults or seniors; disabled or mobility impaired;	Moderate to High (up to $1 million)	Staff Time; CIP Budget	Long-Term (5 or more years)

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
					Community Development Department	isolated or limited access			
RHE-13	Seek grant funding to retrofit / seismically strengthen critical facilities and community lifelines in the City.	Safety and Security	Existing	1	Lead: City Manager's Office / City Administrative Services Department Support: City Community Development Department	No	Low to Moderate (up to $250,000)	FEMA HMGP; Staff Time; CIP Budget	Long-Term (5 or more years)
RHE-14	Continue active shooter/mass casualty event trainings and for city staff and public.	Safety and Security; Health and Medical	N/A	2, 3	Lead: City Manager's Office Support: LA County Sheriff and Fire Departments	No	Low (less than $50,000)	Staff Time	Short-Term (less than 5 years)
RHE-15	Strengthen cyber terrorism efforts to protect computer network, operations, and financial harm.	Safety and Security	Both	3, 4	Lead: Administrative Services Department Support: City Manager's Office, CISA (Homeland Security)	No	Low (less than $50,000)	Staff Time; CISA – Homeland Security Grants; General Fund Budget	Short-Term (less than 5 years)
RHE-16	Continue to participate and promote household hazardous waste events and programs.	Health and Medical; Hazardous Materials	N/A	2, 3, 5	Lead: City Public Works Department Support: City Manager's Office, County Public Works Dept., City contracted waste hauler	No	Low (less than $50,000)	Staff Time; Other grant support from state or county agencies (Cal Recycle)	Short-Term (less than 5 years)

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
RHE-17	Continue to seek grant opportunities and funding related to land movement issues.	Safety and Security	Both	1, 2, 3, 4	Lead: City Community Development Department, City Manager's Office Support: CalOES – FEMA, County Office of Emergency Management	No	Very High ($1 million+)	FEMA HMGP; Staff Time; CIP Budget; CalOES	Long-Term (5 or more years)
RHE-18	Conduct an updated equine census in the City and continue equine emergency / disaster preparedness training for community members.	Safety and Security	N/A	2, 3	Lead: City Manager's Office Support: LA County Animal Care and Control, LA County Sheriff and Fire Department, PVP Cities	No	Low (less than $50,000)	Staff Time	Short-Term (less than 5 years)
RHE-19	Maintain and implement Palos Verdes Peninsula Utility Whitepaper document.	All	Both	All	Lead: City Manager's Office Support: City Public Works Department, PVP Cities	Yes – older adults or seniors; disabled or mobility impaired; isolated or limited access	Low (less than $50,000)	Staff Time; FEMA HMGP	Short-Term (less than 5 years)
RHE-20	Seek grant opportunities and programs that support grid resilience and power redundancy (i.e., back-up generators and solar options) for City infrastructure and community lifelines.	Energy; Communications	Both	3, 4	Lead: City Community Development / Public Works Department, City Manager's Office Support: Public utility companies	Yes – older adults or seniors; disabled or mobility impaired; isolated or limited access	Moderate ($50,001 - $250,000)	FEMA HMGP; FEMA HMGP Post-Fire; Staff Time; CIP Budget	Long-Term (5 years or more)

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
RHE-21	Hold annual preparedness event with Palos Verdes Peninsula regional partners to promote disaster and emergency readiness and preparedness.	All	N/A	2, 3	Lead: City Manager's Office Support: Palos Verdes Peninsula cities, public safety partners (law/fire), public utility companies, local non-profit organizations.	Yes – older adults or seniors; disabled or mobility impaired; isolated or limited access	Low (less than $50,000)	Staff Time; Grants awarded through utility partnerships	Short to Long-Term1
RHE-22	Update City Continuity of Operations Plan (COOP).	Safety and Security	Both	4	Lead: City Manager's Office	No	Low (less than $50,000)	Staff Time	Short-Term (less than 5 years)
RHE-23	Solicit grant funding for emergency supplies and equipment; community caches and equine caches.	Safety and Security; Food, Hydration, Shelter	New	2, 3	Lead: City Manager's Office	No	Low (less than $50,000)	FEMA HMGP Post-Fire; Staff Time	Short-Term (less than 5 years)
RHE-24	Solicit grant funding for the purchase of an off-road vehicle / utility cart for trail use for inspections related to weed abatement, trail maintenance, and use of delivery of supplies/tools in the event of an emergency or disaster.	Safety and Security; Food, Hydration, Shelter; Transportation	New	2, 3	Lead: City Manager's Office Support: City Community Services Department	No	Low (less than $50,000)	FEMA HMGP Post-Fire; Staff Time	Short-Term (less than 5 years)
RHE-25	Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are in high- or medium-risk hazard areas.	Food, hydration, shelter; Energy; Communications; Transportation	Existing	1, 2	Lead: City Manager's Office Support: City Community Services Department	Yes – older adults or seniors; disabled or mobility impaired; isolated or limited access	Very High ($1,000,000 and above)	FEMA HMGP and FEMA FMA, Staff Time, CIP Budget	Long-Term (5 years or more)
RHE-26	Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including: • Codes and Ordinances	Safety and Security; Communications; Transportation; and	Both	4	Lead: City Manager's Office Support: City Community	Yes – older adults or seniors; disabled or mobility impaired;	Low ($0-$50,000)	Staff Time, General Fund	Short-Term (less than 5 years)

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
	• General Plan / Safety Plan Element • EOP • Climate Action Plan				Services Department	isolated or limited access			
RHE-27	Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements: • Evaluate the current floodplain ordinance to determine if updates are needed • Upon FEMA flood map revisions, update and adopt the City's floodplain ordinance	All located in the floodplain	Both	1, 2, 4	Lead: City Manager's Office Support: City Community Services Department	Yes – older adults or seniors; disabled or mobility impaired; isolated or limited access	Low ($0-$50,000)	Staff Time, General Fund	Short-Term (less than 5 years)
RHE-28	Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.	N/A	N/A	2, 4	Lead: City Manager's Office Support: City Community Services Department	No	Low ($0-$50,000)	Staff Time, General Fund	Short-Term (less than 5 years)

Table 5-15. Mitigation Action Prioritization

Action Number	Life Safety	Property Protection	Cost-Effectiveness	Technically Feasible	Legal Authority	Funding Available	Grant Eligible	Enviornmental	Climate Change	Equity Priority Community	Administrative Capacity	Multi-Hazard	Timeline	Other Local Objective	Support Policies	Total Score	Priority
RHE-01	3	3	3	3	0	0	1	3	1	1	1	3	0	3	1	26	Medium

Action Number	Life Safety	Property Protection	Cost-Effectiveness	Technically Feasible	Legal Authority	Funding Available	Grant Eligible	Environmental	Climate Change	Equity Priority Community	Administrative Capacity	Multi-Hazard	Timeline	Other Local Objective	Support Policies	Total Score	Priority
RHE-02	3	1	3	3	3	0	1	1	0	3	1	3	3	3	3	31	High
RHE-03	1	1	3	3	3	3	3	1	3	3	3	3	3	3	3	39	High
RHE-04	3	3	3	3	1	0	3	1	3	3	3	3	3	3	3	38	High
RHE-05	3	3	3	3	3	0	1	1	1	3	3	3	3	3	3	36	High
RHE-06	3	3	3	3	3	1	1	1	1	3	3	3	3	3	3	37	High
RHE-07	0	1	1	1	1	0	1	1	1	0	1	3	1	3	3	18	Medium
RHE-08	3	3	1	1	1	0	1	1	3	3	1	3	0	1	3	25	Medium
RHE-09	3	3	3	3	3	3	3	0	3	1	3	3	3	3	3	40	High
RHE-10	3	3	3	3	3	1	3	3	3	0	3	0	3	3	3	37	High
RHE-11	3	3	3	3	3	1	1	1	1	0	3	1	3	3	1	30	High
RHE-12	0	0	1	1	1	0	1	1	0	0	1	1	0	3	3	13	Low
RHE-13	3	3	3	1	3	0	1	0	0	0	1	0	0	3	3	21	Medium
RHE-14	3	0	3	3	3	1	1	0	0	0	3	1	3	3	3	27	Medium
RHE-15	0	0	3	3	3	1	1	0	0	0	3	0	3	3	3	23	Medium
RHE-16	1	1	3	3	3	3	3	3	0	0	3	3	3	3	3	35	High
RHE-17	3	3	3	1	1	0	0	1	1	0	1	0	0	3	3	20	Medium
RHE-18	3	0	3	3	3	3	1	0	0	0	3	1	3	3	3	29	Medium
RHE-19	3	1	3	3	0	1	1	3	1	3	3	3	3	3	3	34	High
RHE-20	3	1	3	1	3	1	1	1	1	0	3	3	0	3	3	27	Medium
RHE-21	1	1	3	3	3	3	3	0	0	3	3	3	3	3	3	35	High
RHE-22	1	0	3	3	3	0	1	0	0	1	3	3	3	3	3	27	Medium
RHE-23	3	0	1	1	3	0	1	0	0	0	3	3	3	3	3	24	Medium
RHE-24	1	1	3	3	3	0	1	0	0	1	3	3	3	3	3	28	Medium
RHE-25	3	3	3	3	3	1	3	1	3	3	1	1	1	1	1	31	High
RHE-26	3	3	3	3	3	1	0	1	1	3	3	1	3	3	1	32	High
RHE-27	3	3	3	3	3	1	0	1	1	3	3	1	3	1	1	30	Medium
RHE-28	3	3	3	3	3	1	0	1	1	3	3	3	3	1	1	32	High

Note: 31 or more = High Priority
15 to 30 = Medium Priority
0 to 14 = Low Priority

Table 5-16. Mitigation Action Classification and Natural Hazards Addressed

Action	Mitigation Classification						Natural Hazards								
	Local Plans and Regulations	Structure and Infrastructure Projects	Education and Awareness Programs	Natural Systems Protection	Climate Resiliency	Community Capacity Building	Drought	Earthquake	Flood	Landslide	Sea Level Rise	Severe Weather – Heat Wave	Severe Weather – Strong Wind	Tsunami	Wildfire
RHE-01	X	X				X				X					
RHE-02			X			X		X	X	X			X		X
RHE-03	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
RHE-04	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
RHE-05	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
RHE-06	X		X			X	X	X	X	X	X	X	X	X	X
RHE-07		X	X	X		X		X	X	X					
RHE-08		X			X	X		X	X	X			X		X
RHE-09	X	X	X		X	X									X
RHE-10	X	X		X	X	X									X
RHE-11	X	X	X			X									X
RHE-12	X	X				X		X							
RHE-13		X						X							
RHE-14	X					X									
RHE-15	X					X									
RHE-16	X		X			X									
RHE-17	X	X				X				X					
RHE-18	X					X		X	X	X			X		X
RHE-19	X					X	X	X	X	X	X	X	X	X	X
RHE-20		X				X		X	X	X		X	X		X
RHE-21			X		X	X	X	X	X	X	X	X	X	X	X
RHE-22	X					X	X	X	X	X	X	X	X	X	X
RHE-23	X	X				X		X	X	X			X		X
RHE-24	X					X		X	X	X			X		X
RHE-25	X	X	X						X						
RHE-26	X						X	X	X	X	X	X	X	X	X
RHE-27	X								X						
RHE-28	X					X	X	X	X	X	X	X	X	X	X

5.10 PUBLIC OUTREACH

Table 5-17. Public Outreach

Local Outreach Activity	Date	Number of People Involved
Social Media Outreach (Facebook, Instagram, X)	September 12, 2025; September 17, 2025; November 3, 2025; January 8, 2026; January 15, 2026	Approximately 2,600 accounts follow RHE social media platforms
Website post – On the City's Emergency Preparedness webpage, the City posted about the 2026 update and provided a link to the survey.	September 12, 2025 Static / Dedicated Webpage	Hundreds of people view the City's website
City E-Newsletters	September 24, 2025; September 16, 2025; October 15, 2025; October 29, 2025; December 2, 2025, January, 14, 2025	
Regional PVP Webpage: PVPready.gov MJHMP dedicated webpage	Static / Dedicated Webpage	
City Celebration Event – Informational Booth	September 13, 2025	
Prepared Peninsula Expo Event MJHMP Informational Booth / Direct Outreach/Engagement	October 26, 2025	
Community Stakeholder Meetings	June 11, 2025, July 8, 2025, September 10, 2025, November 20, 2025, February 11, 2025	

Figure 5-3. City Facebook Post from January 15, 2026



Source: City of Rolling Hills Estates 2026

5.11 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **City Website.** The City website was used to support the development and compilation of the jurisdictional annex.
- **City Codes.** The City code website was used to help identify and review the capabilities of the City.
- **Plans.** Available plans on the City website were reviewed to help prepare the capabilities portion of the annex and identified integration opportunities and potential mitigation actions.

The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**. The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.

Figure 5-4. Earthquake Hazard Map – 100-Year Probability Earthquake Scenario

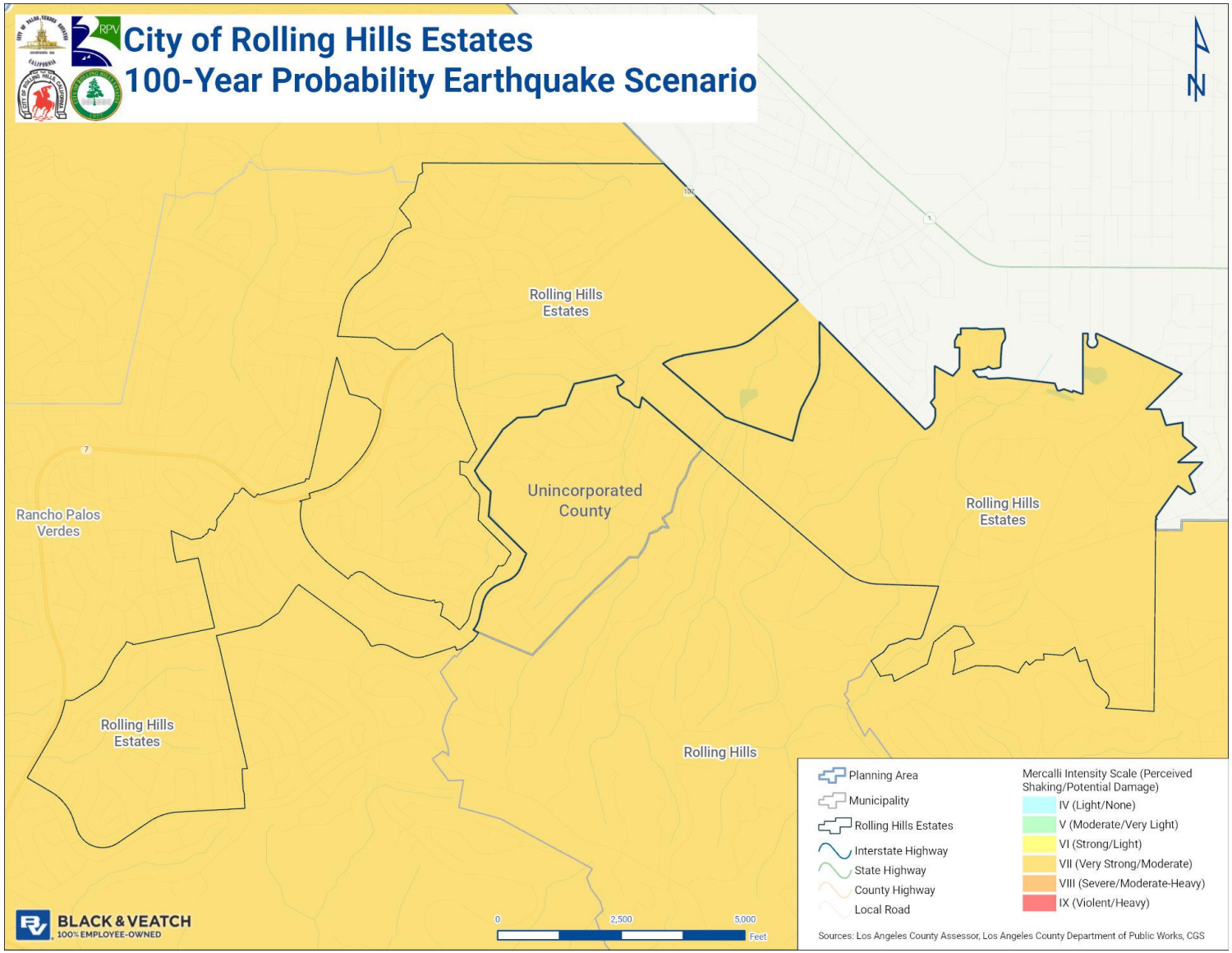


Figure 5-5. Earthquake Hazard Map – Compton M7.45 Earthquake Scenario

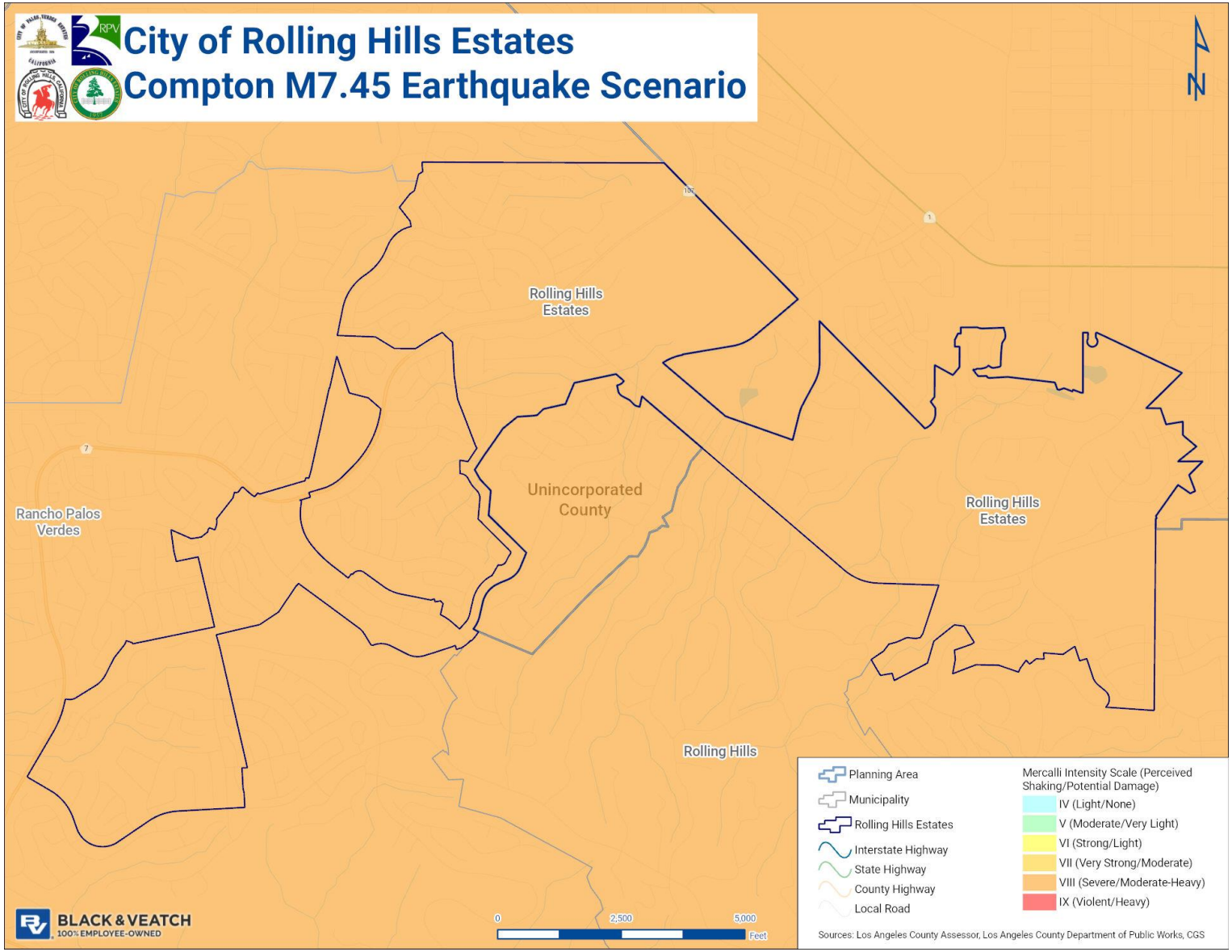


Figure 5-6. Earthquake Hazard Map – Palos Verdes M7.38 Earthquake Scenario

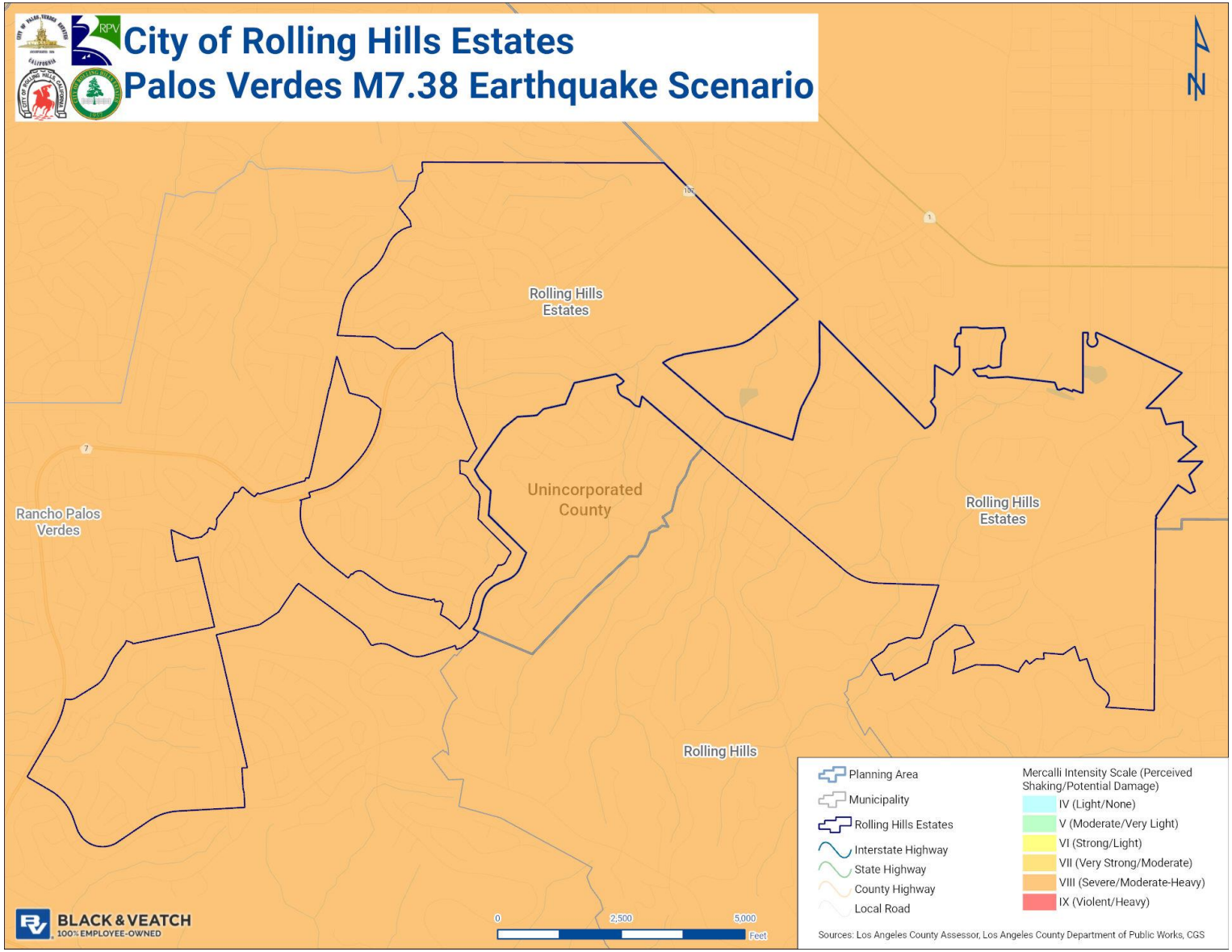


Figure 5-7. Earthquake Hazard Map – Redondo Canyon M6.65 Earthquake Scenario

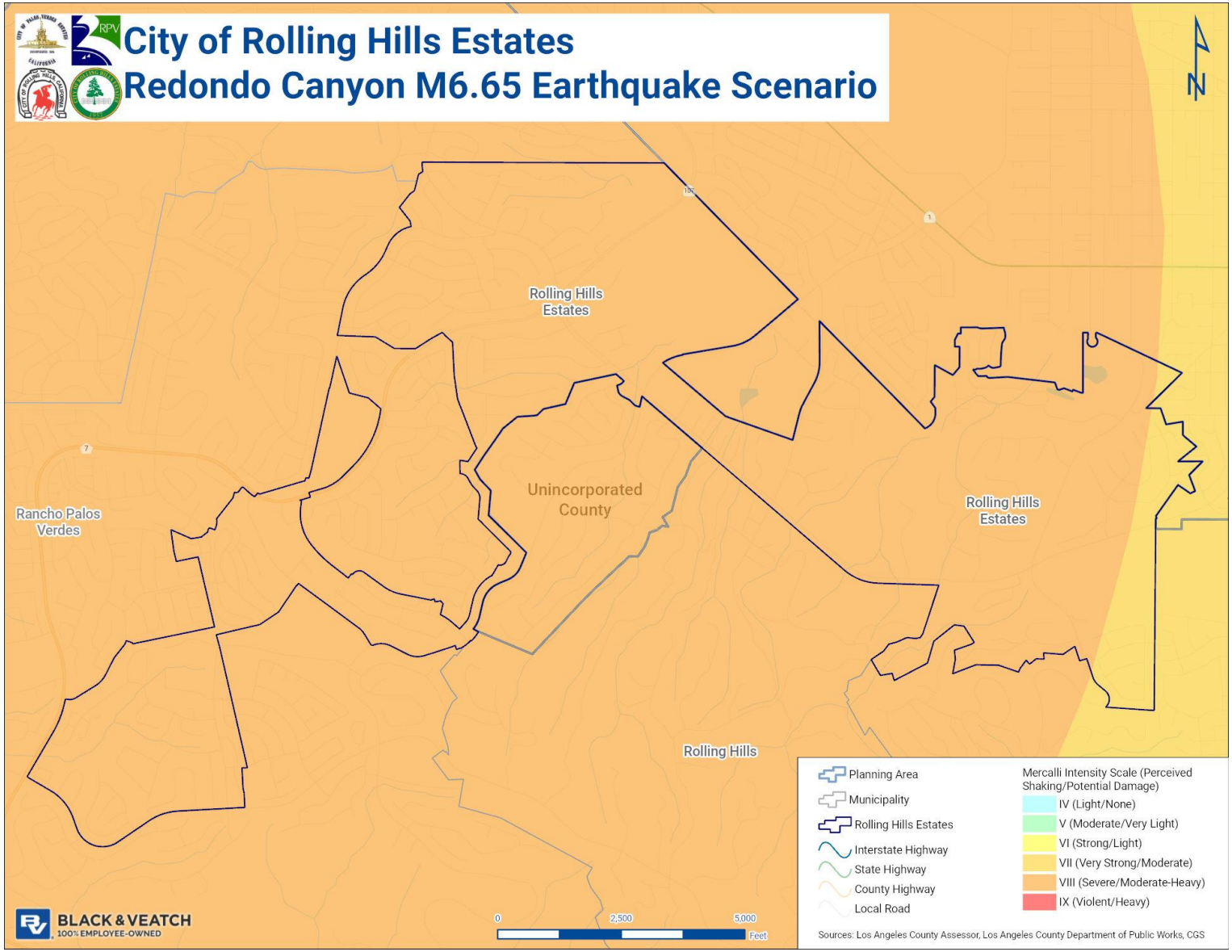


Figure 5-8. Flood Hazard Map – FEMA Flood Hazard Areas

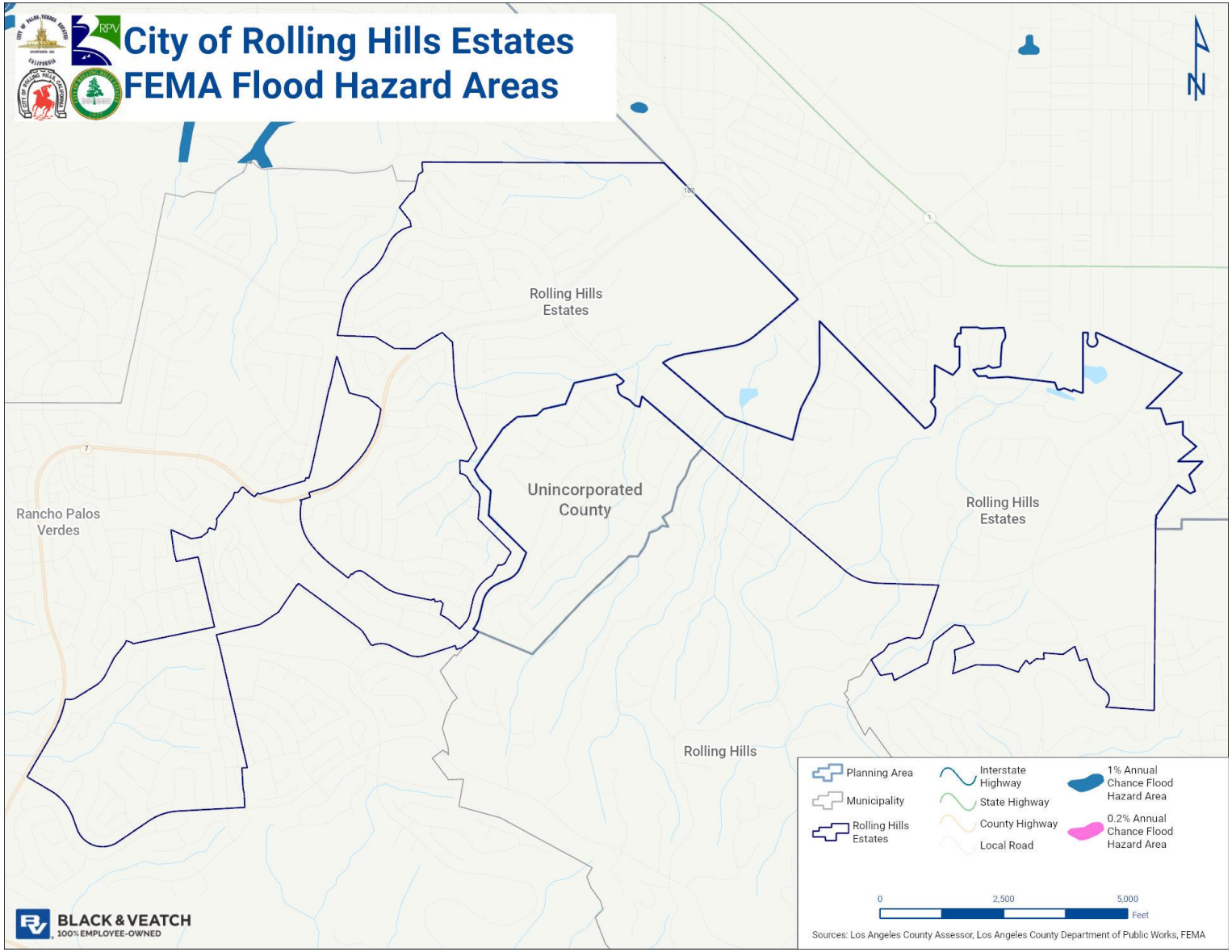


Figure 5-9. Landslide Hazard Map – Landslide Occurrences

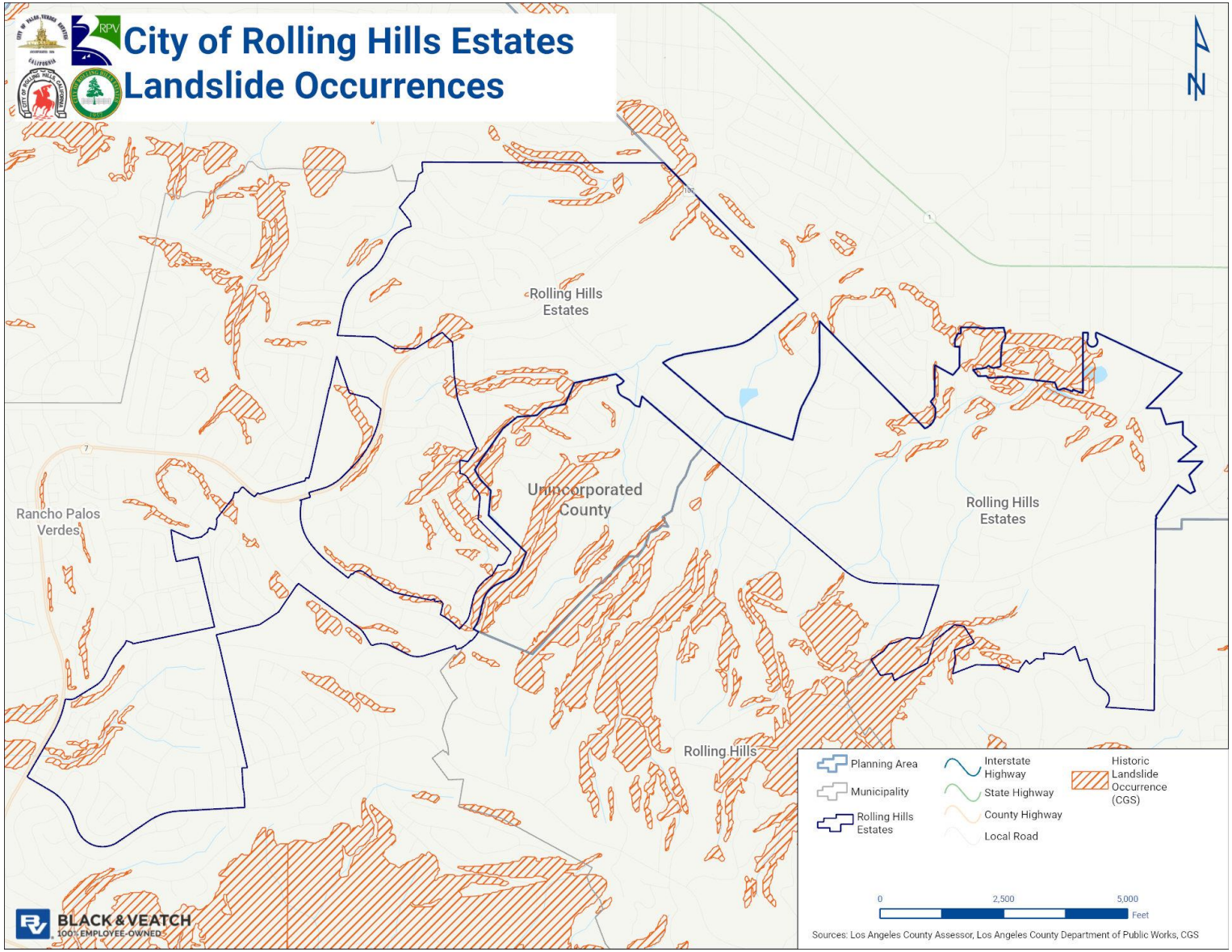


Figure 5-10. Landslide Hazard Map – Landslide Susceptibility

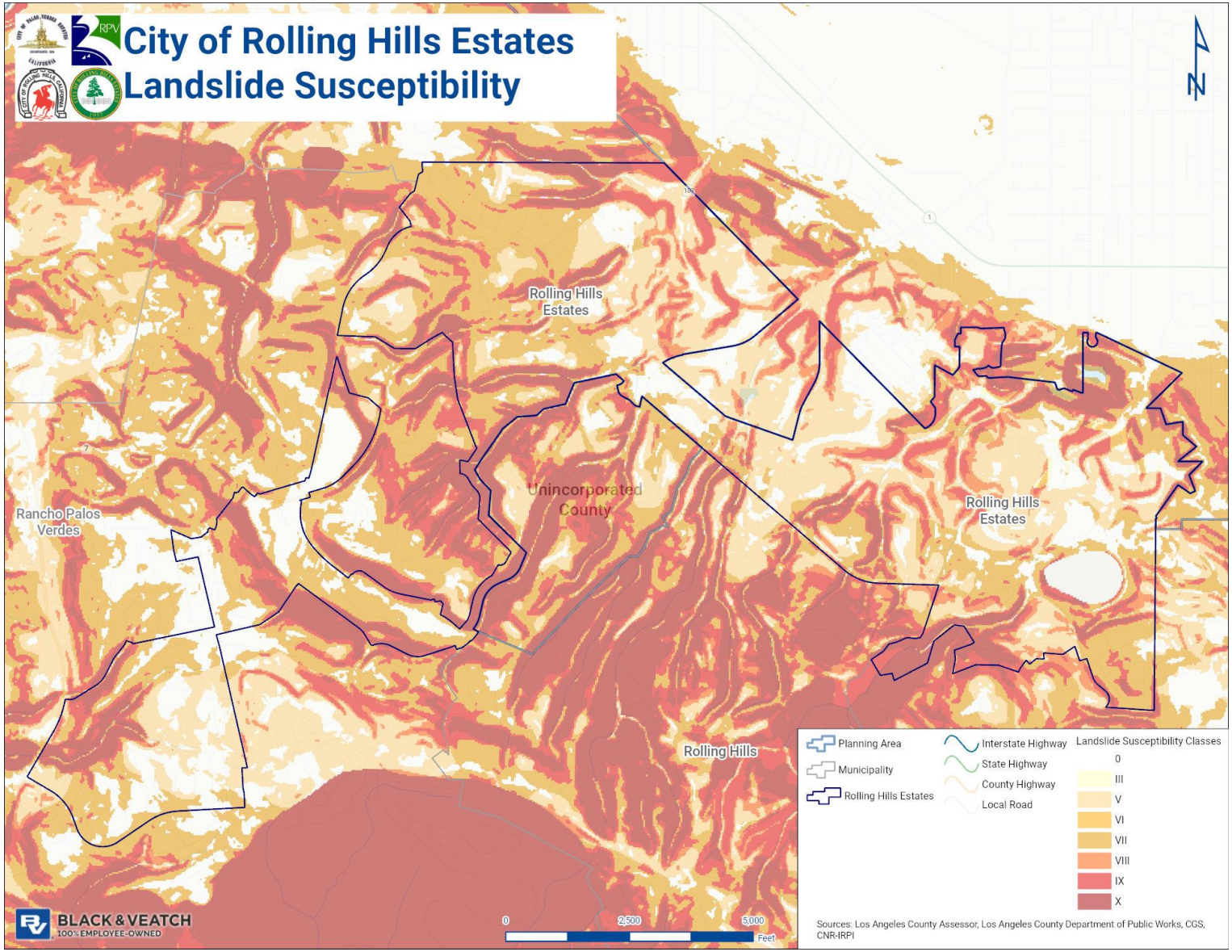


Figure 5-11. Landslide Hazard Map – Steep Slope Areas

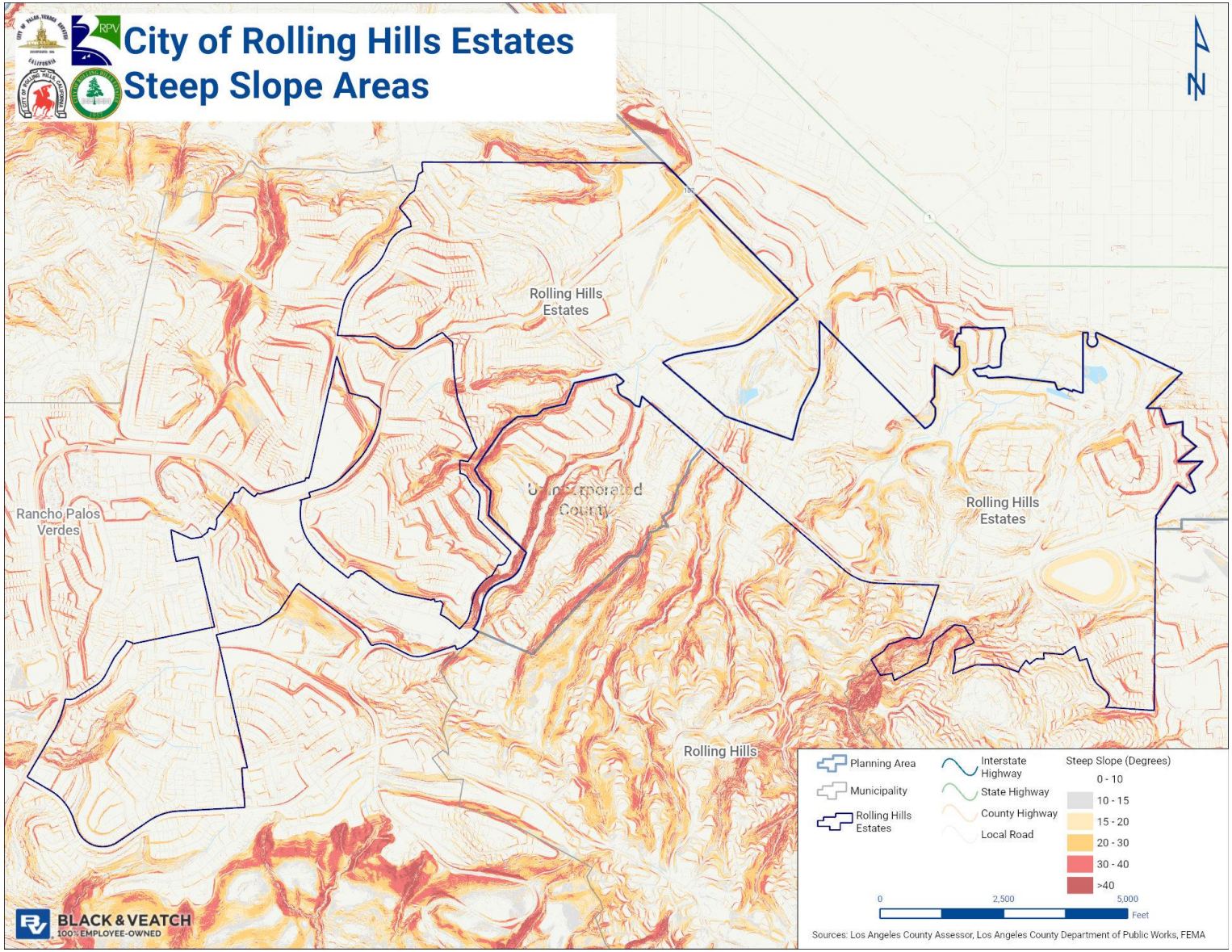


Figure 5-12. Liquefaction Hazard Map – Liquefaction Susceptibility

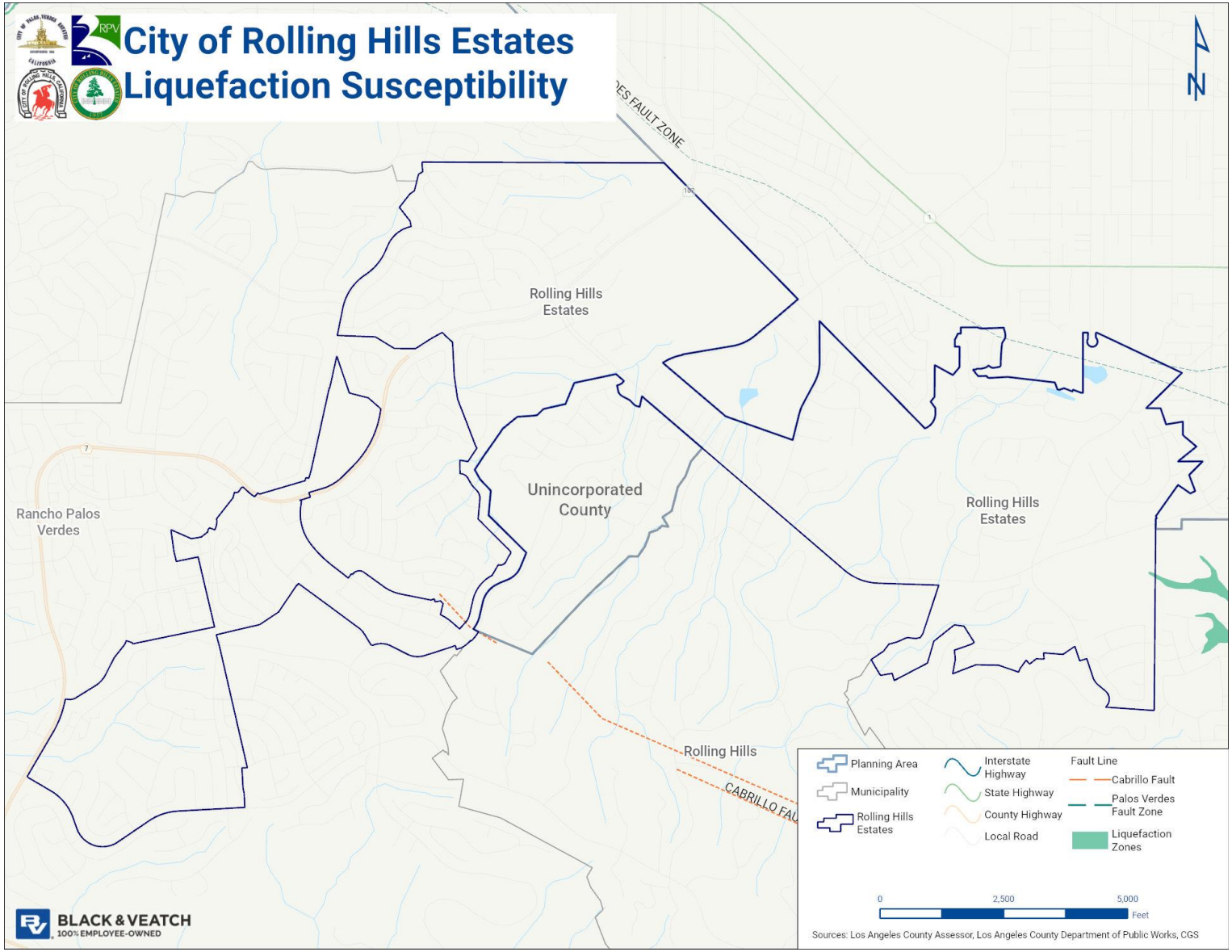


Figure 5-13. Liquefaction Hazard Map – NEHRP Seismic Site Class

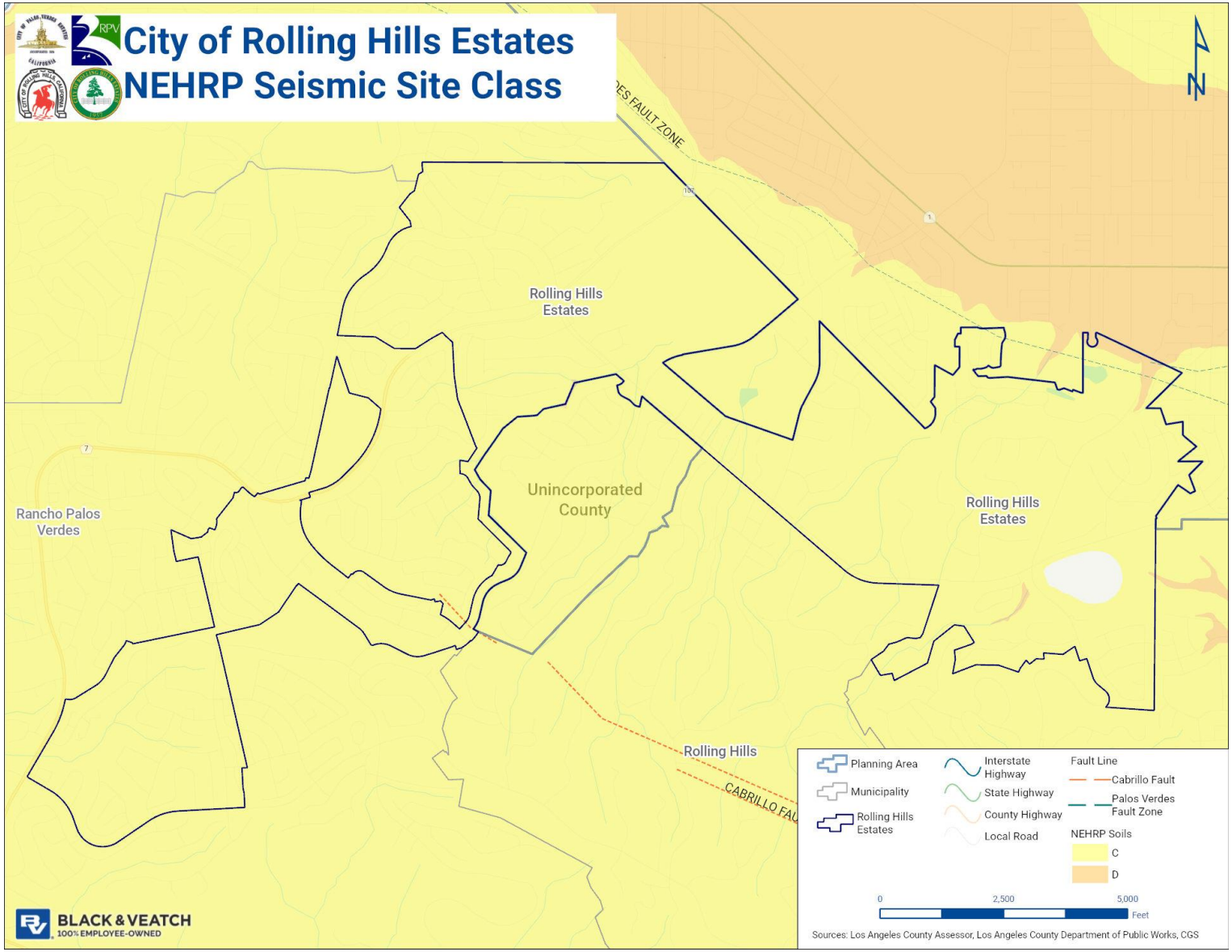
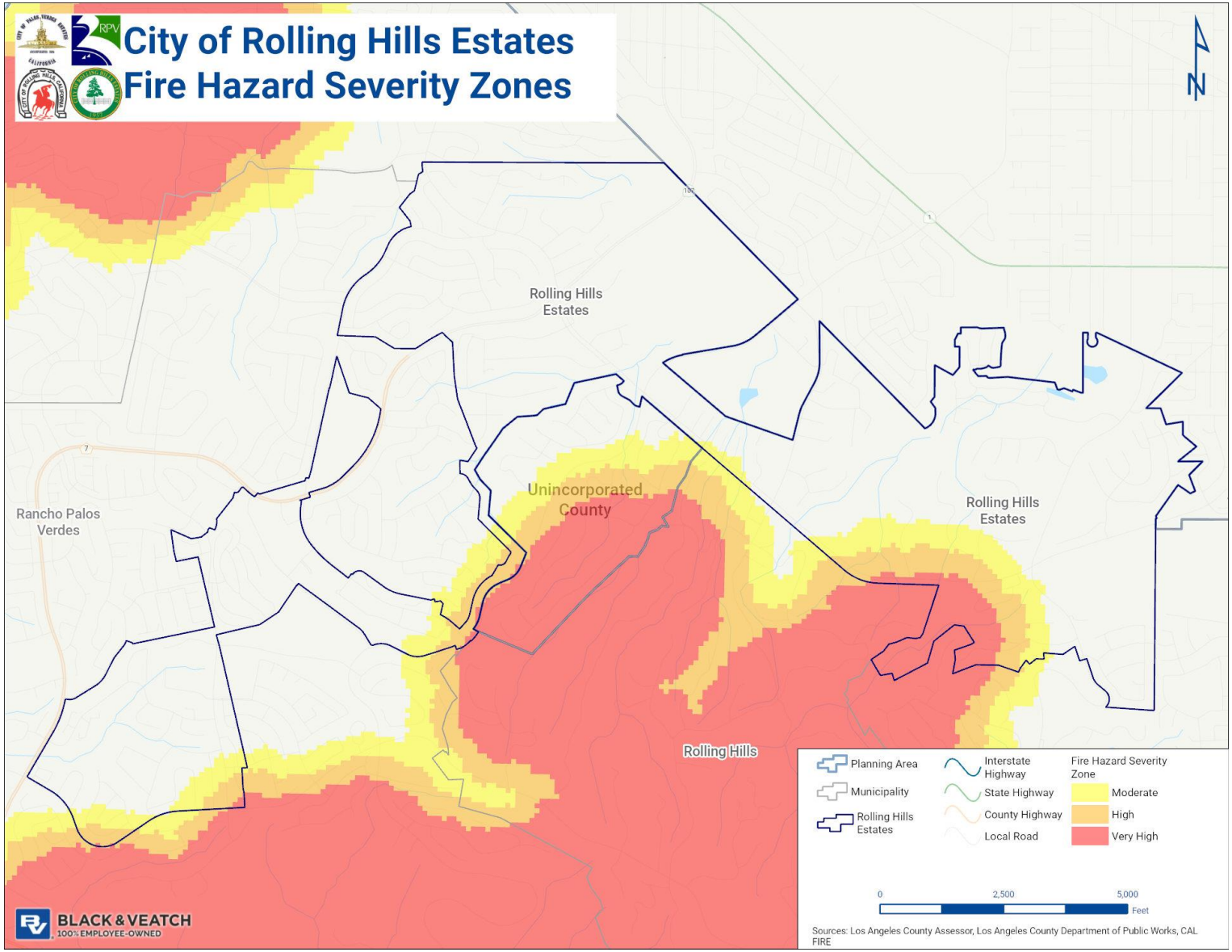


Figure 5-14. Wildfire Hazard Map – Fire Hazard Severity Zones



6. ABALONE COVE LANDSLIDE ABATEMENT DISTRICT

Figure 6-1. ACLAD Drill Rig Arrival



Source: (Abalone Cove Landslide Abatement District 2022)

6.1 LOCAL HAZARD MITIGATION PLANNING TEAM

Table 6-1. Local Planning Team

	Primary Point of Contact	Alternate Point of Contact
Name and Title:	Gordon Leon	Jim Knight
Address:	63 Narcissa Dr. RPV CA 90275	5 Cinnamon Ln. RPV CA 90275
Phone Number:	310/463-9240	310/714-8622
Email:	Gordon.leon@gmail.com	Knightjim33@gmail.com
Contributors:		
Name and Title: Method of Participation:	Gordon Leon, Chair ACLAD Input from ACLAD records	
Name and Title:	Jim Knight Board Member ACLAD	

Method of Participation:	Input from ACLAD records

6.2 JURISDICTIONAL PROFILE

Overview

The Abalone Cove Landslide Abatement District (ACLAD) is a “geologic hazard abatement district" created by the City of Rancho Palos Verdes and residences of the Abalone Cove community under special legislation passed by the California Legislature in l980 for the “purposes of prevention, mitigation, abatement or control” of the Abalone Cove landslide. It was the first geohazard abatement district created in the state (GHAD). The District is governed by five elected Directors, which serve for a term of four years. Under the California Improvement Act of 1911, the District may assess properties benefiting from the mitigation or abatement efforts for the cost of the improvements (Abalone Cove Landslide Abatement District 2022).

ACLAD is broadly responsible for abatement efforts to prevent movement of the Abalone Cove landslide. The most effective measurement is the dewatering wells and currently, the district operates and maintains the dewatering wells. These include wells drilled during the formation of ACLAD by the interim homeowner’s association, wells drilled under the authority of ACLAD, funded by issuance of a bond, and wells drilled by the City. ACLAD also monitors the groundwater elevation, including periodic re-drilling. Annual, ACLAD monitors the Global Positioning System (GPS) stations measurements for evidence of possible slide movement and works with the City of Rancho Palos Verdes to maintain the storm drain culvert extending beneath Palos Verdes Drive South. Due to the dewatering wells, the groundwater table within and immediately upslope of the landslide has been lowered significantly. This can halt or slow the movement except during periods of exceptional rainfall and has increased the stability of the Abalone Cove Landslide. The District conducts or contracts investigations related to the geology, rainwater discharge and groundwater flow in the area to aid in evaluating and developing abatement efforts (Abalone Cove Landslide Abatement District 2022).

Assets

Table 6-2 summarizes the critical assets of the district and their value.

Table 6-2. Special Purpose District Assets

Asset	Value
Property	
30 Dewatering wells	$3.75 million
3,000 Ft. of Drainage lines	$300.000
Critical Infrastructure and Equipment	
Monitoring wells, camera, sensors	$25,000
30 Generators	$27,000
Critical Facilities	
No facilities owned by ACLAD-some equipment stored at personal property	
TOTAL:	***$4,102,000***

6.3 CAPABILITY ASSESSMENT

6.3.1 Planning and Regulatory Capabilities

Jurisdictions develop plans and programs and implement rules and regulations to protect and serve residents. When effectively prepared and administered, these plans, programs and regulations can support the implementation of mitigation actions. The following existing codes, ordinances, policies, programs or plans are applicable to this hazard mitigation plan:

- Rancho Palos Verdes Ordinance No. 108 – requires the approval of environmental assessments, environmental impact reports, conditional use permits, and tentative maps prior to the issuing of permits in areas located within mapped landslide areas.
- The Creepy (Slow Moving) Landslides of the Portuguese Bend Area - 2014

6.3.2 Fiscal Capabilities

Assessing a jurisdiction's fiscal capability provides an understanding of the ability to fulfill the financial needs associated with hazard mitigation projects. This assessment identifies both outside resources, such as grant funding eligibility, and local jurisdictional authority to generate internal financial capability, such as through impact fees. An assessment of fiscal capabilities is presented in Table 6-3.

Table 6-3. Fiscal Capabilities

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	Yes
If yes, specify:	*Annual District assessment fee for mitigation measures based upon adopted budget*
Incur Debt through General Obligation Bonds	No
Incur Debt through Special Tax Bonds	No
Incur Debt through Private Activity Bonds	No
State-Sponsored Grant Programs	No
Development Impact Fees for Homebuyers or Developers	No
Federal Grant Programs	No
Other City of RPV loan	Yes
If yes, specify:	*$1.6 million loan to be repaid by ACLAD to the City of RPV with interest*

6.3.3 Administrative and Technical Capabilities

Planning regulatory, and fiscal capabilities provide the backbone for successfully developing a mitigation strategy; however, without the appropriate personnel, the strategy may not be implemented. Administrative and technical capabilities focus on the availability of personnel resources responsible for implementing all the facets of hazard mitigation. These resources include technical experts, such as engineers and scientists, as well as personnel with capabilities that may be found in multiple departments, such as grant writers. An assessment of administrative and technical capabilities is presented in Table 6-4.

Table 6-4. Administrative and Technical Capabilities

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	No	-
Engineers or professionals trained in building or infrastructure construction practices	Yes	Contractors with expertise in construction practices and RPV City Public Works
Planners or engineers with an understanding of natural hazards	Yes	Local contractors that understand landslide mitigation and City of RPV Public Works. ACLAD and City geologists
Staff with training in benefit-cost analysis	No	-
Surveyors	No	-
Personnel skilled or trained in GIS applications	yes	City of RPV staff
Scientist familiar with natural hazards in local area	Yes	Contract with a geologist with extensive knowledge of local landslide as well as City Geologists
Emergency manager	No	-
Grant writers	No	-
Procurement Services and Management	No	-
Other	Yes	Contractors with expertise in drilling dewatering wells

6.3.4 Education and Outreach Capabilities

Regular engagement with the public on issues regarding hazard mitigation provides an opportunity to directly interface with community members. Assessing the education and outreach capability illustrates the connection between the government and community members, which opens a two-way dialogue that can result in a more resilient community, based on awareness and engagement. An assessment of education and outreach capabilities is presented in Table 6-5.

Table 6-5. Education and Outreach Capabilities

Criterion	Response
Do you have a public information officer or communications office?	No
Do you have personnel skilled or trained in website development?	Yes
Do you have hazard mitigation information available on your website?	Yes
If yes, briefly describe:	Our website and monthly meetings keep the district members updated on landslide mitigations
Do you use social media for hazard mitigation education and outreach?	Yes
If yes, briefly describe:	Email notifications to District members of projects and monthly Board zoom meetings
Do you have any citizen boards or commissions that address issues related to hazard mitigation?	Yes
If yes, briefly describe:	ACLAD Board of Directors
Do you have any other programs in place that could be used to communicate hazard-related information?	Yes
If yes, briefly describe:	Website; clerk outreach to community; monthly Board meetings open to the public
Do you have any established warning systems for hazard events?	No

6.3.5 Adaptive Capacity for Climate Change

Table 6-6. Adaptive Capacity for Climate Change

Criterion		Jurisdiction Rating[a]
Technical Capacity		
Jurisdiction-level understanding of potential climate change impacts		High
Comment:	District fully understands that above average rain can impact land stability	
Jurisdiction-level monitoring of climate change impacts		High
Comment:	*District monitors local rainfall data which can affect land stability*	
Technical resources to assess proposed strategies for feasibility and externalities		Medium
Comment:	*Estimates of general rainfall data may not translate to specific areas of land stability*	
Jurisdiction-level capacity for development of greenhouse gas emissions inventory		Low
Comment:	*ACLAD mitigations do not abate GHGs nor a consideration in ongoing programs*	
Capital planning and land use decisions informed by potential climate impacts		Medium
Comment:	*Higher than normal rainfall is a red flag for land movement but mitigation measures are an ongoing process even if during a low rainfall season. Land movement can continue for years after one heavy rain season.*	
Participation in regional groups addressing climate risks		High
Comment:	ACLAD works closely with the City of RPV in assessing risks with GPS and geotechnical advise	
Implementation Capacity		
Clear authority/mandate to consider climate change impacts during public decision-making processes		High
Comment:	ACLAD Board has full authority to implement mitigation measures for above average rainfall	
Identified strategies for greenhouse gas mitigation efforts		low
Comment:	No strategies for GHG mitigation	
Identified strategies for adaptation to impacts		High
Comment:	*Dewatering wells and drainage lines to ocean, surface drainage, fill fissures*	
Champions for climate action in local government departments		low
Comment:	*No climate program with local government departments*	
Political support for implementing climate change adaptation strategies		High
Comment:	*All mitigation strategies must have at least 51% approval by the District members per Prop. 218*	
Financial resources devoted to climate change adaptation		Medium
Comment:	*District fees fund many mitigation measures but not all mitigation measures can be implemented due to financial restraints*	
Local authority over sectors likely to be negatively impacted		High
Comment:	*ACLAD Board Members have full authority to implement mitigation measures*	
Public Capacity		
Local residents' knowledge of and understanding of climate risk		Medium
Comment:	Most local residents understand the relationship of above average rainfall and land stability but some technical geology information needs explanation by experts	
Local residents' support of adaptation efforts		High
Comment:	*Most residents support the efforts of ACLAD*	
Local residents' capacity to adapt to climate impacts		Low
Comment:	*Some have lost homes, some have moved due to fear, some are staying and supporting foundations. In general landslides cause great stress on families.*	

Criterion		Jurisdiction Rating[a]
Local economy current capacity to adapt to climate impacts		medium
Comment:	*Some roads get closed affecting District members getting to work. Others have lost their home equity entirely. Others are spending 10s to 100s thousand dollars to save their home.*	
Local ecosystems capacity to adapt to climate impacts		unsure
Comment:	*Unknown*	

a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement; Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

6.4 INTEGRATION

For hazard mitigation planning, "integration" means that hazard mitigation information is used in other relevant planning mechanisms, such as capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

6.4.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- Rainfall data, GPS data program, water level monitoring program and geologists input help with implementing ACLAD mitigation program which includes dewatering wells, drainage lines to the ocean, addressing surface drainage, filling fissures.
- There are 9 dewatering wells in operation and extract water at a rate of approximately 250 gallons per minutes.
- ACLAD is finalizing the electrical supply for several dewatering wells.
- ACLAD installed two monitoring wells with piezometers.
- Ongoing repairs and drainage line improvements throughout the district.

6.4.2 Opportunities for Future Integration

The capability assessment in this annex indicates opportunities to integrate this mitigation plan with other jurisdictional planning/regulatory capabilities. Capabilities were identified as integration opportunities if they can support or enhance the actions identified in this plan or be supported or enhanced by components of this plan. The capability assessment identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- ACLAD utilizes city GPS and Heat Map data to help plan our mitigation measures. Future planning and capital improvement projects can be better coordinated with the City of RPV.

6.5 RISK ASSESSMENT

6.5.1 Jurisdiction-Specific Natural Hazard Event History

Table 6-7 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

Table 6-7. Past Natural Hazard Events

Type of Event	Declaration Title	State or Federal Disaster #	Declaration Date	Damage Assessment
Flood	Severe Winter Storms, Flooding, and Mudslides	EM-3591-CA	January 9, 2023	Triggered earth movements in the District
Flood	Severe Winter Storms, Flooding, Landslides, and Mudslides	DR-4683-CA CA23-1	January 14, 2023 January 4, 2023	Triggered earth movements in the District
Flood	Severe Winter Storms, Flooding, Landslides, and Mudslides	EM-3592-CA CA23-3	March 10, 2023 March 1, 2023	Triggered earth movements in the District
Severe Storm	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, and Mudslides	DR-4699-CA	April 3, 2023	Triggered earth movements in the District
Severe Storm	Severe Winter Storms, Tornadoes, Flooding, Landslides, and Mudslides	DR-4769-CA	April 13, 2024	Triggered earth movements in the District

1.1.1 Hazard Ranking

The prioritization and categorization of identified hazards for ACLAD is based principally on the Priority Risk Index (PRI), a tool used to measure the degree of risk for identified hazards in a particular planning area. The PRI was used to assist ACLAD in identifying hazards that pose the most significant threat. Table 6-8 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property and the economy.

Table 6-8. Hazard Risk Ranking Summary

Hazard	Weighted Risk Factors					PRI	Risk Ranking
	Probability	Impact	Spatial Extent	Warning Time	Climate Change		
Drought	1.2	0.3	0.8	0.1	0.4	2.8	Medium
Earthquake	0.9	0.9	0.8	0.4	0.2	3.2	High
Flood	0.9	0.3	0.2	0.1	0.4	1.9	Low
Landslide	1.2	0.6	0.6	0.4	0.4	3.2	High
Sea Level Rise	0.9	0.3	0.2	0.1	0.4	1.9	Low
Severe Weather - Heat Wave	0.9	0.6	0.8	0.1	0.4	2.8	Medium
Severe Weather - Strong Wind	1.2	0.6	0.8	0.1	0.4	3.1	High
Tsunami	0.6	0.3	0.4	0.1	0.2	1.6	Low
Wildfire	0.9	0.9	0.6	0.4	0.4	3.2	High

Note: PRI Value 1 to 1.9 = Low Hazard Risk Ranking
PRI Value 2.0 to 2.9 = Medium Hazard Risk Ranking
PRI Value 3.0 to 4.0 = High Hazard Risk Ranking

6.5.2 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. This section provides information on a few key vulnerabilities for this jurisdiction. Available jurisdiction-specific risk maps of the hazards are provided at the end of this annex. The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- The ongoing challenge for ACLAD is funding of much needed mitigation projects. Due to constant land movement, drainage lines break, dewatering wells get sheared off. If a home isn't a total loss, constant movement causes ongoing damage.

6.6 HAZARD MITIGATION STRATEGY

This section includes the following components of the mitigation strategy for this jurisdiction:

- Hazard Mitigation Action Plan Matrix
- Mitigation Action Prioritization
- Mitigation Action Classification and Natural Hazards Addressed

Table 6-9. Hazard Mitigation Action Plan Matrix

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
ACLAD-01	Where appropriate, support retrofitting, purchase or relocation of ACLAD-owned structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are in high- or medium-risk hazard areas.	All	Both	1, 2	Lead: ACLAD Support: Rancho Palos Verdes	Yes	Very High ($1,000,000 and above)	FEMA HMGP, Annual Budget	Long-Term (5 years or more)
ACLAD-02	Continue identifying areas to install deep dewatering wells in the City of Rancho Palos Verdes. These wells will be placed in strategic locations to relieve water pressure that causes land movement in the City.	Safety and Security; Water Systems	Both	1, 4, 5	Lead: ACLAD Support: Rancho Palos Verdes	Yes	Very High ($1,000,000 and above)	FEMA HMGP, CIP (Rancho Palos Verdes), Annual Budget	Short to Long-Term
ACLAD-03	Purchase generators for ACLAD-owned dewatering wells that are in need of backup power. This would ensure continuity of operations and help prevent movement of landslides.	Energy; Safety and Security; Water Systems		1, 4	Lead: ACLAD	Yes	Moderate ($50,001 - $250,000)	FEMA HMGP, Annual Budget, CIP (Rancho Palos Verdes)	Short Term (less than 5 years)
ACLAD-04	Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.	N/A	N/A	1, 3, 4	Lead: ACLAD Support: Rancho Palos Verdes	No	Low ($0-$50,000)	Staff Time	Short Term (less than 5 years)

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
ACLAD-05	Expand on current collaboration and coordination with Rancho Palos Verdes on future plans and projects, including mitigation measures related to landslides.	Safety and Security	N/A	1, 2, 3	Lead: ACLAD Support: Rancho Palos Verdes	No	Low ($0-$50,000)	Staff Time	Short Term (less than 5 years)
ACLAD-06	Integrate the hazard mitigation plan into other plans, programs, and projects that will help in reducing the impacts of future hazards, including landslides.	Safety and Security; Communications; Transportation; and	Both	4	Lead: ACLAD	Yes	Low ($0-$50,000)	Staff Time, General Fund	Short-Term (less than 5 years)
ACLAD-07	Water Well Drainage Lines – Conduct a feasibility study to identify which drainage lines are in poor condition and need to be replaced. Once identified, begin replacing and installing the drainage lines.	Safety and Security; Water Systems	Both	1, 4	Lead: ACLAD Support: Rancho Palos Verdes	Yes	High ($250,000-$1 million)	Annual Budget, CIP (Rancho Palos Verdes)	Short to Long-Term
ACLAD-08	Access Road Erosion Mitigation – Determine and implement needed measures to prevent access road erosion from extreme precipitation events and earth movements	Safety and Security; Water Systems	Both	1, 4, 5	Lead: ACLAD Support: Rancho Palos Verdes	Yes	High ($250,000-$1 million)	Annual Budget, CIP (Rancho Palos Verdes)	Short to Long-Term

Table 6-10. Mitigation Action Prioritization

Action Number	Life Safety	Property Protection	Cost-Effectiveness	Technically Feasible	Legal Authority	Funding Available	Grant Eligible	Environmental	Climate Change	Equity Priority Community	Administrative Capacity	Multi-Hazard	Timeline	Other Local Objective	Support Policies	Total Score	Priority
ACLAD-01	3	3	3	3	3	1	3	1	3	3	1	1	1	1	1	31	High

ACLAD-02	3	3	3	3	1	1	1	1	3	3	3	3	1	1	1	31	High
ACLAD-03	3	3	3	3	3	1	3	0	1	3	3	3	1	1	1	32	High
ACLAD-04	3	3	3	3	3	1	0	1	1	3	3	3	3	1	1	32	High
ACLAD-05	1	1	1	3	3	3	0	1	1	1	3	3	3	3	1	28	Medium
ACLAD-06	3	3	3	3	3	3	0	0	1	1	3	1	3	1	1	29	Medium
ACLAD-07	3	3	3	3	1	1	1	1	3	3	3	3	1	3	1	33	High
ACLAD-08	3	3	3	3	1	1	1	1	3	3	3	3	1	1	1	31	High

Note: 31 or more = High Priority
15 to 30 = Medium Priority
0 to 14 = Low Priority

Table 6-11. Mitigation Action Classification and Natural Hazards Addressed

	Mitigation Classification						Natural Hazards								
Action	Local Plans and Regulations	Structure and Infrastructure Projects	Education and Awareness Programs	Natural Systems Protection	Climate Resiliency	Community Capacity Building	Drought	Earthquake	Flood	Landslide	Sea Level Rise	Severe Weather – Heat Wave	Severe Weather – Strong Wind	Tsunami	Wildfire
ACLAD-01	X	X			X		X	X	X	X	X	X	X	X	X
ACLAD-02		X			X	X			X	X					
ACLAD-03		X			X	X	X	X	X	X		X	X		X
ACLAD-04	X					X	X	X	X	X	X	X	X	X	X
ACLAD-05	X					X		X	X	X					
ACLAD-06	X	X	X			X				X					
ACLAD-07	X	X			X			X	X	X					
ACLAD-08		X			X	X			X	X					

PUBLIC OUTREACH

Table 6-12. Public Outreach

Local Outreach Activity	Date	Number of People Involved
Supported combined Planning Partner Outreach – see Volume 1	Throughout the planning process	300+

INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **District Website**. The District website was used to populate sections of the annex.

The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**. The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.

DRAFT

7. KLONDIKE CANYON GEOLOGIC HAZARD ABATEMENT DISTRICT

Figure 7-1. Klondike Pump Readings



Source: (Klondike Canyon Geologic Hazard Abatement District 2025)

7.1 LOCAL HAZARD MITIGATION PLANNING TEAM

Table 7-1. Local Planning Team

	Primary Point of Contact	Alternate Point of Contact
Name and Title:	Steve Cummins, Engineer	Nic Grillo, Engineer
Phone Number:	TBD	(323) 286-8918
Email:	scummins@dcacivileng.com	nsgrillo@gmail.com

7.2 JURISDICTIONAL PROFILE

Overview

Klondike Canyon Geologic Hazard Abatement District (KCGHAD, aka KCLAD) was formed to manage landslide mitigation measures in the Klondike Canyon landslide area which lies within the greater

Portuguese Bend Ancient Landslide Complex in Rancho Palos Verdes, CA (Klondike Canyon Geologic Hazard Abatement District 2025).

Geologic Hazard Abatement Districts (GHADs) enabled by the Beverly Act of 1979 (SB 1195), are useful financial mechanisms for reducing hillslope hazards (Kockelman, 1986). The enabling statute, (Division 17 of the Public Resources Code, Sections 26500 – 26654) provides for the formation of local assessment districts for the purpose of prevention, mitigation, abatement, or control of geologic hazards. The Act broadly defines "geologic hazard" as "an actual or threatened landslide, land subsidence, soil erosion, earthquake, or any other natural or unnatural movement of land or earth" (Klondike Canyon Geologic Hazard Abatement District 2025).

Assets

Table 7-2 summarizes the critical assets of the district and their value.

Table 7-2. Special Purpose District Assets

Asset	Value
Property	
TBD	TBD
Critical Infrastructure and Equipment	
TBD	TBD
TBD	TBD
Critical Facilities	
TBD	TBD
TBD	TBD
TOTAL:	TBD

7.3 CAPABILITY ASSESSMENT

7.3.1 Planning and Regulatory Capabilities

Jurisdictions develop plans and programs and implement rules and regulations to protect and serve residents. When effectively prepared and administered, these plans, programs and regulations can support the implementation of mitigation actions. The following existing codes, ordinances, policies, programs or plans are applicable to this hazard mitigation plan:

- Annual Budget

7.3.2 Fiscal Capabilities

Assessing a jurisdiction's fiscal capability provides an understanding of the ability to fulfill the financial needs associated with hazard mitigation projects. This assessment identifies both outside resources, such as grant funding eligibility, and local jurisdictional authority to generate internal financial capability, such as through impact fees. An assessment of fiscal capabilities is presented in Table 7-3Table 3-5.

Table 7-3. Fiscal Capabilities

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	No
Incur Debt through General Obligation Bonds	No
Incur Debt through Special Tax Bonds	No
Incur Debt through Private Activity Bonds	No
State-Sponsored Grant Programs	No
Development Impact Fees for Homebuyers or Developers	No
Federal Grant Programs	No
Other	No

7.3.3 Administrative and Technical Capabilities

Planning regulatory, and fiscal capabilities provide the backbone for successfully developing a mitigation strategy; however, without the appropriate personnel, the strategy may not be implemented. Administrative and technical capabilities focus on the availability of personnel resources responsible for implementing all the facets of hazard mitigation. These resources include technical experts, such as engineers and scientists, as well as personnel with capabilities that may be found in multiple departments, such as grant writers. An assessment of administrative and technical capabilities is presented in Table 7-4.

Table 7-4. Administrative and Technical Capabilities

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	TBD	TBD
Engineers or professionals trained in building or infrastructure construction practices	TBD	TBD
Planners or engineers with an understanding of natural hazards	TBD	TBD
Staff with training in benefit-cost analysis	TBD	TBD
Surveyors	TBD	TBD
Personnel skilled or trained in GIS applications	TBD	TBD
Scientist familiar with natural hazards in local area	TBD	TBD
Emergency manager	TBD	TBD
Grant writers	TBD	TBD
Procurement Services and Management	TBD	TBD
Other	TBD	TBD

7.3.4 Education and Outreach Capabilities

Regular engagement with the public on issues regarding hazard mitigation provides an opportunity to directly interface with community members. Assessing the education and outreach capability illustrates the connection between the government and community members, which opens a two-way dialogue that

can result in a more resilient community, based on awareness and engagement. An assessment of education and outreach capabilities is presented in Table 7-5.

Table 7-5. Education and Outreach Capabilities

Criterion	Response
Do you have a public information officer or communications office?	TBD
Do you have personnel skilled or trained in website development?	TBD
Do you have hazard mitigation information available on your website?	Yes
If yes, briefly describe:	The District maintains a website that provides information about the District, the services they provide, and the projects they are working on.
Do you use social media for hazard mitigation education and outreach?	No
Do you have any citizen boards or commissions that address issues related to hazard mitigation?	TBD
Do you have any other programs in place that could be used to communicate hazard-related information?	TBD
If yes, briefly describe:	TBD
Do you have any established warning systems for hazard events?	TBD

7.3.5 Adaptive Capacity for Climate Change

Table 7-6. Adaptive Capacity for Climate Change

Criterion	Jurisdiction Rating[a]
Technical Capacity	
Jurisdiction-level understanding of potential climate change impacts	Low
Jurisdiction-level monitoring of climate change impacts	Low
Technical resources to assess proposed strategies for feasibility and externalities	Low
Jurisdiction-level capacity for development of greenhouse gas emissions inventory	Low
Capital planning and land use decisions informed by potential climate impacts	Low
Participation in regional groups addressing climate risks	Low
Implementation Capacity	
Clear authority/mandate to consider climate change impacts during public decision-making processes	Low
Identified strategies for greenhouse gas mitigation efforts	Low
Identified strategies for adaptation to impacts	Low
Champions for climate action in local government departments	Low
Political support for implementing climate change adaptation strategies	Low
Financial resources devoted to climate change adaptation	Low
Local authority over sectors likely to be negative impacted	Low
Public Capacity	
Local residents' knowledge of and understanding of climate risk	Low
Local residents' support of adaptation efforts	Low
Local residents' capacity to adapt to climate impacts	Low
Local economy current capacity to adapt to climate impacts	Low
Local ecosystems capacity to adapt to climate impacts	Low

a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement; Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

7.4 INTEGRATION

For hazard mitigation planning, "integration" means that hazard mitigation information is used in other relevant planning mechanisms, such as capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

7.4.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- **Maintenance and Improvements**—KCGHAD has maintenance and improvement measures in place that help reduce land movement within their district. This includes installing and maintain dewatering wells, dirt removal to reduce soil pressure, monitoring dewatering wells, public education and outreach to residents, and collaboration with local, state, and federal partners.

7.4.2 Opportunities for Future Integration

The capability assessment in this annex indicates opportunities to integrate this mitigation plan with other jurisdictional planning/regulatory capabilities. Capabilities were identified as integration opportunities if they can support or enhance the actions identified in this plan or be supported or enhanced by components of this plan. The capability assessment identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- **Annual Budget**—Prior to the development of the annual budget, the District will review the MJLHMP to identify projects to include in the budget.

7.5 RISK ASSESSMENT

7.5.1 Jurisdiction-Specific Natural Hazard Event History

Table 7-7 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

Table 7-7. Past Natural Hazard Events

Type of Event	Declaration Title	State or Federal Disaster #	Declaration Date	Damage Assessment
Flood	Severe Winter Storms, Flooding, and Mudslides	EM-3591-CA	January 9, 2023	Triggered earth movement in the District
Flood	Severe Winter Storms, Flooding, Landslides, and Mudslides	DR-4683-CA CA23-1	January 14, 2023 January 4, 2023	Triggered earth movement in the District

Type of Event	Declaration Title	State or Federal Disaster #	Declaration Date	Damage Assessment
Flood	Severe Winter Storms, Flooding, Landslides, and Mudslides	EM-3592-CA CA23-3	March 10, 2023 March 1, 2023	Triggered earth movement in the District
Severe Storm	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, and Mudslides	DR-4699-CA	April 3, 2023	Triggered earth movement in the District
Severe Storm	Severe Winter Storms, Tornadoes, Flooding, Landslides, and Mudslides	DR-4769-CA	April 13, 2024	Triggered earth movement in the District

1.1.2 Hazard Ranking

The prioritization and categorization of identified hazards for KCGHAD is based principally on the Priority Risk Index (PRI), a tool used to measure the degree of risk for identified hazards in a particular planning area. The PRI was used to assist the City in identifying hazards that pose the most significant threat. Table 7-8 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property and the economy.

Table 7-8. Hazard Risk Ranking Summary

Hazard	Weighted Risk Factors					PRI	Risk Ranking
	Probability	Impact	Spatial Extent	Warning Time	Climate Change		
Drought	1.2	0.3	0.8	0.1	0.4	2.8	Medium
Earthquake	0.9	0.9	0.8	0.4	0.2	3.2	High
Flood	0.9	0.3	0.2	0.1	0.4	1.9	Low
Landslide	1.2	0.6	0.6	0.4	0.4	3.2	High
Sea Level Rise	0.9	0.3	0.2	0.1	0.4	1.9	Low
Severe Weather - Heat Wave	0.9	0.6	0.8	0.1	0.4	2.8	Medium
Severe Weather - Strong Wind	1.2	0.6	0.8	0.1	0.4	3.1	High
Tsunami	0.6	0.3	0.4	0.1	0.2	1.6	Low
Wildfire	0.9	0.9	0.6	0.4	0.4	3.2	High

Note: PRI Value 1 to 1.9 = Low Hazard Risk Ranking
PRI Value 2.0 to 2.9 = Medium Hazard Risk Ranking
PRI Value 3.0 to 4.0 = High Hazard Risk Ranking

7.5.2 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. This section provides information on a few key vulnerabilities for this jurisdiction. Available jurisdiction-specific risk maps of the hazards are provided at the end of this annex. The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- Storm drainage improvements to avoid stormwater runoff (Action KCGHAD-04 and 07 in Table 3-14).
- Backup power needed at dewatering wells (Action KCGHAD-05 in Table 3-14).
- Additional dewatering wells are needed (Action KCGHAD-03 in Table 3-14).
- Ongoing monitoring of district (Action KCGHAD-06, 07, and 08 in Table 3-14).

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7.6 HAZARD MITIGATION STRATEGY

This section includes the following components of the mitigation strategy for this jurisdiction:

- Hazard Mitigation Action Plan Matrix
- Mitigation Action Prioritization
- Mitigation Action Classification and Natural Hazards Addressed

Table 7-9. Hazard Mitigation Action Plan Matrix

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
KCGHAD-01	Identify areas in need of stability improvements. Once identified, apply for grants and loans to fund the construction of the projects.	Safety and Security; Water Systems; Transportation	Both	1, 4, 5	Lead: KCGHAD Support: Rancho Palos Verdes	Yes	Low ($0-$50,000)	Staff Time, Annual Budget	Short-Term (less than 5 years)
KCGHAD-02	Expand coordination efforts with the City to identify and implement improvements to the upper canyon for the monitoring of drainage and fissures.	Safety and Security	Both	1, 3, 4	Lead: KCGHAD Support: Rancho Palos Verdes	No	Low ($0-$50,000)	Staff Time	Short-Term (less than 5 years)
KCGHAD-03	Install two dewatering wells at the base of the slide on the beach.	Safety and Security; Water Systems; Transportation	Both	1, 4	Lead: KCGHAD Support: Rancho Palos Verdes	Yes	Moderate ($50,001 - $250,000)	Annual Budget, FEMA HMGP	Short-Term (less than 5 years)
KCGHAD-04	Design and construct the replacement and realignment of the storm drain system. This will replace the existing 48” pipe that was destroyed with the land movement.	Safety and Security; Water Systems; Transportation	Both	1, 4	Lead: KCGHAD Support: Rancho Palos Verdes	Yes	High ($250,000-$1 million)	Annual Budget, FEMA HMGP, City CIP	Long-Term (5 years or more)
KCGHAD-05	Purchase and install backup generators at dewatering wells which will provide continuity of operations and eliminate downtime during power outages.	Safety and Security; Water Systems; Transportation	Both	1, 4	Lead: KCGHAD Support: Rancho Palos Verdes	Yes	Moderate ($50,001 - $250,000)	Annual Budget, FEMA HMGP	Short-Term (less than 5 years)

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
KCGHAD-06	Expand current public outreach programs to residents regarding restraint of overwatering and how to report fissuring or other land movement to the District.	N/A	Both	1, 2, 3	Lead: KCGHAD Support: Rancho Palos Verdes	Yes	Low ($0-$50,000)	Staff Time	Short-Term (less than 5 years)
KCGHAD-07	Conduct a feasibility study to identify areas in need of drainage systems. This will include coordination with the City, County Flood Control District, Corp of Engineers, LA County Sanitation District, and other agencies. Once the study is complete, the District will work with the agencies to develop a timeline and prioritize projects to begin implementation. These improvements will help stabilize the Klondike Landslide.	Safety and Security; Water Systems; Transportation	Both	1, 3, 4	Lead: KCGHAD Support: Rancho Palos Verdes, County Flood Control District, Corp of Engineers, LA County Sanitation District	Yes	Very High ($1,000,000 and above)	Staff Time, Rancho Palos Verdes, Annual Budget	Long-Term (5 years or more)
KCGHAD-08	Install rain gauges throughout the District to assist in monitoring the weather and to identify which areas need to be monitored for any signs of movement.	Safety and Security; Water Systems	Both	1, 4	Lead: KCGHAD Support: Rancho Palos Verdes	Yes	Low ($0-$50,000)	Staff Time, Annual Budget	Short-Term (less than 5 years)
KCGHAD-09	Where appropriate, support retrofitting, purchase or relocation of district structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are in high- or medium-risk hazard areas.	N/A	Existing	1	Lead: KCGHAD	Yes	Very High ($1,000,000 and above)	Annual Budget, FEMA HMGP	Long-Term (5 years or more)
KCGHAD-10	Integrate the hazard mitigation plan into other local plans and programs including: • Annual budgets • Engineer Reports	N/A	N/A	4	Lead: KCGHAD	No	Low ($0-$50,000)	Staff Time, Annual Budget	Short-Term (less than 5 years)

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Benefits Equity Priority Community?	Estimated Cost	Potential Funding Sources	Timeline
KCGHAD-11	Identify and pursue strategies to increase adaptive capacity to climate change including but not limited to the following: • Integrate climate change projections into the design of projects to increase their project useful life. • Elevate electrical equipment above the base flood elevation.	N/A	N/A	4, 5	Lead: KCGHAD Support: Rancho Palos Verdes	No	Low ($0-$50,000)	Staff Time	Short-Term (less than 5 years)
KCGHAD-12	Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.	N/A	N/A	3	Lead: KCGHAD Support: Rancho Palos Verdes	No	Low ($0-$50,000)	Staff Time	Short-Term (less than 5 years)

Table 7-10. Mitigation Action Prioritization

Action Number	Life Safety	Property Protection	Cost-Effectiveness	Technically Feasible	Legal Authority	Funding Available	Grant Eligible	Environmental	Climate Change	Equity Priority Community	Administrative Capacity	Multi-Hazard	Timeline	Other Local Objective	Support Policies	Total Score	Priority
KCGHAD-01	3	3	3	3	1	1	1	3	3	3	1	3	3	1	1	33	High
KCGHAD-02	3	3	3	3	1	1	3	1	3	0	3	3	3	1	1	32	High
KCGHAD-03	3	3	3	3	1	1	3	1	1	3	3	3	3	1	1	33	High
KCGHAD-04	3	3	3	3	1	1	3	1	1	3	3	3	1	1	1	31	High
KCGHAD-05	3	3	3	3	1	1	3	1	1	3	3	1	3	1	1	31	High
KCGHAD-06	3	1	3	3	1	1	1	1	1	3	3	1	3	1	3	29	Medium

Action Number	Life Safety	Property Protection	Cost-Effectiveness	Technically Feasible	Legal Authority	Funding Available	Grant Eligible	Environmental	Climate Change	Equity Priority Community	Administrative Capacity	Multi-Hazard	Timeline	Other Local Objective	Support Policies	Total Score	Priority
KCGHAD-07	3	3	3	3	1	1	1	1	1	3	3	3	0	1	3	30	Medium
KCGHAD-08	3	3	3	3	1	1	1	1	1	3	3	1	3	1	1	29	Medim
KCGHAD-09	3	3	3	3	1	1	3	1	1	3	1	3	1	1	1	29	Medium
KCGHAD-10	3	1	3	3	1	1	1	0	0	0	3	3	3	1	1	24	Medium
KCGHAD-11	3	1	3	3	1	1	0	1	3	0	1	1	3	1	1	23	Medium
KCGHAD-12	3	1	3	3	1	1	0	0	0	0	3	3	3	1	1	23	Medium

Note: 31 or more = High Priority
15 to 30 = Medium Priority
0 to 14 = Low Priority

Table 7-11. Mitigation Action Classification and Natural Hazards Addressed

Action	Mitigation Classification						Natural Hazards								
	Local Plans and Regulations	Structure and Infrastructure Projects	Education and Awareness Programs	Natural Systems Protection	Climate Resiliency	Community Capacity Building	Drought	Earthquake	Flood	Landslide	Sea Level Rise	Severe Weather – Heat Wave	Severe Weather – Strong Wind	Tsunami	Wildfire
KCGHAD-01	X	X		X		X			X	X					
KCGHAD-02	X			X		X				X					
KCGHAD-03		X							X	X					
KCGHAD-04		X		X					X	X					
KCGHAD-05		X				X		X	X	X		X	X	X	X
KCGHAD-06	X		X			X			X	X					
KCGHAD-07	X	X				X			X	X					

Action	Mitigation Classification						Natural Hazards								
	Local Plans and Regulations	Structure and Infrastructure Projects	Education and Awareness Programs	Natural Systems Protection	Climate Resiliency	Community Capacity Building	Drought	Earthquake	Flood	Landslide	Sea Level Rise	Severe Weather – Heat Wave	Severe Weather – Strong Wind	Tsunami	Wildfire
KCGHAD-08		X	X		X	X			X	X					
KCGHAD-09		X				X		X	X	X				X	X
KCGHAD-10	X					X	X	X	X	X	X	X	X	X	X
KCGHAD-11	X				X		X		X	X	X				X
KCGHAD-12	X						X	X	X	X	X	X	X	X	X

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PUBLIC OUTREACH

Table 7-12. Public Outreach

Local Outreach Activity	Date	Number of People Involved
Supported combined Planning Partner Outreach – see Volume 1	Throughout the planning process	300+

INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **District Website**. The District website was used to populate sections of the annex.
- **District Budget**. The District's 2025-2026 budget was reviewed to identify mitigation strategies for the annex.

The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**. The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.

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MEMORANDUM OF UNDERSTANDING BETWEEN THE CITIES OF PALOS VERDES ESTATES, RANCHO PALOS VERDES, ROLLING HILLS, AND ROLLING HILLS ESTATES RELATING TO COST SHARING FOR THE DEVELOPMENT OF A MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN UPDATE

THIS MEMORANDUM OF UNDERSTANDING ("MOU") is entered into as of February 10, 2025, between the CITY OF PALOS VERDES ESTATES, a general law city and California municipal corporation ("Palos Verdes Estates"), the CITY OF RANCHO PALOS VERDES, a general law city and California municipal corporation ("Rancho Palos Verdes"), the CITY OF ROLLING HILLS, a general law city and California municipal corporation ("Rolling Hills"), and the CITY OF ROLLING HILLS ESTATES, a general law city and California municipal corporation ("Rolling Hills Estates" or "Lead Agency"). Each of the foregoing cities may be referred to individually as a "Member" and collectively as the "Members."

RECITALS

A. The cities of Palos Verdes Estates, Rancho Palos Verdes, Rolling Hills, and Rolling Hills Estates are all located on the Palos Verdes Peninsula.

B. The Federal Disaster Mitigation Act of 2000 ("DMA") established requirements for state and local government agencies to prepare comprehensive Disaster Mitigation Plans to be eligible for hazard mitigation grant funding. The DMA aims to control federal costs associated with disaster assistance while prioritizing hazard mitigation at the local level.

C. A Local Hazard Mitigation Plan ("LHMP" or "Plan") is a long-term strategy to reduce disaster losses and break the cycle of disaster damage, reconstruction, and repeated damage. An LHMP must be updated at least every five years. A LHMP must be reviewed and updated, formally approved by federal and state governing bodies, and then formally adopted by the local governing body (city/special district).

D. Over the last several LHMP update cycles, the cities of Rolling Hills Estates and Rancho Palos Verdes have partnered to develop and maintain a Multi-Jurisdictional Hazard Mitigation Plan.

E. All four Peninsula cities desire to collaborate for the next LHMP update in 2025.

F. The cities also desire in the next Plan update to incorporate two Geologic Hazard Abatement Districts ("GHADs"): Klondike Canyon Land Abatement District and Abalone Cove Landslide Abatement District, which are located in the City of Rancho Palos Verdes. These GHADs are special districts that could also benefit from the planning process and the Plan, which would enable them to receive grant funding from state and federal emergency management agencies such as the Governor's Office of Emergency Services (CalOES) and the Federal Emergency Management Agency (FEMA).

G. The Members have reviewed the proposal from and desire to enter into a contract ("Contract") with Black & Veach ("Consultant") to assist in the preparation of the 2025 update to the LHMP at a cost not to exceed $252,672 without the approval of the Members.

H. The Members further desire to divide the costs of the Consultant Contract as provided in this MOU.

AGREEMENT

NOW, THEREFORE, in consideration of the promises, terms, conditions and covenants contained herein, the parties agree as follows:

1. Recitals Incorporated. The recitals are incorporated by reference and made a part of this MOU, as are the attached exhibits.

2. Purposes. The purposes of this MOU are to cooperatively fund the services of the Consultant to prepare the updated 2025 LHMP and to administer the Contract.

3. Initiation and Term.

(a) Initiation of MOU. Upon the approval of the MOU by any Member, and provided that within 60 days of such approval, at least two (2) other Members including the Lead Agency have approved this MOU, this MOU will become effective.

(b) Effective Date of MOU. This MOU will become effective on the last date to occur of the following: (i) the approval of this MOU by at least three (3) members, and (ii) Lead Agency executing the Contract ("Effective Date").

(c) Term. The MOU will remain in effect from the Effective Date until termination in accordance with Section 9, and the termination of the Consultant Contract.

4. Lead Agency. The City of Rolling Hills Estates agrees:

(a) Consultant Contract. To enter into the Contract. The other Members will not be in privity of contract with the Consultant, and the Lead Agency relies on the Members to fulfill their obligations under this MOU. The Lead Agency will notify the other Members in writing at least 10 days prior to any proposed change to the Contract.

(b) Invoice. To invoice the Members in amounts not exceeding the invoice amounts shown in Exhibit A, which amounts are subject to change pursuant to Section 5(a) below.

(c) Expenditure. To utilize the funds deposited by the Members only for the administration of the Contract.

(d) Accounting. To provide an accounting of the Contract costs and to provide such accounting to the Members within 60 days following (i) the end of each fiscal year (June 30) that this MOU remains in effect, (ii) the withdrawal of any Member, (iii) the termination of the MOU, or (iv) the request of any Member.

(e) Reports. To provide to the Members periodic reports concerning the development of the draft updated LHMP, at such frequency as the Members may mutually agree.

5. Duties of All Members. The Members agree:

(a) Payment. To pay to the Lead Agency their proportional share of the Contract as shown in Exhibit A no later than 30 days from the invoice date. The cost estimates presented in Exhibit A have been agreed upon by the Members and are subject to changes in the actual cost of the Contract. The percentages to be paid by each Member under the below Cost Allocation Formula ("Formula") are as follows:

COST ALLOCATION FORMULA (FORMULA)	
Member	**Percentage**
City of Palos Verdes Estates	20%
City of Rancho Palos Verdes	60%
City of Rolling Hills	7%
City of Rolling Hills Estates	13%

(b) Documentation. To make a good faith effort to cooperate with one another to achieve the purposes of this MOU by providing all requested information and documentation in their possession and available for release to the Consultant that is deemed necessary by the Members to implement the Contract.

(c) Access. To allow reasonable access and entry to the Consultant, on an as needed basis during the term of this MOU, to each Member's public property to achieve the purposes of this MOU and the Contract.

6. Obligation for Debts and Liabilities.

(a) Except as otherwise specifically provided in this MOU, no Member will be individually responsible for any of the debts, liabilities or obligations of any other Member, nor will they have any liabilities under the Contract, but they will be responsible for paying the Lead Agency so that the Lead Agency can manage the Consultant and the preparation of the updated LHMP.

(b) This MOU does not create any legal entity under the Joint Exercise of Powers Act (Govt. Code Sec. 6500 et. seq.) or any other law, which would authorize the execution of contracts, provide the right to sue or be sued, or which would otherwise create a separate legal entity under the laws of California. Instead, this MOU establishes a mutual understanding to carry out a project beneficial to existing governmental entities to promote public health and safety.

7. Indemnification.

(a) Generally. Each Member agrees to indemnify, defend, and hold harmless

each other Member, including its elected and appointed officers, employees, agents, attorneys, and designated volunteers from and against any and all liability, including, but not limited to demands, claims, actions, fees, costs, and expenses (including reasonable attorney's and expert witness fees), arising from or connected with the respective acts of each Member arising from or related to this MOU; provided, however, that no Member is obligated to indemnify another Member for that Member's own negligence or willful misconduct.

(b) Government Code Section 895.2. In light of the provisions of California Government Code section 895.2 imposing certain tort liability jointly upon public entities solely by reason of such entities being parties to an agreement (as defined in Section 895 of the Government Code), each of the Members, pursuant to the authorization contained in Government Code sections 895.4 and 895.6, agrees to assume the full liability imposed upon it or any of its officers, agents, or employees, by law for injury caused by any act or omission occurring in the performance of this MOU to the same extent such liability would be imposed in the absence of Government Code section 895.2 . To achieve the above stated purpose, each Member agrees to indemnify, defend, and holds harmless each other Member for any liability, cost, or expense that may be imposed upon such other Member solely by virtue of Government Code section 895.2. The provisions of Section 2778 of the California Civil Code are made a part of this MOU as if incorporated herein.

(c) Privileges and Immunities. All of the privileges and immunities from liability, exemptions from laws, ordinances, and rules, all pension, relief, disability, worker's compensation, and other benefits which apply to the activity of officers, agents, or employees of any Member when performing their respective functions within the territorial limits of the Member, will apply to them to the same degree and extent while engaged in the performance on any of their functions and duties extraterritorially under this MOU.

8. Disputes. Each Member will have a reasonable opportunity to assert matters which it believes have not been undertaken in accordance with the MOU, to explain the basis for such assertion, and to receive from the other Member a justification of its position on such matters. If, on the basis of the Members' review of any terms of the MOU, any Member concludes that another Member has not complied in good faith with the terms of the MOU, then such Member may issue a written "Notice of Non-Compliance" specifying the grounds therefore and all facts demonstrating such non-compliance, which Notice will be served on the alleged noncompliant Member along with all other Members. The alleged noncompliant Member will have 30 days to cure or remedy the non-compliance identified in the Notice of Non-Compliance, or if such cure or remedy is not reasonably capable of being cured or remedied within such 30-day period, to commence to cure or remedy the non-compliance and to diligently and in good faith prosecute such cure or remedy to completion. If the Member receiving the Notice of Non-Compliance does not believe it is out of compliance and contests the Notice, it may do so by responding in writing to the Notice within 30 days after receipt of the Notice. The Notice of Non-Compliance, and any response thereto, must be sent to all Members. If the response to the Notice of Non-Compliance has not been received in the offices of the Member alleging the non-compliance within the prescribed time period, the Notice of Non-Compliance will be conclusively presumed to be valid. If a Notice of Non-Compliance is contested, the Members will, for a period of not less than 30 days following receipt of the response, seek to arrive at a mutually acceptable resolution of the matter(s) occasioning the Notice. The Lead Agency will notify in writing all Members within 15

days of any Member failing to cure an alleged non-compliance with the terms or conditions of this MOU. The compliant Members will determine the next course of action, which may include the termination of a Member's participation in the MOU.

9. Termination and Withdrawal.

(a) Termination of MOU. This MOU may be terminated upon the express written agreement of all Members. If this MOU is terminated all existing costs must be paid with all Members paying their proportionate share in accordance with the Formula. Thereafter, all Members must agree on the equitable redistribution of remaining funds deposited, if there are any. Completed Contract work will be owned by the Member or Members who fund the completion of such work.

(b) Withdrawal. If a Member wishes to withdraw from this MOU for any reason, that Member must give the other Members prior written notice thereof. The remaining Members have the option of completing the LHMP (without inclusion of planning for the area of the withdrawing Member) and assuming the cost thereof, and making a proportionate adjustment to the Formula per Section 5. The effective date of withdrawal will be 60-days after the Lead Agency receives written notice of a Member's intent to withdraw, and the Lead Agency will provide the remaining Members with written notice of the effective date of such Member's withdrawal. The withdrawing Member will be responsible for its proportionate share of costs of the Consultant Contract incurred through the effective date of withdrawal. Should any Member withdraw from this MOU, the remaining Members' cost share allocation, if any, will be adjusted in accordance with the cost allocation formula in Exhibit A.

10. General Provisions.

(a) Cooperation. The Members agree to fully cooperate with one another to attain the purposes of this MOU.

(b) Voluntary. This MOU is voluntarily entered into to attain the purposes of this MOU.

(c) Notices. Any notices, bills, invoices, or reports relating to this MOU, and any request, demand, statement, or other communication required or permitted hereunder must be in writing and must be delivered to the representatives of the Members at the addresses set forth in Exhibit B attached hereto. The Members must promptly notify each other of any change of contact information, including personnel changes, provided in Exhibit B. Written notice may include notice delivered via e-mail. A notice will be deemed to have been received on (i) the date of delivery, if delivered by hand during regular business hours, or by e-mail; or (ii) on the third (3rd) business day following mailing by registered or certified mail (return receipt requested) to the addresses set forth in Exhibit B. "Regular business hours" in the case of Palos Verdes Estates does not include Fridays when City Hall is closed.

(d) Administration. For the purposes of this MOU, the Members hereby designate as their respective Member representatives the persons named in Exhibit B. The designated Member representatives, or their respective designees, will administer the terms and conditions of this MOU on behalf of their respective Member.

(e) Relationship of the Members. The Members are, and will at all times remain as to each other, wholly independent entities. No Member to this MOU will have power to incur any debt, obligation, or liability on behalf of any other Member unless expressly provided to the contrary by this MOU. No employee, agent, or officer of a Member will be deemed for any purpose whatsoever to be an agent, employee, or officer of another Member.

(f) Binding Effect. This MOU is binding upon, and will inure to the benefit of the respective successors, heirs, and assigns of each Member; provided, however, no Member may assign its respective rights or obligations under this MOU without prior written consent of the other Members.

(g) Amendment. The terms and provisions of this MOU may not be amended, modified, or waived, except by an instrument in writing signed by all non-delinquent Members. For purposes of this subsection, a Member will be considered delinquent if that Member fails to timely pay an invoice as required by Section 5(a), withdraws pursuant to Section 9(b), or fails to substantially comply with the terms and/or conditions of this MOU pursuant to Section 8.

(h) Law to Govern. This MOU is governed by, interpreted under, and construed and enforced in accordance with the laws of the State of California.

(i) Severability. If any provision of this MOU is determined by any court to be invalid, illegal, or unenforceable to any extent, then the remainder of this MOU will not be affected, and this MOU will be construed as if the invalid, illegal, or unenforceable provision had never been contained in this MOU.

(j) Entire Agreement. This MOU constitutes the entire agreement of the Members with respect to the subject matter hereof.

(k) Waiver. Waiver by any Member to this MOU of any term, condition, or covenant of this MOU will not constitute a waiver of any other term, condition, or covenant. Waiver by any Members to any breach of the provisions of this MOU will not constitute a waiver of any other provision, nor a waiver of any subsequent breach or violation of any provision of this MOU.

(1) No Presumption in Drafting. All Members have been represented by legal counsel in the preparation and negotiation of this MOU. Accordingly, this MOU will be construed according to its fair language. Any ambiguities will be resolved in a collaborative manner by the Members and must be rectified by amending this MOU as described in Section l0(g).

(l) Counterparts. This MOU may be executed in counterparts, which together will constitute the same and entire MOU.

(m) Corporate Authority. The person(s) executing this MOU on behalf of each of the Members represent and warrant that (i) such party, if not an individual, is duly organized and existing, (ii) they are duly authorized to execute and deliver this MOU on behalf of such Member, (iii) by so executing so Member is formally bound to the provisions of this MOU, and (iv) the entering into this MOU does not violate any provision of any other agreement to which such party is bound.

IN WITNESS WHEREOF, each of the Members have caused this MOU to be executed and attested by its duly authorized officers as of the dates set forth below.

PALOS VERDES ESTATES

_____

Dated: _____

By: Victoria Lozzi, Mayor

APPROVED AS TO FORM

_____

Dated: _____

By: Trevor Rusin, City Attorney

Dated: _____

ATTEST:

_____

Tameka Cook, City Clerk

RANCHO PALOS VERDES

_____

Dated: _____ By: , Mayor

APPROVED AS TO FORM

_____

Dated: _____ By: , City Attorney

ROLLING HILLS

Dated: 2/10/25

By: Jeff Pieper, Mayor

ATTEST:

By: Christian Horvath, City Clerk

APPROVED AS TO FORM

Dated: 2/12/25

By: Patrick Donegan, City Attorney

ROLLING HILLS ESTATES

_____

Dated: _____ By: Debby Stegura, Mayor

APPROVED AS TO FORM

_____

Dated: _____ By: Donald M. Davis, City Attorney

EXHIBIT A

BLACK AND VEATCH COST PROPOSAL: $250,672

COST ALLOCATION FORMULA FOR PROJECT PROPOSAL AMOUNT (25% GRANT SHARE): $62,668		
Member	**Percentage**	**Cost Share**
City of Palos Verdes Estates	20%	$12,553
City of Rancho Palos Verdes	60%	$37,600
City of Rolling Hills	7%	$4,386
City of Rolling Hills Estates	13%	$8,146

EXHIBIT B

CITY ADDRESSES

Kerry Kallman, City Manager
City of Palos Verdes Estates
340 Palos Verdes Drive West
(310) 378-0383
Fax: (310) 378-7820

Karina Banales, City Manager
City of Rolling Hills
2 Portuguese Bend Road
Rolling Hills, CA 90274
(310) 377-1521

Greg Grammer, City Manager
City of Rolling Hills Estates
4045 Palos Verdes Drive North
Rolling Hills Estates, CA 90274
(310) 377-1577
Fax: (310) 377-4468

Ara Mihranian, City Manager
City of Rancho Palos Verdes
30940 Hawthorne Boulevard
Rancho Palos Verdes, CA 90275
(310) 544-5203
Fax: (310) 544-5293

BLACK & VEATCH

Palos Verdes Peninsula Multi-Jurisdictional Hazard Mitigation Plan



March 9, 2026

Rolling Hills City Council Meeting

MJHMP Planning Partnership

4 Cities:

- City of Palos Verdes Estates
- City of Rancho Palos Verdes
- City of Rolling Hills
- City of Rolling Hills Estates

2 Districts:

- Abalone Cove Landslide Abatement District
- Klondike Canyon Geologic Hazard Abatement District





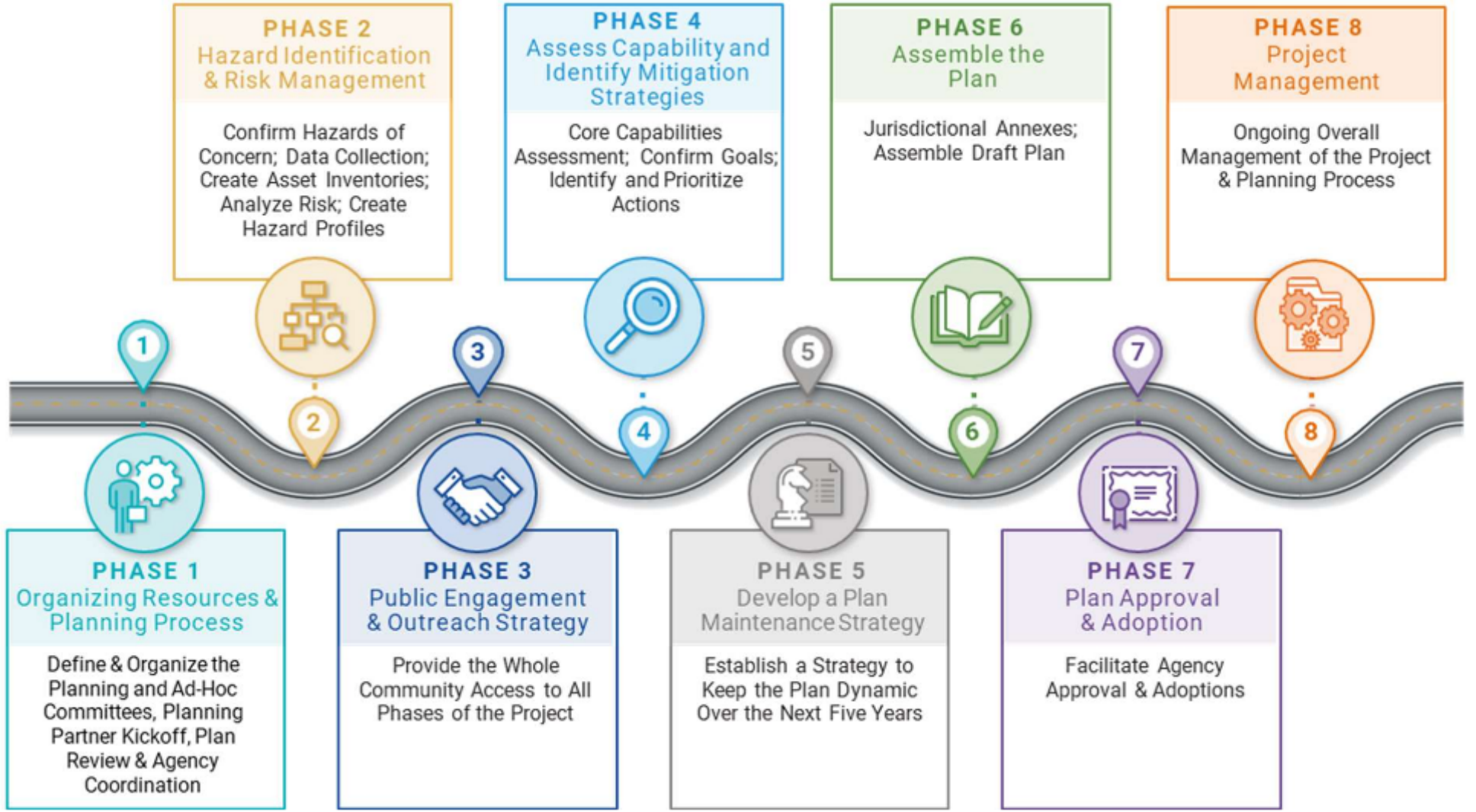






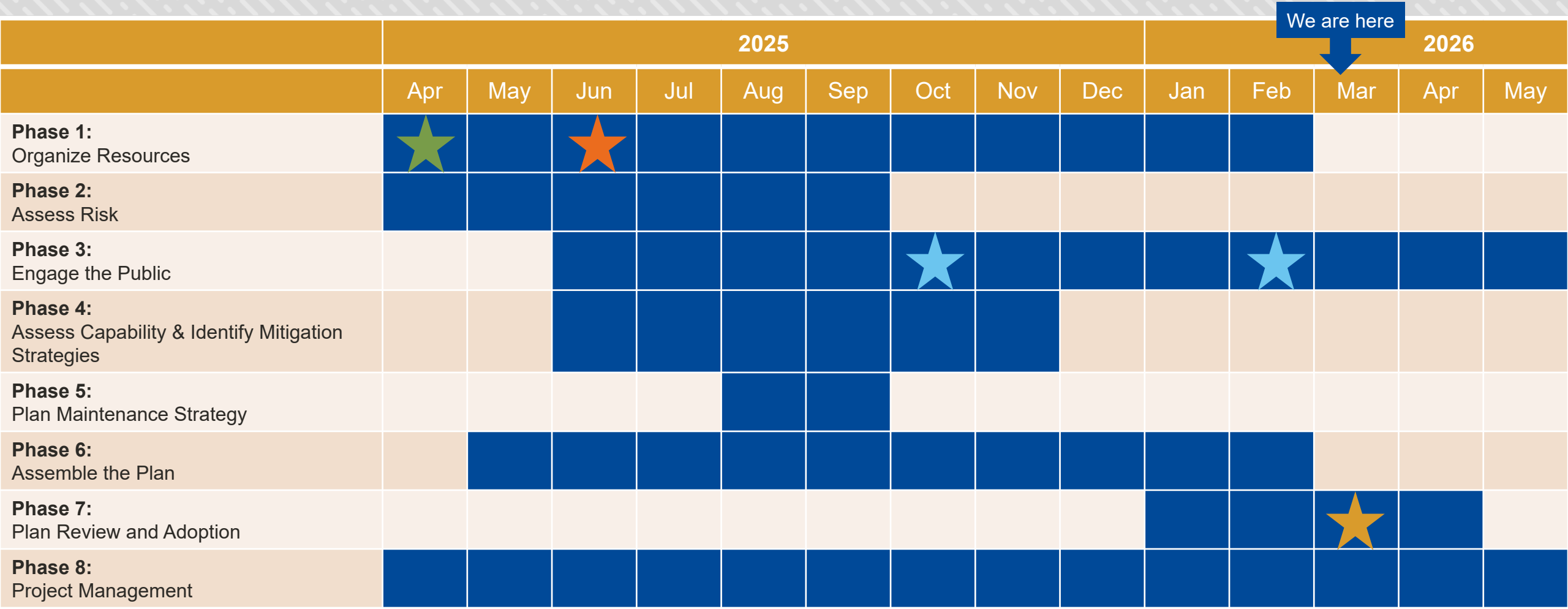


MJHMP Planning Process Overview



BLACK & VEATCH

Project Schedule & Milestones



April 2025—Project Kick-Off

June 2025—First Planning Committee Meeting

October 2025 & February 2026—Public Events

March 2026—Pre-approval Plan Adoption

BLACK & VEATCH

Mitigation Goals for the Palos Verdes Peninsula

1. **Reduce risk** to life, property, community lifelines, the environment, and infrastructure from natural hazards and climate change.
2. **Expand and improve on public awareness** of hazards, risk, and mitigation strategies.
3. **Strengthen partnerships and communication** among government agencies, private sector businesses, community-based, and non-profit organizations.
4. **Integrate mitigation principles** into regulations, policies, programs, and guidance to support equitable outcomes to benefit the whole community.
5. **Conserve, enhance, rehabilitate, and protect** natural and cultural resources from hazards to provide a more resilient and sustainable community.

Community & Stakeholder Outreach

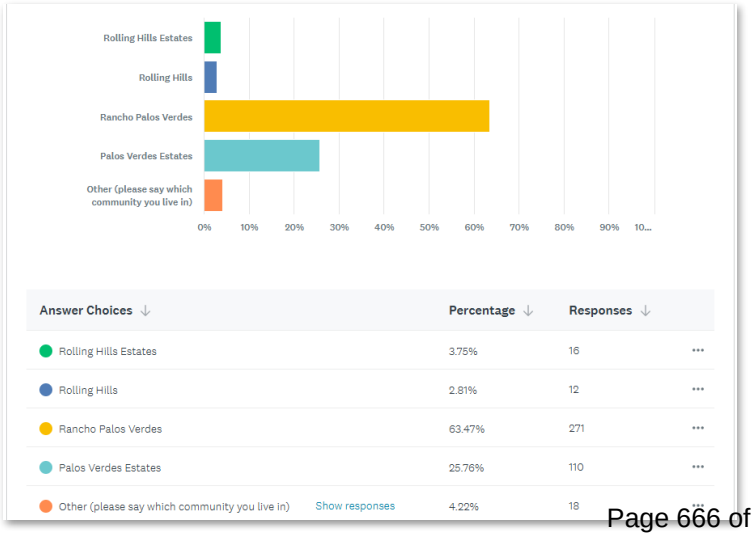
18-member Planning Committee

- Planning Partners
- School District
- CERT NART
- Local Utility Providers
- PVP Land Conservancy
- RH Comm. Assoc.



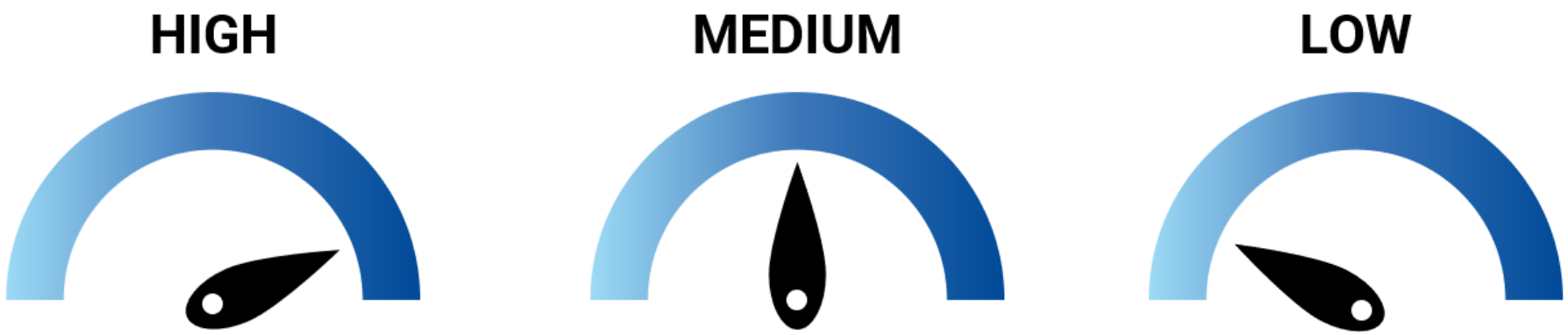
- Publicly-facing meetings advertised on PVPReady.com
- 2 in-person meetings
- 3 virtual meetings

431 Public Survey Responses



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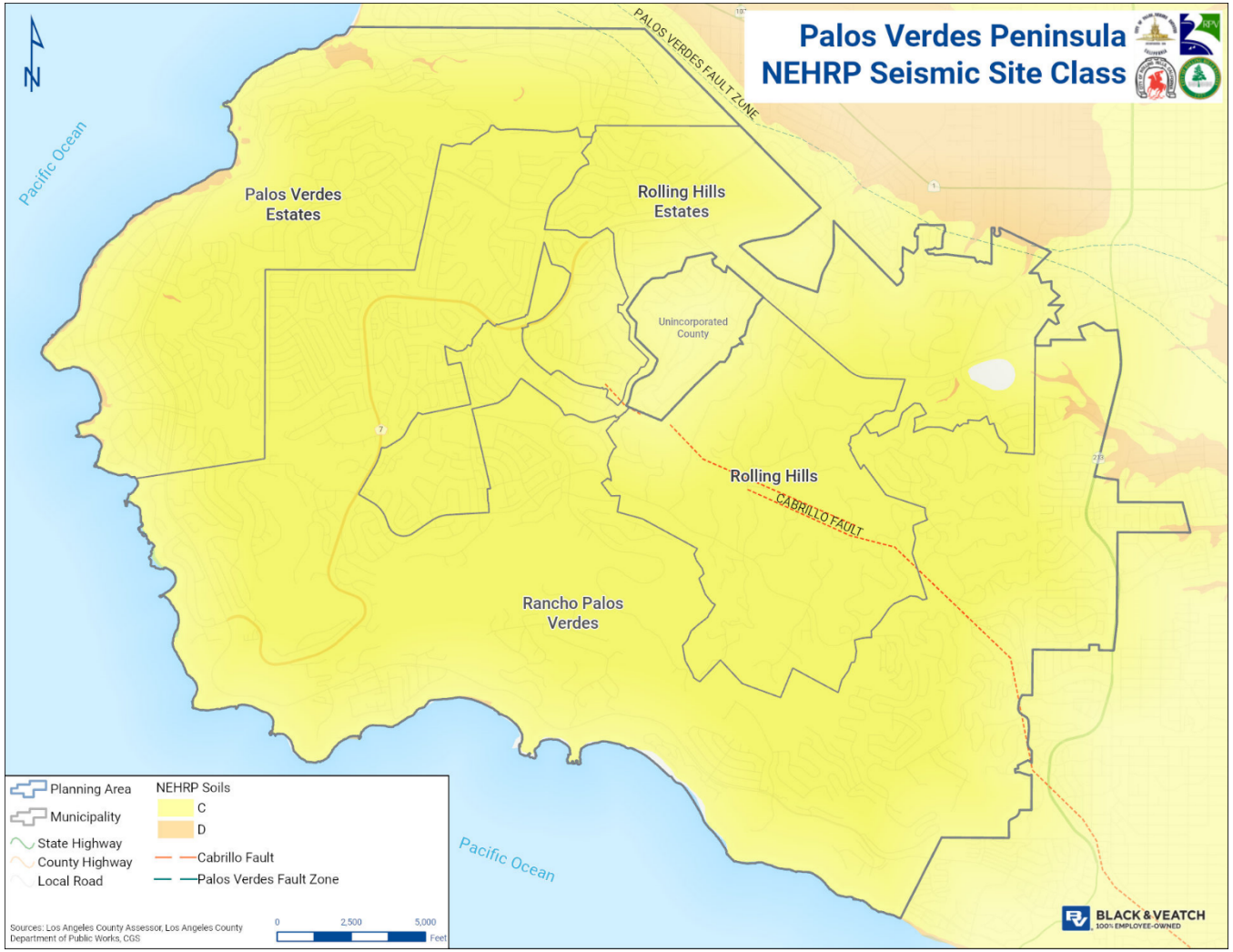
Natural Hazard Risk Ranking



You can’t reduce risk unless you know what the risk is!

BLACK & VEATCH

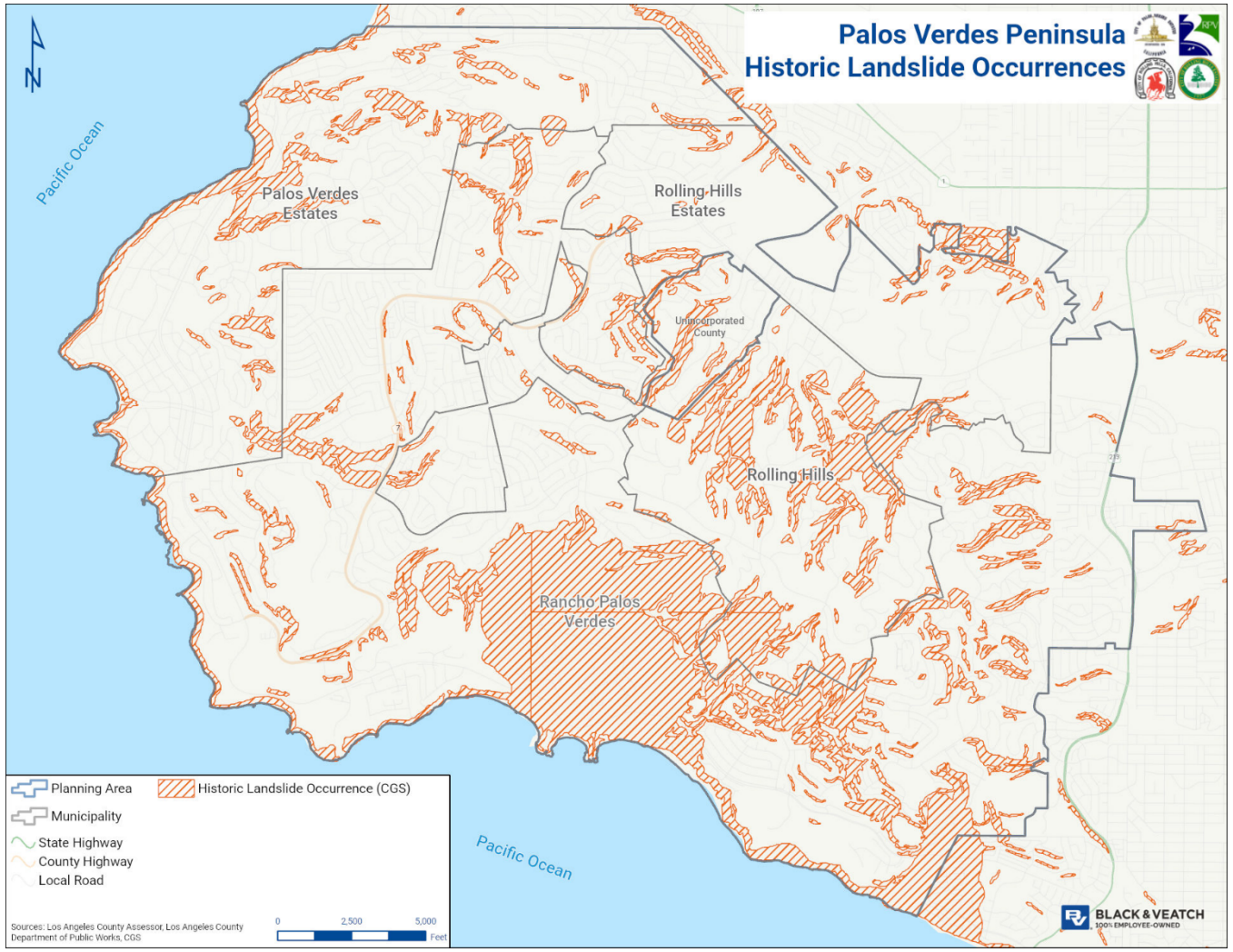
Earthquake



Sample Earthquake Mitigation Strategy:

RH: Critical Facilities Backup Power and Continuity of Operations Enhancement - Install, upgrade, safeguard and maintain reliable backup power systems at critical facilities, including the City's Emergency Operations Center (EOC), to ensure continuity of operations and communications during power outages caused by hazardous events.

Landslide

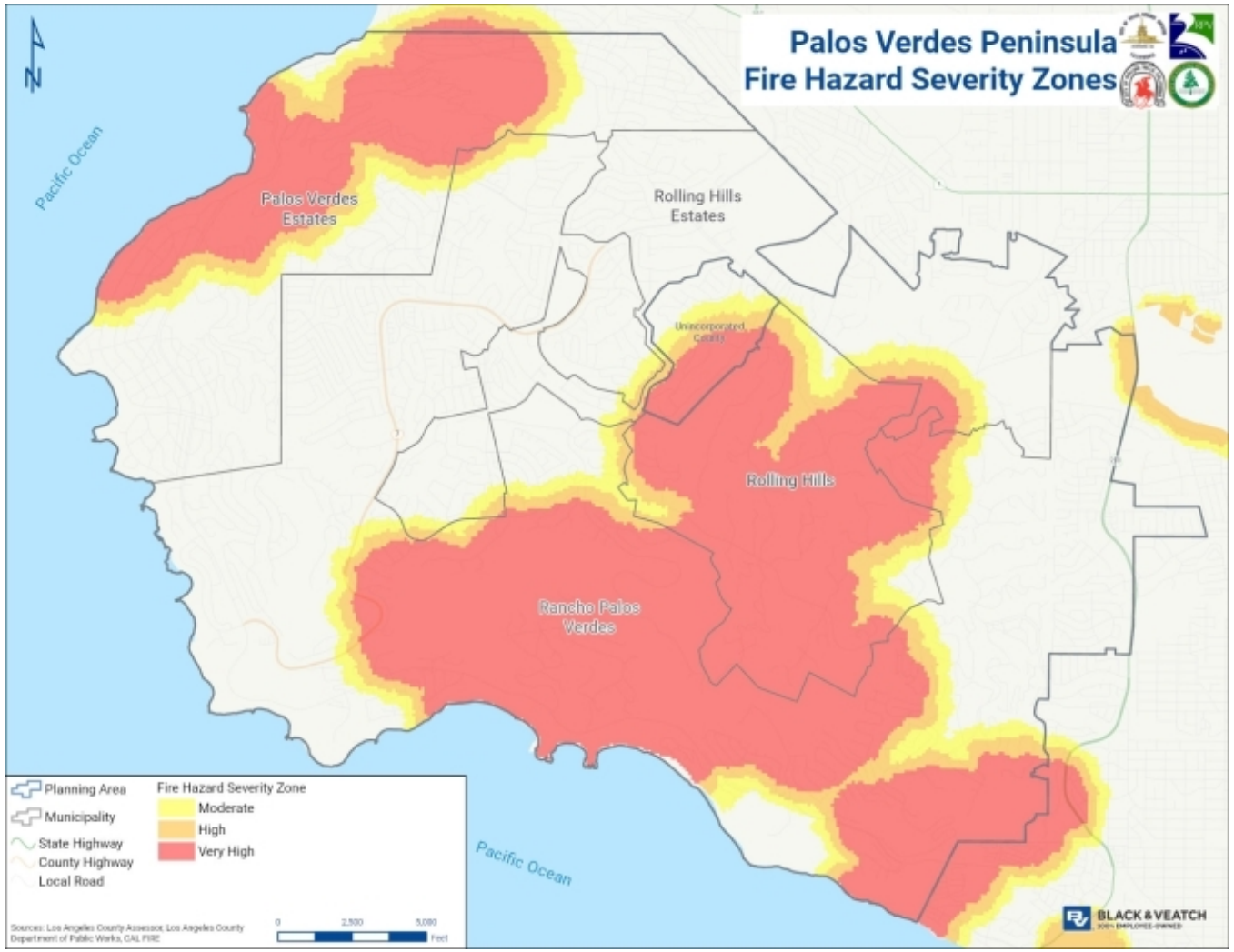


Sample Landslide Mitigation Strategy:

RH: Land Use Review and Development Oversight in Hazard Areas - Review existing land use regulations and development standards to assess their adequacy in limiting future development within identified hazard areas. Maintain and periodically evaluate enhanced plan-check requirements to reduce hazard exposure and ensure new development incorporates appropriate mitigation measures. Following emergency events, evaluate observed damage and the performance of existing standards to inform potential updates or refinements that further reduce vulnerability to future hazards.

BLACK & VEATCH

Wildfire

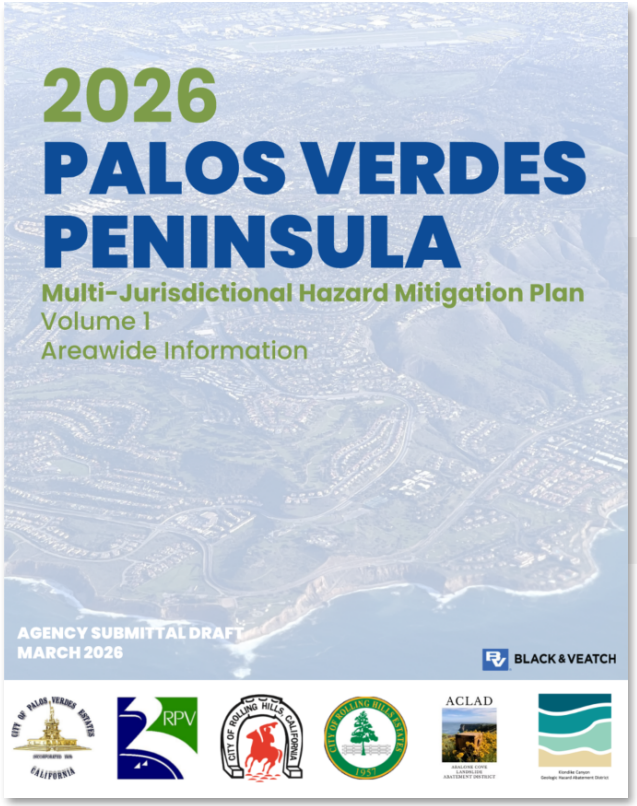


Sample Wildfire Mitigation Strategy:

RH: Adoption and Enforcement of Updated Building and Fire Codes - Adopt, implement, and enforce updates to the Los Angeles County Building Code and Fire Code to ensure that new development, redevelopment, and building modifications incorporate current hazard-resistant standards that reduce vulnerability to locally identified hazards.

MJHMP Integration with the General Plan Safety Element

AB 2140 Compliance



Adopt the FEMA-approved Local Hazard Mitigation Plan into the General Plan Safety Element



Next Steps

City Council **adopts** the MJHMP

The MJHMP is reviewed by Cal OES and **approved** by FEMA

City Council will be apprised of any revisions made to the MJHMP in response to comments received during the agency approval process

Mitigation grant **funding eligibility** is achieved

Adopt the final FEMA-approved MJHMP into the General Plan Safety Element by reference to achieve **AB 2140 compliance**

BLACK & VEATCH

Thank you!

Contact:

Rob Flaner
FlanerRB@bv.com
(913) 458-7346 (MST)

Megan Brotherton
BrothertonMR@bv.com
(913) 458-6894 (HST)

City of Rolling Hills INCORPORATED JANUARY 24, 1957

2 PORTUGUESE BEND ROAD, ROLLING HILLS, CA 90274 | (310) 377-1521

Item: 14.A.
Meeting Date: 3/9/2026

To: City Council

From: Christian Horvath, Assistant to the City Manager / City Clerk

Thru: Karina Bañales, City Manager

Subject: Receive a verbal report regarding Bennett Landscape's invitation to participate in their 2026 Arbor Day tree planting and provide direction to staff

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Background:
The City has participated in previous Arbor Day events with Bennett Landscape, planting three trees in alignment with the City Hall campus landscape design plan. This year, staff is seeking City Council guidance on whether to participate in the event. Given the limited planting locations around City Hall, staff looks forward to working collaboratively with the Council to identify suitable areas. Alternatively, the Council may direct staff to forgo participation this year and reconsider in a future year.

Discussion:
None.

Fiscal Impact:
None.

Recommendation:
Receive and file. Provide direction to staff.

Attachments:
None

City of Rolling Hills INCORPORATED JANUARY 24, 1957

2 PORTUGUESE BEND ROAD, ROLLING HILLS, CA 90274 | (310) 377-1521

Item: 15.A.
Meeting Date: 3/9/2026

To: City Council

From: Nicolas Papajohn, City Attorney

Thru: Karina Bañales, City Manager

Subject: Conference with Legal Counsel—Initiation of Litigation Government Code Section 54956.9(d)(4) The City finds, based on advice from legal counsel, that discussion in open session will prejudice the position of the City in the litigation. (1 case)

Background:
None.

Discussion:
None.

Fiscal Impact:
None.

Recommendation:
None.

Attachments:
None