Volume III:
Jurisdictional Addenda

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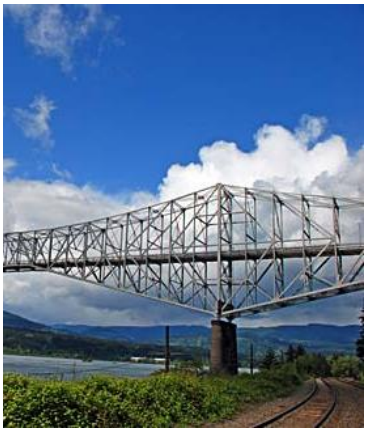
City of Cascade Locks Addendum

to the Hood River County Multi-Jurisdictional NHMP



Photos courtesy of Gary Halvorson, Oregon State Archives

Effective: July 8, 2025 through July 7, 2030

Prepared for
City of Cascade Locks
140 Wa Na Pa Street
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Prepared by
The University of Oregon
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UNIVERSITY OF OREGON | Institute for Policy Research and Engagement

U.S. Department of Homeland Security
Federal Emergency Management Agency
Region 10

130 228th St SW
Bothell, WA 98021

July 14, 2025

Mr. Stephen Richardson
State Hazard Mitigation Officer
Oregon Department of Emergency Management
3930 Fairview Industrial Dr SE
Salem, Oregon 97302

Reference: Approval of the Hood River County Multi-Jurisdictional Hazard Mitigation Plan

In accordance with applicable[1] laws, regulations and policy, the Risk Analysis Branch of FEMA Region 10 Mitigation Division has approved the local mitigation plan for the following jurisdictions:

Hood River County	City of Cascade Locks	City of Hood River
Port of Cascade Locks	Port of Hood River	Hood River County Library District
Hood River County School District	West Side Rural Fire Protection District	

Mitigation plans may include additional content to meet Element H: Additional State Requirements or content the local government included beyond applicable FEMA mitigation planning requirements. FEMA approval does not include the review or approval of content that exceeds these applicable FEMA mitigation planning requirements.

The approval period for this plan is from July 8, 2025 through July 7, 2030.

The jurisdictions' plan approval ensures the eligibility for project grants under FEMA's Hazard Mitigation Assistance programs. All requests for funding are evaluated individually according to eligibility and other program requirements. Having an approved mitigation plan does not mean that mitigation grant funding will be awarded. Specific application and eligibility requirements can be found in each FEMA grant program's respective policies and annual Notice of Funding Opportunities, as applicable.

[1] Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and National Dam Safety Program Act, as amended; 44 CFR Part 201, Mitigation Planning; and Local Mitigation Planning Policy Guide (FP-206-21-0002).

FEMA's approval is for a period of five years, effective the date FEMA received the adoption documentation. For this plan, documentation was received on July 8, 2025 and is considered approved as of then. Prior to July 7, 2030, each jurisdiction must review, revise, and submit their plan to FEMA for approval to maintain eligibility for grant funding. The enclosed plan review tool provides opportunities to incorporate into future updates.

Sincerely,

Wendy Shaw, P.E.
Risk Analysis Branch Chief
Mitigation Division

JF:JG

Attachment**:** Local Mitigation Plan Review Tool

RESOLUTION NO. 1518

A RESOLUTION ADOPTING THE CITY OF CASCADE LOCKS REPRESENTATION IN THE UPDATES TO THE HOOD RIVER COUNTY MULTI-JURISDICTIONAL NATURAL HAZARDS MITIGATION PLAN.

Whereas, the City of Cascade Locks recognizes the threat that natural hazards pose to people, property and infrastructure within our community; and

Whereas, undertaking hazard mitigation actions will reduce the potential for harm to people, property and infrastructure from future hazard occurrences; and

Whereas, an adopted Natural Hazards Mitigation Plan is required as a condition of future funding for mitigation projects under multiple FEMA pre- and post-disaster mitigation grant programs; and

Whereas, the City of Cascade Locks has fully participated in the FEMA prescribed mitigation planning process to prepare the *Hood River County, Multi-Jurisdictional Natural Hazards Mitigation Plan*, which has established a comprehensive, coordinated planning process to eliminate or minimize these vulnerabilities; and

Whereas, the City of Cascade Locks has identified natural hazard risks and prioritized a number of proposed actions and programs needed to mitigate the vulnerabilities of the City of Cascade Locks to the impacts of future disasters within the *Hood River County, Multi-Jurisdictional Natural Hazards Mitigation Plan*; and

Whereas, these proposed projects and programs have been incorporated into the *Hood River County, Multi-Jurisdictional Natural Hazards Mitigation Plan* that has been prepared and promulgated for consideration and implementation by the participating cities and special districts of Hood River County; and

Whereas, the Oregon Department of Emergency Management and Federal Emergency Management Agency, Region X officials have reviewed the *Hood River County, Multi-Jurisdictional Natural Hazards Mitigation Plan* and pre-approved it contingent upon this official adoption of the participating governments and entities;

Whereas, the NHMP is in an on-going cycle of development and revision to improve its effectiveness; and

Whereas, City of Cascade Locks adopts the NHMP and directs the City Administrator to develop, approve, and implement the mitigation strategies and any administrative changes to the NHMP.

THE COMMON COUNCIL FOR THE CITY OF CASCADE LOCKS, HOOD RIVER COUNTY, OREGON, RESOLVES AS FOLLOWS:

That the City of Cascade Locks adopts the *Hood River County Multi-Jurisdictional Natural Hazards Mitigation Plan* as an official plan; and

Be it further resolved, that the City of Cascade Locks will submit this Adoption Resolution to the Oregon Department of Emergency Management and Federal Emergency Management Agency, Region X officials to enable final approval of the *Hood River County Multi-Jurisdictional Natural Hazards Mitigation Plan.*

SECTION 1. Effective Date. This resolution shall become effective upon adoption by the City Council and approval by the Mayor.

ADOPTED by the City Council this 14th day of April, 2025.

APPROVED by the Mayor this 14th day of April, 2025.

Mayor

ATTEST:

City Recorder

Table of Contents

List of Tables

List of Figures

List of Maps

Introduction

Purpose

This is an update of the City of Cascade Locks addendum to the Hood River County Multi-Jurisdictional Natural Hazard Mitigation Plan (NHMP). This addendum supplements information contained in Volume I (Basic Plan) which serves as the NHMP foundation and Volume II (Appendices), which provide additional information. This addendum meets the following requirements:

- Multi-Jurisdictional **Plan Adoption** §201.6(c)(5),
- Multi-Jurisdictional **Participation** §201.6(a)(3),
- Multi-Jurisdictional **Mitigation Strategy** §201.6(c)(3)(iv) and
- Multi-Jurisdictional **Risk Assessment** §201.6(c)(2)(iii).

Updates to Cascade Locks' addendum are further discussed in Attachment B and within Volume II, Appendix C, which provides an overview of alterations to the document that took place during the update process.

The City of Cascade Locks adopted their addendum to the Hood River County NHMP on April 14, 2025. FEMA Region X approved the Hood River County NHMP and the City's addendum on July 8, 2025. With approval of this NHMP, the City is now eligible for non-disaster and disaster mitigation project grants through July 7, 2030.

NHMP Process, Participation and Adoption

This section of the NHMP addendum addresses 44 CFR 201.6(c)(5), *Plan Adoption* and 44 CFR 201.6(a)(3), *Participation.*

In addition to establishing a comprehensive city level mitigation strategy, the Disaster Mitigation Act of 2000 (DMA2K), and the regulations contained in Title 44 CFR Part 201, require that jurisdictions maintain an approved NHMP to receive federal funds for mitigation projects. Local adoption and federal approval of this NHMP ensures that the city will remain eligible for non-disaster and disaster mitigation project grants. The City of Cascade Locks was included with an addendum in the 2012 and 2018 Hood River County NHMP process.

The Oregon Partnership for Disaster Resilience (OPDR) at the University of Oregon's Institute for Policy Research and Engagement (IPRE) collaborated with Hood River County Emergency Management and the City of Cascade Locks to update their NHMP. This project is funded through the Federal Emergency Management Agency's (FEMA) Hazard Mitigation Grant Program. Members of the Cascade Locks NHMP Steering Committee also participated in the County NHMP update process (Volume II, Appendix C).

By updating the NHMP, locally adopting it, and having it re-approved by FEMA, Cascade Locks will maintain eligibility for FEMA Hazard Mitigation Assistance grant program funds.

The Hood River County NHMP and City of Cascade Locks addendum are the result of a collaborative effort between residents, public agencies, non-profit organizations, the private sector, and regional organizations. A project steering committee guided the NHMP development process.

Convener and Committee

The Cascade Locks Fire Department Chief served as the designated convener of the NHMP update and will take the lead in implementing, maintaining, and updating the addendum to the Hood River County NHMP in collaboration with the designated convener of the Hood River County NHMP (Emergency Manager).

Representatives from the City of Cascade Locks Steering Committee met formally and informally, to discuss updates to their addendum (see Attachment B and Volume II, Appendix C). The Steering Committee reviewed and revised the City's addendum, with a focus on the NHMP's risk assessment and mitigation strategy (action items).

This addendum reflects decisions made at the designated meetings and during subsequent work and communication with Hood River County Emergency Management and OPDR. The changes are highlighted with more detail throughout this document and within Volume II, Appendix C. Other documented changes include a revision of the City's risk assessment and hazard identification sections, NHMP mission and goals, action items, and community profile.

The City of Cascade Locks Steering Committee was comprised of the following representatives:

- Convener: John Logan, Fire Chief
- Jordon Bennet, City Administrator

The Steering Committee served as the local review body for the NHMP's development.

NHMP Implementation and Maintenance

The City Council will be responsible for adopting the Cascade Locks addendum to the Hood River County NHMP. This addendum designates a steering committee and a convener to oversee the development and implementation of action items. Because the City addendum is part of the County's NHMP, the City will look for opportunities to partner with the County. The City's Steering Committee will convene after re-adoption of the Cascade Locks NHMP addendum on an annual schedule. The County is meeting on a semi-annual basis and will provide opportunities for jurisdictions to report on NHMP implementation and maintenance during their meetings. The Steering Committee, assembled by the convener, will be responsible for:

- Reviewing existing action items to determine suitability of funding;
- Reviewing existing and new risk assessment data to identify issues that may not have been identified at NHMP creation;
- Educating and training new steering committee members on the NHMP and mitigation actions in general;

- Assisting in the development of funding proposals for priority action items;
- Discussing methods for continued public involvement;
- Evaluating effectiveness of the NHMP at achieving its purpose and goals (use Table 4-1, Volume I, Section 4, as one tool to help measure effectiveness); and
- Documenting successes and lessons learned during the year.

The convener will also remain active in the County's implementation and maintenance process (Volume I, Section 4).

The Steering Committee will be responsible for activities outlined in Volume I, Section 4.

The City will utilize the same action item prioritization process as the County (Volume I, Section 4 and Volume II, Appendix E).

Implementation through Existing Programs

Many of the NHMP's recommendations are consistent with the goals and objectives of the City's existing plans and policies. Where possible, Cascade Locks will implement the NHMP's recommended actions through existing plans and policies. Plans and policies already in existence have support from residents, businesses, and policy makers. Many land-use, comprehensive, and strategic plans get updated regularly, allowing them to adapt to changing conditions and needs. Implementing the NHMP's action items through such plans and policies increases their likelihood of being supported and implemented.

The City of Cascade Locks's acknowledged comprehensive plan is the City of Cascade Locks Comprehensive Plan (1982, updated 2001). The Oregon Land Conservation and Development Commission first acknowledged the plan in 1983. The City implements the plan through the Community Development Code.

Cascade Locks currently has the following plans that relate to natural hazard mitigation. For a complete list visit the City's website:

- Community Wildfire Protection Plan (expected 2025) – see Volume IV of this NHMP
- Downtown Revitalization Plan (expected 2025)
- Strategic Plan (2023)
- Wastewater Facilities Plan (2017)
- Water System Master Plan (2014)
- Emergency Operations Plan (2013)
- Economic Opportunities Analysis (2009)
- Transportation System Plan (2001)
- Port of Cascade Locks Strategic Plan (2024)
    - This plan is not developed by the City but affects operations, development, and hazard mitigation in the business and marina park adjacent to City property.

Capability Assessment

City of Cascade Locks, Oregon

The Capability Assessment identifies and describes the ability of the City of Cascade Locks to implement the mitigation strategy and associated action items. This is a key component of the 2025 Natural Hazard Mitigation Plan (NHMP) update. Capabilities can be evaluated through an examination of broad categories, including existing authorities, policies, programs, funding, and resources. Information from the 2018 NHMP was not integrated into other planning mechanisms, in part due to the impact of the COVID-19 pandemic. The city intends to integrate information from the 2025 NHMP before the next NHMP update.

Existing Authorities

Hazard mitigation can be executed at a local scale through three (3) methods: integrating hazard mitigation actions into other local planning documents (i.e., plan integration), adopting building codes that account for best practices in structural hardening, and codifying land use regulations and zoning designations that prescribe mitigation into development requirements. The extent to which a municipality or multi-jurisdictional effort leverages these approaches is an indicator of that community's capabilities.

Comprehensive Plan

Oregon's Statewide Planning Goal 7 requires comprehensive planning within every jurisdiction that is designed to reduce risks to people and property from natural hazards.

Cascade Locks' Comprehensive Plan provides the policy and regulatory foundation for all land use management in the city. It integrates policies and recommendations to meet the Oregon Statewide Planning Goals, including Statewide Planning Goal 7, Natural Hazards.

Chapter 1, Natural Resources and Hazards, implements Statewide Planning Goal 7. This section has not been amended since plan adoption in 2001, though the economic development portion of the plan was more recently updated in 2009. It does include polices related to geologic or hydrologic hazards, and conservation area policies for streams, rivers, and wetlands. Soils and engineering geologic studies are required for developments with steep slopes, which are identified based on state studies.

Planned updates to the jurisdiction's Goal 7 element or its broader comprehensive plan may reflect the data and findings within this NHMP and integrate analyses of future climate and natural hazard impacts into the community's long-range plans.

Land Use Regulations

Existing land use policies that define zoning and address hazardous conditions provide another source of mitigation capability.

Land Use Codes

Cascade Locks' Planning Commission regulates land use, development, and zoning – as well as administering state, regional, and local land use and zoning regulations – throughout the city of Cascade Locks. The five-member commission reviews residential, commercial, and industrial development land use permits and develops long-range planning and economic development strategies, including the Strategic Plan discussed in the "Policies and Programs" section.

Chapter 8-6.120 – Flood Plain Overlay Zone (FP)
The City regulates development in the floodplain through the establishment and administration of the Flood Plain Overlay Zone (FP) as described in Chapter 8-6.120 of Article IV – Development Standards. This oversight includes requirements to apply for Flood Plain permits for all development within the FP and ensures that applicants elevate new construction or renovations at least two feet above the base flood elevation, anchor structures to prevent flotation, and floodproof any construction that occurs below the base flood elevation.

Lands designated as belonging to the FP are derived from the following documents:

- Areas shown in "Zone A" on the Federal Emergency Management Agency's Flood Insurance Rate Map (FIRM) maps for the Columbia River and Dry Creek north of I-84; and
- Areas shown as flood plain on the city maps for Herman Creek and the portion of Dry Creek south of I-84 (maps are available at City Hall).

This code section has not been updated since initial implementation in 2001.

Structural Building Codes
The Oregon Legislature recently adopted updated building codes for both residential (2021 adoption) and commercial structures (2022) since the last update of the NHMP. These building codes are based on the 2021 version of the International Building Code, International Fire Code, and International Existing Building Code. New wildfire defensible space code is scheduled to be completed soon, with an effective date announced in late 2024. Fire hardening requirements were adopted on October 1, 2022, and effective April 1, 2023.

Cascade Locks administers and enforces the most recent Oregon Structural and Oregon Specialty Codes (2022), and the 2022 Oregon Fire Code. As a result, both new residential and commercial structures will be required to build according to the latest seismic and wind hardening standards in addition to requiring fire resistant building materials for those structures constructed in proximity or within the WUI.

Policies and Programs

The NHMP directs the City of Cascade Locks to explore integration into other planning documents and processes. The City has made significant progress in integrating the NHMP into its portfolio of planning processes and programs over the last five years.

Cascade Locks Strategic Plan, 2024
The Strategic Plan uses public engagement to describe the mission, vision, and values of the city and identify key needs and issues. The plan also recommends actions within five categories of goals: Downtown Revitalization, Communication Network Enhancement, Code Improvements, Public Service, and Affordable Housing. The two items of significant relevance to the NHMP are

under the Public Service category, where the plan directs the City to perform seismic renovations on the current City Hall (or relocate the building entirely) and increase staffing for building and land use code development and enforcement.

Cascade Locks Emergency Operations Plan, 2013
The Emergency Operations Plan (EOP) is an all-hazards document that describes how Cascade Locks will respond to emergencies within the community. Through this plan, the City has adopted the principles of the National Incident Management System, including the Incident Command System and the National Response Framework. The EOP contains most of natural hazards identified in the NHMP, including drought, earthquake, fire, flood, severe weather (including landslides), and volcanic eruption. The two hazards added to the NHMP with the 2025 update – air quality/smoke and extreme heat – are not included as individual hazards in the EOP.

Cascade Locks Transportation System Plan, 2001
The Transportation System Plan outlines infrastructure updates to highways, roads, cycling and walking paths, and land use codes to facilitate increased access, safety, and economic development within Cascade Locks. One priority of note is Safety, where the City prioritizes reducing travel times for emergency services in the event of a major incident or natural hazard.

Hood River County Community Wildfire Fire Protection Plan, 2025
The Community Wildfire Protection Plan, drafted in 2013 and updated in 2025 (see Volume IV), has been incorporated into this NHMP as a functioning annex. This plan seeks to reduce the risk of wildfire to life, property, and natural resources in Hood River County by coordinating public agencies, community organizations, private landowners, and the public to increase their awareness of and responsibility for fire issues.

National Flood Insurance Program
Cascade Locks participates in the National Flood Insurance Program. Gregory Hagbery, the County Building Official, is responsible for administering the day-to-day activities of the city's floodplain program.

Specifically, the floodplain manager:

- maintains and administers Cascade Locks' floodplain regulations;
- reviews and issues floodplain development permits;
- maintains elevation certificates for all new and substantially improved structures (and maintains an extensive database of historic elevation certificates);
- ensures that encroachments do not occur within the regulated floodway;
- implements measures to ensure that new and substantially improved structures are protected from flood losses;
- maintains floodplain studies and maps and makes this information available to the public;
- maintains a flood information website with digital flood insurance rate map (DFIRM) data;
- conducts site visits to assess conditions and provide technical assistance to the public;
- maintains a library of historical flood related information;
- informs the public of flood insurance requirements; and

- conducts outreach and training about flood hazards and development within the floodplain.

Date of last Community Assistance Visit (CAV): N/A

Number and location of repetitive loss structures (if any): None

Personnel

The following Cascade Locks personnel have assignments related to natural hazard mitigation planning and implementation:

- Emergency Management: Charles Young, Emergency Manager (Hood River County)
- Public Information Officer: Jordon Bennett, City Administrator or John Logan, Fire Chief
- Floodplain Manager: Gregory Hagbery, County Building Official
- Grant writing (for Public Works or emergency management): Kathy Woosley, City Recorder
- Capital improvement planning: Jordon Bennett, City Administrator
- Capital improvement execution: Sheldon Price, Public Works Field Maintenance Supervisor

These personnel integrate hazards and resilience planning into their greater work programs to the best of their abilities. However, there is limited capacity to expand upon their capabilities or workloads.

City Administration
The Cascade Locks City Council has the responsibility of developing and adopting the annual city budget. Integrating hazard mitigation goals and projects into the annual budget is key to implementing the plan. The City Council tries to broadly address resilience planning needs while it determines city and departmental priorities and looks for multiple-impact projects wherever possible. They also work with staff to apply for federal and state grant funding to pursue larger projects that are outside of general fund capacity.

County Emergency Management
Cascade Locks does not have its own Emergency Management department. Instead, the City Administrator works and contracts directly with the Hood River County Sheriff's Department, under which Hood River County Emergency Management is located.

Partnering with the Port of Cascade Locks

The City of Cascade Locks works closely with the Port of Cascade Locks, which is situated within the city and was incorporated in 1935. The Port owns and operates the Bridge of the Gods, which connects Oregon and Washington over the Columbia River, as well as the Cascade Locks Marine Park and the Sternwheeler Columbia Gorge paddlewheel boat. The Port's main priorities for projects center on the Bridge of the Gods, including a strengthening project completed in 2021 with the Oregon Department of Transportation (ODOT), the Washington State Department of Transportation, and the Federal Highway Administration. The Port and ODOT are currently

pursuing funding for a seismic analysis and further retrofit of the bridge (see Earthquake #4.1 and #4.2 in Volume III, Port of Cascade Locks addendum).

Capital Projects

Cascade Locks has implemented recommendations from the last NHMP into its capital improvement projects over the last five (5) years, including an $8 million rebuild of the city's wastewater treatment plant.

Capital Resources

Cascade Locks maintains several capital resources that have important roles to play in the implementation of the NHMP, including:

- Communication towers:
  - Privately-owned towers south of city hall (AT&T and US Cellular)
  - County-owned emergency risk repeaters
- Critical facilities with power generators:
  - County-owned emergency risk repeats
  - Wastewater lift stations
- Warming/cooling/smoke shelters: None.
- Community shelters: None.
- Food pantries:
  - FISH Food Bank in the Cascade Locks City Hall Gymnasium (140 Wa Na Pa Street, Cascade Locks)
- Fueling storage: None.

Findings

Several important findings from this capability assessment informed the design of the Plan's mitigation strategy and aided in prioritizing action items.

Staffing Limitations and Capacity

City of Cascade Locks staff are assigned hazard mitigation responsibilities as a part of their larger job responsibilities. Limited capacity reduces the breadth of the programming the community can undertake in any year. The city relies upon its relationships with the County, the Port of Cascade Locks, and the City of Hood River to expand its operations.

Reliance upon outside funding streams and local match requirements

The City of Cascade Locks operates on a limited budget with a small staff. This leaves few opportunities for using local financial resources to implement hazard mitigation work. They lean heavily upon state and federal grant funds as the primary means for securing mitigation funding. Federal hazard mitigation grants such as BRIC require a 25% local funding match as well as extra staff capacity and expertise to navigate the application process and manage the funding.

Leveraging Partnerships with Public and Nonprofit Entities

Regional planning displayed in the Community Wildfire Protection Planning process demonstrates the City's ability to effectively share information and identify priority needs.

Mitigation Strategy

This section of the NHMP addendum addresses 44 CFR 201.6(c)(3(iv), *Mitigation Strategy*.

The City's mitigation strategy (action items) was first developed during the 2012 NHMP planning process and revised during the 2018 update. During this process, the Steering Committee assessed the City's risk, identified potential issues, and developed a mitigation strategy (action items).

During the 2025 update process, the City re-evaluated their mitigation strategy (action items). During this process action items were updated, noting what accomplishments had been made and whether the actions were still relevant; any new action items were identified at this time (see Attachment B for more information on changes to action items).

Action Items

Table CL-1 documents the title of each action along with potential funding sources (HMA stands for FEMA's Hazard Mitigation Assistance disaster and non-disaster grant programs), the coordinating organization and any partner organizations, the timeline, and the anticipated cost.

For the timeline, O=Ongoing (continuous), S=Short (1-2 years), M=Medium (3-5 years), and L=Long (5 or more years). For cost, L=Low ($50,000 or less), M=Medium ($50,000 to $500,000), H=High ($500,000 to $5 million), and VH=Very High ($5 million or more).

Table CL-1 Action Items

Action Item #	Mitigation Action Title	Potential Funding Sources	Coordinating Organization	Partner Organizations	Timeline	Cost
Multi-Hazard Mitigation Strategies						
1.1	Replace roof of City Hall to improve all-hazard resilience.	HMA; State Funding (ODHS; ODOE)	City of Cascade Locks	None	M	H
1.2	Install micro-grid in City Hall to improve all-hazard resilience and ensure City Hall can serve as an emergency shelter.	HMA; State Funding (ODHS; ODOE)	City of Cascade Locks	Mid-Columbia Economic Development District	M	H
1.3	Install solar panels on the roof of the Cascade Locks FD station to support a micro-grid within the station.	HMA; State Funding (ODHS; ODOE)	Cascade Locks FD	City of Cascade Locks; Mid-Columbia Economic Development District	M	M
1.4	Evaluate options for constructing new building to house City and Port of Cascade Locks staff as well as serving as a warming/cooling shelter and a bunkhouse for emergency response operations.	HMA; State Funding (OEM; ODF); Economic Development Agency; Municipal Bond	City of Cascade Locks/Port of Cascade Locks	County Emergency Management; State Agencies (ODF); USFS	L	VH
1.5	Explore options for incentivizing the creation of and investment in major care facilities (including medical, childcare, and elder care) in Cascade Locks.	Private Sector Investment	City of Cascade Locks	Port of Cascade Locks; County Emergency Management; Existing Major Care Facilities	L	VH
1.6	Purchase a new transformer for the substation.	HMA; State Funding (ODOE); Municipal Bond	City of Cascade Locks	None	L	VH
1.7	Purchase new power generators and fuel for critical facilities throughout the city, including at the wastewater lift station and at any other sites as identified by the Steering Committee.	HMA; State Funding (OEM; ODHS); Economic Development Agency; Municipal Bond	City of Cascade Locks	Cascade Locks FD; Port of Cascade Locks; County Emergency Management	M	M

Action Item #	Mitigation Action Title	Potential Funding Sources	Coordinating Organization	Partner Organizations	Timeline	Cost
Air Quality/Smoke Mitigation Strategies						
2.0	The Steering Committee, using available local resources, will study this hazard further during the implementation and maintenance phase of this NHMP, seeking to identify cost effective actions that might be implemented to reduce community vulnerability.					
Drought Mitigation Strategies						
3.0	Given that Drought is categorized as low risk in the Hazard Vulnerability Assessment, the Steering Committee decided not to develop any mitigation action items for this hazard. This is in line with the decision-making process for low-risk hazards used by the 2025 Hood River County NHMP Steering Committee for the County Mitigation Strategy.					
Earthquake/CSZ Event Mitigation Strategies						
4.1	Conduct structural and non-structural seismic retrofit of City Hall.	HMA; State Funding (Seismic Rehabilitation Grant Program); Municipal Bond	City of Cascade Locks	None	M	H
Extreme Heat Mitigation Strategies						
5.0	The Steering Committee, using available local resources, will study this hazard further during the implementation and maintenance phase of this NHMP, seeking to identify cost effective actions that might be implemented to reduce community vulnerability.					
Flood Mitigation Strategies						
6.0	Given that Flood is categorized as low risk in the Hazard Vulnerability Assessment, the Steering Committee decided not to develop any mitigation action items for this hazard. This is in line with the decision-making process for low-risk hazards used by the 2025 Hood River County NHMP Steering Committee for the County Mitigation Strategy.					
Landslide/Debris Flow Mitigation Strategies						
7.1	Incorporate lessons learned and action items from 2024-25 countywide landslide risk reduction project led by DOGAMI into long-term planning practices.	HMA; State Funding (DOGAMI, DLCD)	City of Cascade Locks	Cascade Locks FD; County Community Development; County Emergency Management; State Agencies (DLCD, DOGAMI); USGS	M	L

Action Item #	Mitigation Action Title	Potential Funding Sources	Coordinating Organization	Partner Organizations	Timeline	Cost
Volcanic Event Mitigation Strategies						
8.0	Given that Volcanic Event is categorized as low risk in the Hazard Vulnerability Assessment, the Steering Committee decided not to develop any mitigation action items for this hazard. This is in line with the decision-making process for low-risk hazards used by the 2025 Hood River County NHMP Steering Committee for the County Mitigation Strategy.					
Wildfire Mitigation Strategies						
9.1	Update city Community Wildfire Protection Plan and support update to County Community Wildfire Protection Plan, including incorporation of lessons learned from 2017 Eagle Creek Fire.	HMA; State Funding (ODF, OSFM); USFS (Community Wildfire Defense Grant)	Cascade Locks FD	City of Cascade Locks; County Emergency Management; State Agencies (ODF, OSFM); USFS	S	L
9.2	Develop and conduct fuels reduction projects across the city, emphasizing treatment near residential communities, energy and key structures, and forestland to reduce fire intensity and aid suppression. *See countywide map and list of projects throughout the county with information on project details and locations as identified by local fire districts, ODF, and USFS in Volume IV: Community Wildfire Protection Plan.*	HMA; State Funding (ODF, OSFM); USFS (Community Wildfire Defense Grant); Existing Staff Resources	Cascade Locks FD	City of Cascade Locks; Port of Cascade Locks; County Emergency Management; State Agencies (ODF, OSFM); USFS	M	H
Windstorm Mitigation Strategies						
10.0	Given that Windstorm is categorized as low risk in the Hazard Vulnerability Assessment, the Steering Committee decided not to develop any mitigation action items for this hazard. This is in line with the decision-making process for low-risk hazards used by the 2025 Hood River County NHMP Steering Committee for the County Mitigation Strategy.					
Winter Storm Mitigation Strategies						
11.0	The Steering Committee, using available local resources, will study this hazard further during the implementation and maintenance phase of this NHMP, seeking to identify cost effective actions that might be implemented to reduce community vulnerability.					

Source: City of Cascade Locks River NHMP Steering Committee, updated 2025
Potential Funding Sources: HMA=FEMA's Hazard Mitigation Assistance disaster and non-disaster grant programs
Cost: L=Low (less than $50,000), M=Medium ($50,000-$500,000), H=High ($500,000-$5 million), VH=Very High ($5 million or more)
Timing: O=Ongoing (continuous), S=Short (1-2 years), M=Medium (3-5 years), L=Long (5 or more years)

Risk Assessment

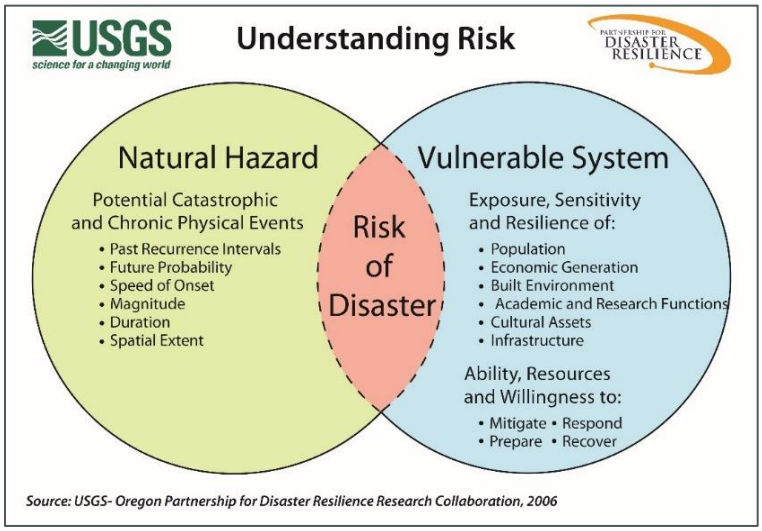
This section of the NHMP addendum addresses 44 CFR 201.6(b)(2) - Risk Assessment. In addition, this chapter can serve as the factual basis for addressing Oregon Statewide Planning Goal 7 – Areas Subject to Natural Hazards.

Assessing natural hazard risk has three phases:

- Phase 1: Identify hazards that can impact the jurisdiction. This includes an evaluation of potential hazard impacts – type, location, extent, etc.
- Phase 2: Identify important community assets and system vulnerabilities. Example vulnerabilities include people, businesses, homes, roads, historic places, and drinking water sources.
- Phase 3: Evaluate the extent to which the identified hazards overlap with or have an impact on, the important assets identified by the community.

The local level rationale for the identified mitigation strategies (action items) is presented herein and within Volume I, Sections 2 and 3. The risk assessment process is graphically depicted in Figure CL-1. Ultimately, the goal of hazard mitigation is to reduce the area of risk, where hazards overlap vulnerable systems.

Figure CL-1 Understanding Risk



Hazard Analysis

The Cascade Locks Steering Committee developed their hazard vulnerability assessment (HVA), using their previous HVA and the County's HVA (Volume I, Section 2) as a reference. Changes from the County's HVA were made where appropriate to reflect distinctions in vulnerability and risk from natural hazards unique to Cascade Locks, which are discussed throughout this addendum.

Table CL-2 shows the HVA matrix for Cascade Locks listing each hazard in order of rank from high to low. For local governments, conducting the hazard analysis is a useful step in planning for hazard mitigation, response, and recovery. The method provides the jurisdiction with a sense of hazard priorities but does not predict the occurrence of a particular hazard.

Winter Storm, Wildfire, and Landslide/Debris Flow are the **high hazard threats** to the city. A Cascadia Subduction Zone (CSZ) Event, Air Quality/Smoke, Extreme Heat, and Earthquake (crustal) are all **moderate hazard threats** to the city. Windstorm, Flood, a Volcanic Event, and Drought are the **low hazard threats** to the city.

Table CL-2 Hazard Analysis Matrix – City of Cascade Locks

Hazard	History (x2)	Probability (x7)	Vulnerability (x5)	Maximum Threat (x10)	Total Threat Score	Rank	Hazard Tier
Winter Storm	9	10	9	10	**233**	**1**	**High**
Wildfire	9	9	7	9	**206**	**2**	**High**
Landslide/ Debris Flow	7	8	8	9	**200**	**3**	**High**
CSZ Event	2	6	8	9	**176**	**4**	**Moderate**
Air Quality/ Smoke	6	7	6	8	**171**	**5**	**Moderate**
Extreme Heat	4	8	5	8	**169**	**6**	**Moderate**
Crustal Earthquake	2	4	5	6	**117**	**7**	**Moderate**
Windstorm	3	4	3	5	**104**	**8**	**Low**
Flood	3	4	3	6	**99**	**9**	**Low**
Volcanic Event	2	2	3	6	**73**	**10**	**Low**
Drought	1	3	1	3	**48**	**11**	**Low**

Source: City of Cascade Locks Steering Committee (2025); Analysis by OPDR.

Community Characteristics

Table CL-3 and the following section provides information on City specific demographics and characteristics. For additional information on the characteristics of the City of Cascade Locks, in terms of geography, environment, population, demographics, employment, and economics, as well as housing and transportation, see Volume II, Appendix D. Many of these community characteristics can affect how natural hazards impact communities and how communities choose to plan for natural hazard mitigation. Considering the City-specific assets during the planning process can assist in identifying appropriate measures for natural hazard mitigation.

Unless otherwise specified, data in this section comes from: Social Explorer: American Community Survey 5-Year Estimates (2018-2022). U.S. Census Bureau. https://www.socialexplorer.com/explore-tables.

Table CL-3 Community Characteristics

Population Characteristics		Population Growth
2016 Population Estimate	1,250	
2022 Population Estimate	1,399	12%
2044 Population Forecast*	1,961	40%
Race		
American Indian and Alaska Native		<1%
Asian		3%
Black/ African American		3%
Native Hawaiian and Other Pacific Islander		0%
White		87%
Some Other Race		2%
Two or More Races		5%
Hispanic or Latino/a (of any race)		
Limited or No English Spoken	4	<1%
Vulnerable Age Groups		
Less than 5 Years	60	4%
Less than 15 Years	195	14%
65 Years and Older	317	22%
85 Years and Older	33	2%
Age Dependency Ratio		56.51
Disability Status (Percent age cohort)		
Total Disabled Population	303	22%
Children (Under 18)	0	0%
Working Age (18 to 64)	83	9%
Seniors (65 and older)	220	69%

Household Characteristics		
Housing Units		
Single-Family (includes duplexes)	615	83%
Multi-Family	73	10%
Mobile Homes (includes RV, Van, etc.)	57	8%
Household Type		
Family Household	418	65%
Married couple (w/ children)	95	23%
Single (w/ children)	55	13%
Living Alone 65+	70	11%
Year Structure Built		
Pre-1970	246	33%
1970-1989	195	26%
1990-2009	202	27%
2010 or later	102	14%
Housing Tenure and Vacancy		
Owner-occupied	481	75%
Renter-occupied	158	25%
Seasonal	35	33%
Vacant	45	43%
Vehicles Available (Occupied Units)		
No Vehicle (owner occupied)	0	0%
Two+ vehicles (owner occupied)	366	57%
No Vehicle (renter occupied)	15	2%
Two+ vehicles (renter occupied)	48	8%

Income Characteristics		
Households by Income Category		
Less than $15,000	15	2%
$15,000-$29,999	123	19%
$30,000-$44,999	7	1%
$45,000-$59,999	99	16%
$60,000-$74,999	138	22%
$75,000-$99,999	57	9%
$100,000-$199,999	170	27%
$200,000 or more	30	5%
Median Household Income		$62,195
Gini Index of Income Inequality		0.37
Poverty Rates (Percent age cohort)		
Total Population	96	7%
Children (Under 18)	20	1%
Working Age (18 to 64)	67	5%
Seniors (65 and older)	9	1%
Housing Cost Burden (Cost > 30% of household income)		
Owners with a Mortgage		49%
Owners without a Mortgage		17%
Renters		33%

Employment Characteristics		
Labor Force (Population 16+)		
In labor Force (% Total Population)	757	54%
Unemployed (% Labor Force)	30	4%
Occupation (Top 5) (Employed 16+)		
Management, Business, and Financial Operations Occupations	157	21%
Production Occupations	151	20%
Professional and Related Occupations	90	12%
Construction, Extraction, and Maintenance Occupations	88	12%
Food Preparation and Serving Related	77	10%
Health Insurance		
No Health Insurance	31	2%
Public Health Insurance	603	43%
Private Health Insurance	974	70%
Transportation to Work (Workers 16+)		
Drove Alone	475	63%
Carpooled	120	16%
Public Transit	0	0%
Motorcycle	0	0%
Bicycle/Walk	46	6%
Worked at Home	116	15%

Source: Social Explorer: American Community Survey 5-Year Estimates (2018-2022). U.S. Census Bureau. https://www.socialexplorer.com/explore-tables; Population Research Center. (2023, April). *Annual Population Estimates.* Portland State University. https://www.pdx.edu/population-research/.

*Source for 2044 Population Estimate: Population Research Center. (2023, December 10). *Region 3: Northwest Oregon Results (Preliminary) – Cascade Locks.* Portland State University Oregon Population Forecast Program. https://www.pdx.edu/population-research/population-forecasts.

Note: The U.S. Census Bureau American Community Survey 2018-2022 data used for this analysis has varying levels of reliability depending on geographic area, demographic group, and types of data. These figures are primarily used for estimation and to develop a general understanding of the demographics of a location and should not be mistaken for precise figures.

Natural Environment

Cascade Locks is located in the westernmost area of the Columbia Gorge and covers an area of about 3.04 square miles, 0.96 of which are water. The climate of Cascade Locks is moderate; the average monthly temperatures range from 54 – 75 degrees in May – September to 39 – 52 degrees in October – April.[1] The City receives approximately 78 inches of precipitation each year and more rainfall than the surrounding region to the east and west. Monthly precipitation averages about 9 inches during the wetter months of October – April and about 2 inches during the drier months of May – September.[2] The City's topography ranges from flat to steeply sloped and includes riparian and forested lands. Cascade Locks lies between the Columbia River to the north and the western slopes of the Cascade Range to the south. It is bounded by the Columbia Gorge National Scenic Area.

Population and Housing

More than one-fifth (22%) of Cascade Locks' population is over 65 years old, while 14% is under the age of 15. Most of the population commutes to either the City of Hood River to the east or to Portland and Gresham to the west to work. Additionally, all children in grades 6 through 12 bus daily to the City of Hood River for school. If a natural hazard event were to occur during the daytime on a school day, it is highly likely that families would be separated.

From 2018 to 2023, 118 new homes were added to Cascade Locks; the City previously included 540 housing units, making this a 21% growth in housing.[3] New development has complied with the standards of the Oregon Building Code and the County's development code, including their floodplain ordinance. Some development has occurred in areas with steep slopes and higher risk of landslides and wildfire. Overall, Cascade Locks continues to experience economic growth.

Economy

The median household income in Cascade Locks is $62,195, a significant 57% increase from the 2016 value ($32,443). This growth may be due to an influx of high-income earners from the city of Portland and other areas outside the County.[4] Cascade Locks' five largest industries are management, business, and financial operations; manufacturing; professional; construction, extraction, and maintenance; and food preparation and serving. The Port of Cascade Locks' property houses many manufacturing and warehousing operations. Other employment drivers include arts and recreation, local government, federal forest agency, and the school district. Retail and recreation industries thrive during high-tourist summer months, when Cascade Locks is a top tourist destination.

Cascade Locks' poverty rate is 7%, while its unemployment rate is 4%.[5] However, local officials maintain that the true poverty and unemployment levels are likely to be higher than reported.

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[1] U.S. Climate Data. (2024). *Cascade Locks.* https://www.usclimatedata.com/climate/cascade-locks/oregon/united-states/usor0434.

[2] Ibid.

[3] Data provided via correspondence with the City of Cascade Locks' City Administrator and City Recorder (J. Bennett and K. Woosley, personal communication, May 13, 2024).

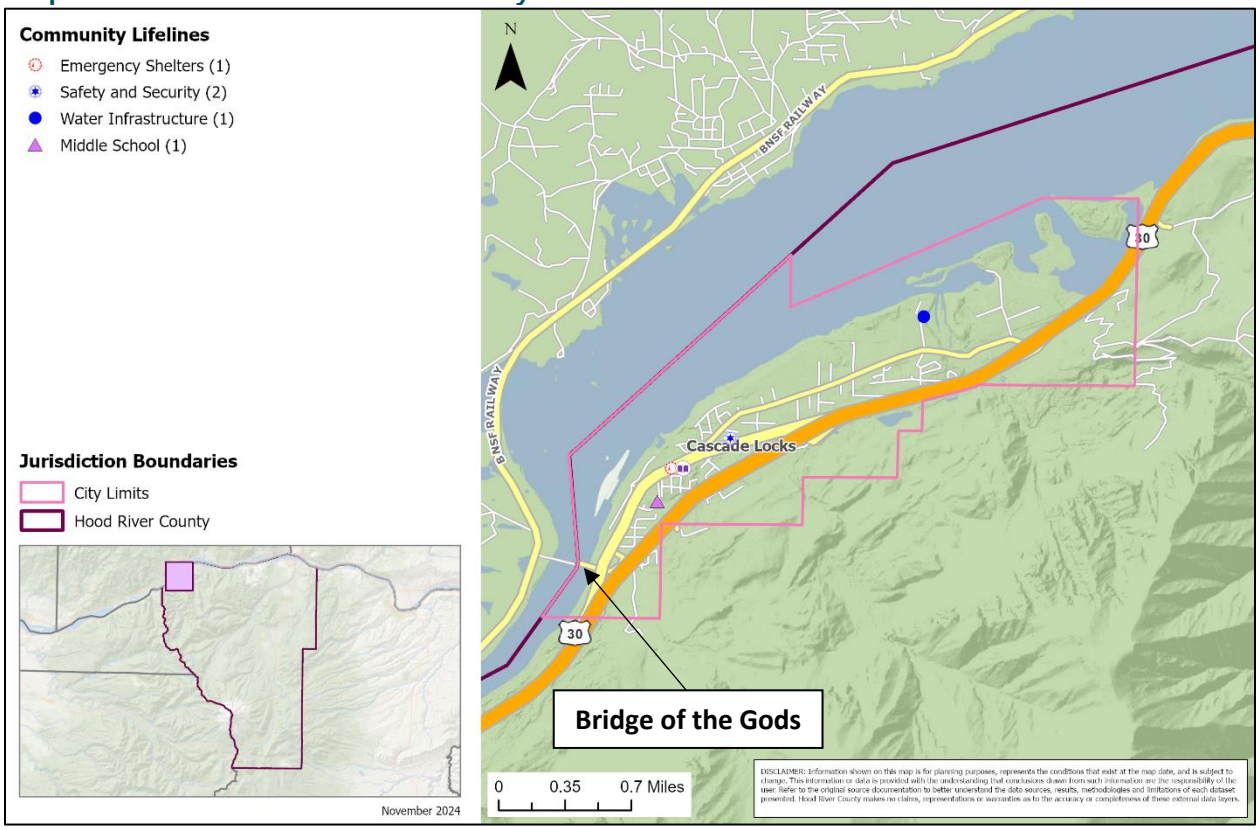
[4] Ibid.

[5] QualityInfo.org. (2023). *Unemployment Rates (LAUS): Hood River County.* Oregon Employment Department. Retrieved February 26, 2024, from https://www.qualityinfo.org/uesti.

Community Assets

This section outlines the resources, facilities, and infrastructure that, if damaged, could significantly impact the public safety, economic conditions, and environmental integrity of Cascade Locks. Community lifelines in Cascade Locks are shown in Map CL-1. FEMA developed the Community Lifelines construct for objective-based response to prioritize the rapid stabilization of these facilities after a disaster.[6] Mitigating risk to these facilities will increase the community's resilience.

Map CL-1 Cascade Locks Community Lifelines



Source: Mapping by OPDR.
Data from Hood River County and Oregon Department of Geology and Mineral Industries HazVu website.

Critical and Essential Facilities and Infrastructure

Critical and essential facilities and infrastructure are those that are essential to the continued delivery of key government services, that may significantly impact the public's ability to recover from a natural hazard event, and that are key to government response and recovery activities (i.e., life, safety, property, and environmental protection). These facilities include 911 Centers, Emergency Operations Centers, Police and Fire Stations, Public Works facilities, sewer and water

[6] A community lifeline "enables the continuous operation of critical government and business functions and is essential to human health and safety or economic security". For more information on FEMA's Community Lifelines, see https://www.fema.gov/emergency-managers/practitioners/lifelines.

facilities, hospitals, bridges, roads, shelters, and other public buildings like City Hall and schools. Facilities like a hazardous material storage structure that, if damaged, could cause serious secondary impacts are also considered.

Table CL-4 lists critical and essential facilities and infrastructure in the City of Cascade Locks.

Table CL-4 City of Cascade Locks Community Assets

Facility Type	Name	Address
Government	City Hall and Public Works	140 Wa Na Pa Street
	Port of Cascade Locks Facilities	427 SW Portage Road
Emergency Response	Cascade Locks Fire Department	25 Wa Na Pa Street
	Cascade Locks Elementary School Bomb Shelter	300 SW Wa Na Pa Street
	Ruckel Creek Floods Lift Station	
	Marine Park Seawall Power Generators	
	Marine Park Pavilion and House 3 Shelter	
	Cascade Locks Airport	Forest Lane
Community	Marine Park	427 SW Portage Road
	Historical Houses	427 SW Portage Road
	Thunder Island Brewing Company	601 Wa Na Pa Street
	Columbia Market	450 Wa Na Pa Street
	Gorges Beer Company	390 Wa Na Pa Street
State and Federal Highways	I-84	
Railroads	Union Pacific	
Bridges	Bridge of the Gods	
Transportation Facilities	Sternwheeler Boat/Dock (for evacuation)	Marina Park
Utilities	City of Cascade Locks Power Utility (2 substations)	
	City Water and Sewer	140 Wa Na Pa Street
	New Dry Creek City Reservoir	
	Communications Towers (south of Dry Creek)	
	CenturyLink Communication Line crossing on the Bridge of the Gods	
	Electric Vehicle Charging Station at Cascade Locks Cemetery	95 Wa Na Pa Street
Fuel	Chevron Gas Station	437 Wa Na Pa Street
	Shell Gas Station	425 Wa Na Pa Street
Education	Cascade Locks Elementary School	300 Wa Na Pa Street
Assisted Living	Windsong Adult Foster Care	1090 Windsong Drive
	Cascade Meadows Senior Apartments	30 SE Bell Street

Source: City of Cascade Locks Steering Committee (2025)

Hazard Characteristics

The following sections briefly describe relevant information for each profiled hazard. More information on Hood River County Hazards and Future Projections can be found in Volume I, Section 2. Note that these hazards are sorted **alphabetically** and not by hazard tier as determined in the City's Hazard Analysis Matrix (Table CL-2).

Each of the hazards profiled in the Oregon Department of Geology and Mineral Industries (DOGAMI)'s 2021 Risk Report for Hood River County also includes economic loss estimates.[7] These five hazards are earthquake, flood, lahar (volcanic event), landslide, and wildfire.

Air Quality/Smoke

The Steering Committee rated the City's probability of occurrence for air quality/smoke events as "high" (which is higher than the County's rating) **and their vulnerability as also "high"** (which is the same as the County's rating). *This hazard was not assessed in the previous version of this NHMP.*

Volume I, Section 2 describes the characteristics of air quality hazards, history, and how they relate to future climate projections as well as the location, extent, and probability of a potential event. Increases in wildfire conditions have shown an increasing potential for air quality hazards.

Hood River County has limited capacity to monitor air quality. Smoke Ready Gorge, operated by the OSU Extension Service, has installed air quality monitors throughout the region and developed a Community Response Plan for Hood River and Wasco counties. More information on Smoke Ready Gorge's work can be found on their website.

Development forecasts are not expected to increase or decrease the impact of this hazard. However, the population of adults aged 65 and older is increasing within this jurisdiction. As a result, the impact of this hazard may increase.

Drought

The Steering Committee rated the City's probability of occurrence for drought events as "low" (which is lower than the County's rating) **and their vulnerability as also "low"** (which is lower than the County's rating). *Both probability and vulnerability increased slightly from the 2018 NHMP due to climate change driving increased likelihood and intensity of future droughts, but both scores remain rated as "low".*

Volume I, Section 2 describes the characteristics of drought hazards, as well as the location and extent of a potential event. Moderate droughts occur regularly in Hood River County, primarily impacting the agricultural industry. Cascade Locks aquifer releases 8-16 cubic feet per second (cfs), of which the City uses an insignificant portion.

[7] DOGAMI (2021, May). *Natural Hazard Risk Report for Hood River County, Oregon: Including the Cities of Cascade Locks, Hood River, and Unincorporated Communities of Odell, Parkdale, and Rockford.* https://pubs.oregon.gov/dogami/ofr/p-OFR.htm.

Cascade Locks' primary water supply comes from two (2) wells sunk into the Herman Creek aquifer. The City has two (2) old reservoirs and recently built a new reservoir, the New Dry Creek Water reservoir, in 2018. Together, the City has approximately 900,000 gallons of storage capacity. The City does not have a water treatment plant and instead adds chlorine to the well water to treat the water. In general, the City has 4.0 cfs of water from the Herman Creek Aquifer but utilizes less than 0.25 cfs currently. The capacity of the aquifer has been measured between 8 and 15 cfs depending on the time of year. In general, water supply is available and sufficient.

No development or population changes affected the jurisdiction's overall vulnerability to this hazard. In addition, development and population forecasts are not expected to increase or decrease the impact of this hazard.

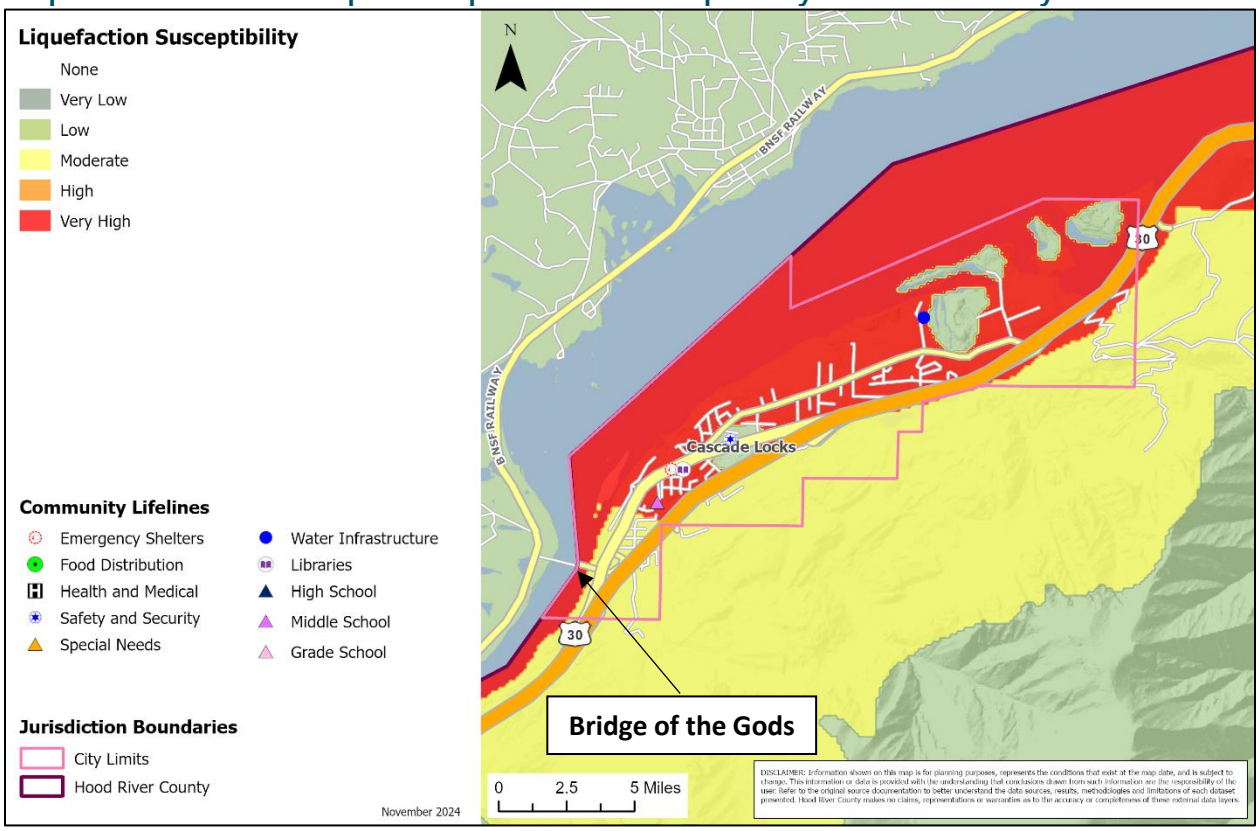
Earthquake (Cascadia Subduction Zone and Crustal)

The Steering Committee rated the City's probability of occurrence for a Cascadia Subduction Zone (CSZ) event as "low" (which is the same as the County's rating) **and their vulnerability as "high"** (which is higher than the County's rating). **The Steering Committee rated the City's probability of occurrence for a Crustal Earthquake event as "low"** (which is the same as the County's rating) **and their vulnerability as "high"** (which is higher than the County's rating) **and that their vulnerability as "moderate"** (which is lower than the County's rating). *These ratings did not change from the previous version of this NHMP.*

Volume I, Section 2 describes the characteristics of earthquake hazards, history, as well as the location and extent of a potential event. Generally, an event that affects the County is likely to affect Cascade Locks more severely. The liquefaction potential is greater for Cascade Locks, and expected shaking is stronger as well. The causes and characteristics of an earthquake event are appropriately described within the County's NHMP, as well as the location and extent of potential hazards. Previous occurrences are well-documented within the County's plan. The community impacts described by the County would occur in Cascade Locks to a greater extent: weak buildings would collapse, and stable buildings would suffer damage.

Earthquake-induced damages are difficult to predict and depend on the size, type, and location of the earthquake, as well as site-specific building and soil characteristics. Presently, it is not possible to accurately forecast the location or size of earthquakes, but it is possible to predict the behavior of soil at any particular site. In many major earthquakes, damage has primarily been caused by the behavior of the soil. As shown in Map CL-2, nearly all of Cascade Locks would be subject to "very high" soil liquefaction.

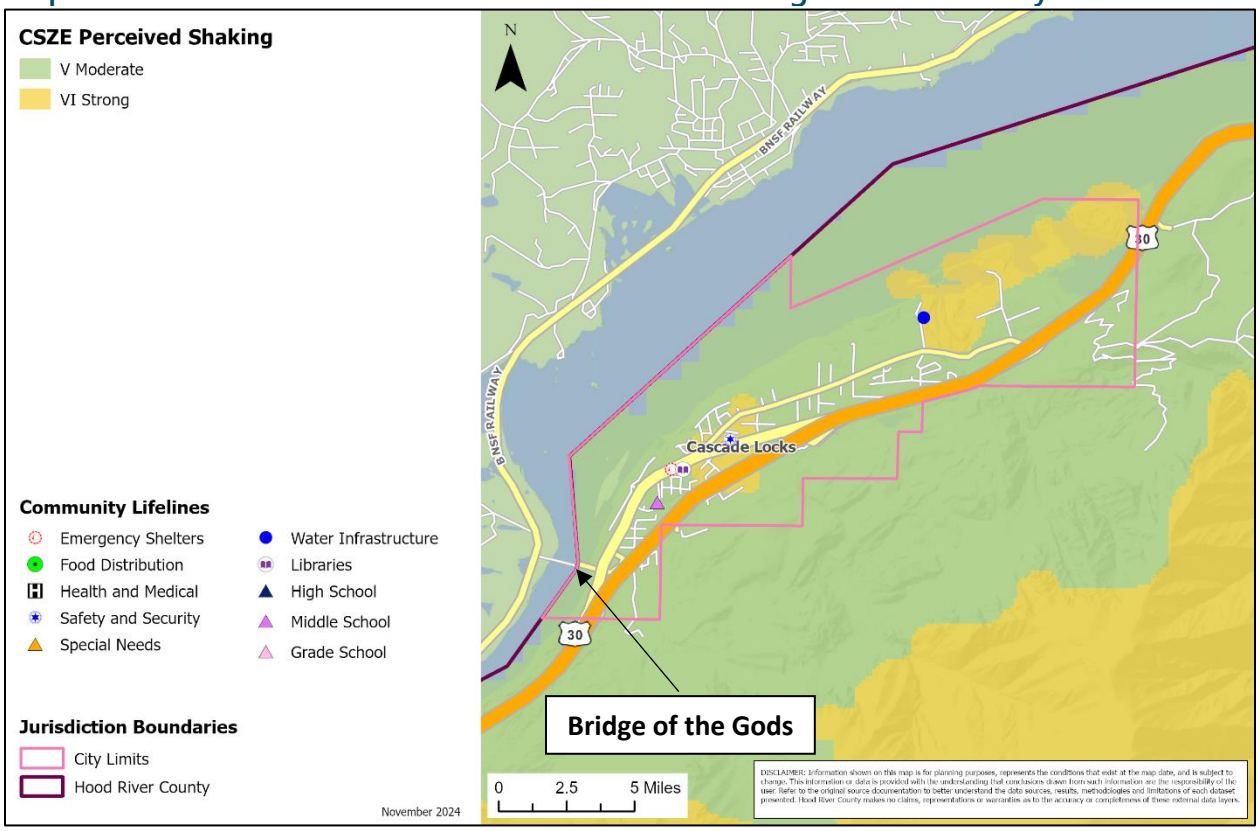
Map CL-2 Crustal Earthquake Liquefaction Susceptibility and Community Lifelines



Source: Mapping by OPDR.
Data from Hood River County and Oregon Department of Geology and Mineral Industries HazVu website.

Map CL-3 shows the expected shaking/ damage potential for Cascade Locks due to a CSZ earthquake event. The figure shows that most of the City will experience “moderate” to “strong” shaking that will last two to four minutes. The shaking will be extremely damaging to transportation routes including Interstate 84, the interstate Bridge of the Gods operated by the Port of Cascade Locks, and the Union Pacific Railroad.

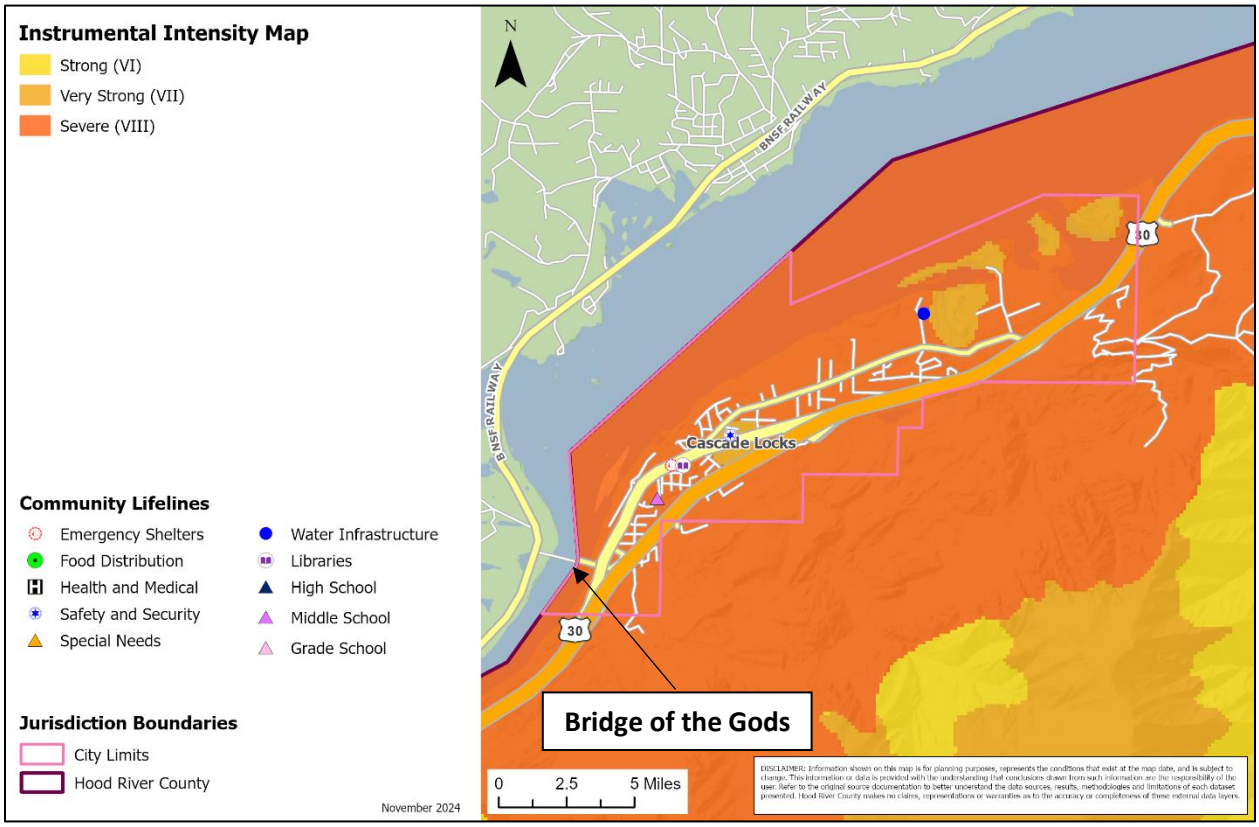
Map CL-3 Cascadia Subduction Zone Perceived Shaking and Community Lifelines



Source: Mapping by OPDR.
Data from Hood River County and Oregon Department of Geology and Mineral Industries' HazVu website.

Map CL-4 depicts predicted earthquake intensity from a crustal earthquake or CSZ event in Cascade Locks. The entire City lies within "severe" intensity with some small pockets of "very strong" intensity, indicating significant impacts from an earthquake.

Map CL-4 Predicted Earthquake Intensity and Community Lifelines



Source: Mapping by OPDR.
Data from Hood River County and Oregon Department of Geology and Mineral Industries' HazVu website.

As noted in Volume II, Appendix D, approximately 59% of residential buildings were built prior to 1990, which increases the City's vulnerability to the earthquake hazard. Information on specific public buildings' (schools and public safety) estimated seismic resistance, determined by DOGAMI in 2007 via their Rapid Visual Screening, is shown in Table CL-5. Each "X" represents one building within that ranking category. Of the buildings evaluated by DOGAMI using RVS, one (1) has a very high (100% chance) collapse potential, and three (3) have a moderate (1-10%) collapse potential.

Table CL-5 Rapid Visual Screening Scores

Facility	Address	Site ID	Level of Collapse Potential			
			Low (<1%)	Moderate (>1%)	High (>10%)	Very High (100%)
Cascade Locks Fire Department	25 Wa Na Pa St (formerly 505 Wa Na Pa St)	Hood_fir06		X		
Cascade Locks Elementary School	300 Wa Na Pa St	Hood_sch08		X, X		X

Source: Lewis, D. (2007). *Open-File Report O-07-02, Statewide seismic needs assessment: Implementation of Oregon 2005 Senate Bill 2 relating to public safety, earthquakes, and seismic rehabilitation of public buildings.* Oregon Department of Geology and Mineral Industries. https://pubs.oregon.gov/dogami/ofr/p-O-07-02.htm.

In addition to building damage, transportation systems (bridges, pipelines) are also likely to experience significant damage. The Bridge of the Gods is the first Columbia River crossing east of Portland and is likely to experience significant damage. The Port of Cascade Locks' 15-year improvement plan is underway and will include 80% of recommended seismic enhancements (see Earthquake #4.1 in Volume III, Port of Cascade Locks addendum).

Utility systems will also be significantly damaged, including damaged buildings and damage to utility infrastructure such as water treatment plants and equipment at high voltage substations (especially 230 kV or higher which are more vulnerable than lower voltage substations). Buried pipe systems will suffer extensive damage with approximately one break per mile in soft soil areas. There would be a much lower rate of pipe breaks in other areas. Restoration of utility services will require substantial mutual aid from utilities outside of the affected area.

Economic Losses

DOGAMI's Risk Report includes an earthquake damage model. The model's results show the following building loss estimates from a 2,500-year probabilistic magnitude 7.0 crustal earthquake. These figures are all slightly higher than the previous NHMP due to the revision of the Risk Report in 2021 to include anticipated impacts from the Blue Ridge Fault:

- Number of red-tagged buildings: 131
- Number of yellow-tagged buildings: 169
- Loss estimate: $82,930,000
- Loss ratio: 52%
- Non-functioning critical facilities: 12
- Potentially displaced population: 179

Loss estimates from a CSZ event were not included in the DOGAMI Risk Report.

No development or population changes affected the jurisdiction's overall vulnerability to this hazard. In addition, development and population forecasts are not expected to increase or decrease the impact of this hazard.

Extreme Heat

The Steering Committee rated the City's probability of occurrence for extreme heat events as "moderate" (which is the same as the County's rating) **and their vulnerability as also "moderate"** (which is the same as the County's rating). *This hazard was not assessed in the previous version of this NHMP.*

Volume I, Section 2 describes the causes and characteristics of extreme heat, as well as the history, location, extent, and probability of a potential event and how it relates to future climate projections. Generally, an event that affects the County is likely to affect the City as well. Extreme temperatures are measured as days with a heat index above 90 degrees. Extreme heat events can and have occurred in Cascade Locks, and while they typically do not cause loss of life, they are becoming more frequent and have the potential to impact economic activity as well as quality of life and have caused threat to life in some cases.

Development forecasts are not expected to increase or decrease the impact of this hazard. However, the population of adults aged 65 and older is increasing within this jurisdiction. As a result, the impact of this hazard may increase.

Flood

The Steering Committee rated the City's probability of occurrence for flood events as "low" (which is the same as the County's rating) **and their vulnerability as also "low"** (which is the same as the County's rating). *These ratings did not change from the previous version of this NHMP.*

Volume I, Section 2 describes the causes and characteristics of flooding hazards within the region, as well as previous flooding occurrences. General flood-related community impacts are adequately described within the Flood Hazard Annex of Hood River County's Natural Hazards Mitigation Plan. Portions of Cascade Locks have areas of floodplains (special flood hazard areas). These include areas along Dry Creek and bordering the Columbia River. However, damage from floods has been insignificant historically.

The City of Cascade Locks complies with the National Flood Insurance Program through their floodplain management program and has developed a local flood damage prevention ordinance to regulate development in floodplain areas.

Community Repetitive Loss Policies

FEMA has not modernized the Cascade Locks Flood Insurance Rate Maps (FIRMs); the FIRMs are the originals from 1984. FEMA is in the process of updating the FIRMs and released Preliminary maps in August 2022 but determined that a Revised Preliminary map release was needed. The updated FIRMs have not yet been published as of the writing of this NHMP.[8]

[8] Confirmed via Quarterly Project Report update email distributed by the Strategic Alliance for Risk Reduction (STARR II), a contractor for FEMA (S. Sagarika, personal communication, July 2, 2024).

The City of Cascade Locks is not a member of the Community rating System (CRS). There has been a total of one (1) paid claim for $3,477. The Community Repetitive Loss record for Cascade Locks identifies no Repetitive Loss Properties[9] and no Severe Repetitive Loss Properties.[10]

Economic Losses
DOGAMI's Risk Report includes a flood damage model. The model's results show the following building loss estimates from a countywide 100-year flood:

- Number of buildings damaged: 16
- Loss estimate: $218,000
- Loss ratio: 0.1%
- Non-functioning critical facilities: 0
- Potentially displaced population: 50

No development or population changes affected the jurisdiction's overall vulnerability to this hazard. In addition, development and population forecasts are not expected to increase or decrease the impact of this hazard.

Landslide/Debris Flow

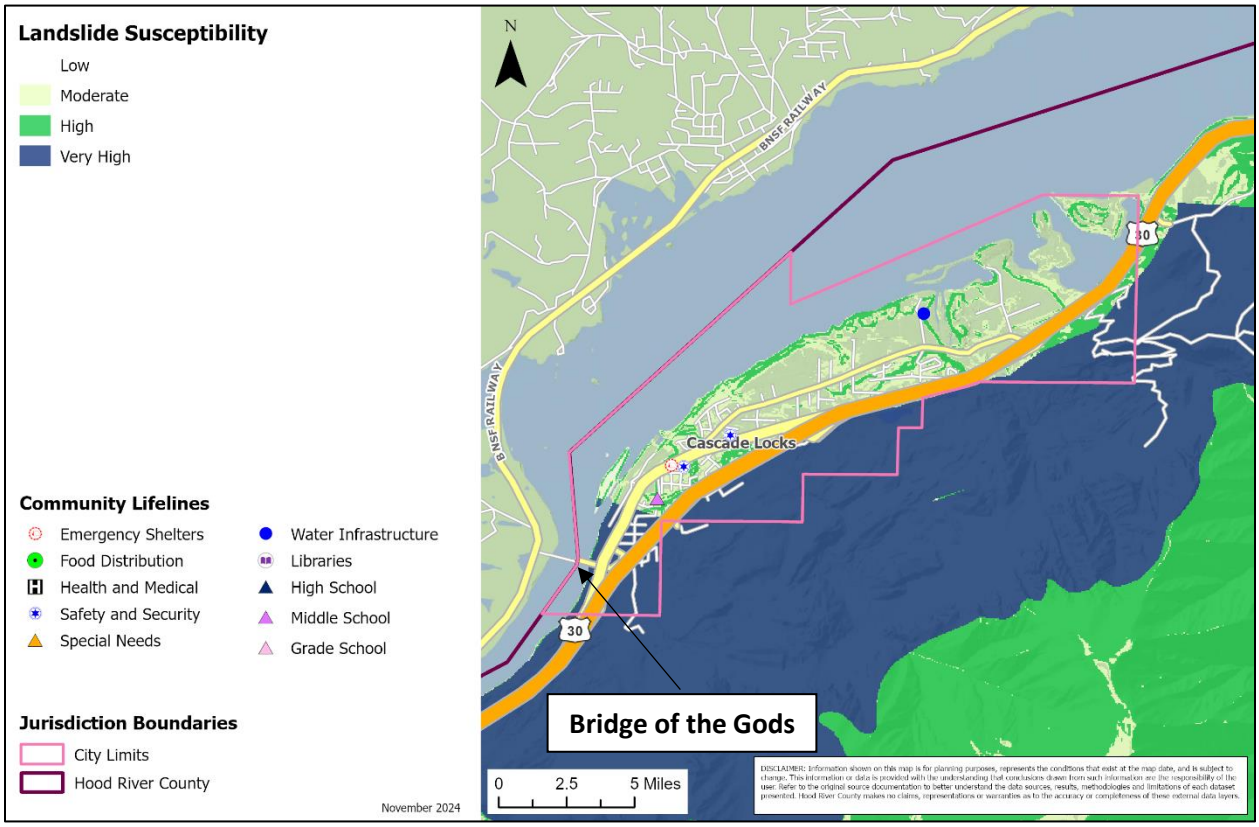
The Steering Committee rated the City's probability of occurrence for landslide/debris flow events as "high" (which is the same as the County's rating) and their vulnerability as also "high" (which is higher than the County's rating). *The vulnerability rating increased from the previous version of this NHMP.*

Volume I, Section 2 describes the characteristics of landslide hazards, history, and the location, extent, and probability of a potential event within the region. The potential for landslide in Cascade Locks is high, especially in the steeply sloped areas to the south of I-84. Landslide susceptibility exposure for Cascade Locks is shown in Map CL-5. As the map demonstrates, approximately 25% of Cascade Locks has Very High, 9% High, and 15% Moderate landslide susceptibility exposure, meaning that nearly 50% of City land has higher than "Low" landslide susceptibility.[11] Some parts of the City are protected by ridges which would halt major debris flows from Mt. Hood. The communities south of I-84 are most at risk as is the small but highly vulnerable houseless population that resides throughout Cascade Locks.

Note that even if an area has a high percentage of land in a high or very high landslide exposure susceptibility zone, that does not mean there is a high risk (vulnerability), because risk is the intersection of a hazard and assets.

[9] A Repetitive Loss (RL) property is any insurable building for which two or more claims of more than $1,000 were paid by the NFP within any rolling ten-year period, since 1978. A RL property may or may not be currently insured by the NFIP.
[10] A Severe Repetitive Loss (SRL) property is a single family property (consisting of 1 to 4 residences) that is covered under flood insurance by the NFIP and has incurred flood-related damage for which 4 or more separate claims payments have been paid under flood insurance coverage, with the amount of each claim payment exceeding $5,000 and with cumulative amount of such claims payments exceeding $20,000; or for which at least 2 separate claims payments have been made with the cumulative amount of such claims exceeding the value of the property.
[11] Hood River County and Oregon Department of Geology and Mineral Industries HazVu website.

Map CL-5 Landslide Susceptibility Exposure and Community Lifelines



Source: Mapping by OPDR.
Data from Hood River County and Oregon Department of Geology and Mineral Industries HazVu website.

Economic Losses

DOGAMI's Risk Report includes a landslide damage model. The model's results show the following potential impacts on areas of the City exposed to landslides/debris flows:

- Number of buildings: 178
- Value of exposed buildings: $36,161,000
- Percentage of total city value exposed: 23%
- Critical facilities exposed: 0
- Potentially displaced population: 279

Potential landslide-related impacts are described within the County's NHMP, and include infrastructural damages, economic impacts (due to isolation and/or arterial road closures), property damages, and obstruction to evacuation routes. Rain-induced landslides and debris flows can potentially occur during any winter in Hood River County, and highway and other major roads beyond City limits are susceptible to obstruction as well. Landslides have historically blocked major roads and cut off transportation about once every ten years.

No development or population changes affected the jurisdiction's overall vulnerability to this hazard. In addition, development and population forecasts are not expected to increase or decrease the impact of this hazard.

Volcanic Event

The Steering Committee rated the City's probability of occurrence for volcanic events as "low" (which is the same as the County's rating) and their vulnerability as "moderate" (which is the same as the County's rating). *Both the probability and vulnerability rating decreased from the previous version of this NHMP to more closely match the County's ratings.*

Volume I, Section 2 describes Cascade Locks' risk to volcanic events. Generally, an event that affects the County is likely to affect the City as well, but less severely than the Hood River Valley to the east. The causes and characteristics of a volcanic event are appropriately described within the County's plan, as well as the location and extent of potential hazards. Previous occurrences are well-documented within the County's plan, and the community impacts described by the County would generally be the same for Cascade Locks as well. The City is very unlikely to experience anything more than volcanic ash during a volcanic event. When Mt. Saint Helens erupted in 1980, the City of Hood River to the east received ash fall, but the City of Cascade Locks did not experience any impacts.

Due to the nature of the hazard, it is extremely challenging to predict the location or extent of future events with any probability, although it can be assumed that all residential and critical facilities and infrastructure within the City of Cascade Locks are at risk.

Economic Losses
DOGAMI's Risk Report includes a volcanic lahar damage model. The model's results show that there are no expected impacts on areas of the City due to potential volcanic lahars.

No development or population changes affected the jurisdiction's overall vulnerability to this hazard. In addition, development and population forecasts are not expected to increase or decrease the impact of this hazard.

Wildfire

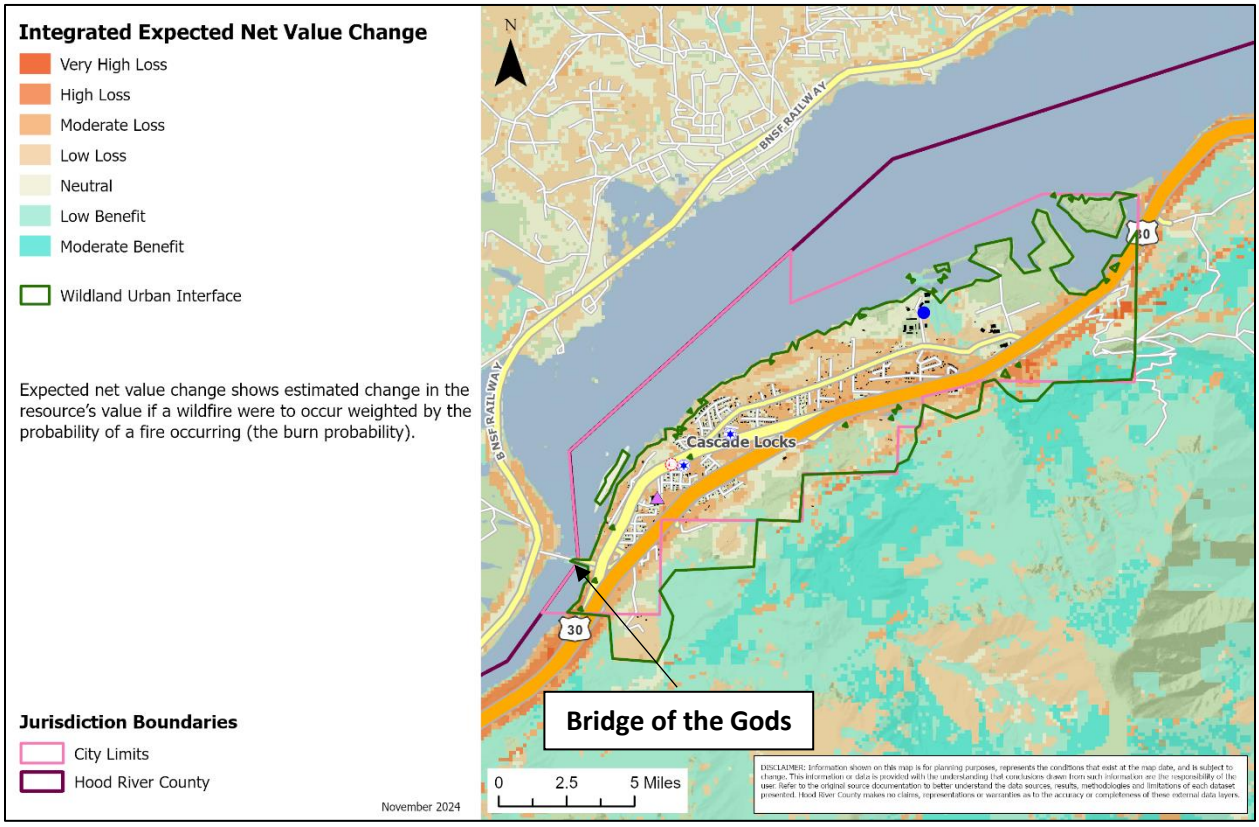
The Steering Committee rated the City's probability of occurrence for wildfire events as "high" (which is the same as the County's rating) and their vulnerability as also "high" (which is the same as the County's rating). *These ratings have not changed since the previous version of this NHMP.*

Volume I, Section 2 describes the causes and characteristics of wildfires, as well as the County and City's history of wildfire events. The potential community impacts and vulnerabilities described in the County's NHMP are generally accurate for the City as well. Several significant wildfire events have occurred in Cascade Locks, the most recent being the Eagle Creek Fire (September – November 2017), a declared conflagration which was the top priority fire nationally for two weeks and burned nearly 50,000 acres throughout the region. The location and extent of wildfires vary depending on fuel, topography, and weather conditions. Adjacency to forest land and steep slopes create conditions conducive to wildfires. Cascade Locks experiences higher wind speeds than the rest of the County.

Map CL-6 and Map CL-7 show the wildfire hazard (using integrated expected net value change) and burn probability for the City, respectively. Most of the City lies within "moderate" or "neutral" loss areas and has "very low" to "low moderate" burn probability.

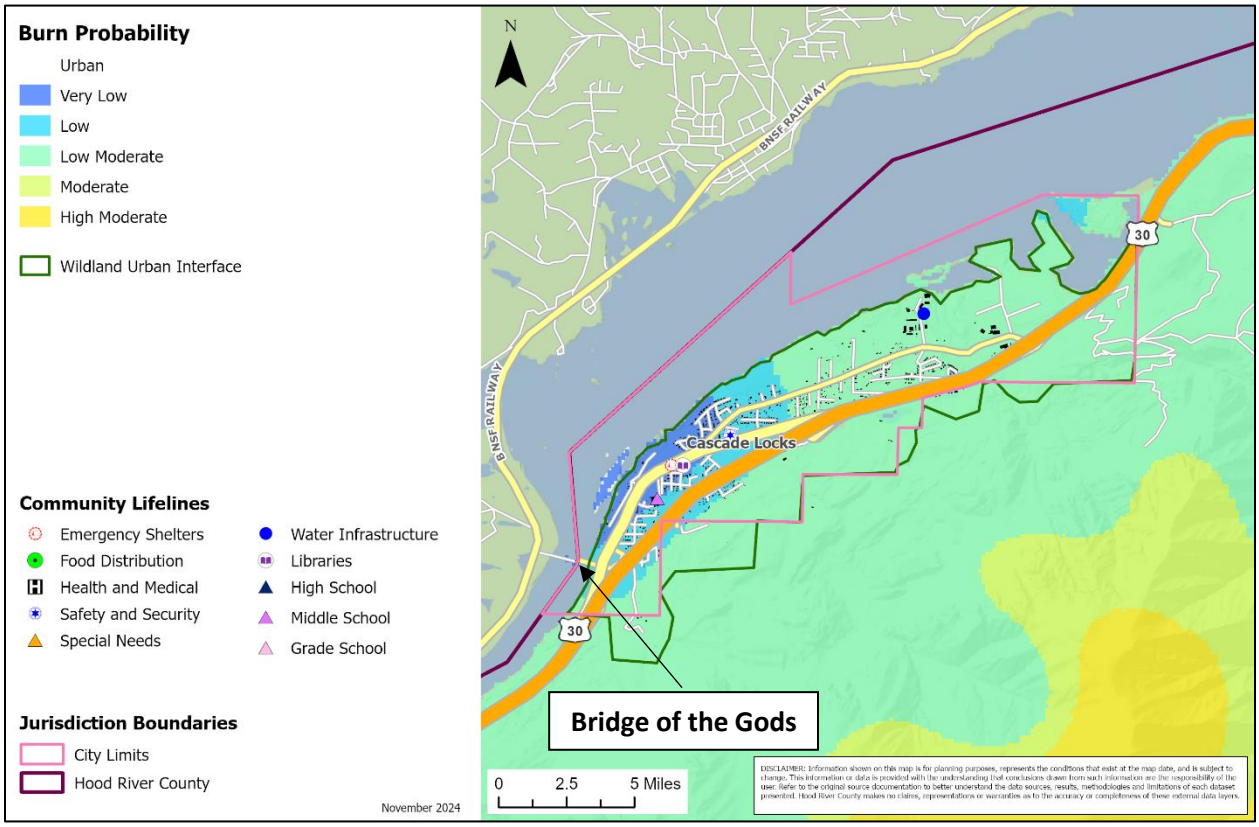
For wildfire hazard (Map CL-6), the integrated expected net value change map shows the estimated change in the resource's value if a wildfire were to occur weighted by the probability of a fire occurring (also known as the burn probability).

Map CL-6 Wildfire Hazard and Community Lifelines



Source: Mapping by OPDR.
Data from USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA) and Oregon Explorer's CWPP Planning Tool.

Map CL-7 Burn Probability and Community Lifelines



Source: Mapping by OPDR.
Data from USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA) and Oregon Explorer's CWPP Planning Tool.

Hood River County developed a Community Wildfire Protection Plan (CWPP) in 2013 and updated the CWPP in 2025. This can be found in Volume IV. A CWPP maps wildland urban interface areas and includes actions to mitigate wildfire risk. The City created a standalone CWPP in 2006 but was a participant in both the 2013 and 2025 CWPPs (via the Cascade Locks Fire Department) and will update the City's wildfire risk assessment if the CWPP presents better data.

Economic Losses

DOGAMI's Risk Report includes a wildfire damage model. The model's results show the following potential impacts on portions of the City in high wildfire hazard areas:

- Number of buildings: 11
- Value of exposed buildings: $1,990,000
- Percentage of total city value exposed: 1.3%
- Critical facilities exposed: 1
- Potentially displaced population: 0

No development or population changes affected the jurisdiction's overall vulnerability to this hazard. In addition, development and population forecasts are not expected to increase or decrease the impact of this hazard.

Windstorm

The Steering Committee rated the City's probability of occurrence for windstorm events as "moderate" (which is the same as the County's rating) and their vulnerability as also "moderate" (which is the same as the County's rating). *These ratings did not change from the previous version of this NHMP.*

Volume I, Section 2 describes the causes and characteristics of windstorms, as well as the location and extent of windstorm hazards. The region's (and City's) history of events is adequately described within the County's plan as well. Because windstorms typically occur during winter months, they are sometimes accompanied by ice, freezing rain, flooding, and very rarely, snow. For the purposes of this plan, windstorms are considered an individual hazard, distinct from winter storms. Alone, they have much lower potential to affect the City. Winds are a frequent, almost constant occurrence in Cascade Locks, and Crown Point, an area at higher elevation than the City, saw 115-130 mph winds during a storm in 2016. The neighborhoods located on high ridgelines to the south of the City are most susceptible to damage. North south winds, which are more rare, frequently bring down trees.

Hood River County's plan adequately describes the impacts caused by windstorms, including power outages, downed trees, and storm-related debris. Transportation and economic disruptions are secondary results. Cascade Locks experiences wind related power outages twice annually. The City clears its utility lines and the Bonneville Power Administration clears transmission lines as part of routine management. More than 40% of power lines in the city are underground, with efforts ongoing to continue placing further power lines underground.

Due to the nature of the hazard, it is extremely challenging to predict the location or extent of future events with any probability, although it can be assumed that all residential and critical facilities and infrastructure within Cascade Locks are at risk.

No development or population changes affected the jurisdiction's overall vulnerability to this hazard. In addition, development and population forecasts are not expected to increase or decrease the impact of this hazard.

Winter Storm

The Steering Committee rated the City's probability of occurrence for winter storm events as "high" (which is the same as the County's rating) and their vulnerability as also "high" (which is the same as the County's rating). *These ratings did not change from the previous version of this NHMP.*

Volume I, Section 2 describes the causes and characteristics of winter storms, as well as the location and extent of winter storm hazards. In general, Cascade Locks experiences more rain and higher severity of winter storm impacts than the County. The region's (and City's) history of events is adequately described within the county's plan. Severe winter storms can consist of rain, freezing rain, ice, snow, extreme cold, sleet, and wind. They originate from frigid air moving westward out of the Wallowa Mountains through the Columbia River. Mid-latitude storms approaching from the West are forced to rise as they encounter the Cascades, releasing large amounts of precipitation on the western slopes. Cascade Locks is located in the narrowest part

of the Gorge, so wind speeds are higher. These storms are most common from November through March and are an annual occurrence. Prolonged heavy rains cause the ground to become saturated and often result in local flooding and landslides. The 2017 Eagle Creek Fire damage trees in the slopes above Cascade Locks; as their roots decay, these trees will fall and winter storm associated debris flow risk may increase.

Major winter storms can and have occurred in the Cascade Locks area, and while they typically do not cause significant damage, they are frequent and have the potential to impact economic activity. Road closures on major roads due to winter weather can interrupt commuter and large truck traffic, including food and fuel supply. Road closures occur annually.

Due to the nature of the hazard, it is extremely challenging to predict the location or extent of future events with any probability, although it can be assumed that all residential and critical facilities and infrastructure within Cascade Locks are at risk.

Attachment A: Public Involvement Summary

Members of the Steering Committee provided edits and updates to the NHMP prior to the public review period as reflected in the final document. In addition, a survey was distributed that included responses from residents of Cascade Locks (Volume II, Appendix G).

To provide the public information regarding the draft NHMP addendum, and provide an opportunity for comment, an announcement was provided for 15 days from November 19 to December 4, 2024 on the County's website. Comments were reviewed and integrated into the NHMP as applicable. Additional opportunities for stakeholders and the public to be involved in the planning process are addressed in Volume II, Appendix C.

A diverse array of agencies and organizations were provided an opportunity to provide input to inform the plan's content through a variety of mechanisms including the opportunity for comment on the draft plan. The agencies and organizations represent local and regional agencies involved in hazard mitigation activities, those that have the authority to regulate development, neighboring communities, representatives of businesses, academia, and other private organizations, and representatives of nonprofit organizations, including community-based organizations, that work directly with and/or provide support to underserved communities and socially vulnerable populations. For more information on the engagement strategy see Volume II, Appendix C.

City of Cascade Locks Steering Committee

Steering Committee members possessed familiarity with the community of Cascade Locks and how it is affected by natural hazard events. The Steering Committee guided the update process through several steps including goal confirmation and prioritization, action item review and development, and information sharing, to update the NHMP and to make the NHMP as comprehensive as possible. The Steering Committee met formally on the following dates:

Meeting #1: City of Cascade Locks Steering Committee, May 2, 2024 (in-person at City Hall)
During this meeting, the Steering Committee reviewed the previous NHMP, and were provided updates on hazard mitigation planning, the NHMP update process, and project timeline. The Steering Committee:

- Updated recent history of hazard events in the city.
- Reviewed and confirmed the County NHMP's mission and goals.
- Discussed the NHMP public outreach strategy.
- Reviewed and provided feedback on the draft risk assessment update including community vulnerabilities and hazard information.

- Reviewed and updated their existing mitigation strategy (actions).
- Reviewed and updated their implementation and maintenance program.

Meeting Attendees:

- Jordon Bennett, City Administrator

Attachment B: Action Item Changes

Table CL-6 is an accounting of the status (complete or not complete) and major changes to actions since the previous NHMP. All actions were renumbered in this update to be consistent with other jurisdictions that are participating in the multi-jurisdictional NHMP. Actions identified as still relevant are included in the updated action plan (Table CL-1).

Previous NHMP Actions that are Complete:
Multi-Hazard #1: *Locate temporary offsite location for City Administration; conduct seismic assessment of City Hall to determine risk.* Complete. Cascade Locks conducted an informal study in 2019 and determined City Hall requires a seismic retrofit.

Previous NHMP Actions that are Not Complete and No Longer Relevant:
Multi-Hazard #2: *Research and develop teleconferencing solution for emergency communications during hazard event; possible join with retrofitting House 3 (Port property).* No longer a priority for either the City or the Port of Cascade Locks. Broader interoperability issues are addressed as part of the County's Mitigation Strategy.

Earthquake #1: *Seismically upgrade Bridge of the Gods to withstand strong shaking; implement improvement maintenance schedule.* This remains a priority for the Port of Cascade Locks but will not require significant involvement from the City of Cascade Locks.

Table CL-6 Status of All Hazard Mitigation Actions in the Previous Plan

2018 Action Item	2025 Action Item	Status	Still Relevant? (Yes/No)
Multi-Hazard Mitigation Strategies			
Multi-Hazard #1	-	Complete	No
Multi-Hazard #2	-	Not Complete	No
-	1.1	New	-
-	1.2	New	-
-	1.3	New	-
-	1.4	New	-
-	1.5	New	-
-	1.6	New	-
-	1.7	New	-
Air Quality Mitigation Strategies			
-	2.0	New	-
Drought Mitigation Strategies			

2018 Action Item	2025 Action Item	Status	Still Relevant? (Yes/No)
-	3.0	New	-
Earthquake/CSZ Event Mitigation Strategies			
Earthquake #1	-	Not Complete	No
-	4.1	New	-
Extreme Heat Mitigation Strategies			
-	5.0	New	-
Flood Mitigation Strategies			
-	6.0	New	-
Landslide/Debris Flow Mitigation Strategies			
-	7.1	New	-
Volcanic Event Mitigation Strategies			
-	8.0	New	-
Wildfire Mitigation Strategies			
Wildfire #1	9.1	Not Complete	Yes
-	9.2	New	-
Windstorm Mitigation Strategies			
-	10.0	New	-
Winter Storm Mitigation Strategies			
-	11.0	New	-

Port of Cascade Locks Addendum

to the Hood River County Multi-Jurisdictional NHMP

Photos courtesy of Gary Halvorson, Oregon State Archives

Effective: July 8, 2025 through July 7, 2030

Prepared for
Port of Cascade Locks
427 SW Portage Road
Cascade Locks, OR 97014

Prepared by
The University of Oregon
Institute for Policy Research & Engagement
School of Planning, Public Policy, and Management

UNIVERSITY OF OREGON | Institute for Policy Research and Engagement

U.S. Department of Homeland Security
Federal Emergency Management Agency
Region 10

130 228th St SW
Bothell, WA 98021

July 14, 2025

Mr. Stephen Richardson
State Hazard Mitigation Officer
Oregon Department of Emergency Management
3930 Fairview Industrial Dr SE
Salem, Oregon 97302

Reference: Approval of the Hood River County Multi-Jurisdictional Hazard Mitigation Plan

In accordance with applicable[1] laws, regulations and policy, the Risk Analysis Branch of FEMA Region 10 Mitigation Division has approved the local mitigation plan for the following jurisdictions:

Hood River County	City of Cascade Locks	City of Hood River
Port of Cascade Locks	Port of Hood River	Hood River County Library District
Hood River County School District	West Side Rural Fire Protection District	

Mitigation plans may include additional content to meet Element H: Additional State Requirements or content the local government included beyond applicable FEMA mitigation planning requirements. FEMA approval does not include the review or approval of content that exceeds these applicable FEMA mitigation planning requirements.

The approval period for this plan is from July 8, 2025 through July 7, 2030.

The jurisdictions' plan approval ensures the eligibility for project grants under FEMA's Hazard Mitigation Assistance programs. All requests for funding are evaluated individually according to eligibility and other program requirements. Having an approved mitigation plan does not mean that mitigation grant funding will be awarded. Specific application and eligibility requirements can be found in each FEMA grant program's respective policies and annual Notice of Funding Opportunities, as applicable.

[1] Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and National Dam Safety Program Act, as amended; 44 CFR Part 201, Mitigation Planning; and Local Mitigation Planning Policy Guide (FP-206-21-0002).

FEMA's approval is for a period of five years, effective the date FEMA received the adoption documentation. For this plan, documentation was received on July 8, 2025 and is considered approved as of then. Prior to July 7, 2030, each jurisdiction must review, revise, and submit their plan to FEMA for approval to maintain eligibility for grant funding. The enclosed plan review tool provides opportunities to incorporate into future updates.

Sincerely,

Wendy Shaw, P.E.
Risk Analysis Branch Chief
Mitigation Division

JF:JG

Attachment**:** Local Mitigation Plan Review Tool

THE PORT OF CASCADE LOCKS
BOARD OF PORT COMMISSIONERS
CASCADE LOCKS, OREGON
RESOLUTION 2025-3
A RESOLUTION ADOPTING THE DISTRICT OF PORT OF CASCADE LOCKS REPRESENTATION IN THE UPDATES TO THE HOOD RIVER COUNTY MULTI-JURISDICTIONAL NATURAL HAZARDS MITIGATION PLAN

WHEREAS, the Port District of the Port of Cascade Locks recognizes the threat that natural hazards pose to people, property and infrastructure within our community; and

WHEREAS, undertaking hazard mitigation actions will reduce the potential for harm to people, property and infrastructure from future hazard occurrences; and

WHEREAS, an adopted Natural Hazards Mitigation Plan is required as a condition of future funding for mitigation projects under multiple FEMA pre- and post-disaster mitigation grant programs; and

WHEREAS, the Port District of the Port of Cascade Locks has fully participated in the FEMA prescribed mitigation planning process to prepare the Hood River County, Multi-Jurisdictional Natural Hazards Mitigation Plan, which has established a comprehensive, coordinated planning process to eliminate or minimize these vulnerabilities; and

WHEREAS, the Port District of the Port of Cascade Locks has identified natural hazard risks and prioritized a number of proposed actions and programs needed to mitigate the vulnerabilities of the Port District of the Port of Cascade Locks to the impacts of future disasters within the Hood River County, Multi-Jurisdictional Natural Hazards Mitigation Plan; and

WHEREAS, these proposed projects and programs have been incorporated into the Hood River County, Multi-Jurisdictional Natural Hazards Mitigation Plan that has been prepared and promulgated for consideration and implementation by the participating cities and special districts of Hood River County; and

WHEREAS, the Oregon Department of Emergency Management and Federal Emergency Management Agency, Region X officials have reviewed the Hood River County, Multi-Jurisdictional Natural Hazards Mitigation Plan and pre-approved it contingent upon this official adoption of the participating governments and entities;

WHEREAS, the Natural Hazards Mitigation Plan is in an on-going cycle of development and revision to improve it's effectiveness; and

WHEREAS, Port District of the Port of Cascade Locks adopts the Natural Hazards Mitigation Plan and directs the Executive Director to develop, approve, and implement the mitigation strategies and any administrative changes to the Natural Hazards Mitigation Plan.

NOW, THEREFORE, BE IT RESOLVED, that the Port District of the Port of Cascade Locks adopts the Hood River County Multi-Jurisdictional Natural Hazards Mitigation Plan as an official plan; and

BE IT FURTHER RESOLVED, that the Port District of the Port of Cascade Locks will submit this Adoption Resolution to the Oregon Department of Emergency Management and Federal Emergency Management Agency, Region X officials to enable final approval of the Hood River County Multi-Jurisdictional Natural Hazards Mitigation Plan.

The above Resolution statements were approved and declared adopted on this 15 day of April 2025.

BY: _____
Brad Lorang, President

BY: _____
Albert Nance, Secretary

Table of Contents

List of Tables

List of Figures

List of Maps

Introduction

Purpose

This is an update of the Port of Cascade Locks addendum to the Hood River County Multi-Jurisdictional Natural Hazard Mitigation Plan (NHMP). This addendum supplements information contained in Volume I (Basic Plan) which serves as the NHMP foundation and Volume II (Appendices), which provide additional information. This addendum meets the following requirements:

- Multi-Jurisdictional **Plan Adoption** §201.6(c)(5),
- Multi-Jurisdictional **Participation** §201.6(a)(3),
- Multi-Jurisdictional **Mitigation Strategy** §201.6(c)(3)(iv) and
- Multi-Jurisdictional **Risk Assessment** §201.6(c)(2)(iii).

Updates to the Port of Cascade Locks' addendum are further discussed throughout the NHMP and within Volume II, Appendix C, which provides an overview of alterations to the document that took place during the update process.

The Port of Cascade Locks adopted their addendum to the Hood River County NHMP on April 15, 2025. FEMA Region X approved the Hood River County NHMP and the City's addendum on July 8, 2025. With approval of this NHMP, the City is now eligible for non-disaster and disaster mitigation project grants through July 7, 2030.

NHMP Process, Participation and Adoption

This section of the NHMP addendum addresses 44 CFR 201.6(c)(5), *Plan Adoption* and 44 CFR 201.6(a)(3), *Participation.*

In addition to establishing a comprehensive city level mitigation strategy, the Disaster Mitigation Act of 2000 (DMA2K), and the regulations contained in Title 44 CFR Part 201, require that jurisdictions maintain an approved NHMP to receive federal funds for mitigation projects. Local adoption and federal approval of this NHMP ensures that the Port will remain eligible for non-disaster and disaster mitigation project grants. The Port of Cascade Locks was included with an addendum in the 2012 and 2018 Hood River County NHMP process.

The Oregon Partnership for Disaster Resilience (OPDR) at the University of Oregon's Institute for Policy Research and Engagement (IPRE) collaborated with Hood River County Emergency Management and the Port of Cascade Locks to update their NHMP. This project is funded through the Federal Emergency Management Agency's (FEMA) Hazard Mitigation Grant Program. Members of the Port of Cascade Locks NHMP Steering Committee also participated in the County NHMP update process (Volume II, Appendix C). By updating the NHMP, locally adopting it, and having it re-approved by FEMA, the Port of Cascade Locks will maintain eligibility for FEMA Hazard Mitigation Assistance grant program funds.

The Hood River County NHMP and Port of Cascade Locks addendum are the result of a collaborative effort between residents, public agencies, non-profit organizations, the private sector, and regional organizations. A project steering committee guided the NHMP development process.

Convener and Committee

The Operations Manager for the Port of Cascade Locks served as the designated convener of the NHMP update and will take the lead in implementing, maintaining, and updating the addendum to the Hood River County NHMP in collaboration with the designated convener of the Hood River County NHMP (Emergency Manager).

Representatives from the Port of Cascade Locks Steering Committee met formally and informally, to discuss updates to their addendum (see Attachment B and Volume II, Appendix C). The Steering Committee reviewed and revised the Port's addendum, with a focus on the NHMP's risk assessment and mitigation strategy (action items).

This addendum reflects decisions made at the designated meetings and during subsequent work and communication with Hood River County Emergency Management and OPDR. The changes are highlighted with more detail throughout this document and within Volume II, Appendix C. Other documented changes include a revision of the Port's risk assessment and hazard identification sections, NHMP mission and goals, action items, and community profile.

The Port of Cascade Locks Steering Committee was comprised of the following representatives:

- Convener: Parker Nelson, Operations Manager
- Genevieve Scholl, Deputy Executive Director

The Steering Committee served as the local review body for the NHMP's development.

NHMP Implementation and Maintenance

The Port Commission will be responsible for adopting the Port Cascade Locks addendum to the Hood River County NHMP. This addendum designates a steering committee and a convener to oversee the development and implementation of action items. Because the Port addendum is part of the County's NHMP, the Port will look for opportunities to partner with the County. The Port's Steering Committee will convene after re-adoption of the Cascade Locks NHMP addendum on an annual schedule. The County is meeting on a semi-annual basis and will provide opportunities for jurisdictions to report on NHMP implementation and maintenance during their meetings. The Steering Committee, assembled by the convener, will be responsible for:

- Reviewing existing action items to determine suitability of funding;
- Reviewing existing and new risk assessment data to identify issues that may not have been identified at NHMP creation;
- Educating and training new steering committee members on the NHMP and mitigation actions in general;

- Assisting in the development of funding proposals for priority action items;
- Discussing methods for continued public involvement;
- Evaluating effectiveness of the NHMP at achieving its purpose and goals (use Table 4-1, Volume I, Section 4, as one tool to help measure effectiveness); and
- Documenting successes and lessons learned during the year.

The convener will also remain active in the County's implementation and maintenance process (Volume I, Section 4).

The Steering Committee will be responsible for activities outlined in Volume I, Section 4.

The Port will utilize the same action item prioritization process as the County (Volume I, Section 4 and Volume II, Appendix E).

Implementation through Existing Programs

Many of the NHMP's recommendations are consistent with the goals and objectives of the Port's existing plans and policies. Where possible, the Port of Cascade Locks will implement the NHMP's recommended actions through existing plans and policies. Plans and policies already in existence have support from residents, businesses, and policy makers. Many land-use, comprehensive, and strategic plans get updated regularly, allowing them to adapt to changing conditions and needs. Implementing the NHMP's action items through such plans and policies increases their likelihood of being supported and implemented.

The Port of Cascade Locks currently has the following plans that relate to natural hazard mitigation. For a complete list visit the Port's website:

- Strategic Plan (2024)
- Cascade Locks Airport Study (2018)
    - The airport is owned by the State of Oregon through the Department of Aviation.
- Bridge of the Gods 15-Year Plan Spreadsheet (2018)
    - The Port anticipates updating this plan in 2025.
- Port Business Park Development Guidelines (2016)
- Port and City Inter-Governmental Agreement (2013)

The Port of Cascade Locks is also subject to the following City of Cascade Locks plans:

- Downtown Revitalization Plan (expected 2025)
- Strategic Plan (2023)
- Wastewater Facilities Plan (2017)
- Water System Master Plan (2014)
- Emergency Operations Plan (2013)
- Economic Opportunities Analysis (2009)
- Transportation System Plan (2001)
- Comprehensive Plan (2001) – implemented through Community Development Code.

Capability Assessment

Port of Cascade Locks, Oregon

The Capability Assessment identifies and describes the ability of the Port of Cascade Locks to implement the mitigation strategy and associated action items. This is a key component of the 2025 Natural Hazard Mitigation Plan (NHMP) update. Capabilities can be evaluated through an examination of broad categories, including existing authorities, policies, programs, funding, and resources. Information from the 2018 NHMP was not integrated into other planning mechanisms, in part due to the impact of the COVID-19 pandemic. The Port intends to integrate information from the 2025 NHMP before the next NHMP update.

The Port of Cascade Locks is situated within the City of Cascade Locks as well as neighboring unincorporated areas of Hood River County and was incorporated in 1935. The Port owns and operates the Bridge of the Gods, which connects Oregon and Washington over the Columbia River, as well as the Cascade Locks Marine Park and the Sternwheeler Columbia Gorge excursion vessel. The Port's main priorities for projects center on the Bridge of the Gods, infrastructure, and economic development. Map POCL-1Map POCL-1 Port of Cascade Locks District Map illustrates the full Port district; however, outside of the northern section of the Bridge of the Gods (which extends into Washington state), Port property lies entirely within the City of Cascade Locks' city boundaries (see Map POCL-2).

Existing Authorities

Hazard mitigation can be executed at a local scale through three (3) methods: integrating hazard mitigation actions into other local planning documents (i.e., plan integration), adopting building codes that account for best practices in structural hardening, and codifying land use regulations and zoning designations that prescribe mitigation into development requirements. The extent to which a municipality or multi-jurisdictional effort leverages these approaches is an indicator of that community's capabilities.

Land Use Regulations

Existing land use policies that define zoning and address hazardous conditions provide another source of mitigation capability. The Port of Cascade Locks falls under both the City of Cascade Locks' and Hood River County's land use codes.

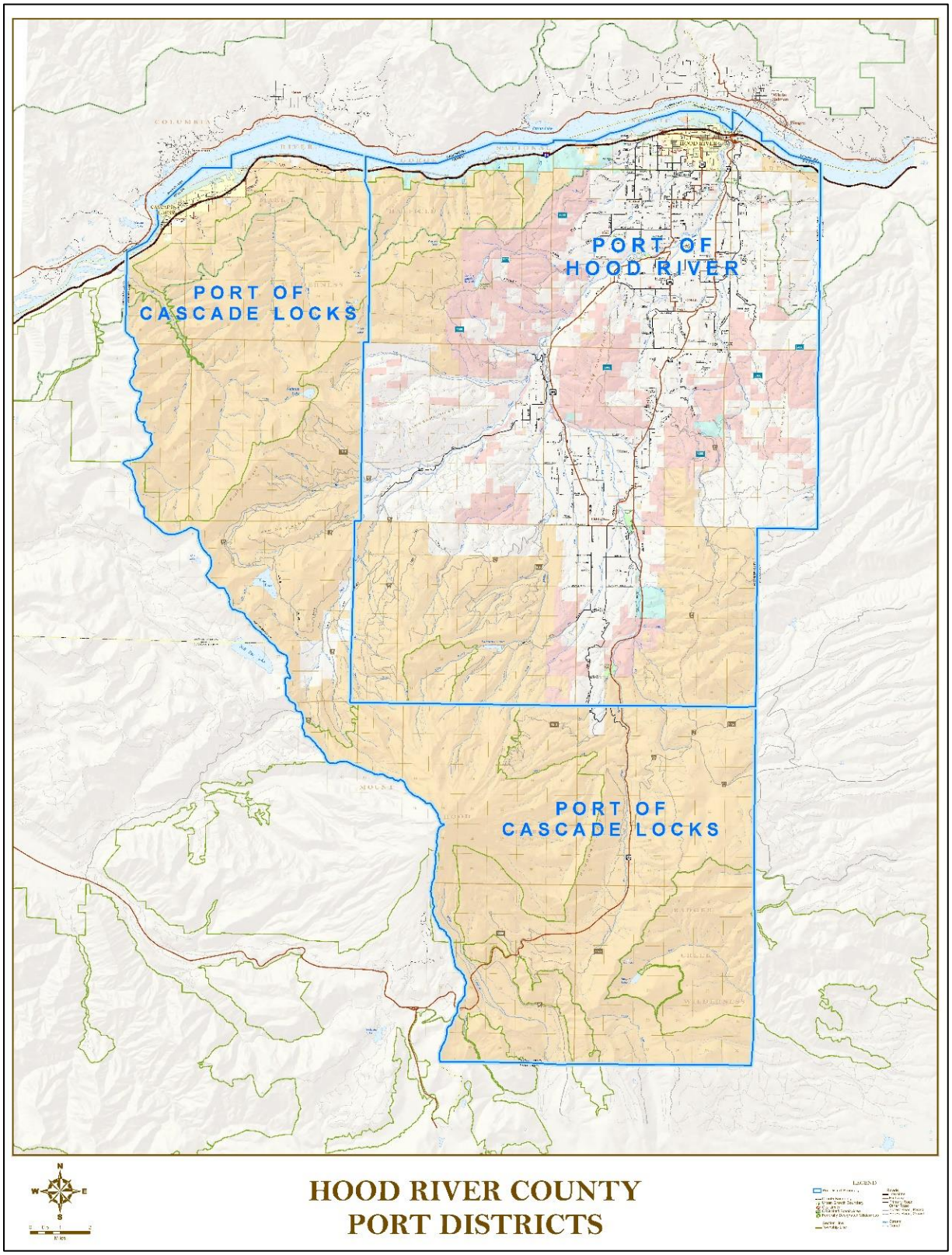
Structural Building Codes

The Oregon Legislature recently adopted updated building codes for both residential (2021 adoption) and commercial structures (2022) since the last update of the NHMP. These building codes are based on the 2021 version of the International Building Code, International Fire Code, and International Existing Building Code. New wildfire defensible space code is scheduled to be completed soon, with an effective date announced in late 2024. Fire hardening requirements were adopted on October 1, 2022, and effective April 1, 2023.

Cascade Locks administers and enforces the most recent Oregon Structural and Oregon Specialty Codes (2022), and the 2022 Oregon Fire Code. As a result, both new residential and commercial

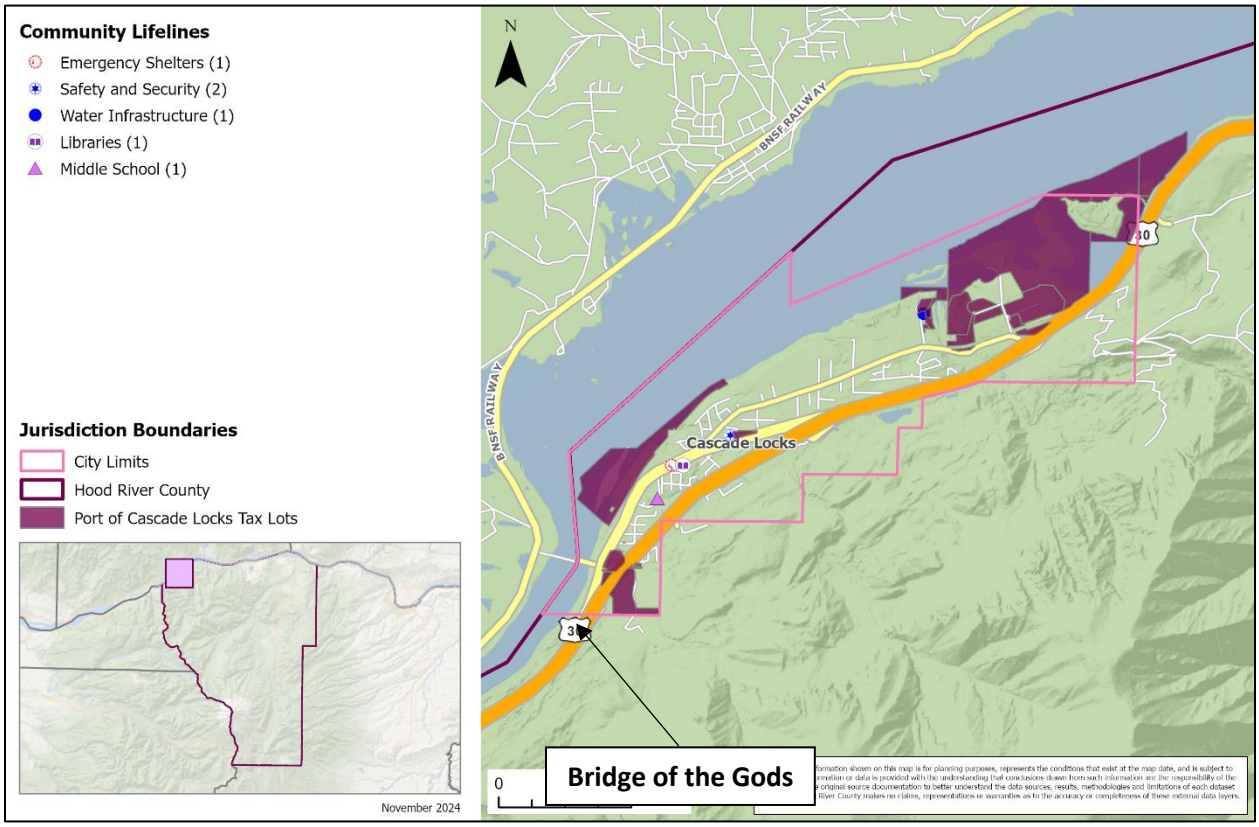
structures will be required to build according to the latest seismic and wind hardening standards in addition to requiring fire resistant building materials for those structures constructed in proximity or within the WUI.

Map POCL-1 Port of Cascade Locks District Map



Source: Port of Cascade Locks (2024). *Port of Cascade Locks 2024-2029 Strategic Plan.* https://www.portofcascadelocks.gov/files/ce49d4f62/Port+of+Cascade+Locks+Strategic+Plan+FY24-29.pdf.

Map POCL-2 Port of Cascade Locks Facilities



Source: Mapping by OPDR.
Data from Hood River County Community Development Department (J. Edwards, personal communication, September 2024) and Oregon Department of Geology and Mineral Industries' HazVu website.

Policies and Programs

The NHMP directs the Port of Cascade Locks to explore integration into other planning documents and processes. The Port of Cascade Locks has made significant progress in integrating the NHMP into its portfolio of planning processes and programs over the last five years.

Strategic Plan, 2024

Port staff and the five-member Port Commission completed an update to their Strategic Plan while this NHMP was in development. The plan primarily focuses on business priorities, detailing how the Port and the City of Cascade Locks will work together to develop downtown and jointly expand both jurisdictions. However, this plan also contains several hazard mitigation recommendations, including the identification of landslides as a major local hazard and the need for seawalls and fuels reduction to mitigate flooding and wildfire risk, respectively. Additionally, the plan outlines the need for $6 million for further seismic studies on the Bridge of the Gods along with more than $100 million to complete a Phase 2 seismic upgrade on the bridge.

Cascade Locks Airport Study, 2018

This airport is owned by the State of Oregon through the Department of Aviation. The Port commissioned this Airport Study to evaluate current conditions at the airport and consider changes to future uses. One key takeaway from the report related to hazard mitigation was that

stakeholders wanted to ensure that the airport continued to function as an emergency helicopter landing site and staging area during wildfires or other natural disasters.

Personnel

The following Port of Cascade Locks personnel have assignments related to natural hazard mitigation planning and implementation:

- **Emergency Management:** Parker Nelson, Operations Manager
- **Public Information Officer:** Genevieve Scholl, Deputy Executive Director
- **Grant writing (for Public Works or emergency management):** Genevieve Scholl, Deputy Executive Director
- **Capital improvement planning:** Parker Nelson, Operations Manager
- **Capital improvement execution:** Todd Mohr, Maintenance & Construction Manager

These personnel integrate hazards and resilience planning into their greater work programs to the best of their abilities. However, there is limited capacity to expand upon their capabilities or workloads.

Capital Projects

The Port of Cascade Locks has implemented recommendations from the last NHMP into its capital improvement projects over the last five (5) years, including:

- A Bridge of the Gods strengthening project completed in 2021 with the Oregon Department of Transportation (ODOT), the Washington State Department of Transportation (WSDOT), and the Federal Highway Administration
- The installation of new shore power at the Port's large vessel dock.
- Wildfire risk reduction projects near Port-owned recreation facilities including invasive vegetation removal.

Capital Resources

The Port of Cascade Locks maintains several capital resources that have important roles to play in the implementation of the natural hazard mitigation plan, including:

- **Communication towers:**
  - U.S. Cellular leases Port land for several of their cellular towers.
  - CenturyLink has a utility easement for cable crossing the Bridge of the Gods.
- **Critical facilities with power generators:**
  - The Port is seeking funding for a generator at Cascade Locks Elementary School.
- **Warming/cooling/smoke shelters:**
  - The Port is seeking funding for a shelter at Cascade Locks Elementary School.
- **Community shelters:**
  - Marine Park Pavilion (limited capacity)

    - The Port is seeking funding for a shelter at Cascade Locks Elementary School.
- **Food pantries:** None.
- **Fueling storage:** None.

Findings

Several important findings from this capability assessment informed the design of the Plan's mitigation strategy and aided in prioritizing action items.

Staffing Limitations and Capacity

Port of Cascade Locks staff are assigned hazard mitigation responsibilities as a part of their larger job responsibilities. Limited capacity reduces the breadth of the programming the community can undertake in any year. The Port relies upon its relationships with the County and the City of Cascade Locks to expand its operations.

Reliance upon outside funding streams and local match requirements

The Port of Cascade Locks operates on a limited budget with a small staff. This leaves few opportunities for using local financial resources to implement hazard mitigation work. They lean heavily upon state and federal grant funds as the primary means for securing mitigation funding. Hazard mitigation grants such as BRIC require a 25% local funding match, as well as extra staff capacity and expertise to navigate the application process and manage the funding.

Leveraging Partnerships with Public and Nonprofit Entities

The Port has a long history of successful partnerships with City and County governments, ODOT, WSDOT, and state of Oregon economic development and recreational development departments.

Mitigation Strategy

This section of the NHMP addendum addresses 44 CFR 201.6(c)(3(iv), *Mitigation Strategy*.

The Port's mitigation strategy (action items) was first developed during the 2012 NHMP planning process and revised during the 2018 update. During this process, the Steering Committee assessed the Port's risk, identified potential issues, and developed a mitigation strategy (action items).

During the 2025 update process, the Port re-evaluated their mitigation strategy (action items). During this process action items were updated, noting what accomplishments had been made and whether the actions were still relevant; any new action items were identified at this time (see Attachment B for more information on changes to action items).

Action Items

Table POCL-1 documents the title of each action along with potential funding sources (HMA stands for FEMA's Hazard Mitigation Assistance disaster and non-disaster grant programs), the coordinating organization and any partner organizations, the timeline, and the anticipated cost.

For the timeline, O=Ongoing (continuous), S=Short (1-2 years), M=Medium (3-5 years), and L=Long (5 or more years). For cost, L=Low ($50,000 or less), M=Medium ($50,000 to $500,000), H=High ($500,000 to $5 million), and VH=Very High ($5 million or more).

Table POCL-1 Action Items

Action Item #	Mitigation Action Title	Potential Funding Sources	Coordinating Organization	Partner Organizations	Timeline	Cost
Multi-Hazard Mitigation Strategies						
1.1	Evaluate options for constructing new building to house City and Port of Cascade Locks staff as well as serving as a warming/cooling shelter and a bunkhouse for emergency response operations.	HMA; State Funding (OEM, ODHS, ODF); Economic Development Agency; Bond	Port of Cascade Locks/City of Cascade Locks	County Emergency Management; State Agencies (ODF); USFS	L	VH
1.2	Explore options for incentivizing the creation of and investment in major care facilities (including medical, childcare, and elder care) in the City of Cascade Locks.	Private Sector Investment	City of Cascade Locks	Port of Cascade Locks; County Emergency Management; Existing Major Care Facilities	L	VH
1.3	Develop education campaign and planning regarding potential hazard impacts on tribal in-lieu fishing sites along the Columbia River.	HMA; State Funding (DLCD)	County Emergency Management	Port of Cascade Locks; City of Cascade Locks; Columbia River Inter-Tribal Fish Commission	M	M
1.4	Purchase backup power generators for Port of Cascade Locks to supplement sole current backup power generator for lighting on the Bridge of the Gods.	HMA; State Funding (OEM, ODHS, ODOT)	Port of Cascade Locks	County Emergency Management	M	M
1.5	Execute joint proposal with Cascade Locks FD to secure an Oregon Emergency Management Office Type 1 Package for severe weather and wildfire emergency response.	State Funding (OEM)	Port of Cascade Locks/Cascade Locks FD	City of Cascade Locks; State Agencies (OEM)	S	M
1.6	Execute joint proposal with the School District and County Emergency Management to install a transfer switch at Cascade Locks Elementary School to enable hookup to a large generator. This will enable the school to serve as a warming and cooling shelter services during hazard events with prolonged power outages.	HMA; State Funding (OEM)	Port of Cascade Locks/School District/County Emergency Management	City of Cascade Locks; Cascade Locks FD	M	M

Action Item #	Mitigation Action Title	Potential Funding Sources	Coordinating Organization	Partner Organizations	Timeline	Cost
1.7	Install more shore power at the Port's large vessel dock.	HMA; State Funding (ODOE)	Port of Cascade Locks	American Cruise Lines	L	H
Air Quality/Smoke Mitigation Strategies						
2.0	The Steering Committee, using available local resources, will study this hazard further during the implementation and maintenance phase of this NHMP, seeking to identify cost effective actions that might be implemented to reduce community vulnerability.					
Drought Mitigation Strategies						
3.0	Given that Drought is categorized as low risk in the Hazard Vulnerability Assessment, the Steering Committee decided not to develop any mitigation action items for this hazard. This is in line with the decision-making process for low-risk hazards used by the 2025 Hood River County NHMP Steering Committee for the County Mitigation Strategy.					
Earthquake/CSZ Event Mitigation Strategies						
4.1	Implement improvement maintenance schedule for the Bridge of the Gods.	HMA; State Funding (Seismic Rehabilitation Grant Program); Existing Staff Resources	Port of Cascade Locks	City of Cascade Locks; City of Stevenson; State Agencies (ODOT); Washington State Department of Transportation; Federal Highway Administration	O	VH
4.2	Seismically upgrade Bridge of the Gods to withstand strong shaking.	HMA; State Funding (Seismic Rehabilitation Grant Program)	Port of Cascade Locks	City of Cascade Locks; City of Stevenson; State Agencies (ODOT); Washington State Department of Transportation; Federal Highway Administration	L	VH
Extreme Heat Mitigation Strategies						
5.0	The Steering Committee, using available local resources, will study this hazard further during the implementation and maintenance phase of this NHMP, seeking to identify cost effective actions that might be implemented to reduce community vulnerability.					

Action Item #	Mitigation Action Title	Potential Funding Sources	Coordinating Organization	Partner Organizations	Timeline	Cost
Flood Mitigation Strategies						
6.0	Given that Flood is categorized as low risk in the Hazard Vulnerability Assessment, the Steering Committee decided not to develop any mitigation action items for this hazard. This is in line with the decision-making process for low-risk hazards used by the 2025 Hood River County NHMP Steering Committee for the County Mitigation Strategy.					
Landslide/Debris Flow Mitigation Strategies						
7.0	The Steering Committee, using available local resources, will study this hazard further during the implementation and maintenance phase of this NHMP, seeking to identify cost effective actions that might be implemented to reduce community vulnerability.					
Volcanic Event Mitigation Strategies						
8.0	Given that Volcanic Event is categorized as low risk in the Hazard Vulnerability Assessment, the Steering Committee decided not to develop any mitigation action items for this hazard. This is in line with the decision-making process for low-risk hazards used by the 2025 Hood River County NHMP Steering Committee for the County Mitigation Strategy.					
Wildfire Mitigation Strategies						
9.1	Conduct public information campaign regarding fire awareness via social media and increased signage for visitors (with a focus on the Historic Columbia River Highway State Trail and County/State Parks)	HMA; State Funding (ODF, OSFM); USFS (Community Wildfire Defense Grant); Existing Staff Resources	Fire Districts	Port of Cascade Locks; City of Cascade Locks; City of Hood River; County Emergency Management; State Agencies (ODF, OSFM, ODOT); USFS	L	M
9.2	Conduct wildfire risk reduction projects and removal of invasive vegetation (i.e., Himalayan blackberries and ivy) near Port-owned recreational facilities.	HMA; State Funding (ODF, OSFM); USFS (Community Wildfire Defense Grant); Existing Staff Resources	Port of Cascade Locks	City of Cascade Locks; Cascade Locks FD; County Emergency Management; State Agencies (ODF, OSFM); USFS	M	H

Action Item #	Mitigation Action Title	Potential Funding Sources	Coordinating Organization	Partner Organizations	Timeline	Cost
Windstorm Mitigation Strategies						
10.1	Implement projects to ensure improvement (roofing and siding), securement (park property and docks), materials storage (reducing risk of flying debris), and tree inspection, removal, and maintenance.	HMA; State Funding (OEM); Existing Staff Resources	Port of Cascade Locks	City of Cascade Locks; Special Districts Insurance Services	M	M
Winter Storm Mitigation Strategies						
11.1	Develop countywide plan for addressing trucks stranded during storms on I-84 without using Port of Cascade Locks or Port of Hood River property.	HMA; State Funding (ODOT); Existing Staff Resources	Port of Cascade Locks/Port of Hood River	County Emergency Management; City of Cascade Locks; City of Hood River; State Agencies (ODOT)	M	M

Source: Port of Cascade Locks NHMP Steering Committee, updated 2025
Potential Funding Sources: HMA=FEMA's Hazard Mitigation Assistance disaster and non-disaster grant programs
Cost: L=Low (less than $50,000), M=Medium ($50,000-$500,000), H=High ($500,000-$5 million), VH=Very High ($5 million or more)
Timing: O=Ongoing (continuous), S=Short (1-2 years), M=Medium (3-5 years), L=Long (5 or more years)

Risk Assessment

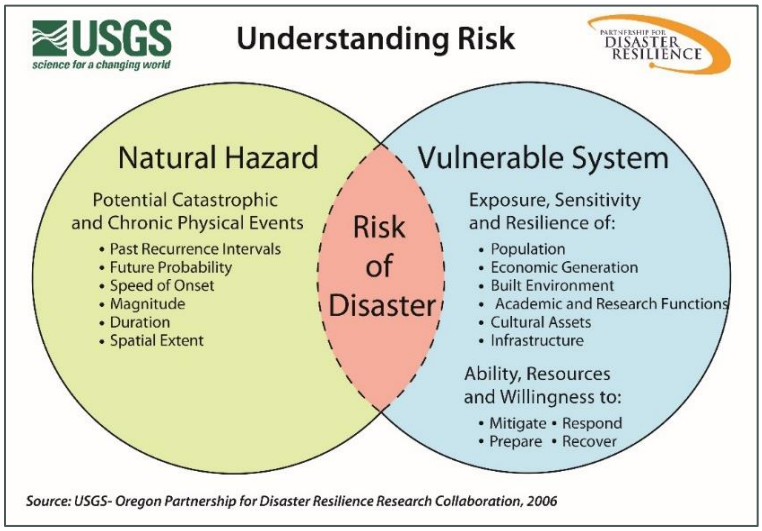
This section of the NHMP addendum addresses 44 CFR 201.6(b)(2) - Risk Assessment. In addition, this chapter can serve as the factual basis for addressing Oregon Statewide Planning Goal 7 – Areas Subject to Natural Hazards.

Assessing natural hazard risk has three phases:

- Phase 1: Identify hazards that can impact the jurisdiction. This includes an evaluation of potential hazard impacts – type, location, extent, etc.
- Phase 2: Identify important community assets and system vulnerabilities. Example vulnerabilities include people, businesses, homes, roads, historic places, and drinking water sources.
- Phase 3: Evaluate the extent to which the identified hazards overlap with or have an impact on, the important assets identified by the community.

The local level rationale for the identified mitigation strategies (action items) is presented herein and within Volume I, Sections 2 and 3. The risk assessment process is graphically depicted in Figure POCL-1. Ultimately, the goal of hazard mitigation is to reduce the area of risk, where hazards overlap vulnerable systems.

Figure POCL-1 Understanding Risk



Hazard Analysis

The Port of Cascade Locks Steering Committee developed their hazard vulnerability assessment (HVA), using their previous HVA and the County's HVA (Volume I, Section 2) as a reference. Changes from the County's HVA were made where appropriate to reflect distinctions in vulnerability and risk from natural hazards unique to Cascade Locks, which are discussed throughout this addendum.

Table POCL-2 shows the HVA matrix for the Port of Cascade Locks listing each hazard in order of rank from high to low. For local governments, conducting the hazard analysis is a useful step in planning for hazard mitigation, response, and recovery. The method provides the jurisdiction with a sense of hazard priorities but does not predict the occurrence of a particular hazard.

Winter Storm, Wildfire, Landslide/Debris Flow, a Cascadia Subduction Zone (CSZ) Event, and Earthquake (crustal) are the **high hazard threats** to the Port. Air Quality/Smoke, Extreme Heat, and Windstorm are all **moderate hazard threats** to the Port. Flood, a Volcanic Event, and Drought are the **low hazard threats** to the Port.

Table POCL-2 Hazard Analysis Matrix – Port of Cascade Locks

Hazard	History (x2)	Probability (x7)	Vulnerability (x5)	Maximum Threat (x10)	Total Threat Score	Rank	Hazard Tier
Winter Storm	9	10	9	10	**233**	**1**	**High**
Wildfire	9	9	7	9	**206**	**2**	**High**
Landslide/ Debris Flow	7	8	8	9	**200**	**3**	**High**
CSZ Event	2	6	9	10	**191**	**4**	**High**
Crustal Earthquake	2	5	9	10	**184**	**5**	**High**
Air Quality/ Smoke	6	7	6	8	**171**	**7**	**Moderate**
Extreme Heat	4	8	5	8	**169**	**7**	**Moderate**
Windstorm	3	4	4	7	**129**	**8**	**Moderate**
Flood	3	4	3	6	**99**	**9**	**Low**
Volcanic Event	2	2	3	6	**73**	**10**	**Low**
Drought	1	3	1	3	**48**	**11**	**Low**

Source: Port of Cascade Locks Steering Committee (2025); Analysis by OPDR.

Hazard and Community Characteristics

Port of Cascade Locks facilities are entirely contained within the City of Cascade Locks (except for the northern section of the Bridge of the Gods, which is in Washington state). The Port's Steering Committee was actively involved in the determination of risk and vulnerability along with the City of Cascade Locks and the County NHMP Steering Committee. As such, the Port's hazard and community characteristics are identical to the City's regarding the type, location, and extent for identified natural hazards. Moreover, the Port does not have the authority to adopt and enforce floodplain management or other land use regulations for the areas within its jurisdiction.

Please review the County Risk Assessment (Volume I, Section 2) and the City of Cascade Locks Addendum (Volume III) for additional information on the community characteristics of the City and hazard vulnerability for the Port.

Community Assets

Table POCL-3 lists key community assets for the Port of Cascade Locks. For a full list of critical and essential facilities and infrastructure[1] in the City of Cascade Locks, see the City of Cascade Locks Addendum (Volume III).

Table POCL-3 Port of Cascade Locks Assets

Facility Name	Details
Bridge of the Gods	Includes all three steel truss spans, toll house park property, bridge road, toll booth, garage building, and property at the base of bridge on the Washington side.
Industrial Park	Includes land parcel leased to Bear Mountain Forest Products, Easy Climb Trail System and improvements, The Locks Approach (disc golf course), Blackberry Beach and Jetty, Herman Creek Cove boat ramp, a quarry, cell tower lease site, and various undeveloped properties and property below the high-water line at Government Rock. Also includes Flex Buildings #5 and #6.
Herman Creek Lane	Includes Flex Building #1, Flex Building #2, Flex Building #3, and Flex Building #4.
Marine Park	Includes Port land, Portage Road, lighting, signage, parking improvements, the visitor center building (currently occupied by Ixtapa Restaurant and JettyLight commercial offices), the pavilion, House 1 (Museum), House 2 (Port Office building), Port Incubator Building and Maintenance Shop, House 3 (Community Center), maintenance warehouse, public boat ramp restrooms, Oregon Pony building, , marina docks, open shelter at museum, campground and restrooms, east cook shack, west cook shack, Thunder Island, playground and equipment, restrooms at playground, the Sternwheeler (*Columbia Gorge*) and dock, footbridge to Thunder Island, fish cleaning station, sailboat storage area improvements, historic locks, and three bronze sculptures.
Moody Road	Includes Moody Road property, a portion of gravel right-of-way on Moody Road, and USFS land exchange property.
Harvey Road	Includes Harvey Road property parking lot and public restroom/shower facility (installed fall 2024).
Miscellaneous	Includes 2.5 acre vacant lot on the east end of Wa Na Pa Street, adjacent to the Cascade Locks Fire District's firehouse.

Source: Port of Cascade Locks Steering Committee (2025)

[1] Critical and essential facilities and infrastructure are those that are essential to the continued delivery of key government services, that may significantly impact the public's ability to recover from a natural hazard event, and that are key to government response and recovery activities (i.e., life, safety, property, and environmental protection).

Error! Not a valid bookmark self-reference. identifies the hazards to which each of the assets listed in Table POCL-3 are vulnerable, if any. The vulnerability for Earthquake (Crustal/CSZ), Flood, Landslide/Debris Flow, Volcano, and Wildfire was determined based on data from the 2021 DOGAMI Risk Report for Hood River County. The remaining hazards were not included in the Risk Report; their vulnerability was determined based on the County Risk Assessment (Volume I, Section 2) and the City of Cascade Locks addendum (Volume III).

Table POCL-4 Port of Cascade Locks Asset Hazard Vulnerability

Facility Name	Air Quality/ Smoke	Drought	Earthquake (Crustal/CSZ)	Extreme Heat	Flood	Landslide/ Debris Flow	Volcano	Wildfire	Windstorm	Winter Storm
Bridge of the Gods			X					X	X	X
Industrial Park			X		X		X	X	X	X
Herman Creek Lane			X					X	X	X
Marine Park			X		X	X	X	X	X	X
Moody Road			X					X	X	X

Source: Port of Cascade Locks Steering Committee (2025). Analysis by OPDR.

Attachment A: Public Involvement Summary

Members of the Steering Committee provided edits and updates to the NHMP prior to the public review period as reflected in the final document. In addition, a survey was distributed that included responses from residents of Cascade Locks (Volume II, Appendix G).

To provide the public information regarding the draft NHMP addendum, and provide an opportunity for comment, an announcement was provided for 15 days from November 19 to December 4, 2024 on the County's website. Comments were reviewed and integrated into the NHMP as applicable. Additional opportunities for stakeholders and the public to be involved in the planning process are addressed in Volume II, Appendix C.

A diverse array of agencies and organizations were provided an opportunity to provide input to inform the plan's content through a variety of mechanisms including the opportunity for comment on the draft plan. The agencies and organizations represent local and regional agencies involved in hazard mitigation activities, those that have the authority to regulate development, neighboring communities, representatives of businesses, academia, and other private organizations, and representatives of nonprofit organizations, including community-based organizations, that work directly with and/or provide support to underserved communities and socially vulnerable populations. For more information on the engagement strategy see Volume II, Appendix C.

Port of Cascade Locks Steering Committee

Steering Committee members possessed familiarity with the community of Cascade Locks and how it is affected by natural hazard events. The Steering Committee guided the update process through several steps including goal confirmation and prioritization, action item review and development, and information sharing, to update the NHMP and to make the NHMP as comprehensive as possible. The Steering Committee met formally on the following dates:

Meeting #1: Port of Cascade Locks Steering Committee, May 15, 2024 (virtually via Zoom)
During this meeting, the Steering Committee reviewed the previous NHMP, and were provided updates on hazard mitigation planning, the NHMP update process, and project timeline. The Steering Committee:

- Updated recent history of hazard events in the port's district.
- Reviewed and confirmed the County NHMP's mission and goals.
- Discussed the NHMP public outreach strategy.
- Reviewed and provided feedback on the draft risk assessment update including community vulnerabilities and hazard information.

- Reviewed and updated their existing mitigation strategy (actions).
- Reviewed and updated their implementation and maintenance program.

Meeting Attendees:

- Parker Nelson, Operations Manager
- Genevieve Scholl, Deputy Executive Director

Attachment B: Action Item Changes

Table POCL-5 is an accounting of the status (complete or not complete) and major changes to actions since the previous NHMP. All actions were renumbered in this update to be consistent with other jurisdictions that are participating in the multi-jurisdictional NHMP. Actions identified as still relevant are included in the updated action plan (Table POCL-1).

Previous NHMP Actions that are Complete:
None.

Previous NHMP Actions that are Not Complete and No Longer Relevant:
Multi-Hazard #2: *Research and develop teleconferencing solution for emergency communications during hazard event; possible join with retrofitting House 3 (Port property).* No longer a priority for either the Port or the City of Cascade Locks. Broader interoperability issues are addressed as part of the County's Mitigation Strategy.

Table POCL-5 Status of All Hazard Mitigation Actions in the Previous Plan

2018 Action Item	2025 Action Item	Status	Still Relevant? (Yes/No)
Multi-Hazard Mitigation Strategies			
Multi-Hazard #1	-	Not Complete	No
-	1.1	New	-
-	1.2	New	-
-	1.3	New	-
-	1.4	New	-
-	1.5	New	-
-	1.6	New	-
-	1.7	New	-
Air Quality Mitigation Strategies			
-	2.0	New	-
Drought Mitigation Strategies			
-	3.0	New	-
Earthquake/CSZ Event Mitigation Strategies			
Earthquake #1	4.1	Not Complete	Yes
Earthquake #1	4.2	Not Complete	Yes
Extreme Heat Mitigation Strategies			

2018 Action Item	2025 Action Item	Status	Still Relevant? (Yes/No)
	5.0	New	
Flood Mitigation Strategies			
-	6.0	New	-
Landslide/Debris Flow Mitigation Strategies			
-	7.0	New	-
Volcanic Event Mitigation Strategies			
-	8.0	New	-
Wildfire Mitigation Strategies			
-	9.1	New	-
-	9.2	New	-
Windstorm Mitigation Strategies			
-	10.1	New	-
Winter Storm Mitigation Strategies			
-	11.1	New	-

City of Hood River Addendum

to the Hood River County Multi-Jurisdictional NHMP

Photos courtesy of Gary Halvorson, Oregon State Archives

Effective: July 8, 2025 through July 7, 2030

Prepared for
City of Hood River
211 2nd Street
Hood River, OR 97031

Prepared by
The University of Oregon
Institute for Policy Research & Engagement
School of Planning, Public Policy, and Management

UNIVERSITY OF OREGON | Institute for Policy Research and Engagement

U.S. Department of Homeland Security
Federal Emergency Management Agency
Region 10

130 228th St SW
Bothell, WA 98021

July 14, 2025

Mr. Stephen Richardson
State Hazard Mitigation Officer
Oregon Department of Emergency Management
3930 Fairview Industrial Dr SE
Salem, Oregon 97302

Reference: Approval of the Hood River County Multi-Jurisdictional Hazard Mitigation Plan

In accordance with applicable[1] laws, regulations and policy, the Risk Analysis Branch of FEMA Region 10 Mitigation Division has approved the local mitigation plan for the following jurisdictions:

Hood River County	City of Cascade Locks	City of Hood River
Port of Cascade Locks	Port of Hood River	Hood River County Library District
Hood River County School District	West Side Rural Fire Protection District	

Mitigation plans may include additional content to meet Element H: Additional State Requirements or content the local government included beyond applicable FEMA mitigation planning requirements. FEMA approval does not include the review or approval of content that exceeds these applicable FEMA mitigation planning requirements.

The approval period for this plan is from July 8, 2025 through July 7, 2030.

The jurisdictions' plan approval ensures the eligibility for project grants under FEMA's Hazard Mitigation Assistance programs. All requests for funding are evaluated individually according to eligibility and other program requirements. Having an approved mitigation plan does not mean that mitigation grant funding will be awarded. Specific application and eligibility requirements can be found in each FEMA grant program's respective policies and annual Notice of Funding Opportunities, as applicable.

[1] Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and National Dam Safety Program Act, as amended; 44 CFR Part 201, Mitigation Planning; and Local Mitigation Planning Policy Guide (FP-206-21-0002).

FEMA's approval is for a period of five years, effective the date FEMA received the adoption documentation. For this plan, documentation was received on July 8, 2025 and is considered approved as of then. Prior to July 7, 2030, each jurisdiction must review, revise, and submit their plan to FEMA for approval to maintain eligibility for grant funding. The enclosed plan review tool provides opportunities to incorporate into future updates.

Sincerely,

Wendy Shaw, P.E.
Risk Analysis Branch Chief
Mitigation Division

JF:JG

Attachment**:** Local Mitigation Plan Review Tool

City of Hood River
Resolution No. 2025-10

A RESOLUTION ADOPTING UPDATES TO THE HOOD RIVER COUNTY MULTI-JURISDICTIONAL NATURAL HAZARD MITIGATION PLAN

WHEREAS, the City of Hood River recognizes the threat that natural hazards pose to people, property and infrastructure within our community; and

WHEREAS, undertaking hazard mitigation actions will reduce the potential for harm to people, property and infrastructure from future hazard occurrences; and

WHEREAS, an adopted Natural Hazards Mitigation Plan (NHMP) is required as a condition of future funding for mitigation projects under multiple FEMA pre- and post-disaster mitigation grant programs; and

WHEREAS, the City of Hood River has participated in the FEMA prescribed mitigation planning process to prepare the *Hood River County, Multi-Jurisdictional Natural Hazards Mitigation Plan*, which has established a comprehensive, coordinated planning process to eliminate or minimize these vulnerabilities; and

WHEREAS, the City of Hood River has identified natural hazard risks and prioritized a number of proposed actions and programs needed to mitigate the vulnerabilities of the City of Hood River to the impacts of future disasters within the *Hood River County, Multi-Jurisdictional Natural Hazards Mitigation Plan*; and

WHEREAS, these proposed projects and programs have been incorporated into the *Hood River County, Multi-Jurisdictional Natural Hazards Mitigation Plan* that has been prepared and promulgated for consideration and implementation by the participating cities and special districts of Hood River County; and

WHEREAS, the Oregon Department of Emergency Management and Federal Emergency Management Agency, Region X officials have reviewed the *Hood River County, Multi-Jurisdictional Natural Hazards Mitigation Plan* and pre-approved it contingent upon official adoption of the participating governments and entities;

WHEREAS, the NHMP is in an on-going cycle of development and revision to improve its effectiveness; and

WHEREAS, City of Hood River adopts the NHMP and directs the City Manager to develop, approve, and implement the mitigation strategies and any administrative changes to the NHMP.

NOW, THEREFORE, BE IT RESOLVED that the City of Hood River adopts *the Hood River County Multi-Jurisdictional Natural Hazards Mitigation Plan* as an official plan; and

BE IT FURTHER RESOLVED that the City of Hood River will submit this Adoption Resolution to the Oregon Department of Emergency Management and Federal Emergency Management Agency, Region X officials to enable final approval of the *Hood River County Multi-Jurisdictional Natural Hazards Mitigation Plan*.

Adopted by the Hood River City Council on this 28 day of April, 2025.

Paul Blackburn, Mayor

Attest:

City Recorder

Daniel Kearns
City Attorney

Table of Contents

List of Tables

List of Figures

List of Maps

Introduction

Purpose

This is an update of the City of Hood River addendum to the Hood River County Multi-Jurisdictional Natural Hazard Mitigation Plan (NHMP). This addendum supplements information contained in Volume I (Basic Plan) which serves as the NHMP foundation and Volume II (Appendices), which provide additional information. This addendum meets the following requirements:

- Multi-Jurisdictional **Plan Adoption** §201.6(c)(5),
- Multi-Jurisdictional **Participation** §201.6(a)(3),
- Multi-Jurisdictional **Mitigation Strategy** §201.6(c)(3)(iv) and
- Multi-Jurisdictional **Risk Assessment** §201.6(c)(2)(iii).

Updates to the City of Hood River's addendum are further discussed throughout the NHMP and within Volume II, Appendix C, which provides an overview of alterations to the document that took place during the update process.

The City of Hood River adopted their addendum to the Hood River County NHMP on April 28, 2025. FEMA Region X approved the Hood River County NHMP and the City's addendum on July 8, 2025. With approval of this NHMP, the City is now eligible for non-disaster and disaster mitigation project grants through July 7, 2030.

NHMP Process, Participation and Adoption

This section of the NHMP addendum addresses 44 CFR 201.6(c)(5), *Plan Adoption* and 44 CFR 201.6(a)(3), *Participation.*

In addition to establishing a comprehensive city level mitigation strategy, the Disaster Mitigation Act of 2000 (DMA2K), and the regulations contained in Title 44 CFR Part 201, require that jurisdictions maintain an approved NHMP to receive federal funds for mitigation projects. Local adoption and federal approval of this NHMP ensures that the City will remain eligible for non-disaster and disaster mitigation project grants. The City of Hood River was included with an addendum in the 2012 and 2018 Hood River County NHMP process.

The Oregon Partnership for Disaster Resilience (OPDR) at the University of Oregon's Institute for Policy Research and Engagement (IPRE) collaborated with Hood River County Emergency Management and the City of Hood River to update their NHMP. This project is funded through the Federal Emergency Management Agency's (FEMA) Hazard Mitigation Grant Program. Members of the Hood River NHMP Steering Committee also participated in the County NHMP update process (Volume II, Appendix C).

By updating the NHMP, locally adopting it, and having it re-approved by FEMA, the City of Hood River will maintain eligibility for FEMA Hazard Mitigation Assistance grant program funds.

The Hood River County NHMP and City of Hood River addendum are the result of a collaborative effort between residents, public agencies, non-profit organizations, the private sector, and regional organizations. A project steering committee guided the NHMP development process.

Convener and Committee

The Hood River Planning Director served as the designated convener of the NHMP update and either he or a designee of the Planning Department will take the lead in implementing, maintaining, and updating the addendum to the Hood River County NHMP in collaboration with the designated convener of the Hood River County NHMP (Emergency Manager).

Representatives from the City of Hood River Steering Committee met formally and informally, to discuss updates to their addendum (see Attachment B and Volume II, Appendix C). The Steering Committee reviewed and revised the City's addendum, with a focus on the NHMP's risk assessment and mitigation strategy (action items).

This addendum reflects decisions made at the designated meetings and during subsequent work and communication with Hood River County Emergency Management and OPDR. The changes are highlighted with more detail throughout this document and within Volume II, Appendix C. Other documented changes include a revision of the City's risk assessment and hazard identification sections, NHMP mission and goals, action items, and community profile.

The City of Hood River Steering Committee was comprised of the following representatives:

- Convener: Dustin Nilsen, City of Hood River Planning Department
- Don Cheli, Lieutenant, City of Hood River Police Department
- Leonard Damian, Fire Chief, City of Hood River Fire Department
- Kevin Liburdy, Senior Planning, City of Hood River Planning Department
- Jacob Harner, Associate Planner, City of Hood River Planning Department
- Erin Mason, Detective, City of Hood River Police Department

The Steering Committee served as the local review body for the NHMP's development.

NHMP Implementation and Maintenance

The City Council will be responsible for adopting the City of Hood River addendum to the Hood River County NHMP. This addendum designates a steering committee and a convener to oversee the development and implementation of action items. Because the City addendum is part of the County's NHMP, the City will look for opportunities to partner with the County. The City's Steering Committee will convene after re-adoption of the Hood River NHMP addendum on an annual schedule. The County is meeting on a semi-annual basis and will provide opportunities for jurisdictions to report on NHMP implementation and maintenance during their meetings. The Steering Committee, assembled by the convener, will be responsible for:

- Reviewing existing action items to determine suitability of funding;

- Reviewing existing and new risk assessment data to identify issues that may not have been identified at NHMP creation;
- Educating and training new Steering Committee members on the NHMP and mitigation actions in general;
- Assisting in the development of funding proposals for priority action items;
- Discussing methods for continued public involvement;
- Evaluating effectiveness of the NHMP at achieving its purpose and goals (use Table 4-1, Volume I, Section 4, as one tool to help measure effectiveness); and
- Documenting successes and lessons learned during the year.

The convener will also remain active in the County's implementation and maintenance process (Volume I, Section 4).

The Steering Committee will be responsible for activities outlined in Volume I, Section 4.

The City will utilize the same action item prioritization process as the County (Volume I, Section 4 and Volume II, Appendix E).

Implementation through Existing Programs

Many of the NHMP's recommendations are consistent with the goals and objectives of the City's existing plans and policies. Where possible, the City of Hood River will implement the NHMP's recommended actions through existing plans and policies. Plans and policies already in existence have support from residents, businesses, and policy makers. Many land-use, comprehensive, and strategic plans get updated regularly, allowing them to adapt to changing conditions and needs. Implementing the NHMP's action items through such plans and policies increases their likelihood of being supported and implemented.

The City of Hood River's acknowledged comprehensive plan is the City of Hood River Comprehensive Plan (1983, last updated 2021). The Oregon Land Conservation and Development Commission first acknowledged the plan in 1983. The City implements the plan through the City of Hood River Zoning and Development Code.

The City of Hood River currently has the following plans that relate to natural hazard mitigation. For a complete list visit the City's website:

- Community Wildfire Protection Plan (2025) – see Volume IV of this NHMP
- Annual Work Plan (2024)
- Transportation System Plan (2021)
- Housing Needs Analysis and Buildable Lands Inventory (2015)
- Economic Opportunities Analysis (2011)
- Port of Hood River Strategic Business Plan (2021)
    - This plan is not developed by the City but affects operations, development, and hazard mitigation in the business and marina park adjacent to City property.

Capability Assessment

City of Hood River, Oregon

The Capability Assessment identifies and describes the ability of the City of Hood River to implement the mitigation strategy and associated action items. This is a key component of the 2025 Natural Hazard Mitigation Plan (NHMP) update. Capabilities can be evaluated through an examination of broad categories, including existing authorities, policies, programs, funding, and resources. Information from the 2018 NHMP was not integrated into other planning mechanisms, in part due to the impact of the COVID-19 pandemic. The city intends to integrate information from the 2025 NHMP before the next NHMP update.

Existing Authorities

Hazard mitigation can be executed at a local scale through three (3) methods: integrating hazard mitigation actions into other local planning documents (i.e., plan integration), adopting building codes that account for best practices in structural hardening, and codifying land use regulations and zoning designations that prescribe mitigation into development requirements. The extent to which a municipality or multi-jurisdictional effort leverages these approaches is an indicator of that community's capabilities.

Comprehensive Plan

Oregon's Statewide Planning Goal 7 requires comprehensive planning within every jurisdiction that is designed to reduce risks to people and property from natural hazards.

Hood River's Comprehensive Plan provides the policy and regulatory foundation for all land use management in the city. It integrates policies and recommendations to meet the Oregon Statewide Planning Goals, including Statewide Planning Goal 7, Natural Hazards.

The section called Goal 7, Natural Hazards, implements Statewide Planning Goal 7. This section was last updated in 2015, while the rest of the plan was last updated in 2021. It includes polices related to geologic or hydrologic hazards, and conservation area policies for streams, rivers, and wetlands. Soils and engineering geologic studies are required for developments with slopes of 25 percent or greater.

Planned updates to the jurisdiction's Goal 7 element or its broader comprehensive plan will reflect the data and findings within this NHMP and integrate analyses of future climate and natural hazard impacts into the community's long-range plans.

Land Use Regulations

Existing land use policies that define zoning and address hazardous conditions provide another source of mitigation capability.

Land Use Codes

Hood River's Planning Department staff and, in some cases, its Planning Commission regulates land use, development, and zoning – as well as administering state, regional, and local land use

and zoning regulations – throughout the City of Hood River. The seven-member commission reviews certain residential, commercial, and industrial development land use permits and develops long-range planning and economic development strategies, including amendments to the Comprehensive Plan.

Chapter 15.42 – Wildland-Urban Interface Code
The original International Urban-Wildland Interface code for the City of Hood River as described in Chapter 15.42 of Title 15 – Buildings and Construction was adopted via ordinance in 2002 and amended in 2006. Through this code, the City adopts the International Fire Code Institute's language on the wildland-urban interface (WUI) and is required to depict WUI areas on maps of the city and the urban growth boundary.

Chapter 15.44 – Flood Hazards
The City regulates development in the floodplain through the establishment and administration of Flood Hazards as described in Chapter 15.44 of Title 15 – Buildings and Construction. This oversight includes requirements to apply for development permits for all development within the floodplain and ensures that applicants elevate new construction or renovations at least two feet above the base flood elevation, anchor structures to prevent flotation, and ensure any construction that occurs below the base flood elevation is resistant to flood damage.

Lands designated as belonging to the floodplain are deemed "special flood hazards" as defined by the Federal Insurance Administration in a scientific and engineering report entitled "The Flood Insurance Study for the City of Hood River" dated September 24, 1984.

This code section was initially implemented in 1981 and updated in 1996.

Structural Building Codes
The Oregon Legislature recently adopted updated building codes for both residential (2021 adoption) and commercial structures (2022) since the last update of the NHMP. These building codes are based on the 2021 version of the International Building Code, International Fire Code, and International Existing Building Code. New wildfire defensible space code is scheduled to be completed soon, with an effective date announced in late 2024. Fire hardening requirements were adopted on October 1, 2022, and effective April 1, 2023.

The City of Hood River administers and enforces the most recent Oregon Structural and Oregon Specialty Codes (2022), and the 2022 Oregon Fire Code. As a result, both new residential and commercial structures will be required to build according to the latest seismic and wind hardening standards in addition to requiring fire resistant building materials for those structures constructed within the WUI.

Policies and Programs

The NHMP directs the City of Hood River to explore integration into other planning documents and processes. The City has made significant progress in integrating the NHMP into its portfolio of planning processes and programs over the last five years.

Annual Work Plan, 2024
This planning document, issued annually, describes the City Council's funding priorities for the upcoming year. Notably, this plan describes a project to update the Federal Emergency Management Agency's Flood Plain Risk Maps as part of a state initiative to update maps for the Middle Columbia-Hood Watershed.

Hood River Transportation System Plan, 2021
The Transportation System Plan outlines an array of infrastructure updates to highways, roads, cycling and walking paths, and land use codes to facilitate increased access, safety, and economic development within Hood River. One item of note is to review potential traffic calming measures and the degree to which they may affect fire and EMS response times prior to implementation, especially in the event of a major incident or natural hazard.

Hood River County Community Wildfire Fire Protection Plan, 2025
The Community Wildfire Protection Plan, drafted in 2013 and updated in 2025 (see Volume IV), has been incorporated into this NHMP as a functioning annex. This plan seeks to reduce the risk of wildfire to life, property, and natural resources in Hood River County by coordinating public agencies, community organizations, private landowners, and the public to increase their awareness of and responsibility for fire issues.

National Flood Insurance Program
The City of Hood River participates in the National Flood Insurance Program. The County Building Official is designated as the floodplain manager and is responsible for administering the day-to-day activities of the city's floodplain program.

Specifically, the floodplain manager:

- maintains and administers the city of Hood River's floodplain regulations;
- reviews and issues floodplain development permits;
- maintains elevation certificates for all new and substantially improved structures (and maintains an extensive database of historic elevation certificates);
- ensures that encroachments do not occur within the regulated floodway;
- implements measures to ensure that new and substantially improved structures are protected from flood losses;
- maintains floodplain studies and maps and makes this information available to the public;
- maintains a flood information website with digital flood insurance rate map (DFIRM) data;
- conducts site visits to assess conditions and provide technical assistance to the public;
- maintains a library of historical flood related information;
- informs the public of flood insurance requirements; and
- conducts outreach and training about flood hazards and development within the floodplain.

Date of last Community Assistance Visit (CAV): N/A

Number and location of repetitive loss structures (if any): none

CERT
There is one Community Emergency Response Team (CERT) in the City of Hood River: the Columbia Gorge CERT, which is operated at the County level and situated within the city. CERT is a FEMA program that trains volunteers in basic disaster response skills like fire safety, search and rescue, and disaster medical operations.

Personnel
The following City of Hood River personnel have assignments related to natural hazard mitigation planning and implementation:

- Emergency Management: Charles Young, Emergency Manager (Hood River County)
- Public Information Officer: Jackie Vanderpuye, Community Engagement Coordinator
- Floodplain Manager: Gregory Hagbery, County Building Official
- Grant writing (for Public Works or emergency management): Haley Ellett, Management Analyst
- Capital improvement planning: Haley Ellett, Management Analyst
- Capital improvement execution: Adam Schmid, Public Works Director

These personnel integrate hazards and resilience planning into their greater work programs to the best of their abilities. However, there is limited capacity to expand upon their capabilities or workloads.

City Administration
The Hood River City Council has the responsibility of developing and adopting the annual city budget. Integrating hazard mitigation goals and projects into the annual budget is key to implementing the plan, as demonstrated by flood plain map update described in the "Hood River Annual Plan" section. The City Council tries to broadly address resilience planning needs while it determines city and departmental priorities and looks for multiple-impact projects wherever possible. They also work with staff to apply for federal and state grant funding to pursue larger projects that are outside of general fund capacity.

City Emergency Management
The City of Hood River does not operate its own Emergency Management division. Instead, the City Manager and its departments work alongside the Hood River County Emergency Management division, which is located under the Hood River County Sheriff's Department.

Partnering with the Port of Hood River

The City of Hood River works closely with the Port of Hood River, which is situated within the City and was incorporated in 1933. The Port owns and operates the Hood River-White Salmon Bridge, a highly trafficked bridge over the Columbia River connecting Oregon and Washington, as well as a marine park, a wide array of economic development projects throughout the City of Hood River, and the Ken Jernstedt Airfield.

The Port has carried out many infrastructure projects over the past several decades alongside the City, the County, and other local and state partners. The Port is currently advocating on behalf of the Hood River-White Salmon Bridge Authority (HRWSBA) for state and federal funding

to replace the Hood River-White Salmon Bridge, which is the primary and most significant infrastructure project planned by the Port (see Earthquake #4.1 in Volume III, Port of Hood River addendum).

Capital Projects

The City of Hood River has implemented recommendations from the last NHMP into its capital improvement projects over the last five (5) years, including:

- Sewer and water line replacement projects on:
  - Cascade Avenue between 15th and 18th Street
  - Sherman Avenue between Front Street and 6th and between 9th and 12th Street
  - Prospect Avenue between 1st and 7th Street
- Waterfront storm line replacement projects northeast of Riverside Drive and 8th Street
- New UV treatment system at the Wastewater Treatment Plant
- Elevated sidewalk replacement on north side of May Street between 13th and Katie Lane

Capital Resources

The City of Hood River maintains several capital resources that have important roles to play in the implementation of the NHMP, including:

- Communication towers:
  - Hood River Fire Department Station (1785 Meyer Parkway)
- Critical facilities with power generators:
  - Hood River Fire Department Station (1785 Meyer Parkway)
  - Hood River County Public Works Fueling Station (918 18th Street)
- Warming/cooling/smoke shelters:
  - Hood River Shelter Services (1733 Oak Street) – warming only
  - Hood River Valley Adult Center (2010 Sterling Place) – cooling only
  - Hood River Library (502 State Street) – cooling only
- Community shelters: None.
- Food pantries:
  - FISH Food Bank in Hood River (1130 Tucker Road)
  - Hood River Valley Adult Center (2010 Sterling Place)
- Fueling storage:
  - Hood River County Public Works Fueling Station (918 18th Street) – 1000-gallon tank
  - School District Bus Fleet in Odell – 2000-gallon tank

Findings

Several important findings from this capability assessment informed the design of the Plan's mitigation strategy and aided in prioritizing action items.

Staffing Limitations and Capacity

City of Hood River staff are assigned hazard mitigation responsibilities as a part of their larger job responsibilities. Limited capacity reduces the breadth of the programming the community can undertake. The City relies upon its relationships with the County to expand its operations.

Reliance upon outside funding streams and local match requirements

The City of Hood River operates on a limited budget with a small staff. This leaves few opportunities for using local financial resources to implement hazard mitigation work. They lean heavily upon state and federal grant funds as the primary means for securing mitigation funding. Hazard mitigation grants such as BRIC require a 25% local funding match, as well as extra staff capacity and expertise to navigate the application process and manage the funding.

Leveraging Partnerships with Public and Nonprofit Entities

Regional planning displayed in the Community Wildfire Protection Planning process demonstrates the City's ability to effectively share information and identify priority needs.

Mitigation Strategy

This section of the NHMP addendum addresses 44 CFR 201.6(c)(3(iv), *Mitigation Strategy*.

The City's mitigation strategy (action items) was first developed during the 2012 NHMP planning process and revised during the 2018 update. During this process, the Steering Committee assessed the City's risk, identified potential issues, and developed a mitigation strategy (action items).

During the 2025 update process, the City re-evaluated their mitigation strategy (action items). During this process action items were updated, noting what accomplishments had been made and whether the actions were still relevant; any new action items were identified at this time (see Attachment B for more information on changes to action items).

Mitigation Successes

The City of Hood River has several examples of hazard mitigation including the following projects funded through the Oregon Infrastructure Finance Authority's Seismic Rehabilitation Grant Program.[1]

Seismic Rehabilitation Grant Program Mitigation Successes

- 2018/2019: Wy'east Middle School and Hood River Middle School – gymnasium retrofits supplemented by other remodeling funded through a local school bond measure; both projects ensure safe evacuation – Completed.

[1] The Seismic Rehabilitation Grant Program (SRGP) is a state of Oregon competitive grant program that provides funding for the seismic rehabilitation of critical public buildings, particularly public schools, and emergency services facilities.

- 2010/2012: Hood River Fire Department – retrofitted in 2010 and rebuilt in 2012 – Completed.

Action Items

Table HR-1 documents the title of each action along with potential funding sources (HMA stands for FEMA's Hazard Mitigation Assistance disaster and non-disaster grant programs), the coordinating organization and any partner organizations, the timeline, and the anticipated cost.

For the timeline, O=Ongoing (continuous), S=Short (1-2 years), M=Medium (3-5 years), and L=Long (5 or more years). For cost, L=Low ($50,000 or less), M=Medium ($50,000 to $500,000), H=High ($500,000 to $5 million), and VH=Very High ($5 million or more).

Table HR-1 Action Items

Action Item #	Mitigation Action Title	Potential Funding Sources	Coordinating Organization	Partner Organizations	Timeline	Cost
Multi-Hazard Mitigation Strategies						
1.1	Identify site and construct new Hood River Police Department station.	Municipal Bond	Hood River PD	City of Hood River	L	VH
1.2	Build GIS layers for public outreach map including evacuation routes, hazard education, and hazard risk areas.	HMA; State Funding (DLCD, ODOT); Existing Staff Resources	County Emergency Management	City of Hood River; Hood River FD; Hood River PD	M	M
1.3	Develop plan for increasing communication and coordination between City, County, and tribal entities (e.g., Columbia River Inter-Tribal Fish Commission).	HMA; State Funding (DLCD); Existing Staff Resources	County Emergency Management	City of Hood River; Hood River FD; Hood River PD; Columbia River Inter-Tribal Fish Commission	L	M
1.4	Increase interoperability and availability by upgrading 911 Computer Assisted Dispatch (CAD), dispatch radio system, County phone systems, and resilient power and internet infrastructure.	HMA; State Funding (OEM); Municipal Bond	County Emergency Management	City of Hood River; Hood River FD; Hood River PD	M	H
1.5	Develop plan for increasing seismic and other hazard resilience at County building at 611 State Street (including renovation or construction of new building).	HMA; State Funding (Seismic Rehabilitation Grant Program); Municipal Bond	County Emergency Management	City of Hood River	L	H
1.6	Acquire power generators and fuel for critical facilities across the county (including for public and private communication towers) and develop plan for emergency storage, allocation and distribution of fuel and generators.	HMA; State Funding (OEM, ODHS); Economic Development Agency	Emergency Management	City of Hood River; Hood River FD; Hood River PD; Port of Hood River; School District	S	M

Action Item #	Mitigation Action Title	Potential Funding Sources	Coordinating Organization	Partner Organizations	Timeline	Cost
1.7	Update City land use plan, building codes, and zoning ordinances to mitigate natural hazard risk (particularly wildfire, flooding, and landslide) and prepare for potential Urban Growth Boundary expansion.	HMA; State Funding (DLCD)	City of Hood River	Hood River FD; County Community Development; County Emergency Management	M	M
Air Quality/Smoke Mitigation Strategies						
2.0	The Steering Committee, using available local resources, will study this hazard further during the implementation and maintenance phase of this NHMP, seeking to identify cost effective actions that might be implemented to reduce community vulnerability.					
Drought Mitigation Strategies						
3.0	Given that Drought is categorized as low risk in the Hazard Vulnerability Assessment, the Steering Committee decided not to develop any mitigation action items for this hazard. This is in line with the decision-making process for low-risk hazards used by the 2025 Hood River County NHMP Steering Committee for the County Mitigation Strategy.					
Earthquake/CSZ Event Mitigation Strategies						
4.1	Conduct structural and non-structural seismic retrofit of City Hall.	HMA; State Funding (Seismic Rehabilitation Grant Program); Municipal Bond	City of Hood River	Hood River PD	M	VH
Extreme Heat Mitigation Strategies						
5.0	The Steering Committee, using available local resources, will study this hazard further during the implementation and maintenance phase of this NHMP, seeking to identify cost effective actions that might be implemented to reduce community vulnerability.					
Flood Mitigation Strategies						
6.0	Given that Flood is categorized as low risk in the Hazard Vulnerability Assessment, the Steering Committee decided not to develop any mitigation action items for this hazard. This is in line with the decision-making process for low-risk hazards used by the 2025 Hood River County NHMP Steering Committee for the County Mitigation Strategy.					

Action Item #	Mitigation Action Title	Potential Funding Sources	Coordinating Organization	Partner Organizations	Timeline	Cost
Landslide/Debris Flow Mitigation Strategies						
7.1	Incorporate lessons learned and action items from 2024-25 countywide landslide risk reduction project led by DOGAMI into long-term planning practices.	HMA; State Funding (DOGAMI, DLCD)	City of Hood River	Hood River FD; County Community Development; County Emergency Management; State Agencies (DLCD, DOGAMI, ODF); USGS	M	L
Volcanic Event Mitigation Strategies						
8.0	Given that Volcanic Event is categorized as low risk in the Hazard Vulnerability Assessment, the Steering Committee decided not to develop any mitigation action items for this hazard. This is in line with the decision-making process for low-risk hazards used by the 2025 Hood River County NHMP Steering Committee for the County Mitigation Strategy.					
Wildfire Mitigation Strategies						
9.1	Support update to County Community Wildfire Protection Plan, including incorporation of lessons learned from 2017 Eagle Creek Fire.	HMA; State Funding (ODF, OSFM); USFS (Community Wildfire Defense Grant); Existing Staff Resources	County Emergency Management	City of Hood River; Hood River FD; State Agencies (ODF, OSFM); USFS	S	L
9.2	Update building codes with more robust building features for houses located in the Wildland Urban Interface.	HMA; State Funding (ODF, OSFM); USFS (Community Wildfire Defense Grant); Existing Staff Resources	City of Hood River	County Community Development; State Agencies (DLCD)	M	M

Action Item #	Mitigation Action Title	Potential Funding Sources	Coordinating Organization	Partner Organizations	Timeline	Cost
9.3	Develop and conduct fuels reduction projects across the city, emphasizing treatment near residential communities, energy and key structures, and forestland to reduce fire intensity and aid suppression. *See countywide map and list of projects throughout the county with information on project details and locations as identified by local fire districts, ODF, and USFS in Volume IV: Community Wildfire Protection Plan.*	HMA; State Funding (ODF, OSFM); USFS (Community Wildfire Defense Grant); Existing Staff Resources	Hood River FD	City of Hood River; Port of Hood River; County Emergency Management; State Agencies (ODF, OSFM); USFS	M	H
Windstorm Mitigation Strategies						
10.0	Given that Windstorm is categorized as low risk in the Hazard Vulnerability Assessment, the Steering Committee decided not to develop any mitigation action items for this hazard. This is in line with the decision-making process for low-risk hazards used by the 2025 Hood River County NHMP Steering Committee for the County Mitigation Strategy.					
Winter Storm Mitigation Strategies						
11.0	The Steering Committee, using available local resources, will study this hazard further during the implementation and maintenance phase of this NHMP, seeking to identify cost effective actions that might be implemented to reduce community vulnerability.					

Source: City of Hood River NHMP Steering Committee, updated 2025
Potential Funding Sources: HMA=FEMA's Hazard Mitigation Assistance disaster and non-disaster grant programs
Cost: L=Low (less than $50,000), M=Medium ($50,000-$500,000), H=High ($500,000-$5 million), VH=Very High ($5 million or more)
Timing: O=Ongoing (continuous), S=Short (1-2 years), M=Medium (3-5 years), L=Long (5 or more years)

Risk Assessment

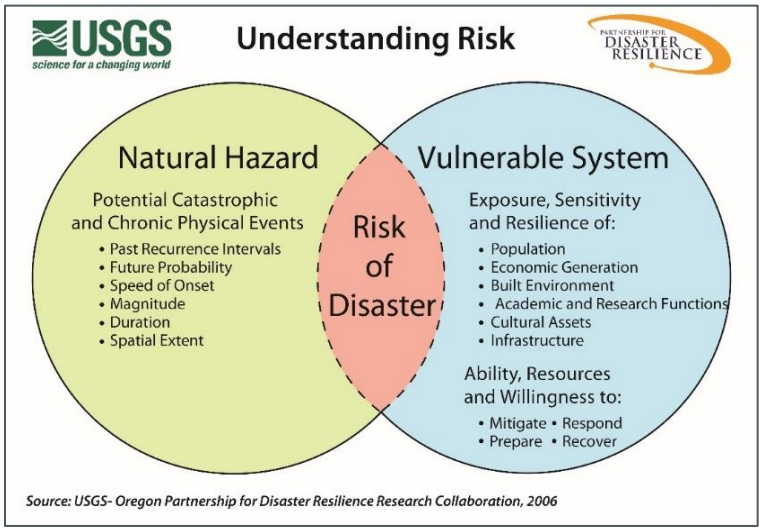
This section of the NHMP addendum addresses 44 CFR 201.6(b)(2) - Risk Assessment. In addition, this chapter can serve as the factual basis for addressing Oregon Statewide Planning Goal 7 – Areas Subject to Natural Hazards.

Assessing natural hazard risk has three phases:

- Phase 1: Identify hazards that can impact the jurisdiction. This includes an evaluation of potential hazard impacts – type, location, extent, etc.
- Phase 2: Identify important community assets and system vulnerabilities. Example vulnerabilities include people, businesses, homes, roads, historic places, and drinking water sources.
- Phase 3: Evaluate the extent to which the identified hazards overlap with or have an impact on, the important assets identified by the community.

The local level rationale for the identified mitigation strategies (action items) is presented herein and within Volume I, Sections 2 and 3. The risk assessment process is graphically depicted in Figure HR-1. Ultimately, the goal of hazard mitigation is to reduce the area of risk, where hazards overlap vulnerable systems.

Figure HR-1 Understanding Risk



Hazard Analysis

The City of Hood River Steering Committee developed their hazard vulnerability assessment (HVA), using their previous HVA and the County's HVA (Volume I, Section 2) as a reference. Changes from the County's HVA were made where appropriate to reflect distinctions in vulnerability and risk from natural hazards unique to the City, which are discussed throughout this addendum.

Table HR-2 shows the HVA matrix for the City of Hood River listing each hazard in order of rank from high to low. For local governments, conducting the hazard analysis is a useful step in planning for hazard mitigation, response, and recovery. The method provides the jurisdiction with a sense of hazard priorities but does not predict the occurrence of a particular hazard.

Winter Storm, Wildfire, a Cascadia Subduction Zone (CSZ) Event, and Earthquake (Crustal) are the high hazard threats to the city. Extreme Heat, Air Quality/Smoke, and Landslide/Debris Flow are all moderate hazard threats to the city. Drought, Windstorm, Flood, and a Volcanic Event are the low hazard threats to the city.

Table HR-2 Hazard Analysis Matrix – City of Hood River

Hazard	History (x2)	Probability (x7)	Vulnerability (x5)	Maximum Threat (x10)	Total Threat Score	Rank	Hazard Tier
Winter Storm	9	10	9	10	**233**	**1**	**High**
Wildfire	7	8	7	9	**195**	**2**	**High**
CSZ Event	2	6	8	10	**186**	**3**	**High**
Crustal Earthquake	2	5	8	10	**181**	**4**	**High**
Extreme Heat	4	8	3	5	**129**	**5**	**Moderate**
Landslide/ Debris Flow	4	3	4	7	**119**	**6**	**Moderate**
Air Quality/ Smoke	5	6	3	5	**117**	**7**	**Moderate**
Drought	4	7	3	4	**112**	**8**	**Low**
Windstorm	2	3	4	6	**106**	**9**	**Low**
Flood	3	6	3	4	**103**	**10**	**Low**
Volcanic Event	2	2	5	6	**103**	**11**	**Low**

Source: City of Hood River Steering Committee (2025); Analysis by OPDR.

Community Characteristics

Table HR-3 and the following section provides information on City specific demographics and characteristics. For additional information on the characteristics of the City of Hood River, in terms of geography, environment, population, demographics, employment, and economics, as well as housing and transportation, see Volume II, Appendix D. Many of these community characteristics can affect how natural hazards impact communities and how communities choose to plan for natural hazard mitigation. Considering the City-specific assets during the planning process can assist in identifying appropriate measures for natural hazard mitigation.

Unless otherwise specified, data in this section comes from: Social Explorer: American Community Survey 5-Year Estimates (2018-2022). U.S. Census Bureau. https://www.socialexplorer.com/explore-tables.

Table HR-3 Community Characteristics

Population Characteristics		Population Growth
2016 Population Estimate	7,760	
2022 Population Estimate	8,378	8%
2044 Population Forecast*	11,969	43%
Race		
American Indian and Alaska Native		<1%
Asian		1%
Black/ African American		2%
Native Hawaiian and Other Pacific Islander		<1%
White		79%
Some Other Race		6%
Two or More Races		12%
Hispanic or Latino/a (of any race)		
Limited or No English Spoken	681	9%
Vulnerable Age Groups		
Less than 5 Years	518	6%
Less than 15 Years	1,559	19%
65 Years and Older	1,116	13%
85 Years and Older	196	2%
Age Dependency Ratio		47.62
Disability Status (Percent age cohort)		
Total Disabled Population	1,060	13%
Children (Under 18)	100	5%
Working Age (18 to 64)	495	9%
Seniors (65 and older)	465	44%

Household Characteristics		
Housing Units		
Single-Family (includes duplexes)	2,688	67%
Multi-Family	1,125	28%
Mobile Homes (includes RV, Van, etc.)	231	6%
Household Type		
Family Household	1,872	51%
Married couple (w/ children)	567	30%
Single (w/ children)	521	28%
Living Alone 65+	463	13%
Year Structure Built		
Pre-1970	1,472	36%
1970-1989	943	23%
1990-2009	1,264	31%
2010 or later	365	9%
Housing Tenure and Vacancy		
Owner-occupied	1,904	52%
Renter-occupied	1,736	48%
Seasonal	115	29%
Vacant	213	53%
Vehicles Available (Occupied Units)		
No Vehicle (owner occupied)	17	1%
Two+ vehicles (owner occupied)	1,316	36%
No Vehicle (renter occupied)	310	9%
Two+ vehicles (renter occupied)	528	15%

Income Characteristics		
Households by Income Category		
Less than $15,000	219	6%
$15,000-$29,999	299	8%
$30,000-$44,999	436	12%
$45,000-$59,999	234	6%
$60,000-$74,999	505	14%
$75,000-$99,999	395	11%
$100,000-$199,999	951	26%
$200,000 or more	394	11%
Median Household Income		$70,791
Gini Index of Income Inequality		0.48
Poverty Rates (Percent age cohort)		
Total Population	798	10%
Children (Under 18)	111	1%
Working Age (18 to 64)	532	6%
Seniors (65 and older)	155	2%
Housing Cost Burden (Cost > 30% of household income)		
Owners with a Mortgage		26%
Owners without a Mortgage		29%
Renters		49%

Employment Characteristics		
Labor Force (Population 16+)		
In labor Force (% Total Population)	4,497	54%
Unemployed (% Labor Force)	134	3%
Occupation (Top 5) (Employed 16+)		
Professional and Related Occupations	1,247	28%
Management, Business, and Financial Operations Occupations	683	15%
Food Preparation and Serving Related Occupations	531	12%
Office and Administrative Support Occupations	463	10%
Sales and Related Occupations	362	8%
Health Insurance		
No Health Insurance	877	11%
Public Health Insurance	2,916	35%
Private Health Insurance	5,371	64%
Transportation to Work (Workers 16+)		
Drove Alone	2,390	54%
Carpooled	306	7%
Public Transit	88	2%
Motorcycle	23	1%
Bicycle/Walk	817	19%
Worked at Home	751	17%

Source: Social Explorer: American Community Survey 5-Year Estimates (2018-2022). U.S. Census Bureau. https://www.socialexplorer.com/explore-tables; Population Research Center. (2023, April). *Annual Population Estimates.* Portland State University. https://www.pdx.edu/population-research/.

*Source for 2044 Population Estimate: Population Research Center. (2023, December 10). *Region 3: Northwest Oregon Results (Preliminary) – Hood River.* Portland State University Oregon Population Forecast Program. https://www.pdx.edu/population-research/population-forecasts.

Note: The U.S. Census Bureau American Community Survey 2018-2022 data used for this analysis has varying levels of reliability depending on geographic area, demographic group, and types of data. These figures are primarily used for estimation and to develop a general understanding of the demographics of a location and should not be mistaken for precise figures.

Natural Environment

The City of Hood River is located along the Columbia River, at the mouth of the Hood River. The city lies in the northeastern portion of Hood River County and covers an area of about 3.35 square miles, 0.80 of which are water. The climate of Hood River is moderate; the average monthly temperatures range from 50 – 77 degrees in May – September to 34 – 51 degrees in October – April.[2] The City receives approximately 31 inches of precipitation each year, less than the surrounding region. Monthly precipitation averages about 4 inches during the wetter months of October – April and three-quarters of an inch during the drier months of May – September.[3] The City includes densely populated residential areas and borders agricultural properties. It lies between the Columbia River to the north and the western slopes of the Cascade Range to the south, east, and west. The downtown business core and essential city services both reside in relatively flat land adjacent to the Columbia River.

Population and Housing

About one-eighth (13%) of Hood River' population is over 65 years old, while 19% is under the age of 15. Most of the population works within the city, with some residents to the city of Portland, to The Dalles in Wasco County, or across the Columbia River to White Salmon. The Steering Committee noted that the population is growing both older and more affluent as more urban retirees from Portland and other urban areas move to the City. The City is the most densely populated area within Hood River County.

Economy

The median household income in the City of Hood River is $70,791, a 21% growth from the same 2016 value ($58,568). The City's five largest industries are professional, management, business, and financial operations; food preparation and serving; office and administrative; and sales. The Port of Hood River's property houses many manufacturing and warehousing operations. The City experiences high tourist populations in the summer and winter for outdoor recreation, as well as intense tourism during weekends.

Community Assets

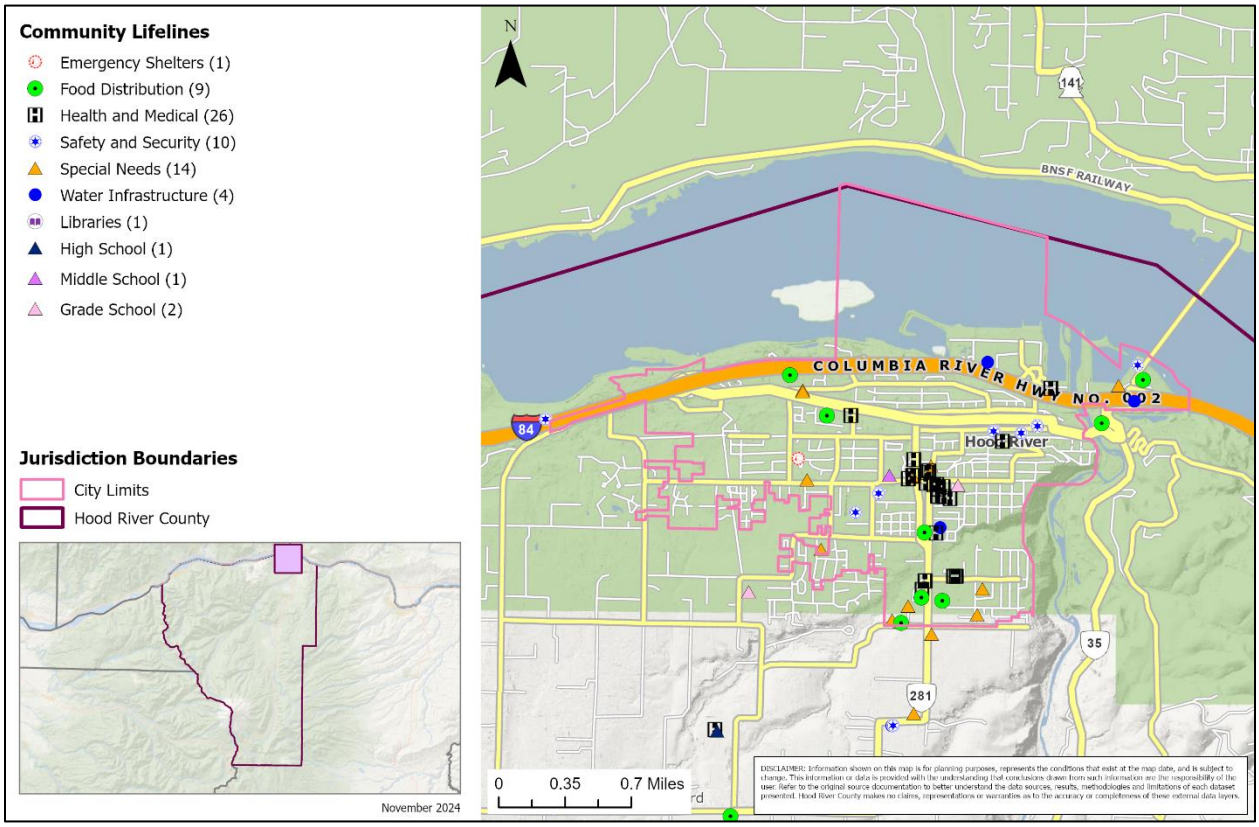
This section outlines the resources, facilities, and infrastructure that, if damaged, could significantly impact the public safety, economic conditions, and environmental integrity of the City of Hood River. Community lifelines in the City of Hood River are shown in Map HR-1. FEMA developed the Community Lifelines construct for objective-based response to prioritize the rapid stabilization of these facilities after a disaster.[4] Mitigating risk to these facilities will increase the community's resilience.

[2] U.S. Climate Data. (2024). *Hood River.* https://www.usclimatedata.com/climate/hood-river/oregon/united-states/usor0162.

[3] Ibid.

[4] A community lifeline "enables the continuous operation of critical government and business functions and is essential to human health and safety or economic security". For more information on FEMA's Community Lifelines, see https://www.fema.gov/emergency-managers/practitioners/lifelines.

Map HR-1 City of Hood River Community Lifelines



Source: Mapping by OPDR.
Data from Hood River County and Oregon Department of Geology and Mineral Industries HazVu website.

Critical and Essential Facilities and Infrastructure

Critical and essential facilities and infrastructure are those that are essential to the continued delivery of key government services, that may significantly impact the public's ability to recover from a natural hazard event, and that are key to government response and recovery activities (i.e., life, safety, property, and environmental protection). These facilities include 911 Centers, Emergency Operations Centers, Police and Fire Stations, Public Works facilities, sewer and water facilities, hospitals, bridges, roads, shelters, and other public buildings like City Hall and schools. Facilities like a hazardous material storage structure that, if damaged, could cause serious secondary impacts are also considered.

Table HR-4 lists critical and essential facilities and infrastructure in the City of Hood River.

Table HR-4 City of Hood River Community Assets

Facility Type	Name	Address
Government	Port Facilities	1000 E Port Marina Drive
	City Hall	211 2nd Street
	City Public Works & Engineering Offices	1200 18th Street
Emergency Response	Hood River Fire and EMS (with emergency generator that operates communication tower)	1785 Meyer Parkway
	Hood River Police Department	211 2nd Street
	Providence Hood River Memorial Hospital	810 12th Street
	One Community Health	849 Pacific Avenue
	Columbia Gorge Family Medicine	1750 12th Street
Community	Gorge Grown Food Network	203 2nd Street
	Historic District	
	The Next Door Inc.	965 Tucker Road
	National Guard Office	1590 12th Street
	Hood River Valley Parks & Recreation District	1601 May Street
State and Federal Highways	I-84	
	M-84 (the Columbia River)	
	Highway 35	
	Highway 281	
Railroads	Union Pacific	
Bridges	Hood River-White Salmon Bridge	
	2nd Street Bridge (I-84)	
	Hood River Bridge (State Street)	
	Button Junction Bridge (Highway 35)	
Transportation Facilities	Port of Hood River Marina (for evacuation)	Port Marina Park
	Ken Jernstedt Airfield	
Utilities	Sewer; Indian Creek Lift Station, Port Marina Lift Station, West Cliff Lift Station, Country Club Lift Station	
	Wilson Street Reservoir and Coe Reservoir	Below Providence Hospital
	Hood River Waste Water Plant	818 Riverside Drive
	Lost Lake Chlorine Station (school bus turnaround) and main water transmission line	
	City of Hood River Water	1200 18th Street
	City of Hood River Sanitary Sewer	1200 18th Street
	Ice Fountain Water District and Crystal Springs Water District Interties (within Urban Growth Boundary)	
	Pacific Power Transmission Lines	

Fuel	Astro Gas Station	214 Front Street
	Valero Gas Station	101 N 1st Street
	Shell Gas Station	1691 12th Street
	Shell Gas Station	1108 E Marina Drive
	Height's Fuel Stop	1413 12th Street
	Chevron Gas Station 1	949 E Marina Drive
	Chevron Gas Station 2	2555 Cascade Avenue
	Havey's Texaco Gas Station	3450 Cascade Avenue
	76 Gas Station	3450 Cascade Avenue
	Parkhurst Place	2450 May Street
	Hood River County Public Works Fueling Station	918 18th Street
Education	Hood River Middle School	1602 May Street
	Westside Elementary School	3685 Belmont Drive
	May Street Elementary School	1001 10th Street
	Hood River Options Academy	1011 Eugene Street
	Columbia Gorge Community College	1730 College Way
	Horizon Christian School	700 Pacific Avenue
	Wildwood Academy	13 Railroad Street
	Hood River New School	220 Clearwater Lane
	Mid-Columbia Adventist School	1100 22nd Street
	HRVHS Community Works	1028 Wilson Street
Assisted Living	Providence Brookside Manor	1550 Brookside Drive
	Hood River Care Center	729 Henderson Road
	Hawks Ridge	1795 8th Street
	Providence Dethman House	1205 Montello Ave
	Parkhurst Place Assisted Living	2450 May Street
	Ashley Manor Pacific Heights	1995 8th Street
	Providence Down Manor (memory care)	1950 Sterling Place

Source: City of Hood River Steering Committee (2025)

Hazard Characteristics

The following sections briefly describe relevant information for each profiled hazard. More information on Hood River County Hazards and Future Projections can be found in Volume I, Section 2. Note that these hazards are sorted alphabetically and not by hazard tier as determined in the City's Hazard Analysis Matrix (Table HR-2).

Each of the hazards profiled in the Oregon Department of Geology and Mineral Industries (DOGAMI)'s 2021 Risk Report for Hood River County also includes economic loss estimates.[5] These five hazards are earthquake, flood, lahar (volcanic event), landslide, and wildfire.

Air Quality/Smoke

The Steering Committee rated the City's probability of occurrence for air quality/smoke events as "moderate" (which is the same as the County's Rating) **and their vulnerability as "low"** (which is lower than the County's Rating). *This hazard was not assessed in the previous version of this NHMP.*

Volume I, Section 2 describes the characteristics of air quality hazards, history, and how they relate to future climate projections as well as the location, extent, and probability of a potential event. Increases in wildfire conditions have shown an increasing potential for air quality hazards.

Hood River County has limited capacity to monitor air quality. Smoke Ready Gorge, operated by the OSU Extension Service, has installed air quality monitors throughout the region and developed a Community Response Plan for Hood River and Wasco counties. More information on Smoke Ready Gorge's work can be found on their website.

Development forecasts are not expected to increase or decrease the impact of this hazard. However, the population of adults aged 65 and older is increasing within this jurisdiction. As a result, the impact of this hazard may increase.

Drought

The Steering Committee rated the City's probability of occurrence for drought events as "moderate" (which is the same as the County's Rating) **and their vulnerability as "low"** (which is lower than the County's Rating). *These ratings did not change from the previous version of this NHMP.*

Volume I, Section 2 describes the characteristics of drought hazards, as well as the location and extent of a potential event. Moderate droughts occur regularly in Hood River County, primarily impacting the agricultural industry.

The City of Hood River's primary water supply comes from three springs located approximately 15 miles southwest of the City. It is estimated that the springs can continuously provide at least 10 million gallons of water per day. The city has a five-million-gallon reservoir and a 14-inch steel transmission main, which was constructed in 1929, and two additional storage reservoir(s), for a total of 6 million gallons of treated water storage capacity. The City also operates a water chlorinating plant. In general, water supply is available and sufficient. Therefore, while the probability is the same for the City as compared to the County, the vulnerability is lower.

[5] DOGAMI (2021, May). *Natural Hazard Risk Report for Hood River County, Oregon: Including the Cities of Cascade Locks, Hood River, and Unincorporated Communities of Odell, Parkdale, and Rockford.* https://pubs.oregon.gov/dogami/ofr/p-OFR.htm.

No development or population changes affected the jurisdiction's overall vulnerability to this hazard. In addition, development and population forecasts are not expected to increase or decrease the impact of this hazard.

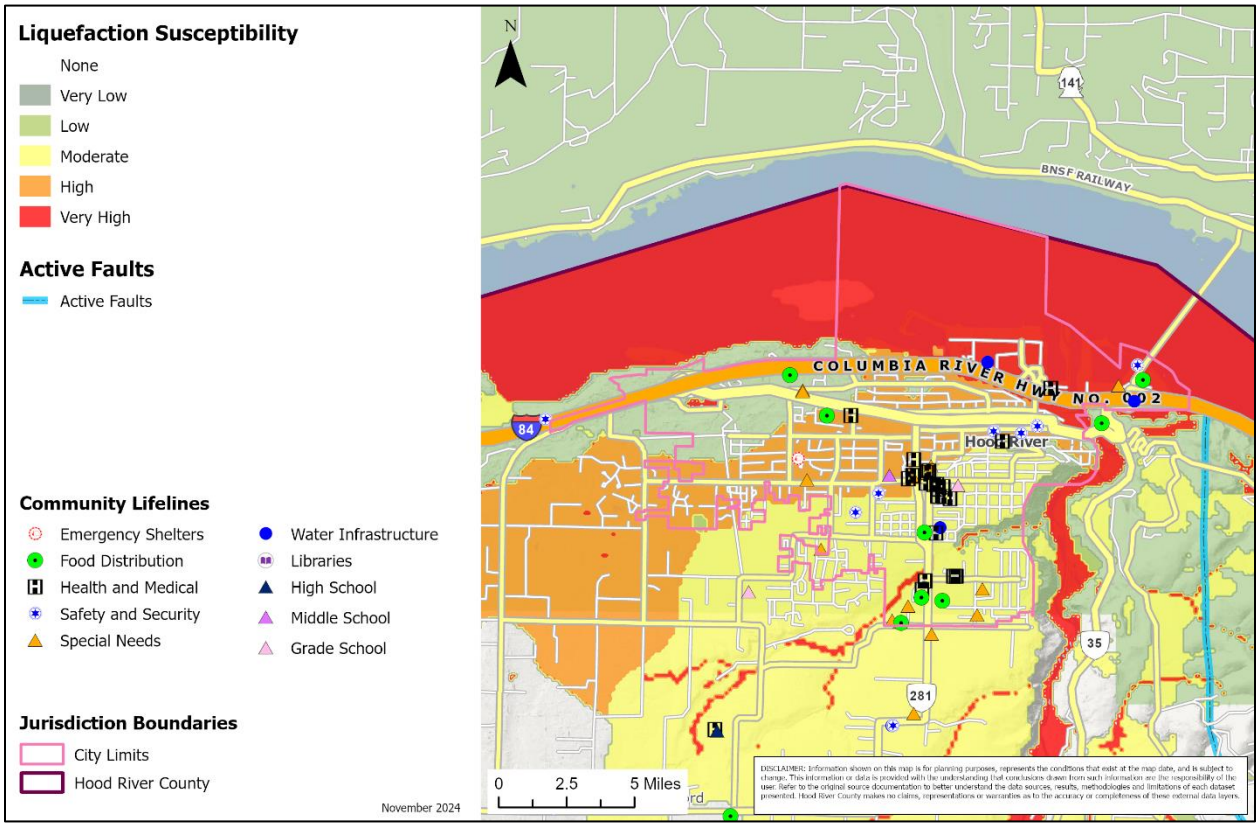
Earthquake (Cascadia Subduction Zone and Crustal)

The Steering Committee rated the City's probability of occurrence for a Cascadia Subduction Zone (CSZ) event as "low" (which is the same as the County's rating) **and their vulnerability as "high"** (which is higher than the County's rating)**. The Steering Committee rated the City's probability of occurrence for a Crustal Earthquake event as "low"** (which is the same as the County's rating) **and their vulnerability as "high"** (which is higher than the County's rating) **and that their vulnerability as "high"** (which is the same as the County's rating). *The probability rating for a crustal earthquake increased from the previous version of the NHMP due to DOGAMI's updated risk report. The vulnerability rating for both a CSZ event and a crustal earthquake increased due to DOGAMI's updated risk report and significant exposure in the City to seismic impacts (e.g., water lines from outside the city and the Hood River-White Salmon Bridge).*

Volume I, Section 2 describes the characteristics of earthquake hazards, history, as well as the location and extent of a potential event. Generally, an event that affects the county is likely to affect City of Hood River more severely. The liquefaction potential is greater for the City of Hood River than the County generally, and the City includes many of the County's community lifelines. The causes and characteristics of an earthquake event are appropriately described within the county's plan, as well as the location and extent of potential hazards. Previous occurrences are well-documented within the county's plan. The community impacts described by the county would occur in the City of Hood River to a greater extent: weak buildings would collapse and stable buildings would suffer damage, including critical and emergency facilities. The only hospital in the County is located in the City of Hood River, on a slope, and has a very high collapse potential according to DOGAMI's Rapid Visual Screening. In the event of a major earthquake, it is possible that the City would experience an influx of refugees from the Portland metropolitan area, which would put a further strain on emergency response services.

Earthquake-induced damages are difficult to predict and depend on the size, type, and location of the earthquake, as well as site-specific building and soil characteristics. Presently, it is not possible to accurately forecast the location or size of earthquakes, but it is possible to predict the behavior of soil at any particular site. In many major earthquakes, damage has primarily been caused by the behavior of the soil. As shown in Map HR-2, portions of the downtown core are subject to "moderate" and "high" liquefaction, while most of the Port properties are subject to "very high" liquefaction.

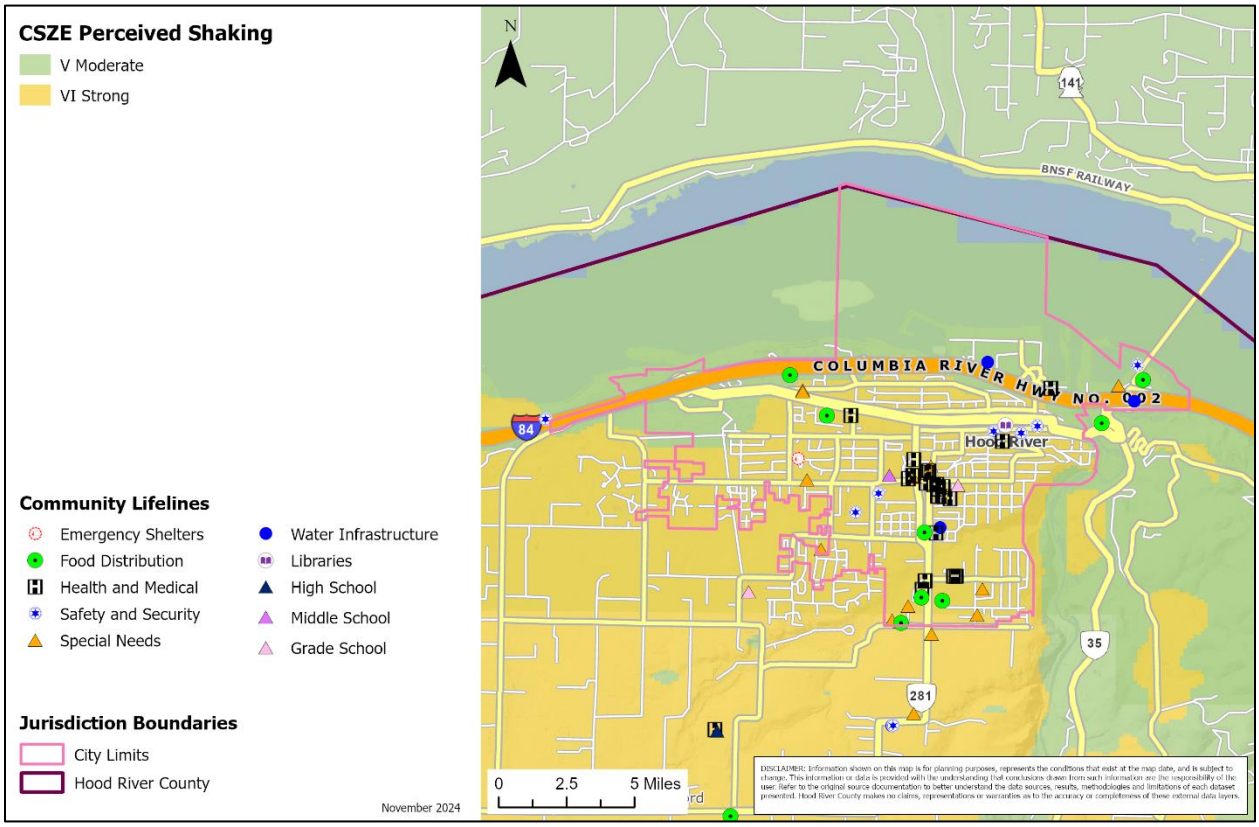
Map HR-2 Crustal Earthquake Liquefaction Susceptibility and Community Lifelines



Source: Mapping by OPDR.
Data from Hood River County and Oregon Department of Geology and Mineral Industries HazVu website.

Map HR-3 shows the expected shaking/ damage potential for the City of Hood River due to a CSZ earthquake event. The figure shows that most of the City will experience “moderate” to “strong” shaking that will last two to four minutes. The shaking will be extremely damaging to transportation routes including Interstate 84, the interstate Hood River-White Salmon Bridge operated by the Port of Hood River, and the Union Pacific Railroad.

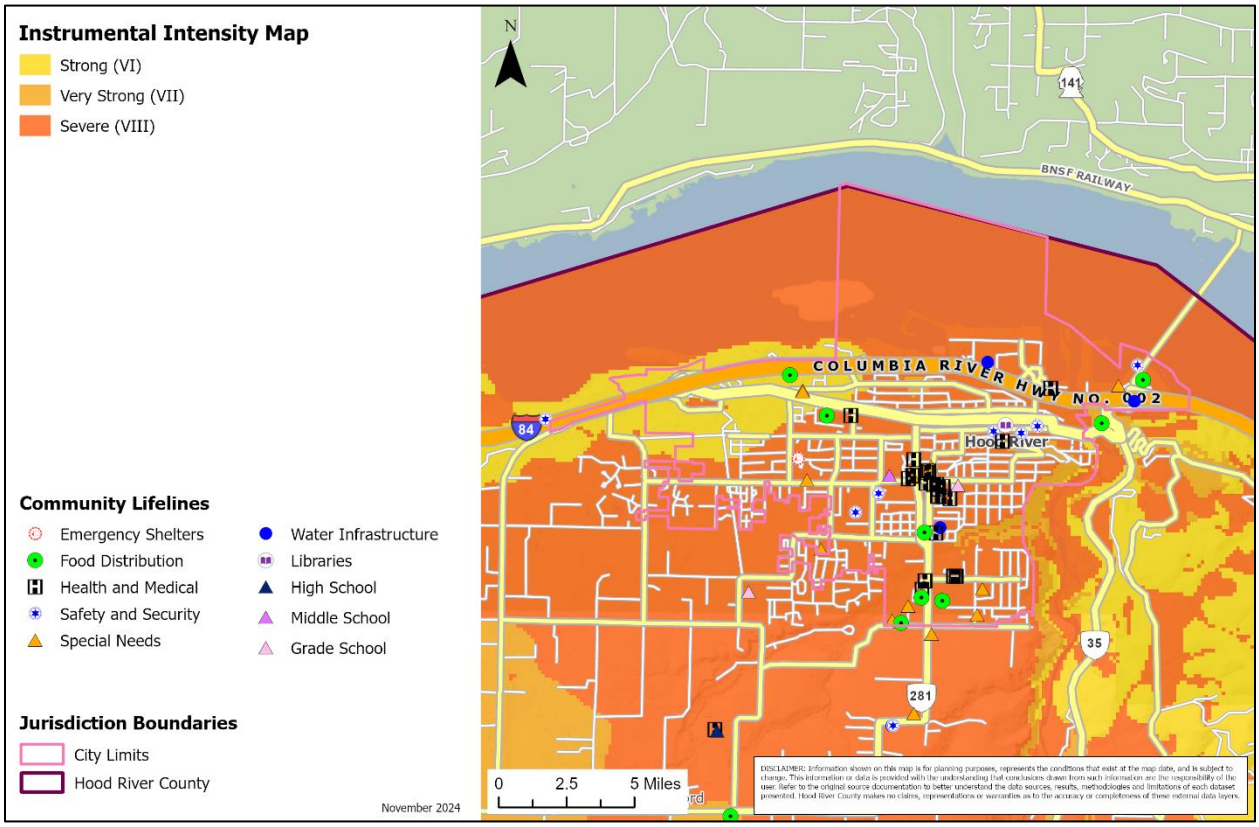
Map HR-3 Cascadia Subduction Zone Perceived Shaking and Community Lifelines



Source: Mapping by OPDR.
Data from Hood River County and Oregon Department of Geology and Mineral Industries HazVu website.

Map HR-4 depicts predicted earthquake intensity from a crustal earthquake or CSZ event in the City of Hood River. The entire City lies within “severe” intensity with some small pockets of “strong” intensity, indicating significant impacts from an earthquake.

Map HR-4 Predicted Earthquake Intensity and Community Lifelines



Source: Mapping by OPDR.
Data from Hood River County and Oregon Department of Geology and Mineral Industries HazVu website.

As noted in Volume II, Appendix D, approximately 59% of residential buildings were built prior to 1990, which increases the City's vulnerability to the earthquake hazard. Information on specific public buildings' (schools and public safety) estimated seismic resistance, determined by DOGAMI in 2007 via their Rapid Visual Screening, is shown in Table HR-5. Each "X" represents one building within that ranking category. Of the buildings evaluated by DOGAMI using RVS, eight (8) have a very high (100% chance) collapse potential, five (5) have a high (>10%) collapse potential, and eleven (11) have a moderate (1-10%) collapse potential.

Table HR-5 Rapid Visual Screening Scores

Facility	Address	Site ID	Level of Collapse Potential			
			Low (<1%)	Moderate (>1%)	High (>10%)	Very High (100%)
Schools						
Hood River Middle School*	1602 May St	Hood_sch05		X		X,X
Hood River Valley High School	1220 Indian Creek Rd	Hood_sch04	X,X,X,X,X			
May Street Elementary School*	1001 10th St	Hood_sch06	X			X,X
Pine Grove Elementary School (closed)	-	Hood_sch09	X	X		
Westside Elementary School	3685 Belmont Dr	Hood_sch02	X,X,X		X	
Wy'East Middle School*	3000 Wy'east Rd	Hood_sch03	X,X	X		X,X
Universities/ Colleges						
Community College – Bldg 1	1730 College Way	Hood_coc01		X		
Public Safety						
Hood River Police Department	211 2nd St	Hood_pol03		X		
Dee RFPD (now part of Parkdale RFPD)	5235 Lost Lake Rd	Hood_fir08		X		
Odell RFPD (now part of Wy'East RFPD)	3431 Odell Highway	Hood_fir02	X		X	
Pine Grove VFD (now part of Wy'East RFPD)	2995 Van Horn Dr	Hood_fir03	X	X	X	
Westside RFPD	1185 Tucker Rd	Hood_fir04			X	
Westside RFPD	4260 Barrett Dr	Hood_fir07	X		X	
Hood River Fire Department*	1785 Meyer Pkwy	Hood_fir05				X

Facility	Address	Site ID	Level of Collapse Potential			
			Low (<1%)	Moderate (>1%)	High (>10%)	Very High (100%)
Hood River County Sheriff	309 State St	Hood_pol01		X,X		
Hood River EOC/911	601 State St	Hood_eoc01		X,X		
Hospitals						
Providence Hood River Memorial Hospital*	810 12th St	Hood_hos01				X

Source: Lewis, D. (2007). *Open-File Report O-07-02, Statewide seismic needs assessment: Implementation of Oregon 2005 Senate Bill 2 relating to public safety, earthquakes, and seismic rehabilitation of public buildings.* Oregon Department of Geology and Mineral Industries. https://pubs.oregon.gov/dogami/ofr/p-O-07-02.htm.
* = Building has been rebuilt or retrofit since this DOGAMI study was conducted in 2007.

In addition to building damage, transportation systems (bridges, pipelines) are also likely to experience notable damage. Utility systems will also be significantly damaged, including damaged buildings and damage to utility infrastructure such as water treatment plants and equipment at high voltage substations (especially 230 kV or higher which are more vulnerable than lower voltage substations). Buried pipe systems will suffer extensive damage with approximately one break per mile in soft soil areas. Restoration of utility services will require substantial mutual aid from utilities outside of the affected area.

Economic Losses

DOGAMI's Risk Report includes an earthquake damage model. The model's results show the following building loss estimates from a 2,500-year probabilistic magnitude 7.0 crustal earthquake. These figures are all slightly higher than the previous NHMP due to the revision of the Risk Report in 2021 to include anticipated impacts from the Blue Ridge Fault:

- Number of red-tagged buildings: 166
- Number of yellow-tagged buildings: 577
- Loss estimate: $382,342,000
- Loss ratio: 37%
- Non-functioning critical facilities: 12
- Potentially displaced population: 477

Loss estimates from a CSZ event were not included in the DOGAMI Risk Report.

No development or population changes affected the jurisdiction's overall vulnerability to this hazard. In addition, development and population forecasts are not expected to increase or decrease the impact of this hazard.

Extreme Heat

The Steering Committee rated the City's probability of occurrence for extreme heat events as "moderate" (which is the same as the County's Rating) **and their vulnerability as "low"** (which is lower than the County's Rating). *This hazard was not assessed in the previous version of this NHMP.*

Volume I, Section 2 describes the causes and characteristics of extreme heat, as well as the history, location, extent, and probability of a potential event and how it relates to future climate projections. Generally, an event that affects the County is likely to affect the City as well. Extreme temperatures are measured as days with a heat index above 90 degrees. Extreme heat events can and have occurred in the City of Hood River, and while they typically do not cause loss of life, they are becoming more frequent and have the potential to impact economic activity as well as quality of life and have caused threat to life in some cases.

Development forecasts are not expected to increase or decrease the impact of this hazard. However, the population of adults aged 65 and older is increasing within this jurisdiction. As a result, the impact of this hazard may increase.

Flood

The Steering Committee rated the City's probability of occurrence for flood events as "moderate" (which is higher than the County's Rating) **and their vulnerability as "low"** (which is the same as the County's Rating). *These ratings did not change from the previous version of this NHMP.*

Volume I, Section 2 describes the causes and characteristics of flooding hazards within the region, as well as previous flooding occurrences. General flood-related community impacts are described within the Flood Hazard Annex of Hood River County's Natural Hazards Mitigation Plan. Portions of City of Hood River have areas of floodplains, including areas along the Hood River and Indian Creek, and bordering the Columbia River.

The City of Hood River complies with the National Flood Insurance Program through their floodplain management program and has developed a local flood damage prevention ordinance to regulate development in floodplain areas.

Community Repetitive Loss Policies

FEMA has not modernized the Hood River Flood Insurance Rate Maps (FIRMs); the FIRMs are the originals from 1984. FEMA is in the process of updating the FIRMs and released Preliminary maps in August 2022 but determined that a Revised Preliminary map release was needed. The updated FIRMs have not yet been published as of the writing of this NHMP.[6]

The City of Hood River is not a member of the Community Rating System (CRS). There have been zero paid claims within City boundaries. The County and City both use modern, improved flood

[6] Confirmed via Quarterly Project Report update email distributed by the Strategic Alliance for Risk Reduction (STARR II), a contractor for FEMA (S. Sagarika, personal communication, July 2, 2024).

hazard data for internal planning and zoning. The Community Repetitive Loss record for Hood River identifies no Repetitive Loss Properties[7] and no Severe Repetitive Loss Properties.[8]

Economic Losses
DOGAMI's Risk Report includes a flood damage model. The model's results show the following building loss estimates from a countywide 100-year flood:

- Number of buildings damaged: 6
- Loss estimate: $250,000
- Loss ratio: 0%
- Non-functioning critical facilities: 0
- Potentially displaced population: 17

No development or population changes affected the jurisdiction's overall vulnerability to this hazard. In addition, development and population forecasts are not expected to increase or decrease the impact of this hazard.

Landslide/Debris Flow

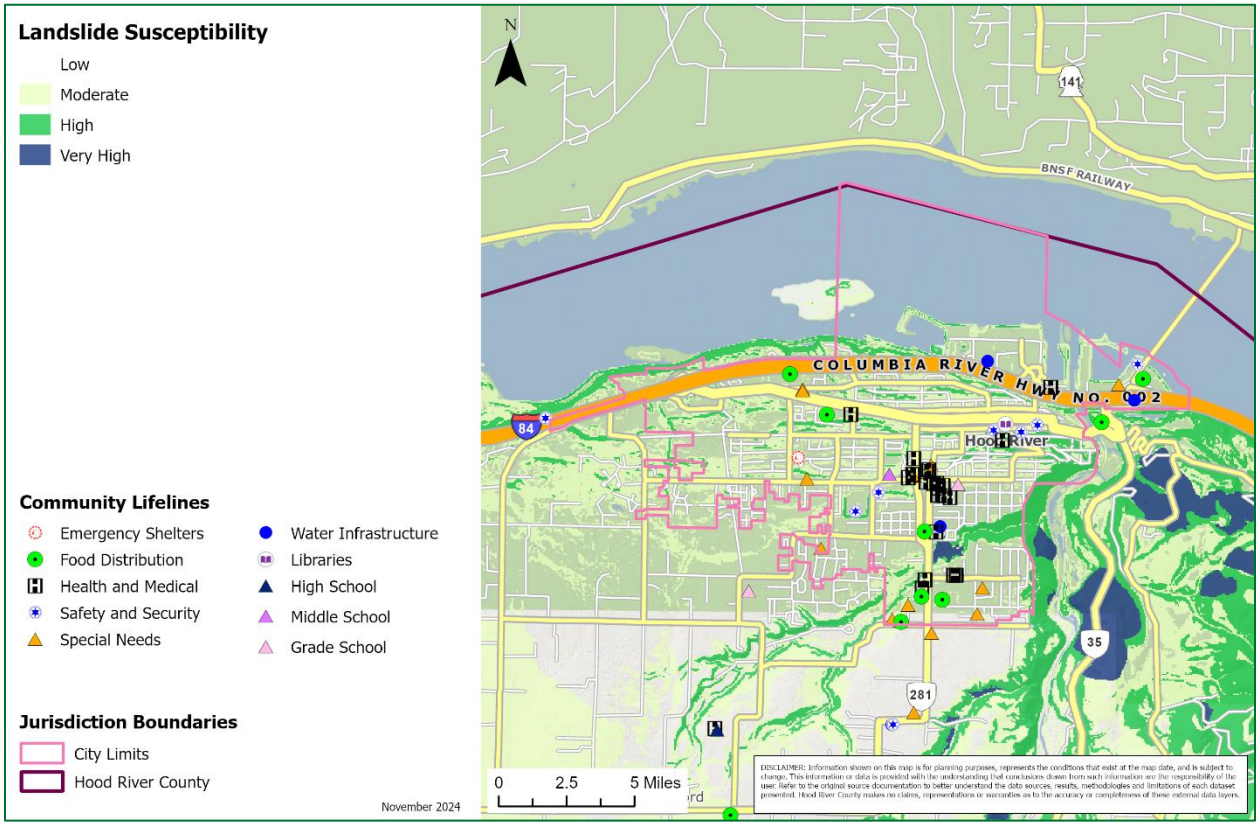
The Steering Committee rated the City's probability of occurrence for landslide events as "moderate" (which is lower than the County's Rating) and their vulnerability as also "moderate" (which is the same as the County's Rating). *Both the probability and vulnerability rating increased from the previous version of this NHMP to reflect recent development in steep, residential areas of the City.*

Volume I, Section 2 describes the characteristics of landslide hazards, history, and the location, extent, and probability of a potential event within the region. The potential for landslide in the City of Hood River is moderate to high, especially in the steeply sloped areas to the southeast of the City, along the Hood River watershed, and near Highway 35. Landslide susceptibility exposure for the City of Hood River is shown in Map HR-5. As the map demonstrates, fewer than 1% of the City has Very High landslide susceptibility exposure, with 11% High and 29% Moderate, meaning that more than 40% of City land has higher than "Low" landslide susceptibility.[9] The most vulnerable areas are along Serpentine Street and Lovers Lane as well as for the small but highly vulnerable houseless population that resides throughout the City.

[7] A Repetitive Loss (RL) property is any insurable building for which two or more claims of more than $1,000 were paid by the NFP within any rolling ten-year period, since 1978. A RL property may or may not be currently insured by the NFIP.
[8] A Severe Repetitive Loss (SRL) property is a single family property (consisting of 1 to 4 residences) that is covered under flood insurance by the NFIP and has incurred flood-related damage for which 4 or more separate claims payments have been paid under flood insurance coverage, with the amount of each claim payment exceeding $5,000 and with cumulative amount of such claims payments exceeding $20,000; or for which at least 2 separate claims payments have been made with the cumulative amount of such claims exceeding the value of the property.
[9] Hood River County and Oregon Department of Geology and Mineral Industries HazVu website.

Note that even if an area has a high percentage of land in a high or very high landslide exposure susceptibility zone, that does not mean there is a high risk (vulnerability), because risk is the intersection of a hazard and assets.

Map HR-5 Landslide Susceptibility Exposure and Community Lifelines



Source: Mapping by OPDR.
Data from Hood River County and Oregon Department of Geology and Mineral Industries HazVu website.

Economic Losses

DOGAMI's Risk Report includes a landslide damage model. The model's results show the following potential impacts on areas of the City exposed to landslides/debris flows:

- **Number of buildings:** 335
- **Value of exposed buildings:** $99,941,000
- **Percentage of total city value exposed:** 9.7%
- **Critical facilities exposed:** 1
- **Potentially displaced population:** 450

Potential landslide-related impacts are described within the County's NHMP, and include infrastructural damages, economic impacts (due to isolation and/or arterial road closures), property damages, and obstruction to evacuation routes. Rain-induced landslides and debris flows can potentially occur during any winter in Hood River County, and highway and other major roads beyond City limits are susceptible to obstruction as well. Landslides have historically blocked major roads and cut off transportation about once every ten years.

No development or population changes affected the jurisdiction's overall vulnerability to this hazard. In addition, development and population forecasts are not expected to increase or decrease the impact of this hazard.

Volcanic Event

The Steering Committee rated the City's probability of occurrence for volcanic events as "low" (which is the same as the County's Rating) **and their vulnerability as "moderate"** (which is the same as the County's Rating). *The vulnerability rating decreased slightly from the previous version of this NHMP to more closely match the County's rating.*

Volume I, Section 2 describes the City of Hood River's risk to volcanic events. Generally, an eruption from Mt. Hood may bring debris flows down the Hood River Valley and trigger landslides; however, lahars are more likely to flow down the east and south sides of the volcano. The causes and characteristics of a volcanic event are described within the county's plan, as well as the location and extent of potential hazards. Previous occurrences are well-documented within the county's plan, and the community impacts described by the county would generally be the same for City of Hood River as well. The City of Hood River is unlikely to experience anything more than volcanic ash during a volcanic event. When Mt. Saint Helens erupted in 1980, the City of Hood River experienced significant ash fall, which was laborious to remove. Future ash fall would be dependent on wind direction.

Due to the nature of the hazard, it is extremely challenging to predict the location or extent of future events with any probability, although it can be assumed that all residential and critical facilities and infrastructure within the City of Hood River are at risk.

Economic Losses
DOGAMI's Risk Report includes a volcanic lahar damage model. The model's results show that there are no expected impacts on areas of the City due to potential volcanic lahars.

No development or population changes affected the jurisdiction's overall vulnerability to this hazard. In addition, development and population forecasts are not expected to increase or decrease the impact of this hazard.

Wildfire

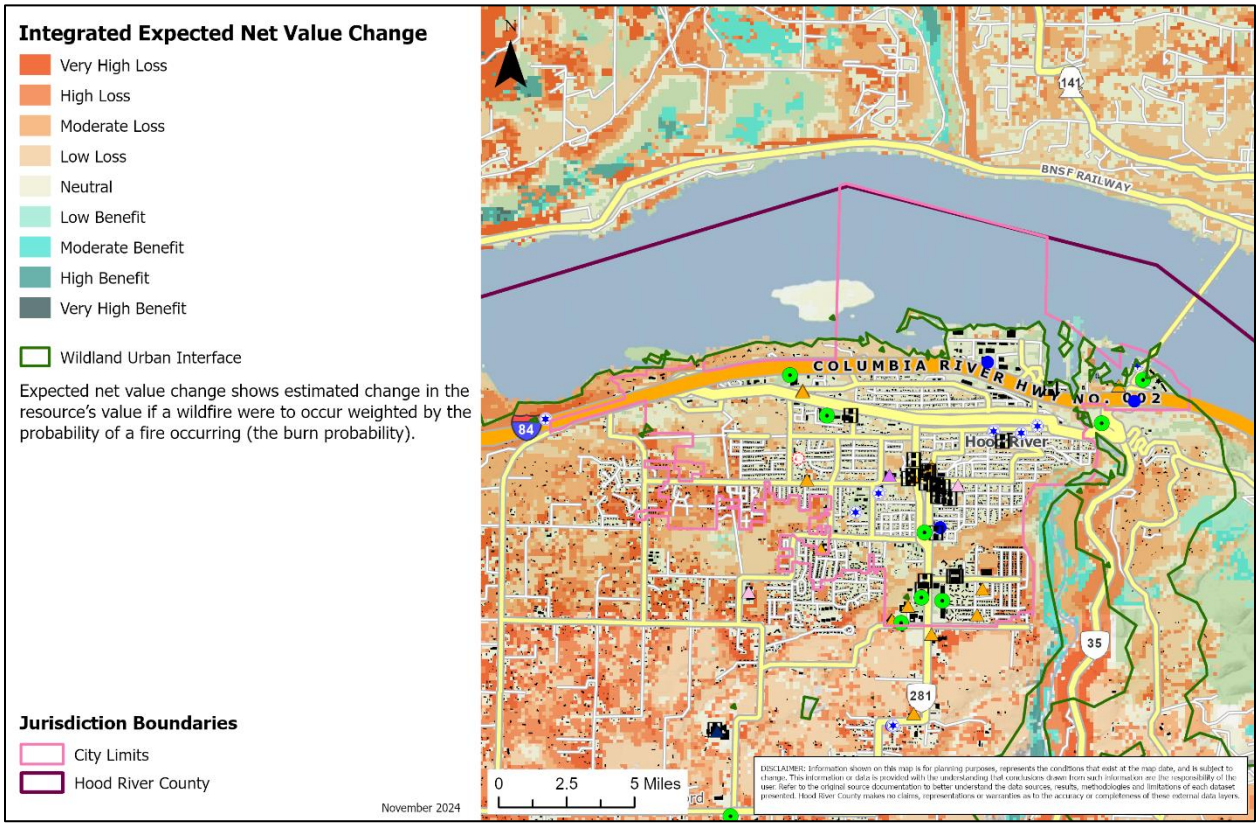
The Steering Committee rated the City's probability of occurrence for wildfire events as "high" (which is the same as the County's Rating) **and their vulnerability as also "high"** (which is the same as the County's Rating). *Both the probability and vulnerability rating increased from the previous version of this NHMP to reflect concerns regarding development in the Wildland Urban Interface and to more closely align with the County's ratings.*

Volume I, Section 2 describes the causes and characteristics of wildfires, as well as the County and City's history of wildfire events. The potential community impacts and vulnerabilities described in the County's NHMP are generally accurate for the City as well. As the most densely populated area within Hood River County, the City of Hood River is most at risk for house fires. Fires elsewhere in the County also have an emotional impact on residents, even if physical damage does not reach the City. Several significant wildfire events have occurred in the County,

the most recent being the Eagle Creek Fire (September – November 2017), a declared conflagration which was the top priority fire nationally for two weeks and burned nearly 50,000 acres throughout the region roughly 30 miles west of the City of Hood River. In general, wildfire conditions are greatest in the Indian Creek riparian area and adjacent housing, as well as the Sieverkropp subdivision, located behind Rosauer's Supermarket, adjacent to Hood River. The City hosts a number of urban houseless residents who may use fires in the Indian Creek area, increasing risk. Indian Creek is not managed for fuels reduction.

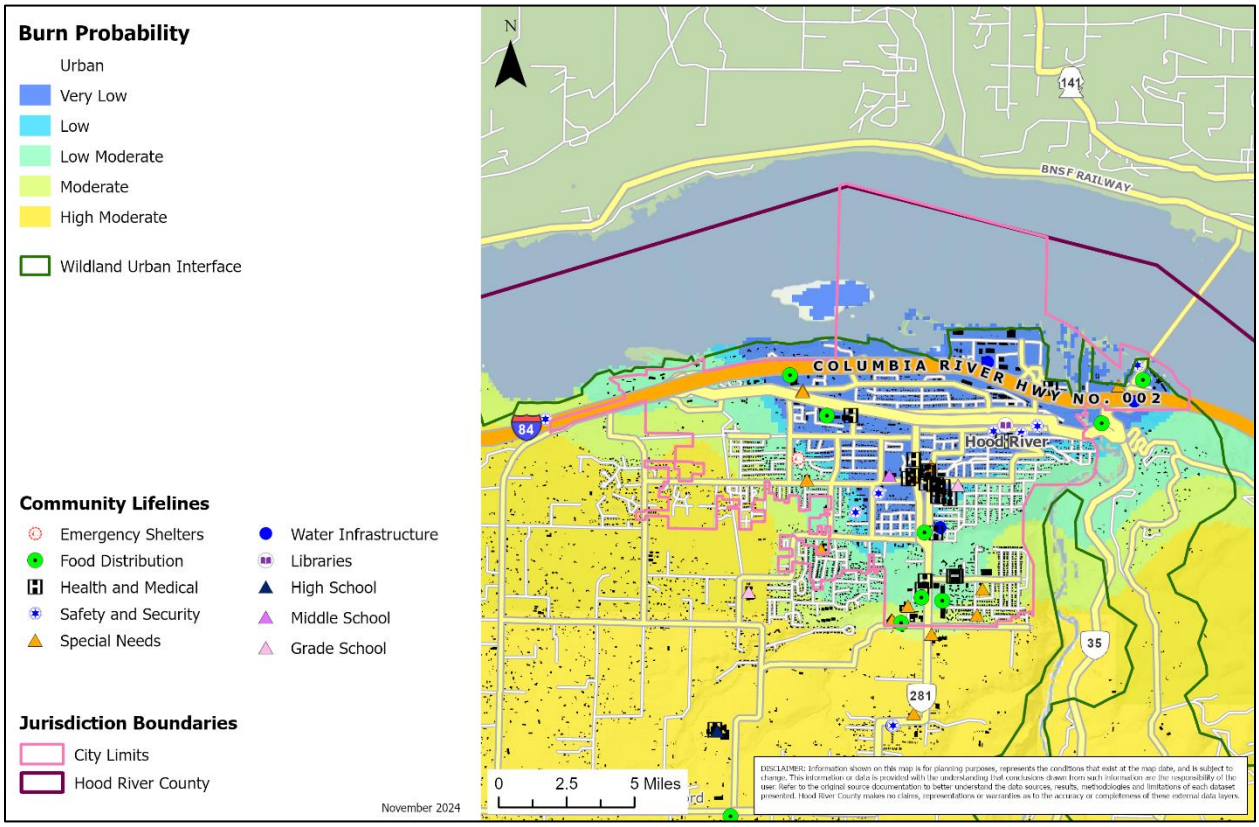
Map HR-6 and Map HR-7 show the wildfire hazard (using integrated expected net value change) and burn probability for the City, respectively. Most of the City lies within "low" or "neutral" loss areas and has "very low" to "low moderate" burn probability. For wildfire hazard (Map HR-6), the integrated expected net value change map shows the estimated change in the resource's value if a wildfire were to occur weighted by the probability of a fire occurring (also known as the burn probability).

Map HR-6 Wildfire Hazard and Community Lifelines



Source: Mapping by OPDR.
Data from USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA) and Oregon Explorer's CWPP Planning Tool.

Map HR-7 Burn Probability and Community Lifelines



Source: Mapping by OPDR.
Data from USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA) and Oregon Explorer's CWPP Planning Tool.

Hood River County developed a Community Wildfire Protection Plan (CWPP) in 2013 and updated the CWPP in 2025. This can be found in Volume IV. A CWPP maps wildland urban interface areas and includes actions to mitigate wildfire risk. The City was a participant in both the 2013 and 2025 CWPPs (via the Hood River FD) and will update the City's wildfire risk assessment if the CWPP presents better data.

Hood River Fire & EMS provides countywide services through a variety of means. The Department is funded through property taxes and a fee-based ambulance service. The Department has mutual aid agreements with three neighboring counties, including Wasco County; Hood River County is the initial first response in a mutual aid situation. The Department also has mutual aid agreements with the Oregon Department of Forestry and the US Forest Service. During wildland fire season, units are constantly used to supplement forestry units both within Hood River County and in other counties throughout the state.

Economic Losses
DOGAMI's Risk Report includes a wildfire damage model. The model's results show the following potential impacts on portions of the City in high wildfire hazard areas:

- Number of buildings: 630
- Value of exposed buildings: $150,294,000
- Percentage of total city value exposed: 15%
- Critical facilities exposed: 3
- Potentially displaced population: 1,356

No development or population changes affected the jurisdiction's overall vulnerability to this hazard. In addition, development and population forecasts are not expected to increase or decrease the impact of this hazard.

Windstorm

The Steering Committee rated the City's probability of occurrence for windstorm events as "moderate" (which is the same as the County's Rating) and their vulnerability as also "moderate" (which is the same as the County's Rating). *The vulnerability rating increased slightly to reflect the recent impacts of storms on the City and to more closely match the County's rating.*

Volume I, Section 2 describes the causes and characteristics of windstorms, as well as the location and extent of windstorm hazards. The region's (and City's) history of events is adequately described within the County's plan as well. Because windstorms typically occur during winter months, they are sometimes accompanied by ice, freezing rain, flooding, and very rarely, snow. For the purposes of this plan, windstorms are considered an individual hazard, distinct from winter storms. Alone, they have much lower potential to affect the City.

Due to the nature of the hazard, it is extremely challenging to predict the location or extent of future events with any probability, although it can be assumed that all residential and critical facilities and infrastructure within the City of Hood River are at risk.

No development or population changes affected the jurisdiction's overall vulnerability to this hazard. In addition, development and population forecasts are not expected to increase or decrease the impact of this hazard.

Winter Storm

The Steering Committee rated the City's probability of occurrence for winter storm events as "high" (which is the same as the County's Rating) and their vulnerability as also "high" (which is the same as the County's Rating). *These ratings did not change from the previous version of this NHMP.*

Volume I, Section 2 describes the causes and characteristics of winter storms, as well as the location and extent of winter storm hazards. In general, the City of Hood River experiences more rain and higher severity of winter storm impacts than the County. The region's (and City's) history of events is adequately described within the county's plan. Severe winter storms can consist of rain, freezing rain, ice, snow, extreme cold, sleet, and wind. They originate from frigid

air moving westward out of the Wallowa Mountains through the Columbia River. Mid-latitude storms approaching from the West are forced to rise as they encounter the Cascades, releasing large amounts of precipitation on the western slopes. These storms are most common from November through March and are an annual occurrence.

Major winter storms can and have occurred in the City of Hood River area, and while they typically do not cause significant damage, they are frequent and have the potential to impact economic activity. Road closures on major roads due to winter weather can interrupt commuter and large truck traffic, including food and fuel supply. I-84, the major highway supporting the City, closes nearly every year. The City of Hood River erects barricades on the steeply graded streets between 3rd and 13th Street annually to mitigate damage from winter storms. The City experiences more traffic than the rest of the County, intensifying storm related hazardous road conditions. Additionally, City residents may be less prepared for hazard impacts than unincorporated County residents and require more government support.

Due to the nature of the hazard, it is extremely challenging to predict the location or extent of future events with any probability, although it can be assumed that all residential and critical facilities and infrastructure within the City of Hood River are at risk.

No development or population changes affected the jurisdiction's overall vulnerability to this hazard. In addition, development and population forecasts are not expected to increase or decrease the impact of this hazard.

Attachment A: Public Involvement Summary

Members of the Steering Committee provided edits and updates to the NHMP prior to the public review period as reflected in the final document. In addition, a survey was distributed that included responses from residents of the City Hood River (Volume II, Appendix G).

To provide the public information regarding the draft NHMP addendum, and provide an opportunity for comment, an announcement was provided for 15 days from November 19 to December 4, 2024 on the County's website. Comments were reviewed and integrated into the NHMP as applicable. Additional opportunities for stakeholders and the public to be involved in the planning process are addressed in Volume II, Appendix C.

A diverse array of agencies and organizations were provided an opportunity to provide input to inform the plan's content through a variety of mechanisms including the opportunity for comment on the draft plan. The agencies and organizations represent local and regional agencies involved in hazard mitigation activities, those that have the authority to regulate development, neighboring communities, representatives of businesses, academia, and other private organizations, and representatives of nonprofit organizations, including community-based organizations, that work directly with and/or provide support to underserved communities and socially vulnerable populations. For more information on the engagement strategy see Volume II, Appendix C.

City of Hood River Steering Committee

Steering Committee members possessed familiarity with the community of Hood River and how it is affected by natural hazard events. The Steering Committee guided the update process through several steps including goal confirmation and prioritization, action item review and development, and information sharing, to update the NHMP and to make the NHMP as comprehensive as possible. The Steering Committee met formally on the following dates:

Meeting #1: City of Hood River Steering Committee, May 1, 2024 (in-person at City Hall)
During this meeting, the Steering Committee reviewed the previous NHMP, and were provided updates on hazard mitigation planning, the NHMP update process, and project timeline. The Steering Committee:

- Updated recent history of hazard events in the city.
- Reviewed and confirmed the County NHMP's mission and goals.
- Discussed the NHMP public outreach strategy.
- Reviewed and provided feedback on the draft risk assessment update including community vulnerabilities and hazard information.

- Reviewed and updated their existing mitigation strategy (actions).
- Reviewed and updated their implementation and maintenance program.

Meeting Attendees:

- Don Cheli, Lieutenant, City of Hood River Police Department
- Leonard Damian, Fire Chief, City of Hood River Fire Department
- Jacob Harner, Associate Planner, City of Hood River Planning Department
- Erin Mason, Detective, City of Hood River Police Department

Attachment B: Action Item Changes

Table HR-6 is an accounting of the status (complete or not complete) and major changes to actions since the previous NHMP. All actions were renumbered in this update to be consistent with other jurisdictions that are participating in the multi-jurisdictional NHMP. Actions identified as still relevant are included in the updated action plan (Table HR-1).

Previous NHMP Actions that are Complete:
None.

Previous NHMP Actions that are Not Complete and No Longer Relevant:
Earthquake #1: *Replace Hood River-White Salmon Bridge to withstand strong shaking.* This remains a priority for the Port of Hood River and is anticipated to begin in fall 2025, but will not require significant involvement from the City of Hood River.

Table HR-6 Status of All Hazard Mitigation Actions in the Previous Plan

2018 Action Item	2025 Action Item	Status	Still Relevant? (Yes/No)
Multi-Hazard Mitigation Strategies			
Multi-Hazard #1	1.1	Not Complete	Yes
Multi-Hazard #2	1.2	Not Complete	Yes
-	1.1	New	-
-	1.2	New	-
-	1.3	New	-
-	1.4	New	-
-	1.5	New	-
-	1.6	New	-
Air Quality Mitigation Strategies			
-	2.0	New	-
Drought Mitigation Strategies			
-	3.0	New	-
Earthquake/CSZ Event Mitigation Strategies			
Earthquake #1	-	Not Complete	No
-	4.1	New	-
Extreme Heat Mitigation Strategies			
-	5.0	New	-

2018 Action Item	2025 Action Item	Status	Still Relevant? (Yes/No)
Flood Mitigation Strategies			
-	6.0	New	-
Landslide/Debris Flow Mitigation Strategies			
-	7.1	New	-
Volcanic Event Mitigation Strategies			
-	8.0	New	-
Wildfire Mitigation Strategies			
Wildfire #1	9.1	Not Complete	Yes
Wildfire #2	9.2	Not Complete	Yes
-	9.3	New	-
Windstorm Mitigation Strategies			
-	10.0	New	-
Winter Storm Mitigation Strategies			
-	11.0	New	-

Port of Hood River Addendum

to the Hood River County Multi-Jurisdictional NHMP

Photos courtesy of Gary Halvorson, Oregon State Archives

Effective: July 8, 2025 through July 7, 2030

Prepared for
Port of Hood River
1000 E Port Marina Drive
Hood River, OR 97031

Prepared by
The University of Oregon
Institute for Policy Research & Engagement
School of Planning, Public Policy, and Management

UNIVERSITY OF OREGON | Institute for Policy Research and Engagement

U.S. Department of Homeland Security
Federal Emergency Management Agency
Region 10

130 228th St SW
Bothell, WA 98021

July 14, 2025

Mr. Stephen Richardson
State Hazard Mitigation Officer
Oregon Department of Emergency Management
3930 Fairview Industrial Dr SE
Salem, Oregon 97302

Reference: Approval of the Hood River County Multi-Jurisdictional Hazard Mitigation Plan

In accordance with applicable[1] laws, regulations and policy, the Risk Analysis Branch of FEMA Region 10 Mitigation Division has approved the local mitigation plan for the following jurisdictions:

Hood River County	City of Cascade Locks	City of Hood River
Port of Cascade Locks	Port of Hood River	Hood River County Library District
Hood River County School District	West Side Rural Fire Protection District	

Mitigation plans may include additional content to meet Element H: Additional State Requirements or content the local government included beyond applicable FEMA mitigation planning requirements. FEMA approval does not include the review or approval of content that exceeds these applicable FEMA mitigation planning requirements.

The approval period for this plan is from July 8, 2025 through July 7, 2030.

The jurisdictions' plan approval ensures the eligibility for project grants under FEMA's Hazard Mitigation Assistance programs. All requests for funding are evaluated individually according to eligibility and other program requirements. Having an approved mitigation plan does not mean that mitigation grant funding will be awarded. Specific application and eligibility requirements can be found in each FEMA grant program's respective policies and annual Notice of Funding Opportunities, as applicable.

[1] Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and National Dam Safety Program Act, as amended; 44 CFR Part 201, Mitigation Planning; and Local Mitigation Planning Policy Guide (FP-206-21-0002).

FEMA's approval is for a period of five years, effective the date FEMA received the adoption documentation. For this plan, documentation was received on July 8, 2025 and is considered approved as of then. Prior to July 7, 2030, each jurisdiction must review, revise, and submit their plan to FEMA for approval to maintain eligibility for grant funding. The enclosed plan review tool provides opportunities to incorporate into future updates.

Sincerely,

Wendy Shaw, P.E.
Risk Analysis Branch Chief
Mitigation Division

JF:JG

Attachment**:** Local Mitigation Plan Review Tool

PORT OF HOOD RIVER
Resolution No. 2024-25-23

A RESOLUTION TO ADOPT THE PORT OF HOOD RIVER ADDENDUM TO AND INCLUSION IN THE 2025 UPDATE TO THE HOOD RIVER COUNTY MULTI-JURISDICTIONAL NATURAL HAZARDS MITIGATION PLAN

Whereas, the Port of Hood River ("District" or "Port") recognizes the threat that natural hazards pose to people, property and infrastructure within our community; and

Whereas, undertaking hazard mitigation actions will reduce the potential for harm to people, property and infrastructure from future hazard occurrences; and

Whereas, an adopted Natural Hazards Mitigation Plan is required as a condition of future funding for mitigation projects under multiple FEMA pre- and post-disaster mitigation grant programs; and

Whereas, the Port has fully participated in the FEMA prescribed mitigation planning process to prepare the *Hood River County, Multi-Jurisdictional Natural Hazards Mitigation Plan*, which has established a comprehensive, coordinated planning process to eliminate or minimize these vulnerabilities; and

Whereas, the Port has identified natural hazard risks and prioritized a number of proposed actions and programs needed to mitigate the vulnerabilities within the Port District to the impacts of future disasters within the *Hood River County, Multi-Jurisdictional Natural Hazards Mitigation Plan*; and

Whereas, these proposed projects and programs have been incorporated into the *Hood River County, Multi-Jurisdictional Natural Hazards Mitigation Plan* that has been prepared and promulgated for consideration and implementation by the participating cities and special districts of Hood River County; and

Whereas, the Oregon Department of Emergency Management and Federal Emergency Management Agency, Region X officials have reviewed the *Hood River County, Multi-Jurisdictional Natural Hazards Mitigation Plan* and pre-approved it contingent upon this official adoption of the participating governments and entities;

Whereas, the NHMP is in an on-going cycle of development and revision to improve its effectiveness; and

Whereas, the Commission of the Port of Hood River adopts the NHMP and directs the Executive Director to develop, approve, and implement the mitigation strategies and any administrative changes to the NHMP; NOW THEREFORE,

THE PORT OF HOOD RIVER BOARD OF COMMISSIONERS RESOLVES AS FOLLOWS:

Section 1. The Port of Hood River adopts *the Hood River County Multi-Jurisdictional Natural Hazards Mitigation Plan* as an official plan; and

Section 2. The Port will submit this Resolution to the Oregon Department of Emergency Management and Federal Emergency Management Agency, Region X officials to enable final approval of the *Hood River County Multi-Jurisdictional Natural Hazards Mitigation Plan*.

Section 3. All prior NHMP Resolutions or Plans are hereby repealed.

Adopted by the Board of Commissioners of the Port of Hood River on this 15th day of April 2025.

SIGNED

Signed by:
Kristi Chapman
00DEADE439F8421...

Kristi Chapman, President

ATTEST

DocuSigned by:
Mike Fox
1D968775DD2542A...

Michael Fox, Secretary

Table of Contents

List of Tables

List of Figures

List of Maps

Introduction

Purpose

This is an update of the Port of Hood River addendum to the Hood River County Multi-Jurisdictional Natural Hazard Mitigation Plan (NHMP). This addendum supplements information contained in Volume I (Basic Plan) which serves as the NHMP foundation and Volume II (Appendices), which provide additional information. This addendum meets the following requirements:

- Multi-Jurisdictional **Plan Adoption** §201.6(c)(5),
- Multi-Jurisdictional **Participation** §201.6(a)(3),
- Multi-Jurisdictional **Mitigation Strategy** §201.6(c)(3)(iv) and
- Multi-Jurisdictional **Risk Assessment** §201.6(c)(2)(iii).

Updates to the Port of Hood River's addendum are further discussed throughout the NHMP and within Volume II, Appendix C, which provides an overview of alterations to the document that took place during the update process.

The Port of Hood River adopted their addendum to the Hood River County NHMP on April 15, 2025. FEMA Region X approved the Hood River County NHMP and the City's addendum on July 8, 2025. With approval of this NHMP, the City is now eligible for non-disaster and disaster mitigation project grants through July 7, 2030.

NHMP Process, Participation and Adoption

This section of the NHMP addendum addresses 44 CFR 201.6(c)(5), *Plan Adoption* and 44 CFR 201.6(a)(3), *Participation.*

In addition to establishing a comprehensive city level mitigation strategy, the Disaster Mitigation Act of 2000 (DMA2K), and the regulations contained in Title 44 CFR Part 201, require that jurisdictions maintain an approved NHMP to receive federal funds for mitigation projects. Local adoption and federal approval of this NHMP ensures that the Port will remain eligible for non-disaster and disaster mitigation project grants. The Port of Hood River was included with an addendum in the 2012 and 2018 Hood River County NHMP process.

The Oregon Partnership for Disaster Resilience (OPDR) at the University of Oregon's Institute for Policy Research and Engagement (IPRE) collaborated with Hood River County Emergency Management and the Port of Hood River to update their NHMP. This project is funded through the Federal Emergency Management Agency's (FEMA) Hazard Mitigation Grant Program. Members of the Port of Hood River NHMP Steering Committee also participated in the County NHMP update process (Volume II, Appendix C).

By updating the NHMP, locally adopting it, and having it re-approved by FEMA, the Port of Hood River will maintain eligibility for FEMA Hazard Mitigation Assistance grant program funds.

The Hood River County NHMP and Port of Hood River addendum are the result of a collaborative effort between residents, public agencies, non-profit organizations, the private sector, and regional organizations. A project steering committee guided the NHMP development process.

Convener and Committee

The Executive Director for the Port of Hood River served as the designated convener of the NHMP update and will take the lead in implementing, maintaining, and updating the addendum to the Hood River County NHMP in collaboration with the designated convener of the Hood River County NHMP (Emergency Manager).

Representatives from the Port of Hood River Steering Committee met formally and informally, to discuss updates to their addendum (see Attachment B and Volume II, Appendix C). The Steering Committee reviewed and revised the Port's addendum, with a focus on the NHMP's risk assessment and mitigation strategy (action items).

This addendum reflects decisions made at the designated meetings and during subsequent work and communication with Hood River County Emergency Management and OPDR. The changes are highlighted with more detail throughout this document and within Volume II, Appendix C. Other documented changes include a revision of the Port's risk assessment and hazard identification sections, NHMP mission and goals, action items, and community profile.

The Port of Hood River Steering Committee was comprised of the following representatives:

- Convener: Kevin Greenwood, Executive Director
- Ryan Klapprich, Facilities Manager
- Tor Bieker, Port Commissioner and Treasurer

The Steering Committee served as the local review body for the NHMP's development.

NHMP Implementation and Maintenance

The Port Commission will be responsible for adopting the Port Hood River addendum to the Hood River County NHMP. This addendum designates a steering committee and a convener to oversee the development and implementation of action items. Because the Port addendum is part of the County's NHMP, the Port will look for opportunities to partner with the County. The Port's Steering Committee will convene after re-adoption of the Hood River NHMP addendum on an annual schedule. The County is meeting on a semi-annual basis and will provide opportunities for jurisdictions to report on NHMP implementation and maintenance during their meetings. The Steering Committee, assembled by the convener, will be responsible for:

- Reviewing existing action items to determine suitability of funding;
- Reviewing existing and new risk assessment data to identify issues that may not have been identified at NHMP creation;
- Educating and training new steering committee members on the NHMP and mitigation actions in general;

- Assisting in the development of funding proposals for priority action items;
- Discussing methods for continued public involvement;
- Evaluating effectiveness of the NHMP at achieving its purpose and goals (use Table 4-1, Volume I, Section 4, as one tool to help measure effectiveness); and
- Documenting successes and lessons learned during the year.

The convener will also remain active in the County's implementation and maintenance process (Volume I, Section 4).

The Steering Committee will be responsible for activities outlined in Volume I, Section 4.

The Port will utilize the same action item prioritization process as the County (Volume I, Section 4 and Volume II, Appendix E).

Implementation through Existing Programs

Many of the NHMP's recommendations are consistent with the goals and objectives of the Port's existing plans and policies. Where possible, the Port of Hood River will implement the NHMP's recommended actions through existing plans and policies. Plans and policies already in existence have support from residents, businesses, and policy makers. Many land-use, comprehensive, and strategic plans get updated regularly, allowing them to adapt to changing conditions and needs. Implementing the NHMP's action items through such plans and policies increases their likelihood of being supported and implemented.

The Port of Hood River currently has the following plans that relate to natural hazard mitigation. For a complete list visit the Port's website:

- Capital Improvement Plan for Hood River-White Salmon Bridge (2023)
- Strategic Business Plan (2021)
- Ken Jernstedt Airfield Airport Master Plan (2018)
- Lot 1 – Development Plan (2016)
- Emergency Action Plan (2015)
- Hood River Waterfront Development Strategy (2007)
- Marina Basin Planning Study (2007)

The Port of Hood River is also subject to the following City of Hood River plans:

- Transportation System Plan (2021)
- Housing Needs Analysis and Buildable Lands Inventory (2015)
- Economic Opportunities Analysis (2011)
- Comprehensive Plan (2021) – implemented through Zoning and Development Code.

Capability Assessment

Port of Hood River, Oregon

The Capability Assessment identifies and describes the ability of the Port of Hood River to implement the mitigation strategy and associated action items. This is a key component of the 2025 Natural Hazard Mitigation Plan (NHMP) update. Capabilities can be evaluated through an examination of broad categories, including existing authorities, policies, programs, funding, and resources. Information from the 2018 NHMP was not integrated into other planning mechanisms, in part due to the impact of the COVID-19 pandemic. The Port intends to integrate information from the 2025 NHMP before the next NHMP update.

The Port of Hood River is situated within the City of Hood River as well as neighboring unincorporated areas of Hood River County and was incorporated in 1933. The Port owns and operates the Hood River-White Salmon Bridge, a highly trafficked bridge over the Columbia River connecting Oregon and Washington, as well as a marine park, a wide array of economic development projects throughout Hood River, and the Ken Jernstedt Airfield.

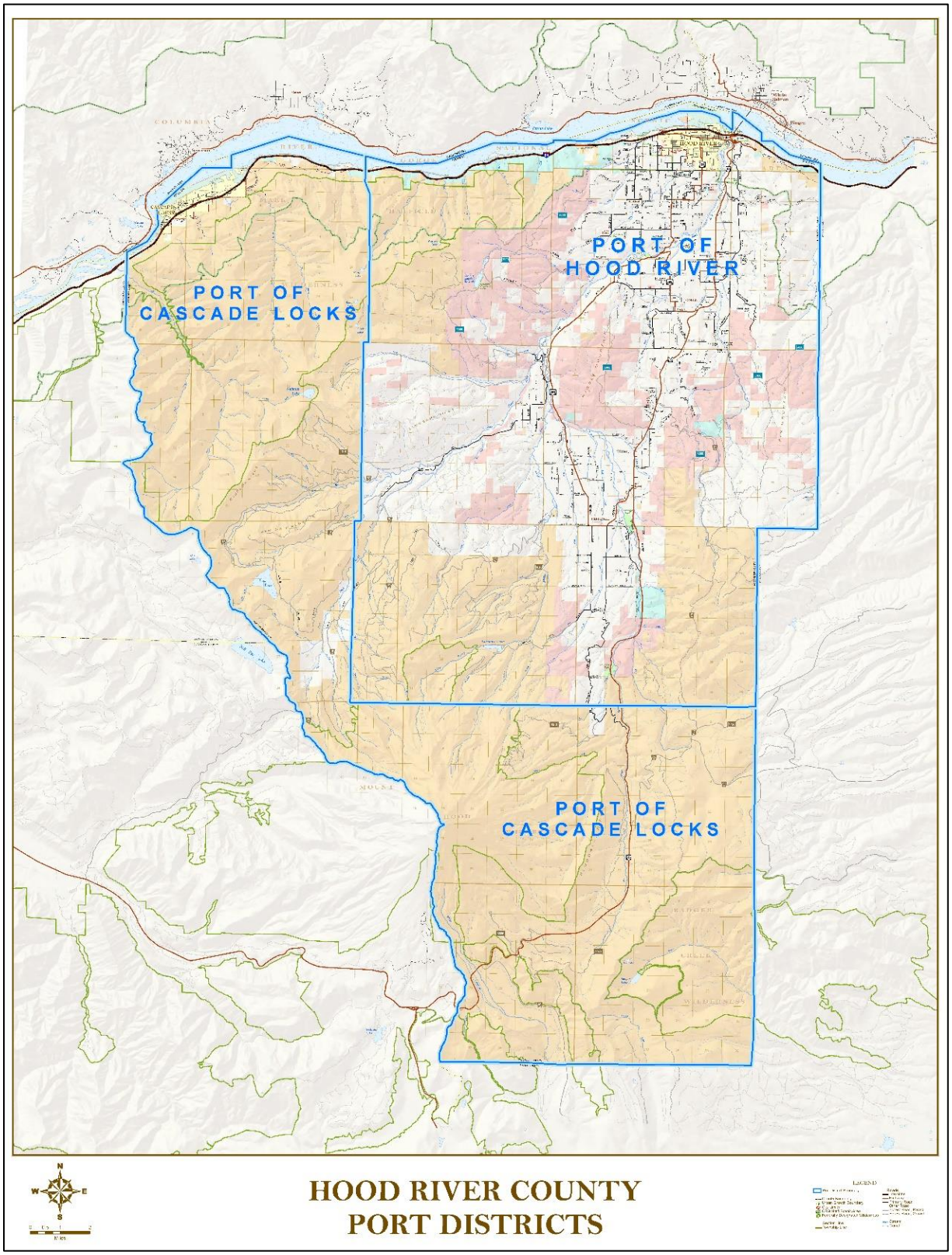
The Port has carried out many infrastructure projects over the past several decades alongside the county and other local and state partners. The Port is currently advocating on behalf of the Hood River-White Salmon Bridge Authority (HRWSBA) for state and federal funding to replace the Hood River-White Salmon Bridge, which is the primary and most significant infrastructure project planned by the Port. At the end of 2024, the project has received grant contracts totaling more than $244 million. While most of this figure is contracted through the HRWSBA, the Port has contracted for $19.5 million. A preliminary cost estimate of $520 million was generated in 2022 for the replacement project; however, an updated cost estimate will be generated in 2025.

Map POHR-1 illustrates the full Port district; however, outside of the northern section of the Hood River-White Salmon Bridge (which extends into Washington state), Port property lies entirely within the City of Hood River's city boundaries (see Map POHR-2).

Existing Authorities

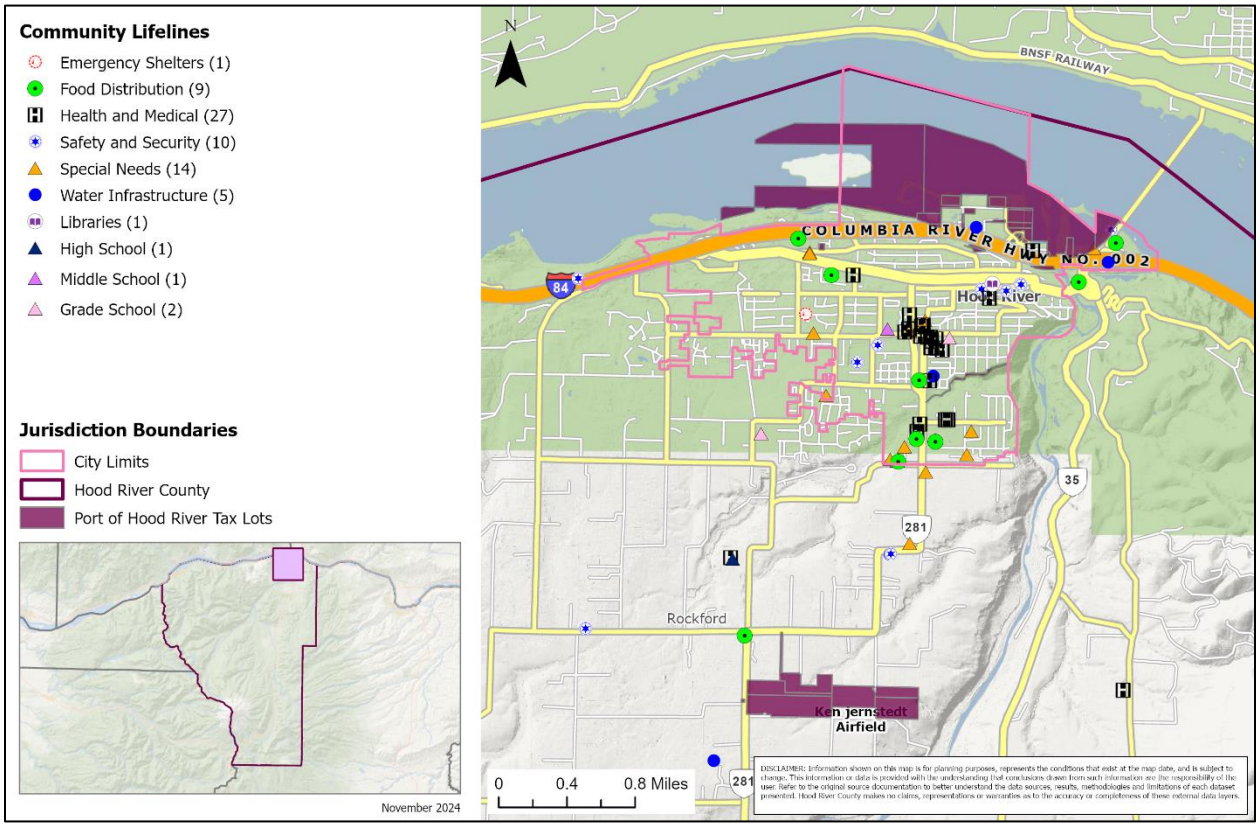
Hazard mitigation can be executed at a local scale through three (3) methods: integrating hazard mitigation actions into other local planning documents (i.e., plan integration), adopting building codes that account for best practices in structural hardening, and codifying land use regulations and zoning designations that prescribe mitigation into development requirements. The extent to which a municipality or multi-jurisdictional effort leverages these approaches is an indicator of that community's capabilities.

Map POHR-1 Port of Hood River District Map



Source: Port of Cascade Locks (2024). *Port of Cascade Locks 2024-2029 Strategic Plan.* https://www.portofcascadelocks.gov/files/ce49d4f62/Port+of+Cascade+Locks+Strategic+Plan+FY24-29.pdf.

Map POHR-2 Port of Hood River Facilities



Source: Mapping by OPDR.
Data from Hood River County Community Development Department (J. Edwards, personal communication, September 2024) and Oregon Department of Geology and Mineral Industries' HazVu website.

Land Use Regulations

Existing land use policies that define zoning and address hazardous conditions provide another source of mitigation capability. The Port of Hood River falls under both the City of Hood River and Hood River County's land use codes.

Structural Building Codes

The Oregon Legislature recently adopted updated building codes for both residential (2021 adoption) and commercial structures (2022) since the last update of the NHMP. These building codes are based on the 2021 version of the International Building Code, International Fire Code, and International Existing Building Code. New wildfire defensible space code is scheduled to be completed soon, with an effective date announced in late 2024. Fire hardening requirements were adopted on October 1, 2022, and effective April 1, 2023.

The City of Hood River administers and enforces the most recent Oregon Structural and Oregon Specialty Codes (2022), and the 2022 Oregon Fire Code. As a result, both new residential and commercial structures will be required to build according to the latest seismic and wind hardening standards in addition to requiring fire resistant building materials for those structures constructed in proximity or within the WUI.

Policies and Programs

The NHMP directs the Port of Hood River to explore integration into other planning documents and processes. The Port of Hood River has made significant progress in integrating the NHMP into its portfolio of planning processes and programs over the last five years.

Strategic Business Plan 2021-2026, 2021
The Port's Strategic Business Plan was developed by Port staff and the five-member Port Commission. The plan primarily focuses on business priorities for the Port, which are threefold: the replacement of the Hood River–White Salmon Interstate Bridge, the commercial development of the Lower Hanel Mill site, and ongoing infrastructure upgrades to the Ken Jernstedt Airfield. The plan includes two items of relevance to the NHMP: the fact that the bridge replacement effort is partially driven by the risk posed to the bridge by an earthquake (due to a lack of seismic upgrades) and the need to support local wildfire response operations.

Personnel

The following Port of Hood River personnel have assignments related to natural hazard mitigation planning and implementation:

- Emergency Management: Ryan Klapprich, Facilities Manager
- Public Information Officer: Kevin Greenwood, Executive Director
- Grant writing (for Public Works or emergency management): Kevin Greenwood, Executive Director
- Capital improvement planning: Kevin Greenwood, Executive Director
- Capital improvement execution: Ryan Klapprich, Facilities Manager

These personnel integrate hazards and resilience planning into their greater work programs to the best of their abilities. However, there is limited capacity to expand upon their capabilities or workloads.

Capital Projects

The Port of Hood River has implemented recommendations from the last NHMP into its capital improvement projects over the last 5 years, including:

- Hood River-White Salmon Bridge replacement pre-planning projects (e.g., seismic studies and borings).
- Remodel of the north ramp at the Ken Jernstedt Airfield to increase wildfire response capacity and allow larger aircraft to land (funded via the Oregon Connect Six grant).
- Relocated fuel tank to remodeled north ramp at airport (funded via the Oregon Connect Six grant).
- Added cameras at the Ken Jernstedt Airfield to allow for remote surveillance.

Capital Resources

The Port of Hood River maintains several capital resources that have important roles to play in the implementation of the natural hazard mitigation plan, including:

- Communication towers: None.
- Critical facilities with power generators:
  - Port Facilities office (1000 E Port Marina Drive)
  - Big 7 Building – supports Blue Mountain internet (616 Industrial Street)
  - Interest in placing power generators at the airport in the future.
- Warming/cooling/smoke shelters:
  - Ken Jerstendt Airfield could serve as a public-facing emergency facility; it is not set up for this (e.g., no baths/showers but electric hookups) but it could be in the future. Previous master plans for the Port have identified the airport to not only serve as a community shelter but an Emergency Operations Center and/or a base of operations for wildfire fighting.
- Community shelters:
  - See previous bullet.
- Food pantries: None.
- Fueling storage:
  - Port Facilities office (1000 E Port Marina Drive) – two 100-gallon diesel tanks
  - Marina boat launch fuel docks – two each of 1000-gallon diesel and gas tanks
  - Ken Jernstedt Airfield north ramp – 10,000-gallon aviation gasoline (primarily used for wildfire fighting but could be used in vehicles in an emergency)
    - *Note: The Port does not currently store any jet A fuel at the airport. However, the Columbia Gorge Regional Airport in Dallesport, WA, maintains a larger airport with jet A fuel and state/federal firefighting crews tend to bring their own fuel trucks.*

Findings

Several important findings from this capability assessment informed the design of the Plan's mitigation strategy and aided in prioritizing action items.

Staffing Limitations and Capacity

Port of Hood River staff are assigned hazard mitigation responsibilities as a part of their larger job responsibilities. Limited capacity reduces the breadth of the programming the community can undertake in any year. The Port relies upon its relationships with the County and the City of Hood River to expand its operations.

Reliance upon outside funding streams and local match requirements

The Port of Hood River operates on a limited budget with a small staff. This leaves few opportunities for using local financial resources to implement hazard mitigation work. They lean heavily upon state and federal grant funds as the primary means for securing mitigation funding. Hazard mitigation grants such BRIC require 25% local funding match, as well as extra staff capacity and expertise to navigate the application process and manage the funding.

Leveraging Partnerships with Public and Nonprofit Entities

The Port has a long history of successful partnerships with City and County governments in both Oregon and Washington state, ODOT, WSDOT, and the federal government.

Mitigation Strategy

This section of the NHMP addendum addresses 44 CFR 201.6(c)(3(iv), *Mitigation Strategy*.

The Port's mitigation strategy (action items) was first developed during the 2012 NHMP planning process and revised during the 2018 update. During this process, the Steering Committee assessed the Port's risk, identified potential issues, and developed a mitigation strategy (action items).

During the 2025 update process, the Port re-evaluated their mitigation strategy (action items). During this process action items were updated, noting what accomplishments had been made and whether the actions were still relevant; any new action items were identified at this time (see Attachment B for more information on changes to action items).

Action Items

Table POHR-1 documents the title of each action along with potential funding sources (HMA stands for FEMA's Hazard Mitigation Assistance disaster and non-disaster grant programs), the coordinating organization and any partner organizations, the timeline, and the anticipated cost.

For the timeline, O=Ongoing (continuous), S=Short (1-2 years), M=Medium (3-5 years), and L=Long (5 or more years). For cost, L=Low ($50,000 or less), M=Medium ($50,000 to $500,000), H=High ($500,000 to $5 million), and VH=Very High ($5 million or more).

Table POHR-1 Action Items

Action Item #	Mitigation Action Title	Potential Funding Sources	Coordinating Organization	Partner Organizations	Timeline	Cost
Multi-Hazard Mitigation Strategies						
1.1	Retrofit or build a facility at the Ken Jernstedt Airfield for use as a community shelter, 911 dispatch, Emergency Operations Center, and/or point of distribution for emergency resources (e.g., wildfire fighting).	HMA; State Funding (OEM, ODF); Bond	Port of Hood River/County Emergency Management	State Agencies (ODF, OEM); USFS	M	VH
1.2	Purchase power generators and fuel for Port facilities, including for an interim Port administration building during relocation.	HMA; State Funding (OEM, ODHS)	Port of Hood River	County Emergency Management; City of Hood River	M	M
Air Quality/Smoke Mitigation Strategies						
2.0	Given that Air Quality/Smoke is categorized as low risk in the Hazard Vulnerability Assessment, the Steering Committee decided not to develop any mitigation action items for this hazard. This is in line with the decision-making process for low-risk hazards used by the 2025 Hood River County NHMP Steering Committee for the County Mitigation Strategy.					
Drought Mitigation Strategies						
3.0	Given that Drought is categorized as low risk in the Hazard Vulnerability Assessment, the Steering Committee decided not to develop any mitigation action items for this hazard. This is in line with the decision-making process for low-risk hazards used by the 2025 Hood River County NHMP Steering Committee for the County Mitigation Strategy.					
Earthquake/CSZ Event Mitigation Strategies						
4.1	Replace Hood River-White Salmon Bridge with a new seismically resilient bridge to withstand strong shaking.	HMA; State Funding (Seismic Rehabilitation Grant Program, ODOT)	Port of Hood River/ The Hood River-White Salmon Bridge Authority	City of Hood River; County Emergency Management; City of White Salmon, WA; City of Bingen, WA; Klickitat County, WA; State Agencies (ODOT); Washington State Department of Transportation	M	VH

Action Item #	Mitigation Action Title	Potential Funding Sources	Coordinating Organization	Partner Organizations	Timeline	Cost
4.2	Address seismic issues in identified vulnerable and critical facilities, including the Big 7 building, via structural and non-structural retrofits.	HMA; State Funding (Seismic Rehabilitation Grant Program); Bond	Port of Hood River	County Emergency Management	M	VH
Extreme Heat Mitigation Strategies						
5.0	Given that Extreme Heat is categorized as low risk in the Hazard Vulnerability Assessment, the Steering Committee decided not to develop any mitigation action items for this hazard. This is in line with the decision-making process for low-risk hazards used by the 2025 Hood River County NHMP Steering Committee for the County Mitigation Strategy.					
Flood Mitigation Strategies						
6.0	The Steering Committee, using available local resources, will study this hazard further during the implementation and maintenance phase of this NHMP, seeking to identify cost effective actions that might be implemented to reduce community vulnerability.					
Landslide/Debris Flow Mitigation Strategies						
7.0	The Steering Committee, using available local resources, will study this hazard further during the implementation and maintenance phase of this NHMP, seeking to identify cost effective actions that might be implemented to reduce community vulnerability.					
Volcanic Event Mitigation Strategies						
8.0	Given that Volcanic Event is categorized as low risk in the Hazard Vulnerability Assessment, the Steering Committee decided not to develop any mitigation action items for this hazard. This is in line with the decision-making process for low-risk hazards used by the 2025 Hood River County NHMP Steering Committee for the County Mitigation Strategy.					
Wildfire Mitigation Strategies						
9.1	Purchase jet A fuel tank and fuel for the north ramp at the Ken Jernstedt Airfield to support wildfire fighting.	HMA; State Funding (ODF, OSFM); USFS (Community Wildfire Defense Grant); Existing Staff Resources	Port of Hood River	County Emergency Management; State Agencies (ODF, OSFM); USFS	M	VH

Action Item #	Mitigation Action Title	Potential Funding Sources	Coordinating Organization	Partner Organizations	Timeline	Cost
Windstorm Mitigation Strategies						
10.0	The Steering Committee, using available local resources, will study this hazard further during the implementation and maintenance phase of this NHMP, seeking to identify cost effective actions that might be implemented to reduce community vulnerability.					
Winter Storm Mitigation Strategies						
11.1	Develop countywide plan for addressing trucks stranded during storms on I-84 without using Port of Hood River or Port of Cascade Locks property.	HMA; State Funding (ODOT); Existing Staff Resources	Port of Hood River/Port of Cascade Locks	County Emergency Management; City of Hood River; City of Cascade Locks; State Agencies (ODOT)	M	M

Source: Port of Hood River NHMP Steering Committee, updated 2025
Potential Funding Sources: HMA=FEMA's Hazard Mitigation Assistance disaster and non-disaster grant programs
Cost: L=Low (less than $50,000), M=Medium ($50,000-$500,000), H=High ($500,000-$5 million), VH=Very High ($5 million or more)
Timing: O=Ongoing (continuous), S=Short (1-2 years), M=Medium (3-5 years), L=Long (5 or more years

Risk Assessment

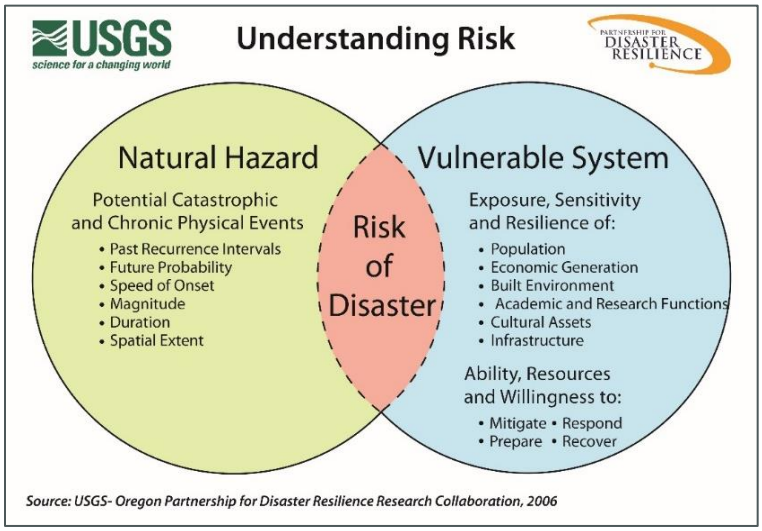
This section of the NHMP addendum addresses 44 CFR 201.6(b)(2) - Risk Assessment. In addition, this chapter can serve as the factual basis for addressing Oregon Statewide Planning Goal 7 – Areas Subject to Natural Hazards.

Assessing natural hazard risk has three phases:

- Phase 1: Identify hazards that can impact the jurisdiction. This includes an evaluation of potential hazard impacts – type, location, extent, etc.
- Phase 2: Identify important community assets and system vulnerabilities. Example vulnerabilities include people, businesses, homes, roads, historic places, and drinking water sources.
- Phase 3: Evaluate the extent to which the identified hazards overlap with or have an impact on, the important assets identified by the community.

The local level rationale for the identified mitigation strategies (action items) is presented herein and within Volume I, Sections 2 and 3. The risk assessment process is graphically depicted in Figure POHR-1. Ultimately, the goal of hazard mitigation is to reduce the area of risk, where hazards overlap vulnerable systems.

Figure POHR-1 Understanding Risk



Hazard Analysis

The Port of Hood River Steering Committee developed their hazard vulnerability assessment (HVA), using their previous HVA and the County's HVA (Volume I, Section 2) as a reference. Changes from the County's HVA were made where appropriate to reflect distinctions in vulnerability and risk from natural hazards unique to Hood River, which are discussed throughout this addendum.

Table POHR-2 shows the HVA matrix for the Port of Hood River listing each hazard in order of rank from high to low. For local governments, conducting the hazard analysis is a useful step in planning for hazard mitigation, response, and recovery. The method provides the jurisdiction with a sense of hazard priorities but does not predict the occurrence of a particular hazard.

Winter Storm, a Cascadia Subduction Zone (CSZ) Event, Earthquake (crustal), and Wildfire are the **high hazard threats** to the Port. Landslide/Debris Flow, Windstorm, and Flood are all **moderate hazard threats** to the Port. Extreme Heat, Drought, Air Quality/Smoke, and a Volcanic Event are the **low hazard threats** to the Port.

Table POHR-2 Hazard Analysis Matrix – Port of Hood River

Hazard	History (x2)	Probability (x7)	Vulnerability (x5)	Maximum Threat (x10)	Total Threat Score	Rank	Hazard Tier
Winter Storm	9	10	9	10	**233**	**1**	**High**
CSZ Event	2	6	8	10	**186**	**2**	**High**
Crustal Earthquake	2	5	8	10	**181**	**3**	**High**
Wildfire	7	8	6	8	**180**	**4**	**High**
Landslide/ Debris Flow	4	3	5	8	**134**	**5**	**Moderate**
Windstorm	2	3	5	7	**121**	**6**	**Moderate**
Flood	3	6	4	5	**118**	**7**	**Moderate**
Extreme Heat	4	8	2	4	**114**	**8**	**Low**
Drought	4	7	3	4	**112**	**9**	**Low**
Air Quality/ Smoke	5	6	2	4	**103**	**10**	**Low**
Volcanic Event	2	2	5	6	**103**	**11**	**Low**

Source: Port of Hood River Steering Committee (2025); Analysis by OPDR.

Hazard and Community Characteristics

Port of Hood River facilities are entirely contained within the City of Hood River (except for the northern section of the Hood River-White Salmon Bridge, which is in Washington state, and the Ken Jernstedt Airfield, which lies south of city boundaries). The Port's Steering Committee was actively involved in the determination of risk and vulnerability along with the City of Hood River and the County NHMP Steering Committee. As such, the Port's hazard and community characteristics are identical to the City's regarding the type, location, and extent for identified natural hazards. Moreover, the Port does not have the authority to adopt and enforce floodplain management or other land use regulations for the areas within its jurisdiction.

Please review the County Risk Assessment (Volume I, Section 2) and the City of Hood River Addendum (Volume III) for additional information on the community characteristics of the City and hazard vulnerability for the Port.

Community Assets

Table POHR-3 lists key community assets for the Port of Hood River. For a full list of critical and essential facilities and infrastructure[1] in the City of Hood River, see the City of Hood River Addendum (Volume III)

Table POHR-3 Port of Hood River Assets

Facility Name	Details
Hood River-White Salmon Interstate Bridge	Includes all spans of the steel truss composite bridge.
Ken Jernstedt Airfield	A 120-acre visual approach Basic Utility, Stage II airport, serving single-engine and small twin-engine airplanes, with approximately 105 aircraft based at the facility and handling about 20,000 operations annually. Includes a 1,353 sq. ft. office, 43,338 sq. ft. maintenance hangar and 36 T-hangar spaces.
Hood River Waterfront	Includes 105 acres of land (primarily Port-owned); 50 acres are developed with light industrial or commercial properties, 45 acres are dedicated to parks, recreation sites, trails, and other open space, and the remaining 10 acres are vacant. Includes 7,000 sq. ft. of commercial overlay.
Waterfront Industrial Property	Halyard Building (2010): 21,148 sq. ft. flex-space light industrial building; Jensen Building (2010): 71,857 sq. ft. classic light industrial building; Maritime Building (1975): 38,806 sq. ft. basic industrial building.
Waterfront Recreation Property	Includes The Spit, Event Site, and The Hook plus a trail system that support recreational pursuits including windsurfing, kiteboarding, stand-up paddle boarding, and kayaking.
Marina Basin	Two major components, both built in the 1970s: (1) a gated, semi-private marina with 154 slips, 11 boathouses, and 110 parking spaces for tenant use; and (2) a public boat launch that includes a two-lane boat ramp, 150 ft of transient dock for visitor tie-up, 55 trailer and 28 vehicle parking spaces, and a public restroom.
Port Marina Park	22 acres of active and passive opens space and four commercial buildings: Marina Park Office Building No. 1 (1973, renovated 2012): 5,738 sq. ft. hosting the Hood River Chamber of Commerce and Visitors Center; Marina Park Office Building No. 2: 2,406 sq. ft. hosting a State DMV office; Port Office Building and Shop (1970s, renovated 2008): 4,934 sq. ft. office and 3,226 sq. ft. hosting Port administration and facilities maintenance and a small business accelerator; Marina Park includes an 839 sq. ft. structure which houses the Hood River Yacht Club, lawn space, picnic shelter, beaches, restrooms, and a multi-use field.

[1] Critical and essential facilities and infrastructure are those that are essential to the continued delivery of key government services, that may significantly impact the public's ability to recover from a natural hazard event, and that are key to government response and recovery activities (i.e., life, safety, property, and environmental protection).

Miscellaneous Assets	Wasco Business Building (2004): 14,650 sq. ft. building; Big 7: (1984, renovated in the 1990s): 38,854 sq. ft. office and industrial building; Timber Incubator Building (1997): 10,000 sq. ft. building located in 29-acre John Weber Business Park

Source: Port of Hood River Steering Committee (2025)

The vulnerability for Earthquake (Crustal/CSZ), Flood, Landslide/Debris Flow, Volcano, and Wildfire was determined based on data from the 2021 DOGAMI Risk Report for Hood River County. The remaining hazards were not included in the Risk Report; their vulnerability was determined based on the County Risk Assessment (Volume I, Section 2) and the City of Hood River addendum (Volume III).

Table POHR-4 identifies the hazards to which each of the assets listed in Table POHR-3 are vulnerable, if any. The vulnerability for Earthquake (Crustal/CSZ), Flood, Landslide/Debris Flow, Volcano, and Wildfire was determined based on data from the 2021 DOGAMI Risk Report for Hood River County. The remaining hazards were not included in the Risk Report; their vulnerability was determined based on the County Risk Assessment (Volume I, Section 2) and the City of Hood River addendum (Volume III).

Table POHR-4 Port of Hood River Asset Hazard Vulnerability

Facility Name	Air Quality/ Smoke	Drought	Earthquake (Crustal/CSZ)	Extreme Heat	Flood	Landslide/ Debris Flow	Volcano	Wildfire	Windstorm	Winter Storm
Hood River-White Salmon Interstate Bridge			X							X
Ken Jernstedt Airfield			X				X	X	X	X
Hood River Waterfront	X		X	X	X		X	X	X	X
Waterfront Industrial Property			X				X	X	X	X
Waterfront Recreation Property	X		X	X					X	X
Marina Basin			X		X		X	X	X	X
Port Marina Park			X				X	X	X	X
Miscellaneous Assets			X					X		X

Source: Port of Hood River Steering Committee (2025). Analysis by OPDR.

Attachment A: Public Involvement Summary

Members of the Steering Committee provided edits and updates to the NHMP prior to the public review period as reflected in the final document. In addition, a survey was distributed that included responses from residents of the City of Hood River (Volume II, Appendix G).

To provide the public information regarding the draft NHMP addendum, and provide an opportunity for comment, an announcement was provided for 15 days from November 19 to December 4, 2024 on the County's website. Comments were reviewed and integrated into the NHMP as applicable. Additional opportunities for stakeholders and the public to be involved in the planning process are addressed in Volume II, Appendix C.

A diverse array of agencies and organizations were provided an opportunity to provide input to inform the plan's content through a variety of mechanisms including the opportunity for comment on the draft plan. The agencies and organizations represent local and regional agencies involved in hazard mitigation activities, those that have the authority to regulate development, neighboring communities, representatives of businesses, academia, and other private organizations, and representatives of nonprofit organizations, including community-based organizations, that work directly with and/or provide support to underserved communities and socially vulnerable populations. For more information on the engagement strategy see Volume II, Appendix C.

Port of Hood River Steering Committee

Steering Committee members possessed familiarity with the community of Hood River and how it is affected by natural hazard events. The Steering Committee guided the update process through several steps including goal confirmation and prioritization, action item review and development, and information sharing, to update the NHMP and to make the NHMP as comprehensive as possible. The Steering Committee met formally on the following dates:

Meeting #1: Port of Hood River Steering Committee, May 29, 2024 (virtually via Zoom)
During this meeting, the Steering Committee reviewed the previous NHMP, and were provided updates on hazard mitigation planning, the NHMP update process, and project timeline. The Steering Committee:

- Updated recent history of hazard events in the port's district.
- Reviewed and confirmed the County NHMP's mission and goals.
- Discussed the NHMP public outreach strategy.
- Reviewed and provided feedback on the draft risk assessment update including community vulnerabilities and hazard information.

- Reviewed and updated their existing mitigation strategy (actions).
- Reviewed and updated their implementation and maintenance program.

Meeting Attendees:

- Kevin Greenwood, Executive Director
- Ryan Klapprich, Facilities Manager
- Tor Bieker, Port Commissioner and Treasurer

Attachment B: Action Item Changes

Table POHR-5 is an accounting of the status (complete or not complete) and major changes to actions since the previous NHMP. All actions were renumbered in this update to be consistent with other jurisdictions that are participating in the multi-jurisdictional NHMP. Actions identified as still relevant are included in the updated action plan (Table POHR-1).

Previous NHMP Actions that are Complete:
None.

Previous NHMP Actions that are Not Complete and No Longer Relevant:
Multi-Hazard #2: *Research and develop teleconferencing solution for emergency communications during hazard event; possible join with retrofitting House 3 (Port property).* No longer a priority for either the Port or the City of Hood River. Broader interoperability issues are addressed as part of the County's Mitigation Strategy.

Table POHR-5 Status of All Hazard Mitigation Actions in the Previous Plan

2018 Action Item	2025 Action Item	Status	Still Relevant? (Yes/No)
Multi-Hazard Mitigation Strategies			
-	1.1	New	-
-	1.2	New	-
-	1.3	New	-
-	1.4	New	-
-	1.5	New	-
-	1.6	New	-
-	1.7	New	-
Air Quality Mitigation Strategies			
-	2.0	New	-
Drought Mitigation Strategies			
-	3.0	New	-
Earthquake/CSZ Event Mitigation Strategies			
Earthquake #1	4.1	Not Complete	Yes
-	4.2	New	-
Extreme Heat Mitigation Strategies			
-	5.0	New	-

2018 Action Item	2025 Action Item	Status	Still Relevant? (Yes/No)
Flood Mitigation Strategies			
-	6.0	New	-
Landslide/Debris Flow Mitigation Strategies			
-	7.0	New	-
Volcanic Event Mitigation Strategies			
-	8.0	New	-
Wildfire Mitigation Strategies			
-	9.1	New	-
-	9.2	New	-
Windstorm Mitigation Strategies			
-	10.0	New	-
Winter Storm Mitigation Strategies			
-	11.1	New	-

Hood River County Library District Addendum

to the Hood River County Multi-Jurisdictional NHMP

Photos courtesy of Hood River County Library District (left, center) / Columbia Gorge News (right)

Effective: July 8, 2025 through July 7, 2030

Prepared for
Hood River County Library District
502 State Street
Hood River, OR 97031

Prepared by
The University of Oregon
Institute for Policy Research & Engagement
School of Planning, Public Policy, and Management

UNIVERSITY OF OREGON | Institute for Policy Research and Engagement

U.S. Department of Homeland Security
Federal Emergency Management Agency
Region 10

130 228th St SW
Bothell, WA 98021

July 14, 2025

Mr. Stephen Richardson
State Hazard Mitigation Officer
Oregon Department of Emergency Management
3930 Fairview Industrial Dr SE
Salem, Oregon 97302

Reference: Approval of the Hood River County Multi-Jurisdictional Hazard Mitigation Plan

In accordance with applicable[1] laws, regulations and policy, the Risk Analysis Branch of FEMA Region 10 Mitigation Division has approved the local mitigation plan for the following jurisdictions:

Hood River County	City of Cascade Locks	City of Hood River
Port of Cascade Locks	Port of Hood River	Hood River County Library District
Hood River County School District	West Side Rural Fire Protection District	

Mitigation plans may include additional content to meet Element H: Additional State Requirements or content the local government included beyond applicable FEMA mitigation planning requirements. FEMA approval does not include the review or approval of content that exceeds these applicable FEMA mitigation planning requirements.

The approval period for this plan is from July 8, 2025 through July 7, 2030.

The jurisdictions' plan approval ensures the eligibility for project grants under FEMA's Hazard Mitigation Assistance programs. All requests for funding are evaluated individually according to eligibility and other program requirements. Having an approved mitigation plan does not mean that mitigation grant funding will be awarded. Specific application and eligibility requirements can be found in each FEMA grant program's respective policies and annual Notice of Funding Opportunities, as applicable.

[1] Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and National Dam Safety Program Act, as amended; 44 CFR Part 201, Mitigation Planning; and Local Mitigation Planning Policy Guide (FP-206-21-0002).

FEMA's approval is for a period of five years, effective the date FEMA received the adoption documentation. For this plan, documentation was received on July 8, 2025 and is considered approved as of then. Prior to July 7, 2030, each jurisdiction must review, revise, and submit their plan to FEMA for approval to maintain eligibility for grant funding. The enclosed plan review tool provides opportunities to incorporate into future updates.

Sincerely,

Wendy Shaw, P.E.
Risk Analysis Branch Chief
Mitigation Division

JF:JG

Attachment**:** Local Mitigation Plan Review Tool

Resolution No. 2024-25.04

Resolution Adopting the Hood River County Library District Representation in the Updates to the Hood River County Multi-Jurisdictional Natural Hazards Mitigation Plan

Whereas, the Hood River County Library District recognizes the threat that natural hazards pose to people, property and infrastructure within our community; and

Whereas, undertaking hazard mitigation actions will reduce the potential for harm to people, property and infrastructure from future hazard occurrences; and

Whereas, an adopted Natural Hazards Mitigation Plan is required as a condition of future funding for mitigation projects under multiple FEMA pre- and post-disaster mitigation grant programs; and

Whereas, the Hood River County Library District has fully participated in the FEMA prescribed mitigation planning process to prepare the Hood River County, Multi-Jurisdictional Natural Hazards Mitigation Plan, which has established a comprehensive, coordinated planning process to eliminate or minimize these vulnerabilities; and

Whereas, the Hood River County Library District has identified natural hazard risks and prioritized a number of proposed actions and programs needed to mitigate the vulnerabilities of the Hood River County Library District to the impacts of future disasters within the Hood River County, Multi-Jurisdictional Natural Hazards Mitigation Plan; and

Whereas, these proposed projects and programs have been incorporated into the Hood River County, Multi-Jurisdictional Natural Hazards Mitigation Plan that has been prepared and promulgated for consideration and implementation by the participating cities and special districts of Hood River County; and

Whereas, the Oregon Department of Emergency Management and Federal Emergency Management Agency, Region X officials have reviewed the Hood River County, Multi-Jurisdictional Natural Hazards Mitigation Plan and pre-approved it contingent upon this official adoption of the participating governments and entities;

Whereas, the NHMP is in an on-going cycle of development and revision to improve it's effectiveness; and

Whereas, Hood River County Library District adopts the NHMP and directs the Library Director to develop, approve, and implement the mitigation strategies and any administrative changes to the NHMP.

Now, therefore, be it resolved, that the Hood River County Library District adopts the Hood River County Multi-Jurisdictional Natural Hazards Mitigation Plan as an official plan; and

Be it further resolved, that the Hood River County Library District will submit this Adoption Resolution to the Oregon Department of Emergency Management and Federal Emergency Management Agency, Region X officials to enable final approval of the Hood River County Multi-Jurisdictional Natural Hazards Mitigation Plan.

Adopted this 15th day of April, 2025

ATTEST:

Karen Bureker, Vice President

Rachael Fox, Secretary

Table of Contents

List of Tables

List of Figures

Introduction

Purpose

This is the new Hood River County Library District addendum to the Hood River County Multi-Jurisdictional Natural Hazard Mitigation Plan (NHMP). This addendum supplements information contained in Volume I (Basic Plan) which serves as the NHMP foundation and Volume II (Appendices), which provide additional information. This addendum meets the following requirements:

- Multi-Jurisdictional **Plan Adoption** §201.6(c)(5),
- Multi-Jurisdictional **Participation** §201.6(a)(3),
- Multi-Jurisdictional **Mitigation Strategy** §201.6(c)(3)(iv) and
- Multi-Jurisdictional **Risk Assessment** §201.6(c)(2)(iii).

The Hood River County Library District adopted their addendum to the Hood River County NHMP on April 15, 2025. FEMA Region X approved the Hood River County NHMP and the City's addendum on July 8, 2025. With approval of this NHMP, the City is now eligible for non-disaster and disaster mitigation project grants through July 7, 2030.

NHMP Process, Participation and Adoption

This section of the NHMP addendum addresses 44 CFR 201.6(c)(5), *Plan Adoption* and 44 CFR 201.6(a)(3), *Participation.*

In addition to establishing a comprehensive city level mitigation strategy, the Disaster Mitigation Act of 2000 (DMA2K), and the regulations contained in Title 44 CFR Part 201, require that jurisdictions maintain an approved NHMP to receive federal funds for mitigation projects. Local adoption and federal approval of this NHMP ensures that the District will remain eligible for non-disaster and disaster mitigation project grants. This is the first Hood River County NHMP process in which the Hood River County Library District has participated via an addendum.

The Oregon Partnership for Disaster Resilience (OPDR) at the University of Oregon's Institute for Policy Research and Engagement (IPRE) collaborated with Hood River County Emergency Management and the Hood River County Library District to update their NHMP. This project is funded through the Federal Emergency Management Agency's (FEMA) Hazard Mitigation Grant Program.

By updating the NHMP, locally adopting it, and having it re-approved by FEMA, the Hood River County Library District will maintain eligibility for FEMA Hazard Mitigation Assistance grant program funds.

The Hood River County NHMP and Hood River County Library District addendum are the result of a collaborative effort between residents, public agencies, non-profit organizations, the private

sector, and regional organizations. A project steering committee guided the NHMP development process.

Convener and Committee

The Executive Director of the Hood River County Library District served as the designated convener of the NHMP update and will take the lead in implementing, maintaining, and updating the addendum to the Hood River County NHMP in collaboration with the designated convener of the Hood River County NHMP (Emergency Manager).

Representatives from the Hood River County Library District Steering Committee met formally and informally, to discuss updates to their addendum (see Attachment A and Volume II, Appendix C). The Steering Committee reviewed and developed the District's addendum, with a focus on the NHMP's risk assessment and mitigation strategy (action items).

This addendum reflects decisions made at the designated meetings and during subsequent work and communication with Hood River County Emergency Management and OPDR. The decisions are highlighted with more detail throughout this document and within Volume II, Appendix C. Other documented actions include the development of the District's risk assessment and hazard identification sections, NHMP mission and goals, action items, and community profile.

The Hood River County Library District Steering Committee was comprised of the following representative:

- Convener: Rachael Fox, Library Director

The Steering Committee served as the local review body for the NHMP's development.

NHMP Implementation and Maintenance

The Hood River County School District Board of Directors will be responsible for adopting the Hood River County School District addendum to the Hood River County NHMP. This addendum designates a steering committee and a convener to oversee the development and implementation of action items. Because the District addendum is part of the County's NHMP, the District will look for opportunities to partner with the County. The District's Steering Committee will convene after re-adoption of the NHMP addendum on an annual schedule. The County is meeting on a semi-annual basis and will provide opportunities for jurisdictions to report on NHMP implementation and maintenance during their meetings. The Steering Committee, assembled by the convener, will be responsible for:

- Reviewing existing action items to determine suitability of funding;
- Reviewing existing and new risk assessment data to identify issues that may not have been identified at NHMP creation;
- Educating and training new steering committee members on the NHMP and mitigation actions in general;
- Assisting in the development of funding proposals for priority action items;

- Discussing methods for continued public involvement;
- Evaluating effectiveness of the NHMP at achieving its purpose and goals (use Table 4-1, Volume I, Section 4, as one tool to help measure effectiveness); and
- Documenting successes and lessons learned during the year.

The convener will also remain active in the County's implementation and maintenance process (Volume I, Section 4).

The Steering Committee will be responsible for activities outlined in Volume I, Section 4.

The District will utilize the same action item prioritization process as the County (Volume I, Section 4 and Volume II, Appendix E).

Implementation through Existing Programs

Many of the NHMP's recommendations are consistent with the goals and objectives of the District's existing plans and policies. Where possible, the Hood River County Library District will implement the NHMP's recommended actions through existing plans and policies. Plans and policies already in existence have support from residents, businesses, and policy makers. Many land-use, comprehensive, and strategic plans get updated regularly, allowing them to adapt to changing conditions and needs. Implementing the NHMP's action items through such plans and policies increases their likelihood of being supported and implemented.

The Hood River County Library District currently has the following plan that relates to natural hazard mitigation. For a complete list visit the District's website:

- Strategic Plan, 2023-2028 (2023)

The Hood River County Library District is also subject to the following City plans:

- City of Cascade Locks
    - Downtown Revitalization Plan (expected 2025)
    - Strategic Plan (2023)
    - Wastewater Facilities Plan (2017)
    - Water System Master Plan (2014)
    - Emergency Operations Plan (2013)
    - Economic Opportunities Analysis (2009)
    - Transportation System Plan (2001)
    - Comprehensive Plan (2001) – implemented via Community Development Code.
- City of Hood River
    - Transportation System Plan (2021)
    - Downtown Parking Study and Plan (2019)
    - Stormwater Management Plan (2019)
    - Housing Strategy/Needs Analysis (2015)
    - Emergency Operations Plan (2015)
    - Capital Improvements Plan (2015)
    - Comprehensive Plan (2021) – implemented via Zoning and Development Code.

Capability Assessment

Hood River County Library District, Oregon

The Capability Assessment identifies and describes the ability of the Hood River County Library District to implement the mitigation strategy and associated action items. This is a key component of the 2025 Natural Hazard Mitigation Plan (NHMP) update. Capabilities can be evaluated through an examination of broad categories, including existing authorities, policies, programs, funding, and resources.

As the District's website states:

> The Hood River County Library District is committed to delivering excellent library services to all the people of Hood River County, Oregon. It was created by a vote of the citizens of Hood River County on November 2, 2010, following the closure of the Hood River County Library, a department of Hood River County. The County's first publicly funded library opened on September 13, 1912.

The District has three locations within the County:

- Hood River Library (502 State Street) – this is the primary library and the only one solely owned by the District.
- Cascade Locks Library (300 Wa Na Pa Street) – this library is one room and is located in a wing attached to the Cascade Locks Elementary School.
- Parkdale Library (7300 Clear Creek Road) – this library is one room and is located on the first floor of the Parkdale Community Center.

Existing Authorities

Hazard mitigation can be executed at a local scale through three (3) methods: integrating hazard mitigation actions into other local planning documents (i.e., plan integration), adopting building codes that account for best practices in structural hardening, and codifying land use regulations and zoning designations that prescribe mitigation into development requirements. The extent to which a municipality or multi-jurisdictional effort leverages these approaches is an indicator of that community's capabilities.

Land Use Regulations

Existing land use policies that define zoning and address hazardous conditions provide another source of mitigation capability. The District falls under both the City of Hood River and City of Cascade Locks' land use codes, in addition to Hood River County.

Structural Building Codes

The Oregon Legislature recently adopted updated building codes for both residential (2021 adoption) and commercial structures (2022) since the last update of the NHMP. These building codes are based on the 2021 version of the International Building Code, International Fire Code, and International Existing Building Code. New wildfire defensible space code for land within the

Wildland-Urban Interface (WUI) is scheduled to be completed this December with an effective date announced in 2024. Fire hardening requirements were adopted on October 1, 2022, and effective April 1, 2023.

Though Hood River County currently administers and enforces codes for residential zones last updated in 2018, the county does utilize the most recent Oregon Structural and Specialty Codes (2022) for commercial zones. Additionally, the City of Hood River administers and enforces the most recent Oregon Structural and Oregon Specialty Codes (2022), and the 2022 Oregon Fire Code. As a result, both new residential and commercial structures will be required to build according to the latest seismic and wind hardening standards in addition to requiring fire resistant building materials for those structures constructed in proximity to or within the WUI.

Policies and Programs

The NHMP directs Hood River County Library District to explore integration into other planning documents and processes. As the District is a new addition to the NHMP, it has not yet incorporated the plan into its portfolio of planning processes and programs. However, key documents and staffing components are reviewed in this section.

Hood River County Library District Strategic Plan 2023-2028, 2023
The District's Strategic Plan lays out how they will continue to expand their operations to serve the county's population, with a significant focus on internal programmatic work. The only major item of relevance to the NHMP is Goal 3 of the "create community through library" strategy, which emphasizes the importance of the District working with community organizations, coalitions, and government agencies.

Personnel

The Executive Director for the Hood River County Library District, Rachael Fox, takes on all assignments related to natural hazard mitigation planning and implementation:

- Emergency Management
- Public Information Officer
- Grant writing (for Public Works or emergency management)
- Capital improvement planning
- Capital improvement execution

The Executive Director integrates hazards and resilience planning into their greater work programs to the best of their abilities. However, there is limited capacity to expand upon their capability or workload.

Capital Projects

The District has not completed any mitigation projects in line with the goals of this NHMP over the last five (5) years.

Capital Resources

The Hood River County Library District maintains several capital resources that have important roles to play in the implementation of the natural hazard mitigation plan, including:

- Communication towers: None.
- Critical facilities with power generators: None.
- Warming/cooling/smoke shelters:
    - All three libraries could serve as warming/cooling/smoke shelters.
- Community shelters:
    - The Hood River Library could serve as a community shelter in an emergency, but lacks the capacity for overnight stays (i.e., no showers).
- Food pantries: None.
- Fueling storage: None.

Findings

Several important findings from this capability assessment informed the design of the Plan's mitigation strategy and aided in prioritizing action items.

Staffing Limitations and Capacity

The Hood River County Library District Executive Director takes on assigned hazard mitigation responsibilities as a part of their larger job responsibilities. Limited capacity reduces the breadth of the programming the community can undertake in any year. The District relies upon its relationships with the County and City governments to expand its operations.

Reliance upon outside funding streams and local match requirements

The Hood River County Library District operates on a limited budget with a small staff. This leaves few opportunities for using local financial resources to implement hazard mitigation work. They lean heavily upon state and federal grant funds as the primary means for securing mitigation funding. Hazard mitigation grants such as BRIC require a 25% local funding match, as well as extra staff capacity and expertise to navigate the application process and manage the funding.

Mitigation Strategy

This section of the NHMP addendum addresses 44 CFR 201.6(c)(3(iv), *Mitigation Strategy*.

In order to develop the District's mitigation strategy (action items), the Steering Committee assessed the District's risk and identified potential issues to be addressed. The Steering Committee also noted what mitigation accomplishments have been made in recent years.

Action Items

Table LD-1 documents the title of each action along with potential funding sources (HMA stands for FEMA's Hazard Mitigation Assistance disaster and non-disaster grant programs), the coordinating organization and any partner organizations, the timeline, and the anticipated cost.

For the timeline, O=Ongoing (continuous), S=Short (1-2 years), M=Medium (3-5 years), and L=Long (5 or more years). For cost, L=Low ($50,000 or less), M=Medium ($50,000 to $500,000), H=High ($500,000 to $5 million), and VH=Very High ($5 million or more).

Table LD-1 Action Items

Action Item #	Mitigation Action Title	Potential Funding Sources	Coordinating Organization	Partner Organizations	Timeline	Cost
Multi-Hazard Mitigation Strategies						
1.1	Purchase power generator and fuel for Hood River Library.	HMA; State Funding (OEM; ODHS); Economic Development Agency	Library District	County Emergency Management	M	M
1.2	Evaluate options for installing solar panels and a battery backup at the Hood River Library.	HMA; State Funding (OEM; ODHS); Economic Development Agency	Library District	County Emergency Management	L	H
1.3	Explore capacity for the Hood River Library to serve as a community shelter or emergency resilience hub for the City of Hood River	HMA; State Funding (ODHS)	Library District/County Emergency Management	City of Hood River; Hood River FD; State Agencies (OEM, OREM)	L	H
1.4	Develop shelter plan and prepare facilities to provide shelter-in-place services, including expanding staffing and operations.	HMA; State Funding (OEM); Economic Development Agency; Existing Staff Resources	County Emergency Management	Cities; Ports; Fire Districts; School District; Library District; Gorge Grown Food Network; Granges and Town Halls; Hood River Rotary; State Agencies (OEM); FEMA	L	M
Air Quality/Smoke Mitigation Strategies						
2.1	Evaluate options for partnering with hosts of Cascade Locks and Parkdale libraries to install air filters in and/or upgrade HVAC systems	HMA; State Funding (OEM; ODE)	Library District	County Emergency Management; School District; Parkdale RFPD	L	M

Action Item #	Mitigation Action Title	Potential Funding Sources	Coordinating Organization	Partner Organizations	Timeline	Cost
Drought Mitigation Strategies						
3.0	Given that Drought is categorized as low risk in the Hazard Vulnerability Assessment, the Steering Committee decided not to develop any mitigation action items for this hazard. This is in line with the decision-making process for low-risk hazards used by the 2025 Hood River County NHMP Steering Committee for the County Mitigation Strategy.					
Earthquake/CSZ Event Mitigation Strategies						
4.1	Address seismic issues in Hood River Library via structural and non-structural retrofit.	HMA; State Funding (Seismic Rehabilitation Grant Program)	Library District	County Emergency Management	L	VH
Extreme Heat Mitigation Strategies						
5.1	Develop long-term plan for mitigating impacts of extreme temperatures on garden at Hood River Library.	HMA; State Funding (OEM; ODHS)	Library District	City of Hood River	L	M
Flood Mitigation Strategies						
6.0	Given that Flood is categorized as low risk in the Hazard Vulnerability Assessment, the Steering Committee decided not to develop any mitigation action items for this hazard. This is in line with the decision-making process for low-risk hazards used by the 2025 Hood River County NHMP Steering Committee for the County Mitigation Strategy.					
Landslide/Debris Flow Mitigation Strategies						
7.0	Given that Landslide/Debris Flow is categorized as low risk in the Hazard Vulnerability Assessment, the Steering Committee decided not to develop any mitigation action items for this hazard. This is in line with the decision-making process for low-risk hazards used by the 2025 Hood River County NHMP Steering Committee for the County Mitigation Strategy.					
Volcanic Event Mitigation Strategies						
8.0	Given that Volcanic Event is categorized as low risk in the Hazard Vulnerability Assessment, the Steering Committee decided not to develop any mitigation action items for this hazard. This is in line with the decision-making process for low-risk hazards used by the 2025 Hood River County NHMP Steering Committee for the County Mitigation Strategy.					

Action Item #	Mitigation Action Title	Potential Funding Sources	Coordinating Organization	Partner Organizations	Timeline	Cost
Wildfire Mitigation Strategies						
9.1	Coordinate with School District to ensure defensible space is created and other vegetation is cleared near the Cascade Locks Library/Cascade Locks Elementary School	HMA; State Funding (ODF, OSFM); USFS (Community Wildfire Defense Grant); Existing Staff Resources	Library District/ School District	County Emergency Management; Cascade Locks FD; State Agencies (ODF, OSFM)	L	H
Windstorm Mitigation Strategies						
10.0	Given that Windstorm is categorized as low risk in the Hazard Vulnerability Assessment, the Steering Committee decided not to develop any mitigation action items for this hazard. This is in line with the decision-making process for low-risk hazards used by the 2025 Hood River County NHMP Steering Committee for the County Mitigation Strategy.					
Winter Storm Mitigation Strategies						
11.1	Develop long-term plan for mitigating impacts of freezing temperatures and other winter storm hazard characteristics on garden at Hood River Library.	HMA; State Funding (OEM; ODHS)	Library District	City of Hood River	L	M

Source: Hood River County Library District NHMP Steering Committee, updated 2025
Potential Funding Sources: HMA=FEMA's Hazard Mitigation Assistance disaster and non-disaster grant programs
Cost: L=Low (less than $50,000), M=Medium ($50,000-$500,000), H=High ($500,000-$5 million), VH=Very High ($5 million or more)
Timing: O=Ongoing (continuous), S=Short (1-2 years), M=Medium (3-5 years), L=Long (5 or more years)

Risk Assessment

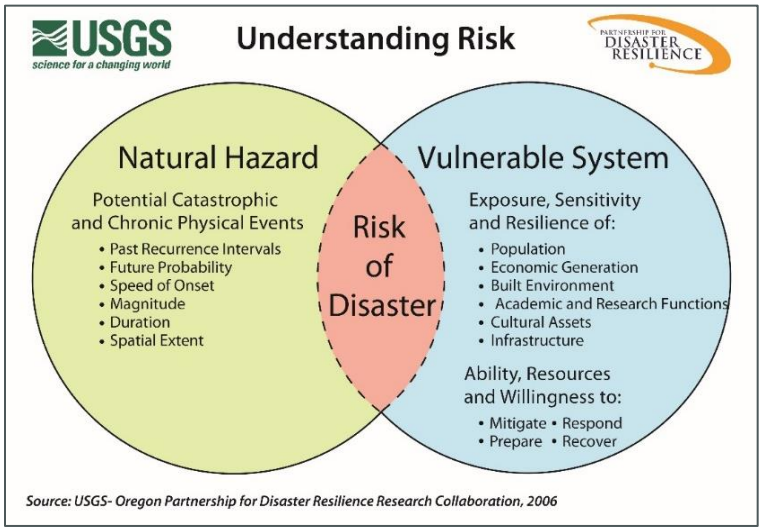
This section of the NHMP addendum addresses 44 CFR 201.6(b)(2) - Risk Assessment. In addition, this chapter can serve as the factual basis for addressing Oregon Statewide Planning Goal 7 – Areas Subject to Natural Hazards.

Assessing natural hazard risk has three phases:

- Phase 1: Identify hazards that can impact the jurisdiction. This includes an evaluation of potential hazard impacts – type, location, extent, etc.
- Phase 2: Identify important community assets and system vulnerabilities. Example vulnerabilities include people, businesses, homes, roads, historic places, and drinking water sources.
- Phase 3: Evaluate the extent to which the identified hazards overlap with or have an impact on, the important assets identified by the community.

The local level rationale for the identified mitigation strategies (action items) is presented herein and within Volume I, Sections 2 and 3. The risk assessment process is graphically depicted in Figure LD-1. Ultimately, the goal of hazard mitigation is to reduce the area of risk, where hazards overlap vulnerable systems.

Figure LD-1 Understanding Risk



Hazard Analysis

The Hood River County Library District Steering Committee developed their hazard vulnerability assessment (HVA), using the County's HVA (Volume I, Section 2) as a reference. Changes from the County's HVA were made where appropriate to reflect distinctions in vulnerability and risk from natural hazards unique to the District, which are discussed throughout this addendum.

Table LD-2 shows the HVA matrix for the Hood River County Library District listing each hazard in order of rank from high to low. For local governments, conducting the hazard analysis is a useful step in planning for hazard mitigation, response, and recovery. The method provides the jurisdiction with a sense of hazard priorities but does not predict the occurrence of a particular hazard.

Wildfire and Winter Storm are the high hazard threats to the District. Extreme Heat, Air Quality/Smoke, Crustal Earthquake, and a Cascadia Subduction Zone (CSZ) Event are all moderate hazard threats to the District. Drought, Landslide/Debris Flow, Windstorm, Flood, and a Volcanic Event are the low hazard threats to the District.

Table LD-2 Hazard Analysis Matrix – Hood River County Library District

Hazard	History (x2)	Probability (x7)	Vulnerability (x5)	Maximum Threat (x10)	Total Threat Score	Rank	Hazard Tier
Wildfire	9	9	9	10	**226**	**1**	**High**
Winter Storm	10	10	6	10	**220**	**2**	**High**
Extreme Heat	4	8	6	9	**184**	**3**	**Moderate**
Air Quality/ Smoke	5	6	6	9	**172**	**4**	**Moderate**
Crustal Earthquake	2	5	7	9	**171**	**5**	**Moderate**
CSZ Event	2	6	6	8	**156**	**6**	**Moderate**
Drought	5	8	4	6	**146**	**7**	**Low**
Landslide/ Debris Flow	6	7	3	7	**146**	**8**	**Low**
Windstorm	4	4	4	8	**136**	**9**	**Low**
Flood	4	6	3	7	**135**	**10**	**Low**
Volcanic Event	2	2	5	6	**103**	**11**	**Low**

Source: Hood River County Library District Steering Committee (2025); Analysis by OPDR.

Hazard and Community Characteristics

Hood River County Library District buildings are located within the City of Cascade Locks, the City of Hood River, and in Parkdale (covered through the County NHMP). The District's hazard and community characteristics are therefore identical to both cities and the County – as well as the Hood River County School District for the Cascade Locks Library, located at the Cascade Locks Elementary School – regarding the type, location, and extent for identified natural hazards. Moreover, the District does not have the authority to adopt and enforce floodplain management or other land use regulations for the areas within its jurisdiction.

Please review the County Risk Assessment (Volume I, Section 2) and the City of Cascade Locks and City of Hood River addenda (Volume III) for additional information on the community characteristics and hazard vulnerability for the District.

Community Assets

Table LD-3 lists key community assets for the Hood River County Library District. For a full list of critical and essential facilities and infrastructure[1] in Hood River County, see the County Risk Assessment (Volume I, Section 2).

Table LD-3 Hood River County Library District Assets

Facility Name	Details
Hood River Library	Built in 1913 and remodeled in 2004. 19,468 square feet.
Cascade Locks Library	Built in 1949. 2,300 square feet.
Parkdale Library	700 square feet.
Bookmobile	Launched in October 2022. Purchased and outfitted for $184,000. Primarily driven from Hood River Library to Odell Community Park.

Source: Hood River County Library District Steering Committee (2025).

Error! Reference source not found. identifies the hazards to which each of the assets listed in Table LD-3 are vulnerable, if any. The vulnerability for Earthquake (Crustal/CSZ), Flood, Landslide/Debris Flow, Volcano, and Wildfire was determined based on data from the 2021 DOGAMI Risk Report for Hood River County. The remaining hazards were not included in the Risk Report; their vulnerability was determined based on the County Risk Assessment (Volume I, Section 2) and the City of Cascade Locks and City of Hood River addenda (Volume III).

[1] Critical and essential facilities and infrastructure are those that are essential to the continued delivery of key government services, that may significantly impact the public's ability to recover from a natural hazard event, and that are key to government response and recovery activities (i.e., life, safety, property, and environmental protection).

Table LD-4 Hood River County Library District Asset Hazard Vulnerability

Facility Name	Air Quality/ Smoke	Drought	Earthquake (Crustal/CSZ)	Extreme Heat	Flood	Landslide/ Debris Flow	Volcano	Wildfire	Windstorm	Winter Storm
Hood River Library	X		X	X					X	X
Cascade Locks Library	X		X	X		X		X	X	X
Parkdale Library	X		X	X			X	X		X
Bookmobile	X		X	X		X	X	X	X	X

Source: Hood River County Library District Steering Committee (2025). Analysis by OPDR.

Attachment A: Public Involvement Summary

Members of the Steering Committee provided edits and updates to the NHMP prior to the public review period as reflected in the final document. In addition, a survey was distributed that included responses from residents of the County (Volume II, Appendix G).

To provide the public information regarding the draft NHMP addendum, and provide an opportunity for comment, an announcement was provided for 15 days from November 19 to December 4, 2024 on the County's website. Comments were reviewed and integrated into the NHMP as applicable. Additional opportunities for stakeholders and the public to be involved in the planning process are addressed in Volume II, Appendix C.

A diverse array of agencies and organizations were provided an opportunity to provide input to inform the plan's content through a variety of mechanisms including the opportunity for comment on the draft plan. The agencies and organizations represent local and regional agencies involved in hazard mitigation activities, those that have the authority to regulate development, neighboring communities, representatives of businesses, academia, and other private organizations, and representatives of nonprofit organizations, including community-based organizations, that work directly with and/or provide support to underserved communities and socially vulnerable populations. For more information on the engagement strategy, see Volume II, Appendix C.

Hood River County Library District Steering Committee

Steering Committee members possessed familiarity with the community and how it is affected by natural hazard events. The Steering Committee guided the update process through several steps including goal confirmation and prioritization, action item review and development, and information sharing, to update the NHMP and to make the NHMP as comprehensive as possible. The Steering Committee met formally on the following dates:

Meeting #1: Hood River County Library District Steering Committee, August 7, 2024 (virtually via Zoom)
During this meeting, the Steering Committee reviewed the previous NHMP, and were provided updates on hazard mitigation planning, the NHMP update process, and project timeline. The Steering Committee:

- Updated recent history of hazard events in the District.
- Reviewed and confirmed the County NHMP's mission and goals.
- Discussed the NHMP public outreach strategy.
- Reviewed and provided feedback on the draft risk assessment update including community vulnerabilities and hazard information.
- Reviewed and updated their existing mitigation strategy (actions).
- Reviewed and updated their implementation and maintenance program.

Meeting Attendees:

- Rachael Fox, Library Director

Hood River County School District Addendum

to the Hood River County Multi-Jurisdictional NHMP

Photos courtesy of Hood River County School District (left, right) / Opsis Architecture (center)

Effective: July 8, 2025 through July 7, 2030

Prepared for
Hood River County School District
1011 Eugene Street
Hood River, OR 97031

Prepared by
The University of Oregon
Institute for Policy Research & Engagement
School of Planning, Public Policy, and Management

UNIVERSITY OF OREGON | Institute for Policy Research and Engagement

U.S. Department of Homeland Security
Federal Emergency Management Agency
Region 10

130 228th St SW
Bothell, WA 98021

July 14, 2025

Mr. Stephen Richardson
State Hazard Mitigation Officer
Oregon Department of Emergency Management
3930 Fairview Industrial Dr SE
Salem, Oregon 97302

Reference: Approval of the Hood River County Multi-Jurisdictional Hazard Mitigation Plan

In accordance with applicable[1] laws, regulations and policy, the Risk Analysis Branch of FEMA Region 10 Mitigation Division has approved the local mitigation plan for the following jurisdictions:

Hood River County	City of Cascade Locks	City of Hood River
Port of Cascade Locks	Port of Hood River	Hood River County Library District
Hood River County School District	West Side Rural Fire Protection District	

Mitigation plans may include additional content to meet Element H: Additional State Requirements or content the local government included beyond applicable FEMA mitigation planning requirements. FEMA approval does not include the review or approval of content that exceeds these applicable FEMA mitigation planning requirements.

The approval period for this plan is from July 8, 2025 through July 7, 2030.

The jurisdictions' plan approval ensures the eligibility for project grants under FEMA's Hazard Mitigation Assistance programs. All requests for funding are evaluated individually according to eligibility and other program requirements. Having an approved mitigation plan does not mean that mitigation grant funding will be awarded. Specific application and eligibility requirements can be found in each FEMA grant program's respective policies and annual Notice of Funding Opportunities, as applicable.

[1] Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and National Dam Safety Program Act, as amended; 44 CFR Part 201, Mitigation Planning; and Local Mitigation Planning Policy Guide (FP-206-21-0002).

FEMA's approval is for a period of five years, effective the date FEMA received the adoption documentation. For this plan, documentation was received on July 8, 2025 and is considered approved as of then. Prior to July 7, 2030, each jurisdiction must review, revise, and submit their plan to FEMA for approval to maintain eligibility for grant funding. The enclosed plan review tool provides opportunities to incorporate into future updates.

Sincerely,

Wendy Shaw, P.E.
Risk Analysis Branch Chief
Mitigation Division

JF:JG

Attachment**:** Local Mitigation Plan Review Tool

HOOD RIVER COUNTY SCHOOL DISTRICT
RESOLUTION #24-25/12

Hood River County School District Representation in the Updates to the Hood River County Multi-Jurisdictional Natural Hazards Mitigation Plan

WHEREAS the Hood River County School District recognizes the threat that natural hazards pose to people, property and infrastructure within our community; and

WHEREAS, undertaking hazard mitigation actions will reduce the potential for harm to people, property and infrastructure from future hazard occurrences; and

WHEREAS, an adopted Natural Hazards Mitigation Plan is required as a condition of future funding for mitigation projects under multiple FEMA pre- and post-disaster mitigation grant programs; and

WHEREAS the Hood River County School District has fully participated in the FEMA prescribed mitigation planning process to prepare the *Hood River County, Multi-Jurisdictional Natural Hazards Mitigation Plan*, which has established a comprehensive, coordinated planning process to eliminate or minimize these vulnerabilities; and

WHEREAS the Hood River County School District has identified natural hazard risks and prioritized a number of proposed actions and programs needed to mitigate the vulnerabilities of the Hood River County School District to the impacts of future disasters within the *Hood River County, Multi-Jurisdictional Natural Hazards Mitigation Plan*; and

WHEREAS, these proposed projects and programs have been incorporated into the *Hood River County, Multi-Jurisdictional Natural Hazards Mitigation Plan* that has been prepared and promulgated for consideration and implementation by the participating cities and special districts of Hood River County; and

WHEREAS the Oregon Department of Emergency Management and Federal Emergency Management Agency, Region X officials have reviewed the *Hood River County, Multi-Jurisdictional Natural Hazards Mitigation Plan* and pre-approved it contingent upon this official adoption of the participating governments and entities;

WHEREAS the NHMP is in an on-going cycle of development and revision to improve its effectiveness; and

NOW, THEREFORE, BE IT RESOLVED that the Hood River County School District Board of Directors, Hood River County School District adopts the NHMP and directs the Hood River County School District Administration to develop, approve, and implement the mitigation strategies and any administrative changes to the NHMP.

ADOPTED this 28th day of May, 2025.

Bill Newton, Superintendent

Corinda Hankins Elliott, Chair of the Board

Motion made by: David Stuber

Seconded by: Brandi Sheppard

Passed/Failed: 6-0

Dated: 5/28/25

Table of Contents

List of Tables

List of Figures

List of Maps

Introduction

Purpose

This is the new Hood River County School District addendum to the Hood River County Multi-Jurisdictional Natural Hazard Mitigation Plan (NHMP). This addendum supplements information contained in Volume I (Basic Plan) which serves as the NHMP foundation and Volume II (Appendices), which provide additional information. This addendum meets the following requirements:

- Multi-Jurisdictional **Plan Adoption** §201.6(c)(5),
- Multi-Jurisdictional **Participation** §201.6(a)(3),
- Multi-Jurisdictional **Mitigation Strategy** §201.6(c)(3)(iv) and
- Multi-Jurisdictional **Risk Assessment** §201.6(c)(2)(iii).

The Hood River County School District adopted their addendum to the Hood River County NHMP on May 28, 2025. FEMA Region X approved the Hood River County NHMP and the City's addendum on July 8, 2025. With approval of this NHMP, the City is now eligible for non-disaster and disaster mitigation project grants through July 7, 2030.

NHMP Process, Participation and Adoption

This section of the NHMP addendum addresses 44 CFR 201.6(c)(5), *Plan Adoption* and 44 CFR 201.6(a)(3), *Participation.*

In addition to establishing a comprehensive city level mitigation strategy, the Disaster Mitigation Act of 2000 (DMA2K), and the regulations contained in Title 44 CFR Part 201, require that jurisdictions maintain an approved NHMP to receive federal funds for mitigation projects. Local adoption and federal approval of this NHMP ensures that the District will remain eligible for non-disaster and disaster mitigation project grants. This is the first Hood River County NHMP process in which the Hood River County School District has participated via an addendum.

The Oregon Partnership for Disaster Resilience (OPDR) at the University of Oregon's Institute for Policy Research and Engagement (IPRE) collaborated with Hood River County Emergency Management and the Hood River County School District to update their NHMP. This project is funded through the Federal Emergency Management Agency's (FEMA) Hazard Mitigation Grant Program. Members of the Hood River County School District's NHMP Steering Committee also participated in the County NHMP update process (see Volume II, Appendix C).

By creating this NHMP, locally adopting it, and having it approved by FEMA, the Hood River County School District is eligible for FEMA Hazard Mitigation Assistance grant program funds.

The Hood River County NHMP and Hood River County School District addendum are the result of a collaborative effort between residents, public agencies, non-profit organizations, the private

sector, and regional organizations. A project steering committee guided the NHMP development process.

Convener and Committee

The Executive Director of Human Resources for the Hood River County School District served as the designated convener of the NHMP and will take the lead in implementing, maintaining, and updating the addendum to the Hood River County NHMP in collaboration with the designated convener of the Hood River County NHMP (Emergency Manager).

Representatives from the Hood River County School District Steering Committee met formally and informally, to discuss updates to their addendum (see Attachment A and Volume II, Appendix C). The Steering Committee reviewed and developed the District's addendum, with a focus on the NHMP's risk assessment and mitigation strategy (action items).

This addendum reflects decisions made at the designated meetings and during subsequent work and communication with Hood River County Emergency Management and OPDR. The decisions are highlighted with more detail throughout this document and within Volume II, Appendix C. Other documented actions include the development of the District's risk assessment and hazard identification sections, NHMP mission and goals, action items, and community profile.

The Hood River County School District Steering Committee was comprised of the following representatives:

- Convener: Gus Hedberg, Executive Director of Human Resources
- Kyle Rosselle, Director of Safety and Security
- Todd Rainwater, Director of Operations

The Steering Committee served as the local review body for the NHMP's development.

NHMP Implementation and Maintenance

The Hood River County School District Board of Directors will be responsible for adopting the Hood River County School District addendum to the Hood River County NHMP. This addendum designates a steering committee and a convener to oversee the development and implementation of action items. Because the District addendum is part of the County's NHMP, the District will look for opportunities to partner with the County. The District's Steering Committee will convene after re-adoption of the NHMP addendum on an annual schedule. The County is meeting on a semi-annual basis and will provide opportunities for jurisdictions to report on NHMP implementation and maintenance during their meetings. The Steering Committee, assembled by the convener, will be responsible for:

- Reviewing existing action items to determine suitability of funding;
- Reviewing existing and new risk assessment data to identify issues that may not have been identified at NHMP creation;

- Educating and training new steering committee members on the NHMP and mitigation actions in general;
- Assisting in the development of funding proposals for priority action items;
- Discussing methods for continued public involvement;
- Evaluating effectiveness of the NHMP at achieving its purpose and goals (use Table 4-1, Volume I, Section 4, as one tool to help measure effectiveness); and
- Documenting successes and lessons learned during the year.

The convener will also remain active in the County's implementation and maintenance process (Volume I, Section 4).

The Steering Committee will be responsible for activities outlined in Volume I, Section 4.

The District will utilize the same action item prioritization process as the County (Volume I, Section 4 and Volume II, Appendix E).

Implementation through Existing Programs

Many of the NHMP's recommendations are consistent with the goals and objectives of the District's existing plans and policies. Where possible, the Hood River County School District will implement the NHMP's recommended actions through existing plans and policies. Plans and policies already in existence have support from residents, businesses, and policy makers. Many land-use, comprehensive, and strategic plans get updated regularly, allowing them to adapt to changing conditions and needs. Implementing the NHMP's action items through such plans and policies increases their likelihood of being supported and implemented.

The Hood River County School District currently has the following plan that relates to natural hazard mitigation. For a complete list visit the District's website:

- 2026 Strategic Plan (2021) – includes Long Term Safety Planning and Facilities & Operations Continuous Improvement Plans (both updated 2023)

The Hood River County School District is also subject to the following City plans:

- City of Cascade Locks
  - Downtown Revitalization Plan (expected 2025)
  - Strategic Plan (2023)
  - Wastewater Facilities Plan (2017)
  - Water System Master Plan (2014)
  - Emergency Operations Plan (2013)
  - Economic Opportunities Analysis (2009)
  - Transportation System Plan (2001)
  - Comprehensive Plan (2001) – implemented via Community Development Code.
- City of Hood River
  - Transportation System Plan (2021)
  - Downtown Parking Study and Plan (2019)
  - Stormwater Management Plan (2019)

- Housing Strategy/Needs Analysis (2015)
- Emergency Operations Plan (2015)
- Capital Improvements Plan (2015)
- Comprehensive Plan (2021) – implemented via Zoning and Development Code.

Capability Assessment

Hood River County School District, Oregon

The Capability Assessment identifies and describes the ability of the Hood River County School District to implement the mitigation strategy and associated action items. This is a key component of the 2025 Natural Hazard Mitigation Plan (NHMP) update. Capabilities can be evaluated through an examination of broad categories, including existing authorities, policies, programs, funding, and resources.

As the District's website states:

> The District includes five elementary schools, two middle schools, one high school, and one option school. The District includes nearly 4,000 students and 600 staff members.

Map SD-1 illustrates the extent of and attendance areas for the District.

Existing Authorities

Hazard mitigation can be executed at a local scale through three (3) methods: integrating hazard mitigation actions into other local planning documents (i.e., plan integration), adopting building codes that account for best practices in structural hardening, and codifying land use regulations and zoning designations that prescribe mitigation into development requirements. The extent to which a municipality or multi-jurisdictional effort leverages these approaches is an indicator of that community's capabilities.

Land Use Regulations

Existing land use policies that define zoning and address hazardous conditions provide another source of mitigation capability. The District falls under both the City of Hood River and City of Cascade Locks' land use codes, in addition to Hood River County.

Structural Building Codes

The Oregon Legislature recently adopted updated building codes for both residential (2021 adoption) and commercial structures (2022) since the last update of the NHMP. These building codes are based on the 2021 version of the International Building Code, International Fire Code, and International Existing Building Code. New wildfire defensible space code for land within the Wildland-Urban Interface (WUI) is scheduled to be completed this December with an effective date announced in 2024. Fire hardening requirements were adopted on October 1, 2022, and effective April 1, 2023.

Though Hood River County currently administers and enforces codes for residential zones last updated in 2018, the county does utilize the most recent Oregon Structural and Specialty Codes

(2022) for commercial zones. Additionally, the City of Hood River administers and enforces the most recent Oregon Structural and Oregon Specialty Codes (2022), and the 2022 Oregon Fire Code. As a result, both new residential and commercial structures will be required to build according to the latest seismic and wind hardening standards in addition to requiring fire resistant building materials for those structures constructed in proximity to or within the WUI.

Policies and Programs

The NHMP directs Hood River County School District to explore integration into other planning documents and processes. As the District is a new addition to the NHMP, it has not yet incorporated the plan into its portfolio of planning processes and programs. However, key documents and staffing components are reviewed in this section.

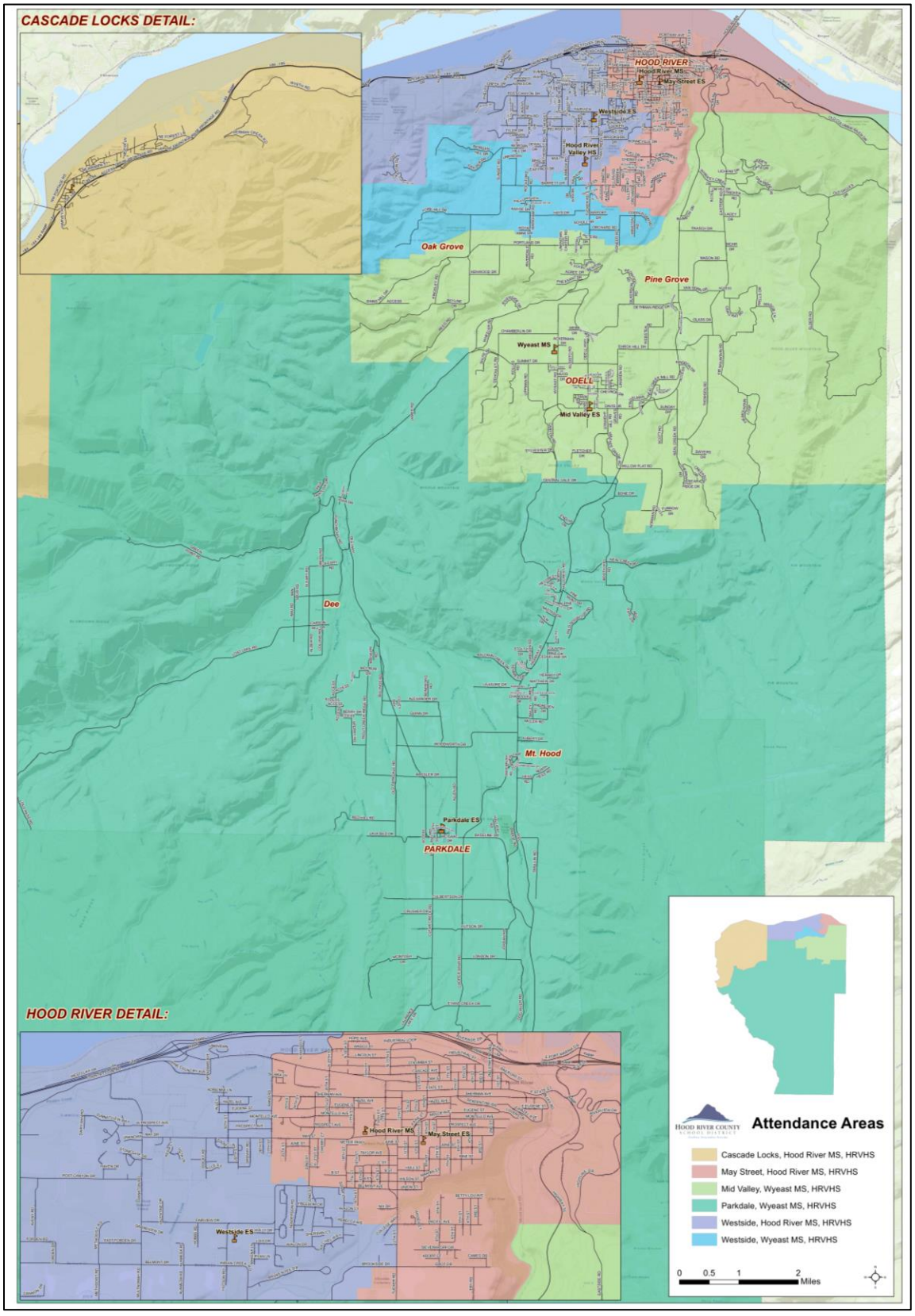
Long Term Safety Planning (Hood River County School District Site Assessment), 2023
The District's Long Term Safety Planning document describes the planned future safety upgrades and includes their priority, location, and anticipated cost. These are eight total items, four of which are related to natural hazard mitigation:

- Radios ($60 per radio): upgrade all radios to include an earpiece for confidential conversations.
- Camera Upgrades (unknown cost): update current cameras and install additional cameras to increase vision of campuses.
- Fire Alarm Planning (unknown cost): audit and repair of all fire alarm panels/pull stations to create a uniform system.
- PA Systems (unknown cost): audit and repair of all existing PA systems; consider adding visual sensor with blue lighting for a lockdown, red lighting for a fire, etc.

Facilities & Operations Continuous Improvement Plans, 2023
As part of the District's 2021-2026 Strategic Plan, the District identified many actions and strategic goals within five core values: Equity and Cultural Responsiveness; Family and Community Partnerships; Student Learning and Growth; Wellness and Health; and Operations and Safety. The Facilities & Operations Continuous Improvement Plans (CIPs) identified mitigation actions within three of these values:

- Family and Community Partnerships: Communication and transparency when unforeseen or emergency situations develop.
- Wellness and Health: Ensure Healthy and Safe Schools (HASS) plan is up to date and easily accessible to staff and the public at large.
- Operations and Safety:
    - Develop a deferred maintenance plan for all buildings based on prioritization of needs.
    - Implement a far-reaching preventative maintenance plan utilizing Computerized Maintenance Management Software.

Map SD-1 Hood River County School District Attendance Areas



Source: Hood River County School District Board of Directors (2019, May 22). Attendance Areas Map, 2019-2020. https://www.hoodriver.k12.or.us/Page/6639.

Personnel

The following Hood River County School District personnel have assignments related to natural hazard mitigation planning and implementation:

- Emergency Management: Kyle Rosselle, Director of Safety and Security
- Public Information Officer: Stephanie Hoppe, Director of Communications
- Grant writing (for Public Works or emergency management): *None. The School District partners with a third-party organization for grant writing when necessary.*
- Capital improvement planning: Bill Newton, Superintendent; Kyle Rosselle, Director of Safety and Security; Todd Rainwater, Director of Operations
- Capital improvement execution: Kyle Rosselle, Director of Safety and Security; Todd Rainwater, Director of Operations

These personnel integrate hazards and resilience planning into their greater work programs to the best of their abilities. However, there is limited capacity to expand upon their capabilities or workloads.

Capital Projects

The District has completed mitigation projects in line with the goals of this NHMP over the last five (5) years, including construction of or upgrades to the following schools:

- May Street Elementary School – constructed with seismic resilience (2019)
- Mid Valley Elementary School – partial seismic retrofit (2019)
- Hood River Middle School – partial seismic retrofit (2019)
- Wy'east Middle School – partial seismic retrofit (2019)

Capital Resources

The District maintains several capital resources that have important roles to play in the implementation of the natural hazard mitigation plan, including:

- Communication towers: None.
- Critical facilities with power generators:
    - The District owns five power generators distributed across their schools.
- Warming/cooling/smoke shelters:
    - In the process of installing an emergency hookup at Cascade Locks Elementary School; will be a warming/cooling shelter.
    - Currently installing electricity storage at Wy'East Middle School with state funding; will be a warming/cooling/smoke shelter with gyms and locker rooms.
- Community shelters: None.
- Food pantries: None.
- Fueling storage:

- Currently installing electricity storage at Wy'east Middle School and vehicles with "vehicle to grid" capability (mobile power sources) with state funding. grant.

Findings

Several important findings from this capability assessment informed the design of the Plan's mitigation strategy and aided in prioritizing action items.

Strong Preparation

Despite the District's focus on providing educational services first and mitigation work second, they have conducted a significant amount of mitigation planning and are well-prepared to implement a variety of hazard mitigation projects once funding is received.

Staffing Limitations and Capacity

District staff are assigned limited hazard mitigation responsibilities as a part of their larger job responsibilities. Limited capacity reduces the breadth of the programming the community can undertake in any year. The District relies upon its relationships with the County, the City of Cascade Locks, and the City of Hood River to expand its operations.

Reliance upon outside funding streams and local match requirements

Given other competing interests, the District has few opportunities to use local financial resources to implement hazard mitigation work. They lean heavily upon state and federal grant funds as the primary means for securing mitigation funding. Hazard mitigation grants such as BRIC require 25% local funding match, as well as extra staff capacity and expertise to navigate the application process and manage the funding.

Mitigation Strategy

This section of the NHMP addendum addresses 44 CFR 201.6(c)(3(iv), *Mitigation Strategy*.

In order to develop the District's mitigation strategy (action items), the Steering Committee assessed the District's risk and identified potential issues to be addressed. The Steering Committee also noted what mitigation accomplishments have been made in recent years.

Action Items

Table SD-1 documents the title of each action along with potential funding sources (HMA stands for FEMA's Hazard Mitigation Assistance disaster and non-disaster grant programs), the coordinating organization and any partner organizations, the timeline, and the anticipated cost.

For the timeline, O=Ongoing (continuous), S=Short (1-2 years), M=Medium (3-5 years), and L=Long (5 or more years). For cost, L=Low ($50,000 or less), M=Medium ($50,000 to $500,000), H=High ($500,000 to $5 million), and VH=Very High ($5 million or more).

Table SD-1 Action Items

Action Item #	Mitigation Action Title	Potential Funding Resources	Coordinating Organization	Partner Organizations	Timeline	Cost
Multi-Hazard Mitigation Strategies						
1.1	Support development of shelter plan and prepare schools to provide shelter-in-place services.	HMA; Economic Development Agency	County Emergency Management	HRC School District; Cities; Ports; Fire Districts; Library District; Gorge Grown Food Network; Granges and Town Halls; Hood River Rotary; State Agencies (OEM); FEMA	M	M
1.2	Execute joint proposal with the Port of Cascade Locks and County Emergency Management to install a transfer switch at Cascade Locks Elementary School to enable hookup to a large generator. This will enable the school to serve as a warming and cooling shelter services during hazard events with prolonged power outages.	HMA; State Funding	School District/Port of Cascade Locks/County Emergency Management	None.	M	M
1.3	Enhance public outreach and educational programs for all hazards.	HMA; State Funding; Existing Staff Resources	County Emergency Management	School District; Cities; Ports; Fire Districts; State Agencies (ODF, OSFM); USFS	S	M
1.4	Develop emergency evacuation and public notification tool.	HMA; Existing Staff Resources	County Emergency Management	School District; Cities; Ports; Fire Districts; State Agencies (OEM); FEMA	M	M

Action Item #	Mitigation Action Title	Potential Funding Resources	Coordinating Organization	Partner Organizations	Timeline	Cost
1.5	Purchase power generators for schools and other facilities in the School District currently lacking them.	HMA; Economic Development Agency; Bond	School District	County Emergency Management; Cities; Ports; State Agencies (OEM); FEMA	M	H
1.6	Develop alternative transportation, sheltering, and communication plan for if a major event brings down or otherwise impacts bridges separating schools throughout the County.	HMA; State Funding (ODE, OEM); Existing Staff Resources	School District	County Emergency Management; Cities; State Agencies (OEM); FEMA	M	M
1.7	Retrofit school buses with AC to mitigate impacts from both extreme smoke and extreme heat events on staff and students.	HMA; State Funding (ODE, ODHS)	School District	County Emergency Management; State Agencies (Dept. of Education)	S	M
1.8	Develop plan to install HVAC and other improvements for Hood River Middle School (which is on the Historic Registry and thus limited in the amount and type of upgrades).	HMA; State Funding (ODE, ODHS)	School District	County Emergency Management; State Agencies (Dept. of Education)	M	H
Air Quality/Smoke Mitigation Strategies						
2.1	Develop plan for staffing, safety, and other items to standardize operations and logistics during an extreme smoke event.	HMA; State Funding (ODE, ODHS); Existing Staff Resources	School District	County Emergency Management; State Agencies (Dept. of Education)	M	M
2.2	Evaluate options for improving and decarbonizing HVAC systems for all buildings throughout the School District (for both day-to-day operations and for use as community shelters).	HMA; State Funding (ODE); Economic Development Agency	School District	None	M	H
2.3	Purchase carbon filters for each current HVAC system to install prior to extreme smoke events.	HMA; State Funding (ODE)	School District	County Emergency Management; State Agencies (Dept. of Education)	M	H

Action Item #	Mitigation Action Title	Potential Funding Resources	Coordinating Organization	Partner Organizations	Timeline	Cost
Drought Mitigation Strategies						
3.0	Given that Drought is categorized as low risk in the Hazard Vulnerability Assessment, the Steering Committee decided not to develop any mitigation action items for this hazard. This is in line with the decision-making process for low-risk hazards used by the 2025 Hood River County NHMP Steering Committee for the County Mitigation Strategy.					
Earthquake/CSZ Event Mitigation Strategies						
4.1	Complete structural and non-structural seismic retrofits for all buildings in need of upgrades throughout the School District.	HMA; State Funding (Seismic Rehabilitation Grant Program)	School District	None	M	VH
Extreme Heat Mitigation Strategies						
5.1	Purchase radios to comply with OSHA requirements for constant communication between staff during extreme heat events.	HMA; State Funding (ODE)	School District	County Emergency Management	M	L
Flood Mitigation Strategies						
6.0	Given that Flood is categorized as low risk in the Hazard Vulnerability Assessment, the Steering Committee decided not to develop any mitigation action items for this hazard. This is in line with the decision-making process for low-risk hazards used by the 2025 Hood River County NHMP Steering Committee for the County Mitigation Strategy.					
Landslide/Debris Flow Mitigation Strategies						
7.0	Given that Landslide/Debris Flow is categorized as low risk in the Hazard Vulnerability Assessment, the Steering Committee decided not to develop any mitigation action items for this hazard. This is in line with the decision-making process for low-risk hazards used by the 2025 Hood River County NHMP Steering Committee for the County Mitigation Strategy.					
Volcanic Event Mitigation Strategies						
8.0	Given that Volcanic Event is categorized as low risk in the Hazard Vulnerability Assessment, the Steering Committee decided not to develop any mitigation action items for this hazard. This is in line with the decision-making process for low-risk hazards used by the 2025 Hood River County NHMP Steering Committee for the County Mitigation Strategy.					

Action Item #	Mitigation Action Title	Potential Funding Resources	Coordinating Organization	Partner Organizations	Timeline	Cost
Wildfire Mitigation Strategies						
9.1	Conduct public information campaign regarding fire awareness via social media and increased signage for visitors (with a focus on the Historic Columbia River Highway State Trail and County/State Parks).	HMA; State Funding (ODF, OSFM); USFS (Community Wildfire Defense Grant); Existing Staff Resources	Fire Districts	Port of Cascade Locks; City of Cascade Locks; City of Hood River; School District; County Emergency Management; State Agencies (ODF, OSFM, ODOT); USFS	M	M
Windstorm Mitigation Strategies						
10.0	Given that Windstorm is categorized as low risk in the Hazard Vulnerability Assessment, the Steering Committee decided not to develop any mitigation action items for this hazard. This is in line with the decision-making process for low-risk hazards used by the 2025 Hood River County NHMP Steering Committee for the County Mitigation Strategy.					
Winter Storm Mitigation Strategies						
11.1	Continue supporting countywide partnership program to reduce the vulnerability of public infrastructure to severe winter storms.	HMA; State Funding (ODOT); Existing Staff Resources	County Emergency Management	School District; Cities; Ports; State Agencies (ODOT)	O	H
11.2	Develop plan for hardening infrastructure and mitigating impacts of winter storms on school facilities, including freezing pipes, ice dams, snow accumulation on roofs, downed power lines, and falling trees.	HMA; State Funding (ODE, ODHS, OEM); Bond; Existing Staff Resources	School District	County Emergency Management; Cities; Ports; State Agencies (OEM, OHCS)	L	H

Source: Hood River County School District NHMP Steering Committee, updated 2025
Potential Funding Sources: HMA=FEMA's Hazard Mitigation Assistance disaster and non-disaster grant programs
Cost: L=Low (less than $50,000), M=Medium ($50,000-$500,000), H=High ($500,000-$5 million), VH=Very High ($5 million or more)
Timing: O=Ongoing (continuous), S=Short (1-2 years), M=Medium (3-5 years), L=Long (5 or more years)

Risk Assessment

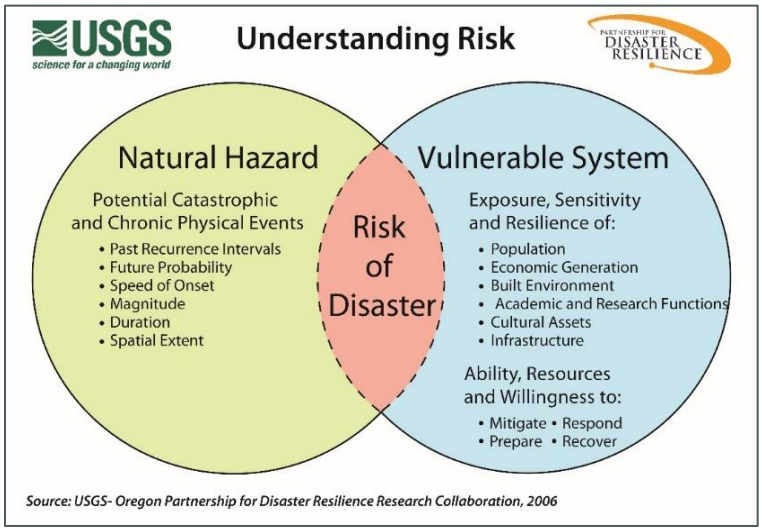
This section of the NHMP addendum addresses 44 CFR 201.6(b)(2) - Risk Assessment. In addition, this chapter can serve as the factual basis for addressing Oregon Statewide Planning Goal 7 – Areas Subject to Natural Hazards.

Assessing natural hazard risk has three phases:

- Phase 1: Identify hazards that can impact the jurisdiction. This includes an evaluation of potential hazard impacts – type, location, extent, etc.
- Phase 2: Identify important community assets and system vulnerabilities. Example vulnerabilities include people, businesses, homes, roads, historic places, and drinking water sources.
- Phase 3: Evaluate the extent to which the identified hazards overlap with or have an impact on, the important assets identified by the community.

The local level rationale for the identified mitigation strategies (action items) is presented herein and within Volume I, Sections 2 and 3. The risk assessment process is graphically depicted in Figure SD-1. Ultimately, the goal of hazard mitigation is to reduce the area of risk, where hazards overlap vulnerable systems.

Figure SD-1 Understanding Risk



Hazard Analysis

The Hood River County School District Steering Committee developed their hazard vulnerability assessment (HVA), using the County's HVA (Volume I, Section 2) as a reference. Changes from the County's HVA were made where appropriate to reflect distinctions in vulnerability and risk from natural hazards unique to the District, which are discussed throughout this addendum.

Table SD-2 shows the HVA matrix for the Hood River County School District listing each hazard in order of rank from high to low. For local governments, conducting the hazard analysis is a useful step in planning for hazard mitigation, response, and recovery. The method provides the jurisdiction with a sense of hazard priorities but does not predict the occurrence of a particular hazard.

Winter Storm, Wildfire, Extreme Heat, and Air Quality/Smoke are the high hazard threats to the District. Earthquake (crustal) and a Cascadia Subduction Zone (CSZ) event are both moderate hazard threats to the District. Landslide/Debris Flow, Flood, Windstorm, Drought, and a Volcanic Event are the low hazard threats to the District.

Table SD-2 Hazard Analysis Matrix – Hood River County School District

Hazard	History (x2)	Probability (x7)	Vulnerability (x5)	Maximum Threat (x10)	Total Threat Score	Rank	Hazard Tier
Winter Storm	10	10	7	10	**235**	**1**	**High**
Wildfire	9	9	9	10	**226**	**2**	**High**
Extreme Heat	4	8	7	9	**189**	**3**	**High**
Air Quality/ Smoke	5	6	7	9	**177**	**4**	**High**
Crustal Earthquake	2	5	6	9	**161**	**5**	**Moderate**
CSZ Event	2	6	6	8	**156**	**7**	**Moderate**
Landslide/ Debris Flow	6	7	3	6	**136**	**6**	**Low**
Flood	4	6	3	7	**135**	**10**	**Low**
Windstorm	4	4	4	7	**126**	**9**	**Low**
Drought	5	8	3	4	**121**	**8**	**Low**
Volcanic Event	2	2	5	6	**103**	**11**	**Low**

Source: Hood River County School District Steering Committee (2025); Analysis by OPDR.

District Characteristics

The following section provides information on District-specific demographics and characteristics. For additional information on the characteristics of Hood River County, in terms of geography, environment, population, demographics, employment, and economics, as well as housing and transportation, see Volume II, Appendix D. Many of these community characteristics can affect how natural hazards impact communities and how communities choose to plan for natural hazard mitigation. Considering the District-specific assets during the planning process can assist in identifying appropriate measures for natural hazard mitigation.

Please review the City of Cascade Locks and City of Hood River addenda (Volume III) for additional information on the community characteristics of the cities.

Population

Data in this section comes from: Social Explorer: American Community Survey 5-Year Estimates (2018-2022). U.S. Census Bureau. https://www.socialexplorer.com/explore-tables.

About one-quarter (23%) of Hood River County's population is under the age of 18, slightly above the statewide figure of 20%. Nearly two-thirds (63%) of the County's non-Hispanic/Latino population is racially white/Caucasian, with nearly another third (31%) of residents being Hispanic or Latino (any race). Cascade Locks has the largest percentage of non-Hispanic/Latino Black, Indigenous, and People of Color population (BIPOC) (11%), while Hood River has the largest Hispanic or Latino (any race) population by total individuals (2,006 people, or 24%).

Hood River County's poverty rate is 7%, with children under 18 having a slightly lower rate of 5%. Both rates are well below the statewide figures of 12% and 13% respectively. Housing affordability is a measure of economic security gauged by the percentage of an area's households who are "cost-burdened" and are paying greater than 30% of their income on housing.[1] Countywide, 39% of homeowners with a mortgage and 38% of renters are considered cost burdened; both figures lie below the statewide levels of 42% and 48% respectively.

Student Demographics

Data in this section comes from: Oregon Department of Education (2022). *OREGON AT-A-GLANCE DISTRICT PROFILE: Hood River County SD.* https://www.ode.state.or.us/data/ReportCard/Reports/Index.

In the 2022-23 school year, there were 3,814 students enrolled in the Hood River County School District. Half (50%) identified as white while just under half (43%) identified as Hispanic/Latino, 5% identified as Multiracial, and 1% each as American Indian/Alaska Native and Asian. More than one-third (37%) of students are Ever English Learners, which includes both current and former students who are learning to speak English. Nine total languages are spoken by students. Of the whole student population, 15% of students have a disability and nearly two-thirds (63%) qualify for free/reduced-price lunch.

Additionally, all children in grades 6 through 12 who live in the City of Cascade Locks bus daily to the City of Hood River for school. If a natural hazard event were to occur during the daytime on a school day, it is highly likely that families would be separated.

District Capacity

The District employs 353 FTE of staff, including 20 administrators, 243 teachers, 98 educational assistants, 19 counselors, and 3 psychologists. These staff are spread throughout nine different schools located in the City of Cascade Locks, City of Hood River, and unincorporated areas of the County. These include five elementary schools, two middle schools, one high school, and one option school.

[1] Foster, K. A. (2014). *Resilience Capacity Index, Disaster Resilience Measurements: Stocktaking of Ongoing Efforts in Developing Systems for Measuring Resilience.* United Nations Development Programme. https://www.preventionweb.net/files/37916_disasterresiliencemeasurementsundpt.pdf.

Community Assets

Table SD-3 lists key community assets for the Hood River County School District. For a full list of critical and essential facilities and infrastructure[2] in Hood River County, see the County Risk Assessment (Volume I, Section 2).

Table SD-3 Hood River County School District Assets

Facility Name	Details
Cascade Locks Elementary School	42,983 square feet on a 12-acre campus. Serves about 90 K-5th grade students. Employs 12 FTE of faculty and staff.
May Street Elementary School	Approximately 73,000 square feet on a 4-acre campus. Serves about 470 K-5th grade students. Employs 43 FTE of faculty and staff.
Mid Valley Elementary School	Approximately 25,000 square feet on a 5-acre campus. Serves about 400 K-5th grade students. Employs 39 FTE of faculty and staff.
Parkdale Elementary School	Serves about 275 K-5th grade students. Employs 29 FTE of faculty and staff.
Westside Elementary School	Serves about 400 K-5th grade students. Employs 40 FTE of faculty and staff.
Hood River Middle School	Serves about 425 6th-8th grade students. Employs 39 FTE of faculty and staff. Campus includes 6,900 square foot Science and Music building is LEED certified and net-zero energy (completed 2014).
Wy'east Middle School	Approximately 81,000 square feet. Serves about 375 6th-8th grade students. Employs 42 FTE of faculty and staff.
Hood River Valley High School	Approximately 61,000 square feet. Serves about 1,200 9th-12th grade students. Employs 88 FTE of faculty and staff.
Hood River Options Academy	Serves about 200 6th-12th grade students. Employs 18 FTE of faculty and staff.

Source: Hood River County School District Steering Committee (2025)

Hazard Characteristics

The following sections briefly describe relevant information for each profiled hazard. More information on Hood River County Hazards and Future Projections can be found in Volume I, Section 2, and in the City of Cascade Locks and City of Hood River addenda (Volume III). These volumes also include economic loss estimates from the Oregon Department of Geology and Mineral Industries (DOGAMI)'s 2021 Risk Report for Hood River County.[3]

[2] Critical and essential facilities and infrastructure are those that are essential to the continued delivery of key government services, that may significantly impact the public's ability to recover from a natural hazard event, and that are key to government response and recovery activities (i.e., life, safety, property, and environmental protection).

[3] DOGAMI (2021, May). *Natural Hazard Risk Report for Hood River County, Oregon: Including the Cities of Cascade Locks, Hood River, and Unincorporated Communities of Odell, Parkdale, and Rockford.* https://pubs.oregon.gov/dogami/ofr/p-OFR.htm.

Note that these hazards are sorted **alphabetically** and not by hazard tier as determined in the District's Hazard Analysis Matrix (Table SD-2). As this is a new addendum, there are no changes to note from the previous NHMP.

Air Quality/Smoke

The Steering Committee rated the District's probability of occurrence for air quality/smoke events as "moderate" (which is the same as the County's rating) **and their vulnerability as also "high"** (which is the same as the County's rating).

Volume I, Section 2 describes the characteristics of air quality hazards, history, and how they relate to future climate projections as well as the location, extent, and probability of a potential event. Increases in wildfire conditions have shown an increasing potential for air quality hazards. Days with worsening air quality are increasing in frequency and require schools to significantly alter their day-to-day schedules, canceling recesses and necessitating additional staff capacity to supervise students. Additionally, many buses lack adequate air conditioning and schools like adequate HVAC to ensure proper air quality for students and staff alike.

Hood River County has limited capacity to monitor air quality. Smoke Ready Gorge, operated by the OSU Extension Service, has installed air quality monitors throughout the region and developed a Community Response Plan for Hood River and Wasco counties. More information on Smoke Ready Gorge's work can be found on their website.

The increased incidence of this hazard may impact the school aged population. As a result, the impact of this hazard may increase.

Drought

The Steering Committee rated the District's probability of occurrence for drought events as "moderate" (which is the same as the County's rating) **and their vulnerability as "low"** (which is lower than the County's rating).

Volume I, Section 2 describes the characteristics of drought hazards, as well as the location and extent of a potential event. Moderate droughts occur regularly in Hood River County; however, the District is not concerned about drought impacts. Information on City water infrastructure can be found in the City of Cascade Locks and City of Hood River addenda (Volume III).

Development and population forecasts are not expected to increase or decrease the impact of this hazard.

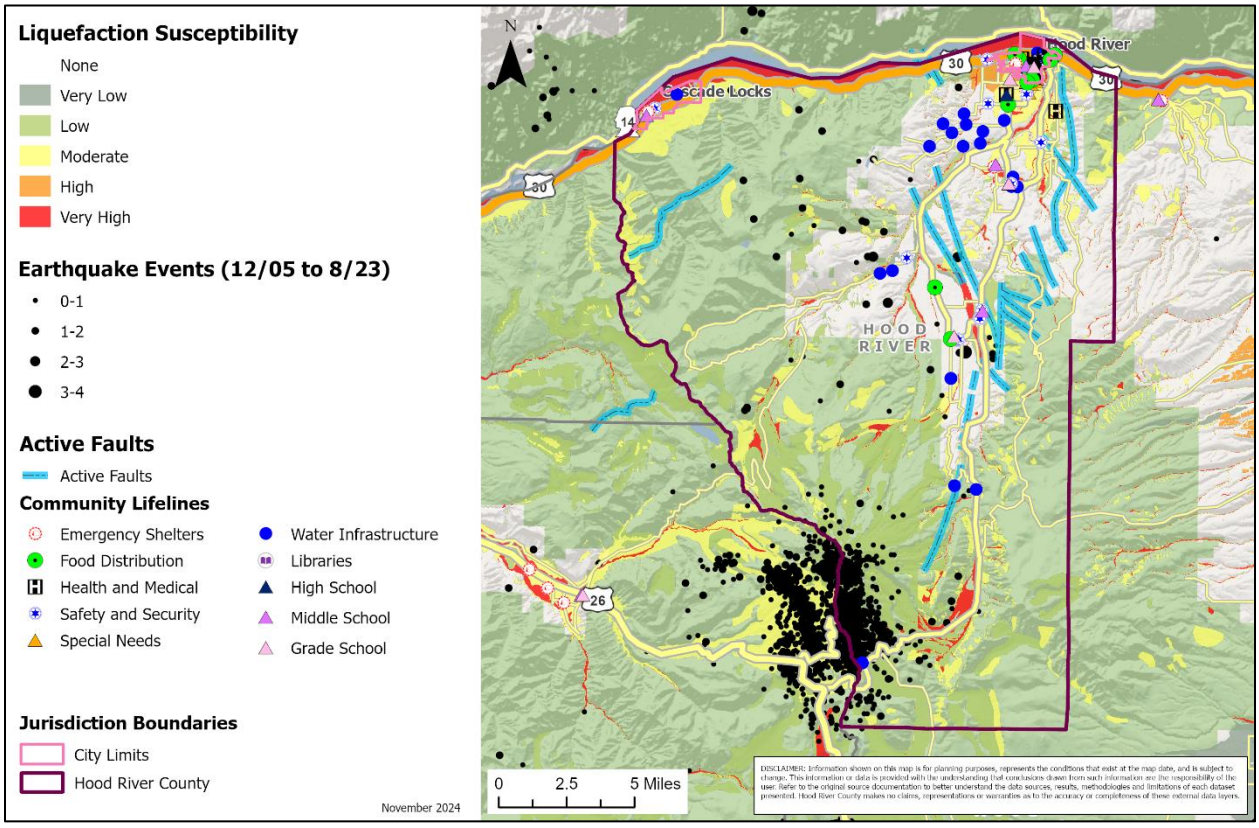
Earthquake (Cascadia Subduction Zone and Crustal)

The Steering Committee rated the District's probability of occurrence for a Cascadia Subduction Zone (CSZ) event as "low" (which is the same as the County's rating) **and their vulnerability as "high"** (which is higher than the County's rating)**. The Steering Committee rated the District's probability of occurrence for a Crustal Earthquake event as "low"** (which is the same as the County's rating) **and their vulnerability as "high"** (which is higher than the County's rating) **and that their vulnerability as "high"** (which is the same as the County's rating).

Volume I, Section 2 describes the characteristics of earthquake hazards, history, as well as the location and extent of a potential event. Generally, an event that affects the County is likely to affect the District more severely. The liquefaction potential is significant and expected shaking is stronger as well. The causes and characteristics of an earthquake event are appropriately described within the County's NHMP, as well as the location and extent of potential hazards. Previous occurrences are well-documented within the County's plan. The community impacts described by the County would occur within the District to a greater extent: weak buildings would collapse, and stable buildings would suffer damage.

Earthquake-induced damages are difficult to predict and depend on the size, type, and location of the earthquake, as well as site-specific building and soil characteristics. Presently, it is not possible to accurately forecast the location or size of earthquakes, but it is possible to predict the behavior of soil at any particular site. In many major earthquakes, damage has primarily been caused by the behavior of the soil. As shown in Map SD-2, while the cities of Cascade Locks and Hood River would both be subject to "moderate" to "high" soil liquefaction, the rest of the County would experience "very low" to "low" soil liquefaction.

Map SD-2 Crustal Earthquake Liquefaction Susceptibility and Community Lifelines

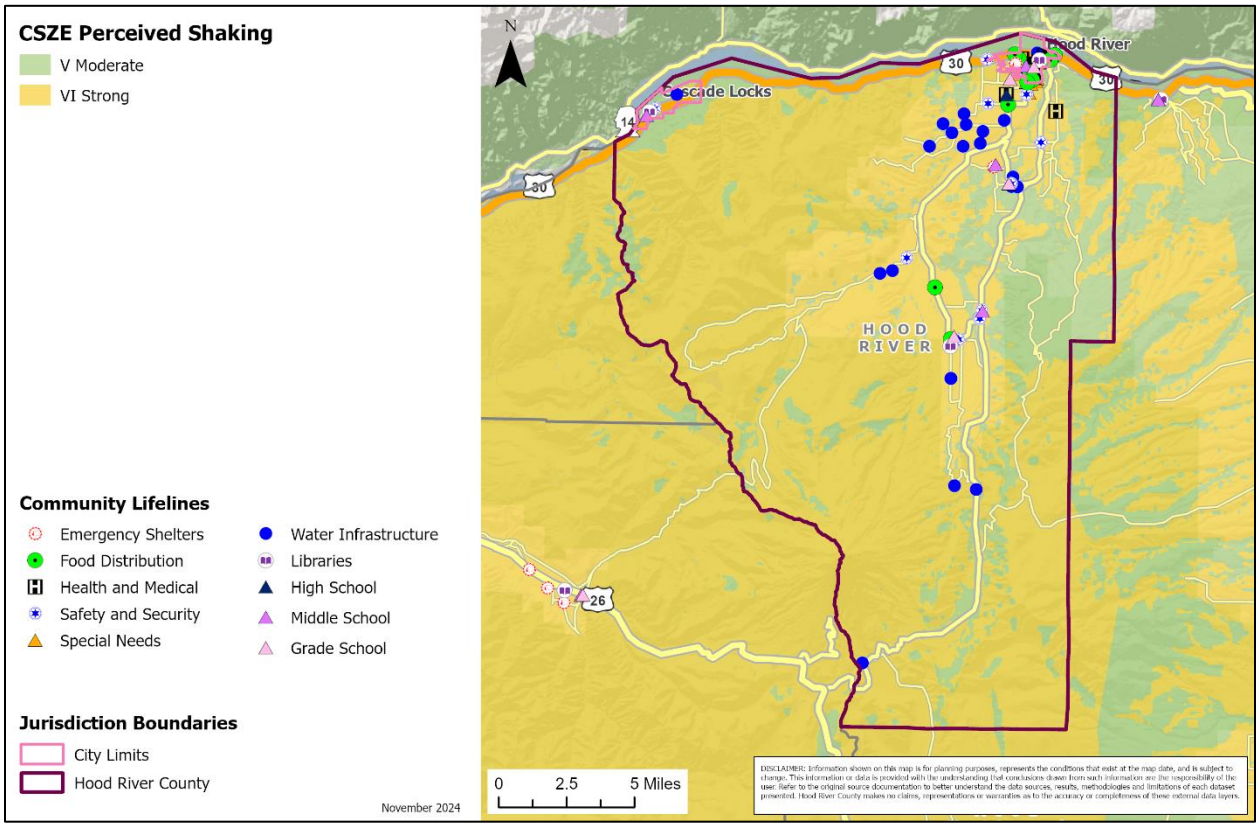


Source: Mapping by OPDR.
Data from Hood River County and Oregon Department of Geology and Mineral Industries HazVu website.

Map SD-3 shows the expected shaking/ damage potential for the District due to a CSZ earthquake event. The figure shows that most of the District will experience "moderate" to "strong" shaking that will last two to four minutes. The shaking will be extremely damaging to

transportation routes including Interstate 84 and bridges throughout the County across which students bus from their homes to school. Many students would be isolated within schools with limited or no transportation options to return them to their homes should bridges come down across the District.

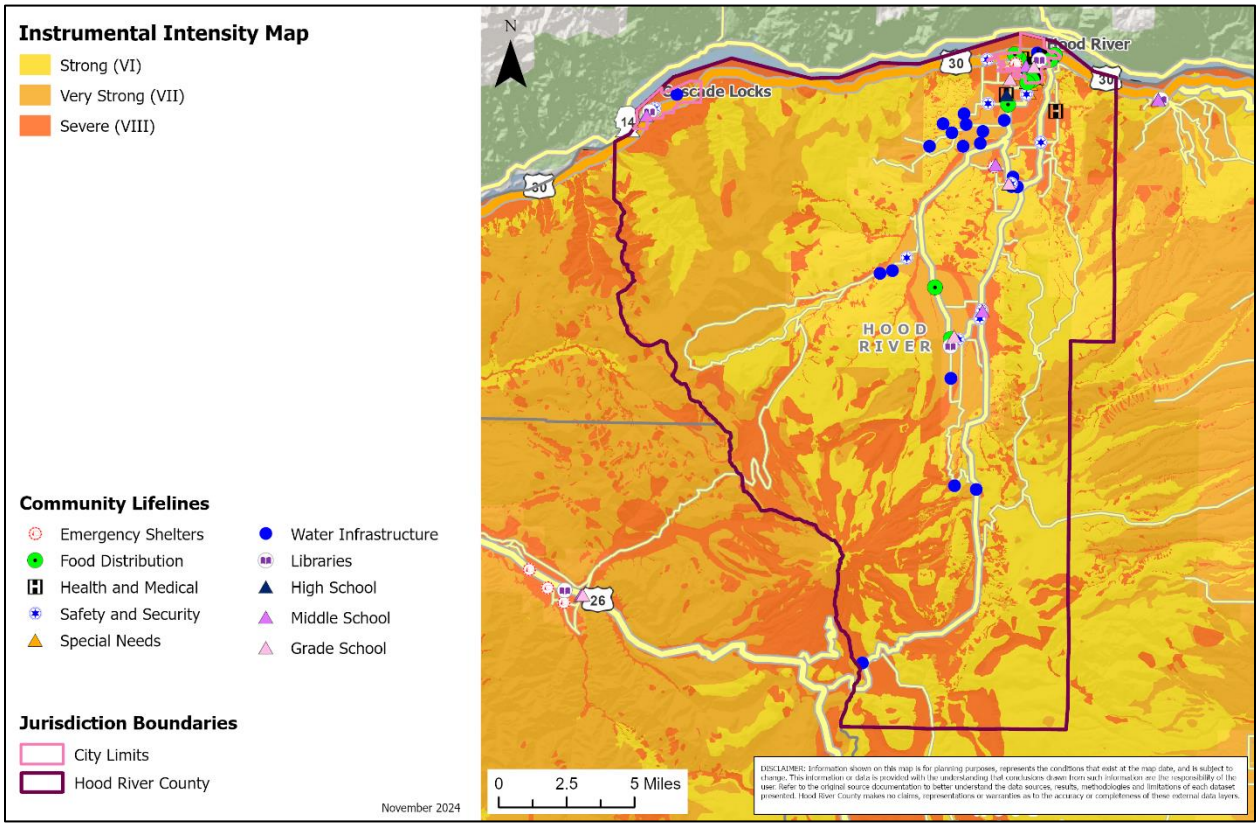
Map SD-3 Cascadia Subduction Zone Perceived Shaking and Community Lifelines



Source: Mapping by OPDR.
Data from Hood River County and Oregon Department of Geology and Mineral Industries HazVu website.

Map SD-4 depicts predicted earthquake intensity from a crustal earthquake or CSZ event across the County. Both the cities of Cascade Locks and Hodd River have “severe” intensity with some small pockets of “very strong” or “strong” intensity, indicating significant impacts from an earthquake. Impacts in Parkdale are at a similar “very strong” intensity.

Map SD-4 Predicted Earthquake Intensity and Community Lifelines



Source: Mapping by OPDR.
Data from Hood River County and Oregon Department of Geology and Mineral Industries HazVu website.

Information on specific schools' estimated seismic resistance, determined by DOGAMI in 2007 via their Rapid Visual Screening, is shown in Table SD-4. Each "X" represents one building within that ranking category. Of the buildings evaluated by DOGAMI using RVS, nine (9) have a very high (100% chance) collapse potential, two (2) have a high (>10%) collapse potential, six (6) have a moderate (1-10%) collapse potential, and 15 have a low collapse potential (<1%).

Table SD-4 Rapid Visual Screening Scores

Facility	Address	Site ID	Level of Collapse Potential			
			Low (<1%)	Moderate (>1%)	High (>10%)	Very High (100%)
Cascade Locks School	300 Wa Na Pa St, Cascade Locks	Hood_sch08		X,X		X
Hood River Middle School*	1602 May St, Hood River	Hood_sch05		X		X,X
Hood River Valley High School	1220 Indian Creek Rd, Hood River	Hood_sch04	X,X,X,X,X			
May Street Elementary School*	1001 10th St, Hood River	Hood_sch06	X			X,X
Mid Valley Elementary School	3686 Davis Dr, Hood River	Hood_sch07	X		X	X
Parkdale Elementary School	4880 Van Nuys Dr, Mt. Hood	Hood_sch01	X	X		X
Pine Grove Elementary School (permanently closed)	-	Hood_sch09	X	X		
Westside Elementary School	3685 Belmont Dr, Hood River	Hood_sch02	X,X,X		X	
Wy'East Middle School*	3000 Wy'East Rd, Hood River	Hood_sch03	X,X	X		X,X

Source: Lewis, D. (2007). *Open-File Report O-07-02, Statewide seismic needs assessment: Implementation of Oregon 2005 Senate Bill 2 relating to public safety, earthquakes, and seismic rehabilitation of public buildings.* Oregon Department of Geology and Mineral Industries. https://pubs.oregon.gov/dogami/ofr/p-O-07-02.htm.

* = Building has been rebuilt or retrofit since this DOGAMI study was conducted in 2007.

In addition to building damage, transportation systems (bridges, pipelines) and utility systems will also be significantly damaged, including damaged buildings and utility infrastructure such as water treatment plants and equipment at high voltage substations (especially 230 kV or higher which are more vulnerable than lower voltage substations). Buried pipe systems will suffer extensive damage with approximately one break per mile in soft soil areas. Restoration of utility services will require substantial mutual aid from utilities outside of the affected area.

Development and population forecasts are not expected to increase or decrease the impact of this hazard.

Extreme Heat

The Steering Committee rated the District's probability of occurrence for extreme heat events as "moderate" (which is the same as the County's rating) **and their vulnerability as "high"** (which is higher than the County's rating).

Volume I, Section 2 describes the causes and characteristics of extreme heat, as well as the history, location, extent, and probability of a potential event and how it relates to future climate projections. Extreme temperatures are measured as days with a heat index above 90 degrees. Extreme heat events can and have occurred in the County, and while they typically do not cause loss of life, they are becoming more frequent and cause "heat stress" in students, faculty, and staff, negatively impacting emotional wellbeing. Many schools and buses lack adequate air conditioning, and many low-income students similarly lack adequate air conditioning at home.

The increased incidence of this hazard may impact the school aged population. As a result, the impact of this hazard may increase.

Flood

The Steering Committee rated the District's probability of occurrence for flood events as "moderate" (which is higher than the County's rating) **and their vulnerability as "low"** (which is the same as the County's rating).

Volume I, Section 2 describes the causes and characteristics of flooding hazards within the region, as well as previous flooding occurrences. General flood-related community impacts are adequately described within the Flood Hazard Annex of Hood River County's Natural Hazards Mitigation Plan. Portions of both the cities of Cascade Locks and Hood River have areas of floodplains (special flood hazard areas). However, damage from floods has been insignificant historically.

The District does not have the authority to adopt and enforce floodplain management or other land use regulations for the areas within its jurisdiction.

For more information on National Flood Insurance Program (NFIP) claims and other potential flood impacts, see the City of Hood River and City of Cascade Locks addenda (Volume III).

Development and population forecasts are not expected to increase or decrease the impact of this hazard.

Landslide/Debris Flow

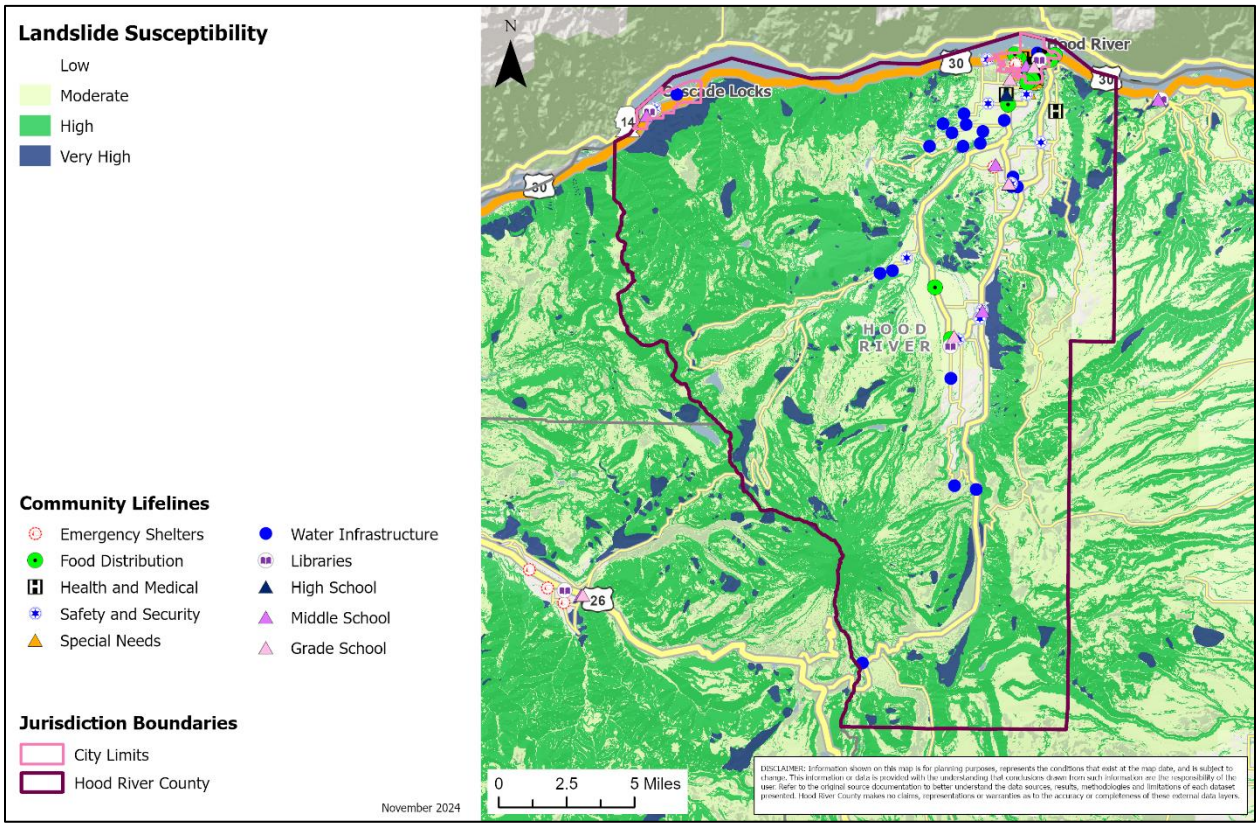
The Steering Committee rated the District's probability of occurrence for landslide/debris flow events as "moderate" (which is less than the County's rating) **and their vulnerability as "moderate"** (which is the same as the County's rating).

Volume I, Section 2 describes the characteristics of landslide hazards, history, and the location, extent, and probability of a potential event within the region. Landslide susceptibility exposure for the District is shown in Map SD-5. As the map demonstrates, most schools lie within areas with "low" landslide susceptibility except for Cascade Locks Elementary School, which lies in an

area with “very high” landslide susceptibility similar to other steeply sloped areas to the south of I-84.

Note that even if an area has a high percentage of land in a high or very high landslide exposure susceptibility zone, that does not mean there is a high risk (vulnerability), because risk is the intersection of a hazard and assets.

Map SD-5 Landslide Susceptibility Exposure and Community Lifelines



Source: Mapping by OPDR.
Data from Hood River County and Oregon Department of Geology and Mineral Industries HazVu website.

Potential landslide-related impacts are described within the County’s NHMP, and include infrastructural damages, economic impacts (due to isolation and/or arterial road closures), property damages, and obstruction to evacuation routes. Rain-induced landslides and debris flows can potentially occur during any winter in Hood River County, and highway and other major roads throughout the District are susceptible to obstruction as well. Landslides have historically blocked major roads and cut off transportation about once every ten years.

Development and population forecasts are not expected to increase or decrease the impact of this hazard.

Volcanic Event

The Steering Committee rated the District's probability of occurrence for volanic events as "low" (which is the same as the County's rating) **and their vulnerability as "moderate"** (which is the same as the County's rating).

Volume I, Section 2 describes the District's risk to volcanic events. The causes and characteristics of a volcanic event are appropriately described within the County's plan, as well as the location and extent of potential hazards. Previous occurrences are well-documented within the County's plan, and the community impacts described by the County would generally be the same for the District as well. When Mt. Saint Helens erupted in 1980, the City of Hood River received ash fall, but the City of Cascade Locks did not experience any impacts. Parkdale Elementary School has experienced small volcanic quakes in the past.

Due to the nature of the hazard, it is extremely challenging to predict the location or extent of future events with any probability, although it can be assumed that all residential and critical facilities and infrastructure within the County are at risk.

Development and population forecasts are not expected to increase or decrease the impact of this hazard.

Wildfire

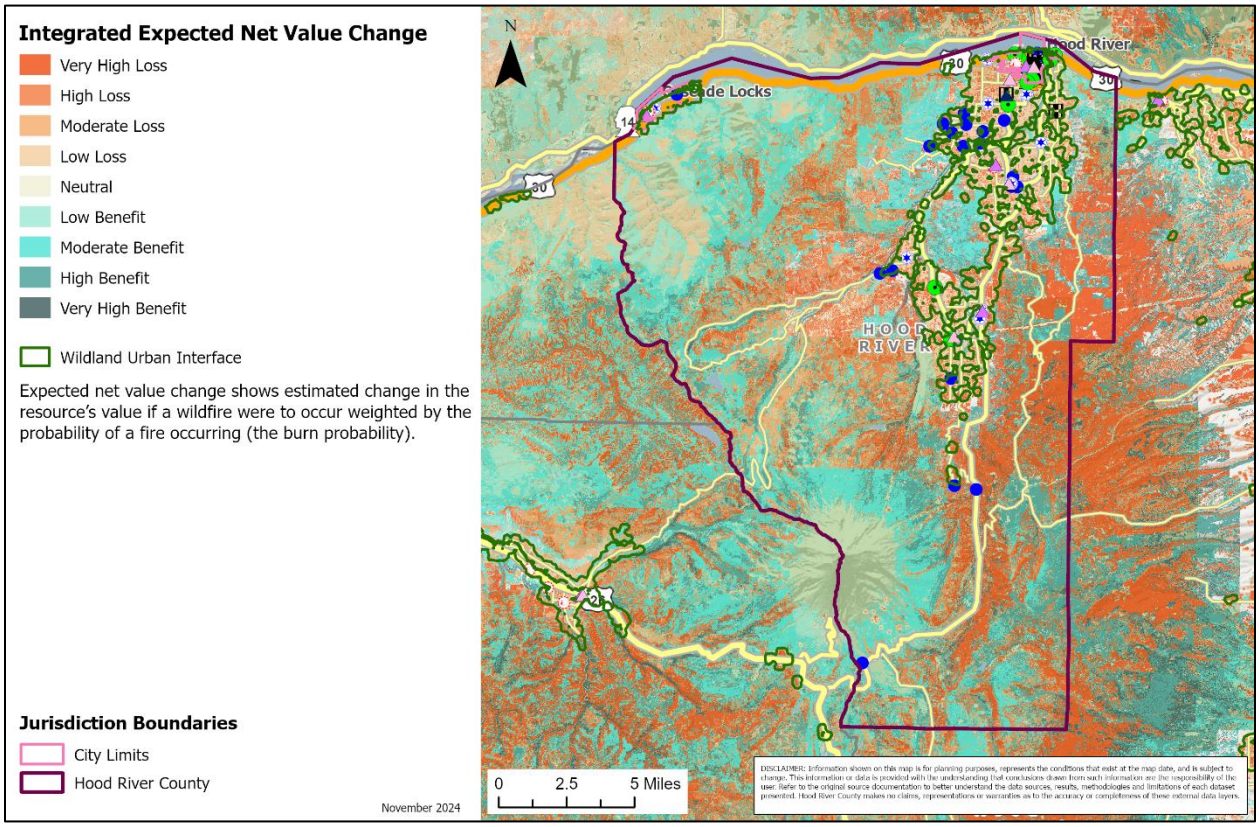
The Steering Committee rated the District's probability of occurrence for wildfire events as "high" (which is the same as the County's rating) **and their vulnerability as "high"** (which is the same as the County's rating).

Volume I, Section 2 describes the causes and characteristics of wildfires, as well as the County and City's history of wildfire events. The potential community impacts and vulnerabilities described in the County's NHMP are generally accurate for the District as well. Several significant wildfire events have occurred in the County, the most recent being the Eagle Creek Fire (September – November 2017), a declared conflagration which was the top priority fire nationally for two weeks and burned nearly 50,000 acres throughout the region. The location and extent of wildfires vary depending on fuel, topography, and weather conditions. Adjacency to forest land and steep slopes create conditions conducive to wildfires.

Map SD-6 and Map SD-7 show the wildfire hazard (using integrated expected net value change) and burn probability for the District, respectively. Most of the District lies within "moderate" or "neutral" loss areas and has "very low" to "low" burn probability, except for Parkdale Elementary School, which has "very high" loss and "high moderate" burn probability.

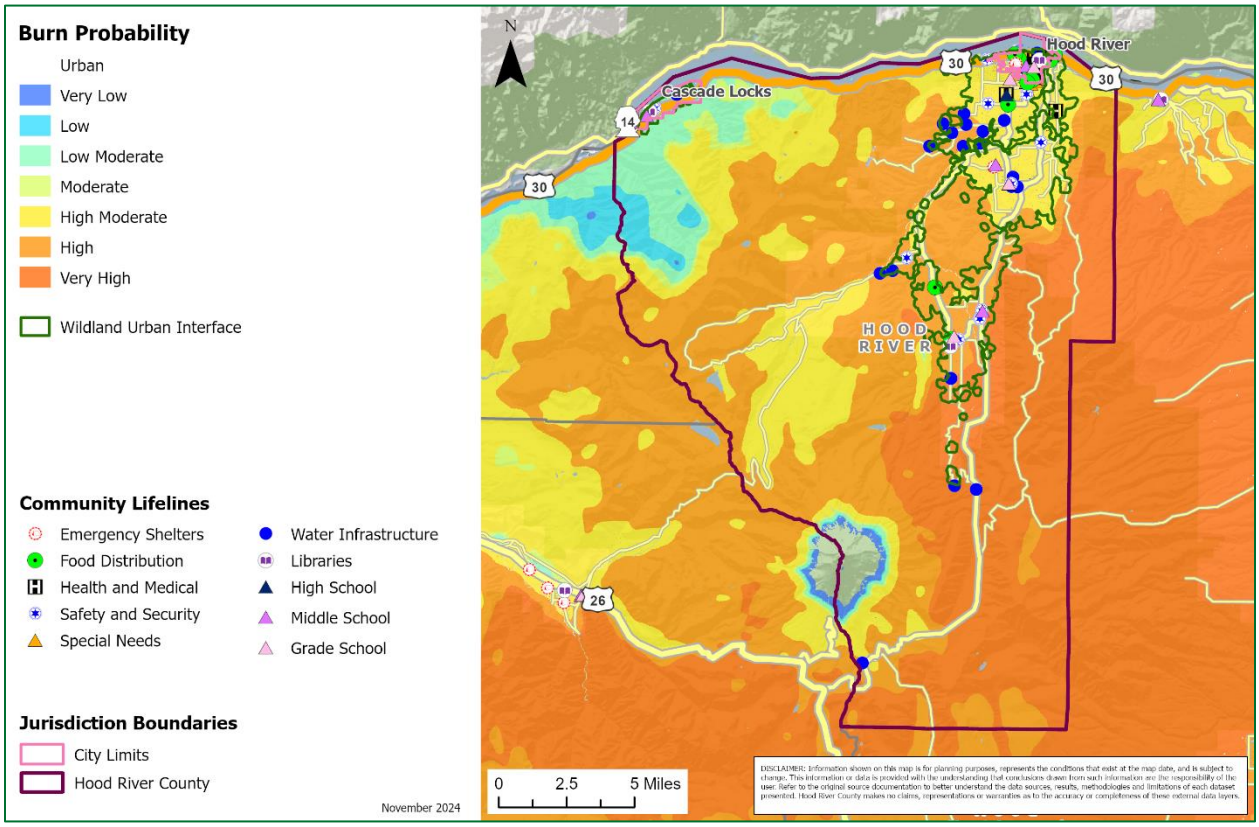
For wildfire hazard (Map SD-6), the integrated expected net value change map shows the estimated change in the resource's value if a wildfire were to occur weighted by the probability of a fire occurring (also known as the burn probability).

Map SD-6 Wildfire Hazard and Community Lifelines



Source: Mapping by OPDR.
Data from USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA) and Oregon Explorer's CWPP Planning Tool.

Map SD-7 Burn Probability and Community Lifelines



Source: Mapping by OPDR.
Data from USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA) and Oregon Explorer's CWPP Planning Tool.

Hood River County developed a Community Wildfire Protection Plan (CWPP) in 2013 and updated the CWPP in 2025. This can be found in Volume IV. A CWPP maps wildland urban interface areas and includes actions to mitigate wildfire risk.

Development and population forecasts are not expected to increase or decrease the impact of this hazard.

Windstorm

The Steering Committee rated the District's probability of occurrence for windstorm events as "low" (which is lower than the County's rating) **and their vulnerability as "moderate"** (which is the same as the County's rating).

Volume I, Section 2 describes the causes and characteristics of windstorms, as well as the location and extent of windstorm hazards. The region's (and District's) history of events is adequately described within the County's plan as well. Because windstorms typically occur during winter months, they are sometimes accompanied by ice, freezing rain, flooding, and very rarely, snow. For the purposes of this plan, windstorms are considered an individual hazard, distinct from winter storms. Alone, they have much lower potential to affect District.

Winds are a frequent, almost constant occurrence in Cascade Locks and occur several times each winter throughout the rest of the District. North south winds, which are more rare, frequently bring down trees. Hood River County's plan adequately describes the impacts caused by windstorms, including power outages, downed trees (which can threaten schools with proximity to older trees, like the Hood River Valley High School), and storm-related debris.

Due to the nature of the hazard, it is extremely challenging to predict the location or extent of future events with any probability, although it can be assumed that all residential and critical facilities and infrastructure within the District are at risk.

Development and population forecasts are not expected to increase or decrease the impact of this hazard.

Winter Storm

The Steering Committee rated the District's probability of occurrence for winter storm events as "high" (which is the same as the County's rating) **and their vulnerability as "high"** (which is the same as the County's rating).

Volume I, Section 2 describes the causes and characteristics of winter storms, as well as the location and extent of winter storm hazards. In general, the District experiences more rain and higher severity of winter storm impacts than the County. The region's (and District's) history of events is adequately described within the county's plan. Severe winter storms can consist of rain, freezing rain, ice, snow, extreme cold, sleet, and wind. They originate from frigid air moving westward out of the Wallowa Mountains through the Columbia River. Mid-latitude storms approaching from the West are forced to rise as they encounter the Cascades, releasing large amounts of precipitation on the western slopes. These storms are most common from November through March and are an annual occurrence. Prolonged heavy rains cause the ground to become saturated and often result in local flooding and landslides.

Major winter storms can and have occurred within the District and while they typically do not cause significant damage, they are frequent and have the potential to impact schools and students. Road closures on major roads due to winter weather can interrupt commuter and large truck traffic, including food and fuel supply, as well as school bus routes and staff commutes. Road closures occur annually. Snow accumulation on large, older school building roofs can cause structural damages and even roof collapses (as occurred with the Wy'East Middle School gymnasium in the 1980s). Ice dams building up on walls can leak into buildings and frozen pipes thawing out can lead to both infrastructure damage and indoor flooding.

Due to the nature of the hazard, it is extremely challenging to predict the location or extent of future events with any probability, although it can be assumed that all residential and critical facilities and infrastructure within the District are at risk.

Development and population forecasts are not expected to increase or decrease the impact of this hazard.

Attachment A: Public Involvement Summary

Members of the Steering Committee provided edits and updates to the NHMP prior to the public review period as reflected in the final document. In addition, a survey was distributed that included responses from residents of the County (Volume II, Appendix G).

To provide the public information regarding the draft NHMP addendum, and provide an opportunity for comment, an announcement was provided for 15 days from November 19 to December 4, 2024 on the County's website. Comments were reviewed and integrated into the NHMP as applicable. Additional opportunities for stakeholders and the public to be involved in the planning process are addressed in Volume II, Appendix C.

A diverse array of agencies and organizations were provided an opportunity to provide input to inform the plan's content through a variety of mechanisms including the opportunity for comment on the draft plan. The agencies and organizations represent local and regional agencies involved in hazard mitigation activities, those that have the authority to regulate development, neighboring communities, representatives of businesses, academia, and other private organizations, and representatives of nonprofit organizations, including community-based organizations, that work directly with and/or provide support to underserved communities and socially vulnerable populations. For more information on the engagement strategy see Volume II, Appendix C.

Hood River County School District Steering Committee

Steering Committee members possessed familiarity with the County community and how it is affected by natural hazard events. The Steering Committee guided the update process through several steps including goal confirmation and prioritization, action item review and development, and information sharing, to update the NHMP and to make the NHMP as comprehensive as possible. The Steering Committee met formally on the following dates:

Meeting #1: Hood River County School District Steering Committee, July 17, 2024 (virtually via Zoom)
During this meeting, the Steering Committee were provided updates on hazard mitigation planning, the NHMP update process, and project timeline. The Steering Committee:

- Updated recent history of hazard events in the District.
- Reviewed and confirmed the County NHMP's mission and goals.
- Discussed the NHMP public outreach strategy.

- Reviewed and provided feedback on the draft risk assessment update including community vulnerabilities and hazard information.
- Developed their mitigation strategy (actions).
- Developed their implementation and maintenance program.

Meeting Attendees:

- Gus Hedberg, Executive Director of Human Resources
- Kyle Rosselle, Director of Safety and Security
- Todd Rainwater, Director of Operations

West Side Fire District Addendum

to the Hood River County Multi-Jurisdictional NHMP

Photos courtesy of Matthew Adams, West Side Fire District

Effective: July 8, 2025 through July 7, 2030

Prepared for
West Side Rural Fire Protection District
1185 Tucker Road
Hood River, OR 97031

Prepared by
The University of Oregon
Institute for Policy Research & Engagement
School of Planning, Public Policy, and Management

UNIVERSITY OF OREGON | Institute for Policy Research and Engagement

U.S. Department of Homeland Security
Federal Emergency Management Agency
Region 10

130 228th St SW
Bothell, WA 98021

July 14, 2025

Mr. Stephen Richardson
State Hazard Mitigation Officer
Oregon Department of Emergency Management
3930 Fairview Industrial Dr SE
Salem, Oregon 97302

Reference: Approval of the Hood River County Multi-Jurisdictional Hazard Mitigation Plan

In accordance with applicable[1] laws, regulations and policy, the Risk Analysis Branch of FEMA Region 10 Mitigation Division has approved the local mitigation plan for the following jurisdictions:

Hood River County	City of Cascade Locks	City of Hood River
Port of Cascade Locks	Port of Hood River	Hood River County Library District
Hood River County School District	West Side Rural Fire Protection District	

Mitigation plans may include additional content to meet Element H: Additional State Requirements or content the local government included beyond applicable FEMA mitigation planning requirements. FEMA approval does not include the review or approval of content that exceeds these applicable FEMA mitigation planning requirements.

The approval period for this plan is from July 8, 2025 through July 7, 2030.

The jurisdictions' plan approval ensures the eligibility for project grants under FEMA's Hazard Mitigation Assistance programs. All requests for funding are evaluated individually according to eligibility and other program requirements. Having an approved mitigation plan does not mean that mitigation grant funding will be awarded. Specific application and eligibility requirements can be found in each FEMA grant program's respective policies and annual Notice of Funding Opportunities, as applicable.

[1] Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and National Dam Safety Program Act, as amended; 44 CFR Part 201, Mitigation Planning; and Local Mitigation Planning Policy Guide (FP-206-21-0002).

FEMA's approval is for a period of five years, effective the date FEMA received the adoption documentation. For this plan, documentation was received on July 8, 2025 and is considered approved as of then. Prior to July 7, 2030, each jurisdiction must review, revise, and submit their plan to FEMA for approval to maintain eligibility for grant funding. The enclosed plan review tool provides opportunities to incorporate into future updates.

Sincerely,

Wendy Shaw, P.E.
Risk Analysis Branch Chief
Mitigation Division

JF:JG

Attachment**:** Local Mitigation Plan Review Tool

WEST SIDE RURAL FIRE PROTECTION
DISTRICTRESOLUTION NO. 2025-03

Resolution Adopting the District's
Representation in the Updates to the Hood River County Multi-Jurisdictional Natural Hazards Mitigation Plan

Whereas, West Side Rural Fire Protection District (the District) recognizes the threat that natural hazards pose to people, property and infrastructure within our community; and

Whereas, undertaking hazard mitigation actions will reduce the potential for harm to people, property and infrastructure from future hazard occurrences; and

Whereas, an adopted Natural Hazards Mitigation Plan is required as a condition of future funding for mitigation projects under multiple FEMA pre- and post-disaster mitigation grant programs; and

Whereas, the District has fully participated in the FEMA prescribed mitigation planning process to prepare the *Hood River County, Multi-Jurisdictional Natural Hazards Mitigation Plan*, which has established a comprehensive, coordinated planning process to eliminate or minimize these vulnerabilities; and

Whereas, the District has identified natural hazard risks and prioritized a number of proposed actions and programs that would mitigate the vulnerabilities of land within the District to the impacts of future disasters within the *Hood River County, Multi-Jurisdictional Natural Hazards Mitigation Plan*; and

Whereas, these proposed projects and programs have been incorporated into the *Hood River County, Multi-Jurisdictional Natural Hazards Mitigation Plan* that has been prepared and promulgated for consideration and implementation by the participating cities and special districts of Hood River County; and

Whereas, the Oregon Department of Emergency Management and Federal Emergency Management Agency, Region X officials have reviewed the *Hood River County, Multi-Jurisdictional Natural Hazards Mitigation Plan* and pre-approved it contingent upon this official adoption of the participating governments and entities;

Whereas, the NHMP is in an on-going cycle of development and revision to improve its effectiveness; and

Whereas, the District adopts the NHMP and directs the Chief Administrative Officer to continue to act on behalf of the District to help develop, approve, and implement the mitigation strategies and any administrative changes to the NHMP.

Now, therefore, be it resolved, that the District adopts *the Hood River County Multi-Jurisdictional Natural Hazards Mitigation Plan* as an official plan; and

Be it further resolved, that the District will submit this Adoption Resolution to the Oregon Department of Emergency Management and Federal Emergency Management Agency, Region X officials to enable final approval of the *Hood River County Multi-Jurisdictional Natural Hazards Mitigation Plan.*

Adopted this 10th day of July 2025

Certifying Official - Jim Gray, Board President

Certifying Official - Jeff Hasegawa, Secretary

Table of Contents

List of Tables

List of Figures

List of Figures

Introduction

Purpose

This is the new West Side Rural Fire Protection District (Fire District) addendum to the Hood River County Multi-Jurisdictional Natural Hazard Mitigation Plan (NHMP). This addendum supplements information contained in Volume I (Basic Plan) which serves as the NHMP foundation and Volume II (Appendices), which provide additional information. This addendum meets the following requirements:

- Multi-Jurisdictional **Plan Adoption** §201.6(c)(5),
- Multi-Jurisdictional **Participation** §201.6(a)(3),
- Multi-Jurisdictional **Mitigation Strategy** §201.6(c)(3)(iv) and
- Multi-Jurisdictional **Risk Assessment** §201.6(c)(2)(iii).

The West Side Fire District adopted their addendum to the Hood River County NHMP on July 10, 2025. FEMA Region X approved the Hood River County NHMP and the City's addendum on July 8, 2025. With approval of this NHMP, the City is now eligible for non-disaster and disaster mitigation project grants through July 7, 2030.

NHMP Process, Participation and Adoption

This section of the NHMP addendum addresses 44 CFR 201.6(c)(5), *Plan Adoption* and 44 CFR 201.6(a)(3), *Participation.*

In addition to establishing a comprehensive city level mitigation strategy, the Disaster Mitigation Act of 2000 (DMA2K), and the regulations contained in Title 44 CFR Part 201, require that jurisdictions maintain an approved NHMP to receive federal funds for mitigation projects. Local adoption and federal approval of this NHMP ensures that the District will remain eligible for non-disaster and disaster mitigation project grants. This is the first Hood River County NHMP process in which the West Side Fire District has participated via an addendum.

The Oregon Partnership for Disaster Resilience (OPDR) at the University of Oregon's Institute for Policy Research and Engagement (IPRE) collaborated with Hood River County Emergency Management and the West Side Fire District to update their NHMP. This project is funded through the Federal Emergency Management Agency's (FEMA) Hazard Mitigation Grant Program. Members of the West Side Fire District's NHMP Steering Committee also participated in the County NHMP update process (see Volume II, Appendix C).

By creating this NHMP, locally adopting it, and having it approved by FEMA, the West Side Fire District is eligible for FEMA Hazard Mitigation Assistance grant program funds.

The Hood River County NHMP and West Side Fire District addendum are the result of a collaborative effort between residents, public agencies, non-profit organizations, the private

sector, and regional organizations. A project steering committee guided the NHMP development process.

Convener and Committee

The Chief Administrative Officer for the West Side Fire District served as the designated convener of the NHMP and will take the lead in implementing, maintaining, and updating the addendum to the Hood River County NHMP in collaboration with the designated convener of the Hood River County NHMP (Emergency Manager).

Representatives from the West Side Fire District Steering Committee met formally and informally, to discuss updates to their addendum (see Attachment A and Volume II, Appendix C). The Steering Committee reviewed and developed the District's addendum, with a focus on the NHMP's risk assessment and mitigation strategy (action items).

This addendum reflects decisions made at the designated meetings and during subsequent work and communication with Hood River County Emergency Management and OPDR. The decisions are highlighted in more detail throughout this document and within Volume II, Appendix C. Other documented actions include the development of the District's risk assessment and hazard identification sections, NHMP mission and goals, action items, and community profile.

The West Side Fire District Steering Committee was comprised of the following representatives:

- Convener: Doug Kelly, Chief Administrative Officer/Fire Marshal
- Matthew Adams, Captain

The Steering Committee served as the local review body for the NHMP's development.

NHMP Implementation and Maintenance

The West Side Fire District Board of Directors will be responsible for adopting the West Side Fire District addendum to the Hood River County NHMP. This addendum designates a steering committee and a convener to oversee the development and implementation of action items. Because the District addendum is part of the County's NHMP, the District will look for opportunities to partner with the County. The District's Steering Committee will convene after re-adoption of the NHMP addendum on an annual schedule. The County is meeting on a semi-annual basis and will provide opportunities for jurisdictions to report on NHMP implementation and maintenance during their meetings. The Steering Committee, assembled by the convener, will be responsible for:

- Reviewing existing action items to determine suitability of funding;
- Reviewing existing and new risk assessment data to identify issues that may not have been identified at NHMP creation;
- Educating and training new steering committee members on the NHMP and mitigation actions in general;
- Assisting in the development of funding proposals for priority action items;

- Discussing methods for continued public involvement;

- Evaluating effectiveness of the NHMP at achieving its purpose and goals (use Table 4-1, Volume I, Section 4, as one tool to help measure effectiveness); and
- Documenting successes and lessons learned during the year.

The convener will also remain active in the County's implementation and maintenance process (Volume I, Section 4).

The Steering Committee will be responsible for activities outlined in Volume I, Section 4.

The District will utilize the same action item prioritization process as the County (Volume I, Section 4 and Volume II, Appendix E).

Implementation through Existing Programs

Many of the NHMP's recommendations are consistent with the goals and objectives of the District's existing plans and policies. Where possible, the West Side Fire District will implement the NHMP's recommended actions through existing plans and policies. Plans and policies already in existence have support from residents, businesses, and policy makers. Many land-use, comprehensive, and strategic plans get updated regularly, allowing them to adapt to changing conditions and needs. Implementing the NHMP's action items through such plans and policies increases their likelihood of being supported and implemented.

The West Side Fire District currently has the following plans that relate to natural hazard mitigation. For a complete list visit the District's website:

- Budget Message, 2023-2024 (2023)
- Community Wildfire Protection Plan (2025) – see Volume IV of this NHMP

Capability Assessment

West Side Fire District, Oregon

The Capability Assessment identifies and describes the ability of the West Side Fire District to implement the mitigation strategy and associated action items. This is a key component of the 2025 Natural Hazard Mitigation Plan (NHMP) update. Capabilities can be evaluated through an examination of broad categories, including existing authorities, policies, programs, funding, and resources.

As the 2023-2024 Budget Message for the District states:

> West Side Rural Fire Protection District operates under Oregon Revised Statutes Chapter 478 as a separate municipal corporation and is managed by a Board of Directors composed of a President and four Directors. The Board hires the Chief Administrative Officer to manage the day-to-day operations of the District. The District was formed in 1948 and covers approximately 25 squares miles southwest of the City of Hood River.

In November 2019, the Citizens of the District approved an Operational Local Option Tax Levy to help sustain the District operations. The District has four (4) full time employees and approximately 40 volunteer staff. Fire and rescue services are provided from 2 fire stations. Bookkeeping is provided by a part-time employee who works at 0.05 FTE.

The District passed a new levy in spring 2024 which will allow them to increase to five (5) full time employees and have at least one staff member on duty 24/7. However, there continues to be no residency requirement for staff or volunteers; since some live in Washington state, they could be unable to reach the District in the event of a major seismic or other hazard event bringing down the bridges crossing the Columbia River.

Map WFD-1 illustrates the extent of the District.

Existing Authorities

Hazard mitigation can be executed at a local scale through three (3) methods: integrating hazard mitigation actions into other local planning documents (i.e., plan integration), adopting building codes that account for best practices in structural hardening, and codifying land use regulations and zoning designations that prescribe mitigation into development requirements. The extent to which a municipality or multi-jurisdictional effort leverages these approaches is an indicator of that community's capabilities.

Land Use Regulations

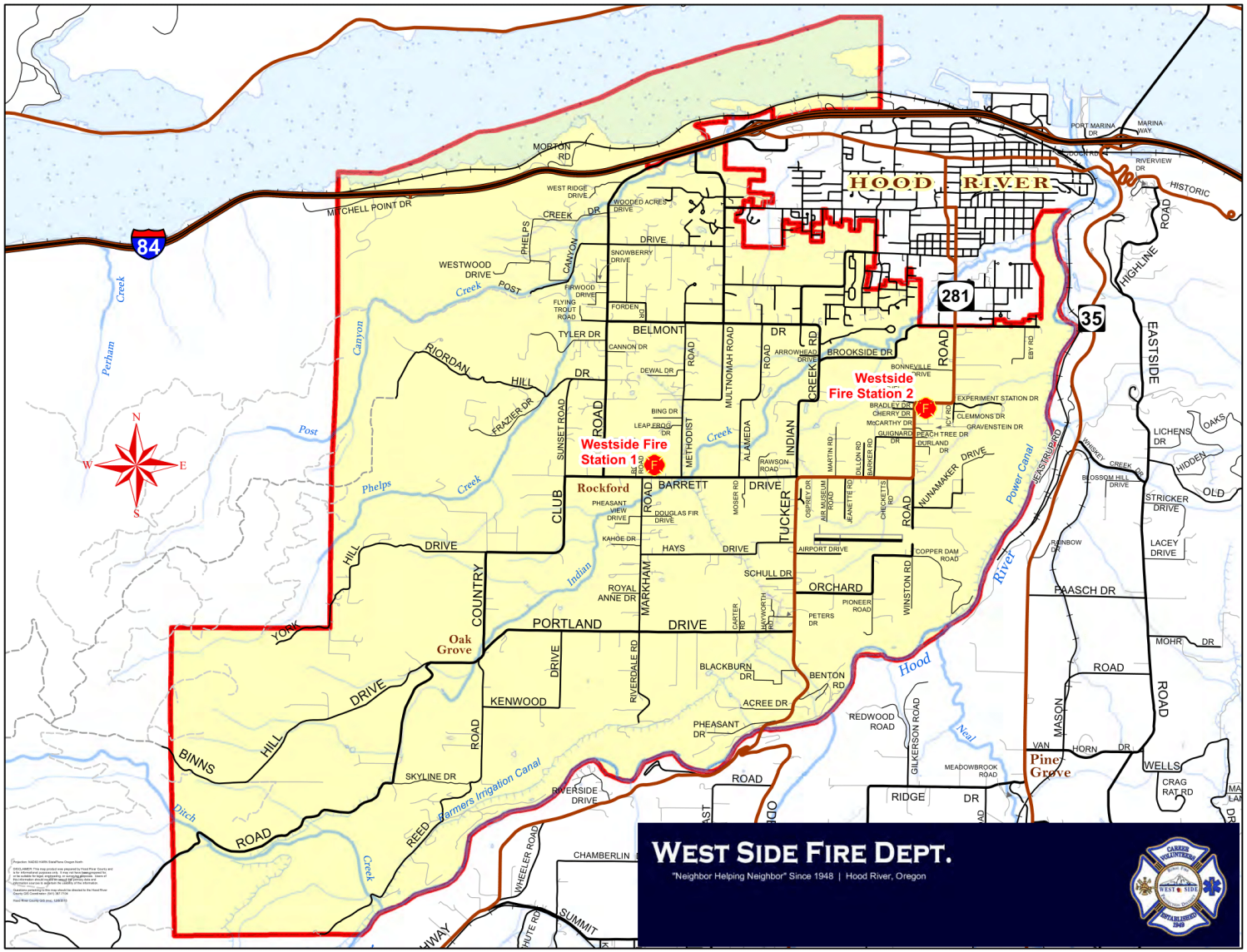
Existing land use policies that define zoning and address hazardous conditions provide another source of mitigation capability. The District falls under both the City of Hood River and Hood River County's land use codes.

Structural Building Codes

The Oregon Legislature recently adopted updated building codes for both residential (2021 adoption) and commercial structures (2022) since the last update of the NHMP. These building codes are based on the 2021 version of the International Building Code, International Fire Code, and International Existing Building Code. New wildfire defensible space code for land within the Wildland-Urban Interface (WUI) is scheduled to be completed this December with an effective date announced in 2024. Fire hardening requirements were adopted on October 1, 2022, and effective April 1, 2023.

Though Hood River County currently administers and enforces codes for residential zones last updated in 2018, the county does utilize the most recent Oregon Structural and Specialty Codes (2022) for commercial zones. Additionally, the City of Hood River administers and enforces the most recent Oregon Structural and Oregon Specialty Codes (2022), and the 2022 Oregon Fire Code. As a result, both new residential and commercial structures will be required to build according to the latest seismic and wind hardening standards in addition to requiring fire resistant building materials for those structures constructed in proximity to or within the WUI.

Map WFD-1 West Side Fire District Boundary



Source: West Side Rural Fire Protection District (n.d.). District Boundary Map. https://www.westsidefire.com/district-boundary-map.

Policies and Programs

The NHMP directs the West Side Fire District to explore integration into other planning documents and processes. As the District is a new addition to the NHMP, it has not yet incorporated the plan into its portfolio of planning processes and programs. However, several key documents and staffing components are reviewed in this section.

West Side Fire District Budget Message 2023-2024 (2023)
The District's most recent Budget Message notes that they offer fire suppression (both structural and wildland), EMS, fire prevention, public education, and basic rescue services. The District does not identify any significant recent or planned capital investments related to natural hazard or wildfire mitigation in their budget outside of regular equipment and the anticipated purchasing of a new fire engine by 2030.

Hood River County Community Wildfire Fire Protection Plan, 2025
The Community Wildfire Protection Plan, drafted in 2013 and updated in 2025 (see Volume IV), has been incorporated into this NHMP as a functioning annex. This plan seeks to reduce the risk of wildfire to life, property, and natural resources in Hood River County by coordinating public agencies, community organizations, private landowners, and the public to increase their awareness of and responsibility for fire issues.

Personnel

The following West Side Fire District personnel have assignments related to natural hazard mitigation planning and implementation:

- Emergency Management: Doug Kelly, Chief Administrative Officer; Matthew Adams, Captain
- Public Information Officer: Doug Kelly, Chief Administrative Officer
- Grant writing (for Public Works or emergency management): Doug Kelly, Chief Administrative Officer
- Capital improvement planning: Doug Kelly, Chief Administrative Officer
- Capital improvement execution: Doug Kelly, Chief Administrative Officer

These personnel integrate hazards and resilience planning into their greater work programs to the best of their abilities. However, there is limited capacity to expand upon their capabilities or workloads.

Capital Resources

The District maintains several capital resources that have important roles to play in the implementation of the natural hazard mitigation plan, including:

- Communication towers:
    - One of the District's two fire stations serves as an emergency backup site for civilian HAM radio groups.

- Critical facilities with power generators:
    - Both District fire stations have emergency generators (one propane and one natural gas).
- Warming/cooling/smoke shelters: None.
- Community shelters:
    - One of the District's two fire stations is a community readiness shelter. It does not currently have equipment (e.g., cots) on site, but could be used in an emergency.
- Food pantries: None.
- Fueling storage: None.

Findings

Several important findings from this capability assessment informed the design of the Plan's mitigation strategy and aided in prioritizing action items.

Staffing Limitations and Capacity

West Side Fire District staff are assigned hazard mitigation responsibilities as a part of their larger job responsibilities. Limited capacity reduces the breadth of the programming the community can undertake in any year. The District relies upon its relationships with the County, the City of Hood River, and other county fire districts to expand its operations.

Reliance upon outside funding streams and local match requirements

The District operates on a limited budget with a small staff. This leaves few opportunities for using local financial resources to implement hazard mitigation work. They lean heavily upon state and federal grant funds as the primary means for securing mitigation funding. Hazard mitigation grants such as BRIC require 25% local funding match, as well as extra staff capacity and expertise to navigate the application process and manage the funding.

Leveraging Partnerships with Public and Nonprofit Entities

Regional planning displayed in the Community Wildfire Protection Planning process demonstrates the District's ability to effectively share information and identify priority needs.

Mitigation Strategy

This section of the NHMP addendum addresses 44 CFR 201.6(c)(3(iv), *Mitigation Strategy*.

In order to develop the District's mitigation strategy (action items), the Steering Committee assessed the District's risk and identified potential issues to be addressed. The Steering Committee also noted what mitigation accomplishments have been made in recent years.

Action Items

Table WFD-1 documents the title of each action along with potential funding sources (HMA stands for FEMA's Hazard Mitigation Assistance disaster and non-disaster grant programs), the coordinating organization and any partner organizations, the timeline, and the anticipated cost.

For the timeline, O=Ongoing (continuous), S=Short (1-2 years), M=Medium (3-5 years), and L=Long (5 or more years). For cost, L=Low ($50,000 or less), M=Medium ($50,000 to $500,000), H=High ($500,000 to $5 million), and VH=Very High ($5 million or more).

Note that while there are some multi-hazard or other hazard-specific actions identified in Table WFD-1, District is a fire protection agency and as such is focused primarily on addressing wildfire.

Table WFD-1 Action Items

Action Item #	Mitigation Action Title	Potential Funding Resources	Coordinating Organization	Partner Organizations	Timeline	Cost
Multi-Hazard Mitigation Strategies						
1.1	Develop emergency evacuation and public notification plan.	HMA; State Funding (OEM, ODHS); Existing Staff Resources	County Emergency Management	Fire Districts; Cities; Ports; School District; State Agencies (OEM); FEMA	O	M
1.2	Support the creation a countywide full-time position to manage wildfire and other hazard mitigation efforts, including sourcing funding, coordinating projects, and creating outreach materials.	HMA; State Funding (OEM, ODF)	County Emergency Management	Fire Districts; County Agencies; Cities; Ports; School District	M	M
Air Quality/Smoke Mitigation Strategies						
2.0	The Steering Committee, using available local resources, will study this hazard further during the implementation and maintenance phase of this NHMP, seeking to identify cost effective actions that might be implemented to reduce community vulnerability.					
Drought Mitigation Strategies						
3.0	The Steering Committee, using available local resources, will study this hazard further during the implementation and maintenance phase of this NHMP, seeking to identify cost effective actions that might be implemented to reduce community vulnerability.					
Earthquake/CSZ Event Mitigation Strategies						
4.0	The Steering Committee, using available local resources, will study this hazard further during the implementation and maintenance phase of this NHMP, seeking to identify cost effective actions that might be implemented to reduce community vulnerability.					
Extreme Heat Mitigation Strategies						
5.0	The Steering Committee, using available local resources, will study this hazard further during the implementation and maintenance phase of this NHMP, seeking to identify cost effective actions that might be implemented to reduce community vulnerability.					
Flood Mitigation Strategies						
6.0	Given that Windstorm is categorized as low risk in the Hazard Vulnerability Assessment, the Steering Committee decided not to develop any mitigation action items for this hazard. This is in line with the decision-making process for low-risk hazards used by the 2025 Hood River County NHMP Steering Committee for the County Mitigation Strategy.					

Action Item #	Mitigation Action Title	Potential Funding Resources	Coordinating Organization	Partner Organizations	Timeline	Cost
Landslide/Debris Flow Mitigation Strategies						
7.0	The Steering Committee, using available local resources, will study this hazard further during the implementation and maintenance phase of this NHMP, seeking to identify cost effective actions that might be implemented to reduce community vulnerability.					
Volcanic Event Mitigation Strategies						
8.0	Given that Windstorm is categorized as low risk in the Hazard Vulnerability Assessment, the Steering Committee decided not to develop any mitigation action items for this hazard. This is in line with the decision-making process for low-risk hazards used by the 2025 Hood River County NHMP Steering Committee for the County Mitigation Strategy.					
Wildfire Mitigation Strategies						
9.1	Improve water and hydrant infrastructure throughout District, including in Reed Road neighborhood where ingress/egress restrictions mean that Type 1 engines cannot go down driveways.	HMA; State Funding (ODF, OSFM); USFS (Community Wildfire Defense Grant); Existing Staff Resources	West Side Fire District	County Emergency Management; State Agencies (OSFM, ODF)	M	H
9.1	Expand education and outreach to increase awareness about defensible space and preparedness. In addition to residents, target populations should include builders, planners, and real estate agents.	HMA; State Funding (ODF, OSFM); USFS (Community Wildfire Defense Grant); Existing Staff Resources	West Side Fire District/County Emergency Management/ Fire Districts	County Agencies; Cities; Columbia Gorge Tourism Association; State Agencies (ODF, OSFM); Federal Agencies (USFS)	M	M

Action Item #	Mitigation Action Title	Potential Funding Resources	Coordinating Organization	Partner Organizations	Timeline	Cost
9.2	Develop and conduct fuels reduction projects across the District, emphasizing treatment near residential communities, energy and key structures, and forestland to reduce fire intensity and aid suppression. Projects include (see Volume IV, Community Wildfire Protection Plan, for more detail): • Fuel breaks along Phelps Creek Road, Post Canyon Road, Riordan Hill Drive, York Hill Drive, Binns Hill Drive, Frazier Drive, Kingsley Drive, and Reed Road. • Fuels reduction/defensible space creation in Ruthton Point, Henderson Creek, Indian Creek Trail, Marham Road, Mitchell Point, Experiment Station, Eagle Creek Drainage, and Booth Hill.	HMA; State Funding (ODF, OSFM); USFS (Community Wildfire Defense Grant); Existing Staff Resources	West Side Fire District/Fire Districts/ ODF/USFS	County Agencies; Cities; Ports; State Agencies (OSFM)	M	H
9.3	Enhance interagency cooperation regarding both emergency response and fuel reduction projects.	HMA; State Funding (ODF, OSFM); USFS (Community Wildfire Defense Grant); Existing Staff Resources	West Side Fire District/Fire Districts	County Agencies; Cities; State Agencies (ODF, OSFM); USFS	O	M
9.4	Conduct countywide policy review to reduce wildfire risk and enhance response capabilities.	HMA; State Funding (ODF, OSFM); USFS (Community Wildfire Defense Grant); Existing Staff Resources	County Community Development	Fire Districts; County Agencies; Cities; Ports; State Agencies (ODF, OSFM); USFS	S	M

Action Item #	Mitigation Action Title	Potential Funding Resources	Coordinating Organization	Partner Organizations	Timeline	Cost
9.5	Ensure proper road continuity, numbering, and naming.	HMA; State Funding (ODF, OSFM, ODOT); USFS (Community Wildfire Defense Grant); Existing Staff Resources	County Community Development	Fire Districts; County Agencies; Cities; State Agencies (ODOT)	M	M
Windstorm Mitigation Strategies						
10.0	Given that Windstorm is categorized as low risk in the Hazard Vulnerability Assessment, the Steering Committee decided not to develop any mitigation action items for this hazard. This is in line with the decision-making process for low-risk hazards used by the 2025 Hood River County NHMP Steering Committee for the County Mitigation Strategy.					
Winter Storm Mitigation Strategies						
11.0	The Steering Committee, using available local resources, will study this hazard further during the implementation and maintenance phase of this NHMP, seeking to identify cost effective actions that might be implemented to reduce community vulnerability.					

Source: West Side Fire District NHMP Steering Committee, updated 2025
Potential Funding Sources: HMA=FEMA's Hazard Mitigation Assistance disaster and non-disaster grant programs
Cost: L=Low (less than $50,000), M=Medium ($50,000-$500,000), H=High ($500,000-$5 million), VH=Very High ($5 million or more)
Timing: O=Ongoing (continuous), S=Short (1-2 years), M=Medium (3-5 years), L=Long (5 or more years)

Risk Assessment

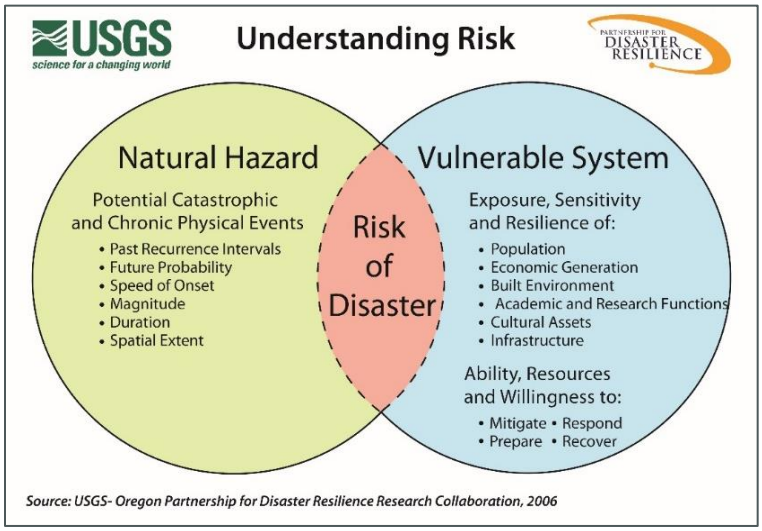
This section of the NHMP addendum addresses 44 CFR 201.6(b)(2) - Risk Assessment. In addition, this chapter can serve as the factual basis for addressing Oregon Statewide Planning Goal 7 – Areas Subject to Natural Hazards.

Assessing natural hazard risk has three phases:

- Phase 1: Identify hazards that can impact the jurisdiction. This includes an evaluation of potential hazard impacts – type, location, extent, etc.
- Phase 2: Identify important community assets and system vulnerabilities. Example vulnerabilities include people, businesses, homes, roads, historic places, and drinking water sources.
- Phase 3: Evaluate the extent to which the identified hazards overlap with or have an impact on, the important assets identified by the community.

The local level rationale for the identified mitigation strategies (action items) is presented herein and within Volume I, Sections 2 and 3. The risk assessment process is graphically depicted in Figure WFD-1. Ultimately, the goal of hazard mitigation is to reduce the area of risk, where hazards overlap vulnerable systems.

Figure WFD-1 Understanding Risk



Hazard Analysis

The West Side Fire District Steering Committee developed their hazard vulnerability assessment (HVA), using the County's HVA (Volume I, Section 2) as a reference. Changes from the County's HVA were made where appropriate to reflect distinctions in vulnerability and risk from natural hazards unique to the District, which are discussed throughout this addendum.

Table WFD-2 shows the HVA matrix for the West Side Fire District listing each hazard in order of rank from high to low. For local governments, conducting the hazard analysis is a useful step in planning for hazard mitigation, response, and recovery. The method provides the jurisdiction with a sense of hazard priorities but does not predict the occurrence of a particular hazard.

Wildfire, Winter Storm, Drought, and Extreme Heat are the high hazard threats to the District. Air Quality/Smoke, Earthquake (crustal), Landslide/Debris Flow, and a Cascadia Subduction Zone (CSZ) event are all moderate hazard threats to the District. Windstorm, Flood, and a Volcanic Event are the low hazard threats to the District.

Table WFD-2 Hazard Analysis Matrix – West Side Fire District

Hazard	History (x2)	Probability (x7)	Vulnerability (x5)	Maximum Threat (x10)	Total Threat Score	Rank	Hazard Tier
Wildfire	9	9	10	10	**233**	**1**	**High**
Winter Storm	10	10	5	10	**215**	**2**	**High**
Drought	5	8	7	9	**191**	**3**	**High**
Extreme Heat	4	8	7	9	**189**	**4**	**High**
Air Quality/ Smoke	5	6	6	9	**172**	**5**	**Moderate**
Crustal Earthquake	2	5	6	9	**161**	**6**	**Moderate**
Landslide/ Debris Flow	6	7	3	8	**156**	**7**	**Moderate**
CSZ Event	2	6	6	8	**156**	**8**	**Moderate**
Windstorm	4	4	4	8	**136**	**9**	**Low**
Flood	4	6	3	5	**115**	**10**	**Low**
Volcanic Event	2	2	5	6	**103**	**11**	**Low**

Source: West Side Fire District Steering Committee (2025); Analysis by OPDR.

District Characteristics

The following section provides information on District-specific demographics and characteristics. For additional information on the characteristics of Hood River County, in terms of geography, environment, population, demographics, employment, and economics, as well as housing and transportation, see Volume II, Appendix D. Many of these community characteristics can affect how natural hazards impact communities and how communities choose to plan for natural hazard mitigation. Considering the District-specific assets during the planning process can assist in identifying appropriate measures for natural hazard mitigation.

Please review the City of Hood River addenda (Volume III) for additional information on the community characteristics of the adjacent city.

Population

Data in this section comes from: Social Explorer: American Community Survey 5-Year Estimates (2018-2022). U.S. Census Bureau. https://www.socialexplorer.com/explore-tables. This data is for Census Tract 9502.01, which closely aligns with but does not exactly match the boundaries of the West Side Fire District. The data used for this analysis has varying levels of reliability depending on geographic area, demographic group, and types of data. These figures are primarily used for estimation and to develop a general understanding of the demographics of a location and should not be mistaken for precise figures.

The District's population is 3,452,[1] with over one-quarter (27%) under the age of 18, higher than the countywide figure of 23%. About one-quarter (24%) of the District population is over the age of 65, similar to the countywide figure of 23%. About 80% of the District's non-Hispanic/Latino population is racially white/Caucasian – higher than the rest of the County, at 63% – while 21% of residents are Hispanic or Latino (any race) – lower than the rest of the County, at 31%.

The median household income of the District is $95,848, above the County's value of $80,254. The poverty rate is 5%, lower than the County's rate of 7%. Housing affordability is a measure of economic security gauged by the percentage of an area's households who are "cost-burdened" and are paying greater than 30% of their income on housing.[2] In the District, 18% of homeowners with a mortgage and 37% of renters are considered cost burdened; both figures lie below the statewide levels of 39% and 38% respectively.

Community Assets

Table WFD-3 lists key community assets for the West Side Fire District. For a full list of critical and essential facilities and infrastructure[3] in Hood River County, see the County Risk Assessment (Volume I, Section 2).

Table WFD-3 West Side Fire District Assets

Facility Name	Details
Primary Station (1185 Tucker Road)	Includes a Class A Engine, Type 3 Engine, and a squad (consisting of a rescue and brush rig).
Remote Station & Training Center (4250 Barrett Drive)	Includes a Class A Engine, water tender, brush rig, and support vehicle.

Source: West Side Fire District Steering Committee (2025)

[1] This population figure is for Census Tract 9502.01. West Side Fire District internally uses a population figure of 8,000: (D. Kelly, personal communication, November 5, 2024).

[2] Foster, K. A. (2014). *Resilience Capacity Index, Disaster Resilience Measurements: Stocktaking of Ongoing Efforts in Developing Systems for Measuring Resilience.* United Nations Development Programme. https://www.preventionweb.net/files/37916_disasterresiliencemeasurementsundpt.pdf.

[3] Critical and essential facilities and infrastructure are those that are essential to the continued delivery of key government services, that may significantly impact the public's ability to recover from a hazard event, and that are key to government response and recovery activities (i.e., life, safety, property, and environmental protection).

Hazard Characteristics

The following sections briefly describe relevant information for each profiled hazard. More information on Hood River County Hazards can be found in Volume I, Section 2, and in the City of Hood River addendum (Volume III). These volumes also include economic loss estimates from the Oregon Department of Geology and Mineral Industries (DOGAMI)'s 2021 Risk Report for Hood River County.[4] Note that these hazards are sorted **alphabetically** and not by hazard tier as determined in the District's Hazard Analysis Matrix (Table WFD-2). As this is a new addendum, there are no changes to note.

Air Quality/Smoke

The Steering Committee rated the District's probability of occurrence for air quality/smoke events as "moderate" (which is the same as the County's rating) **and their vulnerability as "high"** (which is the same as the County's rating).

Volume I, Section 2 describes the characteristics of air quality hazards, history, and how they relate to future climate projections as well as the location, extent, and probability of a potential event. Increases in wildfire conditions have shown an increasing potential for air quality hazards. The District has seen smoke impacts on both assisted living facilities and schools.

Hood River County has limited capacity to monitor air quality. Smoke Ready Gorge, operated by the OSU Extension Service, has installed air quality monitors throughout the region and developed a Community Response Plan for Hood River and Wasco counties. More information on Smoke Ready Gorge's work can be found on their website.

The population of adults aged 65 and older is increasing within this jurisdiction. As a result, the impact of this hazard may increase.

Drought

The Steering Committee rated the District's probability of occurrence for drought events as "moderate" (which is the same as the County's rating) **and their vulnerability as "high"** (which is the same as the County's rating).

Volume I, Section 2 describes the characteristics of drought hazards, as well as the location and extent of a potential event. Moderate droughts occur regularly in Hood River County, primarily impacting the agricultural industry. However, severe droughts can negatively impact long-term forest health and increase the likelihood of wildfires igniting and are only anticipated to grow in severity due to the impacts of climate change. Drought is not a major concern for the District due to the sufficient water storage by the local Ice Fountain Water District and the availability of the Columbia River as an emergency source of water.

[4] DOGAMI (2021, May). *Natural Hazard Risk Report for Hood River County, Oregon: Including the Cities of Cascade Locks, Hood River, and Unincorporated Communities of Odell, Parkdale, and Rockford.* https://pubs.oregon.gov/dogami/ofr/p-OFR.htm.

Development and population forecasts are not expected to increase or decrease the impact of this hazard.

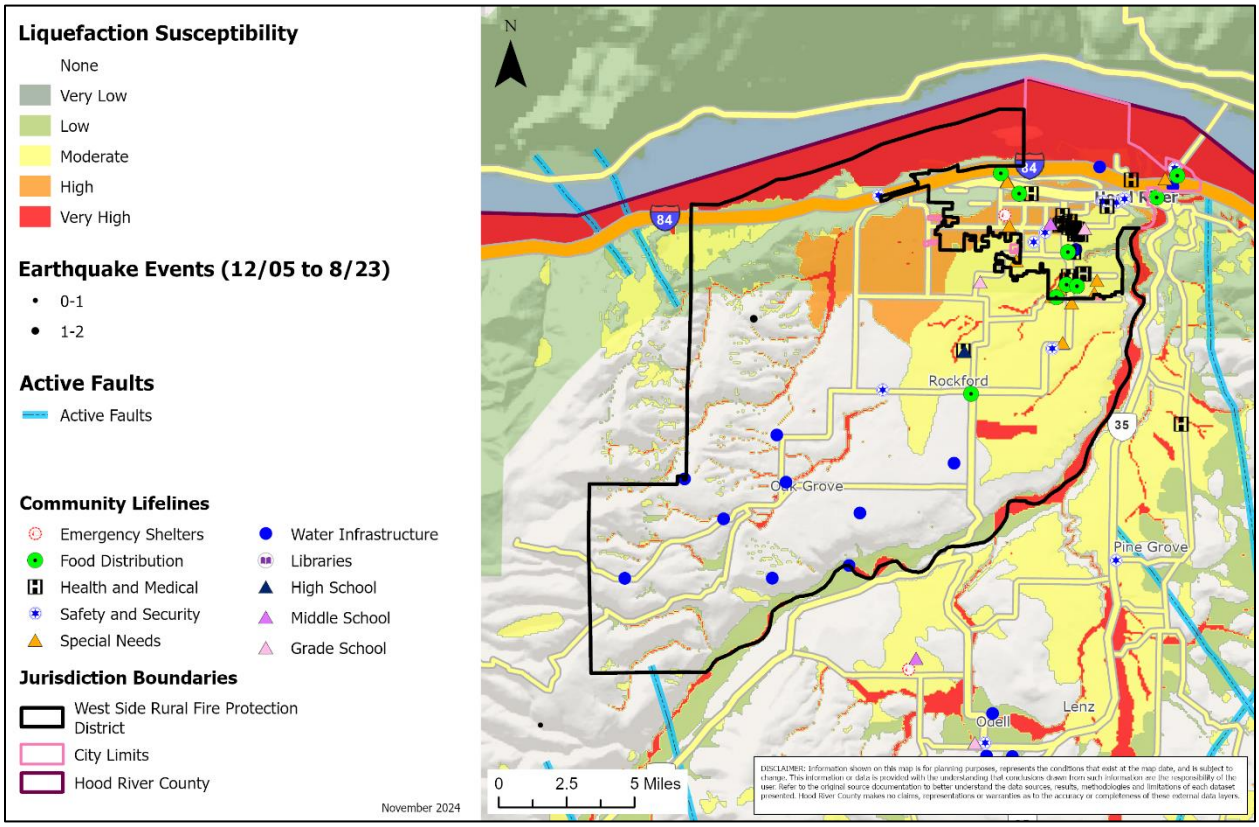
Earthquake (Cascadia Subduction Zone and Crustal)

The Steering Committee rated the District's probability of occurrence for a Cascadia Subduction Zone (CSZ) event as "low" (which is the same as the County's rating) **and their vulnerability as "high"** (which is higher than the County's rating)**. The Steering Committee rated the District's probability of occurrence for a Crustal Earthquake event as "low"** (which is the same as the County's rating) **and their vulnerability as "high"** (which is higher than the County's rating) **and that their vulnerability as "high"** (which is the same as the County's rating).

Volume I, Section 2 describes the characteristics of earthquake hazards, history, as well as the location and extent of a potential event. Generally, an event that affects the County is likely to affect the District more severely. The liquefaction potential is significant and expected shaking is stronger as well. The causes and characteristics of an earthquake event are appropriately described within the County's NHMP, as well as the location and extent of potential hazards. Previous occurrences are well-documented within the County's plan. The community impacts described by the County would occur within the District to a greater extent: weak buildings would collapse, and stable buildings would suffer damage.

Earthquake-induced damages are difficult to predict and depend on the size, type, and location of the earthquake, as well as site-specific building and soil characteristics. Presently, it is not possible to accurately forecast the location or size of earthquakes, but it is possible to predict the behavior of soil at any particular site. In many major earthquakes, damage has primarily been caused by the behavior of the soil. As shown in Map WFD-2**Error! Reference source not found.**, the District would be subject to "moderate" to "high" soil liquefaction.

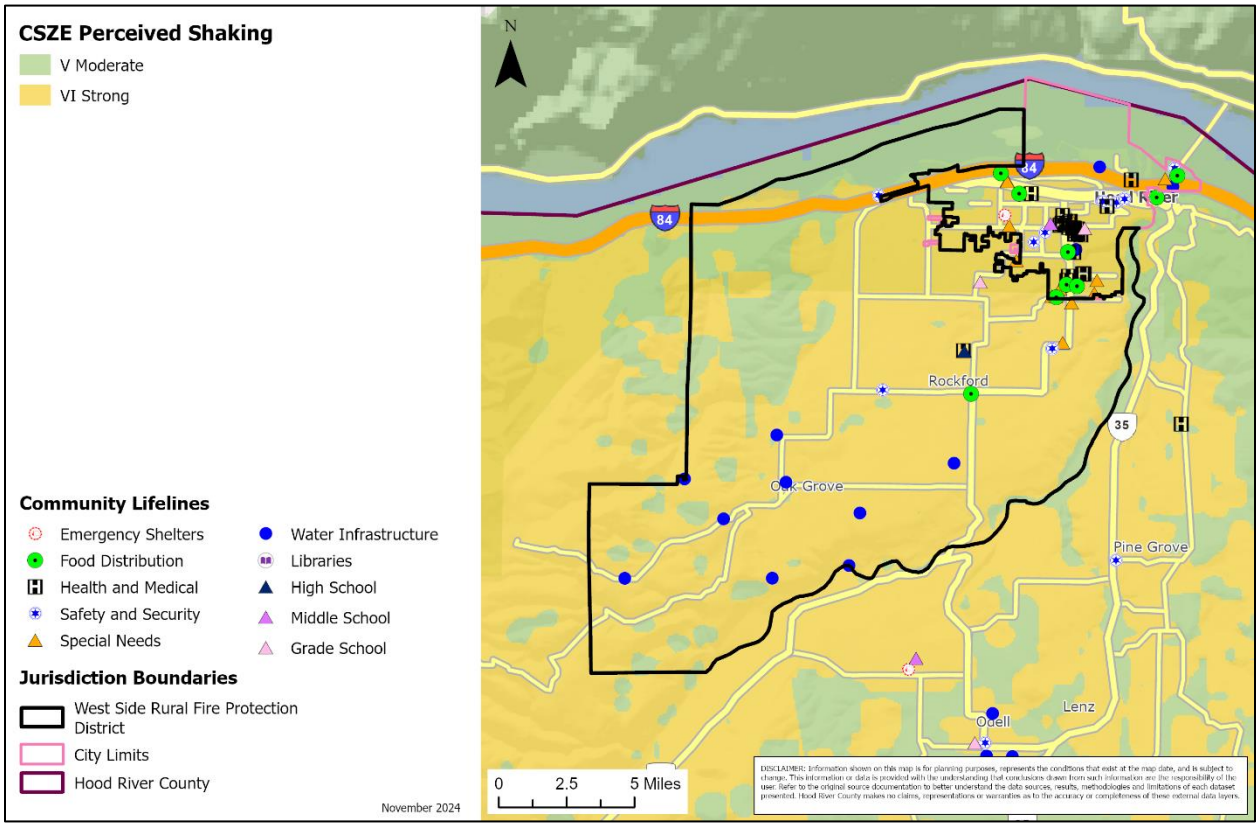
Map WFD-2 Crustal Earthquake Liquefaction Susceptibility and Community Lifelines



Source: Mapping by OPDR.
Data from Hood River County and Oregon Department of Geology and Mineral Industries HazVu website.

Map WFD-3 shows the expected shaking/damage potential for the District due to a CSZ earthquake event. The figure shows that most of the District will experience "strong" shaking that will last three to five minutes. The shaking will be extremely damaging to transportation routes including Interstate 84 and bridges throughout the County.

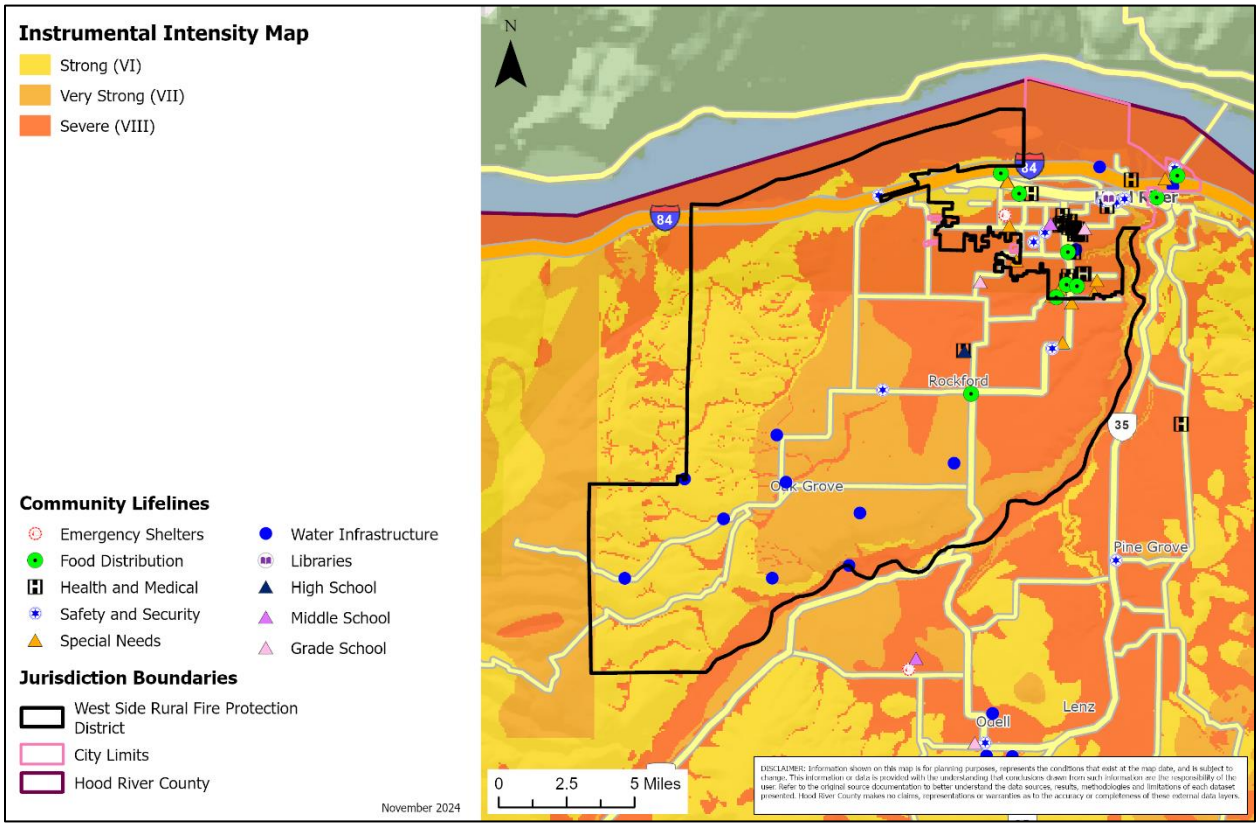
Map WFD-3 Cascadia Subduction Zone Perceived Shaking and Community Lifelines



Source: Mapping by OPDR.
Data from Hood River County and Oregon Department of Geology and Mineral Industries HazVu website.

Map WFD-4 depicts predicted earthquake intensity from a crustal earthquake or CSZ event in the District. Intensity varies across the entire District, with the most intense areas following in the most populated portion of the District closer to the City of Hood River.

Map WFD-4 Predicted Earthquake Intensity and Community Lifelines



Source: Mapping by OPDR.
Data from Hood River County and Oregon Department of Geology and Mineral Industries HazVu website.

Information on specific District buildings' estimated seismic resistance, determined by DOGAMI in 2007 via their Rapid Visual Screening, is shown in Table WFD-4. Each "X" represents one building within that ranking category. Of the buildings evaluated by DOGAMI using RVS, two (2) have a high (>10%) collapse potential and one (1) has a low collapse potential (<1%). However, both of the buildings owned by the District have received seismic retrofits since this was report was issued (construction was completed in 2020).

Table WFD-4 Rapid Visual Screening Scores

Facility	Address	Site ID	Level of Collapse Potential			
			Low (<1%)	Moderate (>1%)	High (>10%)	Very High (100%)
Westside RFPD (Main Station) and Shelter*	1185 Tucker Rd, Hood River	Hood_fir07	X		X	
Westside RFPD (Remote Station and Shelter)*	4250 Barrett Dr, Hood River	Hood_fir04			X	

Source: Lewis, D. (2007). *Open-File Report O-07-02, Statewide seismic needs assessment: Implementation of Oregon 2005 Senate Bill 2 relating to public safety, earthquakes, and seismic rehabilitation of public buildings.* Oregon Department of Geology and Mineral Industries. https://pubs.oregon.gov/dogami/ofr/p-O-07-02.htm.
* = Building has been rebuilt or retrofit since this DOGAMI study was conducted in 2007.

Both District fire stations have received seismic retrofits since DOGAMI conducted this survey.

In addition to building damage, transportation systems (bridges, pipelines) and utility systems will also be significantly damaged, including damaged buildings and utility infrastructure such as water treatment plants and equipment at high voltage substations (especially 230 kV or higher which are more vulnerable than lower voltage substations). Buried pipe systems will suffer extensive damage with approximately one break per mile in soft soil areas. Restoration of utility services will require substantial mutual aid from utilities outside of the affected area.

Development and population forecasts are not expected to increase or decrease the impact of this hazard.

Extreme Heat

The Steering Committee rated the District's probability of occurrence for extreme heat events as "moderate" (which is the same as the County's rating) **and their vulnerability as "high"** (which is higher than the County's rating).

Volume I, Section 2 describes the causes and characteristics of extreme heat, as well as the history, location, extent, and probability of a potential event and how it relates to future climate projections. Extreme temperatures are measured as days with a heat index above 90 degrees. Extreme heat events can and have occurred in the District, but they have not led to either loss of life or significant call volume in the District.

The population of adults aged 65 and older is increasing within this jurisdiction. As a result, the impact of this hazard may increase.

Flood

The Steering Committee rated the District's probability of occurrence for flood events as "low" (which is the same as the County's rating) **and their vulnerability as "low"** (which is the same as the County's rating).

Volume I, Section 2 describes the causes and characteristics of flooding hazards within the region, as well as previous flooding occurrences. General flood-related community impacts are adequately described within the Flood Hazard Annex of Hood River County's Natural Hazards Mitigation Plan. Damage from floods has been insignificant historically in the County and is not a concern for the District.

The District does not have the authority to adopt and enforce floodplain management or other land use regulations for the areas within its jurisdiction.

Development and population forecasts are not expected to increase or decrease the impact of this hazard.

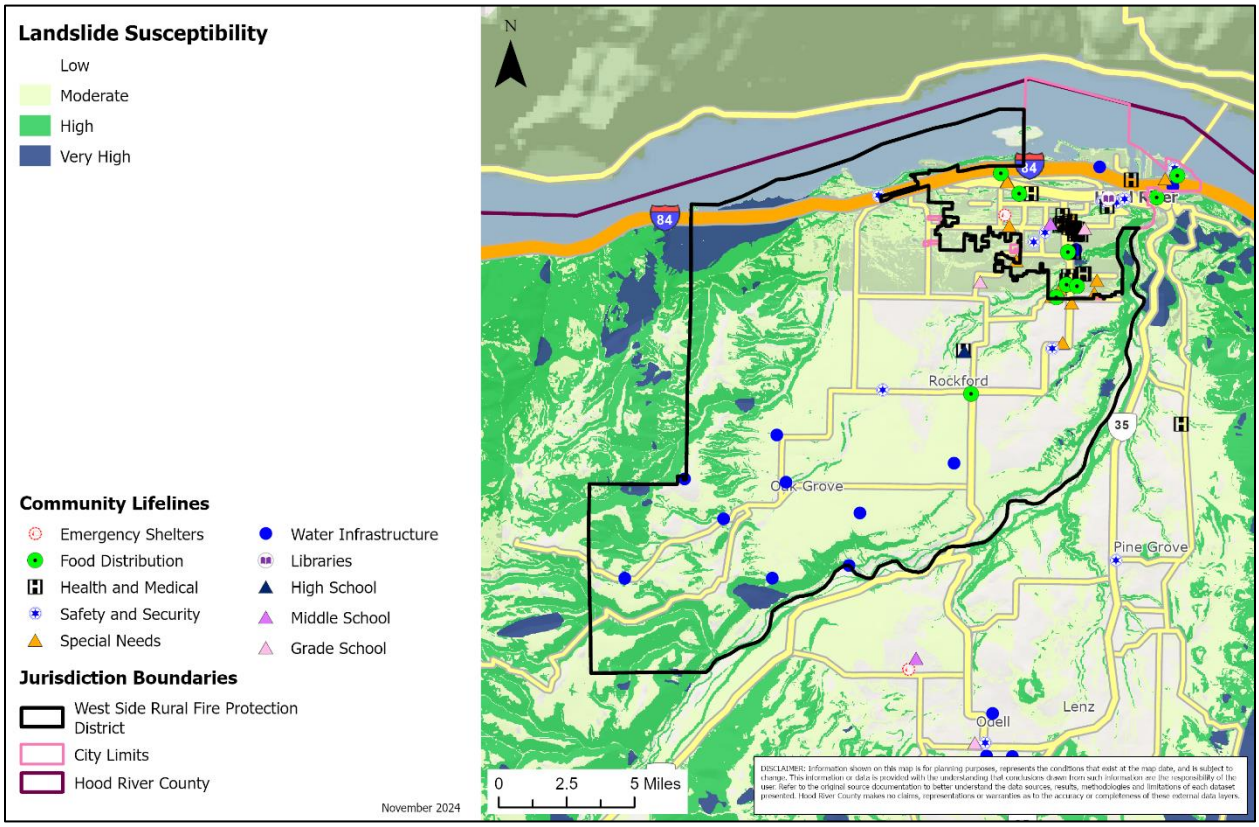
Landslide/Debris Flow

The Steering Committee rated the District's probability of occurrence for extreme heat events as "high" (which is the same as the County's rating) and their vulnerability as "moderate" (which is the same as the County's rating).

Volume I, Section 2 describes the characteristics of landslide hazards, history, and the location, extent, and probability of a potential event within the region. Landslide susceptibility exposure for the District is shown in Map WFD-5. As the map demonstrates, most of the District has "moderate" to "high" susceptibility, with the northwest corner experiencing "very high" susceptibility.

Note that even if an area has a high percentage of land in a high or very high landslide exposure susceptibility zone, that does not mean there is a high risk (vulnerability), because risk is the intersection of a hazard and assets.

Map WFD-5 Landslide Susceptibility Exposure and Community Lifelines



Source: Mapping by OPDR.
Data from Hood River County and Oregon Department of Geology and Mineral Industries HazVu website.

Potential landslide-related impacts are described within the County's NHMP, and include infrastructural damages, economic impacts (due to isolation and/or arterial road closures), property damages, and obstruction to evacuation routes. Rain-induced landslides and debris flows can potentially occur during any winter in Hood River County, and highway and other major roads throughout the District are susceptible to obstruction as well. Landslides have historically blocked major roads and cut off transportation about once every ten years. The District is especially concerned about impacts to both I-84 and Highway 281 as well as residences along the steep cliffsides in the northwest corner of the District.

Development and population forecasts are not expected to increase or decrease the impact of this hazard.

Volcanic Event

The Steering Committee rated the District's probability of occurrence for volcanic events as "low" (which is the same as the County's rating) **and their vulnerability as "moderate"** (which is the same as the County's rating).

Volume I, Section 2 describes the District's risk to volcanic events. The causes and characteristics of a volcanic event are appropriately described within the County's plan, as well as the location and extent of potential hazards. Previous occurrences are well-documented within the County's plan, and the community impacts described by the County would generally be the same for the District as well. When Mt. Saint Helens erupted in 1980, the City of Hood River received ash fall, but the City of Cascade Locks did not experience any impacts.

Due to the nature of the hazard, it is extremely challenging to predict the location or extent of future events with any probability, although it can be assumed that all residential and critical facilities and infrastructure within the County are at risk.

Development and population forecasts are not expected to increase or decrease the impact of this hazard.

Wildfire

The Steering Committee rated the District's probability of occurrence for wildfire events as "high" (which is the same as the County's rating) **and their vulnerability as also "high"** (which is the same as the County's rating).

Volume I, Section 2 describes the causes and characteristics of wildfires, as well as the County and City's history of wildfire events. The potential community impacts and vulnerabilities described in the County's NHMP are generally accurate for the District as well. Several significant wildfire events have occurred in the County, the most recent being the Eagle Creek Fire (September – November 2017), a declared conflagration which was the top priority fire nationally for two weeks and burned nearly 50,000 acres throughout the region. The location and extent of wildfires vary depending on fuel, topography, and weather conditions. Adjacency to forest land and steep slopes create conditions conducive to wildfires.

Map WFD-6 and Map WFD-7 show the wildfire hazard (using integrated expected net value change) and burn probability for the District, respectively. Most of the City lies within "high" or "moderate" loss areas. Burn probability varies significantly, ranging from "very low" to "low" on the east side of the District adjacent to Hood River and rising to "moderate" to "high moderate" on the western and southern sides.

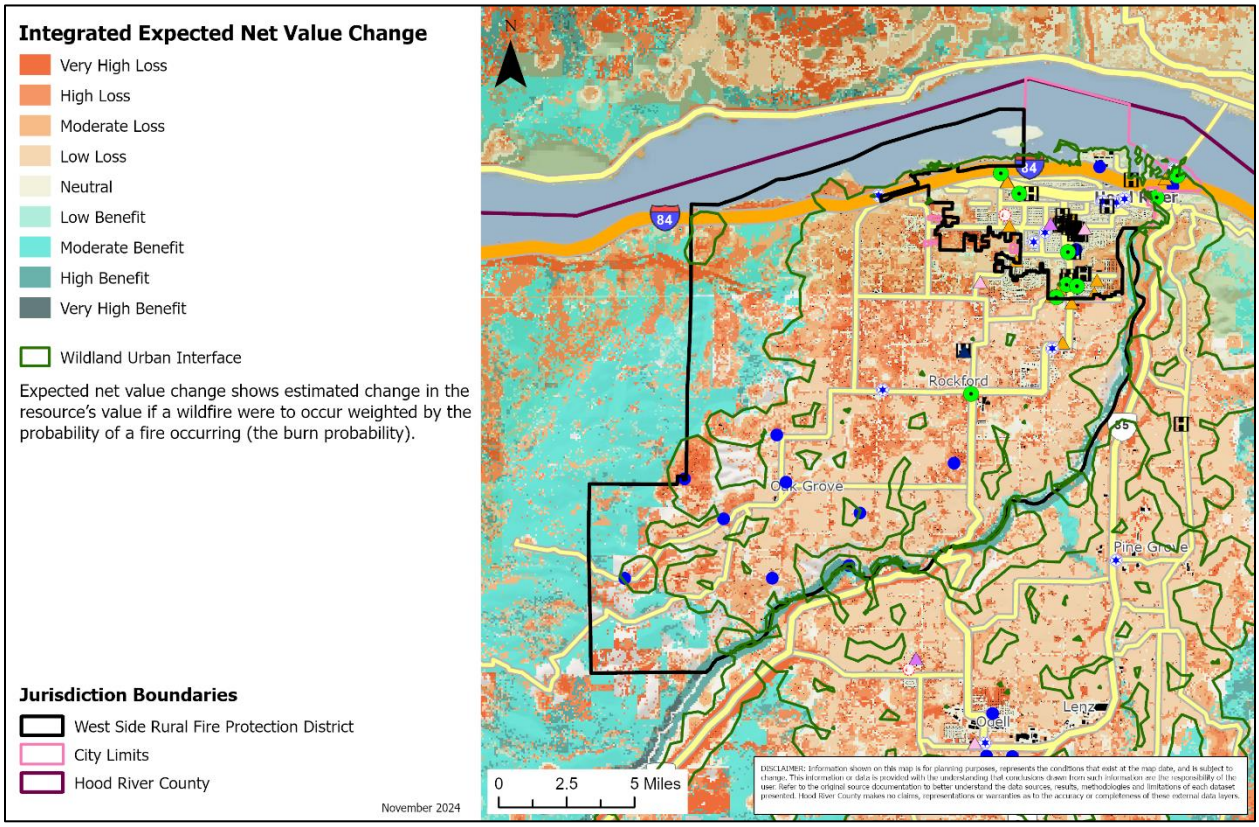
For wildfire hazard (Map WFD-6), the integrated expected net value change map shows the estimated change in the resource's value if a wildfire were to occur weighted by the probability of a fire occurring (also known as the burn probability).

The main areas of concern for the District are detailed in the fuels reduction projects identified in Volume IV, Community Wildfire Protection Plan (CWPP). However, the District is particularly concerned about the following areas:

- The I-84 transportation corridor and adjacent residential neighborhoods;
- The northwest corner of the District, where residences are located along steep slopes with limited ingress/egress; and

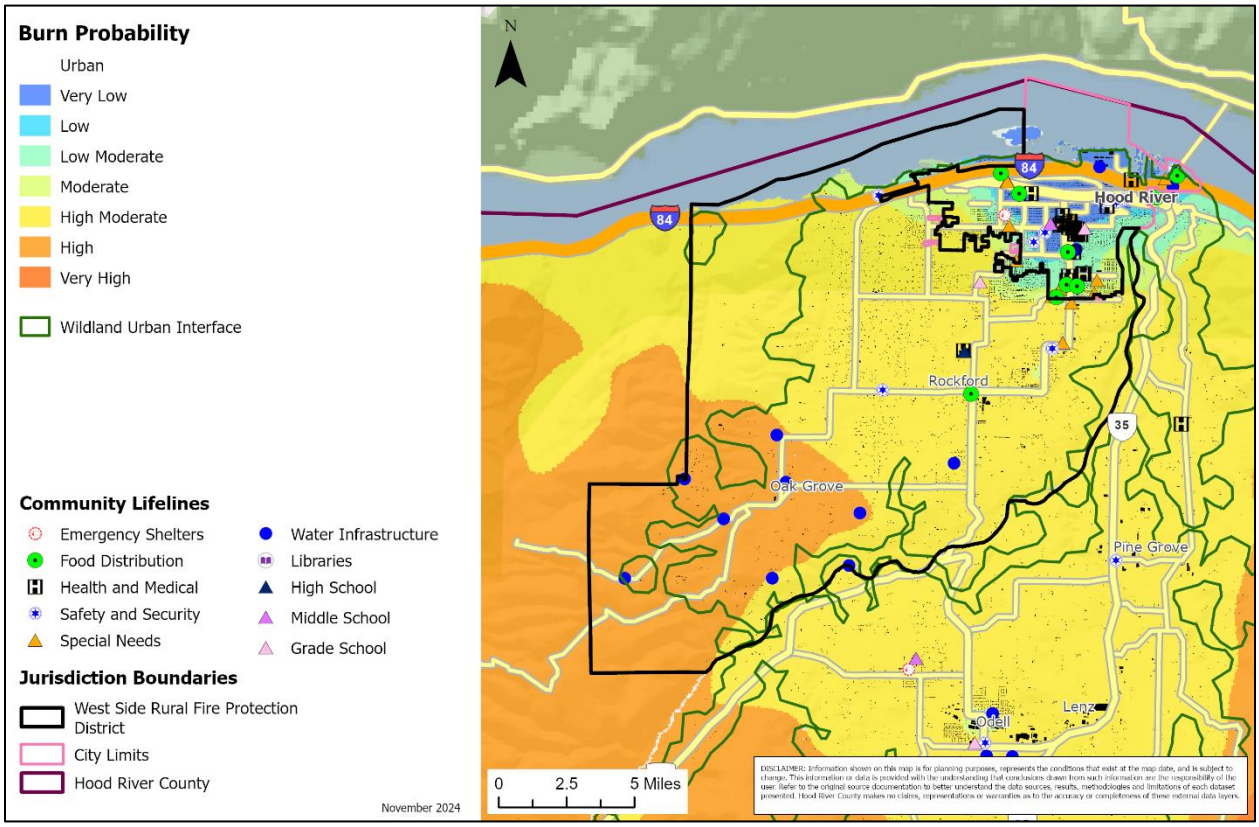
- The significant amount of land in more rural areas of the District formally categorized as "irrigated cropland" – thus theoretically being lower risk and lower burn probability – but that are not well maintained, potentially creating a false sense of security.

Map WFD-6 Wildfire Hazard and Community Lifelines



Source: Mapping by OPDR.
Data from USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA) and Oregon Explorer's CWPP Planning Tool.

Map WFD-7 Burn Probability and Community Lifelines



Source: Mapping by OPDR.
Data from USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA) and Oregon Explorer's CWPP Planning Tool.

Hood River County developed a CWPP in 2013 and updated the CWPP in 2025. This can be found in Volume IV. A CWPP maps wildland urban interface areas and includes actions to mitigate wildfire risk. The West Side Fire District was a participant in both the 2013 and 2025 CWPPs and carries out an array of activities to support wildfire fighting, including coordinating a student firefighter program with Hood River Valley High School and Horizon Christian School.

Development and population forecasts are not expected to increase or decrease the impact of this hazard.

Windstorm

The Steering Committee rated the District's probability of occurrence for windstorm events as "moderate" (which is the same as the County's rating) **and their vulnerability as also "moderate"** (which is the same as the County's rating).

Volume I, Section 2 describes the causes and characteristics of windstorms, as well as the location and extent of windstorm hazards. The region's (and District's) history of events is adequately described within the County's plan as well. Because windstorms typically occur during winter months, they are sometimes accompanied by ice, freezing rain, flooding, and very rarely, snow. For the purposes of this plan, windstorms are considered an individual hazard, distinct from winter storms. Alone, they have much lower potential to affect District. Hood River

County's plan adequately describes the impacts caused by windstorms, including power outages, downed trees, and storm-related debris. These are not a significant concern for the District.

Due to the nature of the hazard, it is extremely challenging to predict the location or extent of future events with any probability, although it can be assumed that all residential and critical facilities and infrastructure within the District are at risk.

Development and population forecasts are not expected to increase or decrease the impact of this hazard.

Winter Storm

The Steering Committee rated the District's probability of occurrence for winter storm events as "high" (which is the same as the County's rating) **and their vulnerability as also "high"** (which is the same as the County's rating).

Volume I, Section 2 describes the causes and characteristics of winter storms, as well as the location and extent of winter storm hazards. In general, the District experiences more rain and higher severity of winter storm impacts than the County. The region's (and District's) history of events is adequately described within the county's plan. Severe winter storms can consist of rain, freezing rain, ice, snow, extreme cold, sleet, and wind. They originate from frigid air moving westward out of the Wallowa Mountains through the Columbia River. Mid-latitude storms approaching from the West are forced to rise as they encounter the Cascades, releasing large amounts of precipitation on the western slopes. These storms are most common from November through March and are an annual occurrence. Prolonged heavy rains cause the ground to become saturated and often result in local flooding and landslides.

Major winter storms can and have occurred in the region, and while they typically do not cause significant damage, they are frequent and have the potential to impact economic activity. Road closures on major roads due to winter weather can interrupt commuter and large truck traffic, including food and fuel supply. I-84 closes nearly every year, which significant reduces traffic on roads during and after storms. However, the District still sees increased call volume due to winter storms every year and struggles to fight fires and move through transportation corridors during below freezing temperatures.

Due to the nature of the hazard, it is extremely challenging to predict the location or extent of future events with any probability, although it can be assumed that all residential and critical facilities and infrastructure within the District are at risk.

Development and population forecasts are not expected to increase or decrease the impact of this hazard.

Attachment A: Public Involvement Summary

Members of the Steering Committee provided edits and updates to the NHMP prior to the public review period as reflected in the final document. In addition, a survey was distributed that included responses from residents of the District (Volume II, Appendix G).

To provide the public information regarding the draft NHMP addendum, and provide an opportunity for comment, an announcement was provided for 15 days from November 19 to December 4, 2024 on the County's website. Comments were reviewed and integrated into the NHMP as applicable. Additional opportunities for stakeholders and the public to be involved in the planning process are addressed in Volume II, Appendix C.

A diverse array of agencies and organizations were provided an opportunity to provide input to inform the plan's content through a variety of mechanisms including the opportunity for comment on the draft plan. The agencies and organizations represent local and regional agencies involved in hazard mitigation activities, those that have the authority to regulate development, neighboring communities, representatives of businesses, academia, and other private organizations, and representatives of nonprofit organizations, including community-based organizations, that work directly with and/or provide support to underserved communities and socially vulnerable populations. For more information on the engagement strategy see Volume II, Appendix C.

West Side Fire District Steering Committee

Steering Committee members possessed familiarity with the County community and how it is affected by natural hazard events. The Steering Committee guided the update process through several steps including goal confirmation and prioritization, action item review and development, and information sharing, to update the NHMP and to make the NHMP as comprehensive as possible. The Steering Committee met formally on the following dates:

Meeting #1: West Side Fire District Steering Committee, May 29, 2024 (virtually via Zoom)
During this meeting, the Steering Committee were provided updates on hazard mitigation planning, the NHMP update process, and project timeline. The Steering Committee:

- Updated recent history of hazard events in the District.
- Reviewed and confirmed the County NHMP's mission and goals.
- Discussed the NHMP public outreach strategy.
- Reviewed and provided feedback on the draft risk assessment update including community vulnerabilities and hazard information.
- Developed their mitigation strategy (actions).

- Developed their implementation and maintenance program.

Meeting Attendees:

- Doug Kelly, Chief Administrative Officer/Fire Marshal
- Matthew Adams, Captain