

Table 8-E. City of Union Gap 2022 Hazard Mitigation Strategy

Action #	Hazard	Action Items	Coordinating Organization	Participating Jurisdictions and Supporting Agencies	Priority
65	Multi-Hazard	Develop, enhance, and implement education programs aimed at mitigating hazards and reducing the risk to residents, public agencies, private property owners, businesses, and schools. Provide training and technical assistance for jurisdictions and emergency services providers to create Continuity of Operations Planning (COOP) planning programs. Integrate IT and cyber considerations within COOP resources.	Yakima Valley Office of Emergency Management	Yakima County Flood Control Zone District, Yakima County Public Services, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County	HIGH
67	Multi-Hazard	Support jurisdictions in updating and/or developing Continuity of Government (COG) Plans.	Yakima Valley Office of Emergency Management	Yakima County IT, City of Yakima IT, Yakima County Flood Control Zone District, Yakima County Fire Districts, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County	HIGH
68	Multi-Hazard	Support jurisdictions in updating and/or developing Continuity of Government (COG) Plans.	Yakima Valley Office of Emergency Management	City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County	HIGH

Annex 9. City of Yakima

Yakima is located in south-central Washington. Yakima has 27.18 square miles of land area and 0.51 square miles of water area. As of the 2020 Census, the City of Yakima population is 96,968. Yakima is the county seat for Yakima County, and includes essential critical facilities and infrastructure, including Yakima Airport, I-82, Highway 24, and Highway 12, as well as two railways. The cities of Selah and Union Gap lie immediately to the north and south of Yakima. In addition, the unincorporated suburban areas of West Valley and Terrace Heights are considered a part of greater Yakima.

The primary irrigation source for the Yakima Valley, the Yakima River, runs through Yakima from its source at Lake Keechelus, Lake Kachess, Lake Cle Elum, Bumping Lake, and Rimrock Lake in the Cascade Range to the Columbia River at Richland. In Yakima, the river is used for both fishing and recreation. A 30-mile walking and cycling trail and wildlife sanctuary, Greenway Park, is located at the river's edge. The Naches River forms the northern border and the Yakima River the eastern border of the city.

Hazard Identification and Risk Assessment

Representatives from the City of Yakima actively participated in the 2022 HMP Update as members of the planning committee. In addition to the countywide risk assessment, the City of Yakima identified the hazards that affect the city and revised the risk assessment to reflect probability, frequency, and potential impacts, as summarized in **Table 9-A** below. In the context of the countywide planning area, there are no hazards that are unique to the City of Yakima. Information on past events for each hazard can be found in Section 3 (Hazard Identification and Risk Assessment) in the base plan.

Natural Hazards	2022 Countywide Risk Ranking	2022 City of Yakima Risk Ranking
Agriculture Disease Outbreak	Medium	Medium
Avalanche	Low	Low
Drought	Medium	Medium
Earthquake	Low	Low
Extreme Temperatures	Medium	Medium
Flood	High	High
Landslide/Mudslide/Debris Torrent/Erosion	Medium	Medium
Public Health Emergency	High	High
Severe Weather	Medium	Medium
Severe Winter Storm	High	High
Volcanic Eruption	Low	Low
Wildfire	High	High
Technological and Human-caused Hazards	2022 Countywide Risk Ranking	2022 City of Yakima Risk Ranking
Cyber Incident	Medium	Medium
Dam and Levee Failure	High	High
Hazardous Materials Incident	High	High

Table 9-A. Hazard Identification and Risk Assessment – City of Yakima		
Nuclear/Radiological Incident	Low	Low
Terrorism	Low	Low

All risk levels for the City of Yakima hazards/threats are consistent with the county rankings. Specific hazard areas and vulnerabilities are described below.

- **Avalanche:** Yakima is located outside of the identified avalanche hazard area. Yakima could be impacted by a closure of US-12 and I-90 due to avalanches if it was for a long duration. When Snoqualmie Pass (I-90) and White Pass (US-12) close for avalanches, Yakima is impacted by local congestion and short-term supply chain disruptions.
- **Drought:** Drought can impact the entirety of Yakima County, including the City of Yakima. Agricultural products make up a significant portion of Yakima’s local economy, which may be vulnerable to prolonged drought conditions. Yakima’s Water/Irrigation Division has an emergency plan that integrates drought considerations. This emergency plan focuses on minimizing interruptions to city municipal water sources, affecting industries, businesses and homeowners. Mitigation efforts include an underground water storage project. The City currently has 4 wells that store water underground that can be tapped into during dry weather. Yakima is working to expand this water storage to incorporate two more wells and create an Aquifer Storage and Recovery site. This project started in 1988. In the next 3-5 years, two more well sites will be completed. Project completion is anticipated by 2030.
- **Earthquake:** The seismic risk for City of Yakima is consistent to the rest of Yakima County. There are no active faults running through Yakima, and the city does not have a record of historic earthquake damages. Most critical facilities in Yakima have been built to modern seismic standards, and there are no critical facilities of acute concern, although the City has not conducted a comprehensive assessment of seismic risk.
- **Extreme Temperatures:** Extreme temperatures can impact the entirety of Yakima County, including Yakima. Vulnerable populations include people living in nursing homes or care facilities, elderly, people working outside, and people experiencing homelessness.
- **Flood:** The City of Yakima is bounded by the Yakima River to the east and the Naches River to the north. Additionally, the Ahtanum, Wide-Hollow, Cowiche, and Bachelor creeks run along the south and southwestern section of the city. Flooding from these creeks led to flooding in Yakima in 2016 and 2017, the most significant flooding during the HMP analysis period (2015-2021). A complete summary of this flood event is provided as **Appendix 9-A**. Frequency analysis for the Yakima, Cowiche Creek, and Naches Rivers indicate that the 100-year flood has not been attained within the current flow record. Flooding in 1996 was estimated at a 50-year flood on the Naches and 70-year flood on the Yakima River. The tributaries located on the western city limits Cowiche Creek, and southern city limits Ahtanum, and Wide-Hollow, have produced significant flood damage and are considered most flood prone. Substantial residential, commercial, and industrial development lies within these various 100-year floodplains. New development in the floodplain increases the likelihood of flood damages in two ways. First, new developments near a flood plain add structures and people in flood

areas. Secondly, new construction alters surface water flows by diverting water to new courses or increases the amount of water that runs off impermeable pavement and roof surfaces. This second effect diverts waters to places previously safe from flooding. Developments in the City's flood hazard areas are regulated by Title 15 Urban Area Zoning Ordinance.

- **Landslide:** Yakima has low susceptibility and low incidence of landslides. Major transportation corridors north of the city may be impacted by landslides or similar incidents. The ongoing, slow movement landslide on Rattlesnake Ridge near Union Gap had the potential to create significant impacts in Yakima, including a 72-hour river diversion and subsequent flooding and transportation disruptions.
- **Severe Weather:** Severe weather can impact the entirety of Yakima County, including the City. There is some historic record of severe storms within Yakima, including hail, wind events, and an EF-2 tornado in 1957. Yakima has a limited history of long-duration power outages. Most critical facilities have some back-up power, but the power sources are only adequate for limited operations. One Yakima Fire Department station requires a generator replacement, as indicated in the Capital Improvement Plan. Other critical facilities that may require improvements in back-up power are well sites and emergency shelters.
- **Severe Winter Weather:** Severe winter weather can impact the entirety of Yakima County, including Yakima. Residents in the city have seen some damages to roofs from heavy snow events, including in 1996. The City has adequate resources for plowing and clearing critical roadways, including contracted services for redundancy. Limited fuel supplies may pose some challenges during a long-duration event. Vulnerable populations are noted in the Extreme Temperatures hazard above.
- **Volcanic Eruption:** Volcanic hazards, specifically ash fall, can impact the entirety of Yakima County, including Yakima. The city is not located within the Mt. Adams hazard zone but would be impacted by ash fall from numerous Cascades volcanoes, including Mt. Rainier, Mt. St. Helens, and Mt. Adams.
- **Wildfire:** Yakima does not have a higher wildfire hazard potential than other Yakima County communities and would be similarly impacted by smoke and poor air quality. Elderly people in the community are vulnerable to poor air quality and may benefit from clean air shelters. Yakima has four areas of concern along its urban boundary, including the Yakima Greenway, Scenic Drive area (including steep sloped and undeveloped areas), Cowiche Canyon, and Ahtanum Ridge to the south.
- **Dam/Levee Failure:** Yakima is located in the inundation area of several dams, including the Bumping, Keechelus, Kachess, Roza, Tieton, and Cle Elum dams. All four dams are operated by the U.S. Bureau of Land Reclamation. All are considered High Hazard Potential dams, with a class rating of 1A by the Washington Department of Ecology, indicating more than 300 lives are at risk due to failure. During the 2017 flooding event described above, high flows on Cowiche Creek caused a section of a levee that had previously been damaged to breach, opening a 20-foot-wide gap. The water followed along Highway 12 with the bulk of the water flowing into an irrigation canal.
- **Hazardous Materials:** Yakima is at high risk to hazardous materials incidents due to its location along I-82 and the crossing of the Union Pacific Railroad, both major

transportation routes for hazardous materials. Additionally, there are many fixed facilities that store hazardous materials within the city, including more than 45 facilities storing anhydrous ammonia, five propane distributors, and multiple facilities storing chlorine. Yakima and Union Gap have a combined fire department that is well-equipped to respond to hazardous materials incidents and drill regularly. Yakima does not have a recent history of significant hazardous materials incidents. Two small incidents, including a semi-truck turnover and a leaking rail car, required initial incident response by Yakima Fire Department.

Capability Assessment

Capabilities are the programs and policies currently in use that could be used to implement the hazard mitigation strategy. Local capabilities may include regulatory tools such as plans and ordinances, administrative and technical expertise, or fiscal resources.

Regulatory Capabilities

The City of Yakima last adopted its municipal code in July 2022 and its Comprehensive Plan in 2017. **Table 9-B** lists key indicators of legal and regulatory capability to implement mitigation projects that are specific to the City of Yakima.

Table 9-B. City of Yakima Legal and Regulatory Capability Assessment				
Indicator	Local Authority	County Run	Other Authority	Comments
<i>Codes and Ordinances</i>				
Building Code	Yes			Title 11 of the Yakima Municipal Code (YMC) establishes building and construction codes and regulations.
Zoning	Yes			Title 15 of the YMC establishes the local zoning ordinance.
Hazard-specific	Yes			Title 17 of the YMC is inclusive of the Critical Areas Ordinance, which establishes standards for Flood Hazard Areas and Geologically Hazardous Areas.
Subdivisions	Yes			Title 14 of the YMC establishes the local subdivision ordinance.
Stormwater Management	Yes			Title 12 of the YMC addresses development standards, including mechanisms to ensure stormwater management and control. Title 7 addresses stormwater management by city utilities. Yakima also participates in the Yakima Regional Stormwater Group which reviews regional stormwater policies and permitting processes.
Growth Management			Yes	The Washington State Growth Management Act (RCW Chapter 36.70A) directs growth management and comprehensive planning for Washington cities and counties.
Public Health and Safety	Yes			Title 6 of the YMC addresses some public health and safety standards, while Title 1 outlines the administration of public safety agencies, including police and fire.
Environmental Protection	Yes			Yakima adopted a critical areas ordinance as a part of the Shoreline Master Program, which includes

Table 9-B. City of Yakima Legal and Regulatory Capability Assessment				
Indicator	Local Authority	County Run	Other Authority	Comments
				procedures for protecting wetlands, fish and wildlife habitat conservation areas, areas subject to certain hazards, and other environmentally sensitive lands.
Planning Documents				
Comprehensive	Yes			Yakima last updated its Comprehensive Plan in 2017.
Environmental Protection	Yes			Yakima last updated its Stormwater Management Plan in 2022.
Transportation			Yes	The Yakima Valley Conference of Governments manages the Yakima Valley Metropolitan and Regional Transportation Plan, last updated in 2020.
Response/Recovery Planning				
Comprehensive Emergency Management Plan (CEMP)			Yes	Yakima is a member of the Yakima Valley Emergency Management and Yakima County Emergency Services Council. The Yakima CEMP is an Annex to the Yakima County CEMP and was updated in 2019. Various annexes to the City of Yakima CEMP have been updated more recently.
Community Wildfire Protection Plan (CWPP)			Yes	Yakima Fire Department participated in the 2022 update of the CWPP.
Continuity of Operations Plan (COOP)	Yes			Various City of Yakima departments have COOPs, including the Public Works Department. Yakima has not adopted a Continuity of Government plan.

Administrative and Technical Capabilities

As the County seat and largest city, Yakima has a larger municipal structure than some of its neighboring cities, with various departments including community development, community services, engineering, finance, parks, public works, transit, Yakima Police Department, and the combined Yakima Fire Department. Hazard mitigation administrative and technical capacity is primarily supported by the City Administrator, Public Works Department, fire and police, and some contracted services.

Table 9-C. City of Yakima Administrative and Technical Capability Assessment		
Indicator	Available	Comments
Planners or engineers with knowledge of land development and land management	Yes	Public Works and Community Development
Engineers or professionals trained in building or infrastructure construction	Yes	Building Official and City Engineer
Planners or engineers with an understanding of natural hazards	Yes	Building Official and City Engineer
Surveyors	Yes	Contracted Services
Personnel skilled or trained in GIS	Yes	City GIS Department
Emergency manager	Yes	The Yakima Fire Chief leads emergency management for the city, with support from Yakima Valley Emergency Management. The Public Works Department activates a Department Operations Center, and the Department Director serves as liaison to city Emergency Operations Center.
Floodplain manager	Yes	YMC 15.27.400 identifies the Division of Community and Economic Development as the Administrative Official/Floodplain, and Floodplain management is an auxiliary duty of this position or designee.
Grant writers	Yes	City Grantwriter; Department Heads; Contracted Services
Other		

National Flood Insurance Program

The City of Yakima participates in the National Flood Insurance Program (NFIP) (CID #530311D) and the last FIRM map for the area was issued on 10/21/21 (FEMA, 2022). The City of Yakima does not currently participate in the Community Rating System (CRS) program.

Table 9-D describes floodplain management capabilities and NFIP program compliance for the City of Yakima. The City of Yakima Department of Community and Economic Development currently provides permit review of construction of structures within the floodplain through its Critical Area Ordinance and building codes, inspection of structures built within the FEMA 100-year floodplain, review of flood elevation certificates and retention, GIS mapping of FEMA Floodplain maps, and public outreach through funding of the Yakima County Flood Control District.

Table 9-D. National Flood Insurance Program Compliance and Capabilities	
What department is responsible for floodplain management in your jurisdiction?	Community and Economic Development
Are any certified floodplain managers on staff in your jurisdiction?	Yes
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, please state what they are.	No
Do your flood hazard maps adequately address the flood risk within your jurisdiction? (If no, please state why)	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	No
Does your jurisdiction participate in the Community Rating System (CRS)? If so, is your jurisdiction seeking to improve its CRS Classification? If not, is your jurisdiction interested in joining the CRS program?	No

Mitigation Strategy

The City of Yakima identified and prioritized mitigation actions as a part of the countywide mitigation strategy. Yakima is included as either the coordinating agency or a partner agency on the actions listed in Table 9-E. The complete 2022 Hazard Mitigation Strategy is included as [Appendix E](#) to the base plan.

Table 9-E. City of Yakima 2022 Hazard Mitigation Strategy

Action #	Hazard	Action Items	Coordinating Organization	Participating Jurisdictions and Supporting Agencies	Priority
3	Avalanche Earthquake Landslide/Erosion Volcanic Eruption	Manage development in geologic hazard areas to reduce risk to existing and future development, as outlined in municipal codes and comprehensive plans.	City/Town Planning Departments and Building Officials	City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches	MODERATE
4	Cyber Threat/Attack	Complete a Security Risk Assessment to prioritize mediation tasks and mitigate vulnerabilities.	Yakima County Information Technology, City of Yakima Information Technology	Yakima Valley Emergency Management, Yakima County Fire Districts, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County	HIGH
6	Cyber Threat/Attack	Expand regular self-phishing and testing programs for City of Selah and City of Union Gap IT networks.	City of Yakima Information Technology	City of Selah, City of Union Gap, City of Yakima	HIGH
7	Cyber Threat/Attack	Conduct training and exercises for cyber intrusions and other cyber threats to critical facilities, infrastructure, and government operations.	Yakima County Information Technology, City of Yakima Information Technology	Yakima Valley Emergency Management, Yakima County Fire Districts, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches	HIGH

Table 9-E. City of Yakima 2022 Hazard Mitigation Strategy

Action #	Hazard	Action Items	Coordinating Organization	Participating Jurisdictions and Supporting Agencies	Priority
9	Dam/Levee Failure Landslide/Erosion Flooding	Implement the Gap to Gap Ecosystem Restoration Project by setting back levees and reconnecting the floodplain. Continue implementation of drought risk reduction and water management projects through the Yakima Basin Integrated Plan, including identifying new surface and aquifer storage options.	Yakima County Flood Control Zone District	U.S. Army Corps of Engineers, City of Yakima, Yakima County	HIGH
10	Drought		Yakima River Basin Water Enhancement Project Work Group (Integrated Plan)	Yakima County, City of Yakima, City of Tieton (Yakima-Tieton Irrigation District, City of Sunnyside (Sunnyside Valley and Roza Irrigation Districts)	MODERATE
14	Earthquake	Continue participation in the Great Shakeout program to increase earthquake risk awareness across the county.	Yakima Valley Office of Emergency Management	City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches	HIGH
18	Earthquake Severe Weather Severe Winter Storm	Develop an inventory of at-risk critical facilities and infrastructure, including unreinforced masonry and transportation assets, and prioritize projects.	Yakima Valley Office of Emergency Management	Yakima County GIS, Yakima County Public Services/Permit Services, Yakima County Fire Districts, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches	HIGH
19	Earthquake Severe Weather Severe Winter Weather Wildfire	Secure funding to purchase back-up power generators for critical facilities, including fire stations, emergency shelters, mass	Yakima Valley Office of Emergency Management	Yakima County Fire Districts, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of	MODERATE

Table 9-E. City of Yakima 2022 Hazard Mitigation Strategy

Action #	Hazard	Action Items	Coordinating Organization	Participating Jurisdictions and Supporting Agencies	Priority
20	Extreme Temperatures Public Health Emergencies Wildfire Volcanic Eruption	care sites, critical logistics, and water systems. Coordinate with local health, social services agencies, and community partners to issue personal protective actions and advance alert/warning for hazards that may lead to public health impacts, including wildfires (smoke/air quality), extreme temperatures, or other public health emergencies.	Yakima Valley Office of Emergency Management	Yakima, Town of Harrah, Town of Naches, Yakima County Yakima Health District, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County	HIGH
21	Extreme Temperatures Wildfire Volcanic Eruption	Establish cooling and clean air shelters within public facilities to provide temporary shelter for vulnerable residents during extreme weather and poor air quality days.	Yakima Valley Office of Emergency Management	City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County	HIGH
22	Extreme Temperatures Volcanic Eruption	Develop an Emergency Water Distribution Plan.	Yakima Valley Office of Emergency Management	Irrigation Districts, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County	MODERATE

Table 9-E. City of Yakima 2022 Hazard Mitigation Strategy

Action #	Hazard	Action Items	Coordinating Organization	Participating Jurisdictions and Supporting Agencies	Priority
25	Flooding Wildfire	Develop a public awareness and education campaign about existing mitigation programs targeted to personal preparedness measures for homeowners (ex. FireWise, defensible space, insurance programs)	Yakima Valley Office of Emergency Management	Yakima County Flood Control District, Yakima County Fire Districts, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County, Washington Resource Conservation and Development Council	HIGH
27	Flooding	Update FEMA Regulatory Maps on Lower Naches River.	Yakima County Flood Control Zone District	FEMA, Yakima County, Washington State Department of Ecology, City of Yakima, Town of Naches, Yakima Valley Emergency Management	HIGH
31	Flooding	Relocate Cowiche Creek downstream of US-12 to retire irrigation structures and improve floodplain access and increase flood protection for US-12. Implement strategies to improve stormwater drainage system capacity as outlined in the Yakima County Comprehensive Stormwater Management Program (2022), and City of Yakima Stormwater Management Program (2022).	Yakima County Flood Control Zone District	City of Yakima, Washington DOT, Yakima County	MODERATE
33	Flooding	Continue efforts to increase Ahtanum channel capacity and reduce flood hazard	Yakima County Regional Stormwater Working Group	City of Yakima, City of Selah, City of Union Gap, City of Sunnyside, Yakima County	MODERATE
35	Flooding		Yakima County Flood Control Zone District	Ahtanum Irrigation District, City of Union Gap, City of Yakima	HIGH

Table 9-E. City of Yakima 2022 Hazard Mitigation Strategy

Action #	Hazard	Action Items	Coordinating Organization	Participating Jurisdictions and Supporting Agencies	Priority
		downstream to Union Gap and Yakima.			
36	Flooding	Re-route Shaw Creek and improve conveyance in Wide Hollow Creek to reduce flood hazard to existing and future residential development.	Yakima County Flood Control Zone District	City of Yakima, West Valley School District, Washington DOE, FEMA	HIGH
38	Flooding	Maintain compliance with current National Flood Insurance Program (NFIP) regulations to make flood insurance available to property owners.	Local Floodplain Officials	City of Grandview, City of Granger, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County Flood Control Zone District, Yakima County	HIGH
39	Flooding	Consider entering, maintaining compliance with, or lowering Class rating for the FEMA Community Rating System (CRS), which rewards jurisdictions that are pro-active in public awareness and pre-hazard mitigation. Develop application meeting program requirements and implement.	Local Floodplain Officials	City of Grandview, City of Granger, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Naches, Yakima County	HIGH
40	Flooding	Acquire, relocate, or remove existing structures from flood hazard areas as identified in Comprehensive Flood Hazard Management Plans.	Yakima County Flood Control Zone District	Yakima County Planning Division, City of Granger, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Naches, Yakima County	HIGH

Table 9-E. City of Yakima 2022 Hazard Mitigation Strategy

Action #	Hazard	Action Items	Coordinating Organization	Participating Jurisdictions and Supporting Agencies	Priority
41	Flooding	Advance opportunistic cooperation with entities on their projects where flood risk reduction may result.	Yakima County Flood Control Zone District	City of Grandview, City of Granger, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County Public Services, Yakima Valley Emergency Management, Yakima County Roads	HIGH
42	Flooding	Manage crack willow and debris to increase channel capacity to contain small flood events. Replace with desirable plant species in riparian areas.	Yakima County Flood Control Zone District	City of Yakima, Yakima County	HIGH
43	Hazardous Materials	Establish a county-wide hazardous materials response team to ensure efficient and cost-effective operations.	Yakima Fire Department	Yakima County Fire Districts, Yakima Valley Emergency Management, City of Yakima	HIGH
54	Wildfire	Research, identify, and implement planning and development policies to facilitate rebuilding during disaster recovery.	Yakima County Planning	City of Yakima Community Development, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County,	MODERATE

Table 9-E. City of Yakima 2022 Hazard Mitigation Strategy

Action #	Hazard	Action Items	Coordinating Organization	Participating Jurisdictions and Supporting Agencies	Priority
59	Wildfire	Improve access/egress routes and signage.	Community Wildfire Protection Plan (CWPP) Steering Committee	Yakima County Fire Districts, Yakima Valley Emergency Management, Yakima County Building and Fire Division, Yakima County Roads Division, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County, Washington DOT, Washington DNR, U.S. Forest Service	HIGH
65	Multi-Hazard	Develop, enhance, and implement education programs aimed at mitigating hazards and reducing the risk to residents, public agencies, private property owners, businesses, and schools.	Yakima Valley Office of Emergency Management	Yakima County Flood Control Zone District, Yakima County Public Services, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County	HIGH
67	Multi-Hazard	Provide training and technical assistance for jurisdictions and emergency services providers to create Continuity of Operations Planning (COOP) planning programs. Integrate IT and cyber considerations within COOP resources.	Yakima Valley Office of Emergency Management	Yakima County IT, City of Yakima IT, Yakima County Flood Control Zone District, Yakima County Fire Districts, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County	HIGH

Table 9-E. City of Yakima 2022 Hazard Mitigation Strategy

Action #	Hazard	Action Items	Coordinating Organization	Participating Jurisdictions and Supporting Agencies	Priority
68	Multi-Hazard	Support jurisdictions in updating and/or developing Continuity of Government (COG) Plans.	Yakima Valley Office of Emergency Management	City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County	HIGH
69	Multi-Hazard	Conduct tabletop exercises for high impact incidents in the City of Yakima, including flooding, active shooter, and civil unrest incidents.	Yakima Fire Department; Yakima Valley Office of Emergency Management	City of Yakima	MODERATE

Appendix 9.1. 2016 and 2017 Flooding – An Historic Perspective

This appendix summarizes two significant flood events during the HMP analysis period (2015-2021), as well as associated costs for the City of Yakima.

2016 Flood Event

The February 15, 2016, flood was caused by a persistent late-season snowpack in the lower elevation portions of the Cowiche Creek watershed (from 1500 feet to 3500 feet), coupled with a pronounced, multi-day warm-up event. Low temperatures overnight at the WSU Ag Station near the town of Cowiche went from generally near or below freezing before February 14th to over 43 °F on the night of February 14th. Daytime peak temperatures went from the low 40's on February 13th to nearly 60 °F on the afternoon of February 15th. From 10pm on the 14th, to 10pm on the 15th, the temperature did not drop below 50 °F. Flows peaked at around 12:15pm at the Ecology gage and around 4:45pm at the Bureau of Reclamation gage on Powerhouse Road. The peak stage recorded at the Ecology gage was 9.14 ft. The peak stage recorded at the BOR gage was 6.94 ft. The rating curve for the Ecology gage ends around 7.2 feet, but extrapolation of the rating curve suggests a peak flow of approximately 1,200 cubic feet per second. Snow Water Equivalent (SWE) records at the Green Lake SNOTEL site indicate that very little snowmelt-related runoff occurred at the higher elevations of the watershed. No significant precipitation occurred with this flood event.

Flood flows overtopped the east-west berm between Powerhouse Road and Highway 12. This overflow volume accumulated behind the north-south berm until it burst (the break caused a 25 foot, full-height opening in the 10-foot high structure). There was some damage to the east-west berm from piping and overtopping as well as to the City's concrete irrigation reservoir due to the overflow heights and duration. This dam-break event (and continued overflow from the rising Creek) sent water through the adjoining orchard, along the south side of Highway 12, through the northern end of the Riverview Manor mobile home park, and then east on along the south side of the Highway 12 offramp. Flows temporarily went northwards under Highway 12 to the Naches River via the Fruitvale canal (running backward). By early evening the peaking floodwaters had overwhelmed the canal and had reached the Fruitvale Blvd and 40th Avenue interchange. The intersection was shut-down to traffic. Floodwaters continued causing damage along the south side of Fruitvale Blvd as far eastward as Revolution Cycles and to a number of businesses along the primary overflow path between Fruitvale Blvd and Myron Lake. Flows receded overnight. By early morning on the 16th, the intersection was largely re-opened and flows were fully contained by the creek banks.

Post-flood debris was removed from the upstream face of the Highway 12 bridge and also from the channel and channel bank just upstream.

2017 Flood Event

The March 14-16, 2017, flood event on Cowiche Creek occurred with peak flows observed on both the evening of March 14th (approximately 1,200 cfs) and again the evening of March 15th/morning of March 16th (approximately 1,100 cfs). The event was largely caused by the rapid melt of a persistent (late-season), low-elevation snowpack, plus a moderate rain on snow event at the upper elevations. This yielded a more sustained high-water event, with a significantly larger total runoff volume than the 2016 event, with a bimodal or 'double-peak' hydrograph occurring over two days. Overnight low temperatures at the Green Lake SNOTEL

site went from around 20°F on March 7th to above freezing on the evenings of March 13th and March 14th. Daytime temperatures at the Green Lake SNOTEL site went from below freezing on the 7th, to nearly 50°F on the 13th. Approximately 0.6 inches of rain was recorded at the site on March 14th. The recorded Snow Water Equivalent (SWE) dropped nearly 2 inches from March 14th to March 17th. Conditions were even warmer in the lower portion of the watershed. At the WSU Ag Station near Cowiche, the average temperature went from 31°F on March 7th, to 50°F on March 15th. Peak temperatures on the 15th reached 62°F.

In 2017, flood flows overwhelmed the south bank of the creek between Powerhouse Rd and US Highway 12, breached the east-west and north-south berms and flowed eastward toward the City of Yakima along the southern side of the highway. Flows did not pass over/through the City's irrigation reservoir as was observed in 2016, but breached the south bank of the creek approximately 230 feet upstream, immediately upstream of a significant woody debris jam. The initial breach occurred on the morning of the 15th and continued until City crews were able to locate and remove the debris jam on the 16th. The peak flow rate into town may have been as high as 300 cfs. The Fruitvale Canal (again) conveyed a portion of the flows back under Highway 12 and into the Naches River before it was overwhelmed allowing flood flows to head towards the 40th and Fruitvale intersection.

The extended duration of the hydrograph and the breached berm resulted in larger runoff volumes reaching Myron Lake which overflowed into Willow Lake and then Aspen Lake. The higher water level in the lakes caused considerable street and structure flooding in the surrounding commercial and residential area. A portion of the overland flood flows eventually crossed 16th Avenue. Urban stormwater drainage systems and infiltration into the ground diminished overland flows and prevented further damages to the east.

Summary of Flood Costs

The 2017 floods were primarily a result of extremely heavy snow pack and rapid warm up experienced in the week leading up to March 10th which exacerbated the snow melt. Creeks and streams rechanneled when inundated. Between March 10th and 15th, three major creeks in the west and northwest of the City of Yakima overtopped their banks threatening residents and businesses within these impacted areas.

In the ensuing days that followed, the City legislature's leadership and emergency management officials undertook an unprecedented effort to coordinate the response to, and recovery from major high water and flooding. The City coordinated in-depth assessments of the area's infrastructure; provided residents, businesses, and property owners with information and assistance; and provided controlled access to their properties. Much effort was expended restoring and stabilizing public infrastructure.

At this time the city began collecting damage costs. The Washington State Emergency Management Division (WaEMD) required an assessment to begin the Public Assistance (PA)/Preliminary Damage Assessment (PDA) phase for the state's major disaster declaration. There was no assurance for declaration by FEMA. Hence, no opportunity for reimbursement. The WaEMD provided the city the following: "Dated May 22nd, "we were unable to go forward with a request for a joint FEMA-State PDA as the reported damage assessment numbers were well short of the 'state threshold' needed to qualify for a major disaster declaration".

This Summary of Flood Costs, **Table 9.1-A** for the City and **Table 9.1-B** for the private sector, should provide city leadership, i.e., legislature and emergency officials, with an understanding of the costs that this flood event placed on the city. To be good stewards of city funds and ensure

effective and efficient operations, it is important that the city employ sound management practices and ensure the effectiveness of its own operations as it carries out its disaster management missions, including things like managing its workforce, and logistics systems to support disaster response and recovery; and ensuring the most appropriate distribution of city resources by controlling administrative costs and effectively managing the disaster declaration process.

Table 9.1-A. City of Yakima Flood Costs Summary

Cost Type	Total
Employee Time	\$136,046.76
Purchasing	\$256,605.87
Total	\$492,652.63

The levee failure at Cowiche Creek impacted residential properties at Riverside Manor Mobile Home Park and businesses along 40th and Fruitvale Blvd. The influx of water from Cowiche Creek flowed along 40th and Fruitvale Blvd; River Road from 34th to 16th Avenue; and Willow Lake and Lake Aspen areas. Numerous homes and businesses sustained damage.

Table 9.1-B. Private Sector with Insured Losses Flood Costs Summary

Cost Type	Total
Thirteen Businesses	\$458,039
Sixteen Residences	\$106,663
Total	\$564,702

Annex 10. Town of Harrah

The Town of Harrah is a small community in Yakima County, WA. As of the 2020 Census, the town's population was 585. The Town is located within the Yakama Indian Reservation and encompasses less than .25 square miles. The Town is governed by a Mayor and Town Council but has very limited staff.

Hazard Identification and Risk Assessment

Representatives of the Town of Harrah actively participated in the 2022 HMP Update as members of the planning committee. In addition to the countywide risk assessment, the Town of Harrah identified the hazards that affect the Town and revised the risk assessment to reflect probability, frequency, and potential impacts, as summarized in **Table 10-A** below. In the context of the countywide planning area, there are no hazards that are unique to the Town of Harrah. Information on past events for each hazard can be found in Section 3 (Hazard Identification and Risk Assessment) in the base plan.

Table 10-A. Hazard Identification and Risk Assessment – Town of Harrah		
Natural Hazards	2022 Countywide Risk Ranking	2022 Town of Harrah Risk Ranking
Agricultural Disease Outbreak	Medium	Medium
Avalanche	Low	Low
Drought	Medium	Medium
Earthquake	Low	Low
Extreme Temperatures	Medium	Medium
Flood	High	Low
Landslide/Mudslide/Debris Torrent/Erosion	Medium	Low
Public Health Emergency	High	High
Severe Weather	Medium	Medium
Severe Winter Weather	High	High
Volcanic Eruption	Low	Low
Wildfire	High	Medium
Technological and Human-caused Hazards	2022 Countywide Risk Ranking	2022 Town of Harrah Risk Ranking
Cyber Incident	Medium	Medium
Dam and Levee Failure	High	Low
Hazardous Materials Incident	High	Medium
Nuclear/Radiological Incident	Low	Low
Terrorism	Low	Low

The Town of Harrah has a lower risk of many hazards due to the small size of the community and distance from hazard risk areas, including landslides and wildfires. Additionally, Harrah has no land within the 100-year floodplain and is not located in any mapped dam inundation areas. Risk levels for other hazards/threats are consistent with the county rankings. Specific hazard areas and vulnerabilities are described below.

- **Avalanche:** The Town of Harrah is located outside of the identified avalanche hazard area and is not located along one of the main transportation corridors that may be disrupted from a significant incident.
- **Drought:** Drought can impact the entirety of Yakima County, including Harrah. The orchards surrounding Harrah are served through the Wapato Irrigation Project and are adequately served, reducing risk from drought. As an agricultural community, a severe drought still poses some risk to Harrah.
- **Earthquake:** The seismic risk for Harrah is consistent with all of Yakima County. There are no active faults that run through Harrah and no record of historic earthquake damages. Most critical facilities in Harrah are built to modern seismic standards, including the wastewater treatment facility and school. The Harrah Town Hall is an older cinder block building and may be vulnerable to a severe incident, as well as the old school building.
- **Extreme Temperatures:** Extreme temperatures can impact the entirety of Yakima County, including Harrah. The Town has not experienced major impacts from extreme cold or heat events in recent years.
- **Flood:** The Town of Harrah does not have any Special Flood Hazard Area (SFHA) in its jurisdiction. The Town may experience localized flooding due to failures of irrigation infrastructure, but past issues have been minimal.
- **Landslide:** Harrah has low susceptibility and low incidence of landslides. There is no history of landslides or other geologic hazards in Harrah, and the town is not located along one of the main transportation corridors that may be disrupted from a significant incident.
- **Severe Weather:** Severe weather can impact the entirety of Yakima County, including Harrah. There is some historic record of severe storms in the areas surrounding Harrah (including hail and wind events), but no specific damages within town limits. Harrah has seen some minor damages from wind, including downed trees and power disruptions. Some critical facilities have back-up power sources, including the wastewater treatment plant and well site. The Town has identified the need for improved redundancy in the water supply and is pursuing construction of a second well site. The school serves as the emergency shelter, which has limited back-up power capabilities.
- **Severe Winter Weather:** Severe winter weather can impact the entirety of Yakima County, including Harrah. Community members in Harrah are vulnerable to isolation during a significant winter storm, given the town's distance from other Yakima Valley communities and resources. Harrah has limited resources for plowing during heavy snow events, and relies on informal coordination with local residents and Yakima County Public Works to clear roads. With a sole Public Works Director, there is limited redundancy for critical infrastructure maintenance and services, including plowing and maintaining operations for water and wastewater service.

- **Volcanic Eruption:** Volcanic hazards, specifically ash fall, can impact the entirety of Yakima County, including Harrah. Harrah may be slightly more vulnerable to ash fall as it is located further west and closer to Mt. Adams and other volcanoes. Harrah is not located within the Mt. Adams volcano hazard zone.
- **Wildfire:** Harrah does not have a higher wildfire hazard potential than other Yakima County communities but is more remote and therefore could be isolated due to a large wildfire incident. Agricultural workers may be more vulnerable to poor air quality. The Town proactively monitors fire hazards within the town limits.
- **Dam/Levee Failure:** There are no dams or levees located in or around Harrah, and the town is not located within any inundation areas.
- **Hazardous Materials:** Very few hazardous materials are transported through Harrah due to its distance from major transportation corridors. Hazardous materials may travel through the town via railway. There are no known fixed facilities of concern in Harrah.

Capability Assessment

Capabilities are the programs and policies currently in use that could be used to implement the hazard mitigation strategy. Local capabilities may include regulatory tools such as plans and ordinances, administrative and technical expertise, or fiscal resources.

Regulatory Capabilities

Table 10-B lists key indicators of legal and regulatory capability to implement mitigation projects that are specific to the Town of Harrah.

Table 10-B. Town of Harrah Legal and Regulatory Capability Assessment				
Indicator	Local Authority	County Run	Other Authority	Comments
<i>Codes and Ordinances</i>				
Building Code	Yes			Harrah has adopted the International Building Code.
Zoning	Yes			Harrah last adopted its zoning ordinance in 2001.
Hazard-specific	Yes			Harrah has adopted the Yakima County Critical Areas Ordinance which includes procedures for protecting wetlands, fish and wildlife habitat conservation areas, areas subject to certain hazards, and other environmentally sensitive lands.
Subdivisions	Yes			
Stormwater Management	Yes			
Growth Management			Yes	The Washington State Growth Management Act (RCW Chapter 36.70A) directs growth management and comprehensive planning for Washington cities and counties.
Public Health and Safety		Yes		Harrah contracted with the Yakima County Sheriff's Office to support public health and safety measures in town.
Environmental Protection	Yes			
<i>Planning Documents</i>				
Comprehensive	Yes			Harrah last updated its comprehensive plan in 2017, and another update was underway at the time of HMP development (2022).
Environmental Protection	Yes			
Transportation			Yes	The Yakima Valley Conference of Governments manages the Yakima Valley Metropolitan and Regional

Table 10-B. Town of Harrah Legal and Regulatory Capability Assessment				
Indicator	Local Authority	County Run	Other Authority	Comments
				Transportation Plan, last updated in 2020.
<i>Response/Recovery Planning</i>				
Comprehensive Emergency Management Plan (CEMP)			Yes	The Town of Harrah is a member of the Yakima Valley Emergency Management and Yakima County Emergency Services Council. Harrah is a party to the 2019 CEMP.
Community Wildfire Protection Plan (CWPP)			Yes	Harrah is represented by Yakima County Fire District #5 within the Yakima Valley Fire Adapted Communities Coalition, which was revising the CWPP at the time of HMP development (2022).
Continuity of Operations Plan (COOP)	Yes			The Town of Harrah does not have a COOP or Continuity of Government Plan in place currently.

Administrative and Technical Capabilities

Harrah has limited full-time staff, including a Public Works Director and a Town Clerk, as well as a part-time Public Works Assistant. The Town has agreements with neighboring communities, Yakama Nation, Yakima County, and contracted service providers to supplement community services. These support relationships include a contract with Toppenish Public Works for redundancy, as well as an agreement with Union Gap for building inspections as needed. Hazard Mitigation administrative and technical capabilities are supported by the Mayor, Public Works, and contracted service providers.

Harrah is located within the Yakama Indian Reservation, and partners closely with Yakama Nation for some services. The Yakima County Sheriff's Department coordinates with Yakama Nation police officers, and Harrah is subject to federal guidelines and services.

Table 10-C. Town of Harrah Administrative and Technical Capability Assessment

Indicator	Available	Comments
Planners or engineers with knowledge of land development and land management	Yes	Yakima Valley Council of Governments; Contracted Services
Engineers or professionals trained in building or infrastructure construction	Yes	Contracted Services
Planners or engineers with an understanding of natural hazards	Yes	Contracted Services
Surveyors	Yes	Contracted Services
Personnel skilled or trained in GIS	Yes	Available through Yakima County GIS
Emergency manager	Yes	Available through Yakima Valley Emergency Management
Floodplain manager	No	The Town of Harrah does not have any Special Flood Hazard Area (SFHA) in its jurisdiction.
Grant writers	Yes	Contracted Services
Other		

National Flood Insurance Program

The Town of Harrah participates in the National Flood Insurance Program (NFIP) (CID #530220) and has no special flood hazard area ([FEMA, 2022](#)). The Town of Harrah does not currently participate in the Community Rating System (CRS) program.

Mitigation Strategy

The Town of Harrah identified and prioritized mitigation actions as a part of the countywide mitigation strategy. Harrah is included as either the coordinating agency or a partner agency on the actions listed in Table 10-D. The complete 2022 Hazard Mitigation Strategy is included as [Appendix E](#) to the base plan.

Table 10-D. Town of Harrah 2022 Hazard Mitigation Strategy					
Action #	Hazard	Action Items	Coordinating Organization	Participating Jurisdictions and Supporting Agencies	Priority
3	Avalanche Earthquake Landslide/Erosion Volcanic Eruption	Manage development in geologic hazard areas to reduce risk to existing and future development, as outlined in municipal codes and comprehensive plans.	City/Town Planning Departments and Building Officials	City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches	MODERATE
4	Cyber Threat/Attack	Complete a Security Risk Assessment to prioritize mediation tasks and mitigate vulnerabilities.	Yakima County Information Technology, City of Yakima Information Technology	Yakima Valley Emergency Management, Yakima County Fire Districts, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County	HIGH
7	Cyber Threat/Attack	Conduct training and exercises for cyber intrusions and other cyber threats to critical facilities, infrastructure, and government operations.	Yakima County Information Technology, City of Yakima Information Technology	Yakima Valley Emergency Management, Yakima County Fire Districts, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches	HIGH
13	Drought Earthquake Severe Weather Severe Winter Weather	Secure additional funding to build a second well for the town water supply to ensure redundancy.	Town of Harrah Public Works	Yakima Valley Office of Emergency Management	HIGH

Table 10-D. Town of Harrah 2022 Hazard Mitigation Strategy

Action #	Hazard	Action Items	Coordinating Organization	Participating Jurisdictions and Supporting Agencies	Priority
14	Earthquake	Continue participation in the Great Shakeout program to increase earthquake risk awareness across the county.	Yakima Valley Office of Emergency Management	City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches	HIGH
18	Earthquake Severe Weather Severe Winter Storm	Develop an inventory of at-risk critical facilities and infrastructure, including unreinforced masonry and transportation assets, and prioritize projects.	Yakima Valley Office of Emergency Management	Yakima County GIS, Yakima County Public Services/Permit Services, Yakima County Fire Districts, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches	HIGH
19	Earthquake Severe Weather Severe Winter Weather Wildfire	Secure funding to purchase back-up power generators for critical facilities, including fire stations, emergency shelters, mass care sites, critical logistics, and water systems.	Yakima Valley Office of Emergency Management	Yakima County Fire Districts, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County	MODERATE
20	Extreme Temperatures Public Health Emergencies Wildfire Volcanic Eruption	Coordinate with local health, social services agencies, and community partners to issue personal protective actions and advance alert/warning for hazards that may lead to public health impacts, including wildfires (smoke/air quality), extreme temperatures, or other public health emergencies.	Yakima Valley Office of Emergency Management	Yakima Health District, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County	HIGH

Table 10-D. Town of Harrah 2022 Hazard Mitigation Strategy

Action #	Hazard	Action Items	Coordinating Organization	Participating Jurisdictions and Supporting Agencies	Priority
21	Extreme Temperatures Wildfire Volcanic Eruption	Establish cooling and clean air shelters within public facilities to provide temporary shelter for vulnerable residents during extreme weather and poor air quality days.	Yakima Valley Office of Emergency Management	City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County	HIGH
22	Extreme Temperatures Volcanic Eruption	Develop an Emergency Water Distribution Plan.	Yakima Valley Office of Emergency Management	Irrigation Districts, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County	MODERATE
25	Flooding Wildfire	Develop a public awareness and education campaign about existing mitigation programs targeted to personal preparedness measures for homeowners (ex. FireWise, defensible space, insurance programs)	Yakima Valley Office of Emergency Management	Yakima County Flood Control District, Yakima County Fire Districts, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County, Washington Resource Conservation and Development Council	HIGH
38	Flooding	Maintain compliance with current National Flood Insurance Program (NFIP) regulations to make flood insurance available to property owners.	Local Floodplain Officials	City of Grandview, City of Granger, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County Flood Control Zone District, Yakima County	HIGH

Table 10-D. Town of Harrah 2022 Hazard Mitigation Strategy

Action #	Hazard	Action Items	Coordinating Organization	Participating Jurisdictions and Supporting Agencies	Priority
41	Flooding	Advance opportunistic cooperation with entities on their projects where flood risk reduction may result.	Yakima County Flood Control Zone District	City of Grandview, City of Granger, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County Public Services, Yakima Valley Emergency Management, Yakima County Roads	HIGH
45	Severe Winter Weather	Identify and secure emergency contracts to secure plowing services during heavy snow fall or for other debris removal.	Town of Harrah Public Works	Yakima County Roads, Yakima Valley Office of Emergency Management	HIGH
54	Wildfire	Research, identify, and implement planning and development policies to facilitate rebuilding during disaster recovery.	Yakima County Planning	City of Yakima Community Development, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County	MODERATE
59	Wildfire	Improve access/egress routes and signage.	Community Wildfire Protection Plan (CWPP) Steering Committee	Yakima County Fire Districts, Yakima Valley Emergency Management, Yakima County Building and Fire Division, Yakima County Roads Divisions, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County, Washington DOT, Washington DNR, U.S. Forest Service	HIGH

Table 10-D. Town of Harrah 2022 Hazard Mitigation Strategy

Action #	Hazard	Action Items	Coordinating Organization	Participating Jurisdictions and Supporting Agencies	Priority
65	Multi-Hazard	Develop, enhance, and implement education programs aimed at mitigating hazards and reducing the risk to residents, public agencies, private property owners, businesses, and schools.	Yakima Valley Office of Emergency Management	Yakima County Flood Control Zone District, Yakima County Public Services, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County	HIGH
67	Multi-Hazard	Provide training and technical assistance for jurisdictions and emergency services providers to create Continuity of Operations Planning (COOP) planning programs. Integrate IT and cyber considerations within COOP resources.	Yakima Valley Office of Emergency Management	Yakima County IT, City of Yakima IT, Yakima County Flood Control Zone District, Yakima County Fire Districts, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County	HIGH
68	Multi-Hazard	Support jurisdictions in updating and/or developing Continuity of Government (COG) Plans.	Yakima Valley Office of Emergency Management	City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County	HIGH

Annex 11. Town of Naches

The Town of Naches is located in a valley at the foothills of the Cascade Mountains, 12 miles west of Yakima on U.S. Highway 12. The Town is a small residential community, with a population of 805 as of the 2020 Census. The town's roots are in agriculture and logging and a multitude of nearby outdoor recreational opportunities.

Hazard Identification and Risk Assessment

A representative of the Town of Naches actively participated in the 2022 HMP Update as member of the planning committee. In addition to the countywide risk assessment, the Town of Naches identified the hazards that affect the city and revised the risk assessment to reflect probability, frequency, and potential impacts, as summarized in **Table 11-A** below. In the context of the countywide planning area, there are no hazards that are unique to the Town of Naches. Information on past events for each hazard can be found in Section 3 (Hazard Identification and Risk Assessment) in the base plan.

Table 11-A. Hazard Identification and Risk Assessment – Town of Naches		
Natural Hazards	2022 Countywide Risk Ranking	2022 Town of Naches Risk Ranking
Agriculture Disease Outbreak	Medium	Medium
Avalanche	Low	Low
Drought	Medium	Medium
Earthquake	Low	Low
Extreme Temperatures	Medium	Medium
Flood	High	High
Landslide/Mudslide/Debris Torrent/Erosion	Medium	Medium
Public Health Emergency	High	High
Severe Winter Storm	High	High
Volcanic Eruption	Low	Low
Wildfire	High	High
Technological and Human-caused Hazards	2022 Countywide Risk Ranking	2022 Town of Naches Risk Ranking
Cyber Incident	Medium	Medium
Dam and Levee Failure	High	High
Hazardous Materials Incident	High	Medium
Nuclear/Radiological Incident	Low	Low
Terrorism	Low	Low

The risk of a hazardous materials incident is slightly lower in Naches than the county as a whole, given its distance from major transportation corridors and relatively few fixed facilities. Risk levels for other hazards/threats are consistent with the county rankings. Specific hazard areas and vulnerabilities are described below.

- **Avalanche:** Naches is located at the edge of an avalanche hazard area, according to 2013 Washington State mapping. Naches does not have a history of avalanches impacting the city, but avalanches can lead to closures of US-12 that can create disruptions for residents, businesses, and emergency services. Nearby Snoqualmie Pass (I-90) closes frequently to avalanches, leading to an increase in traffic on White Pass (US-12). Naches provides some emergency sheltering due to road closures on these mountain passes at the local school buildings. Naches cannot accommodate travelers or truck drivers if Snoqualmie Pass and White Pass are both closed, and most turn trucks around as there is no local holding or queuing area.
- **Drought:** Drought can impact the entirety of Yakima County, including Naches. Orchards and other agricultural products make up a significant portion of Naches' local economy, which may be vulnerable to prolonged drought conditions. Naches is served by several well-established irrigation districts which limits residents and farms vulnerability to drought.
- **Earthquake:** The seismic risk for Naches is consistent with all of Yakima County. There are no active faults that run through Naches and no record of historic earthquake damages. Most critical facilities are built to modern seismic standards, including a new fire station, upgraded wastewater treatment plant, and school buildings. Naches City Hall and existing well sites may be vulnerable to a significant earthquake.
- **Extreme Temperatures:** Extreme temperatures can impact the entirety of Yakima County, including Naches. The Town has not experienced any significant impacts from extreme temperatures in recent years.
- **Flood:** Sections of Naches lie in the 100-year floodplain of the Naches River, most to the south of US-12. Naches regularly experiences winter and spring flooding from snowmelt run off and rain-on-snow events, including in 2017 and 2020. After significant county-wide flooding in 1996/1997, Naches has enhanced the dike infrastructure and reduced in-town flooding. Two critical facilities of concern that may experience flooding in a 100-year event are the existing wastewater treatment plant outflow and US-12 going east out of Naches into the county.
- **Landslide:** Naches has low susceptibility and low incidence of landslides. However, located at the edge of the Yakima Valley, Naches is near mountainous areas and ridgelines. Naches is located just south of the 2009 Nile Valley Landslide, which blocked SR-410 and the Naches River. Naches can be significantly impacted by landslides on neighboring ridges that disrupt critical transportation corridors or alter waterways.
- **Severe Weather:** Severe weather can impact the entirety of Yakima County, including Naches. There is some historic record of severe storms in the areas surrounding Naches (including hail and wind events), but no specific damages within city limits.
- **Severe Winter Weather:** Severe winter weather can impact the entirety of Yakima County, including Naches. Community members are vulnerable to isolation during a significant winter storm, given limited ingress/egress and the potential for road closures.

During heavy snow events in recent years, Naches has hired contractors to support snow removal and plowing operations, amounting to \$30,000 in costs during one major storm in 2020. Naches relies on WSDOT to plow US-12 outside of town limits and maintain connectivity with the rest of the county. Naches-Tieton Road is frequently closed to poor weather conditions, disrupting commuter and industry traffic between Naches and Tieton. The Town may also be impacted by power outages. The fire station has back-up power through a generator, but the Town does not have portable generators and the schools (which also serve as emergency shelters) do not have back-up power.

- **Volcanic Eruption:** Volcanic hazards, specifically ash fall, can impact the entirety of Yakima County, including Naches. Naches is not located within the Mt. Adams volcano hazard zone.
- **Wildfire:** Naches does not have a higher wildfire hazard potential than other Yakima County communities, but there is a large history of fires burning immediately north of the city, including the 2020 Evans Canyon Fire. Both Evans Canyon and the 2018 Conrad Fire reached within a few miles of the city and US-12. A fire closing the highway could significantly isolate the town. Community members are most impacted by poor air quality and smoke from nearby wildfires, and the school buildings often serve as shelter for fire suppression teams.
- **Dam/Levee Failure:** Naches is in the inundation area of the Tieton and Bumping Lake dams. Both dams are operated by the U.S. Bureau of Land Reclamation. Both are considered High Hazard Potential dams, with a class rating of 1A by the Washington Department of Ecology, indicating more than 300 lives are at risk due to failure.
- **Hazardous Materials:** Naches is at risk from hazardous materials traveling along US-12. There are some fixed facilities in town, including fuel storage, but Naches does not have a recent history of hazardous materials incidents.

Capability Assessment

Capabilities are the programs and policies currently in use that could be used to implement the hazard mitigation strategy. Local capabilities may include regulatory tools such as plans and ordinances, administrative and technical expertise, or fiscal resources.

Regulatory Capabilities

Naches last adopted its municipal code in December 2021. Table 11-B lists key indicators of legal and regulatory capability to implement mitigation projects that are specific to the Town of Naches.

Table 11-B. Town of Naches Legal and Regulatory Capability Assessment				
Indicator	Local Authority	County Run	Other Authority	Comments
<i>Codes and Ordinances</i>				
Building Code	Yes			Title 15 of the Naches Municipal Code establishes building and construction codes and regulations.
Zoning	Yes			Title 17 of the Naches Municipal Code establishes the local zoning ordinance.
Hazard-specific	Yes			Title 15 of the Naches Municipal Code includes regulations to reduce flood hazards and prevent flood-related damage.
Subdivisions	Yes			Title 16 of the Naches Municipal Code establishes the local subdivision ordinance.
Stormwater Management	Yes			Naches adopted the Eastern Washington Stormwater regulations.
Growth Management			Yes	The Washington State Growth Management Act (RCW Chapter 36.70A) directs growth management and comprehensive planning for Washington cities and counties.
Public Health and Safety	Yes			Title 8 of the Naches Municipal Code establishes local health and safety standards and authorities.
Environmental Protection	Yes			Naches adopted the Yakima County Critical Areas Ordinance which includes procedures for protecting wetlands, fish and wildlife habitat conservation areas, areas subject to certain hazards, and other environmentally sensitive lands.
<i>Planning Documents</i>				
Comprehensive	Yes			The City of Naches last updated its Comprehensive Plan in 2017.
Environmental Protection	Yes			

Table 11-B. Town of Naches Legal and Regulatory Capability Assessment				
Indicator	Local Authority	County Run	Other Authority	Comments
Transportation			Yes	The Yakima Valley Conference of Governments manages the Yakima Valley Metropolitan and Regional Transportation Plan, last updated in 2020.
<i>Response/Recovery Planning</i>				
Comprehensive Emergency Management Plan (CEMP)			Yes	Naches is a member of the Yakima Valley Emergency Management and Yakima County Emergency Services Council. The city is a party to the 2019 CEMP.
Community Wildfire Protection Plan (CWPP)			Yes	Naches is represented within the Yakima Valley Fire Adapted Communities Coalition, which was revising the CWPP at the time of HMP development (2022).
Continuity of Operations Plan (COOP)	Yes			Naches does not have a COOP or Continuity of Government Plan in place currently.

Administrative and Technical Capabilities

Naches has a small municipal structure, including administration, community development, public works, and local utilities. Fire (Yakima County Fire District #3) and police (YSO) service are both provided through contracts. Hazard mitigation administrative and technical capabilities are primarily supported by the City Administrator, Public Works Director, and through contracted services and support from the Yakima Valley Council of Governments and Yakima County departments.

Table 11-C. Town of Naches Administrative and Technical Capability Assessment		
Indicator	Available	Comments
Planners or engineers with knowledge of land development and land management	Yes	City Administrator; Contracted Services
Engineers or professionals trained in building or infrastructure construction	Yes	Contracted Services
Planners or engineers with an understanding of natural hazards	Yes	Contracted Services
Surveyors	Yes	Contracted Services
Personnel skilled or trained in GIS	Yes	Yakima County GIS
Emergency manager	No	Supported through Yakima Valley Emergency Management
Floodplain manager	Yes	City Administrator
Grant writers	Yes	City Administrator; Contracted Services
Other		

National Flood Insurance Program

The Town of Naches participates in the National Flood Insurance Program (NFIP) (CID #530223) and the last FIRM map for the area was issued on 11/18/2009 ([FEMA, 2022](#)). Naches does not currently participate in the Community Rating System (CRS) program. **Table 11-D** describes floodplain management capabilities and NFIP program compliance for Naches.

Table 11-D. National Flood Insurance Program Compliance and Capabilities	
What department is responsible for floodplain management in your jurisdiction?	City Administrator
Are any certified floodplain managers on staff in your jurisdiction?	No
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, please state what they are.	No
Do your flood hazard maps adequately address the flood risk within your jurisdiction? (If no, please state why)	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	No
Does your jurisdiction participate in the Community Rating System (CRS)? If so, is your jurisdiction seeking to improve its CRS Classification? If not, is your jurisdiction interested in joining the CRS program?	No

Mitigation Strategy

The Town of Naches identified and prioritized mitigation actions as a part of the countywide mitigation strategy. Naches is included as either the coordinating agency or a partner agency on the actions listed in **Table 11-E**. The complete 2022 Hazard Mitigation Strategy is included as **Appendix E** to the base plan.

Table 11-E. Town of Naches 2022 Hazard Mitigation Strategy					
Action #	Hazard	Action Items	Coordinating Organization	Participating Jurisdictions and Supporting Agencies	Priority
1	Avalanche Hazardous Materials Landslide/Erosion Severe Winter Storms	Improve alert and warning coordination and procedures to ensure travelers, visitors, and residents are aware of hazards and increased risk along roads.	Yakima Valley Office of Emergency Management	Washington DOT, City of Selah, City of Tieton, Town of Naches	HIGH
3	Avalanche Earthquake Landslide/Erosion Volcanic Eruption	Manage development in geologic hazard areas to reduce risk to existing and future development, as outlined in municipal codes and comprehensive plans.	City/Town Planning Departments and Building Officials	City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches	MODERATE
4	Cyber Threat/Attack	Complete a Security Risk Assessment to prioritize mediation tasks and mitigate vulnerabilities.	Yakima County Information Technology, City of Yakima Information Technology	Yakima Valley Emergency Management, Yakima County Fire Districts, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County	HIGH
7	Cyber Threat/Attack	Conduct training and exercises for cyber intrusions and other cyber threats to critical facilities, infrastructure, and government operations.	Yakima County Information Technology, City of Yakima Information Technology	Yakima Valley Emergency Management, Yakima County Fire Districts, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches	HIGH
14	Earthquake	Continue participation in the Great Shakeout program to	Yakima Valley Office of	City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside,	HIGH

Table 11-E. Town of Naches 2022 Hazard Mitigation Strategy

Action #	Hazard	Action Items	Coordinating Organization	Participating Jurisdictions and Supporting Agencies	Priority
18	Earthquake Severe Weather Severe Winter Storm	increase earthquake risk awareness across the county. Develop an inventory of at-risk critical facilities and infrastructure, including unreinforced masonry and transportation assets, and prioritize projects.	Emergency Management Yakima Valley Office of Emergency Management	City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches Yakima County GIS, Yakima County Public Services/Permit Services, Yakima County Fire Districts, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches	HIGH
19	Earthquake Severe Weather Severe Winter Weather Wildfire	Secure funding to purchase back-up power generators for critical facilities, including fire stations, emergency shelters, mass care sites, critical logistics, and water systems. Coordinate with local health, social services agencies, and community partners to issue personal protective actions and advance alert/warning for hazards that may lead to public health impacts, including wildfires (smoke/air quality), extreme temperatures, or other public health emergencies.	Yakima Valley Office of Emergency Management	Yakima County Fire Districts, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County	MODERATE
20	Extreme Temperatures Public Health Emergencies Wildfire Volcanic Eruption	Establish cooling and clean air shelters within public facilities to provide temporary shelter for vulnerable residents during extreme weather and poor air quality days.	Yakima Valley Office of Emergency Management	Yakima Health District, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County	HIGH
21	Extreme Temperatures Wildfire Volcanic Eruption		Yakima Valley Office of Emergency Management	City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County	HIGH

Table 11-E. Town of Naches 2022 Hazard Mitigation Strategy

Action #	Hazard	Action Items	Coordinating Organization	Participating Jurisdictions and Supporting Agencies	Priority
22	Extreme Temperatures Volcanic Eruption	Develop an Emergency Water Distribution Plan.	Yakima Valley Office of Emergency Management	City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County	MODERATE
25	Flooding Wildfire	Develop a public awareness and education campaign about existing mitigation programs targeted to personal preparedness measures for homeowners (ex. FireWise, defensible space, insurance programs)	Yakima Valley Office of Emergency Management	Yakima County Flood Control District, Yakima County Fire Districts, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County, Washington Resource Conservation and Development Council	HIGH
27	Flooding	Update FEMA Regulatory Maps on Lower Naches River.	Yakima County Flood Control Zone District	FEMA, Yakima County, Washington State Department of Ecology, City of Yakima, Town of Naches, Yakima Valley Emergency Management	HIGH
38	Flooding	Maintain compliance with current National Flood Insurance Program (NFIP) regulations to make flood insurance available to property owners. Consider entering, maintaining compliance with, or lowering Class rating for the FEMA Community Rating System (CRS), which rewards jurisdictions that are pro-active in public awareness and pre-hazard mitigation. Develop application meeting program requirements and implement.	Local Floodplain Officials	City of Grandview, City of Granger, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County Flood Control Zone District, Yakima County	HIGH
39	Flooding		Local Floodplain Officials	City of Grandview, City of Granger, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Naches, Yakima County	HIGH

Table 11-E. Town of Naches 2022 Hazard Mitigation Strategy

Action #	Hazard	Action Items	Coordinating Organization	Participating Jurisdictions and Supporting Agencies	Priority
40	Flooding	Acquire, relocate, or remove existing structures from flood hazard areas as identified in Comprehensive Flood Hazard Management Plans.	Yakima County Flood Control Zone District	Yakima County Planning Division, City of Granger, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Naches, Yakima County	HIGH
41	Flooding	Advance opportunistic cooperation with entities on their projects where flood risk reduction may result.	Yakima County Flood Control Zone District	City of Grandview, City of Granger, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County Public Services, Yakima Valley Emergency Management, Yakima County Roads	HIGH
54	Wildfire	Research, identify, and implement planning and development policies to facilitate rebuilding during disaster recovery.	Yakima County Planning	City of Yakima Community Development, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County.	MODERATE
59	Wildfire	Improve access/egress routes and signage.	Community Wildfire Protection Plan (CWPP) Steering Committee	Yakima County Fire Districts, Yakima Valley Emergency Management, Yakima County Building and Fire Division, Yakima County Roads Divisions, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County, Washington DOT, Washington DNR, U.S. Forest Service	HIGH
65	Multi-Hazard	Develop, enhance, and implement education programs aimed at mitigating hazards and reducing the risk to residents, public agencies,	Yakima Valley Office of Emergency Management	Yakima County Flood Control Zone District, Yakima County Public Services, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union	HIGH

Table 11-E. Town of Naches 2022 Hazard Mitigation Strategy

Action #	Hazard	Action Items	Coordinating Organization	Participating Jurisdictions and Supporting Agencies	Priority
		private property owners, businesses, and schools.		Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County	
67	Multi-Hazard	Provide training and technical assistance for jurisdictions and emergency services providers to create Continuity of Operations Planning (COOP) planning programs. Integrate IT and cyber considerations within COOP resources.	Yakima Valley Office of Emergency Management	Yakima County IT, City of Yakima IT, Yakima County Flood Control Zone District, Yakima County Fire Districts, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County	HIGH
68	Multi-Hazard	Support jurisdictions in updating and/or developing Continuity of Government (COG) Plans.	Yakima Valley Office of Emergency Management	City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County	HIGH

Annex 12. Yakima County Fire Districts

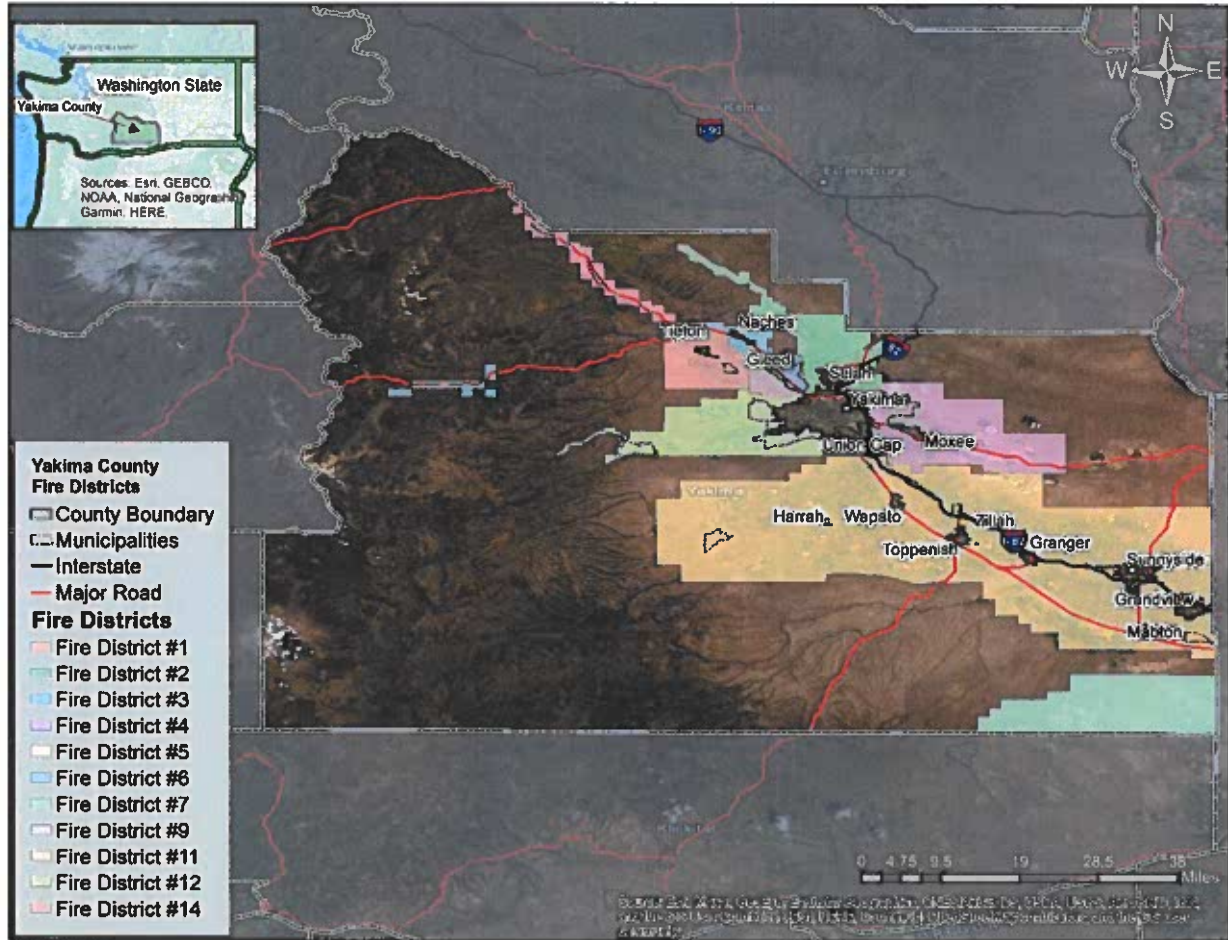
Twelve (12) fire districts and 14 cities provide fire and life safety services in Yakima County. Four of these cities contract with the fire district that surrounds their city to meet this responsibility. Each of the entities operates independently under policy direction from either their City Council or a Commission in the case of districts. **Table 12-A** summarizes the fire districts and fire departments that participated in the HMP Update.

Fire districts are governed by a board of nonpartisan, elected commissioners. Each board manages the affairs of the fire protection district, including maintenance and preservation of facilities and systems. Commissioners ensure that the district operates within statutory requirements and establish policies under which the district operates. Each board selects their respective fire chief and delegates authority to manage day-to-day operations of the fire district.

Table 12-A. Summary of Participating Yakima County Fire Districts & Departments	
District Name	Service Area
Fire District #1 Highland Fire Department	Cowiche and City of Tieton
Fire District #2 Selah Fire Department	City of Selah and Yakima County Fire Protection District #2; approximately 65 square miles
Fire District #4 East Valley Fire Department	Terrace Heights, Moxee, and the area east of the Yakima River; approximately 125 square miles
Fire District #6 Gleed Fire Department	Gleed and Yakima County Fire Protection #6; approximately 12 square miles
Fire District #10 Fire District #11 Yakima Fire Department	City of Yakima and City of Union Gap - <i>Yakima Fire Department is included in the City of Yakima's Annex.</i>
Fire District #12 West Valley Fire Department	Rural area west of the City of Yakima, including Harwood, Tampico, Wiley City, and Ahtanum; approximately 90 square miles
Grandview Fire Department	City of Grandview - <i>Grandview Fire Department is including in the City of Grandview's Annex.</i>

Figure 12-A illustrates the Yakima County Fire Districts. For the purposes of this plan update, fire departments are considered a part of their respective cities, whereas fire districts are distinct entities with their own governing bodies.

Figure 12-A. Yakima County Fire Districts



Hazard Identification and Risk Assessment

Representatives from the fire districts and departments listed in Table 12-A above actively participated in the 2022 HMP Update as members of the planning committee. In addition to the countywide risk assessment, the fire districts identified the hazards that affect their service areas and revised the risk assessment to reflect probability, frequency, and potential impacts, as summarized in Table 12-B below. In the context of the countywide planning area, there are no hazards that are unique to the fire districts. Information on past events for each hazard can be found in Section 3 (Hazard Identification and Risk Assessment) in the base plan.

Table 12-B. Hazard Identification and Risk Assessment – Fire Districts

Natural Hazards	County	FD #1	FD #2	FD #4	FD #6	FD #12
Agriculture Disease Outbreak	Medium	Low	Low	Medium	Low	Low
Avalanche	Low	Low	Low	Low	Low	Low
Drought	Medium	Medium	Medium	Medium	Medium	Medium
Earthquake	Low	Low	Low	Low	Low	Low
Extreme Temperatures	Medium	Medium	Medium	Medium	Medium	Medium
Flood	High	Low	High	Low	High	Low
Landslide and Geologic Hazards	Medium	Low	Low	Low	Low	Low
Severe Weather	Medium	Medium	Medium	Medium	Medium	Medium
Severe Winter Storm	High	High	High	High	High	High
Volcanic Eruption	Low	Low	Low	Low	Low	Low
Wildland-Urban Interface Fire	High	High	High	High	High	High
Other Hazards	County	FD #1	FD #2	FD #4	FD #6	FD #12
Cyber Incident	Medium	High	High	High	High	High
Dam and Levee Failure	High	High	High	Low	High	Low
Hazardous Materials Incident	High	High	High	High	High	High
Nuclear/Radiological Incident	Low	Low	Low	Low	Low	Low
Public Health Emergency	High	High	High	High	High	High
Terrorism	Low	Low	Low	Low	Low	Low

Fire district risks are generally consistent with the cities and unincorporated county areas they serve. While fire districts play an important role in all-hazards response, for the purpose of hazard mitigation, they are primarily concerned with hazardous materials incidents and wildfires. Specific hazard areas and vulnerabilities most relevant to the FCZD are described below.

Hazardous Materials: For the fire districts' purpose, hazardous materials are a main hazard of concern and one for which the districts have key responsibilities. More information about how hazardous materials impact Yakima County is provided in Section 3.19. City of Yakima is currently a part of a tri-county South Central Special Operations Hazardous Materials Response Team. Ongoing changes to the response team have illustrated a need for a locally organized hazardous materials response team to increase the availability of mitigation and response resources. The Yakima Fire Department (District #10/#11) has nine hazardous materials technicians and would lead any re-organization of hazardous materials response for Yakima County. Washington State Patrol lead incident response of all hazardous materials incidents, unless they have a prior agreement with a city/fire district to lead their own response (RCW 70.136).

Wildfire: For the fire districts' purpose, wildfire is a main hazard of concern and one for which the districts have key responsibilities. More information about how wildfire impacts Yakima County is provided in Section 3.16. Residential development continues to occur in the wildland-urban interface where limited access, lack of a central water supply with fire hydrants, and longer response times elevate the risk associated with a wildfire event. Development in wildland-urban interface areas is regulated through the building code and land use planning policies of the jurisdiction in which the development is located. Fire districts require additional personnel and volunteers that are trained in wildland firefighting and wildland mitigation measures. The Yakima County Community Wildfire Protection Plan provides much more detail as **Annex 14** to this HMP.

Other hazard areas and vulnerabilities are described below.

- **Avalanche:** Fire districts may be impacted by avalanche hazards if major roadways or water systems are blocked, limiting services. Emergency medical services may also be required to respond to severe avalanches that threaten life safety. For the most part, the avalanche hazard poses a risk to the mountainous areas of Yakima County, which are served by state and federal fire agencies. Nile-Cliffdell Fire Department responds to emergency calls on Highway 410 and Naches Fire Department responds to calls on Highway 12, which are both vulnerable to avalanches. Neither department is included in the 2022 HMP.
- **Drought:** Drought can impact the entirety of Yakima County. Fire districts may be vulnerable to drought given restricted water supply for firefighting and secondary wildfire hazards.
- **Earthquake:** Seismic risk is consistent across all of Yakima County. Some fire stations may be vulnerable to a significant earthquake event, including Station 2 (Fire District #5) and Station 62 (Fire District #6). There has not been an analysis of seismic improvement needs for fire districts across the county.
- **Extreme Temperatures:** Extreme temperatures can impact the entirety of Yakima County. Fire districts may play a role in supporting vulnerable community members impacted by extreme temperatures.

- **Flood:** Several fire districts have buildings located in the 100-year floodplain. Selah Fire Department (District #2) reported potential access issues due to flooding, and Yakima Fire Department (District #10/11) and Glead Fire Department (District #6) experienced disruptions to critical emergency operations during the 2016/2017 flooding, including blocked roadways, damaged fuel and power infrastructure, and a lack of accessibility to stations and vulnerable community members.
- **Landslide:** Fire districts may be impacted by landslides and other geologic hazards if major roadways or waterways are blocked, limiting services. Emergency medical services may also be required to respond to landslides that threaten life safety. For the most part, the landslide hazard poses a risk to the mountainous areas of Yakima County, which are served by state and federal fire agencies.
- **Severe Weather:** Severe weather can impact the entirety of Yakima County. Many of the fire stations do not have adequate back-up power, including three stations in District #12 and several in District #2. Fire districts have been challenged to secure generators given delays in grant programs, supply chain disruptions, and the impacts of COVID-19.
- **Severe Winter Weather:** Severe winter weather can impact the entirety of Yakima County. Community members are vulnerable to isolation during a significant winter storm, given their distance from other Yakima Valley communities and resources. During the 1996/1997 winter storm, several buildings storing hazardous materials collapsed in District #12. Additionally, District #12 has two buildings vulnerable to heavy snow and spring flooding, in addition to those without back-up power noted above.
- **Volcanic Eruption:** Volcanic hazards, specifically ash fall, can impact the entirety of Yakima County.
- **Cyber Threat/Attack:** Cyber threats are of growing concern for all local government agencies but can be particularly catastrophic for emergency services. Any disruption to dispatch or public safety communications infrastructure could significantly impact the effectiveness of public safety response. All the Fire Districts are vulnerable to cyber threats and have not conducted adequate vulnerability assessments to their critical technology and communications.
- **Dam/Levee Failure:** Several of the fire districts are located within dam inundation areas. The Bumping, Keechelus, Roza, Tieton, and Cle Elum dams are operated by the U.S. Bureau of Land Reclamation, and districts/departments within their inundation areas include Fire District #5, Yakima Fire Department (District #10/11), Selah Fire Department (District #2), and Glead Fire Department (District #6). All four dams are considered High Hazard Potential dams, with a class rating of 1A by the Washington Department of Ecology, indicating more than 300 lives are at risk due to failure. Fire District #1 is located in the inundation area of the French Canyon Dam on the North Fork of the Cowiche, which is operated by the Yakima-Tieton Irrigation District. This is High Hazard Potential dam, inspected on an annual basis and with an Emergency Action Plan in place. The Washington Department of Ecology classifies this dam as a 1B, which indicates 31 to 300 lives at risk due to failure.

Vulnerability Assessment

The intent of this section is to assess the vulnerability of the fire district facilities separate from that of the planning area, which has already been assessed in Section 3 (Hazard Identification and Risk Assessment). Fire stations are included in the critical facilities exposure analysis. City fire department assets are considered as a part of their respective jurisdiction annexes.

Table 12-C. Critical Assets and Facilities – Selah Fire Department/Fire District #2	
Critical Asset	Estimated Value
Type 1 Engines (6)	\$4.25 million
Type 6 Engines (6)	\$1.5 million
Type 1 Emergency Medical Services Transport (1)	\$200,000
Type 2 Water Tender (3)	\$600,000
Aerial Fire Apparatus (1)	\$1.75 million
Air Support/Rehab Truck (1)	\$250,000
Utility Truck (1)	\$75,000
Utility Terrain Vehicle (1)	\$30,000
Command Vehicles (3)	\$275,000
Critical Facilities	Estimated Value
21 - 206 W. Fremont Ave	\$5 million
22 – 1830 Harrison Rd	\$2.5 million
24 – 4251 N. Wenas Rd	\$1.5 million
26 – 121 Fink Rd	\$1.5 million
Total Assets	\$19,430,000

Table 12-D. Critical Assets and Facilities – Fire District #4	
Critical Asset	Estimated Value
Type 1 Engines (4)	\$2.8 million
Type 6 Engines (5)	\$1.25 million
Type 2 Water Tenders (2)	\$300,000
Air Support/Rehab Truck (1)	\$200,000
Utility Truck (1)	\$80,000
Command Vehicles (3)	\$250,000
Critical Facilities	Estimated Value
Station 40 - 2003 Beaudry Road, Moxee	\$5 million
Station 41 - 104 Rivard Road, Moxee	\$1.2 million
Station 42 - 4007 Commonwealth Dr., Terrace Heights	\$3.5 million
Total Assets	\$14,580,000

Table 12-E. Critical Assets and Facilities – Glead Fire Department/Fire District #6	
Critical Asset	Estimated Value
Type 1 Engines (2)	\$750,000
Type 6 Engines (2)	\$270,000
Type 1 Emergency Medical Services Transport (1)	\$175,000
Type 2 Water Tender (2)	\$576,000
Command Vehicles (2)	\$105,000
Critical Facilities	Estimated Value
61 – 80 North Glead Rd.	\$1.6 million
62 – 320 Old Naches Hwy.	\$650,000
Total Assets	4,126,000

Table 12-F. Critical Assets and Facilities – Fire District #12	
Critical Asset	Estimated Value
Type 1 Engines (6)	\$4.2 million
Type 6 Engines (6)	\$1.5 million
Type 1 Emergency Medical Services Transport (1)	\$225,000
Emergency Medical Services Non-transport (2)	\$130,000
Type 2 Water Tender (2)	\$600,000
Type 1 Pumper/Tender (1)	\$850,000
Type 2 Aerial Fire Apparatus (1)	\$250,000
Air Support Truck (1)	\$250,000
Firefighter On-Scene Rehab Support Bus (1)	\$150,000
Command Vehicles (5)	\$450,000
Critical Facilities	Estimated Value
51- 10000 Zier Rd.	\$5 million
52 9102 Ahtanum Rd. (flat membrane roof)	\$1.5 million
53 14901 Tieton Drive (flat membrane roof)	\$1.5 million
54 11 North Fork Rd.	\$1.5 million
Total Assets	\$18,055,000

Capability Assessment

Capabilities are the programs and policies currently in use that could be used to implement the hazard mitigation strategy. Local capabilities may include regulatory tools such as plans and ordinances, administrative and technical expertise, or fiscal resources. Table 12-G provides a summary of the resources within each district.

Table 12-G. Summary of District Resources

District Name	Department Type	Number of Stations	Number of Firefighters (Career, Volunteer, Paid per Call)
Fire District #1 Highland Fire Department	Volunteer	2	14
Fire District #2 Selah Fire Department	Combination	4	60
Fire District #4 East Valley Fire Department	Combination	3	29
Fire District #6 Gleed Fire Department	Combination	2	25
Fire District #12 West Valley Fire Department	Combination	4	86

Regulatory Capabilities

The fire districts are governed under the policies and programs of Yakima County, while the structural fire departments are governed under the policies of their respective cities, including building codes and land use planning. Yakima County's regulatory capabilities are summarized in Section 5 (Implementation and Plan Integration), while each municipality's regulatory capabilities are described in their respective Annexes.

Relevant codes and ordinances include:

- 2018 International Fire Code
- 2018 Wildland-Urban Interface (WUI) Code

Relevant programs to advance mitigation projects include:

- **Wildfire Ready Neighbors:** Wildfire Ready Neighbors is a program of the Washington Department of Natural Resources. It is a coalition of partners across six counties, including Yakima County. The program encourages defensible space and other protective actions by property owners and provides in-person home visits and forest health consultations.
- **Firewise USA:** Yakima County and local fire districts encourage communities to participate in Firewise Communities USA. This program helps homeowners to reduce their wildfire risk by completing an assessment of their community and identifying opportunities to reduce risk.

Relevant planning documents include:

- **Emergency Service Plans:** Various emergency plans are relevant to the fire districts, including transportation plans and water supply plans. Emergency service plans are updated as needed.
- **Capital Improvement Plans (CIP):** Each fire district has a CIP that is updated annually and often includes mitigation project implementation.
- **Strategic Plans:** Each fire district updates its strategic plan annually, which includes a description of capabilities.
- **Community Wildfire Protection Plan (CWPP):** The CWPP is an in-depth risk assessment for the hazards of wildland fire in Yakima County. In tandem with the 2022 HMP Update, a Planning Committee, made up of Yakima Valley Office of Emergency Management, Yakima Fire Department, Senator Murray's Office, Yakima County Fire Marshal's Office, Yakima County Commissioners, Washington Department of Natural Resources, and other agencies updated the Community Wildfire Protection Plan (CWPP) for Yakima County. The 2022 CWPP will be adopted by the Yakima County Commissioners as an Annex to the HMP. The CWPP identifies and prioritizes wildland-urban interface (WUI) areas within Yakima County (including state, county, federal and other lands) for hazardous fuels reduction treatments and recommends methods for achieving hazardous fuels reduction.
- **Mutual Aid Agreements:** The fire districts and city departments participate in the Yakima County Mutual Aid Agreement to provide emergency response. Some departments also have automatic aid agreements. District #12 has automatic aid with District #1, District #6, and Yakima Fire Department (District #10/11).

Administrative and Technical Capabilities

The fire districts work with Yakima County and city departments of engineering, emergency management, and GIS on activities related to hazard mitigation and loss prevention.

Table 12-H. Fire Districts Administrative and Technical Capability Assessment

Indicator	Available	Comments
Planners or engineers with knowledge of land development and land management	Yes	Fire districts rely on Yakima County and their cities for planning services as needed, as well as contracted services for planning and engineering projects
Engineers or professionals trained in building or infrastructure construction	Yes	
Planners or engineers with an understanding of natural hazards	Yes	
Surveyors	No	
Personnel skilled or trained in GIS	Yes	Yakima County GIS
Emergency manager	Yes	Many fire departments/districts are responsible for leading/co-leading emergency management in their communities. They are supported by Yakima Valley Emergency Management.
Floodplain manager	No	
Grant writers	Yes	Yakima Valley Emergency Management employs a grantwriter who supports the fire districts.
Other		

Fiscal Capabilities

The fire protection districts are funded through property taxes. Fiscal mitigation capabilities are financial tools or resources that the fire protection districts could or already do use to help fund mitigation activities. These include the following:

- Capital improvements project funding
- Taxes for specific purposes
- Debt through general obligation bonds
- Grants from state and federal agencies

Mitigation Strategy

The participating fire districts identified and prioritized mitigation actions as a part of the countywide mitigation strategy. The fire districts are included as either the coordinating agency or a partner agency in the actions included in **Table 12-1**. The complete 2022 Hazard Mitigation Strategy is included as **Appendix E** to the base plan.

Table 12-1. Yakima County Fire Districts 2022 Hazard Mitigation Strategy					
Action #	Hazard	Action Items	Coordinating Organization	Participating Jurisdictions and Supporting Agencies	Priority
4	Cyber Threat/Attack	Complete a Security Risk Assessment to prioritize mediation tasks and mitigate vulnerabilities.	Yakima County Information Technology, City of Yakima Information Technology	Yakima Valley Emergency Management, Yakima County Fire Districts, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County	HIGH
7	Cyber Threat/Attack	Conduct training and exercises for cyber intrusions and other cyber threats to critical facilities, infrastructure, and government operations.	Yakima County Information Technology, City of Yakima Information Technology	Yakima Valley Emergency Management, Yakima County Fire Districts, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches	HIGH
18	Earthquake Severe Weather Severe Winter Storm	Develop an inventory of at-risk critical facilities and infrastructure, including unreinforced masonry and transportation assets, and prioritize projects.	Yakima Valley Office of Emergency Management	Yakima County GIS, Yakima County Public Services/Permit Services, Yakima County Fire Districts, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches	HIGH
19	Earthquake Severe Weather Severe Winter Weather Wildfire	Secure funding to purchase back-up power generators for critical facilities, including fire stations, emergency shelters, mass care sites, critical logistics, and water systems.	Yakima Valley Office of Emergency Management	Yakima County Fire Districts, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, City of Zillah, Town of Harrah, Town of Naches, Yakima County	MODERATE

Table 12-1. Yakima County Fire Districts 2022 Hazard Mitigation Strategy

Action #	Hazard	Action Items	Coordinating Organization	Participating Jurisdictions and Supporting Agencies	Priority
24	Flooding Landslide/Erosion Wildfire	Assess and implement emergency stabilization projects to reduce additional hazard risks in wildfire burn areas, as detailed in Burned Area Emergency Response (BAER) Assessments for the Schneider Springs Fire (2021), Evans Canyon Fire (2020), and North Brownstown Fire (2020).	Land management agencies, based on ownership and project	Yakima Valley Emergency Management, Washington DNR, US Forest Service, Yakima County Fire Districts, Yakima County Flood Control Zone District, private landowners	HIGH
25	Flooding Wildfire	Develop a public awareness and education campaign about existing mitigation programs targeted to personal preparedness measures for homeowners (ex. FireWise, defensible space, insurance programs)	Yakima Valley Office of Emergency Management	Yakima County Flood Control District, Yakima County Fire Districts, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County, Washington Resource Conservation and Development Council	HIGH
26	Flooding	Assess necessary flood reduction measures to ensure ingress/egress from all fire district facilities.	Yakima Valley Office of Emergency Management	Yakima County Fire Districts, Yakima County Flood Control Zone District, City Fire Departments, Municipal Road/Highway Departments	HIGH
43	Hazardous Materials	Establish a county-wide hazardous materials response team to ensure efficient and cost-effective operations.	Yakima Fire Department	Yakima County Fire Districts, Yakima Valley Emergency Management, City of Yakima	HIGH
46	Wildfire	Implement wildfire protection measures around the city's wastewater facilities to reduce risk, including fire	Grandview Fire Department Yakima County Fire District #5	City of Grandview	MODERATE

Table 12-1. Yakima County Fire Districts 2022 Hazard Mitigation Strategy

Action #	Hazard	Action Items	Coordinating Organization	Participating Jurisdictions and Supporting Agencies	Priority
47	Wildfire	Participate in the Wildfire Ready Neighbors Program, FireWise USA, and other programs to encourage fuels reduction and property protection in areas within the Wildland-Urban Interface. Reduce wildfire risk through land use planning by implementing new requirements for fire-resistant design standards, encouraging fire safe development strategies, and ensuring adequate fire protection for new development as identified in the Yakima County Comprehensive Plan (Actions NH 3.1 - 3.10).	Yakima County Fire District #2 and Yakima County Fire District #12	Yakima Valley Emergency Management, Yakima County Fire Districts, Washington DNR, Yakama Nation	HIGH
48	Wildfire	Develop defensible space around homes and encourage residents to participate in community awareness and education events.	Yakima County Planning	Yakima County Fire Districts, Yakima Valley Emergency Management, Yakima County Building and Fire Division	HIGH
49	Wildfire	Offer hands-on workshops to highlight individual home vulnerabilities and how-to-techniques to reduce	Community Wildfire Protection Plan (CWPP) Steering Committee	Yakima County Fire Districts, Yakima Valley Emergency Management, Yakima County Fire Marshal's Office, Washington DNR, U.S. Forest Service	HIGH
50	Wildfire		Community Wildfire Protection Plan (CWPP)	Yakima County Fire Districts, Yakima Valley Emergency Management, Yakima County Fire Marshal's Office, Washington DNR, U.S. Forest Service	HIGH

Table 12-1. Yakima County Fire Districts 2022 Hazard Mitigation Strategy

Action #	Hazard	Action Items	Coordinating Organization	Participating Jurisdictions and Supporting Agencies	Priority
		ignitability of common structural elements and encourage residents to participate.	Steering Committee		
51	Wildfire	Encourage residents to assess and improve accessibility to their property.	Community Wildfire Protection Plan (CWPP) Steering Committee	Yakima County Fire Districts, Yakima Valley Emergency Management, Yakima County Fire Marshal's Office, Washington DNR, U.S. Forest Service	MODERATE
52	Wildfire	Develop a community-level Community Wildfire Protection Plan for each at-risk community that will identify specific firefighting resource projects, fuels reduction projects, public education and outreach projects, and reduction in structural ignitability projects through collaboration with state, federal, tribal, county, and private entities.	Community Wildfire Protection Plan (CWPP) Steering Committee	Yakima County Fire Districts, Yakima Valley Emergency Management, Yakima County Fire Marshal's Office, Washington DNR, U.S. Forest Service	MODERATE
53	Wildfire	Develop a program to incorporate Firewise into all aspects of the community through education on individual roles and responsibilities for wildland fire prevention and safety.	Community Wildfire Protection Plan (CWPP) Steering Committee	Yakima County Fire Districts, Yakima County Fire Marshal's Office, Washington DNR, U.S. Forest Service	MODERATE
55	Wildfire	Recruit additional volunteer firefighters in Fire Districts	Yakima County Fire Districts	City Fire Departments	MODERATE

Table 12-1. Yakima County Fire Districts 2022 Hazard Mitigation Strategy

Action #	Hazard	Action Items	Coordinating Organization	Participating Jurisdictions and Supporting Agencies	Priority
		that serve as secondary response units for wildfires.			
56	Wildfire	Establish and implement fire mitigation projects, fuel break projects, defensible space projects, maintenance and/or expansion of roads to provide for efficient firefighting access, treat slash and other fuels such as dead standing volume, provide safety zones and evacuation routes, green striping, firefighting resources, chipping programs, public education and outreach projects, as well as projects to reduce structural ignitability in at risk communities/ neighborhoods/areas in Yakima County.	Community Wildfire Protection Plan (CWPP) Steering Committee, Yakima Valley Emergency Management	Yakima County Fire Districts, City Fire Departments, Yakima County Fire Marshal's Office, Washington DNR, U.S. Forest Service, North Yakima Conservation, Yakima Greenway Association	MODERATE
57	Wildfire	Implement grazing programs throughout the Wildland-Urban Interface. Grazing is a tool used to for wildfire mitigation, invasive species control and wildlife habitat enhancement.	Community Wildfire Protection Plan (CWPP) Steering Committee	Yakima County Fire Districts, Yakima Valley Emergency Management, City Fire Departments, North Yakima Conservation District Washington DNR, U.S. Forest Service	HIGH

Table 12-1. Yakima County Fire Districts 2022 Hazard Mitigation Strategy

Action #	Hazard	Action Items	Coordinating Organization	Participating Jurisdictions and Supporting Agencies	Priority
58	Wildfire	Encourage at risk communities to continue mitigation activities on their own by providing a crew and equipment to chip material on-site.	Community Wildfire Protection Plan (CWPPP) Steering Committee	Yakima County Fire Districts, Yakima Valley Emergency Management, City Fire Departments, Yakima County Fire Marshal's Office, Washington DNR, U.S. Forest Service, North Yakima Conservation District	HIGH
59	Wildfire	Improve access/egress routes and signage.	Community Wildfire Protection Plan (CWPPP) Steering Committee	Yakima County Fire Districts, Yakima Valley Emergency Management, Yakima County Building and Fire Division, Yakima County Roads Divisions, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County, Washington DOT, Washington DNR, U.S. Forest Service	HIGH
67	Multi-Hazard	Provide training and technical assistance for jurisdictions and emergency services providers to create Continuity of Operations Planning (COOP) planning programs. Integrate IT and cyber considerations within COOP resources.	Yakima Valley Office of Emergency Management	Yakima County IT, City of Yakima IT, Yakima County Flood Control Zone District, Yakima County Fire Districts, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County	HIGH

Annex 13. Yakima County-wide Flood Control Zone District

As a result of Yakima County being declared a federal disaster area seven times because of flooding, and the devastating flood events of 1995 and 1996, the Yakima County-wide Flood Control Zone District (FCZD) was established in 1998 as a special district to address flood management needs in Yakima County, as allowed by RCW 86.15. The FCZD is responsible for flood planning, flood proofing and elevation of structures, flood warning and emergency response, property acquisition, and identifying and implementing other flood-related mitigation projects and regulations in both unincorporated Yakima County and within municipalities. The District works under the direction of the Yakima County Board of County Commissioners (acting as the Board of Supervisors) and the County Engineer. FCZD maintains Comprehensive Flood Hazard Management Plans for the Upper Yakima River (2018), Naches River (2006), and Ahtanum-Wide Hollow (2012). The FCZD can implement projects within municipalities as well as in cooperation with agencies, individuals, and property owners.

Hazard Identification and Risk Assessment

Representatives of the FCZD actively participated in the 2022 HMP Update as members of the planning committee. In addition to the countywide risk assessment, the FCZD identified the hazards that affect the District and revised the risk assessment to reflect probability, frequency, and potential impacts, as summarized in Table 13-A below. In the context of the countywide planning area, there are no hazards unique to the FCZD. Information on past events for each hazard can be found in Section 3 (Hazard Identification and Risk Assessment) in the base plan.

Table 13-A. Hazard Identification and Risk Assessment – Flood Control Zone District		
Natural Hazards	2022 Countywide Risk Ranking	2022 FCZD Risk Ranking
Agriculture Disease Outbreak	Medium	Medium
Avalanche	Low	Low
Drought	Medium	Medium
Earthquake	Low	Low
Extreme Temperatures	Medium	Medium
Flood	High	High
Landslide/Mudslide/Debris Torrent/Erosion	Medium	High
Public Health Emergency	High	High
Severe Weather	Medium	Medium
Severe Winter Storm	High	High
Volcanic Eruption	Low	Low
Wildfire	High	High
Technological and Human Hazards	2022 Countywide Risk Ranking	2022 FCZD Risk Ranking
Cyber Incident	Medium	Medium
Dam and Levee Failure	High	High
Hazardous Materials Incident	Medium	Medium
Nuclear/Radiological Incident	Low	Low
Terrorism	Low	Low

As a county-wide district, FCZD risks are generally consistent with the county rankings. Risk of landslides, erosion, and other geologic hazards is slightly higher for the District, given the potential for stream and river diversions and subsequent flooding. Specific hazard areas and vulnerabilities most relevant to the FCZD are described below.

- **Drought:** Drought can impact the entirety of Yakima County. The county's irrigation diversions and surface water sources are most vulnerable to drought. There is a need for increased coordination and cooperation across the county to prepare for more frequent and longer duration drought events. The FCZD is an integral partner in the Yakima Basin Integrated Plan, which seeks to balance groundwater and surface water uses. There is a need across the county for more planning and technical studies and support for smaller jurisdictions to invest in resilient water sources.
- **Flood:** Many of the FCZD's critical facilities are located within the 100-year floodplain. Flood risk is a priority concern to the District, and specific risks and vulnerabilities are further detailed in the Comprehensive Flood Hazard Management Plans. The highest flood levels have historically occurred between November through June.
- **Landslides:** Historically, landslides in Yakima County have posed a risk to riverine systems, leading to blockages and resultant flooding. The Nile Valley Landslide disrupted the Naches River and required millions of dollars in improvements, a process facilitated by the FCZD. Additionally, most FCZD critical facilities and properties are located in landslide hazard areas or would experience flooding if a waterway was blocked or disrupted. The FCZD also experiences significant operational impacts from landslides, requiring emergency response actions and implementation of recovery and mitigation projects.
- **Severe Winter Weather:** Severe winter weather can impact the entirety of Yakima County. The FCZD is most concerned about flooding caused by ice jams or frozen creeks during extreme, long duration winter events. This unseasonable flooding is less predictable than seasonal snowmelt or riverine flooding.
- **Dam/Levee Failure:** Many of the FCZD's critical facilities are located within dam inundation areas. A dam failure of any of the area's dams could create catastrophic flooding, river diversions, and significant damage to flood control infrastructure. Levee failures could create similar issues on a smaller, more localized scale.

Capability Assessment

Capabilities are the programs and policies currently in use that could be used to implement the hazard mitigation strategy. Local capabilities may include regulatory tools such as plans and ordinances, administrative and technical expertise, or fiscal resources.

Regulatory Capabilities

The FCZD is governed under the policies and programs of Yakima County, including building codes, zoning ordinances, and land use planning. **Table 13-B** lists key indicators of legal and regulatory capability to implement mitigation projects that are specific to the FCZD.

Table 13-B. FCZD Legal and Regulatory Capability Assessment	
Indicator	Comments
<i>Codes and Ordinances</i>	
Governance	RCW 86.15 allows for the creation of Flood Control Zone Districts in Washington and details their authorities.
Hazard-Specific	FCZD supports cities in their National Flood Insurance Program (NFIP) compliance, as well as compliance with the Yakima County Critical Areas Ordinance and Shoreline Management Program, which most cities have adopted.
Environmental Protection	The Yakima County Critical Areas Ordinance includes procedures for protecting wetlands, fish and wildlife habitat conservation areas, areas subject to certain hazards, and other environmentally sensitive lands. FCZD also consults on Endangered Species Act compliance and environmental assessments/reviews as required by the National Environmental Policy Act (NEPA).
<i>Plans</i>	
Comprehensive Plan	FCZD participates in comprehensive planning for Yakima County as well as individual cities/towns.
Comprehensive Flood Hazard Management Plans (CFHMP)	The Yakima County-wide Flood Control Zone District manages three CFHMPs – Upper Yakima River, Naches River, and Ahtanum-Wide Hollow. These plans identify mitigation strategies and regulatory needs for flooding in Yakima County. The Lower Yakima River CFHMP will be initiated concurrent with flood map updates and consultation with the Yakama Nation.
Capital Improvement Plan	Each year, the FCZD updates a plan outlining Capital Improvement Projects (CIP) in the District over the next six years. Many priority CIPs are included in the countywide mitigation strategy. The annual plan includes the status of projects, roadblocks, and funding strategies.
Continuity of Operations Plan (COOP)	FCZD does not have a COOP in place at this time.
Flood Insurance Study	FCZD provides technical and grantwriting expertise for flood insurance studies on behalf of Yakima County. Yakima County is a Cooperating Technical Partner that works with FEMA to maintain up-to-date flood hazard maps and other flood hazard information.
Other Engineering Studies	As needed, FCZD creates geotechnical, geomorphic, and engineering studies and assessments for specific watersheds, planning areas, and infrastructure projects that affect water

Indicator	Comments
	courses or floodplains. These studies inform mitigation projects and support the prioritization of structural improvements and other investments. FCZD also provides HAZUS analysis for priority mitigation projects.
Emergency Response Plans	FCZD last updated its Flood Emergency Response Plan in October of 2021 and produces flood risk reports as needed. FCZD staff work closely with the National Weather Service, Yakima Valley Emergency Management, Yakima County Roads, and the US Army Corps of Engineers on flood forecasting, observation and response measures.
Benefit-Cost Analysis (BCA)	FCZD develops BCAs for specific mitigation projects as needed.

Administrative and Technical Capabilities

The FCZD works closely with the Yakima County Engineer and other county departments, including Public Services (Planning and Building), County Roads, Emergency Management, and GIS to carry out its duties. The FCZD also works with municipalities and special purpose districts within the county to implement flood control improvement projects and identify mitigation project needs.

Additionally, FCZD coordinates with state and federal agencies in the design and management of water related infrastructure such as bridges and irrigation diversions. FCZD is the qualified entity for many procedures required as a part of mitigation projects, including permitting (U.S. Army Corps of Engineers, Washington State Department of Fish and Wildlife, U.S. Fish and Wildlife Service, SEPA/Shorelines, Washington State Department of Ecology, Washington State Department of Natural Resources, NFIP), HAZUS/GIS analysis, Benefit-Cost Analysis (FEMA), grant writing, engineering studies, and NEPA environmental reviews.

Given the above, the FCZD strives to incorporate ecological, economical, and operational benefits into projects or plans that create a suite of comprehensive and integrated benefits for the community. FCZD is unique in its authority and capability to implement projects within municipalities and across the county, given these administrative and technical resources. Cities within Yakima County rely heavily on the FCZD for scoping and implementation of flood mitigation projects. FCZD also acts as a data repository for water-related information such as hydraulic models, topographic studies, flood permits and changes to flood maps, and distributes these materials to the public and local, state, and federal agencies as required or requested.

Indicator	Available	Comments
Planners or engineers with knowledge of land development and land management	Yes	Staff expertise in code development and planning; authority lies with Yakima County or municipalities
Engineers or professionals trained in building or infrastructure construction	Yes	Staff expertise supplemented with contract services
Planners or engineers with an understanding of natural hazards	Yes	Staff expertise

Table 13-C. FCZD Administrative and Technical Capability Assessment		
Indicator	Available	Comments
Surveyors	Yes	Contracted Services
Personnel skilled or trained in GIS and HAZUS	Yes	Staff expertise; supported by Yakima County GIS
Emergency manager	Yes	FCZD Senior Manager is responsible for emergency flood response; authority lies with Yakima Valley Emergency Management
Floodplain manager	Yes	Water Resources Manager (Certified Floodplain Manager through American Society of Floodplain Managers)
Grant writers	Yes	Staff expertise
Other	Yes	Other staff capabilities related to mitigation include riverine management, natural and environmental resources, biologic/geomorphic resources, and disaster recovery

Fiscal Capabilities

The FCZD receives revenue through an assessed property tax levy at \$0.10/\$1,000 as well as grants from state and federal agencies. The tax levy covers existing staffing resources, who then work to access grant funding from state and federal programs to implement local projects. The tax levy also covers maintenance of flood control facilities and stewardship of FCZD owned properties, and typically covers studies, plans, grant matching funds, public education, administration, multi-jurisdictional coordination and review of development proposals and code. FCZD also has an emergency fund for flood response and mitigation projects. The FCZD levy typically generates approximately \$1.6M in funds. Through aggressive grant writing, comprehensive planning, and coordination, the FCZD has been successful in being awarded competitive state and federal flood risk reduction and floodplain restoration grants, averaging several million dollars each biennium over the past 10 years. This budget grows significantly during emergency response and recovery periods. For example, FCZD processed \$17 million in response for response, recovery, and mitigation projects after the Nile Landslide. FCZD also owns property throughout Yakima County. The agency serves as the manager for all flood-related lands acquired prior to 2000 and owns all flood-prone properties acquired since then.

Mitigation Strategy

The FCZD identified and prioritized mitigation actions as a part of the countywide mitigation strategy. The FCZD is included as either the coordinating agency or a partner agency on the actions listed in **Table 13-D**. The complete 2022 Hazard Mitigation Strategy is included as **Appendix E** to the base plan.

Table 13-D. Yakima County-wide Flood Control Zone District 2022 Hazard Mitigation Strategy

Action #	Hazard	Action Items	Coordinating Organization	Participating Jurisdictions and Supporting Agencies	Priority
8	Dam/Levee Failure Flooding	Construct improvements to Nelson Dam to reduce flooding risk and life-safety hazard and increase habitat and fish passage.	Yakima County Flood Control Zone District	U.S. Bureau of Reclamation, City of Yakima, Washington DF&W, Yakima County	HIGH
9	Dam/Levee Failure Landslide/Erosion Flooding	Implement the Gap to Gap Ecosystem Restoration Project by setting back levees and reconnecting the floodplain.	Yakima County Flood Control Zone District	U.S. Army Corps of Engineers, City of Yakima, Yakima County	HIGH
10	Drought	Continue implementation of drought risk reduction and water management projects through the Yakima Basin Integrated Plan, including identifying new surface and aquifer storage options.	Yakima River Basin Water Enhancement Project Work Group (Integrated Plan)	Yakima County Flood Control Zone District, City of Yakima, City of Tieton (Yakima-Tieton Irrigation District, City of Sunnyside (Sunnyside Valley and Roza Irrigation Districts), Yakima County	MODERATE
23	Flooding Landslide/Erosion	Clear debris in the North Fork Cowiche Creek to reduce flooding risk and potential property damage, as well as potential erosion.	City of Tieton Public Works	Yakima County Flood Control Zone District, City of Tieton, Tieton Irrigation District	HIGH

Table 13-D. Yakima County-wide Flood Control Zone District 2022 Hazard Mitigation Strategy

Action #	Hazard	Action Items	Coordinating Organization	Participating Jurisdictions and Supporting Agencies	Priority
24	Flooding Landslide/Erosion Wildfire	Assess and implement emergency stabilization projects to reduce additional hazard risks in wildfire burn areas, as detailed in Burned Area Emergency Response (BAER) Assessments for the Schneider Springs Fire (2021), Evans Canyon Fire (2020), and North Brownstown Fire (2020).	Land management agencies, based on ownership and project	Yakima Valley Emergency Management, Washington DNR, US Forest Service, Yakima County Fire Districts, Yakima County Flood Control Zone District, private landowners	HIGH
25	Flooding Wildfire	Develop a public awareness and education campaign about existing mitigation programs targeted to personal preparedness measures for homeowners (ex. FireWise, defensible space, insurance programs)	Yakima Valley Office of Emergency Management	Yakima County Flood Control District, Yakima County Fire Districts, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Summyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County, Washington Resource Conservation and Development Council	HIGH
26	Flooding	Assess necessary flood reduction measures to ensure ingress/egress from all fire district facilities.	Yakima Valley Office of Emergency Management	Yakima County Fire Districts, Yakima County Flood Control Zone District, City Fire Departments, Municipal Road/Highway Departments	HIGH
27	Flooding	Update FEMA Regulatory Maps on Lower Naches River.	Yakima County Flood Control Zone District	FEMA, Yakima County, Washington State Department of Ecology, City of Yakima, Town of Naches, Yakima Valley Emergency Management	HIGH

Table 13-D. Yakima County-wide Flood Control Zone District 2022 Hazard Mitigation Strategy

Action #	Hazard	Action Items	Coordinating Organization	Participating Jurisdictions and Supporting Agencies	Priority
28	Flooding	Complete the Lower Yakima River Comprehensive Flood Management Plan in coordination with Yakama Nation following or concurrent with Flood Insurance Rate Map Study.	Yakima County Flood Control Zone District	Yakama Nation, Yakima Valley Emergency Management, City of Toppenish, Town of Granger, Town of Wapato, Yakima County, Washington DF&W, Washington DOE	HIGH
29	Flooding	Complete Flood Risk Reports for the Upper Naches and Cowlitz watersheds.	Yakima County Flood Control Zone District	FEMA, Yakima County, City of Tieton, Yakima Valley Emergency Management	HIGH
30	Flooding	Pursue Naches-Rock Creek Floodplain Restoration Project in partnership with WSDOT to reduce risk to infrastructure and residences in the area through property purchases, levee setback/removal, and floodplain modification.	Yakima County Flood Control Zone District	Yakima Valley Emergency Management, Washington DOT, Yakima County, U.S. Army Corps of Engineers, Washington DF&W	HIGH
31	Flooding	Relocate Cowlitz Creek downstream of US-12 to retire irrigation structures and improve floodplain access and increase flood protection for US-12.	Yakima County Flood Control Zone District	City of Yakima, Washington DOT, Yakima County	MODERATE
32	Flooding	Preserve floodplains and other natural open spaces to maintain hydrologic functions of natural systems and reduce flood risk.	Yakima County Planning, City of Yakima Community Development	Yakima County Flood Control Zone District	HIGH

Table 13-D. Yakima County-wide Flood Control Zone District 2022 Hazard Mitigation Strategy

Action #	Hazard	Action Items	Coordinating Organization	Participating Jurisdictions and Supporting Agencies	Priority
34	Flooding	Improve floodplain conveyance between Meyers Road Bridge and I-82 exit to Zillah to reduce public safety hazards and flood risk near critical transportation infrastructure.	Yakima County Flood Control Zone District	Yakima Basin Integrated Plan Work Group, Yakama Nation, Yakima County Roads	HIGH
35	Flooding	Continue efforts to increase Ahtanum channel capacity and reduce flood hazard downstream to Union Gap and Yakima.	Yakima County Flood Control Zone District	Ahtanum Irrigation District, City of Union Gap, City of Yakima	HIGH
36	Flooding	Re-route Shaw Creek and improve conveyance in Wide Hollow Creek to reduce flood hazard to existing and future residential development.	Yakima County Flood Control Zone District	City of Yakima, West Valley School District, Washington DOE, FEMA	HIGH
37	Flooding	Increase awareness of flood risk and safety, as well as flood mitigation techniques for property owners through the implementation of FCZD's Public Outreach Plan.	Yakima County Flood Control Zone District	Yakima Valley Office of Emergency Management	MODERATE
38	Flooding	Maintain compliance with current National Flood Insurance Program (NFIP) regulations to make flood insurance available to property owners.	Local Floodplain Officials	City of Grandview, City of Granger, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County Flood Control Zone District, Yakima County	HIGH

Table 13-D. Yakima County-wide Flood Control Zone District 2022 Hazard Mitigation Strategy

Action #	Hazard	Action Items	Coordinating Organization	Participating Jurisdictions and Supporting Agencies	Priority
39	Flooding	Consider entering, maintaining compliance with, or lowering Class rating for the FEMA Community Rating System (CRS), which rewards jurisdictions that are pro-active in public awareness and pre-hazard mitigation. Develop application meeting program requirements and implement.	Local Floodplain Officials	City of Grandview, City of Granger, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Naches, Yakima County, Yakima County Flood Control Zone District	HIGH
40	Flooding	Acquire, relocate, or remove existing structures from flood hazard areas as identified in Comprehensive Flood Hazard Management Plans.	Yakima County Flood Control Zone District	Yakima County Planning Division, City of Granger, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Naches, Yakima County	HIGH
41	Flooding	Advance opportunistic cooperation with entities on their projects where flood risk reduction may result.	Yakima County Flood Control Zone District	City of Grandview, City of Granger, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County Public Services, Yakima Valley Emergency Management, Yakima County Roads	HIGH
42	Flooding	Manage crack willow and debris to increase channel capacity to contain small flood events. Replace with desirable plant species in riparian areas.	Yakima County Flood Control Zone District	City of Yakima, Yakima County	HIGH

Table 13-D. Yakima County-wide Flood Control Zone District 2022 Hazard Mitigation Strategy

Action #	Hazard	Action Items	Coordinating Organization	Participating Jurisdictions and Supporting Agencies	Priority
65	Multi-Hazard	Develop, enhance, and implement education programs aimed at mitigating hazards and reducing the risk to residents, public agencies, private property owners, businesses, and schools.	Yakima Valley Office of Emergency Management	Yakima County Flood Control Zone District, Yakima County Public Services, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County	HIGH
67	Multi-Hazard	Provide training and technical assistance for jurisdictions and emergency services providers to create Continuity of Operations Planning (COOP) planning programs. Integrate IT and cyber considerations within COOP resources.	Yakima Valley Office of Emergency Management	Yakima County IT, City of Yakima IT, Yakima County Flood Control Zone District, Yakima County Fire Districts, City of Grandview, City of Granger, City of Moxee, City of Selah, City of Sunnyside, City of Tieton, City of Toppenish, City of Union Gap, City of Yakima, Town of Harrah, Town of Naches, Yakima County	HIGH