



Valley Regional Fire Authority Plan Annex

Introduction

The Valley Regional Fire Authority (VRFA) is a regional fire authority operating under the RCW Title 52.26 *Regional Fire Protection Service Authority*. The VRFA provides fire suppression, emergency medical, technical rescue, and hazardous materials response. Additionally, the VRFA provides public information, education, investigation, and risk reduction inspections services to preserve and protect lives and property within the communities of Algona, Auburn, Pacific and a small portion of unincorporated King County (Fire District #31). The City of Auburn and City of Pacific boundaries are located in both King and Pierce counties, with the overwhelming majority of residents living in King County. The City of Algona is located in King County.

A nine-member Board of Governance comprised of elected officials from all three member cities is responsible for the administration of the agency. Funding for the VRFA comes primarily through property taxes, a fire service benefit charge, fees and other sources of revenue.

The VRFA service area is located in the western part of Washington State and is approximately twenty miles south of Seattle in urban / suburban King County. The service area hosts critical infrastructure to the western United States, including essential transportation, manufacturing and distribution components, as well as crucial government, energy, and retail assets. In 2001, a commuter rail and bus station opened in the downtown area of the City of Auburn, carrying thousands of commuters from Auburn to Seattle (northbound) and from Auburn to Tacoma (southbound) each day. An adjacent six-story commuter-station parking-garage can house nearly 550 vehicles (park and ride commuters).

Two major rail freight carriers, Burlington Northern Santa Fe (BNSF) and Union Pacific serve the area from a large rail yard located just south of downtown Auburn. The Federal Aviation Administration's "Seattle Center" (southeast Auburn) manages the airspace of Washington, Oregon, northern California and parts of Idaho and Montana, effectively handling over 1.5M airspace operations annually. Auburn is 15 miles south of the Seattle-Tacoma International Airport and just 20 miles south of the Port of Seattle, the closest deep-water port to Alaska and the Far East. State Highways 18 and 167 bisect Auburn along two axes. These major arterials connect to Interstate 5, the primary north-south freeway system. In addition to rail and vehicle transportation, Auburn operates one of the busiest Municipal Airports in the state of Washington.

Significant manufacturing and distribution functions occur within the VRFA's service area. The Boeing Corporation operates a large fabrication facility within the City of Auburn that employs several thousand workers. In south Auburn, Safeway Incorporated operates a 116-acre distribution facility that serves the northwestern portion of the United States. The federal government's General Service Administration's northwest / Arctic Regional Headquarters resides in Auburn on a 134-acre complex that is shared by the VRFA's Station 35. Two major pipelines also run through the service boundaries: the Olympic gasoline pipeline and the Williams natural gas pipeline.

The Outlet Collection Seattle (super mall), the Emerald Downs Race Track, the Muckleshoot Casino, the Auburn Performing Arts Center, the White River Valley Museum, and the Washington National Golf Course all reside within

Jurisdiction Profile

The Valley Regional Fire Authority

- **Population Served:** 3,171 (Algona), 77,44 (Auburn), 7,113 (Pacific)¹
- **Land Area Served:** 37 square miles



the VRFA's service area and provide tremendous economic benefit to the entire region. The Muckleshoot Indian Tribe is south King County's second largest employer with over 1,400 employees working within the City of Auburn. The White River Amphitheater, which is just outside the VRFA's southeastern boundary, also provides seating for 17,000 people for concerts, graduation ceremonies or other functions that require a large seating capacity.

Development Trends

The VRFA serves the cities of Algona, Auburn and Pacific (including annexation areas), parts of unincorporated King County, as well as contract services to King County Fire Protection District #31. The three member cities have comprehensive plans that encourage growth in their respective designated light commercial and residential land use zones. The cities are seeing an increase in building and business permits, and it is expected that population growth will increase rapidly over the next several years.

The member cities have also seen dramatic growth in residential and commercial housing. Recently, the area has seen a significant increase in large assisted living facilities and senior housing. These types of facilities have stressed VRFA resources due to an increase in requests for service with the aging population. In tandem, it is expected that the VRFA call volume will increase at the same rate as the population growth (across all demographics) based on historical data. The VRFA expects that additional fire stations and response equipment will be necessary to keep up with the growing population, expansion of the service area and the growing call volume. See VRFA Capital Plan for details.

Jurisdiction Point of Contact:

Name: Sarah Nuss
Title: Emergency Management
Coordinator
Entity: Valley Regional Fire Authority
Phone: 253-347-8186
Email: sarah.yancey@vrfa.org

Plan Prepared By:

Name: Sarah Nuss
Entity: Valley Regional Fire Authority
Phone: 253-347-8186
Email: sarah.yancey@vrfa.org



Jurisdiction Risk Summary

Hazard Risk and Vulnerability Summary

HAZARD	HAZARD SUMMARY	VULNERABILITY SUMMARY	IMPACT SUMMARY
Earthquake	<p>The entire service area is at risk for geologic hazards (earthquakes), with the largest fault lines capable of earthquakes that induce damages ranging from 2.8% (M9.0 Cascadia Earthquake) to 7.4% (M7.1 Tacoma Fault) of total building and contents.</p>	<p>All N=6 fire stations are at risk for ground shaking as a result of an earthquake.</p> <p>The older stations (#38, #35, and #31) are particularly vulnerable to damage from ground shaking. In addition, apparatus, personnel and staff vehicles parked inside any of the N=6 stations are vulnerable to damage from falling debris during and after an earthquake.</p>	<p>If apparatus were to become permanently trapped inside or under debris, life-saving operations would be severely affected (delayed or not delivered).</p>
Flood	<p>A portion of the land area of Auburn, Algona and Pacific is within the Special Flood Hazard Area. In the past 5 years, there have been a few flooding events that produced minor impacts within the City of Auburn. In addition, Auburn’s last major flood event was during the 2015 declared flood emergency in Washington State, where lowland flooding and localized small landslides occurred in Auburn.</p> <p>The frequent, yet minor flooding events that occur during flood season poses a unique risk that gradually increases over time due to the accumulation and build-up of silt and river debris within the Green river channel.</p>	<p>None of the N=6 fire stations are located in areas at risk for flooding (Special Flood Hazard Area). Note: see flooding risk as it pertains to dam failure, below.</p>	<p>Though none of the fire stations are at risk for flooding, the delivery of services could potentially be affected if infrastructure (i.e., transportation routes) are blocked or damaged due to flooding.</p>



Landslide	A portion of the land area in Auburn is susceptible to landslides along several hills. A very small portion of Algona and Pacific is at risk for landslides. The majority of significant slide events in King County have occurred during / shortly after extreme weather events.	None of the N=6 fire stations are located in areas at risk for landslides.	Though none of the fire stations are at direct risk for landslides, the delivery of services could potentially be affected, if infrastructure (i.e., transportation routes) are blocked or damaged due to debris.
Liquefaction	A significant percentage of structures in Auburn, Algona and Pacific are located within a liquefaction risk zone.	Fire station #35 (non-responding station) is very high risk for liquefaction; stations #38, #31, #32 are high risk; and stations #33 and #34 are low risk. Apparatus and staff vehicles parked inside stations or structures are vulnerable to damage from liquefaction.	While each fire station is at a different level of risk for liquefaction, extreme ground shaking would affect most if not all of the stations. If apparatus were to become permanently trapped inside or under debris, life-saving operations would be severely affected (delayed or not delivered).
Severe Weather	The overall service area is susceptible to a variety of meteorological hazards, including snowstorms, ice storms, hail storms, blizzards, wind storms and extreme cold.	None of the N=6 fire stations are at heightened risk for severe weather damage. All stations have been built relatively recently to withstand severe weather. Apparatus and staff vehicles parked outside of fire stations or structures are vulnerable to damage from debris (severe wind) as well as from hail, ice or snow (winter weather).	While fire stations are not at risk for major damage during severe weather events, any damage to transportation infrastructure can delay service delivery. For example, heavy snow and thick ice can restrict apparatus access to certain areas, and wind-storm associated debris can block transportation routes.
Volcano	Historical eruptions of Mt. Rainier have resulted in lahar flows through the Auburn valley (encompassing parts of Auburn, Algona and Pacific). The valley floor is at medium-high risk for lahars, in which the associated mud flow would likely follow the White River basin and flow north. Such a flow would likely cover / engulf the infrastructure	Stations #32, #35 and #38 are at risk for volcanic hazards such as pyroclastic density currents, lahars, debris flow, lava flows, tephra fall and ballistic projectiles. Stations #31, #33, #34 are at risk for tephra fall and ballistic projectiles.	Responding stations #32 and #38 could be damaged by lahars, which would remove several apparatus from service. However, lahars generally flow at a speed in which advanced warning is issued. Therefore, the risk of loss of apparatus is low (assuming timely apparatus evacuation). While station #35 does not host responding apparatus, with advanced warning, other resources could be relocated to a safer location.



	and buildings along the valley.		In addition to the lahar risk, the area north of the lahar zone is identified as a post-lahar flooding and sedimentation area that poses significant risk to the Auburn Valley floor north of highway 18.
Wildfire	<p>The risk of wildfire to the service area is generally low, though parts of the service area are in a wildland / urban interface (WUI) environment.</p> <p>Historically, there have been few wildfires in the area, and most events have been contained in a timely fashion with minimal damage to property and the natural environment (no lives lost).</p>	<p>The areas of the service district that are at highest risk for wildfire events include the Lea Hill area behind the Green River College; the bluffs near the Auburn Golf Course; and the Lakeland Hills area.</p> <p>None of the VRFA fire stations are at risk for damage due to wildfire events.</p>	<p>If there were a wildfire event in the service area, the initial response (first few hours or the first operational period) would involve VRFA apparatus, staff and equipment.</p> <p>Depending on the size and scope of the wildfire event, VRFA response operations for other incidents would be delayed.</p>
Cyber Attack	<p>The VRFA relies on a variety of digital systems, services and devices (internal and external networks) to conduct operations.</p> <p>These digital networks are vulnerable to intentional incidents (cyber-attacks) and unintentional incidents (accidental release of information or access to sensitive information).</p>	<p>Station #31 is at high risk for cyber-attacks, as the majority of the agency’s information technology infrastructure (i.e., servers) is stored on site. A small portion of the IT infrastructure is also located at station #35.</p> <p>All stations are at risk for remote attacks via hardware and software (i.e., laptops, desk tops and other internet-connected hardware).</p>	<p>The unintended release of sensitive information to external parties could lead to public safety / security issues, or a breach to VRFA employee information privacy. Too, the VRFA could lose the ability to provide payroll and other internal services.</p>
Dam Failure	<p>Regarding the overall service area, the following dams are of interest: the Howard Hanson Dam and the Mud Mountain Dam. In 2009, the City of Pacific flooded from a planned water release at the Mud Mountain Dam (White River). That same year, a leak (unplanned) at the</p>	<p>Station #38 is at risk for flood damage from incidents related to the Mud Mountain Dam (White River). A significant dam failure along the White River could result in floodwaters reaching the southwest part of Auburn in less than two hours</p> <p>Regarding the Howard Hanson Dam, a significant</p>	<p>If fire station #38 (and the apparatus staged there) were to be damaged, life-saving operations would be severely affected (delayed or not delivered).</p>



	Howard Hanson Dam (Green River) resulted in minor flooding in Auburn.	dam failure along the Green River would lead to flood waters arriving at the northern area of Auburn in less than three hours. Fire station #31 is at moderate risk for flood damage in this scenario. The other stations are at no risk for flooding associated with dam failure.	
Hazardous Materials Incident	In the service area, crude oil is transported by rail regularly. Additionally, there are a few facilities in the area that either manufacture or store hazardous materials, to include the Safeway Distribution Center and Boeing.	Station #35 is at heightened risk for HazMat incidents, due to proximity to freight rail (i.e., crude oil by rail) and to chemical manufacturing and storage industries (Boeing, Safeway Distribution Center). The other stations are at equal risk for HazMat incidents during transportation.	If station #35 were to be damaged, certain activities could be delayed, including operations within the Fire Marshal's Office, planning and logistics, public information and warning, and emergency management (VRFA departments). In addition, disruption or damage to the IT infrastructure located at this station could affect administrative functions and overall communications capabilities of the agency.
Health Incident	A public-health related incident could involve a number of transmissible pathogens. The most likely outcomes of such pathogens include measles, mumps, influenza, or other severe respiratory infections. While many regional natural disasters obviously pose a threat to physical human safety, volcanic explosions (Mt. Rainier) are of particular risk to human health due to the gaseous nature of such an incident (i.e., inhalation of ash and toxic gases).	Regarding public health incidents involving transmissible pathogens, all personnel are at risk. First responders (i.e., non-administrative staff) are at particularly high risk of infection, due to the patient-facing nature of the job. Due to proximity of Mt. Rainier, personnel for all N=6 fire stations are at risk for volcanic ash and gas release.	A major public health incident could potentially affect essential services by causing high levels of absenteeism. If high levels of absenteeism were reached for the first responding personnel at the VRFA, it is possible that reduced service levels could also affect morbidity and mortality rates across the region (i.e., less basic life support providers to respond). Absenteeism could apply to administrative staff at the VRFA as well, delaying or incapacitating the administrative functions of the agency.
Terrorism	For the purposes of this plan, terrorism will be defined as man-made	All N=6 fire stations are at risk for terrorism (active killer threats, explosives, and other)	An active killer threat at any of the fire stations would disrupt services. Stations #35 and #31



	<p>intentional acts that have the potential to cause damage to VRFA infrastructure, physical resources and harm to staff health and safety. The most realistic threats to the fire stations and personnel include active killer threats (active shooter, or assailants with deadly weapons) or explosives-related incidents.</p>	<p>due to the public and open nature of fire stations (walk-ins welcomed). However, station #31 (headquarters) is at elevated risk, due to the heavy foot traffic in the area and the visibility of the agency headquarters and administration staff. In addition, station #35 is also at elevated risk based on location within the Government Services Administration complex (federal government location).</p>	<p>are at heightened risk for such incidents, because these two stations host the most staff (5-25 people during the day). Stations #32, #33, #34 and #38 are at lower risk for such incidents, due to the fact that staff levels are very low (3-6 people on a 24 hour basis), and access to staff areas is limited.</p> <p>Regarding explosives related incidents, all stations are at equal risk as a target. However, similar to the active killer threat, staffing at stations #31 and #35 increases the risk for loss of life and human injury. As for damage to VRFA infrastructure and resources, all responding stations (#31, #32, #33, #34 and #38) are heightened risk, due to the fact that such stations host responding apparatus and resources. Station #31 is at particular risk, because this station is the VRFA headquarters, hosts the fire chief and is highly visible to the public.</p>
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Hazard and Asset Overview Map(s)

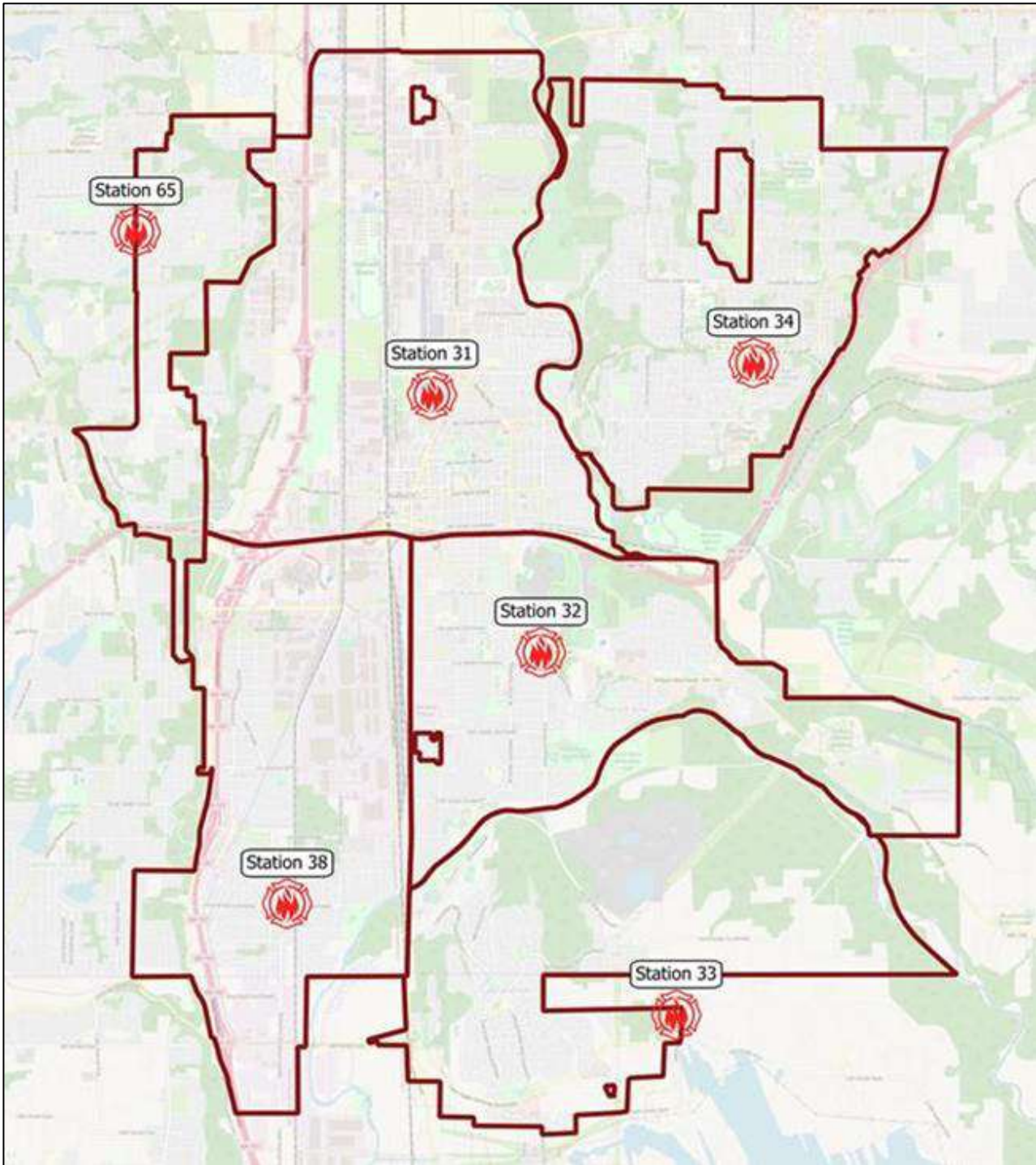


Figure 1: Valley Regional Fire Authority Fire Station Response Zones

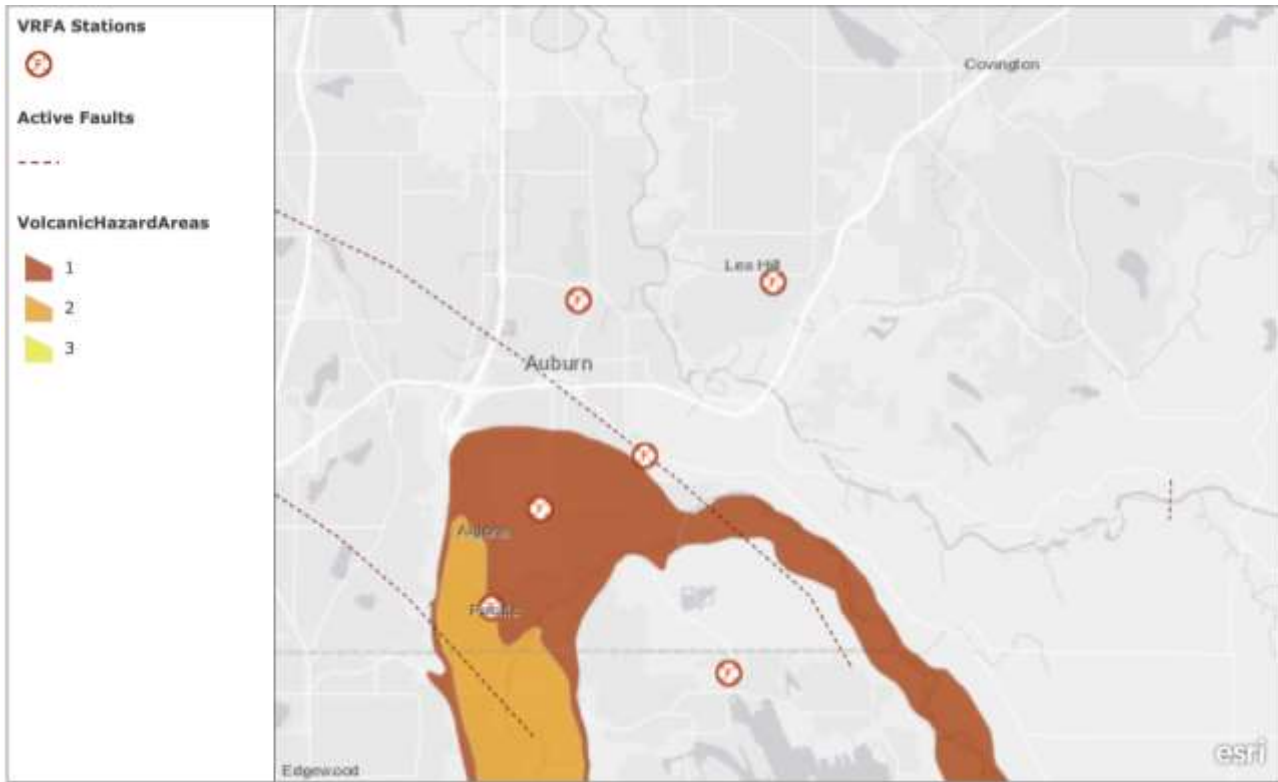


Figure 2: Volcanic Hazard Map, VRFA Service Area

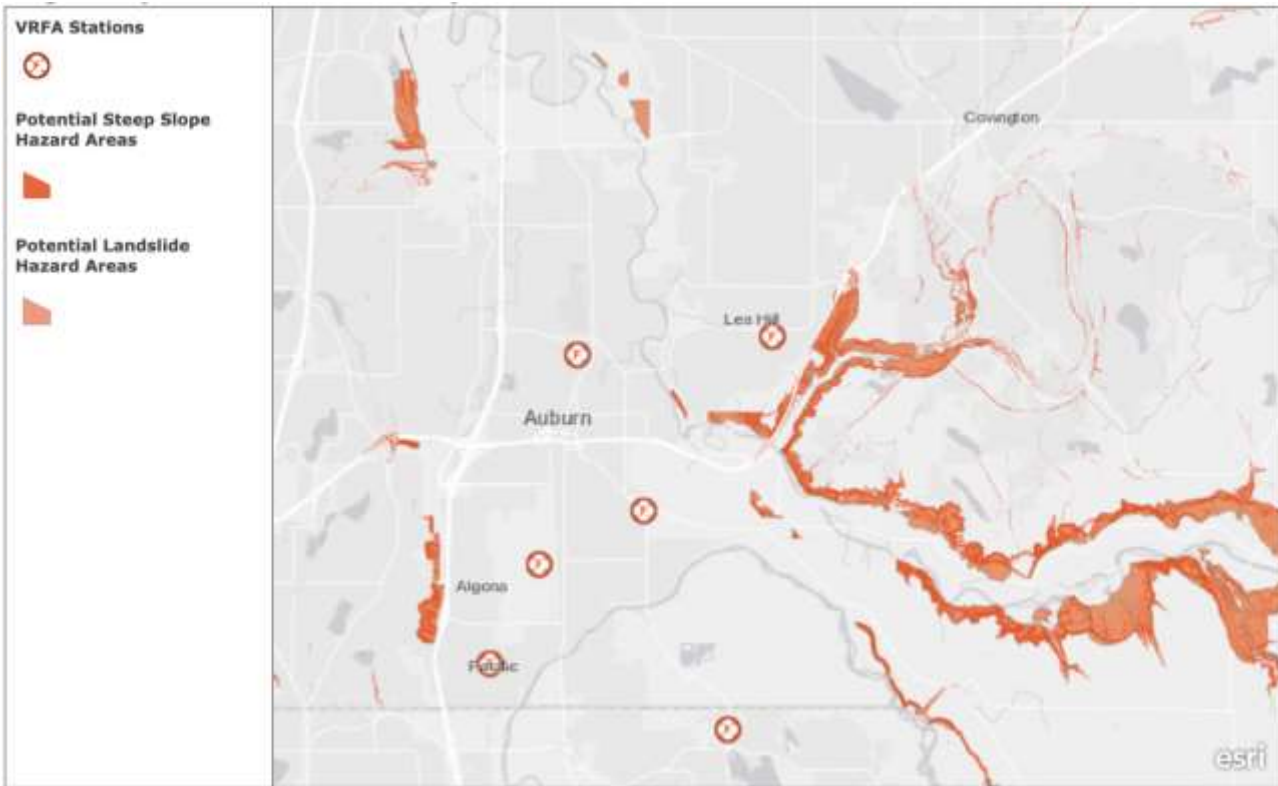


Figure 3: Landslide Hazard Map, VRFA Service Area

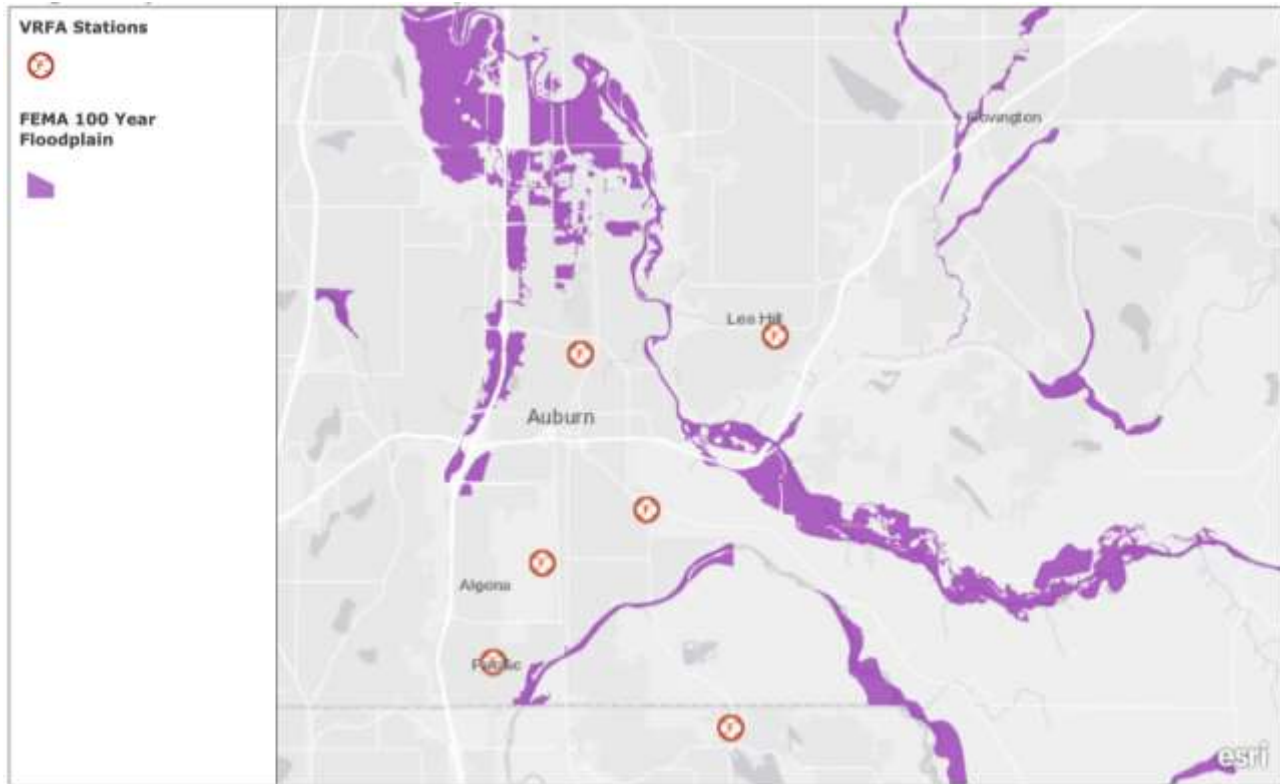


Figure 4: Flood Hazard Map, VRFA Service Area

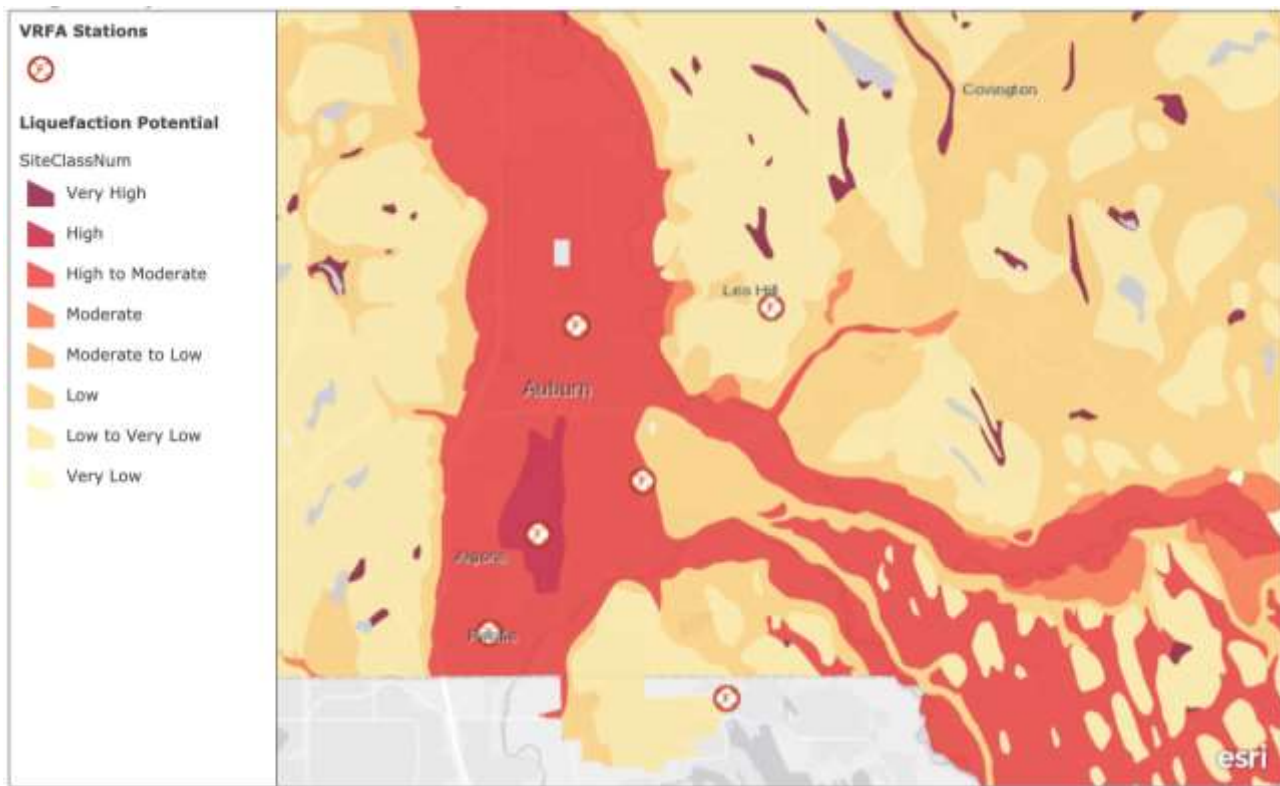


Figure 5: Liquefaction Hazard Map, VRFA Service Area



Assets at Risk

ASSET	VALUE (\$)	HAZARD SUMMARY	VULNERABILITY SUMMARY	IMPACT SUMMARY
Station #31* and contents	\$4,261,500	<ul style="list-style-type: none"> • Lahar- minor risk, • liquefaction- moderate to high risk, • Howard Hanson Dam rupture- flooding risk • Earthquakes (geologic hazards) • Meteorological hazards 	Station #31 is the second oldest of all the stations, and therefore is at elevated risk for damage due to geological hazards. Of all the VRFA fire stations, this station hosts the most apparatus, response personnel and the battalion chief (and the B/C vehicle). Too, this station hosts the administrative staff, and most of the VRFA IT infrastructure. Also, station #31 hosts the primary location of the VRFA Department Operations Center (DOC).	<p>If this station were to be damaged, response activities will definitely be delayed due to trapped apparatus, damaged apparatus, and/or injured personnel.</p> <p>In addition, disruption or damage to the IT infrastructure located at this station would greatly affect the response capabilities, administrative functions and overall communications capabilities of the agency.</p>
Station #32 and contents	\$3,562,000	<ul style="list-style-type: none"> • Liquefaction- moderate to high risk • Earthquakes (geologic hazards) • Meteorological hazards 	Station #32 has been remodeled in recent years, but is still an older building by foundation. This station only houses response staff and apparatus, and is situated in the valley floor (high risk for geological hazards).	If this station were to be damaged, response activities could be delayed due to trapped apparatus, damaged apparatus, and/or injured personnel.
Station #33 and contents	\$5,921,000	<ul style="list-style-type: none"> • Lake Tapps Dike rupture- low flooding risk • Earthquakes (geologic hazards) • Meteorological hazards 	This station is relatively new, and is built to modern code. This station houses response staff and apparatus, as well as all technical rescue equipment and vehicles.	<p>If this station were to be damaged, normal response activities could be delayed due to trapped apparatus, damaged apparatus, and/or injured personnel.</p> <p>Also, if the station and surroundings were damaged, the technical rescue equipment, supplies and vehicles could be damaged or destroyed, delaying or</p>

* Fire stations 31 and 35 are owned by the City of Auburn and fire station 38 is owned by City of Pacific. However, the VRFA utilizes these stations for vital services and operations, and therefore treats these brick and mortars as “owned” assets.



				preventing technical rescue capabilities.
Station #34 and contents	\$5,337,000	<ul style="list-style-type: none"> • Liquefaction- very low to low risk • Earthquakes (geologic hazards) • Meteorological hazards 	This station is new, and is built to modern code. This station only houses response staff and apparatus.	If this station were to be damaged, response activities could be delayed due to trapped apparatus, damaged apparatus, and/or injured personnel.
Station #35* and contents	\$692,500	<ul style="list-style-type: none"> • Lahar- minor to major risk • Liquefaction high • Earthquakes (geologic hazards) • Meteorological hazards 	Station #35 hosts the Fire Marshal's office, the emergency management coordinator, planning and logistics, the public education staff and more. This station is also the oldest building of all fire stations, so it is at heightened risk for geological hazards, comparatively. This station also serves as the secondary location for the VRFA DOC.	If this station were to be damaged, certain activities could be delayed. In addition, disruption or damage to the IT infrastructure located at this station could affect administrative functions and overall communications capabilities of the agency.
Station #38* and contents	\$312,500	<ul style="list-style-type: none"> • Lahar- major risk • Liquefaction- moderate to high risk • Earthquakes (geologic hazards) • Mud Mountain Dam- low flooding risk • Meteorological hazards 	This station is housed in the same building as the Police Department for the City of Pacific. This building (station) is an older structure, and is at heightened risk for geological hazards due to elevation (Auburn Valley floor) and proximity to Mr. Rainier.	If this station were to be damaged, response activities could be delayed due to trapped apparatus, damaged apparatus, and/or injured personnel.
Fire engine pumpers and contents	\$7,893,000	When not in service, fire engines are staged inside fire stations. The risk to these apparatus is associated with the risk to the station of apparatus staging.	Depending on the station where each engine is stored, the risk for damage varies. For engines at stations #32, #33, and #34, engines are better protected due to the structural enhancements that have been accomplished. Engines at station #31 and #38 are at higher risk for structural damage from ground shaking, based on the older stations. Station #35	If any of the VRFA fire engines were to sustain damage or become trapped inside a station, response operations would be delayed.



			does not host fire engines, unless the engines are undergoing testing or training.	
Ladder truck and contents	\$2,386,000	When not in service, ladder trucks are staged inside fire stations. The risk to these apparatus is directly correlated with the risk to the station where the apparatus is housed.	VRFA ladder trucks are only staged inside fire stations #31 and #33. Station #33 is at low risk for all-hazards, but station #31 is at heightened risk for geological hazards and flooding due to dam failures.	If the VRFA ladder trucks were to sustain damage or become trapped inside a station, response operations would be severely delayed (fire suppression and angle rescue).
Aid cars and contents	\$2,197,000	When not in service, aid cars are staged inside fire stations. The risk to these apparatus is associated with the risk to the station where the apparatus is housed. Aid cars are only staged inside fire stations #31 and #32.	Depending on the fire station where each aid car is staged, the risk for damage varies. The aid car at station #32 is better protected (comparatively), due to the structural enhancements that have been accomplished at that station. The aid car at station #31 is at higher risk for structural damage from geological hazards and flooding (dam failures) due to the age of station #31.	If either of the VRFA aid cars were to sustain damage or become trapped, response operations (basic life support) would be greatly delayed.
Breathing air compressors	\$586,500	Breathing air supplies are necessary for some VRFA response activities (interior fire suppression, some HazMat incidents). Maintaining functioning breathing air compressors (fixed or mobile) is an essential service for the VRFA.	Fixed breathing air compressors are installed inside station #31, #32, #34 and #38. A mobile compressor (on a trailer) is staged inside station #33. The risk to the breathing air compressors is directly linked to the risk to the stations that house the compressors and the mobiles compressor trailer.	If one fire station were to become damaged, and the breathing air compressors were not accessible, the compressors at the remaining stations would be utilized. In the event that the majority of fire station breathing compressors are not accessible (for any reason), then certain response activities would be limited and delayed (interior fire suppression, some HazMat incidents).
Fleet vehicles and contents	\$1,239,000	When not in use, staff vehicles and the Battalion Chief trucks are staged outdoors at	Vehicles parked outdoors are vulnerable to extreme weather. However, vehicles parked at	If vehicles were to sustain damage or become trapped (not-usable), response operations



		station #31 and #35. The risk to fleet vehicles is directly correlated with the risk to the geographic area of stations #31 and #35.	stations #31, #32, #35, and #38 are at heightened risk (comparatively) for damage from liquefaction incidents.	would be affected during the initial response phase.
Regional emergency medical equipment cache	\$75,000	The regional cache is stored inside the apparatus bay at station #35, and is at risk for all hazards associated with station #35.	Station #35 has not been seismically hardened, so the structure is at a higher risk for damage from geological hazards than other stations.	If station #35 were to become damaged, the medical cache may become inaccessible (facility structural instability) or damaged. If these emergency medical supplies were to become inaccessible or damaged, it is difficult to estimate the overall impact. However, it is probable that the VRFA would need to lean heavily on regional Zone 3 partners for emergency medical equipment during large-scale events, such as a mass casualty event.
IT network and equipment	\$833,000.	The IT Infrastructure (servers, hardware, software, other equipment etc.) are located at stations #35 and #31, and are at risk for all hazards associated with those stations.	Both station #31 and #35 are at heightened risk for geological hazards (among other hazards). Therefore, the IT infrastructure could be compromised due to unforeseeable hazards (geological hazards).	Disruption or damage to the IT infrastructure located would definitely affect administrative functions and overall communications capabilities of the agency. The implications of such an outage would be immediate, and could last for days or weeks.
Fuel dispensing equipment and tanks	\$175,000	Fuel dispensing equipment is installed outdoors at stations #31 and #33. The risk to such equipment is directly associated with the risk to the geographic area of those two stations.	Both fuel tanks are protected by bollards, to reduce the risk of human-caused damage (i.e., vehicular contact). These resources are fortified for metrological hazards, but are still vulnerable to geological hazards.	Generally, the fuel dispensing equipment is fortified against all-hazards events. However, if there were extreme ground shaking (i.e., Magnitude 8+), there is potential for damage to the resources, limiting access for re-fueling on site. However, the VRFA has access to dozens of regional third party fuel providers.



<p>Fixed emergency power generators</p>	<p>\$350,000</p>	<p>There is one fixed generator at each of the N=6 VRFA fire stations.</p>	<p>Each station faces varying hazard risk, and the risk to each station generator is linked to the hazards that each station faces.</p>	<p>If any of the station generators were to become inoperable during a power outage (damage or other reason), some VRFA capabilities would be challenged or limited. Station #31 (IT infrastructure, the majority of administrative staff, and the most apparatus) would likely suffer greatly (particularly regarding the IT infrastructure). The case is similar for station #35, which hosts critical resources (planning and logistics).</p> <p>All other stations (#32, #33, #34, and #38) would not be affected as greatly if the generators at those stations were not operable during a power outage. However, based on the time of year of the outage, the staff could experience extreme temperatures indoors, and would be limited in their activities (i.e., lack of power to keep food cold or to heat food, limited visibility).</p>
<p>Water tender, brush truck and contents</p>	<p>\$646,000</p>	<p>The water tender and brush truck are staged inside the apparatus bay at station #34, and are at risk for all hazards associated with station #34.</p>	<p>Station #34 is at low risk for most hazards, but is still at risk for geological hazards.</p>	<p>If the water tender or brush truck were to sustain damage or become trapped, response operations for wildfire events or remote fire events (i.e., where fire hydrants are not present) would be greatly delayed.</p>



Plan Update Process

The VRFA hazard mitigation planning began with participation in the multi-jurisdictional planning process led by King County Office of Emergency Management. The VRFA Emergency Management Coordinator (EMC) attending training and briefings, learning about the process and requirements for completion of the plan. Then, the EMC worked with the Assistant Chief of Special Operations and Emergency Management, to develop a plan to complete the VRFA annex to the Regional plan.

Next, a hazard risk analysis was conducted, evaluating the potential risks within the service district. Past VRFA mitigation-related documents were reviewed, as were King County hazard mitigation-related plans, Pierce County plans, and similar plans for the City of Algona, City of Auburn, and the City of Pacific. Finally, VRFA resources were assessed to evaluate the potential impacts on VRFA response capabilities, economic stability, life safety, communications, administrative functions and other functions of each type of regional hazard. This information was considered as the Hazard Mitigation Strategies were developed in an effort to mitigate the hazards as identified.

Jurisdiction Planning Team

NAME	TITLE	ORGANIZATION	CONTRIBUTION
Sarah Nuss	Emergency Management Coordinator	Valley Regional Fire Authority	Plan development
Dave Larberg	Deputy Chief of Technical Services	Valley Regional Fire Authority	Plan development
Karen Stewart	Fire Marshal	Valley Regional Fire Authority	Plan development
Mark Horaski	Chief Financial Officer	Valley Regional Fire Authority	Asset evaluation
Jerry Thorson	Emergency Manager	City of Auburn	Advise and Review
Scott Currie	Emergency Management Assistant	City of Auburn	Advise and Review
Tyler Turner	Emergency Management Assistant	City of Auburn	Advise and Review

Plan Update Timeline

PLANNING ACTIVITY	DATE	SUMMARY	ATTENDEES
Planning meeting with city of Auburn	7/19/2019	Discussion of goals, overall planning process, annex development, risk assessment, meeting schedule, and data.	Sarah Nuss, Dana Hinman, Tyler Turner, Scott Currie, Alexandria Teague, Dane Carson, Jerry Thorson
Planning meeting with city of Auburn	8/6/2019	Reviewed draft of risk assessment, planned public outreach events.	Sarah Nuss, Dana Hinman, Tyler Turner, Scott Currie, Alexandria Teague, Dane Carson, Jerry Thorson
VRFA internal planning team meeting	8/13/2019	Reviewed assets, hazard vulnerability / risk assessment, meeting schedule.	Sarah Nuss, Dave Larberg
VRFA internal planning team meeting	8/21/2019	Planned public outreach event, developed maps, and reviewed data.	Sarah Nuss, Dave Larberg
Planning meeting with city of Auburn	8/22/2019	Reviewed work completed, developed plan for next steps.	Sarah Nuss, Tyler Turner, Scott Currie, Alexandria Teague, Dane Carson, Jerry Thorson
Internal Planning Meeting	10/2/2019	Reviewed work completed and discussed plan for final edits.	Sarah Nuss, Dave Larberg



Public Outreach

Public Outreach Events

EVENT	DATE	SUMMARY	ATTENDEES
Informational Booth at City of Auburn’s “Rock n Roll Wellness Fair”	9/26/2019	<p>The VRFA Emergency Management Coordinator (EMC) staffed a booth at the City of Auburn’s “Rock n Roll Wellness Fair”, a health fair geared towards senior citizens, but open to the general public. At the booth, there were N=3 posters displayed (18” by 24”, with very large and clear font / photos, on foam board). The information displayed on each poster is described below.</p> <p>Poster #1: The VRFA fire stations in relation to the VRFA service area, including notes about which hazards each station currently faces and which station-specific mitigation activities have been completed.</p> <p>Poster #2: An informational poster about soil liquefaction, to include a definition and a photo of the process.</p> <p>Poster #3: An informational poster about the types of hazard mitigation activities conducted in the service area, focusing mostly on relevant area-specific hazards (earthquakes, flooding, soil liquefaction and lahars).</p> <p>The VRFA EMC engaged in discussion with residents about the overall county hazard mitigation planning process, disaster preparedness for individuals and businesses, and other public safety topics. Too, free informational handouts about disaster preparedness and hazard mitigation activities were displayed and distributed.</p> <p>Finally, an optional one-page quantitative survey was offered to folks who visited the booth, as long as they lived in the VRFA service area. In exchange for completing a survey, residents were offered a free oven mitt. Of the N=49 surveys collected, the data findings show that:</p> <ul style="list-style-type: none"> • Of all 49 respondents: 63% are <i>very concerned</i> about disasters in their community; 31% <i>are somewhat concerned</i>; and 6% are <i>not</i> concerned. • When asked to select the top three hazards that pose the greatest threat to the community: 78% chose earthquakes; 69% chose power outages; 43% chose windstorms; 39% chose flooding; 29% chose winter storms; 16% chose volcanic hazards; 10% chose wildfires; 4% chose landslides; 4% chose HazMat incidents; 4% chose disease outbreak; 2% chose drought and 2% chose liquefaction. Please note: each respondent chose N=3 of these hazards as the top threats, but did not rank those three hazards in relation to each other or to the overall list of hazards. • Of all 49 respondents: <ul style="list-style-type: none"> ○ 71% have some disaster supplies on hand 	Sarah Nuss, Kimberly Terhune (VRFA PIO), Kelly Hawks (VRFA PIO), community residents (mostly senior citizens, majority of which reported living in the city of Auburn, WA).



		<ul style="list-style-type: none">○ 57% have extra eyeglasses for emergencies○ 57% have emergency food and water supplies○ 49% have extra prescription medications for emergencies○ 39% have a home disaster kit○ 37% have a go bag○ 31% have signed up for emergency alerts○ 27% have attended a disaster preparedness course	
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Jurisdiction Hazard Mitigation Program

Hazard mitigation strategies were developed through a two-step process. First, the VRFA developed an internal planning team to identify a comprehensive range of mitigation strategies for agency assets. These strategies were then prioritized using a process established at the county- level and documented in the King County base plan.

The identified hazard mitigation strategies at the VRFA center around: fortifying the agency’s fire stations and apparatus (fire engines, ladder trucks, aid cars, brush truck, tender etc.); safeguarding support and staff vehicles; protecting the life safety of personnel; protecting the natural environment and strengthening the overall capabilities of the agency to continue to deliver services to the community and to personnel.

Plan Monitoring, Implementation, and Future Updates

Overall, King County Emergency Management leads the mitigation plan monitoring and update process and schedules the annual plan check-ins and bi-annual mitigation strategy updates. As part of participating in the 2020 update to the Regional Hazard Mitigation Plan, the VRFA agrees to convene the internal planning team at least annually to review progress on hazard mitigation strategies and to update the plan based on new data or recent disasters. The next plan update is expected to be due in April 2025, and the VRFA will submit letters of intent to participate by 2023.

Continued Public Participation

The VRFA and its member cities (Algona, Auburn and Pacific) already maintain public outreach capabilities, focusing on personal preparedness, education and related trainings. Information on ongoing progress in implementing the hazard mitigation plan will be integrated into ongoing public outreach efforts. This will provide residents, already engaged in personal preparedness efforts, with context and the opportunity to provide feedback on progress and priorities in local-scale mitigation efforts.

Integration into Other Planning Mechanisms

The updated Hazard Mitigation Plan will be a primary source for the rewrite of the 2019 VRFA Disaster Preparedness, Response Plans. One new addition, a Capital Facilities Plan (CFP), will be incorporated into the plan. The CFP is anticipated to be completed by early 2021. With continued population growth and increasing call volumes, we anticipate adding new fire station(s), equipment, and personnel. Systems, processes and data analysis will be incorporated to assist the agency in anticipating hazards and mitigation strategies. The VRFA will take hazard mitigation into consideration when new plans and other planning mechanisms are encountered. The Hazard Mitigation Program will provide a pro-active hazard response to the cities Algona, Auburn, and Pacific.

King County Overall Plan Goals:

1. Access to Affordable, Healthy Food
2. Access to Health and Human Services
3. Access to Parks and Natural Resources
4. Access to Safe and Efficient Transportation
5. Affordable, Safe, Quality Housing
6. Community and Public Safety
7. Early Childhood Development
8. Economic Development
9. Equitable Law and Justice System
10. Equity in Government Practices
11. Family Wage Jobs and Job Training
12. Healthy Built and Natural Environments
13. Quality Education
14. Strong, Vibrant Neighborhoods



Hazard Mitigation Authorities, Responsibilities, and Capabilities

Plans

PLAN TITLE	RESPONSIBLE AGENCY	POINT OF CONTACT	RELATIONSHIP TO HAZARD MITIGATION PLAN
City of Auburn Comprehensive Emergency Management Plan (CEMP)	City of Auburn	Tyler Turner Emergency Management Assistant (253) 876-1992	The CEMP is directly related to the Hazard Mitigation Plan in that the CEMP outlines regulations, the protection of vulnerable areas of the natural environment, geological hazard areas, flood risk areas and planning considerations for meteorological hazards.
City of Pacific Comprehensive Emergency Management Plan (CEMP)	City of Pacific	Craig Schwartz Police Chief (253) 929-1131	The CEMP is directly related to the Hazard Mitigation Plan in that the CEMP outlines regulations, the protection of vulnerable areas of the natural environment, geological hazard areas, flood risk areas and planning considerations for meteorological hazards.
City of Algona Comprehensive Emergency Management Plan (CEMP)	City of Algona	James Schrimpsher Police Chief (253) 833-2743	The CEMP is directly related to the Hazard Mitigation Plan in that the CEMP outlines regulations, the protection of vulnerable areas of the natural environment, geological hazard areas, flood risk areas and planning considerations for meteorological hazards.
Valley Regional Fire Authority Capital Improvement Plan	Valley Regional Fire Authority	Sarah Nuss Emergency Management Coordinator (253) 347-8186	The Capital Improvement Plan is directly related to the Hazard Mitigation Plan in that any plans to modify or develop new physical infrastructure of the agency is included in the Capital Improvement Plan. Also, plans to purchase other large line-items (apparatus, etc.) are included in this plan, which is reviewed by agency leadership and the Board of Governance for funding considerations.
Valley Regional Fire Authority Howard Hanson Dam Flood Plan	Valley Regional Fire Authority	Sarah Nuss Emergency Management Coordinator (253) 347-8186	This plan outlines the preparedness, mitigation, response and activities related to a potential dam incident (rupture, overflow, etc.). This plan related to the Hazard Mitigation Plan in that all activities associated with mitigation for this dam are outlined in the document.
Valley Regional Fire Authority Strategic Plan	Valley Regional Fire Authority	Sarah Nuss Emergency Management Coordinator (253) 347-8186	The VRFA Strategic Plan outlines agency priorities for effort (man hours), funding (capital), and other planning considerations. If mitigation activities for the VRFA were proposed or desired, such activities would be included in the Strategic Plan.
Valley Regional Fire Authority Standards of Cover	Valley Regional Fire Authority	Sarah Nuss Emergency Management Coordinator (253) 347-8186	Part of Hazard Mitigation Planning is conducting a hazard and vulnerability assessment. The first part of the Standards of Cover document includes the VRFA all-hazards risk and vulnerability assessment, to include potential impacts to the agency as a whole, the community served, the natural environment and to response activities.
Valley Regional Fire Authority Disaster	Valley Regional Fire Authority	Sarah Nuss Emergency Management Coordinator	The VRFA Disaster Preparedness Plan relates to the Hazard Mitigation Plan in that it outlines hazard-specific mitigation activities for the VRFA facilities, apparatus, vehicles, personnel and more.



Preparedness Plan		(253) 347-8186	
Valley Regional Fire Authority Disaster Response Protocols	Valley Regional Fire Authority	Sarah Nuss Emergency Management Coordinator (253) 347-8186	The VRFA Disaster Response Protocol document relates to the Hazard Mitigation Plan in that the document outlines response protocols by position (within the VRFA), and builds upon the sister document, particularly the Hazard Mitigation elements of that document (the VRFA Disaster Preparedness Plan).

The above references support the hazard mitigation strategies of the Valley Regional Fire Authority. Because of the agency’s status as a first responder, the infrastructure from which services are delivered-- as well as the equipment and human resources needed to deliver such services-- are vital to agency’s mission and the safety of the community.

Programs, Policies, and Processes

PROGRAM / POLICY	RESPONSIBLE AGENCY	POINT OF CONTACT	RELATIONSHIP TO HAZARD MITIGATION PLAN
Emergency Management Program	Valley Regional Fire Authority	Sarah Nuss, Emergency Management Coordinator 253-347-8186	This program supports the role of the agency (the VRFA) in regional disaster preparedness, mitigation, response and recovery planning and operations.
Emergency Management Program	City of Auburn	Tyler Turner, Emergency Management Assistant 253-876-1992	This program supports the role of the agency (the City of Auburn) in regional disaster preparedness, mitigation, response and recovery planning and operations.
Emergency Management Program	City of Algona	James Schrimpsheer, Police Chief 253-833-2743	This program supports the role of the agency (the City of Algona) in regional disaster preparedness, mitigation, response and recovery planning and operations.
Emergency Management Program	City of Pacific	Craig Schwartz, Police Chief 253-929-1131	This program supports the role of the agency (the City of Pacific) in regional disaster preparedness, mitigation, response and recovery planning and operations.

Entities Responsible for Hazard Mitigation

AGENCY/ORGANIZATION	POINT OF CONTACT	RESPONSIBILITY(S)
Valley Regional Fire Authority	Sarah Nuss, Emergency Management Coordinator 253-347-8186	Mitigation planning, identifying agency assets at risk, creating mitigation strategies, implementing strategies.
City of Auburn	Dana Hinman, Director of Emergency Management 253-931-4009	Mitigation planning, identifying departmental assets at risk, creating mitigation strategies, implementing strategies.
City of Algona	James Schrimpsheer, Police Chief 253-833-2743	Mitigation planning, identifying departmental assets at risk, creating mitigation strategies, implementing strategies.
City of Pacific	Craig Schwartz, Police Chief 253-929-1131	Mitigation planning, identifying departmental assets at risk, creating mitigation strategies, implementing strategies.



Hazard Mitigation Strategies

The VRFA internal planning team began by reviewing the VRFA’s annex within the 2015 King County Hazard Mitigation Plan, as well as the City of Auburns annex in the same plan. The strategic goals and objectives of the prior annex were reviewed, in order to determine which hazard mitigation goals would be kept as ongoing strategies, which goals had already been completed, and which new strategies are needed. The mitigation plan will be presented before the VRFA Board of Governance (the Board), wherein the Board and the VRFA Senior Staff will consider the strategies for future budget development.

2015 Hazard Mitigation Strategy Status

STRATEGY	DESCRIPTION	PRIORITY	STATUS
VRFA 1: Support public education programs and preparedness strategies consistent with county and local government goals.	Ensuring that all education programs and other preparedness and mitigation activities are developed and delivered in a manner that is consistent with county and local government goals and strategies.	High	Accomplished and is ongoing.
VRFA 2: Retrofit fire stations to reduce impacts from earthquake (stations #31, #35, #38).	Retrofitting the existing fire stations (#31, #35, and #38) to meet current seismic standards (code).	Medium	Not accomplished and is delayed.
VRFA 3: Support the implementation, monitoring, maintenance and updating of this plan.	Taking ownership of implementing, monitoring and maintaining this annex to the countywide plan.	Low	Accomplished and is ongoing.
VRFA 4: Retrofit fire stations to reduce impacts from severe weather (stations #31, #35, #38).	Retrofitting the existing fire stations (#31, #35, and #38) to further fortify the stations against meteorological hazards.	None	Not accomplished and will not be accomplished.
VRFA 5: Retrofit fire stations to reduce the impacts form flood and/or dam failure (stations #31, #35, #38).	Retrofitting the existing fire stations (#31, #35, and #38) to further fortify the stations against flood threats.	None	Not accomplished and will not be accomplished.
VRFA 6: Develop a more resilient Emergency Operations Center to reduce the impacts from all hazards.	Organizing the VRFA Emergency Operations Center (Now called the Department Operations Center) so that all NIMs sections are represented and the associated NIMs ICS forms are pre-printed and staged. Also, conducting an annual table top exercise to stand up the VRFA DOC, to include an after action report and improvement plan.	None	Accomplished.



2020 Hazard Mitigation Strategies

STRATEGY	LEAD AGENCY/POC	TIMELINE	PRIORITY
VRFA 1: Support public education programs and preparedness strategies consistent with county and local preparedness and mitigation goals.	VRFA	This activity has been accomplished since the county-wide 2015 plan went into effect, and will be an ongoing activity. The VRFA strives to develop, implement and support programs and strategies that are consistent with regional partners, in order to promote consistent messaging, activities and a more resilient community.	Medium
VRFA 2: Support the implementation, monitoring, maintenance and updating of this annex to the King County Hazard Mitigation Plan.	VRFA	This activity has been accomplished since the county-wide 2015 plan went into effect, and will be an ongoing activity. This annex will be reviewed on an annual basis, or as needed to meet any 2020 mitigation goals. On a 5-year basis, this annex will be updated, as a part of the overall county-wide update process.	Medium
VRFA 3: Build a new fire station, fortified to withstand all-hazards events.	VRFA	The VRFA is in the process of identifying funding sources / mechanisms and a viable site to build a new fire station. Part of this process is identifying the area of most need (based on demographics, call volume history, current coverage etc.), and identifying the appropriate geological location for the station. This process is in early stages, and the estimated duration of the overall press (initialization to station completion) is several years.	High



Hazard Mitigation Strategy

VRFA 1: Support public education programs and preparedness strategies consistent with county and local preparedness and mitigation goals.

<p>Lead Points of Contact</p> <p>Valley Regional Fire Authority, Emergency Management Coordinator</p>	<p>Partner Points of Contact (Title)</p> <p>City of Auburn, Emergency Manager and Emergency Manager Assistant(s); City of Algona Emergency Management; City of Pacific Emergency Management.</p>	<p>Hazards Mitigated / Goals Addressed</p> <p>All-hazards</p>	<p>Funding Sources and Estimated Costs</p> <p>Costs: staff time</p>
<p>Strategy Vision/Objective</p> <p>The objective of this strategy is to develop, implement and support educational programs, preparedness strategies and other hazard mitigation related activities that are consistent with city and county level strategies /activities.</p>			
<p>Mitigation Strategy</p> <p>In order to create and provide accurate, consistent and well-planned activities / education related to emergency management (and specifically hazard mitigation), the VRFA is dedicated to working closely with local (city and county) agencies. In 2018, the VRFA hired a full time emergency management coordinator, with the intent to dedicate a full time employee to maintaining relationships with and working in coordination with local public emergency management entities. Moving forward, the emergency management coordinator will continue to work closely with local public agencies to ensure that all related such activities are parallel, and are designed to work towards the same goal of whole community preparedness and internal agency preparedness.</p>			
<p>2-Year Objectives</p> <ul style="list-style-type: none"> Coordinate regularly with regional partners and stakeholders, in regards to preparedness and mitigation planning activities 	<p>5-Year Objectives</p> <ul style="list-style-type: none"> Coordinate regularly with regional partners and stakeholders, in regards to preparedness and mitigation planning activities 	<p>Long-Term Objectives</p> <ul style="list-style-type: none"> Coordinate often with local public agencies in regards to emergency management activities 	
<p>Implementation Plan/ Actions</p> <p>On a quarterly basis, the emergency management coordinator (or relevant staff) will identify (via the Zone three emergency management sector) which programs, activities, strategic planning initiatives or other projects should involve VRFA representation and support.</p> <p>As the VRFA develops new plans, updates old plans, or enters into new cooperatives, the emergency management coordinator will connect with local public agencies to ensure the materials, program, implementation and other factors are consistent with regional planning activities and messaging.</p>			
<p>Performance Measures</p> <ul style="list-style-type: none"> Participate in regional workgroups, projects and initiatives Reach out to regional partners to evaluate new or updated VRFA specific emergency management plans, programs, educational materials etc. Assist (as requested) regional partners with emergency management related activities and plan development 			



VRFA 2: Support the implementation, monitoring, maintenance and updating of this Annex to the King County Hazard Mitigation Pan.

<p>Lead Points of Contact</p> <p>Valley Regional Fire Authority, Emergency Management Coordinator</p>	<p>Partner Points of Contact (Title)</p> <p>City of Auburn, Emergency Manager and Emergency Manager Assistant(s); City of Algona Emergency Management; City of Pacific Emergency Management.</p>	<p>Hazards Mitigated / Goals Addressed</p> <p>All-hazards</p>	<p>Funding Sources & Estimated Costs</p> <p>Costs: staff time</p>
<p>Strategy Vision/Objective</p> <p>The objective of this strategy is to ensure that this annex is implemented, monitored, maintained and updated in a timely and organized fashion.</p>			
<p>Mitigation Strategy</p> <p>The VRFA will strive to meet all strategies outlined in this annex, in a timely fashion. The overall King County Hazard Mitigation Plan will be reviewed at least annually, to ensure that VRFA strategies are being accomplished in coordination with regional and local strategies.</p>			
<p>2-Year Objectives</p> <ul style="list-style-type: none"> Consider mitigation funding through the annual VRFA budget review process Continue participation at county and city level mitigation related events / activities 	<p>5-Year Objectives</p> <ul style="list-style-type: none"> Participate in the county-wide update process (every 5 years) Identify evolving hazard threats and mitigation needs (internally) 	<p>Long-Term Objectives</p> <ul style="list-style-type: none"> Ensure that this plan is used regularly as a hazard mitigation planning tool Strengthen collaboration and relationships with regional partners 	
<p>Implementation Plan/Actions</p> <p>The VRFA will participate in future King County and Pierce County Mitigation efforts through attending meetings, staffing exercises and drills, and participating in plan development or update. The VRFA EMC will continue to provide educational trainings and events, in order to educate and prepare the public in regards to hazard mitigation and overall disaster preparedness. Finally, the VRFA will support regional partners and stakeholders in the implementation and update of their mitigation activities, as relevant and as capabilities/ time allow.</p>			
<p>Performance Measures</p> <ul style="list-style-type: none"> Annual progress reports to King County Office of Emergency Management (regarding the VRFA annex to the county-wide plan) Feedback from regional partners and stakeholders 			



VRFA 3: Build a new fire station, fortified to withstand all-hazards events.

<p>Lead Points of Contact (Title)</p> <p>Valley Regional Fire Authority, Emergency Management Coordinator</p>	<p>Partner Points of Contact (Title)</p> <p>City of Auburn, Emergency Manager and Emergency Manager Assistant(s); City of Algona Emergency Management; City of Pacific Emergency Management.</p>	<p>Hazards Mitigated / Goals Addressed</p> <p>Geological hazards, meteorological hazards</p>	<p>Funding Sources and Estimated Costs</p> <p>Estimated cost: TBD</p> <p>Funding sources: TBD</p>
<p>Strategy Vision/Objective</p> <p>The objective of this strategy is to build a new fire station, which is constructed to modern code regulations.</p>			
<p>Mitigation Strategy</p> <p>Through internal data analysis, the VRFA “Strategic Planning” process identified a steady increase call volume over the past few years, coupled with an increase in population and senior longevity. As a result, it has been determined that more VRFA response “coverage” will be needed in coming years. Essentially, more fire stations, apparatus and staff will be needed to deliver the level of response that is currently offered. In order to meet the coming needs, a new fire station will be strategically built, to increase the VRFA standards of cover in the service area. The mitigation benefits of a new fire station include more apparatus to respond if other VRFA apparatus are trapped or damaged, more personnel to backfill positions as needed, and an additional all-hazards fortified structure that can be used for an alternate VRFA Department Operations Center (or for other asset staging). Too, considerations will be made regarding the physical location of this new station, in order to stage a facility in a location that is of minimal risk for all-hazards incidents.</p>			
<p>2-Year Objectives</p> <ul style="list-style-type: none"> Acquire funding and board approval to construct the new fire station. 	<p>5-Year Objectives</p> <ul style="list-style-type: none"> Build and staff the new fire station. Acquire apparatus for the station 	<p>Long-Term Objectives</p> <ul style="list-style-type: none"> Maintain the fire station to meet modern code and to physically withstand evolving threats (natural or manmade) 	
<p>Implementation Plan/Actions</p> <p>The agency is in the process of identifying: funding sources / mechanisms, the amount of new hires needed, the types and kinds of apparatus needed, and the ideal site (physical location). Once funding has been identified and approved by agency leadership and the Board of Governance, the site will be acquired and construction will begin. Concurrently, staff will be hired and apparatus will be acquired. Once construction of the fire station is completed, it will be fully staffed and will begin response operations.</p>			
<p>Performance Measures</p> <ul style="list-style-type: none"> Funding approval by leadership and Board of Governance Site acquirement (physical location) Purchase of new apparatus and/or support vehicles Hiring of personnel to staff the new station Finalized construction of the new fire station and installation of related features (parking lot, generator, gated access etc.) 			