

**CITY OF FLORENCE
RESOLUTION NO. 23, SERIES 2023**

**A RESOLUTION ADOPTING THE 2023-2028 LANE COUNTY MULTI-JURISDICTION
HAZARD MITIGATION PLAN AND ANNEX 4 – CITY OF FLORENCE, IN SUPPORT OF THE
FLORENCE REALIZATION 2020 COMPREHENSIVE PLAN, AND REPEALING
RESOLUTION NO. 10, SERIES 2019.**

RECITALS:

1. The City of Florence recognizes the threat that natural hazards pose to people and property within our community.
2. Undertaking hazard mitigation actions will reduce the potential for harm to people and property from future hazard occurrences.
3. Lane County's Multi-Jurisdictional Natural Hazards Mitigation Plan provides a road map for ongoing, comprehensive hazard awareness and mitigation and must be updated every five years.
4. An adopted Natural Hazard Mitigation Plan is required as a condition of future funding for mitigation projects under multiple FEMA pre- and post- disaster mitigation grant programs.
5. Lane County (COUNTY) worked in collaboration with the City of Florence, as well as with the Cities of Coburg, Creswell, Dunes City, Lowel, Oakridge, Veneta, and Westfir, along with the utilities Blachly-Lane Electric Cooperative, Consumers Power, Inc., and the Emerald People's Utility District (EPUD) to develop the 2023-2028 Lane County Multi-Jurisdiction Natural Hazard Mitigation Plan (PLAN).
6. The PLAN must be updated and adopted by the local governing bodies of the communities participating in the Plan to remain eligible for Hazard Mitigation Assistance funding through FEMA.
7. The Oregon Department of Emergency Management and Federal Emergency Management Agency (FEMA), Region X, officials have reviewed the Lane County Multi-Jurisdictional Natural Hazards Mitigation Plan (dated June 2023) and pre-approved it (dated September 2023) contingent upon this official adoption of the participating governments and entities.
8. On October 10, 2023, the Lane County Board of Commissioners reviewed the PLAN, found that the PLAN reflects the intent of the Disaster Mitigation Act of 2000, and adopted the PLAN via Order and Resolution No: 23-10-10-12.
9. The City of Florence's previous plan was adopted via Resolution No. 10, Series 2019 and will be replaced by the current plan.
10. The Lane County Multi-Jurisdiction Hazard Mitigation Plan and Annex 4 – City of Florence are in support of the Florence Realization 2020 Comprehensive Plan.

Based on these findings,

THE CITY COUNCIL OF THE CITY OF FLORENCE RESOLVES AS FOLLOWS:

1. The City shall adopt the 2023-2028 Lane County Multi-Jurisdictional Hazard Mitigation Plan and specifically Annex 4 – City of Florence as outlined in Exhibit A.
2. The full 2023-2028 Lane County Multi-Jurisdictional Hazard Mitigation Plan can be found on the City of Florence website at www.ci.florence.or.us/em.
3. The City shall repeal Resolution No. 10, Series 2019.
4. This Resolution takes effect immediately upon adoption.

ADOPTION:

This Resolution is passed and adopted on the 6th day of November, 2023.



Rob Ward, Mayor

Attest:



Lindsey White, City Recorder

Section 4: City of Florence

Exhibit A



Version 4.0 (October 2023 – October 2028)

Developed as an annex to the Lane County Multi-Jurisdictional
Natural Hazard Mitigation Plan

Section 4.1: Natural Hazard Mitigation Meetings and Work Sessions

Development of Florence’s materials for the Natural Hazard Mitigation Plan involved participation by city, public works, airport, school district, county emergency management, fire district, and law enforcement staff. The process followed FEMA’s prescribed model for organizing resources, identifying hazards, evaluating risk, identifying mitigation options, and prioritizing mitigation projects. For additional details regarding the planning process, please refer to Section 6 of Volume I. Specific participants for the City of Florence are listed in Table 4.1.

Table 4.1: City of Florence Planning Team

Name	Title	Agency
Erin Reynolds	City Manager	City of Florence
Megan Messmer	Assistant City Manager	City of Florence
John Pitcher	Police Chief	City of Florence
Brandon Ott	Police Sergeant	City of Florence
Mike Miller	Public Works Director	City of Florence
August Murphy	Assistant Public Works Director	City of Florence
Wendy Farley-Campbell	Community Development Director	City of Florence
Michael Schick	Fire & EMS Chief	Western Lane Fire & EMS Authority
Matt House	Deputy Chief	Western Lane Fire & EMS Authority

Source: City of Florence

Individual City Work Sessions

Work sessions with individual cities were conducted following the initial project orientation meeting and intervening months between general planning group meetings. The individual work sessions that the City of Florence took part are outlined in Table 4.2.

Table 4.2: City of Florence Work Sessions

Date	Location	Meeting/Work Session
Wednesday, February 8, 2023	Florence Events Center	Lane MNHMP Coast Region Workshop 1
Tuesday, March 14, 2023	Virtual	Florence Check-In with Lane County
Friday, April 7, 2023	Florence City Hall	Florence Planning Team Hazard Rating
Thursday, April 20, 2023	Florence Events Center	Lane MNHMP Coast Region Workshop 2

Subject matter discussed during work sessions included an overview of FEMA grant programs, discussion of common mitigation ideas, and specific project ideas for the City of Florence. The result of this process was a thorough evaluation of risk factors and mitigation solutions. Certain hazards such as windstorms, wildfire, winter storms, and tsunami were highlighted with notable significance for Florence, while other hazards like dam failure and volcano were found to be less relevant in a local context. Systems and concepts considered included infrastructure resiliency, safeguarding the transportation network, city planning, floodplain management, public safety, and hardening public

and private facilities. A range of both general and specific mitigation ideas and projects were identified and scoped in the field.

Section 4.2: Hazard Quantification Results

Florence rated windstorms as its highest hazard risk, with wildfire, tsunami, winter storm, and earthquake all posing significant risk to the city. The community faces some risk from landslide, tidal impacts, coastal erosion, and to a lesser extent, drought, flood, and volcano. Table 4.3 displays the results from Florence’s local hazard quantification.

Table 4.3: Florence Hazard Quantification Results

Hazard Type / Weight Factor (WF)	History	Probability	Vulnerability	Maximum Threat	Raw Score	Weighted Score	Weighted Score Rank
	WF x 2	WF x 7	WF x 5	WF x 10			
Windstorm	9	10	6	10	35	218	1
Wildfire	6	7	8	10	31	201	2
Tsunami	10	7	5	10	32	194	3
Winter Storm	8	8	6	7	29	172	4
Earthquake	2	3	7	10	22	160	5
Landslide	10	6	5	4	25	127	6
Tidal Impacts	8	8	6	2	24	122	7
Coastal Erosion	8	9	4	2	24	119	8
Drought	4	2	1	7	14	97	9
Flood	8	3	2	2	15	67	10

Source: Florence Hazard Mitigation Team

Section 4.2.1: Individual Hazard Discussions

The City of Florence evaluated 10 natural hazard types in its risk assessment. This includes the unique hazards of tidal impacts and coastal erosion that affect only Florence compared to the other cities participating in this Plan.

Windstorm

Windstorms are a regular event on the Oregon Coast. Due to its location, the City of Florence is exposed to extreme wind as compared to more sheltered areas. Coordinated response is multi-jurisdictional in addressing the impacts of windstorms of all sizes but is most notable during and after large windstorms with widespread impacts. In addition, the City and partner agencies have worked to mitigate potential impacts of frequent storms through tree trimming, securing infrastructure, and requiring undergrounding of power and telecommunications lines for new development and, when possible, during redevelopment.

Windstorms can, and frequently do, impact above ground power and telecommunications lines vulnerable to damage from falling limbs and trees. Notable damage and power loss occurs nearly every year. Numerous trees and tree branches fall and are a regular expectation in the region about damage from windstorms.

Probability and history are considered high with the expectation that the patterns of previous occurrences will continue. Overall vulnerability is moderate with roadways being notably vulnerable to closure on the Oregon Coast and are a regularly encountered hazard in the region. The Columbus Day storm of 1962 can serve as an example for the maximum threat, with winds recorded at nearly 170 miles per hour at Florence. A windstorm of similar magnitude to the Columbus Day Storm could potentially damage numerous residential and commercial structures in the city, either by direct structural damage, falling trees, or by wind-blown debris.

Wildfire

Florence is surrounded to the north and east by significant forest lands in the Siuslaw National Forest and privately owned lands. The city is bounded to the south by the Siuslaw River, with little in the way of direct threat from that direction, but the area south of the river is also heavily forested.

Major wildfires have occurred in the past in the Siuslaw National Forest. Its proximity to the city and the few roadways leading in and out of the city make this a hazard during dry summer months. The hazard is mitigated by generally mild temperatures and moisture from the Pacific Ocean; however, it can be exacerbated by the often-constant winds and the greater prominence of red flag warnings during the extended dry months. The Oregon Department of Forestry (ODF) monitors fire conditions in the area closely.

The history of this hazard has seen three to four (3-4) events in area in the past 100 years, with the addition of the Sweet Creek Fire east of town during late summer of 2020. Probability is moderate, with the expectation of another wildfire in the area in the next 35 to 75 years. Vulnerability is considered high, with the potential for severe property damage on a regional level. Maximum threat involves the potential for over 50 percent (50%) of the community being impacted either directly by wildfire or more indirectly by evacuations and smoke from a wildfire.

Tsunami

Tsunamis pose a significant risk to the Oregon Coast. Not all areas on the coast will be inside the expected tsunami inundation zone; however, this does not mean that areas outside that immediate impact zone will remain unaffected. The directly impacted tsunami inundation zones are split in two, with consideration for local tsunamis and distant tsunamis. In the past 15 years there have been approximately 10 occurrences that have resulted in at least a tsunami watch, with two (2) resulting in a higher level of classification, and many more information statements where no threat was indicated. These events have resulted due to distant earthquakes.

Florence is moderately vulnerable to tsunami. Areas to the south of the city may be isolated due to damage to the Highway 101 Bridge crossing the Siuslaw River. The tsunami inundation zones, according to DOGAMI and the State of Oregon Office of Emergency Management (OEM), run from the coast inland along the shores of the Siuslaw River, flooding areas south of Rhododendron Drive inundating Bay and Laurel Streets east of Highway 101. Full tsunami inundation zone and evacuation

maps can be found at <https://www.ci.florence.or.us/em>. See also the map in the tsunami hazard profile found in Volume I: Section 2.2.6 of this Plan.

A *distant tsunami* will take for (4) hours or more to reach the shore. Residents will not feel the earthquake, and the tsunami will generally be smaller than that from a local earthquake. Typically, there is time for an official warning and evacuation to safety. Evacuation for a distant tsunami will generally be indicated by an announcement over NOAA weather radio that the local area has been put into an official TSUNAMI WARNING. Even if there is no announcement, a sudden change of sea level should prompt people to immediately move to high ground. A *local tsunami* can come onshore within 15 to 20 minutes after the earthquake — before there is time for an official warning from the national warning system. Ground shaking from the earthquake may be the only warning available. The local inundation zone has the larger impact area.

A Cascadia earthquake and resulting tsunami may cause damage to the Highway 126 Bridge as it crosses the north fork of the Siuslaw River, causing the city to be isolated from the inland east. Tsunami waters are expected to cover the Florence-Eugene Highway (Highway 126) east of the city, blocking the only road east to the Coast Range Mountains and Willamette Valley. North of the city, the Siuslaw North Jetty Park will be inundated north of North Jetty Road; the South Jetty area will be inundated well east of Sand Dune Road. Shoreline beach areas can expect to be inundated. Areas close to the water in Heceta Beach will also be impacted. Siuslaw Valley Fire and Rescue Station #2 is also located in the local inundation zone and should be considered for relocation outside the inundation zone.

Like much of the Oregon Coast, Florence will become isolated due to the damage caused by a large tsunami expected with a Cascadia earthquake and the resulting damage to transportation infrastructure. Travel and commerce dependent on travel of all types will be correspondingly difficult and services of all types will be difficult to obtain. Proximity of the railroad line, which travels for extended lengths along the north and then east shores of the Siuslaw River east of Florence, is anticipated to be impacted by a local event due to the reliance on bridges and tunnels for travel.

Winter Storm

Winter storms are characterized by ice accumulation and freezing rain, heavy snowfall, and/or extreme cold and wind chill conditions. These hazard events typically create disruption of regional systems such as public utilities, telecommunications, and transportation routes. Cities on the Oregon Coast are familiar with high levels of rainfall during the winter month and throughout the year. Like most cities on the Oregon Coast, Florence is not fully equipped to address snowfall and/or ice, nor is the community fully prepared for long periods of cold weather.

Florence contains a network of above ground electrical lines vulnerable to damage from falling limbs and trees during winter storms. Early winter storms that occur before the trees lose needles result in a greater likelihood for downed trees and limbs. This hazard is amplified when storms bring in large amounts of rain and are followed/accompanied by windstorms, making the trees more vulnerable to being blown down with saturated ground.

Recent history has included frequent/notable damage and power loss on a yearly basis, leading to this hazard classification as high. Wind and rain are nearly always contributing factors. Periodically over the past decade and most recently for an extended time in early 2023, ice and snow were also factors causing downed tree branches, and slick dangerous roads, especially in the outlying areas that impact the ability to get to and from the city, as well as emergency response in those areas. Probability is considered high that patterns of previous occurrences will continue.

Overall population potentially affected by winter storm is moderate since effects are not geographically contained. Transportation and roadways are vulnerable to closure during winter storms. Especially vulnerable populations will be impacted by extended winter storms and cold weather, creating the need for community resources to address cold weather sheltering. Maximum threat is high due to the high threat of structural damage directly related to winter weather (cold, snow, ice, and wind). Best practices in this area lead to placing utilities such as power and telecommunications lines underground.

Earthquake

Earthquakes are somewhat unique as it occurs much less frequently than other hazards but has the potential for significant damage and disruption. This is particularly true on the Oregon Coast, where the region is subject to both crustal earthquakes, and a far more powerful Cascadia Subduction Zone (CSZ) earthquake. From a geographic standpoint, an earthquake will impact the entire city uniformly, with a resulting tsunami from a local earthquake adding to the impact in general and compounding the severity within the inundation zone.

History of occurrence dates back over long-time scales and are considered low. Probability is considered low in each year. However, DOGAMI and the State of Oregon consider a Cascadia earthquake in the future a certainty with the only major uncertainty existing relating to whether the event will be a full or partial rupture of the CSZ fault. There are two (2) crustal earthquake faults nearby, approximately five (5) miles directly east of Florence. The second fault is closer to Dunes City to the south and west. Due to the prevalence of sand in the geology, a high liquefaction hazard exists beneath the city, which will be a factor in an earthquake in the resulting damages to the community and infrastructure. The probability for an earthquake event affecting Florence is expected within the next 35 to 50 years.

Vulnerability is complex to assess due to varying standards of construction, but newer (after 1996) construction is considered relatively sound. A local crustal earthquake is not as likely to cause widespread impacts – magnitude ranges are generally in the range of 3 to 5 in magnitude. A Cascadia event is on a different order of magnitude, in the range of 8.0 to 9.0, and will result in a tremendous amount of destruction, and cause significant disruptions to the entire community. A Cascadia event is not an average occurrence of earthquake in the region; however, it cannot be discounted due to the fact it has been 343 years since the last rupture of the fault and would result in a corresponding tsunami.

Maximum threat is expected to be high, with damage to a significant number of structures. In this worst-case scenario, a full rupture of Cascadia will cause widespread destruction on the coastline from Northern California to British Columbia, Canada. Importance for increasing the resiliency of the community, infrastructure, water supply, and healthcare is notable. Retrofitting existing homes for

earthquake would increase the resilience of the community. With Florence's prominence of sand, liquefaction could cause river channel changes, potentially leading to flooding.

Seismic assessments for the Siuslaw High School, and the Siuslaw Valley Fire and Rescue Station #2 are indicated by both age, current condition of the structures, and their potential vulnerability to either earthquake and/or tsunami. Following assessment, consideration for the relocation or replacement of these structures may be indicated.

Landslide

Landslides are one of the characteristics of living on the Oregon Coast and Florence is no exception. Landslides are common yearly events in the region; a hazard that residents, public works officials, transportation departments, and local utilities are well rehearsed in responding to.

Historical occurrences of landslides are high. Probability of a future event is also high, with at least one (1) event likely to occur in the next 10 – 35 years; however, the City is prepared for yearly events. Vulnerability within the city is moderate. More often landslides impact the limited number of roads and highways leading in and out of the Florence. These events impact commerce, individual travel, tourism, and recreational activities. For these reasons, maximum threat is considered moderate with the potential to impact 5 to 25 percent (5–25%) of the population.

Tidal Impacts/High-Tide Flooding

Tidal impacts on the Oregon Coast are a general result of high tide flooding, versus general flooding due to high rainfall or storm events. High tide flooding is described by NOAA as follows (<https://oceanservice.noaa.gov/facts/high-tide-flooding.html>):

As relative sea level rises, it no longer takes a strong storm or a hurricane to cause coastal flooding. High tide flooding occurs when sea level rise combines with local factors to push water levels above the normal high tide mark. Changes in prevailing winds, shifts in ocean currents, and strong tidal forces (which occur during full or new moon) can all cause high tide flooding, inundating streets even on sunny days.

High tide flooding falls into three (3) levels of severity: minor, moderate, and major. The classifications measure how much water levels exceed average high tide for that location.

- **Minor high tide** flooding is when water levels reach 0.55 meters (1.8 feet) above average high tide. This minor flooding is mostly disruptive, causing stormwater backups and road closures.
- **Moderate high tide** flooding is when water levels reach 0.85 meters (2.8 feet) above average high tide. This can cause more disruption and can damage homes and businesses.
- **Major high tide** flooding is when water levels reach 1.20 meters (3.9 feet) above average high tide. Floods of this severity are quite destructive, may lead to evacuations, and often require repairs to infrastructure and property.

Because of rising seas, land subsidence, and the loss of natural barriers, high tide flooding is now twice as frequent in U.S. coastal communities as it was 20 years ago. Predictions from the latest interagency Sea Level Rise Technical Report show that high tide flooding will become more common and more severe over the coming decades. As sea levels continue to rise, conditions that cause

minor and moderate high tide flooding today will cause moderate and major high tide flooding by 2050.

The occurrences of extreme high tides, with the added King Tide occurrences several times per year, have had impacts on the coastlines and the riverbanks in Florence. These events have caused severe damage to infrastructure and have caused failures of slopes and bulkheads. Due to the ongoing, daily impacts of high tides and the more severe King Tides this hazard is classified as high for history and probability, moderate on the vulnerability scale, and low for maximum threat.

Coastal Erosion

Florence and the beaches which bring so many visitors to the city year-round have experienced significant coastal erosion in the past. The Oregon Sand Dunes (south of Florence) are a significant draw for tourists and residents alike. These areas offer significant assets to wildlife and coastal vegetation and are considered a vulnerable habitat. Healthy beaches protect coastline properties, and infrastructure that leads to beach access. Often a result of winter storms, waves and tides move sand out, and waves as a result climb higher. This process can cause rapid changes in beaches.

History of coastal erosion is high. The characteristics of beaches often change on a frequent, if not constant, basis. The probability of coastal erosion continuing is high. Vulnerability is considered moderate in this area of the coast, with a lower number of residential, commercial, and infrastructure structures directly impacted by coastal erosion than is seen compared to other coastal communities. The maximum threat the hazard presents is also low, with less than 5 percent (5%) of the population and property impacted by a worst-case scenario event of coastal erosion.

Drought

Drought is neither life threatening nor presents a direct risk to structures but does involve potential for significant disruption if dramatic water shortage were to develop. Drought can exacerbate wildfire risk as related hazards and a water shortage could impact the entire city uniformly. Average annual rainfall dating back to 1957 is 68.85 inches per year. Long-term, below average rainfall years could impact the water supply in the two (2) water sources used in the Florence area.

The City of Florence's water source is the North Florence Sole Source Dunal Aquifer, designated as a "sole source" aquifer from the EPA in 1987. It continues to be the only "sole source" aquifer in the State of Oregon. The EPA defines a sole source aquifer as "an underground water source that supplies at least 50% of the drinking water consumed in the area overlying the aquifer. These areas have no alternative drinking water source(s) that could physically, legally and economically supply all those who depend upon the aquifer for drinking water." All streams, creeks, lakes, and wetlands (surface waters) in the aquifer boundary are "hydrologically connected" with the groundwater system.

Heceta Water People's Utility District (HWPUD) provides water to some residents within the northern City of Florence city limits, the northern Florence Urban Growth Boundary, and the area north of Florence within Lane County. HWPUD's water source is Clear Lake north of Florence and draws directly from the lake. Clear Lake is one of a string of lakes on the central Oregon coast that lies on the 50 mile long North Florence Dunal Aquifer, an important ground water body supplying water for domestic needs in the Florence area.

History is considered moderate in the region. The area averages about 70 inches of rain a year. Over the recorded history, there have been several years that have seen significantly lower rainfall. Probability is considered low as events have historically been spread out with several years in between. Vulnerability is also considered low in an area that is balanced with years that see above or significantly above average rainfall to replenish the aquifer and lakes. Maximum threat is moderate due to the City’s reliance on the sole source aquifer and connectivity of the lakes to the aquifer. Should a long duration drought impact the region, it may potentially impact most of the population.

Flood

Flood is a geographically contained hazard with potentially widespread impacts. The area of Florence has a moderate history of flooding, with several instances in the past 100 years. The geology of the coast allows for drainage of floodwaters with relative ease compared with inland areas. The probability of future occurrences is low, with the expectation of future events in the range of 35 to 75 years. Overall vulnerability and maximum threat scores are low as widespread damage from flooding is not considered likely.

National Flood Insurance Program

The City of Florence is a formal program participant in good standing and considers continued participation as integral to future flood mitigation efforts. Participation consists of adoption and maintenance of Flood Insurance Rate Maps (FIRMs) which define Special Flood Hazard Areas (SFHAs) and maintenance of an ordinance regulating future development in SFHAs. The Flood Insurance Rate Map Community Number for Florence is **410123**. Compliance with the program is pursuant to the City of Florence’s floodplain ordinance.

Statistics as reported by FEMA on the NFIP Bureau Net for the period of January 1, 1978, through January 1, 2023, are as follows:

NFIP Policies in Force

Policies in Force: **96**
 Insurance in Force: **\$31,745,000**
 Premium in Force: **\$69,086**

Insurance Claim Data

Total Losses: **8**
 Closed Losses: **3**
 Open Losses: **1**
 CWOP Losses: **4**
 Total Payments: **\$59,527.08**

Data Definitions

- Policies In Force** – Policies in force on the "as of" date of the report.
- Insurance In Force** – The coverage amounts for policies in force.
- Premium in Force** – The premium paid for policies in force.
- Total losses** – All losses submitted regardless of the status.
- Closed losses** – Losses that have been paid.
- Open losses** – Losses that have not been paid in full.

New Development in Hazard Areas

Development in Florence in the main hazard specific areas, such as tsunami or tidal influence, has not substantially increased since the previous plan update. Development throughout the city, where hazards are equally impactful to all areas such as earthquakes, wildfire, and storm damage, has increased related to multi-family and single-family housing. These developments are not any more prone to hazards than if they were located elsewhere in the city.

There are areas near the updated flood plains and the tsunami hazard overlay zone that are available for redevelopment in the Old Town area of Florence. The City provides this information to prospective developers and has updated code related to floodplain and tsunami hazard zones. Information on the City’s efforts can be found at:

<https://www.ci.florence.or.us/planning/fema-coastal-floodplain-map-update>

<https://www.ci.florence.or.us/planning/tsunami-hazard-overlay-zone-completed-oct-2018>

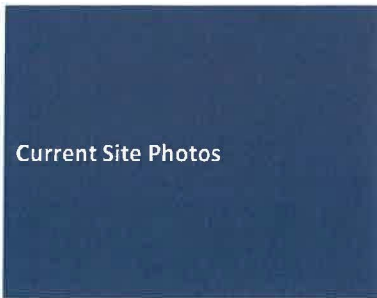
Section 4.3: Mitigation Projects

This subsection describes mitigation projects identified by the City of Florence during the planning process. See Volume I, Section 4 for additional information regarding the methodology for developing of the overall mitigation strategy, identifying action items, and prioritizing action items and projects.

Mitigation Action Item (a)	Regional Public Agency and Emergency Fueling Facility
Location	City of Florence Public Works Operations Center
Coordinating Agencies	City of Florence, Lane County, Various First Responding Agencies
Implementation Timeframe	Estimated Completion in 2024
Estimated Cost	\$550,000
Potential Funding Sources	HB 5202 provided \$250,000, City Match of \$300,000
Hazards Mitigated	Windstorm, Winter Storm, Various Hazards
Comments	The fueling facility will allow the City and our other emergency agency partners to have a fueling source (unleaded and diesel fuel) on both ‘blue sky’ days for normal operations, but more importantly, the ability to supply fuel when a major (and extended) disaster strikes. The site will be secured and lit, as well as have emergency backup power to utilize during power outages and times where there is also high demand from the public on the commercially operated fueling facilities.
Progress Since Last Plan	New Item, In Progress



Mitigation Action Item (b)	Siuslaw River/Coast Guard Road Slope Stabilization Project
Location	Coast Guard Road
Coordinating Agencies	City of Florence, State of Oregon, Lane County, Federal/Coast Guard
Implementation Timeframe	Unknown, ASAP
Estimated Cost	\$1+ million
Potential Funding Sources	Seeking Funding -- In March 2023, City submitted a congressionally directed spending (CDS) requests for Fiscal the Year 2024 appropriations process. / BRIC
Hazards Mitigated	Erosion, Tidal Impact
Comments	The project is located along the top of the slope to the Siuslaw River near the US Coast Guard Station Siuslaw River. A portion of the steep slope has begun to actively slide. From the City's evaluation the slope movement resulted in the formation of a scarp (a long steep slope or cliff at the edge of a plateau or ridge that is formed by erosion). Our design team is in the process of developing a concept design consisting of a retaining wall above the scarp to prevent it from progressing north toward the Coast Guard Station parking lot; south toward a private residence; west to the Siuslaw River; as well as storm drainage system modifications to potentially eliminate the stormwater outfall at the scarp location. Our design consists of a secant pile retaining wall system.
Progress Since Last Plan	New Project



Mitigation Action Item (c)	Tsunami Siren Updates
Location	Various – Four (4) locations in Florence
Coordinating Agencies	West Lane Emergency Operations Group
Implementation Timeframe	TBD
Estimated Cost	TBD
Potential Funding Sources	Grant Funding, WLEOG Partner Agencies
Hazards Mitigated	Tsunami
Comments	There are currently four (4) sirens located in the Florence area utilized to provide emergency notification to community members and visitors of tsunami threats. Due to the harsh coastal climate, they need repair and maintenance. They are being evaluated for repair and possible replacement of at least one (1) siren that is not currently working.
Progress Since Last Plan	New project

Mitigation Action Item (d)	Port of Siuslaw Bulkhead
Location	Port of Siuslaw
Coordinating Agencies	Port of Siuslaw, State of Oregon, Federal
Implementation Timeframe	Unknown
Estimated Cost	Unknown
Potential Funding Sources	Unknown
Hazards Mitigated	Erosion, Flood, Tidal Influence, Pacific Storms (windstorms and winter storms)
Comments	Port of Siuslaw needs to repair the failing bulkhead and install approximately 900' of sheet pile wall at the damaged side bank along the Siuslaw River, adjacent and south along the Port of Siuslaw Campground. Property is located on the Siuslaw River.
Progress Since Last Plan	New Item


Current Site Photos



Mitigation Action Item (e)	Utility Line Undergrounding
Location	Various
Coordinating Agencies	City of Florence, Central Lincoln PUD
Implementation Timeframe	Various
Estimated Cost	Varied
Potential Funding Sources	Grants, City Funding, Central Lincoln PUD Funding
Hazards Mitigated	Windstorms, Winter Storms, Various
Comments	Continued efforts to underground utilities to harden them against storm hazards throughout the community. Most of the existing power and communications lines are above ground and vulnerable to storms. New development and services are generally installed underground unless the area is aerial currently. Continued efforts towards undergrounding will assist the community in hazard resiliency.
Progress Since Last Plan	New Item

Mitigation Action Item (f)	Firewise Education and Programs in North UGB
Location	City of Florence North Urban Growth Boundary
Coordinating Agencies	City of Florence, Siuslaw Valley Fire & Rescue, Oregon State Fire Marshal
Implementation Timeframe	Ongoing
Estimated Cost	Ongoing
Potential Funding Sources	City, SVFR, State
Hazards Mitigated	Wildfires
Comments	The City of Florence's northern UGB area is relatively developed for being outside of the city limits. Due to fewer codes related to landscaping and vegetation, the area is more wooded in nature and has a high amount of vegetation that could become fuel for fires in dry months. Education on Firewise programs and best practices to the residents is ongoing to mitigate the hazard in the area.
Progress Since Last Plan	Ongoing item, new to plan

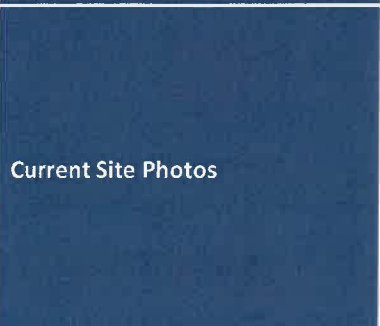
Mitigation Items in Previous Plan & Progress

Mitigation Action Item	Mitigation reconstruction for Public Works facility. Storm hardening and seismic resiliency.
Location	Florence Public Works Facility – Airport facility
Coordinating Agencies	City of Florence Public Works
Implementation Timeframe	6 to 18 months
Estimated Cost	\$5.5 to 6 million
Potential Funding Sources	HUD-CDBG, OR-SRGP, HMGP, PDM, FEMA PA-106
Hazards Mitigated	Windstorm, Winter Storm, Tsunami, Earthquake, Flood
Comments	Equipment & bays from west of Administration to the eastside. 2.5 acres of land, \$20 million lease to the city.
Progress Since Last Plan	Florence Public Works Operating Facility was completed in 2018. Additional phases to build out the site have been completed and/or are planned in future fiscal years to expand the capabilities of the site.
Current Site Photos	 <p>The image block contains two side-by-side visual elements. On the left is a site plan map showing a rectangular area with various colored zones (red, green, yellow) and labels for '27th Street' and 'Progress Road'. On the right is an aerial photograph of a large industrial or public works facility with several large buildings and parking lots, situated near a road and some greenery.</p>



Mitigation Action Item	Seismic retrofit for water supply tanks and foundation reinforcements
Location	City Reservoirs
Coordinating Agencies	City of Florence Public Works, Water Department
Implementation Timeframe	18-24 months
Estimated Cost	\$2 million
Potential Funding Sources	HUD-CDBG, OR-SRGP, HMGP, PDM, FEMA PA-106
Hazards Mitigated	Earthquake, Drought
Comments	Cribbing, foundation control; seismic lateral stability; ball joints & auto-shut off valve. Tanks located at 35th Street and 31st Street.
Progress Since Last Plan	Not in the current capital improvement plan or budget forecasts.



Mitigation Action Item	Erosion control measures for Rhododendron Drive, structural reinforcements
Location	Rhododendron Drive near New Hope Lane
Coordinating Agencies	City of Florence Public Works Department
Implementation Timeframe	24 months
Estimated Cost	\$7-8 million
Potential Funding Sources	HUD-CDBG, OR-SRGP, HMGP, PDM, FEMA PA-106, USACE
Hazards Mitigated	Tsunami, Flood, Winter Storm, Windstorm, Coastal Erosion, Tidal Impacts
Comments	2000+ homes served by this road; ore drillings show decaying organics and wing dams have shifted the flow of the river, cutting into the bank adjacent to the roadway. This has caused a significant undercut below the compacted sand shelf.
Progress Since Last Plan	The City has completed design and engineering for the full reconstruction and shifting of this section of Rhododendron Drive. Construction is anticipated to begin in late 2023 and last two (2) years.



Mitigation Action Item	Seismic reinforcements or relocation for WLFEA Fire Station #2
Location	2nd St. Siuslaw Valley Fire Station #2
Coordinating Agencies	City of Florence, Western Lane Fire & EMS Authority (WLFEA)
Implementation Timeframe	Unknown
Estimated Cost	\$5 million for relocation, just deconstruction would be less
Potential Funding Sources	HUD-CDBG, OR-SRGP, HMGP, PDM, FEMA PA-106
Hazards Mitigated	Earthquake, Tsunami
Comments	Station #2 is in the Tsunami Inundation zone.

Progress Since Last Plan	<p>WLFEA has executed seismic upgrades on their other fire stations. With Station #2 in the inundation zone, it did not qualify for the grants that funded the projects on the other stations. There have been discussions of relocation of the station and/or simply deconstructing SVFS #2. WLFEA currently does not respond out of Station #2; the station mainly stores items.</p>	
Current Site Photos		

Mitigation Item	Highway 126 trestle overpass at Cushman
Location	East Florence, Cushman on Highway 126
Coordinating Agencies	City of Florence, ODOT, Railroad
Implementation Timeframe	36 Months
Estimated Cost	\$20-30 million
Potential Funding Sources	HUD-CDBG, OR-SRGP, HMGP, PDM, FEMA PA-106, ODOT
Hazards Mitigated	Tsunami, Earthquake, Flooding
Comments	Highway overpass at Cushman Road., over railroad trestle.
Progress Since Last Plan	No progress has been made on this project as it is outside of the Florence jurisdiction. The current conditions cause the highway to close at extreme high tides several times of the year. Progress would need participation from the railroad and ODOT.

Section 4.4: Plan Implementation and Maintenance

In keeping with standard practices to ensure incorporation of overall goals and strategies of the NHMP, the City of Florence Natural Hazard Mitigation Planning Team members will be invited to participate in future development or existing plan update committees. Additionally, this NHMP will be cited as a technical reference for plan update processes. Planning documents and mechanisms applicable to this process may include the following:

- City of Florence Comprehensive Plan**
- Capital Improvement Plans**
- Emergency Management Plan**
- Local Community Wildfire Protection Plan**
- City of Florence Floodplain Development Code**
- Building Code**
- Subdivision Code**
- Erosion Control**
- Stormwater Management Plan**

**Tsunami Hazard Overlay Zone
Transportation System Plan
North Florence Dunal Aquifer Study, Aquifer Protection Plan, Drinking Water Protection
Plan**

Additionally, progress to implement this plan will be monitored on an ongoing basis by city staff and administration. The planning process is essential in identifying weaknesses and strengths inherent in the community and cooperatively enables coordination with various agencies and jurisdictions that might not otherwise occur. Continuing this cooperative and interactive process is exemplified by the planning process. Annual reviews and updates under a 5-year cycle will be pursued. Using these methods, the overarching goal of a stronger, safer, more resilient community can be attained.