

**Grays Harbor County
MULTI-JURISDICTION HAZARD MITIGATION PLAN
2018 UPDATE**

VOLUME 2: PLANNING PARTNER ANNEXES

FINAL

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**Grays Harbor County
2018 Multi-Jurisdiction Hazard Mitigation Plan Update
Volume 2—Planning Partner Annexes**

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- B. Planning Team Ground Rules
- C. Procedures for Linking to the Hazard Mitigation Plan Update

CHAPTER 1.

PLANNING PARTNER PARTICIPATION

1.1 BACKGROUND

The Federal Emergency Management Agency (FEMA) encourages multi-jurisdictional planning for hazard mitigation. Such planning efforts require all participating jurisdictions to fully participate in the process and formally adopt the resulting planning document. Chapter 44 of the Code of Federal Regulations (44 CFR) states:

Multi-jurisdictional plans (e.g. watershed plans) may be accepted, as appropriate, as long as each jurisdiction has participated in the process and has officially adopted the plan. (Section 201.6.a(4))

In the preparation of the *Grays Harbor County 2018 Multi-Jurisdiction Hazard Mitigation Plan Update*, a Planning Partnership was formed to leverage resources and to meet requirements of the federal Disaster Mitigation Act of 2000 (DMA) for as many eligible local governments in Grays Harbor County as possible. The DMA defines a local government as follows:

Any county, municipality, city, town, township, public authority, school district, special district, intrastate district, council of governments (regardless of whether the council of governments is incorporated as a nonprofit corporation under State law), regional or interstate government entity, or agency or instrumentality of a local government; any Indian tribe or authorized tribal organization, or Alaska Native village or organization; and any rural community, unincorporated town or village, or other public entity.

There are two types of Planning Partners in this process, with distinct needs and capabilities:

- Incorporated municipalities (cities and towns)
- Special purpose districts (e.g., fire, hospital, school, water)
- For purposes of this update, the County elected to utilize the base plan as its document, with specific county data identified within the various tables within Volume 1.

1.2 THE PLANNING PARTNERSHIP

Initial Solicitation and Letters of Intent

The planning team solicited the participation of the County and recognized special purpose districts at the outset of this project. Initial letters and emails were sent out in August 2017 to identify potential stakeholders for this process. The purpose of the letter was to introduce the planning process to jurisdictions in the County that could have a stake in the outcome of the planning effort, as well as to invite participation in the effort.

The planning process kickoff meeting was held at the Grays Harbor County Commissioner's Meeting Room on September 14, 2017 to solicit planning partners and inform potential partners of the benefits of participation in this effort. County-identified eligible local governments within the planning area were invited to attend; a press release of the meeting was also published. Various agency and citizen stakeholders were also invited to this meeting. The goals of the meeting were as follows:

- Provide an overview of the Disaster Mitigation Act.
- Provide an update on the planning grant.
- Outline the Grays Harbor County plan update work plan.
- Describe the benefits of multi-jurisdictional planning.
- Solicit planning partners.
- Confirm a Planning Committee.

All interested local governments were provided with a list of planning partner expectations developed by the planning team and were informed of the obligations required for participation. Local governments wishing to join the planning effort were asked to provide the planning team with a “notice of intent to participate” that agreed to the planning partner expectations (see Appendix A) and designated a point of contact for their jurisdiction. In all, formal commitment was received from 10 planning partners by the planning team, and the Grays Harbor County Planning Partnership was formed.

Maps for each participating city and for port districts are provided in the individual annexes for those jurisdictions. A map at the end of this chapter shows the boundaries of Grays Harbor County fire districts. These maps will be updated periodically as changes to the partnership occur, either through linkage or by a partner dropping out due to a failure to participate.

Planning Partner Expectations

The Planning Team developed the following list of planning partner expectations, which were confirmed at the meeting held on September 24, 2017:

- Each partner will provide a “Letter of Intent to Participate.”
- Each partner will support and participate in the development of the update by providing requested information. Support includes this body making decisions regarding plan development and scope on behalf of the partnership.
- Each partner will provide support for the public involvement strategy developed by the Planning Team in the form of mailing lists, possible meeting space, and media outreach such as newsletters, newspapers or direct-mailed brochures.
- Each partner will participate in plan update development activities such as:
 - Planning Team meetings
 - Public meetings or open houses
 - Workshops and planning partner sessions
 - Public review and comment periods prior to adoption.

Attendance will be tracked at such activities, and attendance records will be used to track and document participation for each planning partner. A minimum level of participation was established, as identified in the ground rules attached as Appendix B - Planning Team Ground Rules.

- Each partner will be expected to perform a “consistency review” of all technical studies, plans, and ordinances specific to hazards identified within the planning area to determine the existence of plans, studies or ordinances not consistent with the equivalent documents reviewed in preparation of the County plan. For example: if a planning partner has a floodplain management plan that makes recommendations that are not consistent with any of the County’s

basin plans, that plan will need to be reviewed for probable incorporation into the plan for the partner's area.

- Each partner will be expected to review the risk assessment and identify hazards and vulnerabilities specific to its jurisdiction. County or contract resources will provide jurisdiction-specific mapping and technical consultation to aid in this task if unavailable by the local jurisdiction, but the determination of risk and vulnerability will be up to each partner.
- Each partner will be expected to review the mitigation recommendations chosen for the overall county and determine if they will meet the needs of its jurisdiction. Projects within each jurisdiction consistent with the overall plan recommendations will need to be identified, prioritized and reviewed to determine their benefits and costs.
- Each partner will be required to create its own action plan that identifies each project, who will oversee the task, how it will be financed and when it is estimated to occur.
- Each partner will be required to sponsor or take part in at least one public meeting to present the draft plan at least two weeks prior to adoption (various ways in which this may be met).
- Each partner will be required to formally adopt the plan.

It should be noted that by adopting this plan, each planning partner also agrees to the plan implementation and maintenance protocol established in Volume 1. Failure to meet these criteria may result in a partner being dropped from the partnership by the Planning Team, and thus losing eligibility under the scope of this plan.

Linkage Procedures

Eligible local jurisdictions that did not participate in development of this hazard mitigation plan update may comply with DMA requirements by linking to this plan following the procedures outlined in Appendix C.

1.3 ANNEX-PREPARATION PROCESS

Templates

Templates were created to help the Planning Partners prepare their jurisdiction-specific annexes. Since special purpose districts operate differently from incorporated municipalities, separate templates were created for the two types of jurisdictions. The templates were created so that all criteria of 44 CFR Section 201.6 would be met, based on the partners' capabilities and mode of operation. If templates were not completed in advance, each partner was required to participate in a technical assistance workshop during which key elements of the template were completed by a designated point of contact for each partner and a member of the planning team. The templates were set up to lead each partner through a series of steps that would generate the DMA-required elements that are specific for each partner.

Workshop

Workshops were held for Planning Partners to learn about the templates and the overall planning process. In addition to the workshops, one-on-one meetings and/or telephone conferences were also held to provide assistance. Topics addressed included the following:

- DMA
- Grays Harbor County plan background

- The Annex templates and Instructions
- Risk ranking (Calculated Priority Risk Index - CPRI)
- Developing an action plan
- Cost/benefit review.

The sessions provided technical assistance and an overview of the template completion process. Attendance at this workshop was mandatory under the planning partner expectations established by the Planning Team Committee. There was 100-percent attendance of the partnership at these sessions.

In the risk-ranking exercise, each planning partner was asked to rank each risk specifically for its jurisdiction, based on the impact on its population or facilities. Cities were asked to base this ranking on probability of occurrence and the potential impact on people, property and the economy. Special purpose districts were asked to base this ranking on probability of occurrence and the potential impact on their constituency, their vital facilities and the facilities' functionality after an event. The methodology followed that used for the countywide risk ranking presented in Volume 1. A principal objective of this exercise was to familiarize the partnership with how to use the risk assessment as a tool to support other planning and hazard mitigation processes. Tools utilized during these sessions included the following:

- The risk assessment results developed for this plan, including identification of critical facilities impacted via an excel spreadsheet, and a loss matrix by municipal jurisdiction.
- Hazard maps for all hazards of concern.
- Special district boundary maps that illustrated the sphere of influence for each special purpose district partner.
- Hazard mitigation catalogs.
- Federal funding and technical assistance catalogs.
- Copies of partners' prior annexes, if applicable.
- Calculated Priority Risk Ranking Excel Worksheet and Table.
- Loss Matrices, Critical Facility Exposure and Impact Tables, Comprehensive Data Management System database attribute tables.

Prioritization

44 CFR requires actions identified in the action plan to be prioritized (Section 201.c.3.iii). The planning team developed a methodology for prioritizing the action plans that meets the needs of the partnership and the requirements of 44 CFR. The actions were prioritized according to the following criteria:

- **High Priority**—Project meets multiple plan objectives, benefits exceed cost, funding is secured under existing programs, or is grant eligible, and project can be completed in 1 to 5 years (i.e., short term project) once funded.
- **Medium Priority**—Project meets at least 1 plan objective, benefits exceed costs, requires special funding authorization under existing programs, grant eligibility is questionable, and project can be completed in 1 to 5 years once funded.
- **Low Priority**—Project will mitigate the risk of a hazard, benefits exceed costs, funding has not been secured, project is not grant eligible, and time line for completion is long term (5 to 10 years).

These priority definitions are dynamic and can change from one category to another based on changes to a parameter such as availability of funding. For example, a project might be assigned a medium priority because of the uncertainty of a funding source, but be changed to high once a funding source has been identified. The prioritization schedule for this plan will be reviewed and updated as needed annually through the plan maintenance strategy.

Benefit/Cost Review

44 CFR requires the prioritization of the action plan to emphasize a benefit/cost analysis of the proposed actions. Because some actions may not be implemented for up to 10 years, benefit/cost analysis was qualitative and not of the detail required by FEMA for project grant eligibility under the Hazard Mitigation Grant Program (HMGP) and Pre-Disaster Mitigation (PDM) grant program. A review of the apparent benefits versus the apparent cost of each project was performed. Parameters were established for assigning subjective ratings (high, medium, and low) to costs and benefits as follows:

- Cost ratings:
 - **High**—Existing funding levels are not adequate to cover the costs of the proposed action; implementation would require an increase in revenue through an alternative source (for example, bonds, grants, and fee increases).
 - **Medium**—The action could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the action would have to be spread over multiple years.
 - **Low**—The action could be funded under the existing budget. The action is part of or can be part of an existing, ongoing program.
- Benefit ratings:
 - **High**—The action will have an immediate impact on the reduction of risk exposure to life and property.
 - **Medium**—The action will have a long-term impact on the reduction of risk exposure to life and property or will provide an immediate reduction in the risk exposure to property.
 - **Low**—Long-term benefits of the action are difficult to quantify in the short term.

Using this approach, projects with positive benefit versus cost ratios (such as high over high, high over medium, medium over low, etc.) are considered cost-beneficial and are prioritized accordingly.

It should be noted that for many of the strategies identified in this action plan, funding might be sought under FEMA’s HMGP or PDM programs. Both of these programs require detailed benefit/cost analysis as part of the application process. These analyses will be performed on projects at the time of application preparation. The FEMA benefit-cost model will be used to perform this review. For projects not seeking financial assistance from grant programs that require this sort of analysis, the Partners reserve the right to define “benefits” according to parameters that meet their needs and the goals and objectives of this plan.

Analysis of Mitigation Initiatives

Each planning partner reviewed its recommended initiatives to classify each initiative based on the hazard it addresses and the type of mitigation it involves. Mitigation types used for this categorization are as follows:

- **Prevention** - Government, administrative or regulatory actions that influence the way land and buildings are developed to reduce hazard losses. This includes planning and zoning, floodplain laws, capital improvement programs, open space preservation, and stormwater management regulations.
- **Public Information and Education** - Public information campaigns or activities which inform citizens and elected officials about hazards and ways to mitigate them – a public education or awareness campaign, including efforts such as: real estate disclosure, hazard information centers, and school-age and adult education, all of which bring awareness of the hazards of concern.
- **Structural Projects** —Efforts taken to secure against acts of terrorism, manmade, or natural disasters. Types of projects include levees, reservoirs, channel improvements, or barricades which stop vehicles from approaching structures to protect.
- **Property Protection** – Actions taken that protect the properties. Types of efforts include: structural retrofit, property acquisition, elevation, relocation, insurance, storm shutters, shatter-resistant glass, sediment and erosion control, stream corridor restoration, etc. Protection can be at the individual homeowner level, or a service provided by police, fire, emergency management, or other public safety entities.
- **Emergency Services / Response** —Actions that protect people and property during and immediately after a hazard event. Includes warning systems, emergency response services, and the protection of essential facilities (e.g., sandbagging).
- **Natural Resource Protection** – Wetlands and floodplain protection, natural and beneficial uses of the floodplain, and best management practices. These include actions that preserve or restore the functions of natural systems. Includes sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.
- **Recovery** —Actions that involve the construction or re-construction of structures in such a way as to reduce the impact of a hazard, or that assist in rebuilding or re-establishing a community after a disaster incident. It also includes advance planning to address recovery efforts which will take place after a disaster. Efforts are focused on re-establishing the planning region in such a way as enhance resiliency and reduce impacts to future incidents. Recovery differs from response, which occurs during, or immediately after an incident. Recovery views long-range, sustainable efforts.

1.4 FINAL COVERAGE UNDER THE PLAN

Of the 20 committed planning partners, all fully met the participation requirements specified by the Planning Team. All partners attended the workshop or provided materials in advance to ensure annex completion as required, and all subsequently submitted completed templates. Therefore, all jurisdictions are included in this volume and will seek DMA compliance under this plan.

Table 1-1 Planning Partner Status				
Jurisdiction	Letter of Intent Submitted	Attended Workshop?	Completed Template?	Will Be Covered by This Plan?
Grays Harbor County	Yes	Yes	Yes	Yes
City of Aberdeen	Yes	No	Yes	Yes
City of Cosmopolis	Yes	No	Yes	Yes
City of Elma	Yes	Yes	Yes	Yes
City of Hoquiam	Yes	No	Yes	Yes
City of McCleary	Yes	No	Yes	Yes
City of Montesano	Yes	Yes	Yes	Yes
City of Ocean Shores	Yes	No	Yes	Yes
City of Oakville	Yes	Yes	Yes	Yes
City of Westport	Yes	No	Yes	Yes
Grays Harbor Fire District No. 2	No	No	Yes	Yes
Grays Harbor Fire District No. 5	Yes	Yes	Yes	Yes
Grays Harbor Fire District No. 7	Yes	Yes	Yes	Yes
Grays Harbor Fire District No. 8	Yes	Yes	Yes	Yes
Grays Harbor Fire District No. 16	Yes	Yes	Yes	Yes
South Beach Regional Fire Authority	Yes	Yes	Yes	Yes
Grays Harbor County Hospital District	Yes	No	Yes	Yes
Summit Pacific Medical Center	Yes	Yes	No	No
Grays Harbor Transit	Yes	Yes	Yes	Yes
Grays Harbor College	Yes	No	Yes	Yes

CHAPTER 2. CITY OF ABERDEEN ANNEX UPDATE 2018

2.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the City of Aberdeen, a participating jurisdiction to the Grays Harbor County Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by the City of Aberdeen. For planning purposes, this Annex provides additional information specific to the jurisdiction, with a focus on providing greater details on the risk assessment and mitigation strategy for this community only. This document serves as an update to the previously completed plan. All relevant data has been carried over and updated with new information as appropriate and as identified within the planning process discussed in Volume 1.

2.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

The City of Aberdeen followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County’s Planning Team, the City of Aberdeen also formulated their own internal planning team to support the broader planning process. Individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Rick Sangder, PW Director 200 E. Market St Aberdeen, WA 98520 Telephone: 360-537-3228 rsangder@aberdeenwa.gov	Public Works Director Primary Point of Contact	Revision of existing City of Aberdeen HMP including risk assessment, hazard analysis, and mitigation strategy.
Kris Koski, City Engineer 200 E. Market St Aberdeen, WA 98520 Telephone: 360-537-3218 kkoski@aberdeenwa.gov	City Engineer Alternate Point of Contact	Revision of existing City of Aberdeen HMP including risk assessment, hazard analysis, and mitigation strategy.
Tom Hubbard, Fire Chief 700 W. Market St Aberdeen, WA 98520 Telephone: 360-537-3262 thubbard@aberdeenwa.gov	Public Safety Alternate Point of Contact	Revision of existing City of Aberdeen HMP including risk assessment, hazard analysis, and mitigation strategy.
Lisa Scott, Comm. Development 200 E. Market St Aberdeen, WA 98520 Telephone: 360-537-3238 lscott@aberdeenwa.gov	Community Development, Building, Code Compliance, Planning and Zoning	Revision of existing City of Aberdeen HMP including risk assessment, hazard analysis, and mitigation strategy.

2.3 COMMUNITY PROFILE

Date of Incorporation: Aberdeen was incorporated as a third class city on May 12, 1890, became a second class city in 1906 and a first class city in 1929.

Current Population: The population, as recorded by the 2010 census was 16,896.

Population Growth: Aberdeen population growth, low and high projections:

<u>2010</u>	<u>2020</u>	<u>2025</u>	<u>2030</u>	<u>2035</u>
16,896	16,612 - 18,110	16,100 - 18,614	16,113 - 19,092	15,921 - 19,363

Location and Description: Aberdeen is Grays Harbor County’s largest city. The city was founded at the confluence of the Wishkah and Chehalis Rivers in Grays Harbor. Grays Harbor is on the Pacific coast of the State of Washington, 45 miles north of the mouth of the Columbia River, 50 miles west of Olympia, 100 miles southwest of Seattle and 140 miles northwest of Portland.

Brief History: The region’s rich fisheries and abundant timber supported a number of Native American communities and served to attract United States settlement in the mid-nineteenth century. During the latter half of the nineteenth century, a number of small communities were established on Grays Harbor, but Aberdeen quickly grew to dominate as the commercial and cultural hub. Lumber, fisheries, and shipbuilding have fueled the local economy for much of the region’s history. More recently extractive industries have declined and tourism and commercial retail have increased.

Climate: Aberdeen experiences a climate on the boundary between Mediterranean (Köppen *Csb*) and oceanic (Köppen *Cfb*). Although the rainfall is extremely high between October and March, July and August still have a distinct excess of evaporation over rainfall. Temperatures are generally very mild due to the proximity of the warm Pacific Ocean and the Kuroshio Current: snow is rare although during December 1964 22.3 inches (57 cm) fell. Occasionally, southeasterly winds can cause very high temperatures. For example, in August 1981, the temperature in Aberdeen reached 105 °F (40.6 °C).

Governing Body Format: The City of Aberdeen is a first class city and consists of a Mayor, twelve Council members, two from each ward, who are elected by the voters.

Development Trends: The fastest growing sectors in the county (as measured by the annual percentage change in employment) over the last five years include: administrative and support and waste management and remediation services; utilities; healthcare and social assistance; and arts, entertainment, and recreation. Each of these sectors saw annual growth rates greater than that observed at the state and national levels. Consistent with the aging population in the county, the only sector projected for significant growth over the next ten years is health care, social assistance and tourism.

Economy: Aberdeen functions as the financial hub of the Grays Harbor region. The downtown retail core serves much of the surrounding area. New industries have developed at the Port of Grays Harbor. Tourism plays an important role in the economy. Aberdeen, along with its twin city Hoquiam, serves as gateway to the Olympic National Park. Aberdeen is also the home to the Grays Harbor Historical Seaport, a non-profit organization that operates the *Lady Washington*, a full-scale reproduction of the tall ship that was the first United States vessel to visit the West Coast in 1788.

Aberdeen faces the same challenges as many Washington towns in adjusting to changes in their economies in the face of declining logging and fishing. A new mix of retail, different industries, and tourism offers a new kind of future, one that Aberdeen is embracing.

2.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are no additional hazards that are unique to the jurisdiction. Table 2-1 lists all past occurrences of natural hazards within the jurisdiction. If available, dollar loss data is also included.

Table 2-1 Natural Hazard Events			
Type of Event	FEMA Disaster # (if applicable)	Date	Dollar Losses (if known)
Flood	4253	12/01/2015	Unknown
Severe Storm(s)	4242	08/29/2015	Unknown
Severe Storm(s)	4056	01/14/2012	Unknown
Severe Storm(s)	1825	12/12/2008	Unknown
Flood	1817	01/06/2009	Unknown
Severe Storm(s)	1734	12/01/2007	Unknown
Severe Storm(s)	1682	12/14/2006	Unknown
Severe Storm(s)	1671	11/02/2006	Unknown
Severe Storm(s)	1641	01/27/2006	Unknown
Severe Storm(s)	1499	10/15/2003	Unknown
Earthquake	1361	02/28/2001	Unknown
Flood	1172	03/18/1997	Unknown
Severe Storm(s)	1159	12/26/1996	Unknown
Flood	1100	01/26/1996	Unknown
Severe Storm(s)	1079	11/07/1995	Unknown
Fishing Losses	1037	05/01/1994	Unknown
Flood	883	11/09/1990	Unknown
Flood	852	01/06/1990	Unknown
Volcano	623	05/21/1980	Unknown
Flood	612	12/31/1979	Unknown
Flood	545	12/10/1977	Unknown
Flood	492	12/13/1975	Unknown
Flood	322	02/01/1972	Unknown
Flood	300	02/09/1971	Unknown
Flood	185	12/29/1964	Unknown

2.5 CAPABILITY ASSESSMENT

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction’s capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: National Flood Insurance Information; regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation, and classifications under various community programs.

2.6 NATIONAL FLOOD INSURANCE INFORMATION

Information on the community’s National Flood Insurance Program (NFIP) compliance is presented in Table 2-2. This identifies the current status of the jurisdiction’s involvement with the NFIP.

Repetitive flood loss records are as follows:

- Number of FEMA-Identified Repetitive Loss Properties: 9
- Number of FEMA-Identified Severe Repetitive Loss Properties: 2
- Number of Repetitive Flood Loss/Severe Repetitive Loss Properties That Have Been Mitigated: None
- The City has sustained 333 flood losses, with 244 flood claims closed. Of those, total flood loss payments equated to in excess of \$2.82 million dollars.
- Total flood policies in place according to FEMA and State records in place in August 2017, were 597, with total insurance coverage at \$100,681,400.

Table 2-2 National Flood Insurance Compliance	
What department is responsible for floodplain management in your community?	Public Works and Community Development
Who is your community’s floodplain administrator? (department/position)	Public Works/City Engineer, Community Development/ Building Inspector III
Do you have any certified floodplain managers on staff in your community?	Yes
What is the date of adoption of your flood damage prevention ordinance?	February 1, 2017
When was the most recent Community Assistance Visit or Community Assistance Contact?	Unknown
To the best of your knowledge, does your community have any outstanding NFIP compliance violations that need to be addressed? If so, please state what they are.	None
Do your flood hazard maps adequately address the flood risk within your community? (If no, please state why)	Yes

Table 2-2 National Flood Insurance Compliance	
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	No
Does your community participate in the Community Rating System (CRS)? If so, is your community seeking to improve its CRS Classification? If not, is your community interested in joining the CRS program?	The City of Aberdeen is in the process of joining CRS.

2.6.1 Regulatory Capability

The assessment of the jurisdiction’s legal and regulatory capabilities is presented in Table 2-3. This includes planning and land management tools, typically used by local jurisdictions to implement hazard mitigation activities and indicates those that are currently in place.

Table 2-3 Legal and Regulatory Capability				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Codes, Ordinances & Requirements				
Building Code Version - 2015 Year - Adopted 2016	X		X	The 2018 codes will be adopted in July of 2019 after State revisions.
Zoning Ordinance	X			
Subdivision Ordinance	X			
Floodplain Ordinance	X			
Stormwater Management	X		X	
Post Disaster Recovery				
Real Estate Disclosure				
Growth Management	X		X	The City does not plan under Growth Management with the exception of critical area requirements.
Site Plan Review	X		X	
Public Health and Safety	X			
Coastal Zone Management	X			
Climate Change Adaptation	X			
Natural Hazard Specific Ordinance (stormwater, steep slope, wildfire, etc.)	X		X	Includes critical areas.
Environmental Protection	X		X	
Planning Documents				
Comprehensive Plan	X			

Table 2-3 Legal and Regulatory Capability				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
<i>Is the plan equipped to provide linkage to this mitigation plan? Yes</i>				
Floodplain or Basin Plan	X			
Stormwater Plan	X			
Capital Improvement Plan				
Habitat Conservation Plan				
Economic Development Plan				The City does not have one.
Shoreline Management Plan	X		X	
Community Wildfire Protection Plan				
Transportation Plan	X			
Historic Preservation Plan	X			Adopted in 2013. Located in Zoning Code.
Active Living Transportation Master Plan	X			Adopted with Complete Streets Ordinance in 2015.
Response/Recovery Planning				
Comprehensive Emergency Management Plan				
Threat and Hazard Identification and Risk Assessment	X			
Terrorism Plan				
Post-Disaster Recovery Plan				
Continuity of Operations Plan	X			
Public Health Plans	X			
Boards and Commission				
Planning Commission	X			
Historic Preservation Commission	X			
Mitigation Planning Committee				
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems, chipping, etc.)	X			
Mutual Aid Agreements / Memorandums of Understanding	X			
Other				

2.6.2 Administrative and Technical Capabilities

The assessment of the jurisdiction's administrative and technical capabilities, including educational and outreach efforts, and on-going programmatic efforts are presented in Table 2-4. These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 2-4 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	Community Development – Director Public Works – City Engineer
Professionals trained in building or infrastructure construction practices (building officials, fire inspectors, etc.)	Yes	Public Works – City Engineer Public Works – Director Community Development – Building Inspector III Community Development – Director
Engineers specializing in construction practices?	Yes	Public Works – City Engineer
Planners or engineers with an understanding of natural hazards	Yes	Community Development – Director Public Works – City Engineer
Staff with training in benefit/cost analysis	Yes	Public Works – City Engineer Community Development – Building Inspector III
Surveyors	Yes	Public Works – Engineer Public Works – Engineer Tech
Personnel skilled or trained in GIS applications	Yes	Public Works – Engineer Tech
Personnel skilled or trained in Hazus use	No	
Scientist familiar with natural hazards in local area	No	
Emergency Manager	Yes	Grays Harbor County – Charles Wallace
Grant writers	Yes	Public Works – City Engineer Community Development – Director
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?)	Yes	Reverse 9-1-1, Teleira, AHAB sirens
Hazard data and information available to public	Yes	Public Works Community Development
Maintain Elevation Certificates	No	
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	Yes	Grays Harbor County – Community Emergency Response Team (CERT)

Table 2-4 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Local citizen groups or non-profit organizations focused on environmental protection?	Yes	City of Aberdeen – Aberdeen Stream Team Grays Harbor College – Grays Harbor Stream Team Private – Friends of Grays Harbor
Organization focused on individuals with access and functional needs populations	Yes	Grays Harbor Housing Authority NeighborWorks United Way of Grays Harbor Union Gospel Mission
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes	City of Aberdeen – K-3 Fire Safety Program City of Aberdeen – Aberdeen Stream Team (4-6 grades)
Natural disaster or safety related school programs?	Yes	School earthquake and tsunami evacuation drills
Public-private partnership initiatives addressing disaster-related issues?	No	
Multi-seasonal public awareness program?	Yes	City of Aberdeen – Utility bill inserts, radio interviews, website and social media posts
Other	Yes	City of Aberdeen – Utility bill inserts, radio interviews, website and social media posts
On-Going Mitigation Efforts		
Hazardous Vegetation Abatement Program	No	
Noxious Weed Eradication Program or other vegetation management	Yes	Public Works – Mowing of stormwater ditches and herbicide application within right-of-ways
Fire Safe Councils	No	
Chipper program	No	
Defensible space inspections program	No	
Creek, stream, culvert or storm drain maintenance or cleaning program	Yes	Public Works – Stream Team waterway cleanups and City stormwater maintenance crews
Stream restoration program	Yes	Public Works – Stream Team waterway cleanups and Fry Creek restoration project
Erosion or sediment control program	Yes	Public Works – NPDES stormwater permit coverage and staff CESCL certifications
Address signage for property addresses	Yes	Community Development – Building Inspector III
Other	No	

2.6.3 Fiscal Capability

The assessment of the jurisdiction's fiscal capabilities is presented in Table 2-5. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

Table 2-5 Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	Yes
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	Yes
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	No
Withhold Public Expenditures in Hazard-Prone Areas	Yes
State Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	No
Other: Good Neighbors Revolving Loan Fund	Yes

2.6.4 Community Classifications

The jurisdiction’s classifications under various hazard mitigation programs are presented in Table 2-6. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community.

Table 2-6. Community Classifications		
	Participating (Yes/No)	Date Enrolled
Community Rating System	No	
Protection Class	5	
Building Code Effectiveness Grading Schedule	Yes	
Commercial	4	
Dwelling	4	
Storm Ready	Yes	March 7, 2007
Firewise	No	
Tsunami Ready (if applicable)	Yes	March 7, 2007

2.7 HAZARD RISK AND VULNERABILITY RANKING

The jurisdiction's Planning Team reviewed the hazard list identified within the Base Plan, and have identified the hazards that affect the City of Aberdeen.

Table 2-7 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and /or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

Table 2-7. Hazard Risk and Vulnerability Ranking			
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank
1	Earthquake	4.00	Very High
2	Tsunami	4.00	Very High
3	Flood *	3.65	High
4	Landslides	3.35	High
5	Severe Weather	3.10	High
6	Climate Change **	2.95	High
7	Other Hazards of Concern ***	2.75	Medium
8	Drought	1.95	Medium

Table 2-7. Hazard Risk and Vulnerability Ranking			
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank
9	Wildfire	1.95	Medium
10	Volcano	1.75	Low
11	Erosion	1.55	Low
* Includes coastal flooding, local flooding, and dam failure ** Includes sea level rise *** Hazardous materials incident			

2.8 MITIGATION GOALS AND OBJECTIVES

The City of Aberdeen adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

2.9 HAZARD MITIGATION ACTION PLAN

The Planning Team for the jurisdiction identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the jurisdiction’s assets and hazards of concern. Table 2-8 lists the action items/strategies that make up the jurisdiction’s hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, who will benefit from the activity, and the type of initiative associated with each item are also identified.

Table 2-8. Hazard Mitigation Action Plan Matrix									
Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE #1 – Locate Dedicated Emergency Coordination & Operation Center Outside of Tsunami Inundation Zone									
New Assets	Ea, T, F, L, SW, OHC, W, V	O-1, O-5, O-6, O-7, O-9	City of Aberdeen	Medium	Grants, City Funds	Short-Term	No	Structural Projects, Property Protection, Emergency Services, Recovery	Facility, Local, County, Region
INITIATIVE #2 – Citywide Critical Facilities Hazard Assessment & Mitigation Upgrades									

**Table 2-8.
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
Existing Assets	Ea, T, F, L, SW, CC, OHC, D, W, V, Er	O-2, O-3, O-4, O-6, O-7, O-8, O-9	City of Aberdeen	Medium	Grants, City Funds	Short-Term	Yes	Structural Projects, Property Protection, Emergency Services, Recovery	Facility, Local, County, Region
INITIATIVE #3 – City Hall Hazard Assessment & Mitigation Upgrades									
Existing Assets	Ea, T, F, L, SW, CC, OHC, D, W, V, Er	O-2, O-3, O-4, O-6, O-7, O-8, O-9	City of Aberdeen	Medium	Grants, City Funds	Short-Term	Yes	Structural Projects, Property Protection, Emergency Services, Recovery	Facility, Local
INITIATIVE #4 – Fire Station Hazard Assessment & Mitigation Upgrades									
Existing Assets	Ea, T, F, L, SW, CC, OHC, D, W, V, Er	O-2, O-3, O-4, O-6, O-7, O-8, O-9	City of Aberdeen	Medium	Grants, City Funds	Short-Term	Yes	Structural Projects, Property Protection, Emergency Services, Recovery	Facility, Local, County, Region
INITIATIVE #5 – Police Station Hazard Assessment & Mitigation Upgrades									
Existing Assets	Ea, T, F, L, SW, CC, OHC, D, W, V, Er	O-2, O-3, O-4, O-6, O-7, O-8, O-9	City of Aberdeen	Medium	Grants, City Funds	Short-Term	Yes	Structural Projects, Property Protection, Emergency Services, Recovery	Facility, Local, County
INITIATIVE #6 – Sewer System Hazard Assessment & Mitigation Upgrades									
Existing Assets	Ea, T, F, L, SW, CC, OHC, D, W, V, Er	O-2, O-3, O-4, O-6, O-7, O-8, O-9	City of Aberdeen	Medium	Grants, City Funds	Short-Term	Yes	Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Facility, Local
INITIATIVE #7 – Water System Hazard Assessment & Mitigation Upgrades									
Existing Assets	Ea, T, F, L, SW, CC, OHC, D, W, V, Er	O-2, O-3, O-4, O-6, O-7, O-8, O-9	City of Aberdeen	Medium	Grants, City Funds	Short-Term	Yes	Structural Projects, Property Protection, Emergency Services, Recovery	Facility, Local
INITIATIVE #8 – Citywide Seismic Vulnerability Structure Assessment									

**Table 2-8.
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
Existing Assets	Ea, T	O-1, O-2, O-4, O-5, O-6, O-8, O-9	City of Aberdeen	Low	Grants, City Funds	Short-Term	Yes	Public Information, Preventative Activities, Structural Projects, Property Protection, Recovery	Facility, Local
INITIATIVE #9 – Citywide Seismic Upgrade Incentives									
Existing Assets	Ea, T	O-1, O-2, O-4, O-5, O-6, O-8, O-9	City of Aberdeen	Low	Grants, City Funds	Long-Term	No	Public Information, Preventative Activities, Structural Projects, Property Protection, Recovery	Facility, Local
INITIATIVE #10 – Tsunami Preparedness Planning									
New and Existing Assets	T	O-2, O-3, O-5, O-6, O-7, O-8	City of Aberdeen	Low	Grants, City Funds	Long-Term	Yes	Public Information, Preventative Activities, Emergency Services	Local, County, Region
INITIATIVE #11 – Tsunami Vertical Shelters									
New and Existing Assets	T	O-1, O-2, O-3, O-5, O-6, O-7, O-8, O-9	City of Aberdeen	High	Grants, City Funds	Long-Term	No	Public Information, Preventative Activities, Structural Projects, Emergency Services, Recovery	Facility, Local
INITIATIVE #12 – Citywide Slope Assessment & Landslide Risk Reduction									
New and Existing Assets	L, SW	O-2, O-3, O-6, O-8, O-9	City of Aberdeen	Medium	Grants, City Funds	Short-Term	No	Preventative Activities, Structural Projects, Property Protection, Natural Resource Protection	Local
INITIATIVE #13 – Hazard Outreach Program									

**Table 2-8.
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
New and Existing Assets	Ea, T, F, L, SW, CC, OHC, D, W, V, Er	O-2, O-5, O-6, O-7, O-8, O-9	City of Aberdeen	Low	Grants, City Funds	Long-Term	Yes	Public Information, Preventative Activities, Emergency Services, Recovery	Local, County
INITIATIVE #14 – FEMA Community Rating System Participation									
New and Existing Assets	F, SW	O-1, O-2, O-3, O-4, O-5, O-6, O-8, O-9	City of Aberdeen	Low	Grants, City Funds	Long-Term	Yes	Public Information, Preventative Activities, Structural Projects, Property Protection, Recovery	Local
INITIATIVE #15 – North Shore Levee (TimberWorks Master Plan)									
New and Existing Assets	F, SW, CC	O-2, O-4, O-5, O-6, O-7, O-8, O-9	City of Aberdeen	High	Grants, City Funds	Short-Term	Yes	Public Information, Preventative Activities, Structural Projects, Property Protection, Emergency Services, Recovery	Facility, Local, County, Region
INITIATIVE #16 – Fry Creek Restoration & Flood Reduction (TimberWorks Master Plan)									
New and Existing Assets	F, SW, CC	O-2, O-4, O-5, O-6, O-7, O-8, O-9	City of Aberdeen	Medium	Grants, City Funds	Short-Term	No	Public Information, Preventative Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Facility, Local
INITIATIVE #17 – Stormwater Detention Facilities at City Parks (TimberWorks Master Plan)									
New and Existing Assets	F, SW, CC	O-2, O-4, O-5, O-6, O-7, O-8, O-9	City of Aberdeen	Medium	Grants, City Funds	Short-Term	Yes	Preventative Activities, Structural Projects, Property Protection, Emergency Services, Recovery	Facility, Local

**Table 2-8.
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE #18 – Stormwater Pump System Assessment & Upgrades (TimberWorks Master Plan)									
New and Existing Assets	F, SW, CC	O-2, O-4, O-6, O-8, O-9	City of Aberdeen	Medium	Grants, City Funds	Short-Term	Yes	Preventative Activities, Structural Projects, Property Protection, Emergency Services, Recovery	Facility, Local
INITIATIVE #19 – Undersized Culvert Replacements (TimberWorks Master Plan)									
Existing Assets	F, SW, CC	O-2, O-5, O-6, O-7, O-8, O-9	City of Aberdeen	Medium	Grants, City Funds	Short-Term	No	Preventative Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Facility, Local, County, Region
INITIATIVE #20 – Local Creek Floodplain Restoration (TimberWorks Master Plan)									
Existing Assets	F, SW, CC	O-2, O-5, O-6, O-8, O-9	City of Aberdeen	Medium	Grants, City Funds	Short-Term	No	Public Information, Preventative Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Local
INITIATIVE #21 – Pioneer Boulevard Stormwater Retrofit (TimberWorks Master Plan)									
Existing Assets	T, F, L, SW, CC	O-2, O-5, O-6, O-7, O-8, O-9	City of Aberdeen	Medium	Grants, City Funds	Short-Term	Yes	Preventative Activities, Structural Projects, Property Protection, Emergency Services, Recovery	Facility, Local
INITIATIVE #22 – East Aberdeen Levee (TimberWorks Master Plan)									

Table 2-8. Hazard Mitigation Action Plan Matrix									
Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
New and Existing Assets	F, SW, CC	O-2, O-4, O-5, O-6, O-7, O-8, O-9	City of Aberdeen	High	Grants, City Funds	Short-Term	Yes	Public Information, Preventative Activities, Structural Projects, Property Protection, Emergency Services, Recovery	Facility, Local, County, Region
INITIATIVE #23 – Flood Risk & Reduction Studies (TimberWorks Master Plan)									
New and Existing Assets	F, SW, CC	O-2, O-3, O-5, O-6, O-8	City of Aberdeen	Low	Grants, City Funds	Short-Term	No	Public Information, Preventative Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Local
INITIATIVE #24 – Repetitive Loss Property Buyouts									
Existing Assets	F, L, SW, CC	O-1, O-6, O-8, O-9	City of Aberdeen	Medium	Grants, City Funds	Long-Term	No	Preventative Activities, Structural Projects, Property Protection, Natural Resource Protection	Facility, Local

2.10 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of six different initiative types for each identified action item was conducted. Table 2-9 identifies the prioritization for each initiative.

**Table 2-9.
Mitigation Strategy Priority Schedule**

Initiative #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/Budgets?	Priority ^a
1	5	High	Medium	Yes	Yes	Partially	Medium
2	7	High	Medium	Yes	Yes	Partially	Medium
3	7	High	Medium	Yes	Yes	Partially	Medium
4	7	High	Medium	Yes	Yes	Partially	Medium
5	7	High	Medium	Yes	Yes	Partially	Medium
6	7	High	Medium	Yes	Yes	Partially	Medium
7	7	High	Medium	Yes	Yes	Partially	Medium
8	7	High	Low	Yes	Yes	No	High
9	7	High	Low	Yes	Yes	Partially	High
10	6	High	Low	Yes	Yes	Partially	High
11	8	High	High	Yes	Yes	No	Medium
12	5	Medium	Medium	Yes	Yes	Partially	Medium
13	6	Medium	Low	Yes	Yes	Partially	Medium
14	8	Medium	Low	Yes	Yes	Partially	Medium
15	7	High	High	Yes	Yes	Partially	Medium
16	7	High	Medium	Yes	Yes	Partially	Medium
17	7	High	Medium	Yes	Yes	Partially	Medium
18	5	High	Medium	Yes	Yes	No	Medium
19	6	Medium	Medium	Yes	Yes	No	Medium
20	5	Medium	Medium	Yes	Yes	No	Medium
21	6	Medium	Medium	Yes	Yes	Partially	Medium
22	7	High	High	Yes	Yes	No	Medium
23	5	High	Low	Yes	Yes	No	High
24	4	High	Medium	Yes	Yes	No	Medium

a. See Chapter 1 for explanation of priorities.

2.11 STATUS OF PREVIOUS PLAN INITIATIVES

Table 2-10 summarizes the initiatives that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

Table 2-10. Previous Mitigation Strategy Status				
Mitigation Action	Hazard Mitigated	Lead Agency	Desired Implementation Timeline	2018 Status
Raise 3000' of Riverbank	Flood	Public Works	Long	Partially completed before being superseded by more comprehensive flood projects.
Education program for Severe Storms	Storms	Planning	Short	On-going in nature; carried forward in the context of continued public outreach concerning the hazards of concern countywide.
Expand usage of CERT training	All	Fire	Short	County provides this service for CERT training. This is a countywide effort, and therefore removed from the City's plan as it is identified as a countywide effort in which all planning partners take part.
State Route 12 Expansion (5 th lane)	Tsunami	Public Works to coordinate with WADOT	Long	This is a state-owned roadway, so it is removed from the city's plan as this will be a county/state project.
Aberdeen-Hoquiam Corridor Expressway	Tsunami	Public Works to coordinate with WADOT	Long	This is a state-owned roadway, so it is removed from the city's plan as this will be a county/state project.
Redevelopment Plan	Tsunami and Flood	Planning	Long	Current on-going issue.
Implement Land Use Policies in Comprehensive Plan	Flood, Storm	Building/Permitting	Short	Completed in land use updates since old plan was completed.
Barrier Planting along Chehalis River	Tsunami, Flood	Public Works	Short	Plantings have occurred, but are continual in nature as part of regular maintenance efforts.

Table 2-10. Previous Mitigation Strategy Status				
Mitigation Action	Hazard Mitigated	Lead Agency	Desired Implementation Timeline	2018 Status
Improved dike along Chehalis River	Tsunami, Flood	Public Works	Long	Carried forward to 2018 plan
Add elements to the building code to minimize flood impact	Flood	Building/Permitting	Short	Completed; Flood ordinance updated in 2017
Develop public education program on flood proofing	Flood	Planning	Short	City is currently looking at CRS as a possibility depending on staffing; continued outreach will occur, especially in light of new maps which were developed by FEMA in 2015 (adopted in 2017) and new preliminary maps along the Chehalis and Wynoochee Rivers.
Improve Drainage System	Flood, Severe Storm	City Engineering Department	Long	Some areas completed; carried over.
Upgrade designated evacuation routes and roads	Tsunami	Public Works to coordinate with WADOT	Long	The City is working with the County and the state in this regard with respect to Tsunami evacuation. The city is currently in the process of developing emergency plans which will address these issues.
Develop tsunami evacuation contingency plan	Tsunami	Planning	Short	On-going effort as new risk data becomes available.
Develop a central traffic	Tsunami	Public Works	Long	Removed, not relevant.

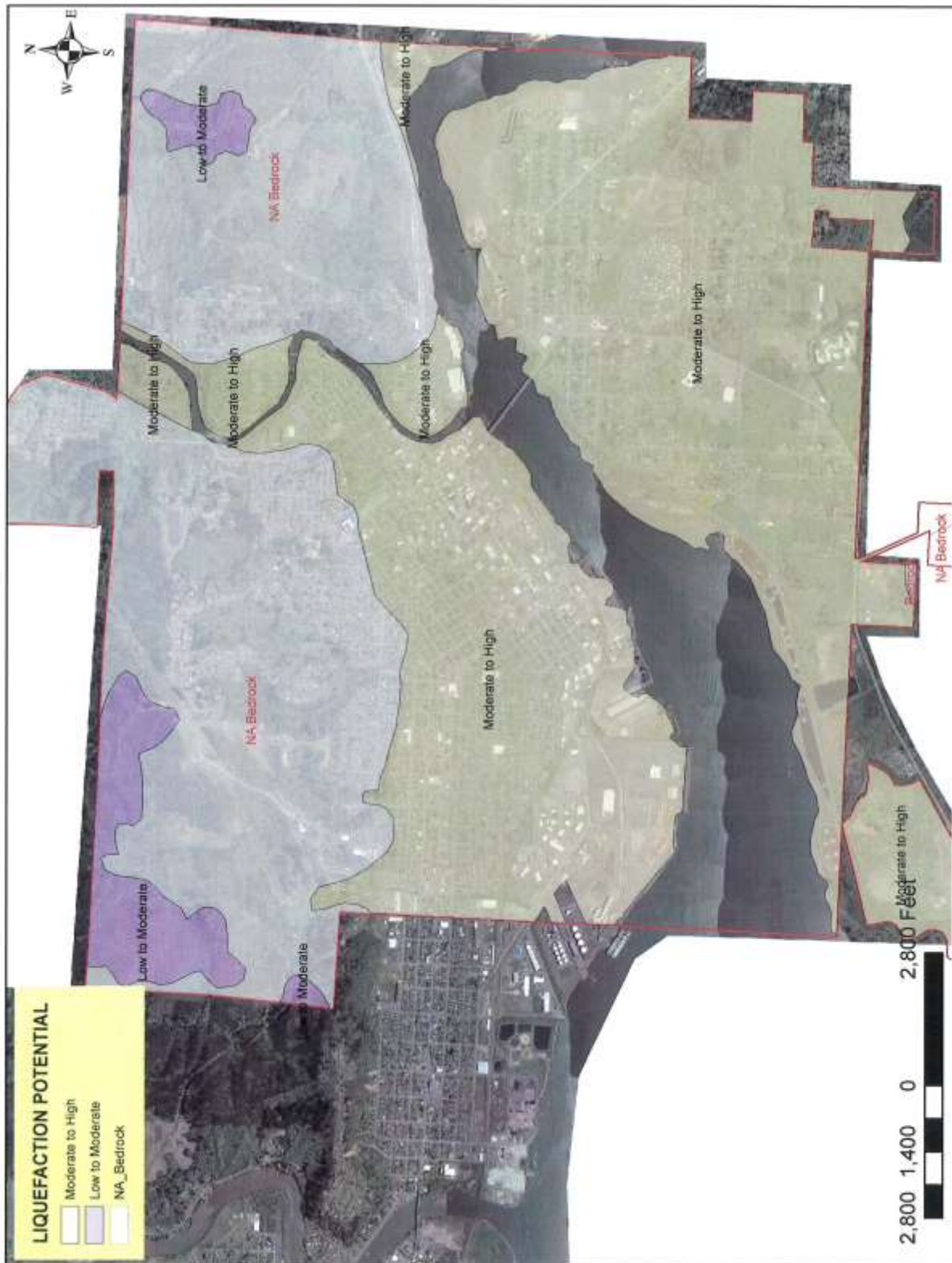
Table 2-10. Previous Mitigation Strategy Status				
Mitigation Action	Hazard Mitigated	Lead Agency	Desired Implementation Timeline	2018 Status
signal control system to improve traffic flow (pg 57-58)				
Develop a Flood/Tsunami public awareness program	Flood, Tsunami	Planning	Short	On-going effort in conjunction with Countywide effort. This strategy is identified in the base plan as a countywide effort for all impacted jurisdictions.
Identify remaining critical facilities for seismic retrofit and perform retrofit	Earthquake	Public Works	Short for identification – Long for retrofit projects	Carried forward.
Implement slope stabilization policy in conjunction with building permits for landslide susceptible areas	Landslide	Planning	Short	Carried forward.
Develop a public education program for volcanic hazards	Volcano	Planning	Short	Removed as a separate hazard to address individual. All hazards are addressed in the public outreach efforts.
Implement a fuel reduction program at the city/forest interface.	Wildland Fire	Public Works	Short	Wildfire hazard addresses this strategy. As the city's fire districts are involved in this process, this strategy is removed from the City's plan

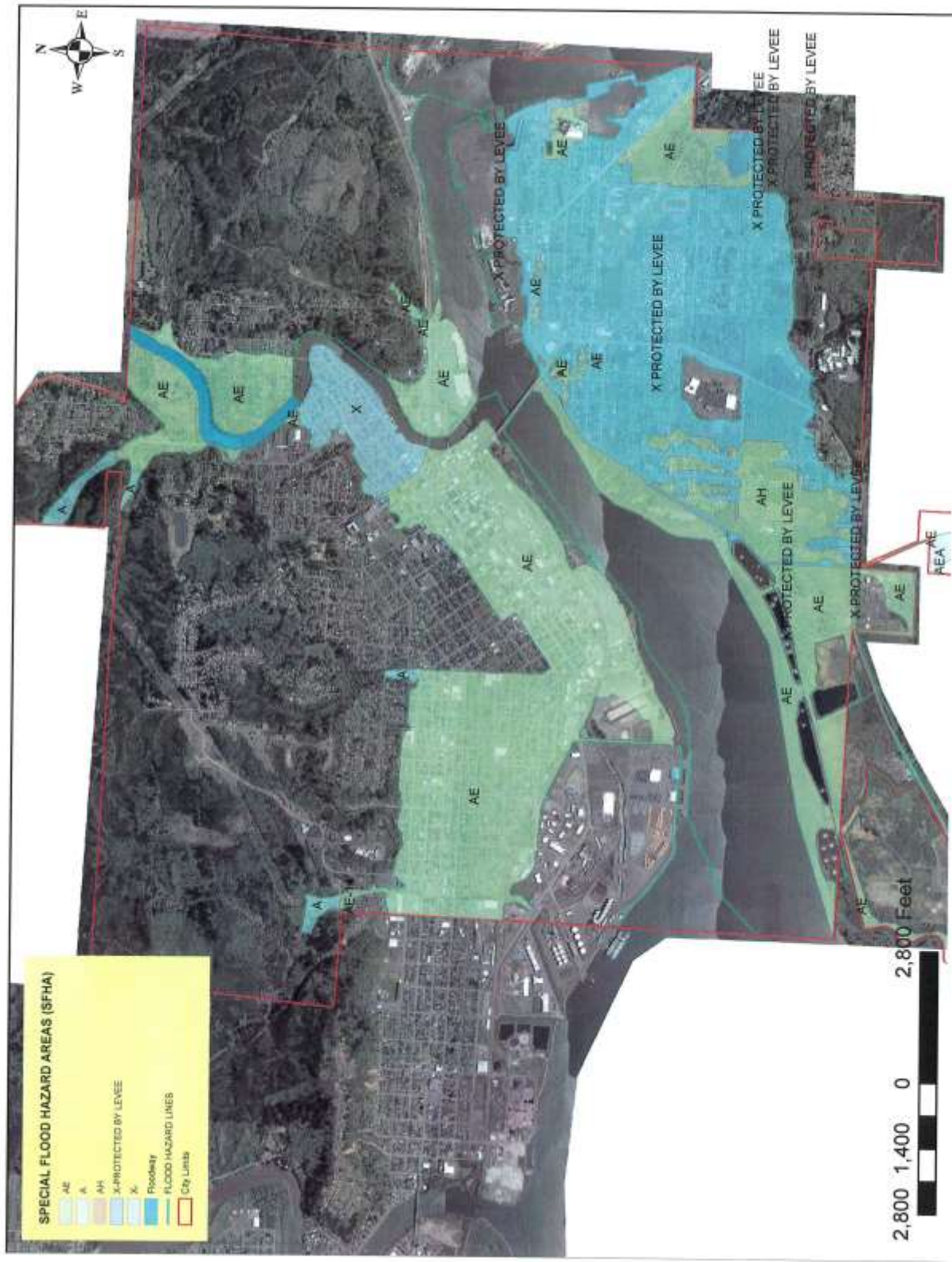
Table 2-10. Previous Mitigation Strategy Status				
Mitigation Action	Hazard Mitigated	Lead Agency	Desired Implementation Timeline	2018 Status
				and incorporated into the various Fire Districts' plans.

2.12 HAZARD AREA EXTENT AND LOCATION

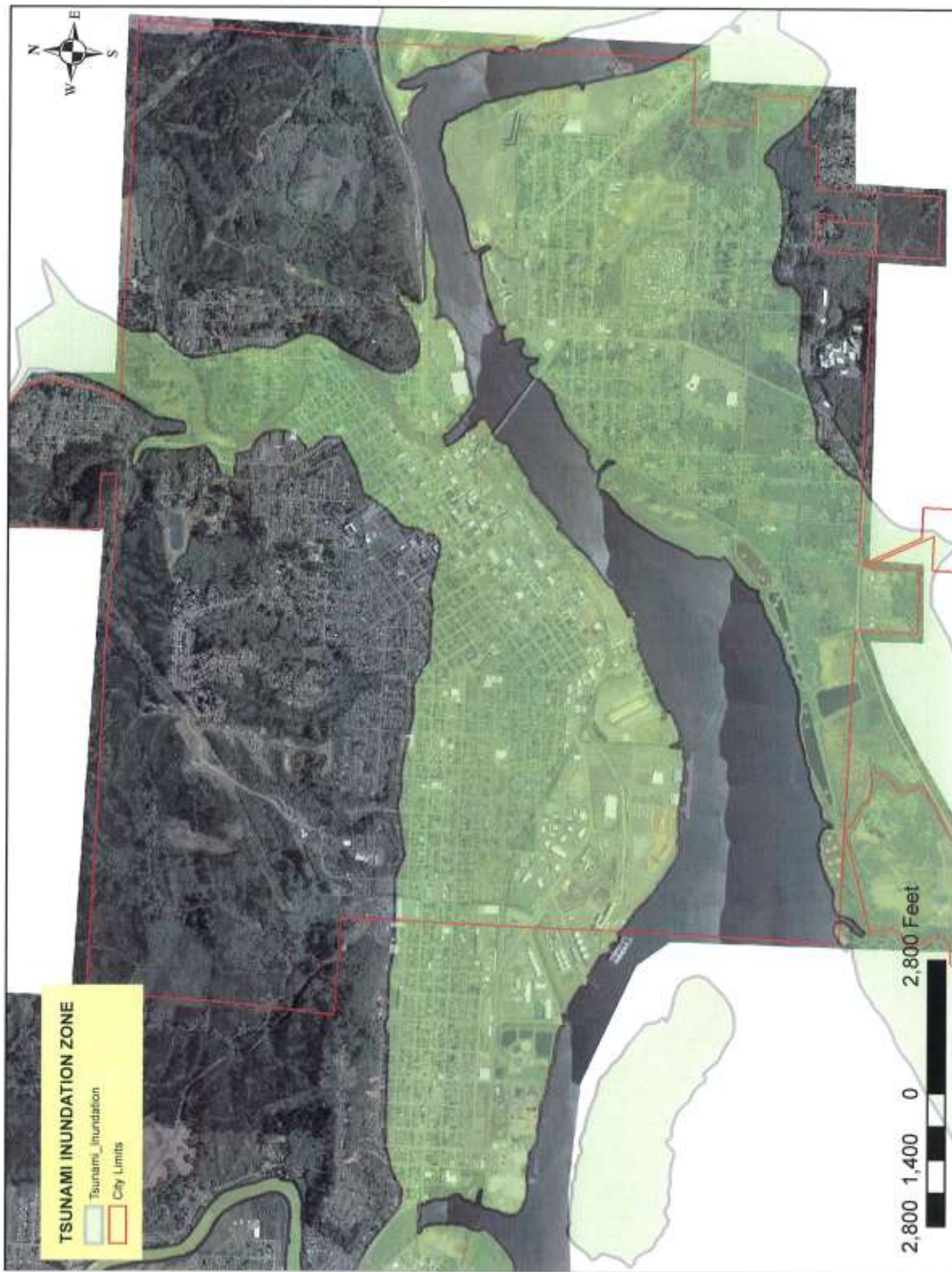
Hazard area extent and location maps are included below. These maps are based on the best available data at the time of the preparation of this plan, and are considered to be adequate for planning purposes. These maps were prepared by the City outside of the HMP process. Questions concerning the maps should be directed to the City's primary point of contact for this effort.











CHAPTER 3. CITY OF COSMOPOLIS 2018 ANNEX UPDATE

3.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the City of Cosmopolis (City), a participating jurisdiction to the Grays Harbor County Hazard Mitigation Plan Update (Base Plan). This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the Base Plan document. As such, all sections of the Base Plan, including the planning process and other procedural requirements apply to and were met by the Grays Harbor County Hazard Mitigation Plan. For planning purposes, this Annex provides additional information specific to the City with a focus on providing greater details on the risk assessment and mitigation strategy for this community only. This document serves as an update to the previously completed plan. All relevant data have been carried over and updated with new information as appropriate and as identified within the planning process discussed in Volume 1.

3.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

The City followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County’s Planning Team, the City also formulated their own internal planning team to support the broader planning process. Individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

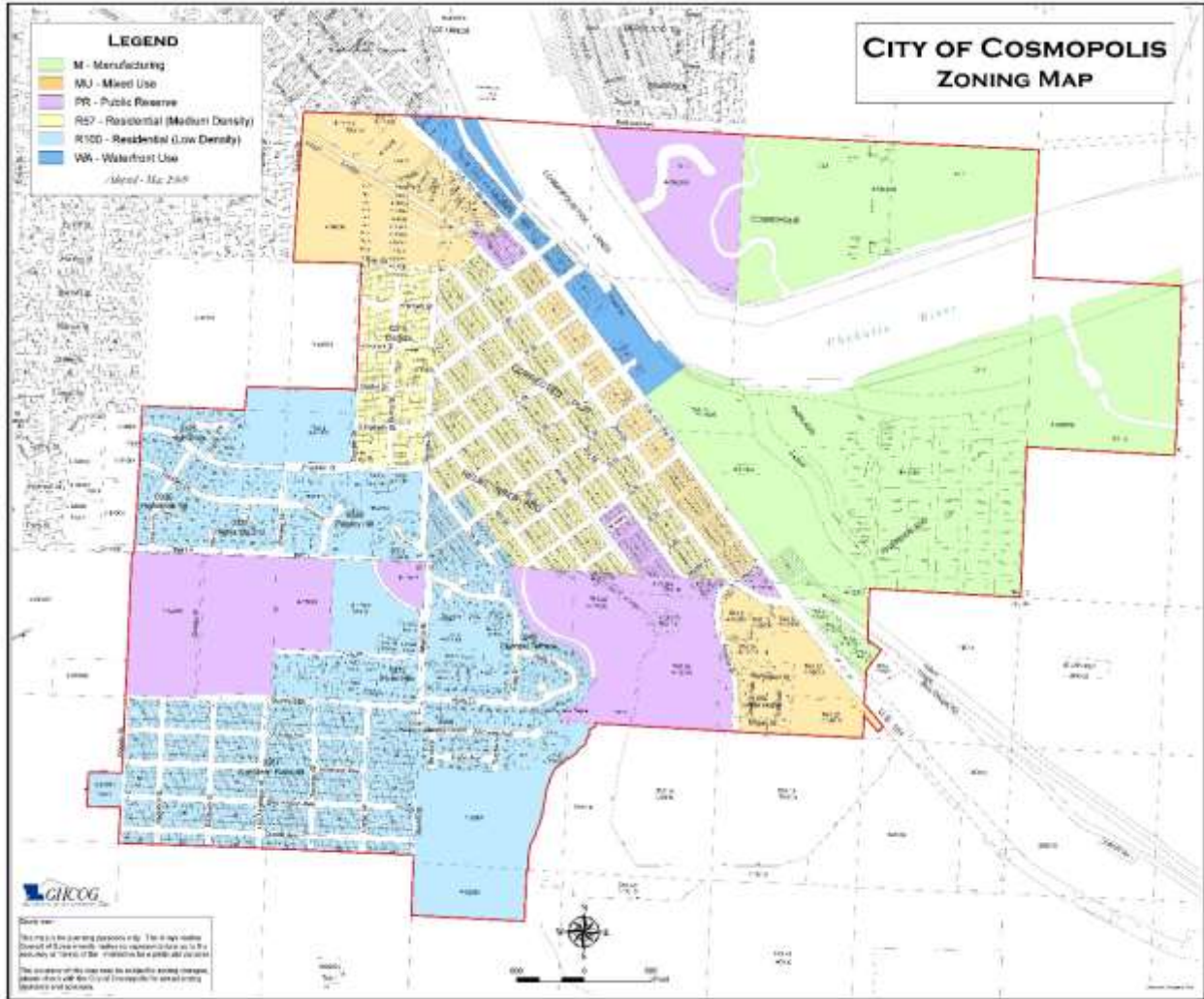
Local Planning Team Members		
Name	Position/Title	Planning Tasks
Darrin Raines, City Administrator 1300 1 st Street Cosmopolis WA 98537 360-532-9230 draines@cosmopoliswa.gov	Primary Point of Contact	Attended all Base Plan meetings as primary point of contact for Cosmopolis. Coordinated information from previous HMP as well as new information to be placed in Annex Update
Casey Stratton, Police Chief 1312 1 st Street Cosmopolis, WA 98537 360-532-9237 cstratton@cosmopoliswa.gov	Alternate Point of Contact	Served as Alternate to the Base Plan planning team for Cosmopolis. Contributed information on existing and future needs for Cosmopolis.
Bill Sidor, Building Official 1300 1 st Street Cosmopolis WA 98537 360-532-9230 bsidor@cosmopoliswa.gov	Building Official	Served as second Alternate for City Administrator and Chief of police for the Base Plan update.

3.3 COMMUNITY PROFILE

The following is a summary of key information about the City and its history:

- **Date of Incorporation**—1891
- **Current Population**—The 2010 census population was 1,649, and the estimated 2017 population was 1,660 from the Grays Harbor Council of Governments.
- **Population Growth**—The population was 1,595 as of the 2000 census, with some increases in population and some decreases during each of the previous census periods. Highest population since 1900 was 1,943 in 1930 and lowest population during this time period was 1,004 in 1900. The City population in 1890 was 287.
- **Location and Description**—The City is located on the shore of the Chehalis River, with the populated area on the left bank of the Chehalis. The total land area is 1.23 square miles. Some of the City is low-lying ground relatively flat from sea level to about 40 feet in elevation. The southern and western parts of the City are rolling hills with elevations ranging from 40 to 240 feet in elevation.
- **Brief History**—The City has had a history of supporting the timber industry, with a large pulp mill as the major industry. The pulp mill closed in 2006 for a period of time and then was reopened in 2010.
- **Climate**—The region experiences warm and dry summers and cool, mild winters with periods of heavy rainfall and a maritime climate being located near the Pacific Ocean, with typically a westerly airflow.
- **Governing Body Format**—The City has a Mayor-Council form of government, with a mayor and five council members.
- **Development Trends**—There has been no major development in the City in the last several years, with the most significant being the re-opening of the pulp mill in 2010. Very recently, in early 2018, there is starting to be some new housing development, so there seems to be an increase in development occurring at the present time.
- **Economy** – The City’s economic base consists primarily of the pulp mill, Cosmo Specialty Fibers, which is the only significant industry in the City. The pulp mill has a current employment of approximately 180.

The City’s boundaries are identified in the zoning map below.



3.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are no additional hazards that are unique to the City of Cosmopolis. There have been no additional natural hazard events in the City after the City’s 2010 Hazard Mitigation Plan was adopted. The only specific natural hazard event identified in the 2010 Hazard Mitigation Plan was the failure of the Mill Creek Dam in November 2008. This was an isolated event and no federal or local disaster was declared for this event. Table 3-1 lists all past occurrences of natural hazards within the County, which included the City, since the last update of the City’s Hazard Mitigation Plan in 2010. No dollar loss data are available.

Table 3-1 Natural Hazard Events			
Type of Event	FEMA Disaster # (if applicable)	Date	Dollar Losses (if known)
Flood	4253	12/1/2015-12/14/2015	Countywide
Severe storm(s)	4242	8/29/2015	Countywide
Severe storm(s)	4056	1/14/2012-1/23/2012	Countywide

3.5 CAPABILITY ASSESSMENT

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the City’s capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: National Flood Insurance Information; regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation, and classifications under various community programs.

3.6 NATIONAL FLOOD INSURANCE INFORMATION

Information on the community’s National Flood Insurance Program (NFIP) compliance is presented in Table 3-2. This identifies the current status of the City’s involvement with the NFIP.

Repetitive flood loss records are as follows:

- Number of FEMA-Identified Repetitive Loss Properties: None
- Number of FEMA-Identified Severe Repetitive Loss Properties: None
- Number of Repetitive Flood Loss/Severe Repetitive Loss Properties That Have Been Mitigated: None

The City of Cosmopolis has sustained four flood claims as of August 2017 pursuant to FEMA and State records, with flood losses totaling \$5,927. There are currently 11 flood policies in place, totaling a value of over \$2 million.

Table 3-2 National Flood Insurance Compliance	
What department is responsible for floodplain management in your community?	City Administrator/Public Works
Who is your community’s floodplain administrator? (department/position)	Darrin Raines, City Administrator
Do you have any certified floodplain managers on staff in your community?	No

Table 3-2 National Flood Insurance Compliance	
What is the date of adoption of your flood damage prevention ordinance?	1/18/2017
When was the most recent Community Assistance Visit or Community Assistance Contact?	November 2008
To the best of your knowledge, does your community have any outstanding NFIP compliance violations that need to be addressed? If so, please state what they are.	No
Do your flood hazard maps adequately address the flood risk within your community? (If no, please state why)	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	Yes, no staff have specific training in floodplain management. Assistance provided by the State Department of Ecology, Chehalis River Basin Flood Authority, or Grays Harbor Council of Government would be most helpful
Does your community participate in the Community Rating System (CRS)? If so, is your community seeking to improve its CRS Classification? If not, is your community interested in joining the CRS program?	The City does not participate, but would be interested in joining if additional staff support was available.

3.6.1 Regulatory Capability

The assessment of the City’s legal and regulatory capabilities is presented in Table 3-3. This includes planning and land management tools, typically used by local jurisdictions to implement hazard mitigation activities and indicates those that are currently in place.

Table 3-3 Legal and Regulatory Capability				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Codes, Ordinances & Requirements				
Building Code Version Year	YES, Chapter 14.04, Building Code		State Building Code	International Building Code 2012, adopted 4/17/13
Zoning Ordinance	YES			Title 18-Zoning, Ord. 984, adopted 6/19/68
Subdivision Ordinance	YES			Ord. #984 adopted 1993
Floodplain Ordinance	YES	None	No	Chapter 18.48, Flood Damage Prevention, Adopted 1/18/2017

Table 3-3 Legal and Regulatory Capability				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Stormwater Management	YES	State	State standards	Chapter 12.12 Adopted State standards 2/16/2000
Post Disaster Recovery	NO			
Real Estate Disclosure	NO			
Growth Management	NO			Not a growth management community
Site Plan Review	YES			Title 17 adopted 1982
Public Health and Safety	YES			
Coastal Zone Management	NO			
Climate Change Adaptation	NO			
Natural Hazard Specific Ordinance (stormwater, steep slope, wildfire, etc.)	NO			
Environmental Protection	NO			
Planning Documents				
General or Comprehensive Plan				<i>Is the plan equipped to provide linkage to this mitigation plan?</i> Yes Chapter 17.24 Adopted 1970
Floodplain or Basin Plan	NO			No basin-wide plan
Stormwater Plan	YES			
Capital Improvement Plan	YES			
Habitat Conservation Plan	NO			
Economic Development Plan	NO			
Shoreline Management Plan	YES			
Community Wildfire Protection Plan	NO			
Transportation Plan	YES			
Response/Recovery Planning				
Comprehensive Emergency Management Plan	NO			
Threat and Hazard Identification and Risk Assessment	NO			
Terrorism Plan	NO			
Post-Disaster Recovery Plan	NO			
Continuity of Operations Plan	NO			
Public Health Plans	NO			
Boards and Commission				
Planning Commission	YES			

Table 3-3 Legal and Regulatory Capability				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Mitigation Planning Committee	YES			Participating in County-led committee
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems, chipping, etc.)	YES			
Mutual Aid Agreements / Memorandums of Understanding	YES			With Aberdeen, Hoquiam and Grays Harbor Co.
Other				

3.6.2 Administrative and Technical Capabilities

The assessment of the City administrative and technical capabilities, including educational and outreach efforts, and on-going programmatic efforts are presented in Table 3-4. These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information. The City has essentially no staff other than the part-time building official. Contracts awarded to consultants as needed.

Table 3-4 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	NO	
Professionals trained in building or infrastructure construction practices (building officials, fire inspectors, etc.)	YES	BUILDING OFFICIAL
Engineers specializing in construction practices?	NO	
Planners or engineers with an understanding of natural hazards	NO	
Staff with training in benefit/cost analysis	NO	
Surveyors	NO	
Personnel skilled or trained in GIS applications	NO	
Personnel skilled or trained in Hazus use	NO	
Scientist familiar with natural hazards in local area	NO	
Emergency Manager	NO	

Table 3-4 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Grant writers	NO	
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?)	YES	CITY ADMINISTRATOR
Hazard data and information available to public	YES	CITY ADMINISTRATOR
Maintain Elevation Certificates	YES	BUILDING OFFICIAL
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	NO	
Local citizen groups or non-profit organizations focused on environmental protection?	NO	
Organization focused on individuals with access and functional needs populations	NO	
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	NO	
Natural disaster or safety related school programs?	YES	POLICE AND FIRE DEPARTMENTS
Public-private partnership initiatives addressing disaster-related issues?	NO	RED CROSS IS AVAILABLE IF NEEDED
Multi-seasonal public awareness program?	NO	COUNTY WEBSITE IS AVAILABLE
Other	YES	PARKS AND RECREATION ADVISORY COMM.
On-Going Mitigation Efforts		
Hazardous Vegetation Abatement Program	YES	CITY ADMINISTRATOR
Noxious Weed Eradication Program or other vegetation management	YES	CITY ADMINISTRATOR
Fire Safe Councils	NO	
Chipper program	NO	
Defensible space inspections program	NO	
Creek, stream, culvert or storm drain maintenance or cleaning program	YES	CITY ADMINISTRATOR
Stream restoration program	YES	CITY ADMINISTRATOR
Erosion or sediment control program	YES	CITY ADMINISTRATOR
Address signage for property addresses	YES	CITY ADMINISTRATOR
Other		

3.6.3 Fiscal Capability

The assessment of the City’s fiscal capabilities is presented in Table 3-5. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

Table 3-5 Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	YES
Capital Improvements Project Funding	YES
Authority to Levy Taxes for Specific Purposes	YES
User Fees for Water, Sewer, Gas or Electric Service	YES
Incur Debt through General Obligation Bonds	YES
Incur Debt through Special Tax Bonds	YES
Incur Debt through Private Activity Bonds	NO
Withhold Public Expenditures in Hazard-Prone Areas	NO
State Sponsored Grant Programs	YES
Development Impact Fees for Homebuyers or Developers	NO
Other	

3.6.4 Community Classifications

The City’s classifications under various hazard mitigation programs are presented in Table 3-6. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community.

Table 3-6. Community Classifications		
	Participating (Yes/No)	Date Enrolled
Community Rating System	NO	
Building Code Effectiveness Grading Schedule	YES	Class 4
Storm Ready	NO	
Firewise	NO	
Tsunami Ready (if applicable)	NO	

3.7 HAZARD RISK AND VULNERABILITY RANKING

The City’s Planning Team reviewed the hazard list identified within the Base Plan and has identified the hazards that affect the City of Cosmopolis.

Table 3-7 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past

occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and /or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

Table 3-7. Hazard Risk and vulnerability Ranking			
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank
1	Earthquake	3.85	High
2	Tsunami	3.50	High
3	Erosion	3.20	High
4	Landslides	2.95	High
5	Severe Weather	2.90	High
6	Flood	2.60	Medium
7	Drought	2.35	Medium
7	Climate Change	2.35	Medium
8	Wildfire	2.30	Medium
9	Others	2.25	Medium
10	Volcano	2.10	Medium

3.8 MITIGATION GOALS AND OBJECTIVES

The City of Cosmopolis adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

3.9 HAZARD MITIGATION ACTION PLAN

The Planning Team for the City identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the City’s assets and hazards of concern. Table 3-8 lists the action items/strategies that make up the City’s hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside the City limits), potential funding sources, the timeframe, who will benefit from the activity, and the type of initiative associated with each item are also identified.

Table 3-8. Hazard Mitigation Action Plan Matrix									
Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE # 1 Investigate joining the Community Rating System									
Existing and new	Flood, tsunami, severe weather	1,2,3,4,5, 6,7,8,9	City Administrator	Medium	General Fund	Short-Term	No	Preventive Activities, Property Protection, Natural Resource Protection	City residents and City facilities
INITIATIVE # 2 Become a Storm Ready andTsunami Ready community									
Existing and new	Tsunami	1,2,3,4,5, 6,7,8,9	City Administrator	Low	General Fund	Short-Term	No	Preventive Activities, Emergency Services	City residents and City facilities
INITIATIVE # 3 Install new pumps at dike									
Existing and New	Flood, tsunami, severe weather	1,2,3,4,5, 6,7,8,9	City of Cosmopolis	Medium	General Fund, HMGP, Flood Authority	Short-Term	No	Structural Projects, Property Protection Natural Resource Protection	City residents and City facilities, County facilities
INITIATIVE # 4 Mill Creek culvert replacement									
Existing and New	Flood, severe weather	1,2,3,4,5, 6,7,8,9	City of Cosmopolis	High	General Fund, HMGP, Flood Authority	Long-Term	No	Structural Projects, Property Protection, Natural Resource Protection	City residents and City facilities, County facilities
INITIATIVE # 5 Build new Municipal Services Building/EOC									

**Table 3-8.
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
Existing and New	All hazards	1,2,3,4,5, 6,7,8,9	City of Cosmopolis	Medium	General Fund, HMGP, Bonds	Short-Term	Yes	Preventive Activities Structural Projects, Property Protection, Emergency Services, Recovery	City residents, City facilities, County residents
INITIATIVE # 6 Improvements to storm drainage facilities									
Existing and New	Flood	1,2,3,4,5, 6,7,8,9	City of Cosmopolis	Medium	General Fund, State Grant	Short-Term	Yes	Structural Project, Property Protection	City residents, City facilities,
INITIATIVE # 7 Purchase quick attack vehicle for emergency response									
Existing and New	All hazards	1,2,3,4,5, 6,7,8,9	City of Cosmopolis	Medium	General Fund, Grant	Short-Term	Yes	Emergency Services, Recovery	City
INITIATIVE # 8 Conduct annual Disaster Preparedness workshops									
Existing and New	All hazards	1,2,3,4,5, 6,7,8,9	City of Cosmopolis	Low	General Fund	Short-Term	Yes	Preventive Activity	City
INITIATIVE # 9 Coordinate interagency radio links between City and Grays Harbor County EOC									
Existing and New	All hazards	1,2,3,4,5, 6,7,8,9	City of Cosmopolis	Medium	General Fund, County	Short-Term	Yes	Preventive Activity	City, County
INITIATIVE # 10 Update Hazard Mitigation Plan every 5 years									
Existing and New	All hazards	1,2,3,4,5, 6,7,8,9	City of Cosmopolis	Medium	General Fund, HMGP	Long-Term	Yes	Preventive Activity	City
INITIATIVE # 11 Complete City Emergency Response Plan									
Existing and New	All hazards	1,2,3,4,5, 6,7,8,9	City of Cosmopolis	Low	General Fund	Short-Term	Yes	Preventive Activity	City

3.10 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of six different initiative types for each identified action item was conducted. Table 3-9 identifies the prioritization for each initiative.

Table 3-9. Mitigation Strategy Priority Schedule							
Initiative #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/Budgets?	Priority ^a
1	1,2,3,4,5,6,7,8,9	Medium	Medium	Yes	Yes	No	Medium
2	1,2,3,4,5,6,7,8,9	Medium	Low	Yes	Yes	Yes	High
3	1,2,3,4,5,6,7,8,9	High	Medium	Yes	Yes	No	High
4	1,2,3,4,5,6,7,8,9	High	High	Yes	Yes	No	High
5	1,2,3,4,5,6,7,8,9	High	Medium	Yes	Yes	No	High
6	1,2,3,4,5,6,7,8,9	High	Medium	Yes	Yes	No	High
7	1,2,3,4,5,6,7,8,9	High	Medium	Yes	Yes	No	High
8	1,2,3,4,5,6,7,8,9	Medium	Low	Yes	No	Yes	Medium
9	1,2,3,4,5,6,7,8,9	Medium	Medium	Yes	Yes	No	Medium
10	1,2,3,4,5,6,7,8,9	High	Medium	Yes	Yes	No	Medium
11	1,2,3,4,5,6,7,8,9	High	Low	Yes	Yes	No	Medium

a. See Chapter 1 for explanation of priorities.

3.11 STATUS OF PREVIOUS PLAN INITIATIVES

Table 3-10 summarizes the initiatives that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

**Table 3-10.
Status of previous Hazard Mitigation Action Plan**

Mitigation Strategy	Associated Hazards							Previous Timeline	Project Status	Current Status			
	Earthquakes	Floods	Landslides	Severe Weather	Tsunami	Wildland Fire	Completed			Continual/Ongoing Nature	Removed -/No Longer Relevant / No Action	Carried Over	
Purchase generators		x		x				Short term	Some generators still needed.		X		
Evaluate/prioritize critical facilities	x	x	x	x	x	x	x	Short term			X		
Retrofit critical facilities	x	x	x	x	x	x	x	Medium term	Planning has begun to construct a new Municipal Services Building to be our EOC.		X		
Analysis of storm drainage facilities		x		x				Short term	Funding needed to develop Stormwater Management Plan		X		
Improvements to storm drainage facilities		x		x				Medium term	Dependent upon completion of Stormwater Management Plan				X
Improve City-owned EOC facility	x	x	x	x	x	x	x	Medium term	Some work has been done for short term. Long term remedy is new Municipal Services Building to be used as EOC.				X
Analyze potential slide areas	x		x					Medium term	Funding needed to perform Geotechnical Analysis		X		
Evaluate options, estimate costs and available grants to repair or remove failed Mill Creek Dam		x		x				Short term	Options were evaluated, decision made to replace dam, funding obtained from Flood Authority, dam and fish ladder constructed in fall 2017	X			
Purchase quick attack vehicle for emergency response		x		x				Short term	Seeking Funding				X
Conduct annual Disaster Preparedness Workshops	x	x	x	x	x	x	x	Short term					X
Improve tsunami evacuation signs					x			Short term	Route has been established, new signs need to be installed.		X		
Coordinate interagency radio links between City and Grays Harbor Co. EOC	x	x	x	x	x	x	x	Short term	Seeking funding for Amateur Radio to be used during disaster.				X

Table 3-10. Status of previous Hazard Mitigation Action Plan													
Mitigation Strategy	Associated Hazards							Previous Timeline	Project Status	Current Status			
	Earthquakes	Floods	Landslides	Severe Weather	Tsunami	Wildland Fire	Completed			Continual/Ongoing Nature	Removed -/No Longer Relevant / No Action	Carried Over	
Update Hazard Mitigation Plan every 5 years	x	x	x	x	x	x	Medium term	City joined Grays Harbor County in the update of the County HMP in 2017				X	
Complete City Emergency Response Plan	x	x	x	x	x	x	Short term	Seeking funding to prepare Emergency Response Plan.				X	

3.12 FUTURE NEEDS TO BETTER UNDERSTAND RISK/ VULNERABILITY

None identified.

3.13 ADDITIONAL COMMENTS

The City is interested in joining the Community Rating System (CRS) to reduce flood insurance premiums for the existing and future NFIP policy holders within the City limits. In addition to reducing flood insurance premiums for policy holders, by implementing provisions within the CRS for improvements in flood damage reduction, the City could expect to benefit from reduced potential flood damages within the City.

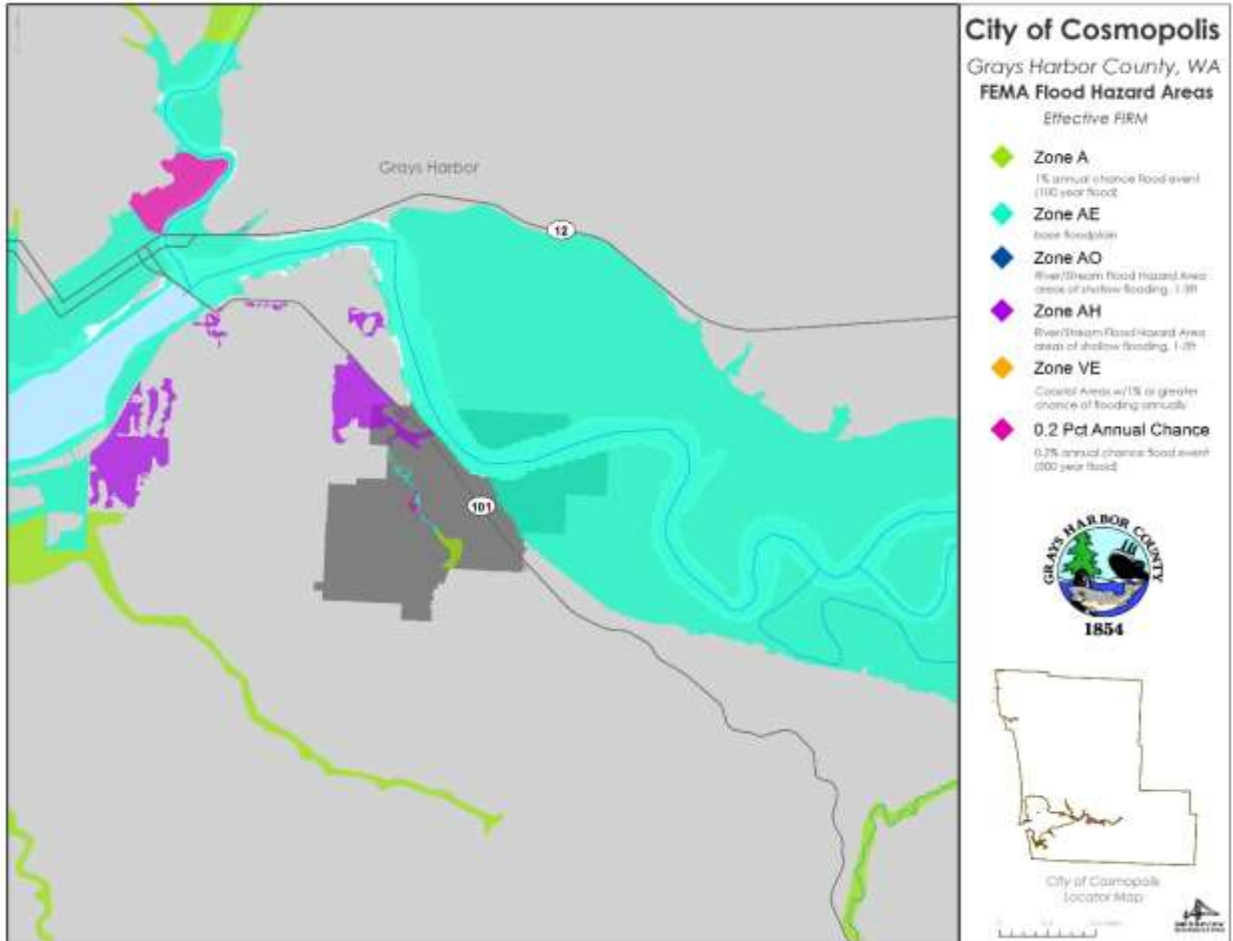
Because of the limited number of flood insurance policy holders within the City, and the work associated with implementing the requirements for joining and maintaining membership in the CRS, it is not cost-effective for the City to join and continue as a CRS community. The City has no existing staff which could perform the workload associated with the CRS requirements and does not have funding, nor would it be cost-effective for the City to hire a new staff person for this.

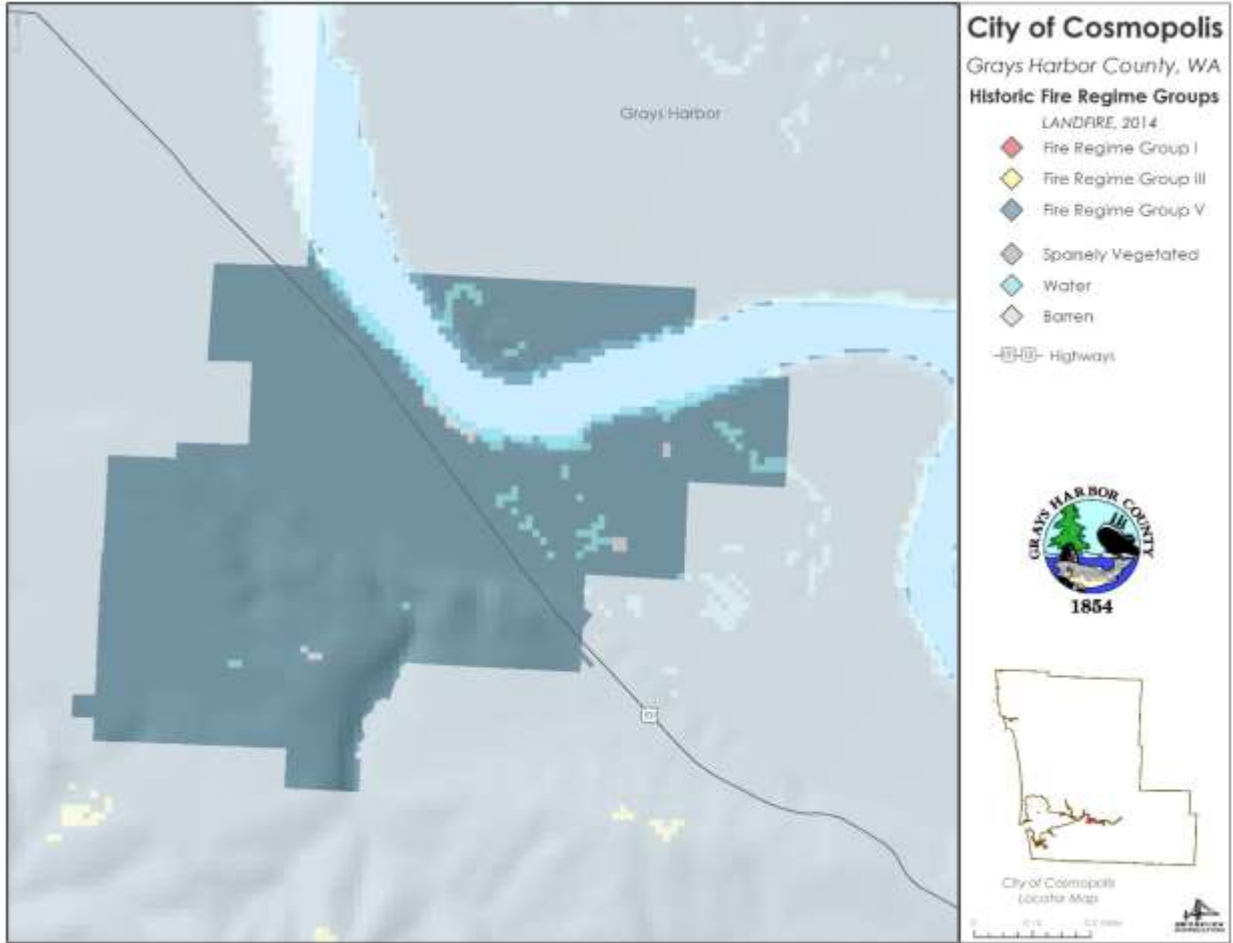
Even though the number of policy holders is low within the City, with only 11 current policies, flood insurance premiums are continuing to rise and in some cases homeowners are finding it very difficult financially to continue to maintain their flood insurance coverage.

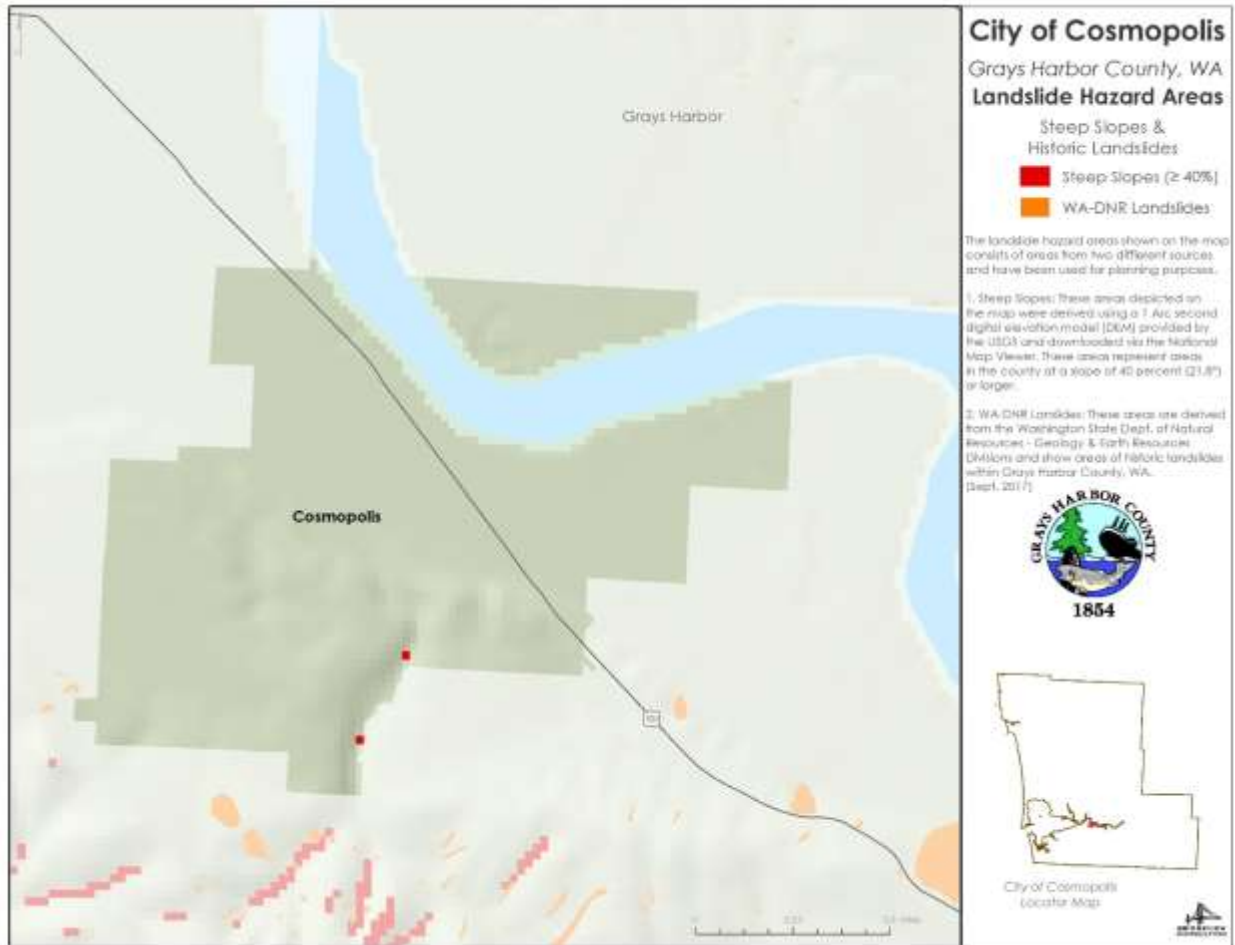
The Chehalis River Basin Flood Authority, now the Office of the Chehalis River Basin, has proposed the establishment of a “roving floodplain manager” position for the Chehalis River Basin to assist local communities within the Chehalis River Basin in their administration of floodplain management-related duties. The City of Cosmopolis is supportive of this and would greatly appreciate this service being provided to assist the City in joining and continuing in the CRS program, as well as performing other floodplain management-related duties.

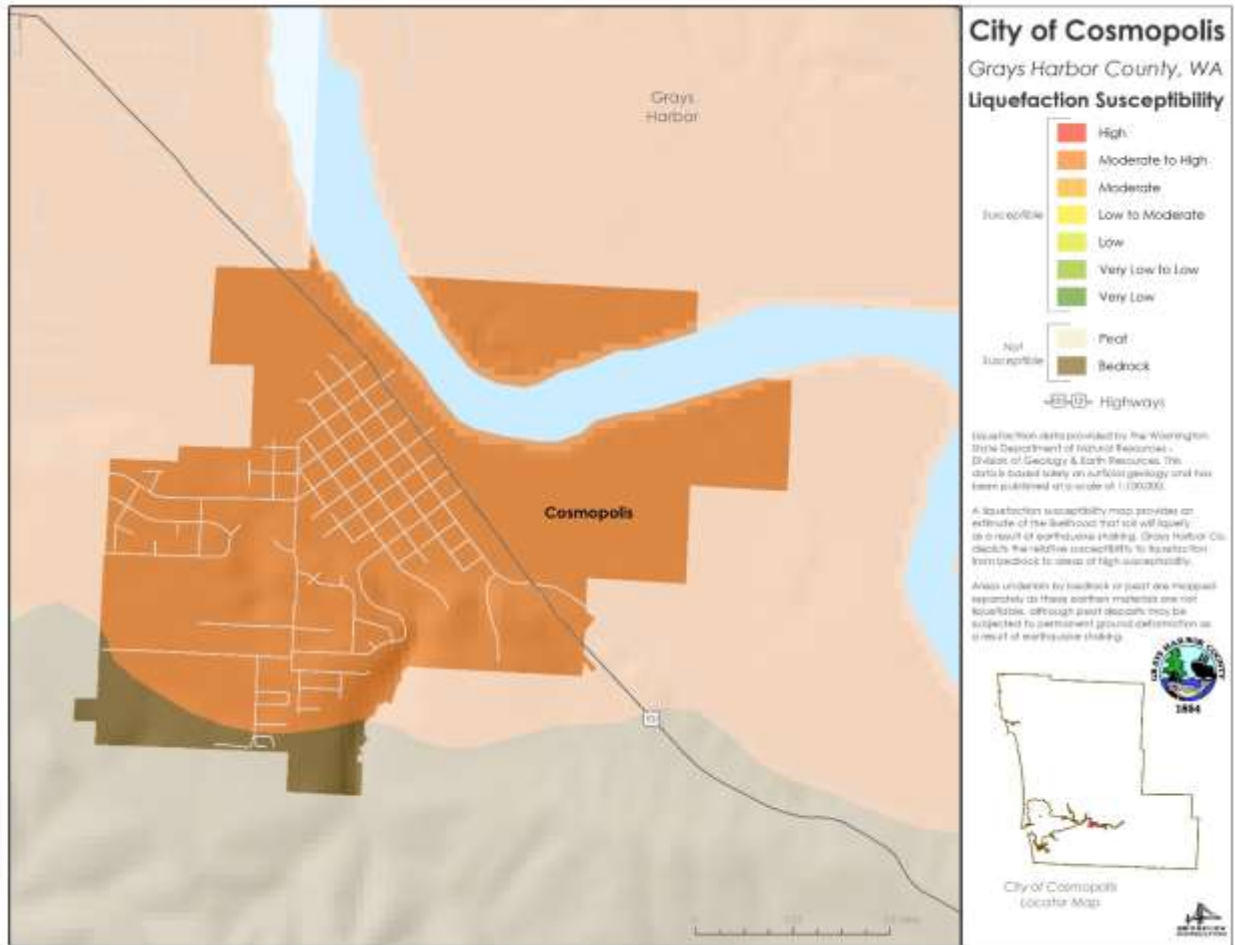
3.14 HAZARD AREA EXTENT AND LOCATION

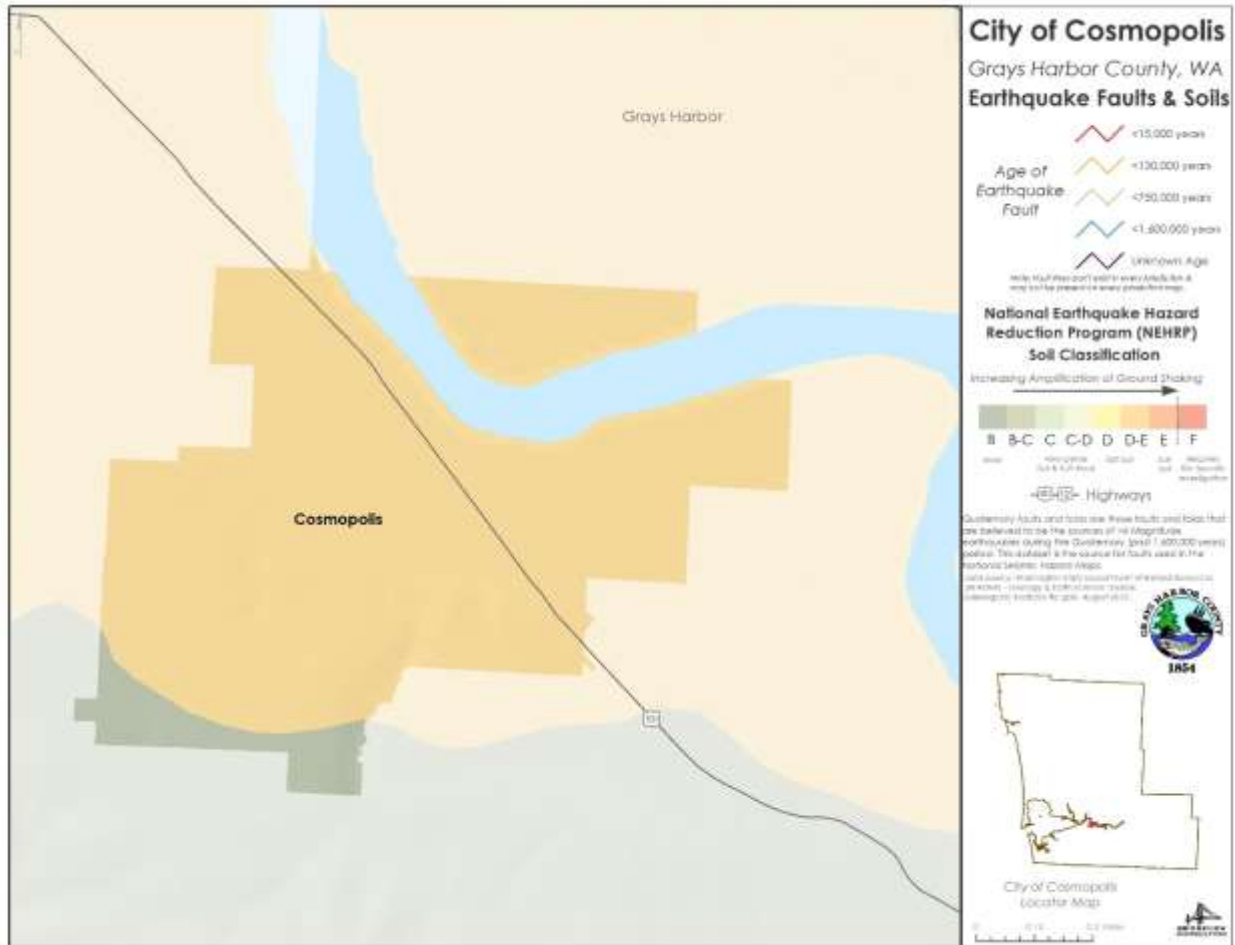
Hazard area extent and location maps are included below. These maps are based on the best available data at the time of the preparation of this plan and are considered to be adequate for planning purposes.











CHAPTER 4. CITY OF ELMA, GRAYS HARBOR COUNTY ANNEX

4.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the City of Elma, a participating jurisdiction to the Grays Harbor County Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by the City of Elma. For planning purposes, this Annex provides additional information specific to the jurisdiction, with a focus on providing greater details on the risk assessment and mitigation strategy for this community only.

4.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

The City of Elma followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County’s Planning Team, the City of Elma also formulated its own internal planning team to support the broader planning process. Individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

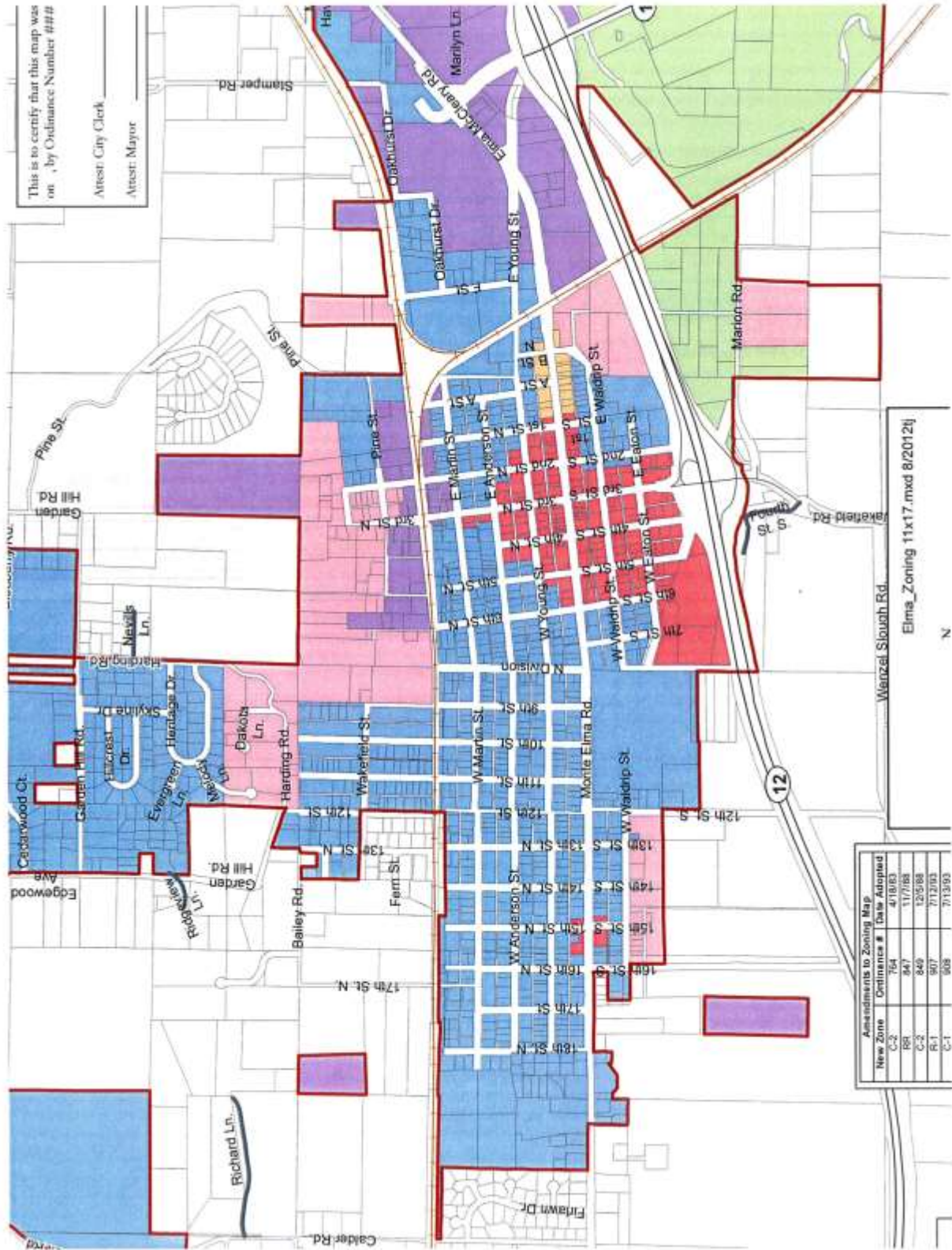
Local Planning Team Members		
Name	Position/Title	Planning Tasks
Joe Chrystal 202 west main St. Elma WA, 98541 1-360-482-4482 building@cityofelma.com	Building Official	Principle liaison, monitoring, evaluating, and updating the annex.
Jim Starks 202 west main St. Elma WA, 98541 1-360-482-2212 jim@cityofelma.com	Public Works Official	Monitoring, evaluating, and updating the annex.
Jim Taylor 105 evergreen Ln Elma WA, 98541 1-360-482-6362 Position5@cityofelma.com	Position5, Elma City Council	Monitoring, evaluating and updating the annex.

4.3 COMMUNITY PROFILE

The following is a summary of key information about the jurisdiction and its history:

- **Date of Incorporation**—1888
- **Current Population**—3,145 as of June 23, 2017
- **Population Growth**— The City has experienced a relatively flat rate of growth. The overall population has increased only 2.5% since 2010 and has averaged 2.5% per year from 2010 to 2017.
- **Location and Description**—The Elma area is a combination of the average territory served by the community facilities and the natural topographic barriers of the drainage basins of the tributaries of the Chehalis river within the service zone. Although the town is located in the flat agricultural valley at the junction of the Chehalis and Cloquallam rivers, it also borders the intersection of highway 12 and ST Route 9
- **Brief History**—The Elma area was settled during the cry of timber, the crash of giant firs, the screech of donkey engines and the hum of saw mills. Suddenly, in 1938 the Malone mill, which provided employment for over one third of the areas mill hands and loggers, closed, dismantled its machinery, and moved out. After the first shock had passed, community leaders determined to survey the remaining resources of the region, both physical and human, and upon the basis of facts revealed lay plans for the future.
- **Climate**— The climate of the Elma region is typical of the Puget Sound country. Rain falls in what appears to be excessive amounts, but a study of its distribution shows the summer months abnormally dry. Precipitation averages 62.58 inches annually but the heavy rains of November, December, January, February, and March supply nearly all. The monthly average drops to 2.18 inches in June; .73 inches in July; 1.17 inches in August, and 2.70 inches in September. The rains are generally misty with heavy downpours rarely occurring
- Elma’s location in the Chehalis River valley, sandwiched into a break in the coastal range , has a definite effect on rainfall distribution.
- **Governing Body Format**—The City of Elma is a mayor format governed by a five member City Council. The City consists of six departments: Finance, Community Development, Public Works, Police, and the Mayor’s office.
- **Development Trends**—Development trends for Elma are consisting primarily of Expanding local employment opportunities in light industrial and wholesale trade activities. / Expand housing opportunities to provide for a moderate annual increase in population. / Buttress support for education including, local schools, Grays Harbor College continuing education opportunities, and career guidance services. / Provide adequate child care services to allow single parent families to successfully compete in the job market. / Encourage the development and redevelopment of the Central Business District as the service and trade center for the community.
- **Economy** – The City Of Elma economic base consists of construction, retail sales, services, and healthcare services, agricultural, and light manufacturing. The largest employers include: Summit Pacific Hospital, and the Elma School Dist.

The jurisdiction boundaries are identified in the map below.



4.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are no additional hazards that are unique to the jurisdiction. Table 4-1 lists all past occurrences of hazard events within the jurisdiction. If available, dollar loss data is also included.

Table 4-1 Natural Hazard Events			
Type of Event	FEMA Disaster # (if applicable)	Date	Dollar Losses (if known)
Flood	4253	12/01/2015	Unknown
Severe Storm(s)	4242	08/29/2015	Unknown
Severe Storm(s)	4056	01/14/2012	Unknown
Severe Storm(s)	1825	12/12/2008	Unknown
Flood	1817	01/06/2009	Unknown
Severe Storm(s)	1734	12/01/2007	Unknown
Severe Storm(s)	1682	12/14/2006	Unknown
Severe Storm(s)	1671	11/02/2006	Unknown
Severe Storm(s)	1641	01/27/2006	Unknown
Severe Storm(s)	1499	10/15/2003	Unknown
Earthquake	1361	02/28/2001	Unknown
Flood	1172	03/18/1997	Unknown
Severe Storm(s)	1159	12/26/1996	Unknown
Flood	1100	01/26/1996	Unknown
Severe Storm(s)	1079	11/07/1995	Unknown
Fishing Losses	1037	05/01/1994	Unknown
Flood	883	11/09/1990	Unknown
Flood	852	01/06/1990	Unknown
Volcano	623	05/21/1980	Unknown
Flood	612	12/31/1979	Unknown
Flood	545	12/10/1977	Unknown
Flood	492	12/13/1975	Unknown
Flood	322	02/01/1972	Unknown
Flood	300	02/09/1971	Unknown
Flood	185	12/29/1964	Unknown

4.5 CAPABILITY ASSESSMENT

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction’s capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: National Flood Insurance Information; regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation efforts, and classifications under various community programs.

4.6 NATIONAL FLOOD INSURANCE INFORMATION

Information on the community’s National Flood Insurance Program (NFIP) compliance is presented in Table 4-2. This identifies the current status of the jurisdiction’s involvement with the NFIP.

Repetitive flood loss records are as follows:

- Number of FEMA-Identified Repetitive Loss Properties: None
- Number of FEMA-Identified Severe Repetitive Loss Properties: Two Residential
- No Repetitive Flood Loss/Severe Repetitive Loss Properties have been mitigated.

As of August 2017, the City of Elma had 18 total flood-loss claims totaling \$487,641 pursuant to State and FEMA data, with eight (8) flood policies in place, and with a total insured coverage value of \$1,187,400.

Table 4-2 National Flood Insurance Program Compliance	
What department is responsible for floodplain management in your community?	Community Development, Pubic Works Dir.
Who is your community’s floodplain administrator? (department/position)	Joseph Chrystal, Jim Starks
Do you have any certified floodplain managers on staff in your community?	No
What is the date of adoption of your flood damage prevention ordinance?	January 23, 2017
When was the most recent Community Assistance Visit or Community Assistance Contact?	October 11, 2017
To the best of your knowledge, does your community have any outstanding NFIP compliance violations that need to be addressed? If so, please state what they are.	No
Do your flood hazard maps adequately address the flood risk within your community? (If no, please state why)	Yes

Table 4-2 National Flood Insurance Program Compliance	
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	No
Does your community participate in the Community Rating System (CRS)? If so, is your community seeking to improve its CRS Classification? If not, is your community interested in joining the CRS program?	Yes

4.6.1 Regulatory Capability

The assessment of the jurisdiction’s legal and regulatory capabilities is presented in Table 4-3. This includes planning and land management tools, typically used by local jurisdictions to implement hazard mitigation activities and indicates those that are currently in place.

Table 4-3 Legal and Regulatory Capability					
		Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Codes, Ordinances & Requirements					
Building Code / yes Version ICC Year 2018		Yes	Yes	Yes	IBC,IRC,IFC,IPC,IEC,IMC,IEBC,ISPSC
Zoning Ordinance 1982		Yes	No	Yes	1982
Subdivision Ordinance 2004		Yes	No	No	Unified Development Code
Floodplain Ordinance 1-18-2017		Yes	No	Yes	ORD #1158
Stormwater Management		Yes	No	Yes	
Post Disaster Recovery		No	No		
Real Estate Disclosure		No	No	No	-
Growth Management		Yes	No	No	
Site Plan Review		Yes	No	No	
Public Health and Safety		Yes	No	No	
Coastal Zone Management		No	No	No	
Climate Change Adaptation		No	No	No	
Natural Hazard Specific Ordinance (stormwater, steep slope, wildfire, etc.)		Yes	No	No	
Environmental Protection		Yes	No	Yes	
Planning Documents					
General or Comprehensive Plan					

Table 4-3 Legal and Regulatory Capability				
	Local Authority	Other		Comments
		Jurisdictional Authority	State Mandated	
<i>Is the plan equipped to provide linkage to this mitigation plan? Yes</i>				
Floodplain or Basin Plan	No			
Stormwater Plan	No			
Capital Improvement Plan	No			
Habitat Conservation Plan	No			
Economic Development Plan	No			
Shoreline Management Plan	No			
Community Wildfire Protection Plan	No			
Transportation Plan	No			
Response/Recovery Planning				
Comprehensive Emergency Management Plan	Yes			
Threat and Hazard Identification and Risk Assessment	No			
Terrorism Plan	No			
Post-Disaster Recovery Plan	No	No	No	
Continuity of Operations Plan	No	No	No	
Public Health Plans	No	No	No	
Boards And Commission				
Planning Commission	No			
Mitigation Planning Committee	Yes			
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems, chipping, etc.)	Yes			
Mutual Aid Agreements / Memorandums of Understanding	Yes	Yes		Various MOU/MOAs in place with surrounding jurisdictions.
Other				

4.6.2 Administrative and Technical Capability

The assessment of the jurisdiction's administrative and technical capabilities, educational outreach efforts, and on-going programmatic efforts are presented in Table 4-4. These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 4-4. Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	yes	Comm. development. / Pub. Works Dir.
Professionals trained in building or infrastructure construction practices (building officials, fire inspectors, etc.)	Yes	Building Official
Engineers specializing in construction practices?	Yes	Gibbs, Olsen
Planners or engineers with an understanding of natural hazards	Yes	Comm. development
Staff with training in benefit/cost analysis	Yes	Pub. Works Dir.
Surveyors	Yes	Chehalis Valley Surveyors
Personnel skilled or trained in GIS applications	Yes	Chehalis Valley Surveyors
Personnel skilled or trained in Hazmat use	No	
Scientist familiar with natural hazards in local area	No	
Emergency Manager	Yes	G.H. COUNTY Emergency Management
Grant writers	No	
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?)	Yes	
Hazard data and information available to public	Yes	Grays Harbor County's Website
Maintain Elevation Certificates	Yes	Building Dept. / Comm. development
Education And Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	No	
Local citizen groups or non-profit organizations focused on environmental protection?	No	
Organization focused on individuals with access and functional needs populations	No	
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes	County Level
Natural disaster or safety related school programs?	Yes	Earthquake drills, ect.
Public-private partnership initiatives addressing disaster-related issues?	No	

Table 4-4. Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Multi-seasonal public awareness program?	Yes	County provides this service through their public outreach
On-Going Mitigation Efforts		
Hazardous Vegetation Abatement Program	No	
Noxious Weed Eradication Program or other vegetation management	No	
Fire Safe Councils	No	
Chipper program	No	
Defensible space inspections program	Yes	Building Dept.
Creek, stream, culvert or storm drain maintenance or cleaning program	Yes	Master Shoreline Plan
Stream restoration program	Yes	Master Shoreline Plan
Erosion or sediment control program	Yes	Master Shoreline Plan
Address signage for property addresses	Yes	Public Works Dir.
Other		

4.6.3 Fiscal Capability

The assessment of the jurisdiction’s fiscal capabilities is presented in Table 4-5. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

Table 4-5. Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	yes
Capital Improvements Project Funding	yes
Authority to Levy Taxes for Specific Purposes	yes
User Fees for Water, Sewer, Gas or Electric Service	yes
Incur Debt through General Obligation Bonds	yes
Incur Debt through Special Tax Bonds	yes
Incur Debt through Private Activity Bonds	yes
Withhold Public Expenditures in Hazard-Prone Areas	yes

Table 4-5. Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
State Sponsored Grant Programs	yes
Development Impact Fees for Homebuyers or Developers	yes
Other	

4.6.4 Community Classifications

Classifications under various community mitigation programs are presented in Table 4-6. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community.

Table 4-6. Community Classifications		
	Participating (Yes/No)	Date Enrolled
Community Rating System	yes	1978
Building Code Effectiveness Grading Schedule	yes	1978
Storm Ready	no	
Firewise	no	
Tsunami Ready (if applicable)	n/a	

4.7 HAZARD RISK AND VULNERABILITY RANKING

The jurisdiction’s Planning Team reviewed the hazard list identified within the Base Plan and have identified the hazards that affect the City of Elma.

The table below presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and /or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.

- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.
- The Hazards of concern ranked in Table 4-7 demonstrates our level of impact as determined by the Calculator Priority Risk Index process as defined in Chapter4. The process includes a review of critical facilities impacted, dollar losses, and impact to the people, property, economy and environment for each hazard of concern. The reviewers have examined Chapter 4 for information of the type of data included in determining the hazard rank and vulnerability levels identified above.

Table 4-7. Hazard Risk and Vulnerability Ranking			
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank
1	Earthquake	3.85	High
2	Severe Weather	2.8	High
3	Flood	2.6	High
4	Wildfire	2.3	Medium
5	Landslides	2.15	Medium
6	Climate Change	1.95	Medium
7	Drought	1.95	Medium
8	Volcano	1.75	Low
9	Erosion	1.35	Low
10	Tsunami	1.3	Low

4.8 MITIGATION GOALS AND OBJECTIVES

The City of Elma adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

4.9 HAZARD MITIGATION ACTION PLAN

The Planning Team for the jurisdiction identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the jurisdiction’s assets and hazards of concern. Table 4-8 lists the action items/strategies that make up the jurisdiction’s hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, who will benefit from the activity, and the type of initiative associated with each item are also identified.

**Table 4-8.
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE # 1 Study and develop an inventory of private, public and commercial buildings, retrofit and/or improve the critical facilities that may be particularly vulnerable to severe damage, including equipment, communications, renovation or replacement of existing facilities and/or equipment.									
Existing	All	1,2,3,4,5, 6,8,9,	Planning Dept.	High	HMGP, HUD, PDM, Earthquake & Tsunami	Long Term	NO	Preventive, Structural Projects, Emergency Services, Recovery	LOCAL
INITIATIVE # 2 Determine the need to install , re-route, or increase the capacity of the City Storm Drainage System, particularly in areas that frequently flood, to include culverts, and determine a limit for the percentage of allowable impervious surface with new development on individual parcels.									
New and Existing	F,SWW, MH	1,2,3,4,5, 6,8,9	Public Works, Planning	High	HMGP, HUD, PDM, Earthquake & Tsunami	Long-Term	No	Preventive Structural Projects, Property Protection, Natural Resource Protections	Facility, Local
INITIATIVE # 3 Work with Grays Harbor Emergency Management, public and private parties to determine the location of shelter facilities and begin development of recovery and response plans including, creating and educating citizens regarding the hazards of concern.									
New	All	All	Planning	High	HMGP, HUD, PDM	Long-Term	No	Public Information Preventive, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Facility Local County
INITIATIVE # 4 Determine the need for specific water hydration systems, dedicated power sources an d/or dedicated cisterns if no water source us available.									
New	All	All	Water Department Public Works, Fire Department	High	HMGP, HUD, EPA, Earthquake & Tsunami Grant Funds	Long-Term	No	Preventive, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resources Protection	Local

**Table 4-8.
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE # 5 Obtain staff training to assist in disaster response including, form ATC-20 for post-earthquake building evaluation, procedures, decisions and guidelines for making on-the –spot evaluations regarding continued use and occupancy of damage building									
Existing	All	2,3,4,5,6, 8	Planning Building	Low	General Fund, EMPG	Short-term	No	Preventive, Emergency Services, Recovery	Facility Local
INITIATIVE # 6 Require and maintain FEMA elevation certificates for all newly constructed building located in flood planes. Require elevation data collection during platting of a new subdivision and to have buildable space on lots above the base flood elevation.									
New	F	2,3.6.8.9	Building, Planning	low	Gen. Fund	Short-term	No	Preventive, Structural Projects	Facility, Local

4.10 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of six different initiative types for each identified action item was conducted. Table 4-9 identifies the prioritization for each action item.

**Table 4-9.
Mitigation strategy priority schedule**

Initiative #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/ Budgets?	Priority ^a
1	8	High	High	Exceeds	yes	no	High
2	8	High	High	Exceeds	yes	no	High
3	all	High	High	Exceeds	yes	no	High
4	all	High	High	Exceeds	yes	no	Medium
5	6	Medium	Low	Exceeds	yes	no	Medium
6	5	Low	Low	Equal	yes	no	Low

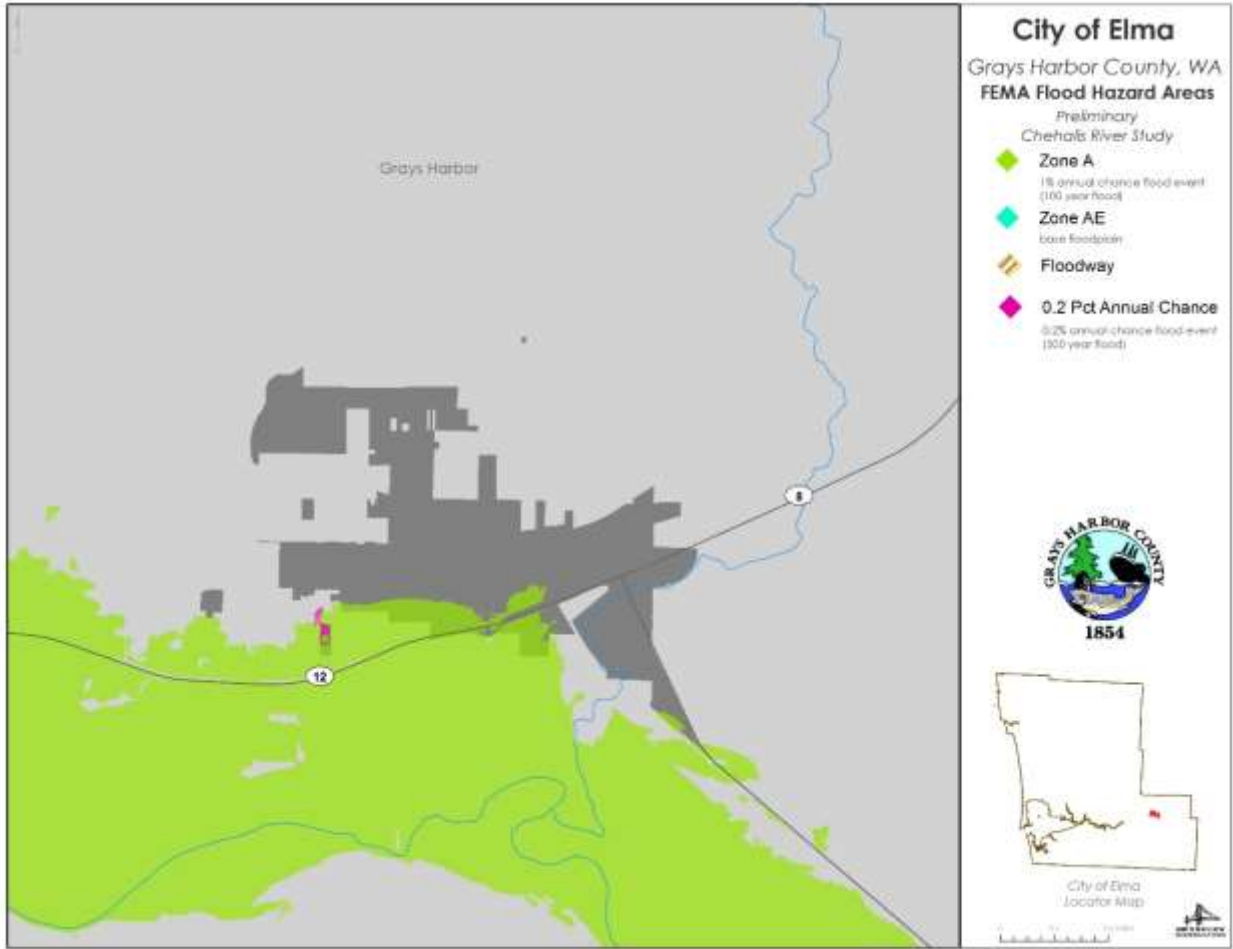
a. See Chapter 1 for explanation of priorities.

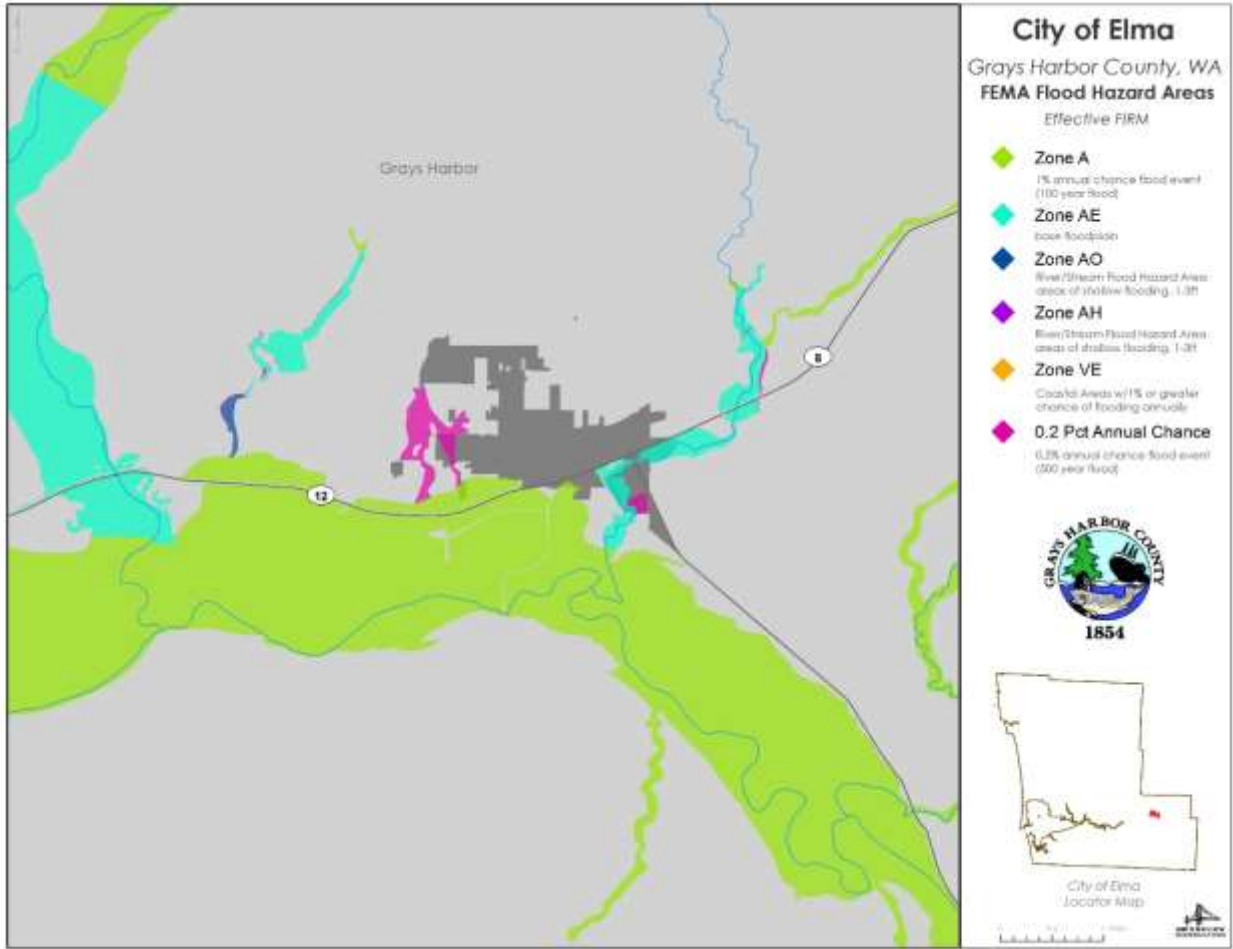
4.11 FUTURE NEEDS TO BETTER UNDERSTAND RISK/ VULNERABILITY

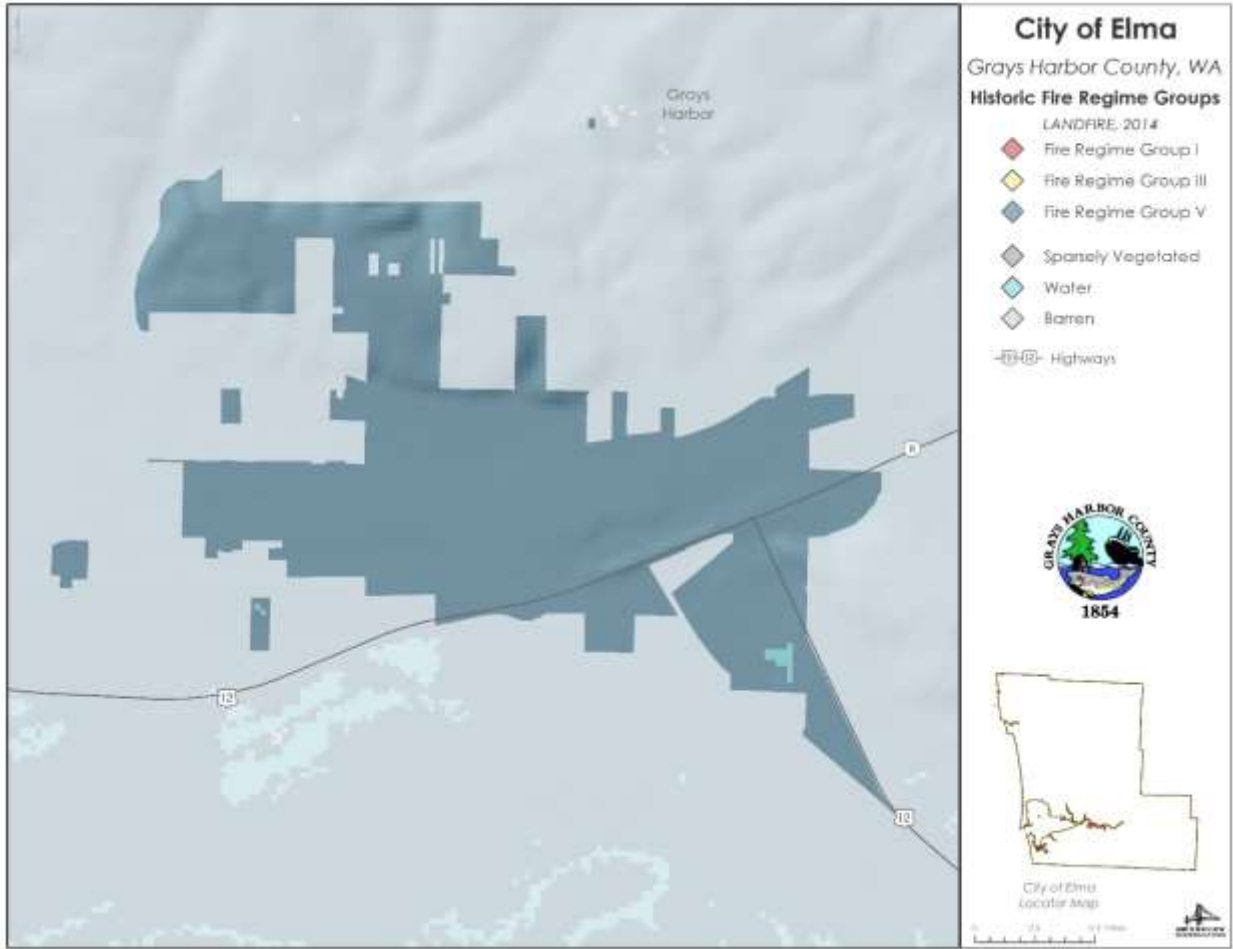
The City's Understanding of each Hazard comparable to each of the existing critical facilities should be expanded to include more reliable structure data. This analysis should occur over the life cycle of this 2018 HMP to allow for greater understanding of the risk associated with the hazards of concern.

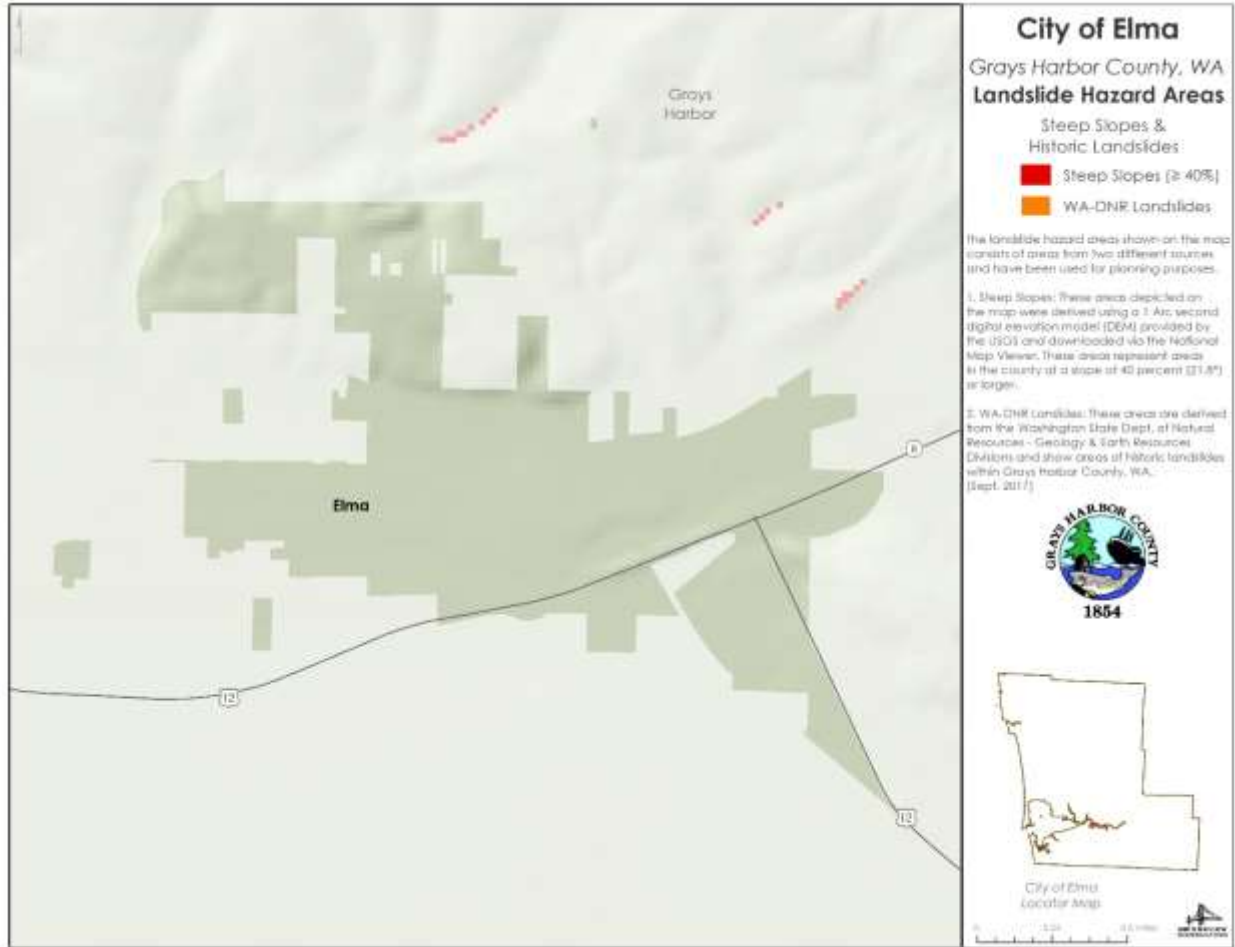
4.12 HAZARD AREA EXTENT AND LOCATION

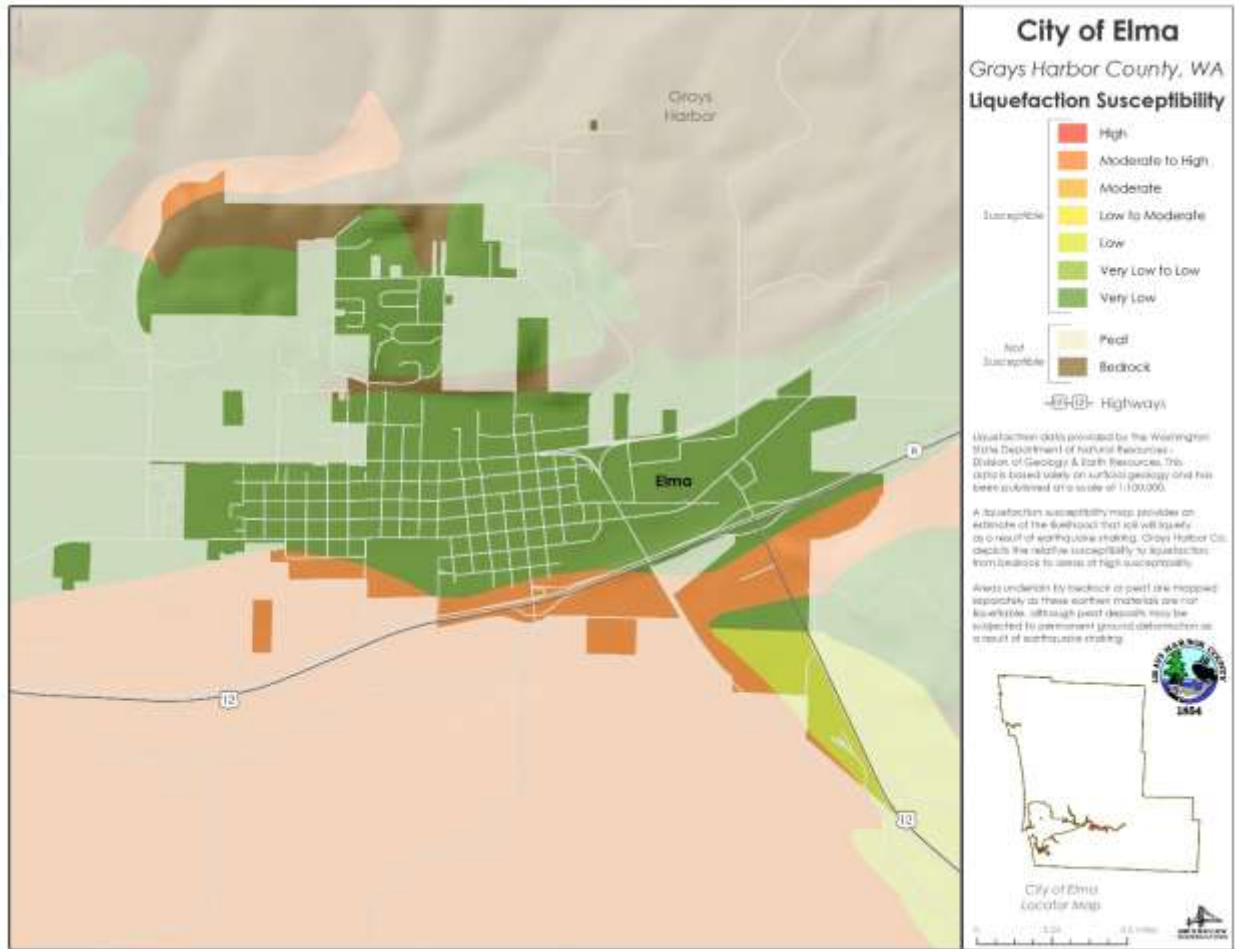
Hazard area extent and location maps are included below. These maps are based on the best available data at the time of the preparation of this plan and are considered to be adequate for planning purposes.













CHAPTER 5.
CITY OF HOQUIAM ANNEX UPDATE
 City of Hoquiam, Grays Harbor County, Washington

5.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the City of Hoquiam (City), a participating jurisdiction to the Grays Harbor County Hazard Mitigation Plan Update (Base Plan). This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the Base Plan document. As such, all sections of the Base Plan, including the planning process and other procedural requirements apply to and were met by the Grays Harbor County Hazard Mitigation Plan. For planning purposes, this Annex provides additional information specific to the City, with a focus on providing greater details on the risk assessment and mitigation strategy for this community only. This document serves as an update to the previously completed plan. All relevant data have been carried over and updated with new information as appropriate and as identified within the planning process discussed in Volume 1.

5.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

The City followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County’s Planning Team, the City also formulated their own internal planning team to support the broader planning process. Individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

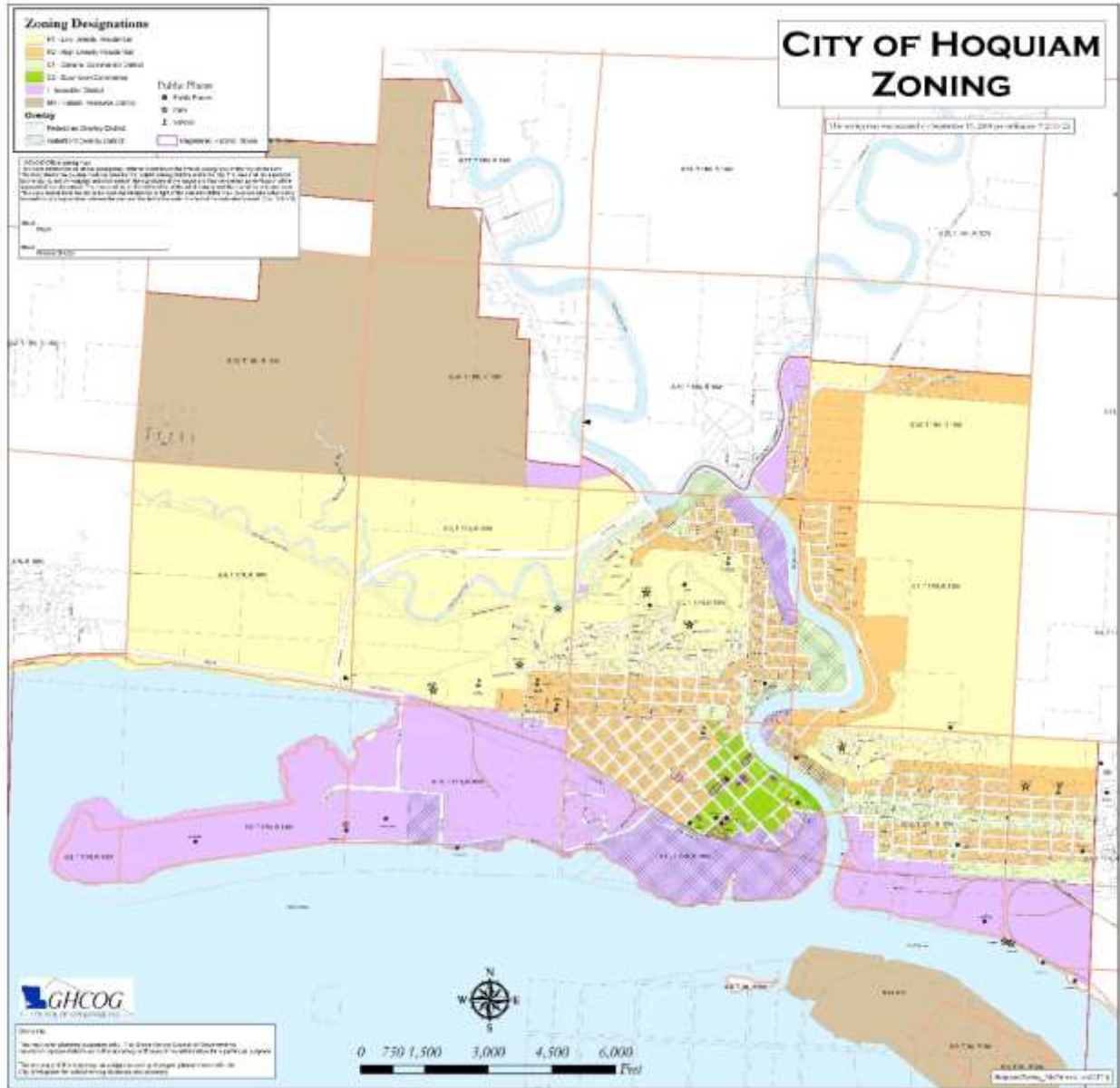
Local Planning Team Members		
Name	Position/Title	Planning Tasks
Brian Shay City Administrator 609 8 th Street Hoquiam, WA 98550 360-538-3983 bshay@cityofhoquiam.com	Primary Point of Contact	Lead person for City, attend meetings for County HMP, coordinate providing material for City Annex
Jeff Myers, Police Chief 609 8 th Street Hoquiam, WA 98550 360-532-3960 jmyers@cityofhoquiam.com	Alternate Point of Contact	Back-up person to perform review of draft materials
Orlando Howell, Building and Planning Department 609 8 th Street Hoquiam, WA 98550 360-538-3980 ohowell@cityofhoquiam.com	Building Official	Provide information relating to floodplain development, permit requirements, etc.

5.3 COMMUNITY PROFILE

The following is a summary of key information about the City and its history:

- **Date of Incorporation**—May 21, 1890
- **Current Population**—The 2010 census population was 8,726, and the estimated population in 2015 was 8,405 from the Grays Harbor Council of Governments.
- **Population Growth**—The population was 9,097 as of the 2000 census, with some increases in population and some decreases during each of the previous census periods. Highest population since 1900 was 12,766 in 1930 and the lowest recorded population period was 1,302 in 1890.
- **Location and Description**— The City is located in the vicinity of the confluence of the Hoquiam River, the Chehalis River and the estuary of these rivers as they enter Grays Harbor. The easterly City limits of Hoquiam is adjacent to the westerly City limits of the City of Aberdeen. The total land area is approximately 9 square miles and the total water area within the City limits is approximately 6.6 square miles for a total area within the City limits of approximately 15.6 square miles. The majority of the land area within the City limits is in the City watershed area north of the populated area and has very limited population. Most of the populated land area of the City is low-lying ground relatively near sea level in elevation. The northerly limit of the populated area is on a steep bluff area which rises to an elevation of over 100 feet. The northerly portion of the City limits is in the watershed area of the Hoquiam River.
- **Brief History**—The early history of the City involved the timber industry with the first logging operation established in 1872. Several mills were developed during these early days and have continued to be the focal point of industry for the City. Extension of the railroad from Aberdeen to Hoquiam beginning in 1898 contributed to the development of the timber industry.
- **Climate**— Located near the Pacific Ocean, the region experiences warm and dry summers and cool mild winters, with a maritime climate, with typically a westerly airflow from the ocean. Annual rainfall is approximately 70 inches, with the majority of the rainfall occurring from November through March. During this time period, there can also be frequent windstorms, which are sometimes accompanied by heavy rainfall.
- **Governing Body Format**— The City has a Mayor-Council form of government, with an elected mayor presiding over 12 council members.
- **Development Trends**—There has been little residential development occurring within the City in recent years. Continuing development at the Port of Grays Harbor facilities adjacent to the Grays Harbor estuary continues to be the primary industry with new development in the Hoquiam area.
- **Economy** – The City’s economic base over the years has consisted of the timber industry and the Port of Grays Harbor properties. The current largest employers within the City include the Hoquiam School District, the City of Hoquiam, Grays Harbor Transit, and the leaseholders to Port of Grays Harbor properties within the City.

The City boundaries are identified in the zoning map below.



5.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are no additional hazards that are unique to the City. Table 5-1 lists all past occurrences of natural hazards within the County, which included the City, since the last update of the City’s Hazard Mitigation Plan in 2010. No dollar loss data are available.

Table 5-1 Natural Hazard Events			
Type of Event	FEMA Disaster # (if applicable)	Date	Dollar Losses (if known)
Flood	4253	12/1/2015-12/14/2015	Countywide
Severe storm(s)	4242	8/29/2015	Countywide
Severe storm(s)	4056	1/14/2012-1/23/2012	Countywide
Local Area Disaster – Not Declared			
Landslide-Beacon area	Hill	January 2015	Unknown

5.5 CAPABILITY ASSESSMENT

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the City’s capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: National Flood Insurance Information; regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation, and classifications under various community programs.

5.6 NATIONAL FLOOD INSURANCE INFORMATION

Information on the community’s National Flood Insurance Program (NFIP) compliance is presented in Table 5-2. This identifies the current status of the City’s involvement with the NFIP.

Repetitive flood loss records are as follows:

- Number of FEMA-Identified Repetitive Loss Properties: 9
- Number of FEMA-Identified Severe Repetitive Loss Properties: 2

Number of Repetitive Flood Loss/Severe Repetitive Loss Properties That Have Been Mitigated: 2

Table 5-2 National Flood Insurance Compliance	
What department is responsible for floodplain management in your community?	Building and Planning
Who is your community’s floodplain administrator? (department/position)	Orlando Howell, Building and Planning Official
Do you have any certified floodplain managers on staff in your community?	Orlando Howell

Table 5-2 National Flood Insurance Compliance	
What is the date of adoption of your flood damage prevention ordinance?	June 26, 2017
When was the most recent Community Assistance Visit or Community Assistance Contact?	September 12, 2006
To the best of your knowledge, does your community have any outstanding NFIP compliance violations that need to be addressed? If so, please state what they are.	No
Do your flood hazard maps adequately address the flood risk within your community? (If no, please state why)	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	No training needed, but additional staff support is needed. Any assistance that could be provided by the State Department of Ecology, Chehalis River Basin Flood Authority, or Grays Harbor Council of Governments would be most helpful
Does your community participate in the Community Rating System (CRS)? If so, is your community seeking to improve its CRS Classification? If not, is your community interested in joining the CRS program?	Not at the present time, but interested in joining if additional staff support could be available.

5.6.1 Regulatory Capability

The assessment of the City’s legal and regulatory capabilities is presented in Table 5-3. This includes planning and land management tools, typically used by local jurisdictions to implement hazard mitigation activities and indicates those that are currently in place.

Table 5-3 Legal and Regulatory Capability				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Codes, Ordinances & Requirements				
Building Code	IBC	Chapter 2.08		
Version		ORD # 17.08		
Year	2015	Adopted 6/26/2017		
Zoning Ordinance	Chapter 10.03	ORD # 17.08 Adopted 6/26/2017		

Table 5-3 Legal and Regulatory Capability				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Subdivision Ordinance	Title 9	ORD # 17.08 Adopted 6/26/2017		
Floodplain Ordinance	Chapter 11.16	ORD # 17.08 Adopted 6/26/2017		
Stormwater Management	Chapter 8.14	ORD # 17.08 Adopted 6/26/2017		
Post Disaster Recovery	NO			
Real Estate Disclosure	NO			
Growth Management	NO			
Site Plan Review	Chapter 9.09	ORD # 17.08 Adopted 6/26/2017		
Public Health and Safety	NO			
Coastal Zone Management	NO			
Climate Change Adaptation	NO			
Environmental Protection	Title 11	ORD # 17.08 Adopted 6/26/2017		
Planning Documents				
General or Comprehensive Plan	YES			<i>Is the plan equipped to provide linkage to this mitigation plan?</i> YES
Floodplain or Basin Plan	YES			
Stormwater Plan	YES			
Capital Improvement Plan	YES			
Habitat Conservation Plan	YES			
Economic Development Plan	YES			
Shoreline Management Plan	YES			
Community Wildfire Protection Plan	NO			
Transportation Plan	YES	YES		
Response/Recovery Planning				
Comprehensive Emergency Management Plan	YES			
Threat and Hazard Identification and Risk Assessment	YES			

Table 5-3 Legal and Regulatory Capability				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Terrorism Plan	NO			
Post-Disaster Recovery Plan	NO			
Continuity of Operations Plan	NO			
Public Health Plans	NO			
Boards and Commission				
Planning Commission	YES			
Mitigation Planning Committee	YES			Team established for purpose of 2018 update; City was also part of the County's overall HMP Committee.
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems, chipping, etc.)	YES			
Mutual Aid Agreements / Memorandums of Understanding	YES			
Other				

5.6.2 Administrative and Technical Capabilities

The assessment of the City's administrative and technical capabilities, including educational and outreach efforts, and on-going programmatic efforts are presented in Table 5-4 . These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 5-4 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	YES	BUILDING OFFICIAL
Professionals trained in building or infrastructure construction practices (building officials, fire inspectors, etc.)	YES	BUILDING OFFICIAL
Engineers specializing in construction practices?	NO	

Table 5-4 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Planners or engineers with an understanding of natural hazards	NO	
Staff with training in benefit/cost analysis	YES	CITY ADMINISTRATOR
Surveyors	NO	
Personnel skilled or trained in GIS applications	NO	
Personnel skilled or trained in Hazus use	NO	
Scientist familiar with natural hazards in local area	NO	
Emergency Manager	NO	
Grant writers	NO	
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?)	YES	CITY ADMINISTRATOR
Hazard data and information available to public	YES	CITY ADMINISTRATOR
Maintain Elevation Certificates	YES	BUILDING OFFICIAL
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	NO	
Local citizen groups or non-profit organizations focused on environmental protection?	YES	
Organization focused on individuals with access and functional needs populations	YES	
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	YES	
Natural disaster or safety related school programs?	YES	
Public-private partnership initiatives addressing disaster-related issues?	NO	
Multi-seasonal public awareness program?	YES	
Other		
On-Going Mitigation Efforts		
Hazardous Vegetation Abatement Program	YES	
Noxious Weed Eradication Program or other vegetation management	YES	PUBLIC WORKS
Fire Safe Councils	NO	
Chipper program	NO	
Defensible space inspections program	NO	
Creek, stream, culvert or storm drain maintenance or cleaning program	YES	PUBLIC WORKS

Table 5-4 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Stream restoration program	YES	PUBLIC WORKS
Erosion or sediment control program	YES	PUBLIC WORKS
Address signage for property addresses	YES	PUBLIC WORKS
Other		

5.6.3 Fiscal Capability

The assessment of the City’s fiscal capabilities is presented in Table 5-5. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

Table 5-5 Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	YES
Capital Improvements Project Funding	YES
Authority to Levy Taxes for Specific Purposes	YES
User Fees for Water, Sewer, Gas or Electric Service	YES
Incur Debt through General Obligation Bonds	YES
Incur Debt through Special Tax Bonds	YES
Incur Debt through Private Activity Bonds	NO
Withhold Public Expenditures in Hazard-Prone Areas	NO
State Sponsored Grant Programs	YES
Development Impact Fees for Homebuyers or Developers	NO
Other	

5.6.4 Community Classifications

The City’s classifications under various hazard mitigation programs are presented in Table 5-6. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community.

Table 5-6. Community Classifications		
	Participating (Yes/No)	Date Enrolled
Community Rating System	NO	
Building Code Effectiveness Grading Schedule	YES	Class 4
Storm Ready	YES	
Firewise	NO	
Tsunami Ready (if applicable)	YES	

5.7 HAZARD RISK AND VULNERABILITY RANKING

The City’s Planning Team reviewed the hazard list identified within the Base Plan and has identified the hazards that affect the City of Hoquiam.

Table 5-7 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and /or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

Table 5-7. Hazard Risk and Vulnerability Ranking			
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank
1	Earthquake	3.90	Extremely High
2	Flood	3.80	High
3	Landslides	3.50	Medium
4	Tsunami	3.50	Extremely High
5	Erosion	2.80	Extremely Low
6	Wildfire	2.65	Low
7	Climate Change	2.35	Low
8	Drought	1.75	Low
9	Volcano	1.00	Extremely Low

5.8 MITIGATION GOALS AND OBJECTIVES

The City of Hoquiam adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

5.9 HAZARD MITIGATION ACTION PLAN

The Planning Team for the City identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the City’s assets and hazards of concern. Table 5-8 lists the action items/strategies that make up the City’s hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside the City limits), potential funding sources, the timeframe, who will benefit from the activity, and the type of initiative associated with each item are also identified.

Table 5-8. Hazard Mitigation Action Plan Matrix									
Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE #1 North Shore Levee Construction									
Both	Flood, Tsunami	1,2,3, 4,5,6, 8,	Public Works	High	State, Flood Authority, Federal, General Fund	Long-Term	No	Structural	City facilities, property owners

**Table 5-8.
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE #2 Broadway- Road Stabilization Project									
Both	Flood, Tsunami	1,2,3, 4,5,6, 8	Public Works	High	State, Flood Authority, Federal, General Fund	Long-Term	No	Structural	City facilities, property owners
INITIATIVE #3 Westside Levee, predesign, design, and construction									
Both	Flood, Tsunami	1,2,3, 4,5,6, 8,	Public Works	High	State, Flood Authority, Federal, General Fund	Long-Term	No	Structural	City facilities, property owners
INITIATIVE #4 Woodlawn Levee, predesign, design, and construction									
Both	Flood, Tsunami	1,2,3, 4,5,6, 8,	Public Works	High	State, Flood Authority, Federal, General Fund	Long-Term	No	Structural	City facilities, property owners
INITIATIVE # 5 Broadway-Beacon Hill Road Project for alternate road access									
Both	Landslide, Earthquake	2,3,6, 8,9	Public Works	High	State, Flood Authority	Short-Term	No	Structural	City facilities, hospital access, property owners
INITIATIVE #6 Purchase and maintain fire/hazmat response equipment for Port industrial facilities									
Both	Others	2,4,5, 6,7	Port of Grays Harbor	High	Port	Short-Term	No	Preventive Activity, Emergency Services Recovery	Region
INITIATIVE #7 Further consideration and actions for the City joining the Community Rating System									
Both	Flood, Tsunami	1,2,3, 4,5,6, 7,8,9	City Administrator, Building & Planning	Medium	General Fund	Short-Term	Yes	Preventive Activities, Property Protection, Natural Resource Protection	City facilities, property owners
INITIATIVE #8 Follow-up discussions with City of Aberdeen, evaluate options for regional wastewater treatment facility									

**Table 5-8.
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
Both	Flood, Tsunami, Severe Weather	1,2,3, 4,5,6, 8,9	City Administrator	High	General Fund, State grants	Short-Term	No	Preventive Activities, Structural Projects	City and City of Aberdeen
INITIATIVE #9 Purchase generators to avoid disruption of power during emergencies									
Both	Flood, Tsunami, Severe Weather, Earthquakes	4,6,7	Public Works	Medium	General Fund, HMGP, State grants	Short-term	Yes	Emergency Services, Recovery	City facilities
INITIATIVE #10 Develop a Quick Reference Guide for City personnel and City vehicles									
Both	All hazards	5,6,7, 8	Public Works	Low	General Fund	Short-Term	Yes	Emergency Services, Recovery	City facilities, property owners
INITIATIVE #11 Search for grants and set annual funding priorities for Hazard Mitigation Projects									
Both	All hazards	4,5,6, 7,8	City Administrator	Low	General Fund	Short-Term	Yes	Preventive Activities	City facilities, property owners
INITIATIVE #12 Establish City-owned EOC facility									
Both	All hazards	4,6,7	City Administrator	High	General Fund, HMGP	Long-Term	Yes	Emergency Services, Recovery	City facilities, property owners
INITIATIVE #13 Complete formal hazard evaluation of City reservoirs									
Both	Earthquakes	2,4,7, 8	Public Works	Medium	General Fund	Long-Term	Yes	Preventive Activities, Property Protection	City facilities, property owners
INITIATIVE #14 Complete City Emergency Response Plan									
Both	All hazards	5,6,7, 8	City Administrator	Low	General Fund	Short-Term	Yes	Preventive Activities, Emergency Services	City facilities, property owners
INITIATIVE #15 Maintain a disaster contingency fund in the City budget									

**Table 5-8.
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
Both	All hazards	All	City Administrator	Medium	General Fund	Short-Term	Yes	Preventive Activities, Property Protection	City facilities, property owners

5.10 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of six different initiative types for each identified action item was conducted. Table 5-9 identifies the prioritization for each initiative.

**Table 5-9.
Mitigation Strategy Priority Schedule**

Initiative #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/Budgets?	Priority ^a
1	7	High	High	Yes	Yes	No	High
3	7	High	High	Yes	Yes	No	High
4	7	High	High	Yes	Yes	No	High
2	7	High	Medium	Yes	Yes	No	High
5	5	High	Medium	Yes	Yes	No	High
8	8	High	High	Yes	Yes	No	High
6	5	High	Medium	Yes	Yes	No	High
7	9	High	Medium	Yes	No	No	Medium
9	3	High	Medium	Yes	Yes	No	High
10	4	Medium	Low	Yes	No	Yes	High
11	5	High	Low	Yes	No	Yes	High
12	3	High	High	Yes	Yes	No	Medium
13	4	Medium	Low	Yes	No	Yes	Medium
14	4	Medium	Low	Yes	No	Yes	Medium
15	9	Medium	Low	Yes	No	Yes	Medium

a. See Chapter 1 for explanation of priorities.

5.11 STATUS OF PREVIOUS PLAN INITIATIVES

Table 5-10 summarizes the initiatives that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

Table 5-10. Status of Previous Hazard Mitigation Action Plan												
Mitigation Strategy	Associated Hazards						Previous Timeline	Project Status	Current Status			
	Earthquakes	Floods	Landslides	Severe Weather	Tsunami	Wildland Fire			Completed	Continual /Ongoing Nature	Removed -/No Longer Relevant / No Action	Carried Over
Evaluate/prioritize critical facilities	x	x	x	x	x	x	Short term	Continuing, identified in Table 1-8 as Initiative #8, primarily for Wastewater Treatment facility		x		
Purchase generators	x	x		x	x		Medium term	No action taken		x		x
Establish City-owned EOC facility	x	x	x	x	x	x	Medium term	No building established yet, but City-owned mobile command center established				x
Inspect all City-owned levees		x			x		Medium term	No action on this, City is evaluating proposed new levees as Initiatives #1, 3, and 4, in Table 1-8			x	
Re-establish tide gage at Port and monitor levels		x			x		Medium term	Not necessary			x	
Conduct analysis of critical flood elevations		x			x		Medium term	Being done as element of proposed new levees		x		
Complete formal analysis of slide areas	x		x				Medium term	Not necessary			x	
Complete formal hazard evaluation of City reservoirs	x						Medium term	No action taken				x
Complete formal analysis of potential hazardous materials for City water source	x		x		x		Medium term	No action taken, not necessary			x	
Expand County-wide AHAB system	x		x				Medium term	Not necessary, is County responsibility			x	

Table 5-10. Status of Previous Hazard Mitigation Action Plan												
Mitigation Strategy	Associated Hazards						Previous Timeline	Project Status	Current Status			
	Earthquakes	Floods	Landslides	Severe Weather	Tsunami	Wildland Fire			Completed	Continual /Ongoing Nature	Removed -/No Longer Relevant / No Action	Carried Over
Conduct analysis of stormwater system and implement improvements		x		x			Long term	Continual process as funding is available		x		
Retrofit critical facilities		x	x	x	x	x	Long term	No action taken, future action on wastewater facility as Initiative #8 in Table 1-8		x		
Conduct annual Disaster Preparedness workshops		x	x	x	x	x	Short term	Lack of staff to implement			x	
Provide public information on use of 911 system		x	x	x	x	x	Short term	Lack of staff to implement			x	
Distribute hazard mitigation information		x	x	x	x	x	Short term	Lack of staff to implement			x	
Encourage access to and use of NOAA Weather Radio		x	x	x	x	x	Short term	On City website			x	
Develop a list of assets and capabilities for emergency use		x	x	x	x	x	Short term	Lack of staff to implement			x	
Add a Disaster Information Section on City website		x	x	x	x	x	Short term	On City website			x	
Implement "Map Your Neighborhood program		x	x	x	x	x	Long term	Lack of staff to implement			x	
Maintain updated list of residents for reservoir failure response plan		x	x	x	x	x	Long term	Lack of staff to implement			x	

Table 5-10. Status of Previous Hazard Mitigation Action Plan												
Mitigation Strategy	Associated Hazards						Previous Timeline	Project Status	Current Status			
	Earthquakes	Floods	Landslides	Severe Weather	Tsunami	Wildland Fire			Completed	Continual /Ongoing Nature	Removed -/No Longer Relevant / No Action	Carried Over
Support GH Co. Public Health and Social Services in post-disasters	x	x	x	x	x	x	Short term	Lack of staff to implement			x	
Complete City Emergency Response Plan	x	x	x	x	x	x	Short term	No action.				x
Partner with high density care facility providers for emergency response	x	x	x	x	x	x	Short term	Lack of staff to implement			x	
Develop a Quick Reference Guide for City personnel and City vehicles	x	x	x	x	x	x	Short term	No action				x
Maintain a disaster contingency fund in the City budget	x	x	x	x	x	x	Short term	Was available, but was used, intend to re-establish				x
Establish inter-agency radio links	x	x	x	x	x	x	Short term	Completed	x			
Set funding priorities for Hazard Mitigation projects annually	x	x	x	x	x	x	Short term	No action, to be carried over under Initiative # 11 in Table 1-8				x
Develop partnerships with schools for education about hazard events	x	x	x	x	x	x	Short term	Completed	x			
Coordinate with Port of Grays Harbor for response plans for Bowerman airport	x	x	x	x	x	x	Medium term	Lack of staff to implement			x	
Facilitate updates to FEMA floodplain maps for the City		x		x	x		Medium term	FEMA floodplain maps were updated and adopted by City	x			

Table 5-10. Status of Previous Hazard Mitigation Action Plan												
Mitigation Strategy	Associated Hazards						Previous Timeline	Project Status	Current Status			
	Earthquakes	Floods	Landslides	Severe Weather	Tsunami	Wildland Fire			Completed	Continual/Ongoing Nature	Removed -/No Longer Relevant / No Action	Carried Over
Review and update flood ordinance		x		x	x		Short term	Ordinance Chapter 11.16 was updated and adopted 6/26/2017	x			
Floodplain administrator training and seek Certified Floodplain Manager status		x		x	x		Short term	Building Official became a CFM in 2017	x			
Maintain supplies of FEMA/NFIP materials for handouts		x		x	x		Short term	Material is on website			x	
Hold work session on floodplain management requirements for elected officials and planning commission		x		x	x		Short term	Lack of staff to implement			x	
Update Hazard Mitigation Plan every 5 years	x	x	x	x	x		Long term	City HMP being updated as part of the Grays Harbor County HMP update, to be completed in 2018		x		
Work with GH Co. for damage assessment training	x	x	x	x	x	x	Long term	Lack of staff to implement			x	
Work with State and local governments for tsunami warning signs					x		Long term	Completed	x			
Establish protocol with State and local governments in providing consistent public information during disasters	x	x	x	x	x	x	Long term	Completed	x			
Initiate actions to join the Community Rating System		x		x	x		Short term	Initial discussions, but staff assistance needed to implement				x

Table 5-10. Status of Previous Hazard Mitigation Action Plan													
Mitigation Strategy	Associated Hazards							Previous Timeline	Project Status	Current Status			
	Earthquakes	Floods	Landslides	Severe Weather	Tsunami	Wildland Fire	Completed			Continual /Ongoing Nature	Removed -/No Longer Relevant / No Action	Carried Over	
Actively search for grants and loans for Hazard Mitigation projects and programs	x	x	x	x	x	x	Short term	No action to date, to continue as projects are identified				x	
Develop and maintain lists of grant and low interest loans available for Hazard Mitigation projects by local residents and businesses	x	x	x	x	x	x	Short term	Combine with above strategy			x		

5.12 FUTURE NEEDS TO BETTER UNDERSTAND RISK/ VULNERABILITY

None identified.

5.13 ADDITIONAL COMMENTS

The City is interested in joining the Community Rating System (CRS) to reduce flood insurance premiums for the existing and future NFIP policy holders within the City limits. In addition to reducing flood insurance premiums for policy holders, by implementing provisions within the CRS for improvements in flood damage reduction, the City could expect to benefit from reduced potential flood damages within the City.

Because of the number of flood insurance policy holders within the City, and the work associated with implementing the requirements for joining and maintaining membership in the CRS, the City is currently not in a position to join and continue as a CRS community. The City has no existing staff which could perform the workload associated with the CRS requirements and does not have the financial resources to hire a new staff person for this.

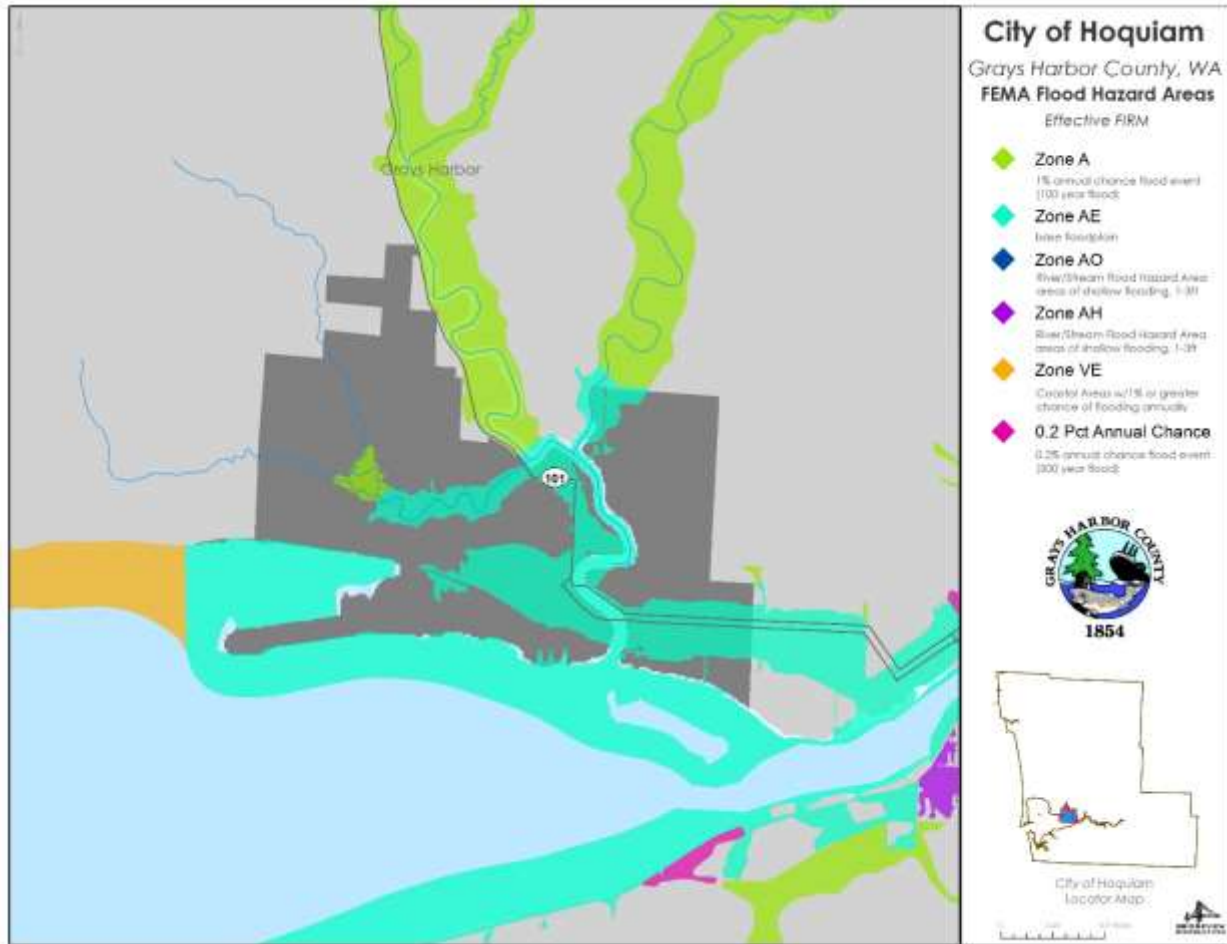
There are a significant number of policy holders within the City, with 722 current policies, and flood insurance premiums are continuing to rise and in some cases homeowners are finding it very difficult financially to continue to maintain their flood insurance coverage.

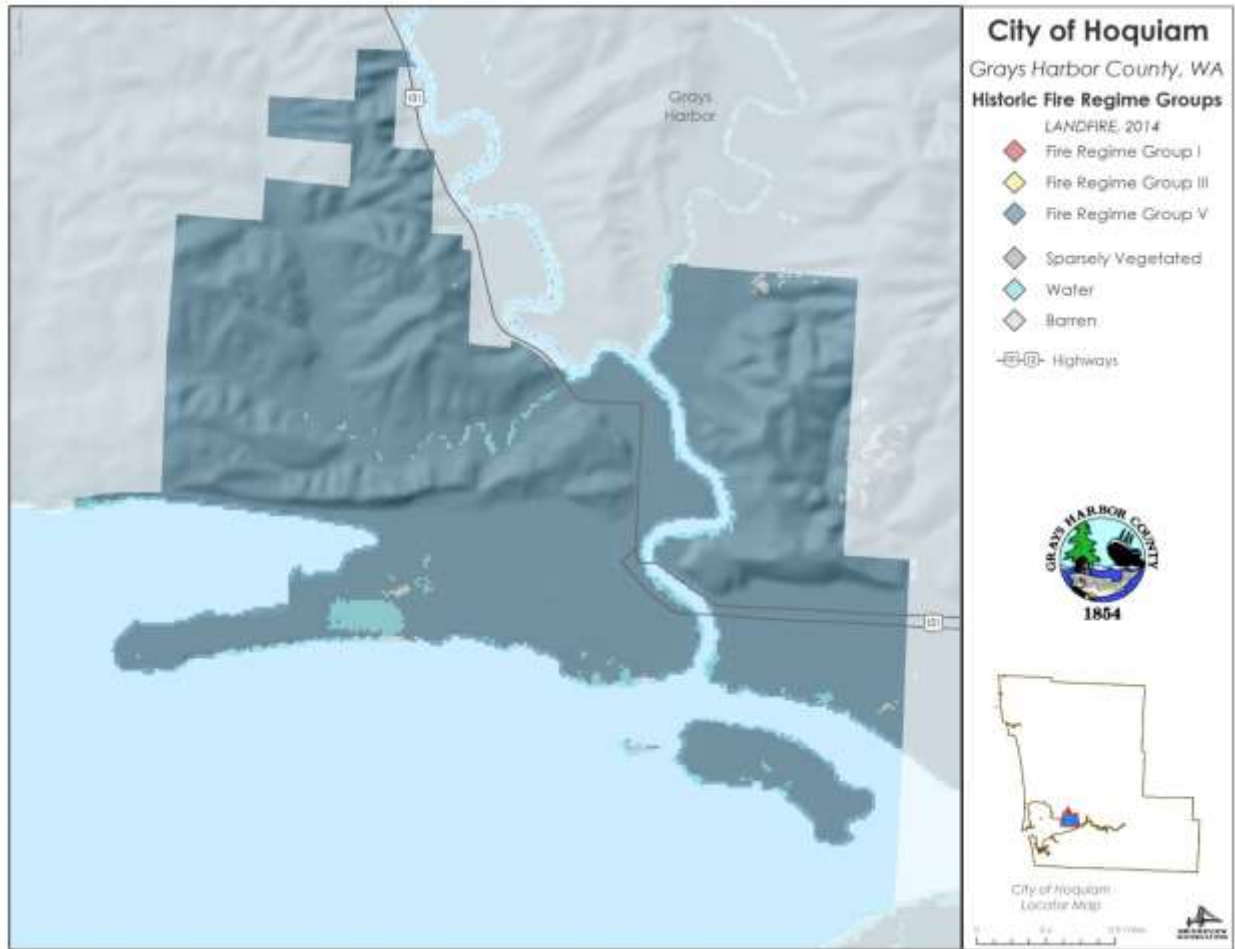
The Chehalis River Basin Flood Authority, now the Office of the Chehalis River Basin, has proposed the establishment of a “roving floodplain manager” position for the Chehalis River Basin to assist local

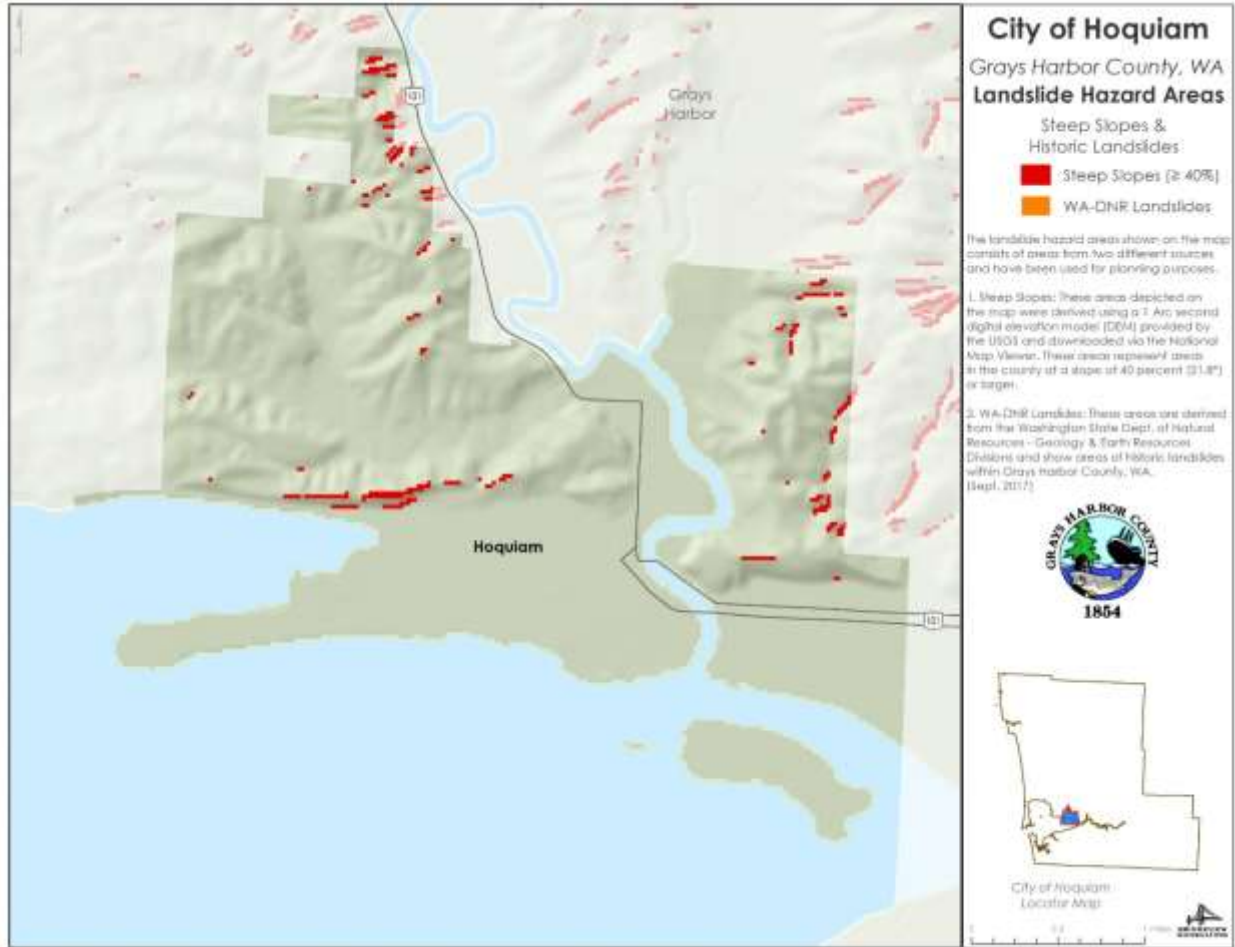
communities within the Chehalis River Basin in their administration of floodplain management-related duties. The City of Hoquiam is supportive of this and would greatly appreciate this service being provided to assist the City in joining and continuing in the CRS program, as well as performing other floodplain management-related duties.

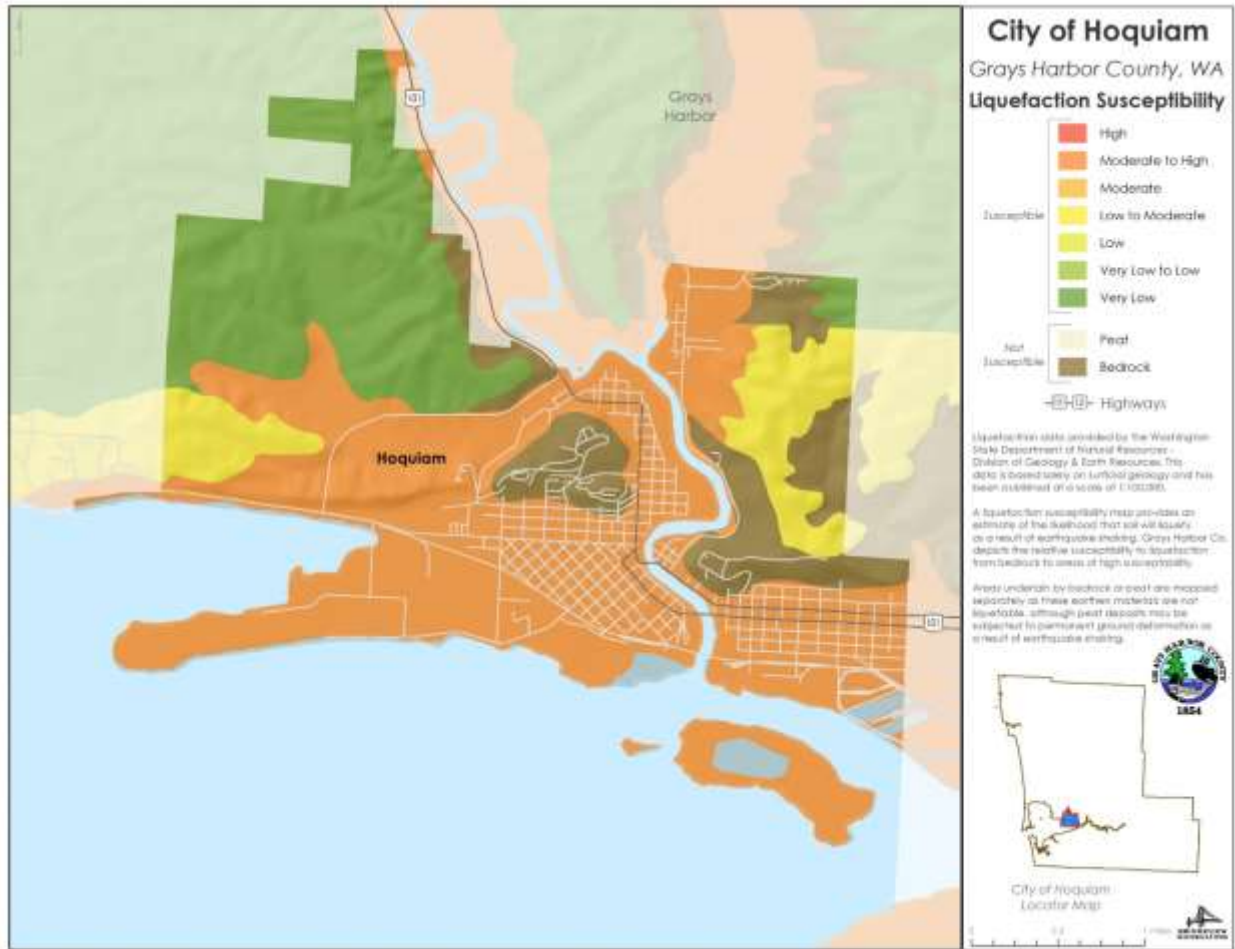
5.14 HAZARD AREA EXTENT AND LOCATION

Hazard area extent and location maps are included below. These maps are based on the best available data at the time of the preparation of this plan, and are considered to be adequate for planning purposes.

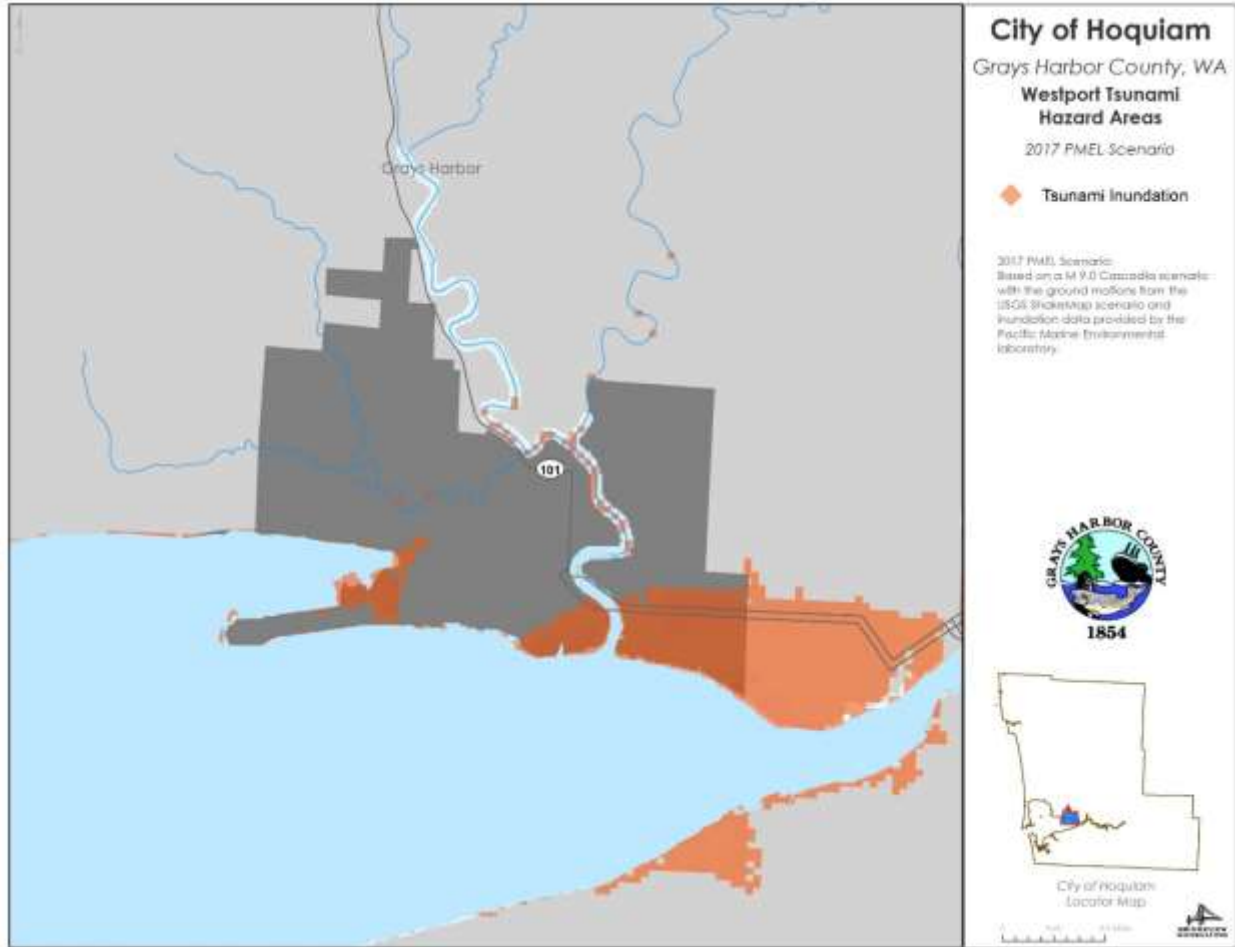












CHAPTER 6. CITY OF MCCLEARY ANNEX

6.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the City of McCleary, a participating jurisdiction to the Grays Harbor County Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by the City of McCleary. For planning purposes, this Annex provides additional information specific to the jurisdiction, with a focus on providing greater details on the risk assessment and mitigation strategy for this community only.

6.2 HAZARD MITIGATION PLANNING TEAM POINTS OF CONTACT

The City of McCleary followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County’s Planning Team, the City of McCleary also formulated their own internal planning team to support the broader planning process. Individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Todd Baun, Director of Public Works 100 S. 3 rd Street McCleary, WA 98557 Telephone: 360-495-3667 toddb@cityofmccleary.com	Primary Point of Contact	Conducted public outreach; provided information, attended all meetings and assisted in overall plan development.
Steve Blumer, Chief of Police 100 S. 3 rd Street McCleary, WA 98557 Telephone: 360-495-3667 sblumer@cityofmccleary.com	Alternate Point of Contact	Provided information and research; conducted reviews and attended meetings.
Paul Morrison, Public Works/Planning Assistant 100 S. 3 rd Street McCleary, WA 98557 Telephone: 360-495-3667 paulm@cityofmccleary.com	Building and Planning, Alternate Point of Contact	Primary author of annex, attended meetings, researched relevant data.
Paul Nott, Senior Lineman & Fire Chief 100 S. 3 rd Street McCleary, WA 98557 Telephone: 360-495-3667 pauln@cityofmccleary.com	Alternate Point of Contact	Provided information and research; conducted reviews and attended meetings.

6.3 COMMUNITY PROFILE

The following is a summary of key information about the jurisdiction and its history:

- **Date of Incorporation**— January 9, 1943
- **Current Population**—1653 as of 2010 Census
- **Population Growth**— The City has had a stagnant population for decades, until the moderate housing “boom” starting in the mid 2000’s and still continuing.
- **Location and Description**— McCleary is located 20 minutes west of I-5 in Grays Harbor County on "the road to the beach." The City is also located at the southern terminus of SR 108, the "shortcut from Shelton to the beach." The City encompass a land area of 2.05 sq. miles, a water area of 0.02 sq. miles and an elevation of 276 ft.
- **Brief History**— Henry McCleary came to the land in 1897, building two sawmills and a door manufacturing company. He sold the land and the companies to Simpson Logging Company, December 31, 1941. On January 9, 1943 the land became an incorporated city named after its founder.
- **Climate**— McCleary gets an average of 79 inches of rain per year and snowfall is average of 2 inches. On average, there are 129 sunny days per year in McCleary. The July temperature average is around 76 degrees and the January average low is 34 degrees.
- **Governing Body Format**— The City of McCleary is governed by a mayor, as well as five councilmembers.
- **Development Trends**— The City has had 37 plus new homes permitted for 2016 & 2017. This is a direct result of the City’s proximity to the growing Olympia area. The City has seen little commercial / industrial development in the recent years
- **Economy** – The City of McCleary economic base consists of manufacturing, healthcare services and retail sales and services. (e.g., retail sales and services; recreational and healthcare services; agricultural; and light manufacturing. The largest employers include: Simpson Door, Summit Pacific Healthcare Clinic, McCleary School and City of McCleary.

The jurisdiction boundaries are identified in the maps below.

6.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are no additional hazards that are unique to the jurisdiction. Table 6-1 lists all past occurrences of hazard events within the jurisdiction. If available, dollar loss data is also included.

Table 6-1 Natural Hazard Events			
Type of Event	FEMA Disaster # (if applicable)	Date	Dollar Losses (if known)
Severe Storm	4056-DR-WA	3/5/2012	\$38,864
Severe Storm	1825-DR-WA	3/2/2009	

Table 6-1 Natural Hazard Events			
Type of Event	FEMA Disaster # (if applicable)	Date	Dollar Losses (if known)
Flood	1817-DR-WA	1/30/2009	
Severe Storm	1734-DR-WA	12/8/2007	
Severe Storm	1682-DR-WA	2/14/2007	

6.5 CAPABILITY ASSESSMENT

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction’s capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: National Flood Insurance Information; regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation efforts, and classifications under various community programs.

6.6 NATIONAL FLOOD INSURANCE INFORMATION

Information on the community’s National Flood Insurance Program (NFIP) compliance is presented in Table 6-2. This identifies the current status of the jurisdiction’s involvement with the NFIP.

Repetitive flood loss records are as follows:

- Number of FEMA-Identified Repetitive Loss Properties: 0
- Number of FEMA-Identified Severe Repetitive Loss Properties: 0
- Number of Repetitive Flood Loss/Severe Repetitive Loss Properties That Have Been Mitigated: 0

The City of McCleary has three flood policies in place, totaling a coverage value of \$507,000.

Table 6-2 National Flood Insurance Program Compliance	
What department is responsible for floodplain management in your Building / Planning community?	
Who is your community’s floodplain administrator? (department/position)	Building Official
Do you have any certified floodplain managers on staff in your community?	No

Table 6-2 National Flood Insurance Program Compliance	
What is the date of adoption of your flood damage prevention ordinance?	01/25/2017
When was the most recent Community Assistance Visit or Community Assistance Contact?	Unknown
To the best of your knowledge, does your community have any outstanding NFIP compliance violations that need to be addressed? If so, please state what they are.	Unknown
Do your flood hazard maps adequately address the flood risk within your community? (If no, please state why)	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	
Does your community participate in the Community Rating System (CRS)? If so, is your community seeking to improve its CRS Classification? If not, is your community interested in joining the CRS program?	No

6.6.1 Regulatory Capability

The assessment of the jurisdiction’s legal and regulatory capabilities is presented in Table 6-3. This includes planning and land management tools, typically used by local jurisdictions to implement hazard mitigation activities and indicates those that are currently in place.

Table 6-3 Legal and Regulatory Capability				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Codes, Ordinances & Requirements				
Building Code: International Building Codes, International Residential Code, International Mechanical Code, International Fire Code, Uniform Plumbing Code, Washington State Energy Code, International Fuel Gas Code Version: International Code Council - Year: 2015				
Zoning Ordinance: Title 17	Yes	No	Yes	
Subdivision Ordinance: Title 16	Yes	No	No	
Floodplain Ordinance: Title 15	Yes	No	Yes	
Stormwater Management: Title 13	Yes	No	No	
Growth Management	No	No		
Site Plan Review: Title 15	Yes	No	No	
Public Health and Safety: Title 8	Yes	No	No	
Coastal Zone Management	No	No	No	

Table 6-3 Legal and Regulatory Capability				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Climate Change Adaptation	No	No	No	
Natural Hazard Specific Ordinance (stormwater, steep slope, wildfire, etc.)	No	No	No	
Environmental Protection: Title 18	Yes	No	Yes	
Planning Documents				
General or Comprehensive Plan	<i>Is the plan equipped to provide linkage to this mitigation plan? Yes</i>			
Floodplain or Basin Plan	No			
Stormwater Plan	No			
Capital Improvement Plan	No			
Habitat Conservation Plan	No			
Economic Development Plan	No			
Shoreline Management Plan	No			
Community Wildfire Protection Plan	No			
Transportation Plan	No			
Response/Recovery Planning				
Comprehensive Emergency Management Plan	Yes			The County provides these services under their CEMP, which the City has adopted.
Threat and Hazard Identification and Risk Assessment	No			
Terrorism Plan	No	No	No	
Post-Disaster Recovery Plan	No	No	No	
Continuity of Operations Plan	No	No	No	
Public Health Plans		No	No	These services are provided by the County.
Boards and Commission				
Planning Commission		No		
Mitigation Planning Committee	Yes	No		The City is part of the County's Hazard Mitigation Planning Team, as well as having its own Planning Team established.
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems, chipping, etc.)	No	No		
Mutual Aid Agreements / Memorandums of Understanding	Yes	Yes		Various MOU/MOAs in place with surrounding jurisdictions.

Table 6-3 Legal and Regulatory Capability				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Other				

6.6.2 Administrative and Technical Capability

The assessment of the jurisdiction’s administrative and technical capabilities, educational outreach efforts, and on-going programmatic efforts are presented in Table 6-4. These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 6-4. Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	
Professionals trained in building or infrastructure construction practices (building officials, fire inspectors, etc.)	Yes	
Engineers specializing in construction practices?	Yes	
Planners or engineers with an understanding of natural hazards	Yes	
Staff with training in benefit/cost analysis	Yes	
Surveyors	Yes	
Personnel skilled or trained in GIS applications	Yes	
Personnel skilled or trained in Hazus use	Yes	
Scientist familiar with natural hazards in local area	No	
Emergency Manager	Yes	
Grant writers	Yes	
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?)	Yes	
Hazard data and information available to public	Yes	Grays Harbor County’s Website
Maintain Elevation Certificates	No	
Education and Outreach		

Table 6-4. Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Local citizen groups or non-profit organizations focused on emergency preparedness?	Yes	Local Neighborhood Watch
Local citizen groups or non-profit organizations focused on environmental protection?	No	
Organization focused on individuals with access and functional needs populations	No	
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes	County Level
Natural disaster or safety related school programs?	Yes	Earthquake drills, etc.
Public-private partnership initiatives addressing disaster-related issues?	No	
Multi-seasonal public awareness program?	No	
On-Going Mitigation Efforts		
Noxious Weed Eradication Program or other vegetation management	No	
Fire Safe Councils	No	
Chipper program	No	
Defensible space inspections program	No	
Creek, stream, culvert or storm drain maintenance or cleaning program	Yes	Public Works Department
Stream restoration program	No	
Erosion or sediment control program	Yes	Building Department
Address signage for property addresses	Yes	Building Department

6.6.3 Fiscal Capability

The assessment of the jurisdiction's fiscal capabilities is presented in Table 6-5. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

Table 6-5. Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	Yes
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	Yes
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
State Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	Yes

6.6.4 Community Classifications

Classifications under various community mitigation programs are presented in Table 6-6. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community.

Table 6-6. Community Classifications		
	Participating (Yes/No)	Date Enrolled
Community Rating System	Yes	
Building Code Effectiveness Grading Schedule	Yes	
Storm Ready	No	
Firewise	No	
Tsunami Ready (if applicable)	No	

6.7 HAZARD RISK AND VULNERABILITY RANKING

The jurisdiction’s Planning Team reviewed the hazard list identified within the Base Plan, and have identified the hazards that affect the City of McCleary.

Table 11-5 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.

- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and /or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

Table 6-7. Hazard Risk and Vulnerability Ranking			
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank
1	Earthquake	4.00	High
2	Wildfire	3.60	High
3	Severe Weather	3.15	High
4	Flood	2.60	Medium
5	Other Hazards of Concern	2.45	Medium
6	Climate Change	2.25	Low
7	Landslides	2.15	Low
8	Drought	2.05	Low
9	Erosion	1.65	Low
9	Tsunami	1.65	Low
10	Volcano	1.35	Low

The hazards of concern ranked above in Table 6-7 demonstrate our level of impact as determined by the Calculator Priority Risk Index process as defined in Chapter 4. The process includes a review of critical facilities impacted, dollar losses, and impact to the people, property, economy, and environment for each hazard of concern. In addition to the CPRI index, the internal planning team also considered additional factors for the hazards identified.

- Flood: While our community can expect some level of flooding on a regular basis, for the most part, it is more in line with a nuisance-type flooding rather than a catastrophic flooding.
- Earthquake: Given the age of much of our infrastructure and structures, earthquake has the potential to impact us significantly, including the potential for evacuation as roadways in our area would be impacted.
- Wildfire: The City is surrounded by forest lands, in the case of a wild fire, the city could see devastating impacts if the proper measures, equipment and man power were not available.
- Severe Weather: In past events, the City has experienced extended outages due to severe weather. Due to the amount of manpower and limited equipment, this is a concern of the City.

- Volcano, Tsunami, Erosion, Drought, Landslides and Climate Change: Although these are all low on our Vulnerability Ranking, we do recognize the surrounding areas which could be affected seeking places of refuge within the City of McCleary.
- Other Hazards of Concern: A main gas line borders the City limits and in certain locations, enters in to the City limits. Further research needs to be done to identify any other possible hazards which may impact the City.

6.8 MITIGATION GOALS AND OBJECTIVES

The City of McCleary adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

6.9 HAZARD MITIGATION ACTION PLAN

The Planning Team for the jurisdiction identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the jurisdiction's assets and hazards of concern. Table 6-8 lists the action items/strategies that make up the jurisdiction's hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, who will benefit from the activity, and the type of initiative associated with each item are also identified.

**Table 6-8.
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE # 1 Develop new or upgrade existing water delivery systems to eliminate breaks and leaks. Adopt ordinances to prioritize or control water use for emergency situations. Obtain easements for planned and regulated public use of privately-owned land for temporary water use, retention and/or drainage.									
New & Existing	D, F, MH, WF	2, 3, 5, 6, 9	Public Works, Water Department, Planning	Medium	HMGP, HUD, PDM, EPA, Earthquake & Tsunami Grant Funds	Long-Term	No	Preventive Activities, Structural Projects, Emergency Services, Recovery	Local
INITIATIVE # 2 Study and Develop an inventory of private, public and commercial buildings, retrofit and/or improve the critical facilities that may be particularly vulnerable to severe damage, including equipment, communications, renovation or replacement of existing facilities and/or equipment.									
Existing	All	1, 2, 3, 4, 5, 6, 8, 9	Planning, Building	High	HMGP, HUD, HLS / EMPG, PDM, DOT, Earthquake & Tsunami Grant Funds	Long-Term	No	Preventive Activities, Structural Projects, Emergency Services, Recovery	Facility, Local
INITIATIVE # 3 Obtain staff training to assist in disaster response and recoveries including, form ATC-20 for post-earthquake building evaluation, procedures, decisions and guidelines for making on-the-spot evaluations regarding continued use and occupancy of damaged buildings.									
Existing	All	2, 3, 4, 5, 6, 8	Planning, Building	Low	General Fund, EMPG	Short-Term	NO	Preventive Activities, Emergency Services, Recovery	Facility, Local,
INITIATIVE # 4 Require and maintain FEMA elevation certificates for all newly constructed buildings located in floodplains. Require elevation data collection during platting of a new subdivision and to have buildable space on lots above the base flood elevation.									
New	F	2, 3, 6, 8, 9	Building, Planning,	Low	General Fund, EMPG	Short-Term	No	Preventive Activities, Structural Projects,	Facility, Local,
INITIATIVE # 5 Determine the need to install, re-route, or increase the capacity of the City Storm Drainage System, particularly in areas that frequently flood, to include culverts, and determine a limit for the percentage of allowable impervious surface with new development on individual parcels.									

**Table 6-8.
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
New and Existing	F, SWW, MH	1, 2, 3, 4, 5, 6, 8, 9	Public Works, Planning	High	HMGP, HUD, PDM, Earthquake & Tsunami Grant Funds	Long-Term	No	Preventive Activities, Structural Projects, Property Protection, Natural Resource Protection	Facility, Local
INITIATIVE # 6 Determine the need to install back-up generators for pumping and lift stations in all sanitary sewer systems.									
New	All	All	Waste Water Treatment Plant, Public Works	Medium	Search Grant opportunity	Long-Term	No	Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Facility, Local
INITIATIVE # 7 Work with the City of McCleary Light and Power Department and other companies or agencies, to determine the need of designed-failure mode for power line design. Seek grant funding to support the effort of allowing lines to fall or fail in small sections rather than as a complete system to enable faster restoration and install redundancies, loop feeds and identify areas that may be exceptionally vulnerable to long-term power outages.									
New and Existing	All	All	Light and Power,	High	HMGP, HUD, Earthquake & Tsunami Grant Funds	Long-Term	No	Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery	Facility, Local, County
INITIATIVE # 8 Determine the need for specific water hydration systems, dedicated power sources and/or dedicated cisterns if no water source is available.									
New	All	All	Water Department, Public Works, Fire Department	High	HMGP, HUD, EPA, Earthquake & Tsunami Grant Funds	Long-Term	No	Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Local
INITIATIVE # 9 Determine and create defensible zones around power lines, oil and gas lines, and other infrastructures and/or systems, equipment needs, including tools, trucks, PPE etc.									

**Table 6-8.
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
New and Existing	All	All	Light and Power, Public Works	Medium	HMGP, HUD, PDM, FIRE GRANTS	Long-Term	No	Preventive Activities, Property Protection, Emergency Services, Recovery	Local
INITIATIVE #10 Acquire land and title in known hazard areas to restore as functional public parks.									
New	F, SW, MH	3, 6, 8, 9	Public Works	High	HMGP, HUD	Long-Term	No	Preventive Activities, Property Protection,	Local
INITIATIVE # 11 Work with Grays Harbor Emergency Management, public and private parties to determine the location of shelter facilities. Begin development of recovery and response plans including, and continue to educate citizens about the hazards of concern.									
New	All	All	Planning	High	HMGP, HUD, PDM	Long-Term	No	Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Facility, Local, County
INITIATIVE # 12 Seek grant funding for generators, including installation of quick-connect emergency generator hook-ups, at critical facilities.									
New	All	All	Public Works, Light and Power	High	HMGP, PDM, HUD	Long-Term	No	Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery	Facility, Local, County
INITIATIVE # 13 Develop and prepare fueling plans, include identifying equipment needed, in case of prolonged isolation and/or disaster response and recoveries efforts.									
New	All	All	Public Works, Light and Power	High	Various Grants	Long-Term	No	Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Facility, Local, County

6.10 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of six different initiative types for each identified action item was conducted. Table 6-9 identifies the prioritization for each action item.

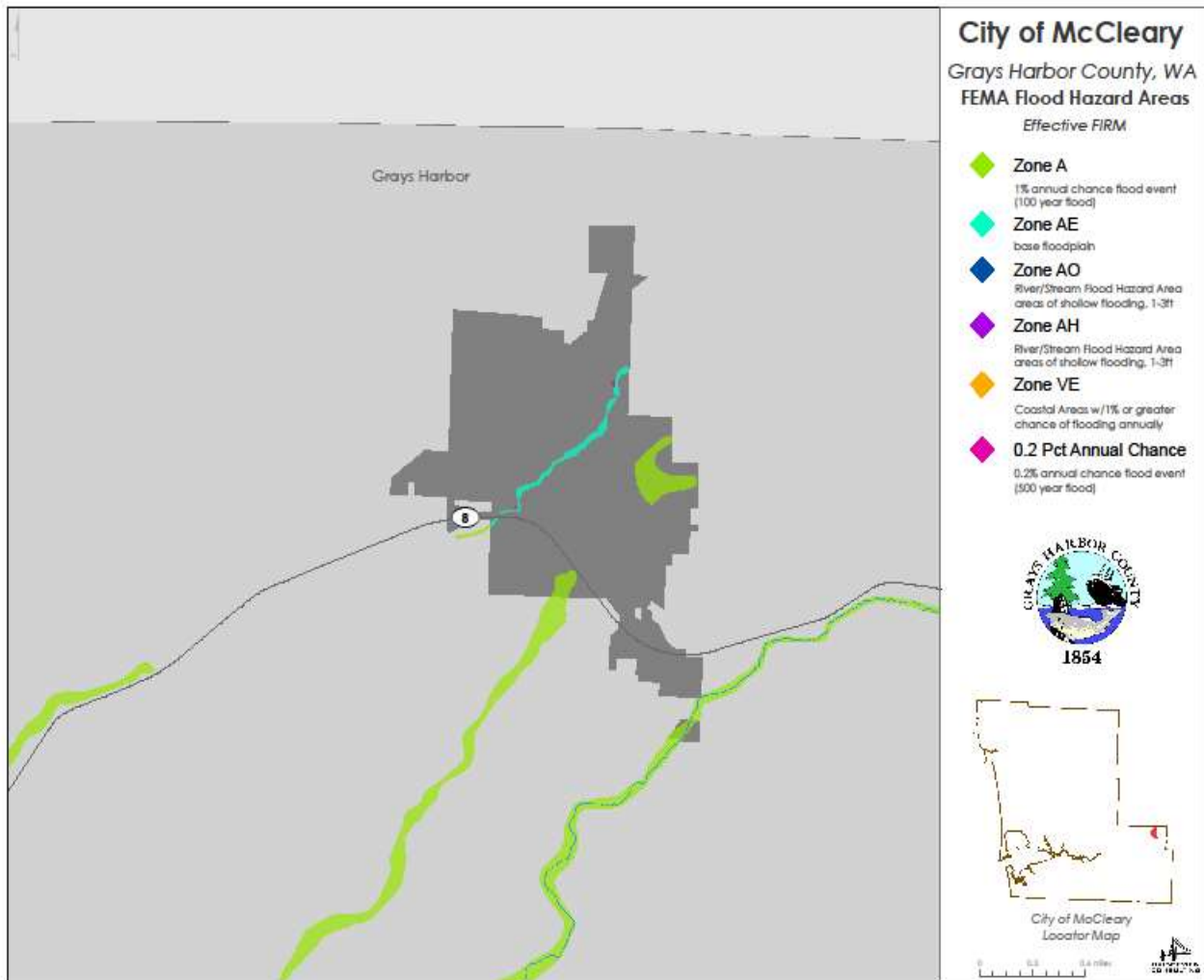
Table 6-9. Mitigation strategy priority schedule							
Initiative #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/Budgets?	Priority
1	5	Medium	High	Equal	Yes	No	Medium
2	8	High	High	Exceed	Yes	No	High
3	6	Medium	Low	Exceeds	Yes	No	Medium or High
4	5	Low	Low	Equal	Yes	No	Low
5	8	High	High	Exceeds	Yes	No	High
6	All	High	High	Exceeds	Yes	No	High
7	All	High	High	Exceeds	Yes	No	High
8	All	High	High	Equal	Yes	No	Medium
9	All	High	Medium	Exceeds	Yes	No	High
10	4	Low	High	Equal	Yes	No	Low
11	All	High	High	Exceeds	Yes	No	High
12	All	High	High	Exceeds	Yes	No	High
13	All	High	High	Exceeds	Yes	No	High
a.	See Chapter 1 for explanation of priorities.						

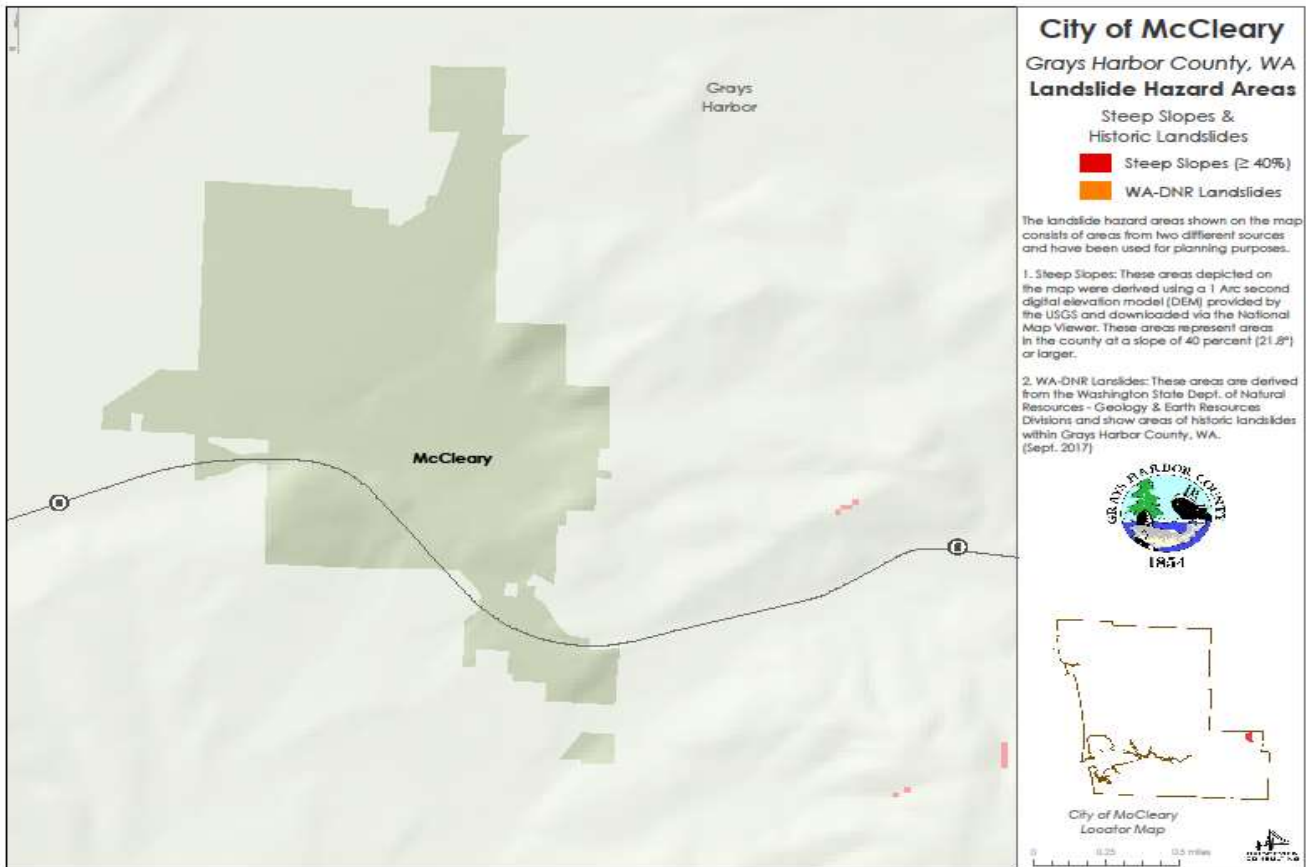
6.11 FUTURE NEEDS TO BETTER UNDERSTAND RISK/ VULNERABILITY

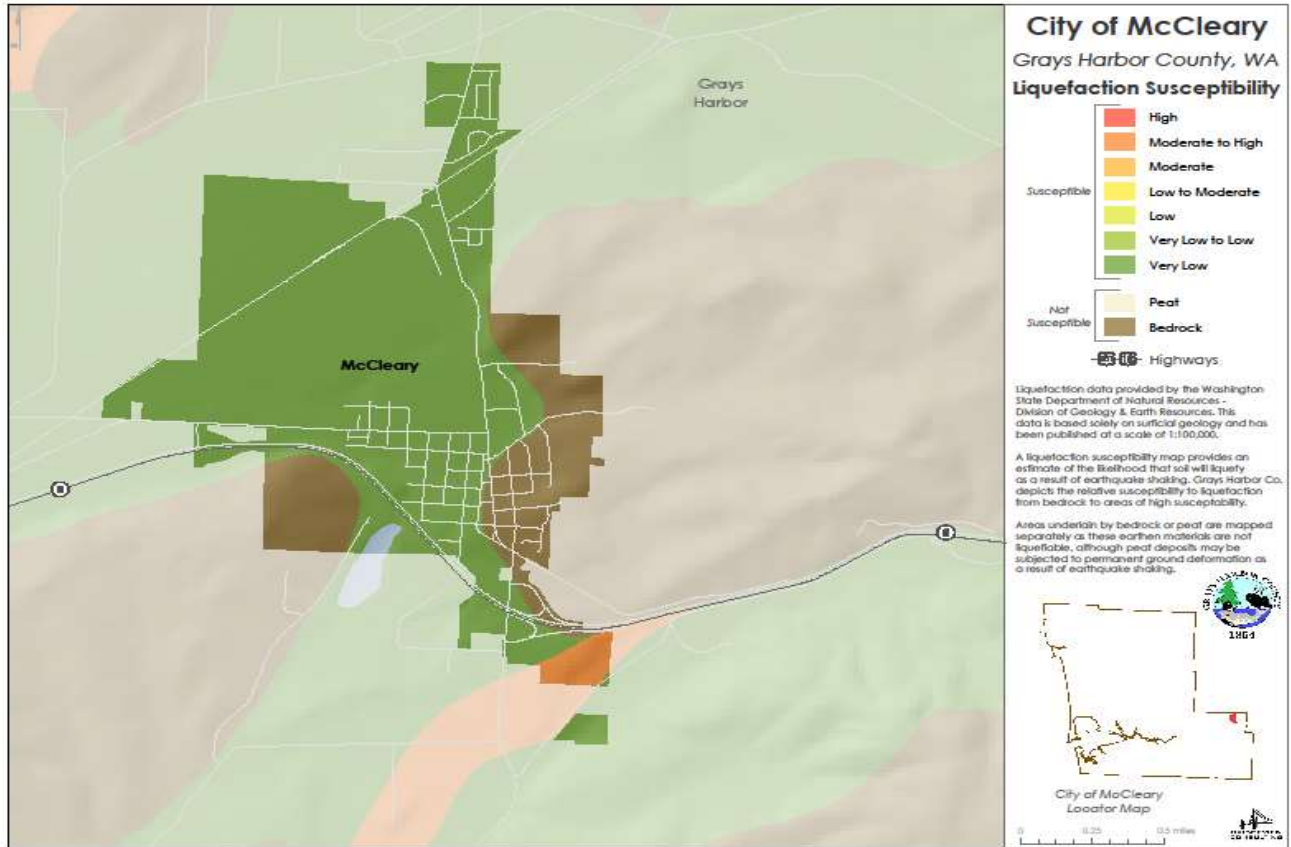
The City’s understanding of each Hazard comparable to each existing critical facility, along with the ability to manage severe damage by providing the necessary equipment, acquiring the needed emergency communications, providing public information and outreach, within the constraints of a limited budget.

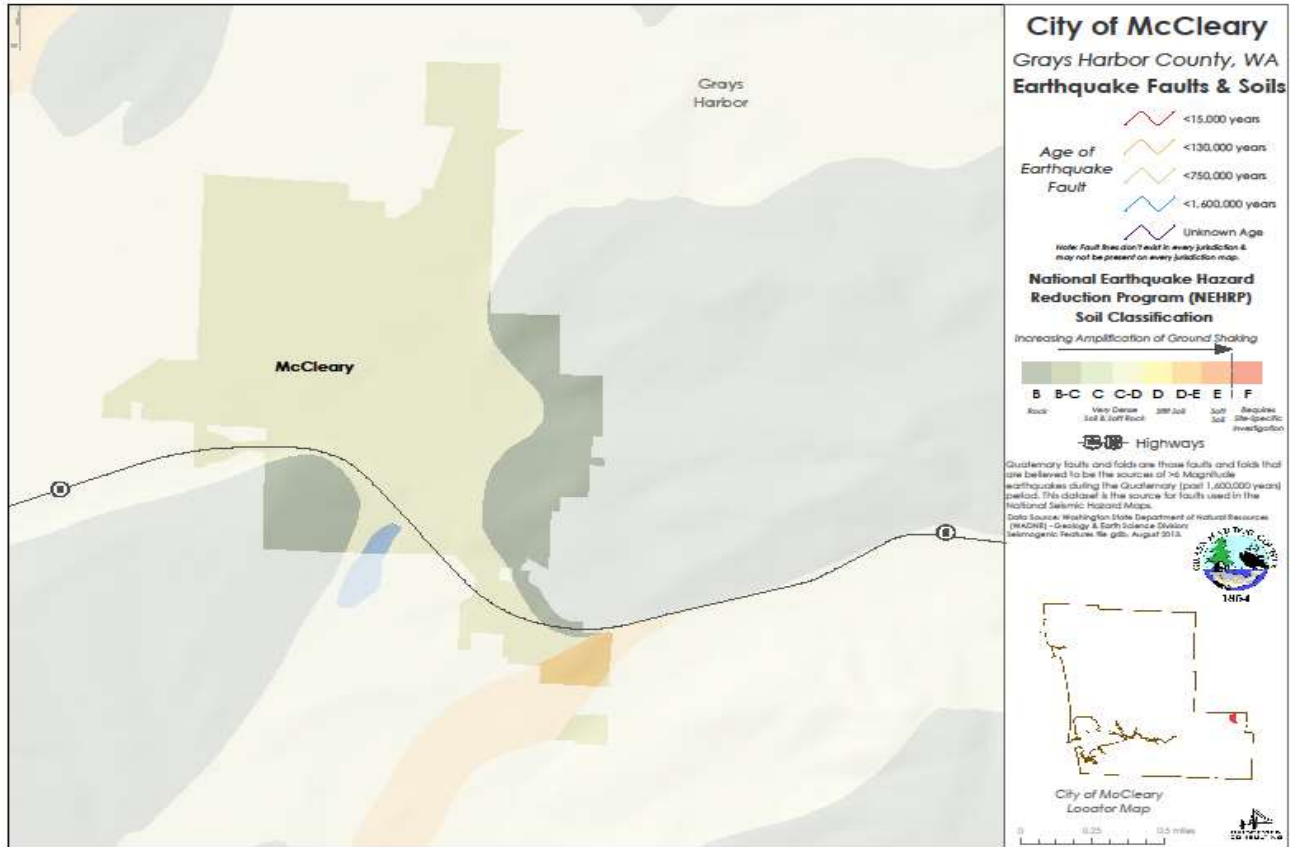
6.12 HAZARD AREA EXTENT AND LOCATION

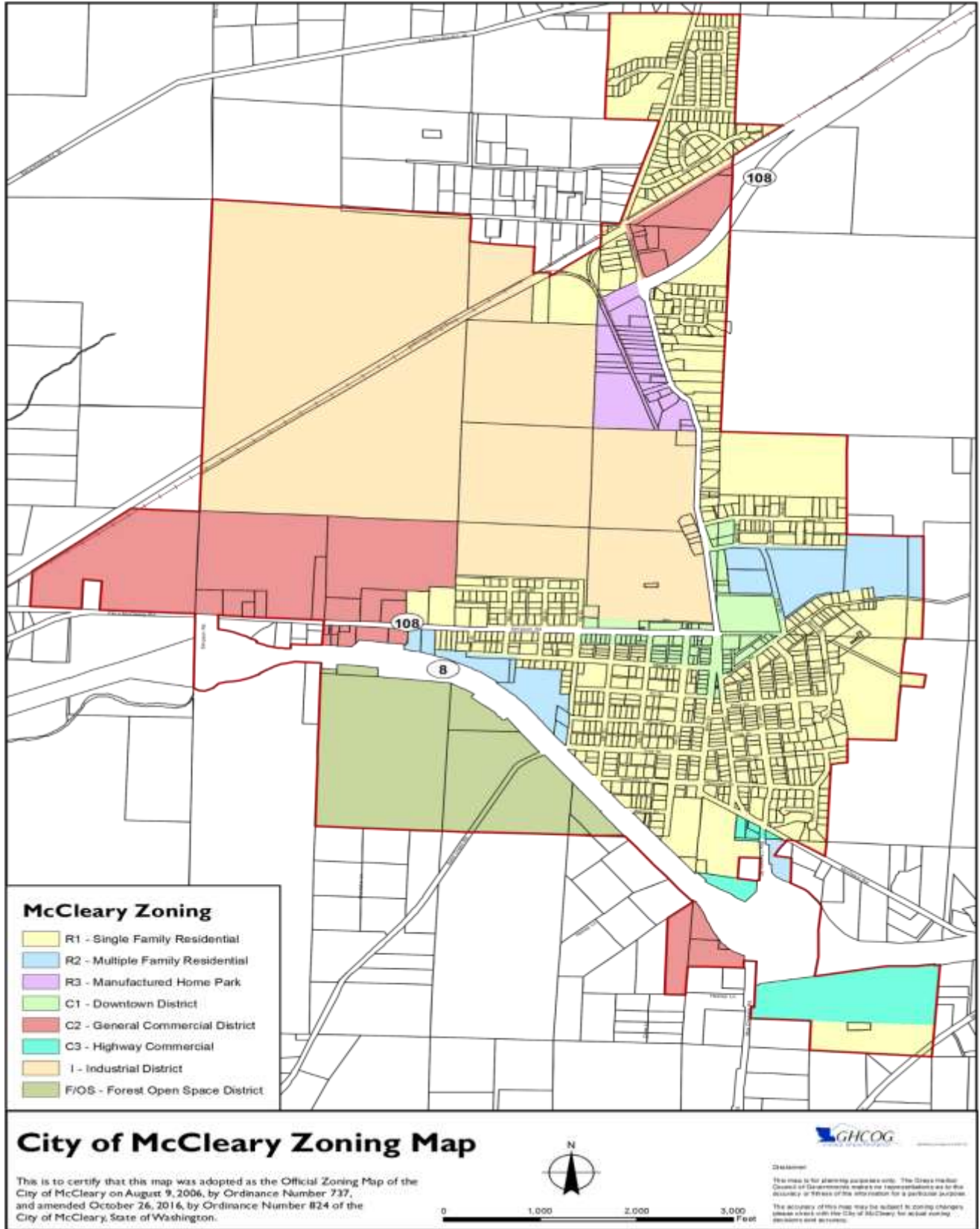
Hazard area extent and location maps are included below. These maps are based on the best available data at the time of the preparation of this plan and are considered to be adequate for planning purposes.











CHAPTER 7. CITY OF MONTESANO ANNEX

7.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the City of Montesano, a participating jurisdiction to the Grays Harbor County Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by the City of Montesano. For planning purposes, this Annex provides additional information specific to the jurisdiction, with a focus on providing greater details on the risk assessment and mitigation strategy for this community only.

7.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

The City of Montesano followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County’s Planning Team, the City of Montesano also formulated their own internal planning team to support the broader planning process. Individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Corey Rux, Fire Chief 310 E Pioneer Ave Montesano WA 98563 360-249-4851 crux@montesano.us	Primary Point of Contact	Planning Team Lead, Principal Liaison, Public Safety Emergency Response
Brett Vance, Police Chief 112 N Main Street Montesano WA 98563 360-249-3021 ext. 122 bvance@montesano.us	Alternate Point of Contact	Planning Team Member, Secondary Liaison, Public Safety, Emergency Response
Mike Olden, Public Works Director 112 N Main Street Montesano WA 98563 360-249-3021 molden@montesano.us	Planning Team Member,	Planning Team Member, Public Works, Community Development
Doug Streeter, CFO 112 N Main Street Montesano WA 98563 360-249-3021 Ext. 109	Chief Financial Officer	Financial Consultant

7.3 COMMUNITY PROFILE

The following is a summary of key information about the jurisdiction and its history:

- **Date of Incorporation**—1883
- **Current Population**—4100 as of 2018
- **Population Growth**—The City of Montesano Population growth has been approximately 1% per year over the last dozen years.
- **Location and Description**—the City of Montesano is centrally located in Grays Harbor County in southwest Washington and serves as the County seat. It lies at the nexus between the Pacific beaches and the Oregon coast on SR 107 and US Hwy 12 to Westport and Ocean Shores. The city of Montesano is bordered by the Wynoochee River to west, The Chehalis River to the south and Lake Sylvia State Park to the North.
- **History**- In 1883 Montesano officially became a city as it was incorporated with a population of 300. The city of Montesano is the birthplace of the tree farm in America. The city continues this tradition by owning and managing its own 5400 acre forest and working towards continuing goals for sustainable timber, fish, wildlife and recreation. The city forest is home to over 15 miles of hiking and biking trails. Lake Sylvia State Park is within the city limits and attracts campers, hikers and fisherman alike.

Montesano is surrounded by farms that grow and produce a wide variety of food crops such as corn, tomatoes, Finnish yellow potatoes, squash, pumpkins, natural raised beef, yak & buffalo, strawberries, blueberries, dairy products like milk, cheese and butter and Christmas trees.

The cities position as the county seat features one of the most historical courthouses in the state. Built in 1911, the Grays Harbor County Courthouse is a three story structure with a dome tower. As a testament to the historic architecture, it holds a series of murals which depict the local history.

- **Climate**—This region experiences warm (but not hot) and dry summers, with no average monthly temperatures above 71.6 °F, and very wet autumns and springs due to the maritime Chinook winds. Average annual precipitation is approximately 120 inches. Precipitation figures indicate an oceanic climate due to frequent summer rainfall, even though there is a significant drying trend during that season. The summer highs are warmer than in Aberdeen courtesy of its inland position. This also renders frequent but most often minor frosts in winter, with the climate retaining a significant maritime influence.
- **Governing Body Format**—The City is governed through a city Council/Mayor format. The city council is comprised of 7 elected members and an elected mayor. The staff consists of 33 people in 7 different departments. The City is also served by a 35 member Volunteer Fire Department which has been in place since 1892.
- **Development Trends**— the development trend is largely residential as it incorporates approximately 90% of the city. The downtown core makes up the remaining 10% light industrial and/or commercial.

7.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are no additional hazards that are unique to the jurisdiction Table 7-1 lists all past occurrences of hazard events within the jurisdiction. If available, dollar loss data is also included.

Table 7-1 Natural Hazard Events				
Disaster Number	Declaration Date	Incident Type	Title	Dollar Losses or Impact
4253	2/2/2016	Flood	Severe Winter Storm, Straight-Line Winds, Flooding, Landslides, Mudslides	Ingress/Egress/Power Failure/Flooding
4242	10/15/2015	Severe Storm(s)	Severe Windstorm	
4056	3/5/2012	Severe Storm(s)	Severe Winter Storm, Flooding, Landslides, and Mudslides	
1825	3/2/2009	Severe Storm(s)	Severe Winter Storm, Record and Near Record Snow	Ingress/Egress/Power Failure/Flooding
1817	1/30/2009	Flood	Severe Winter Storm, Landslides, Mudslides, and Flooding	Ingress/Egress/Power Failure/Flooding
1734	12/8/2007	Severe Storm(s)	Severe Storms, Flooding, Landslides, and Mudslides	Ingress/Egress/Power Failure/Flooding
1682	2/14/2007	Severe Storm(s)	Severe Winter Storm, Landslides, and Mudslides	Ingress/Egress/Power Failure/Flooding
1671	12/12/2006	Severe Storm(s)	Severe Storms, Flooding, Landslides, and Mudslides	
1641	5/17/2006	Severe Storm(s)	Severe Storms, Flooding, Tidal Surge, Landslides, and Mudslides	
1499	11/7/2003	Severe Storm(s)	Severe Storms and Flooding	
1361	3/1/2001	Earthquake	Earthquake	Building Damage
1172	4/2/1997	Flood	Heavy Rains, Snow Melt, Flooding, Land and Mudslides	
1159	1/17/1997	Severe Storm(s)	Severe Winter Storms, Land and Mudslides, Flooding	Ingress/Egress/Power Failure
1100	2/9/1996	Flood	High Winds, Severe Storms, Flooding	Ingress/Egress/Power Failure/Flooding
1079	1/3/1996	Severe Storm(s)	Severe Storms, High Wind, and Flooding	
1037	8/2/1994	Fishing Losses	The El Nino (The Salmon Industry)	
883	11/26/1990	Flood	Severe Storms, Flooding	
852	1/18/1990	Flood	Severe Storms, Flooding	
623	5/21/1980	Volcano	Volcanic Eruption, Mt. St. Helens	Ashe Accumulation
612	12/31/1979	Flood	Storms, High Tides, Mudslides, Flooding	
545	12/10/1977	Flood	Severe Storms, Mudslides, Flooding	
492	12/13/1975	Flood	Severe Storms and Flooding	
322	2/1/1972	Flood	Severe Storms and Flooding	
300	2/9/1971	Flood	Heavy Rains, Melting Snow, Flooding	
185	12/29/1964	Flood	Heavy Rains and Flooding	

7.5 CAPABILITY ASSESSMENT

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction’s capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: National Flood Insurance Information; regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation efforts, and classifications under various community programs.

7.6 NATIONAL FLOOD INSURANCE INFORMATION

Information on the community’s National Flood Insurance Program (NFIP) compliance is presented in Table 7-2. This identifies the current status of the jurisdiction’s involvement with the NFIP.

Repetitive flood loss records are as follows:

- Number of FEMA-Identified Repetitive Loss Properties: Insert #1
- Number of FEMA-Identified Severe Repetitive Loss Properties: Insert #2
- Number of Repetitive Flood Loss/Severe Repetitive Loss Properties That Have Been Mitigated: Insert #None

Currently, the City of Montesano has six policies in force, covering \$2,363,400, with total premiums of \$10,370. Total claimed filed based on FEMA and State data as of August 2017 is 15, with 14 claims closed and total flood payments of \$195,095.

Table 7-2 National Flood Insurance Program Compliance	
What department is responsible for floodplain management in your community?	Public Works/Community Development
Who is your community’s floodplain administrator? (department/position)	Mike Olden, Public Works and Community Development Director
Do you have any certified floodplain managers on staff in your community?	No
What is the date of adoption of your flood damage prevention ordinance?	N/A
When was the most recent Community Assistance Visit or Community Assistance Contact?	January 2018
To the best of your knowledge, does your community have any outstanding NFIP compliance violations that need to be addressed? If so, please state what they are.	None

Table 7-2 National Flood Insurance Program Compliance	
Do your flood hazard maps adequately address the flood risk within your community? (If no, please state why)	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	Yes, Administration and Program Management
Does your community participate in the Community Rating System (CRS)? If so, is your community seeking to improve its CRS Classification? If not, is your community interested in joining the CRS program?	No, Potentially

7.6.1 Regulatory Capability

The assessment of the jurisdiction’s legal and regulatory capabilities is presented in Table 7-3. This includes planning and land management tools, typically used by local jurisdictions to implement hazard mitigation activities and indicates those that are currently in place.

Table 7-3 Legal and Regulatory Capability				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Codes, Ordinances & Requirements				
Building Code:	Yes			
International Building Code				
Version: Current				
Year: Current				
Zoning Ordinance	Yes	No	Yes	#1366 Year 1995
Subdivision Ordinance	Yes	No	Yes	#1383 Year 1996
Floodplain Ordinance	Yes	No	Yes	#1602 Year 2017
Stormwater Management	Yes	No	Yes	#1419 Year 1999
Growth Management	No	No		
Site Plan Review	Yes	No		#1222 Year 1985
Public Health and Safety	No	Yes		Grays Harbor County
Coastal Zone Management	No	No		
Climate Change Adaptation	Yes	No		Res. #866 Year 2012
Natural Hazard Specific Ordinance (stormwater, steep slope, wildfire, etc.)	Yes	No		#1545 Year 2010
Environmental Protection	Yes	No		#1545 Year 2010

Table 7-3 Legal and Regulatory Capability				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Planning Documents				
General or Comprehensive Plan	Yes	No		Year 2006 <i>Is the plan equipped to provide linkage to this mitigation plan?</i> No
Floodplain or Basin Plan	No	Yes		
Stormwater Plan	Yes			Year 1994
Capital Improvement Plan	Yes			Various/Ongoing
Economic Development Plan	No			
Shoreline Management Plan	Yes			Year 1992
Community Wildfire Protection Plan	Yes			Updated Annually
Transportation Plan	No	Yes		Grays Harbor COG
Response/Recovery Planning				
Comprehensive Emergency Management Plan	Yes			Updating 2018
Threat and Hazard Identification and Risk Assessment	Yes			Updating 2018
Terrorism Plan	No			
Post-Disaster Recovery Plan	No			
Continuity of Operations Plan	Yes			Updating 2018
Public Health Plans	No	Yes		Grays Harbor County
Boards and Commission				
Planning Commission	Yes			
Mitigation Planning Committee	Yes			
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems, chipping, etc.)	Yes			
Mutual Aid Agreements / Memorandums of Understanding	Yes			
Other				

7.6.2 Administrative and Technical Capability

The assessment of the jurisdiction's administrative and technical capabilities, educational outreach efforts, and on-going programmatic efforts are presented in Table 7-4. These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 7-4. Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	City of Montesano/Public Works & Community Development Director
Professionals trained in building or infrastructure construction practices (building officials, fire inspectors, etc.)	Yes	City of Montesano/Public Works & Community Development Director
Engineers specializing in construction practices?	Yes	City of Montesano/Public Works & Community Development Director
Planners or engineers with an understanding of natural hazards	Yes	City of Montesano/Public Works & Community Development Director
Staff with training in benefit/cost analysis	Yes	City of Montesano/Public Works & Community Development Director
Surveyors	No	
Personnel skilled or trained in GIS applications	Yes	City of Montesano/ City Forrester
Emergency Manager	Yes	Grays Harbor County Emergency Management
Grant writers	Yes	Various
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?)	Yes	Grays Harbor County
Hazard data and information available to public	Yes	Grays Harbor County Emergency Management
Maintain Elevation Certificates	Yes	City of Montesano/Public Works & Community Development Director
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	Yes	Red Cross
Local citizen groups or non-profit organizations focused on environmental protection?	Yes	FOSLS
Organization focused on individuals with access and functional needs populations	Yes	Community Action Council
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes	Grays Harbor County Emergency Management/Montesano Fire Department/Montesano Police Department
Natural disaster or safety related school programs?	Yes	Grays Harbor County Emergency Management/Montesano Fire Department/Montesano Police Department
Public-private partnership initiatives addressing disaster-related issues?	No	

Table 7-4. Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Multi-seasonal public awareness program?	Yes	County provides updated data on its website on behalf of all citizens.
On-Going Mitigation Efforts		
Hazardous Vegetation Abatement Program	Yes	City of Montesano
Noxious Weed Eradication Program or other vegetation management	Yes	City of Montesano
Fire Safe Councils	No	
Chipper program	No	
Defensible space inspections program	No	
Creek, stream, culvert or storm drain maintenance or cleaning program	Yes	City of Montesano
Stream restoration program	No	
Erosion or sediment control program	Yes	City of Montesano/DOE
Address signage for property addresses	Yes	City of Montesano

7.6.3 Fiscal Capability

The assessment of the jurisdiction’s fiscal capabilities is presented in Table 7-5. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

Table 7-5. Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	Yes
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
State Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	Yes

7.6.4 Community Classifications

Classifications under various community mitigation programs are presented in Table 7-6. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community.

Table 7-6. Community Classifications		
	Participating (Yes/No)	Date Enrolled
Community Rating System	No	
Protection Class	4	Unknown
Building Code Effectiveness Grading Schedule		
Commercial	4	Unknown
Residential	4	Unknown
Storm Ready	No	
Firewise	No	
Tsunami Ready (if applicable)	No	

7.7 HAZARD RISK AND VULNERABILITY RANKING

The jurisdiction's Planning Team reviewed the hazard list identified within the Base Plan, and have identified the hazards that affect the City of Montesano.

Table 7-7 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and /or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.

- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

Table 7-7. Hazard Risk and Vulnerability Ranking			
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank
1	Earthquake	3.6	High
2	Erosion	3.35	High
3	Landslide	2.75	Medium
3	Wildfire	2.75	Medium
4	Severe Weather	2.7	Medium
4	Flood	2.7	Medium
5	Tsunami	2.35	Medium
6	Drought	1.15	Low
6	Climate Change	1.15	Low
6	Volcano	1.15	Low

Additional information on the specific impacts of the hazards of concern is contained in the profiles within the County’s 2018 Multi-Jurisdictional Hazard Mitigation Plan, to which this Annex is a part. Direct impact loss data is defined therein. That data was utilized and is the basis on which the City completed its Hazard Ranking Table above.

7.8 MITIGATION GOALS AND OBJECTIVES

The City of Montesano adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

7.9 HAZARD MITIGATION ACTION PLAN

The Planning Team for the jurisdiction identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the jurisdiction’s assets and hazards of concern. Table 7-8 lists the action items/strategies that make up the jurisdiction’s hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, who will benefit from the activity, and the type of initiative associated with each item are also identified.

**TABLE 7-8.
HAZARD MITIGATION ACTION PLAN MATRIX**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE # 1 Determine necessity to retrofit city owned facilities to withstand damage from severe weather events to include earthquake. Once need is determined, seek grant funding to retrofit structures.									
Existing	EQ, SW	1,2,4,5,6	City of Montesano	High	GF, Grants	Long Term	No	Property protection, Emergency Service Response	Local
INITIATIVE # 2 Develop a review program to evaluate all buildings with in the city jurisdiction for compliance with current seismic codes. Once need is determined seek grant funding to retrofit structures.									
Existing	EQ, SW	1,2,4,5,6	City of Montesano	High	Grants	Long Term	No	Property Protection	Local
INITIATIVE #3 Retrain the Wynoochee River to protect the critical city infrastructure including the waste water treatment plan and state route 107									
Existing	Erosion	2,3,4,6,9	City of Montesano	High	Reserves, Flood Authority, Rates	Short Term	No	Property Protection, Resource Protection	Local
INITIATIVE #4 Conduct geotechnical investigation to include all potential landslide areas within the city jurisdiction.									
Existing	LS	2,3,4,6,8	City of Montesano	Medium	GF, Grants	Short Term	No	Property Protection, Preventative Activity	Local
INITIATIVE # 5 Continue with forest land management program to include thinning, harvesting, planting, security patrols and emergency response.									
Existing	WF	2,3,6,8,9	City of Montesano	Low	Forrest Revenue	Short Term	No	Property Protection Resource Protection	Local
INITIATIVE #6 Purchase and Install emergency generators and automatic transfer switches at all critical city facilities.									
Existing	SW, EQ	1,2,4,5,6	City of Montesano	High	Various	Short Term	No	Structural Projects Emergency Services	Local

7.10 PRIORITIZATION OF MITIGATION INITIATIVES

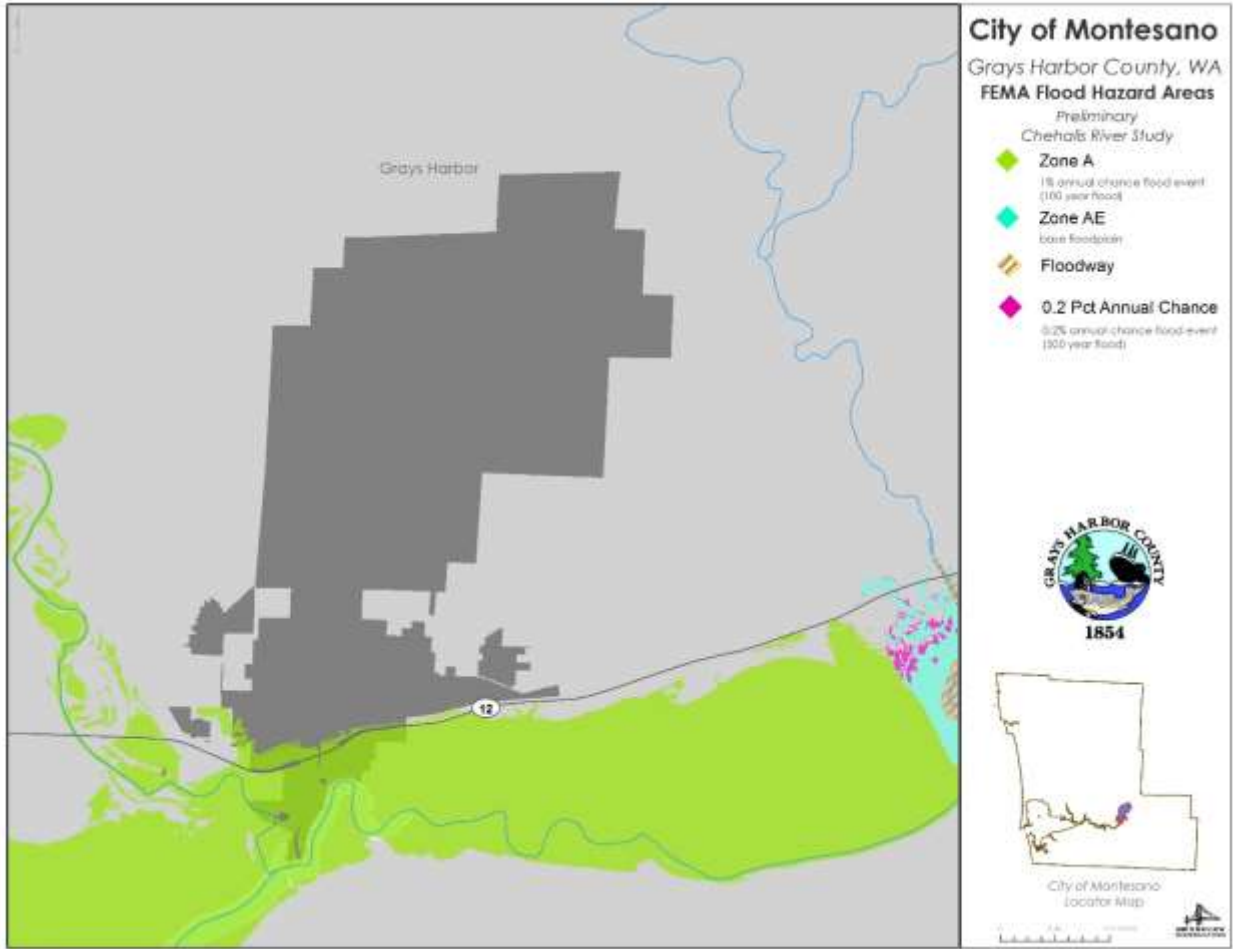
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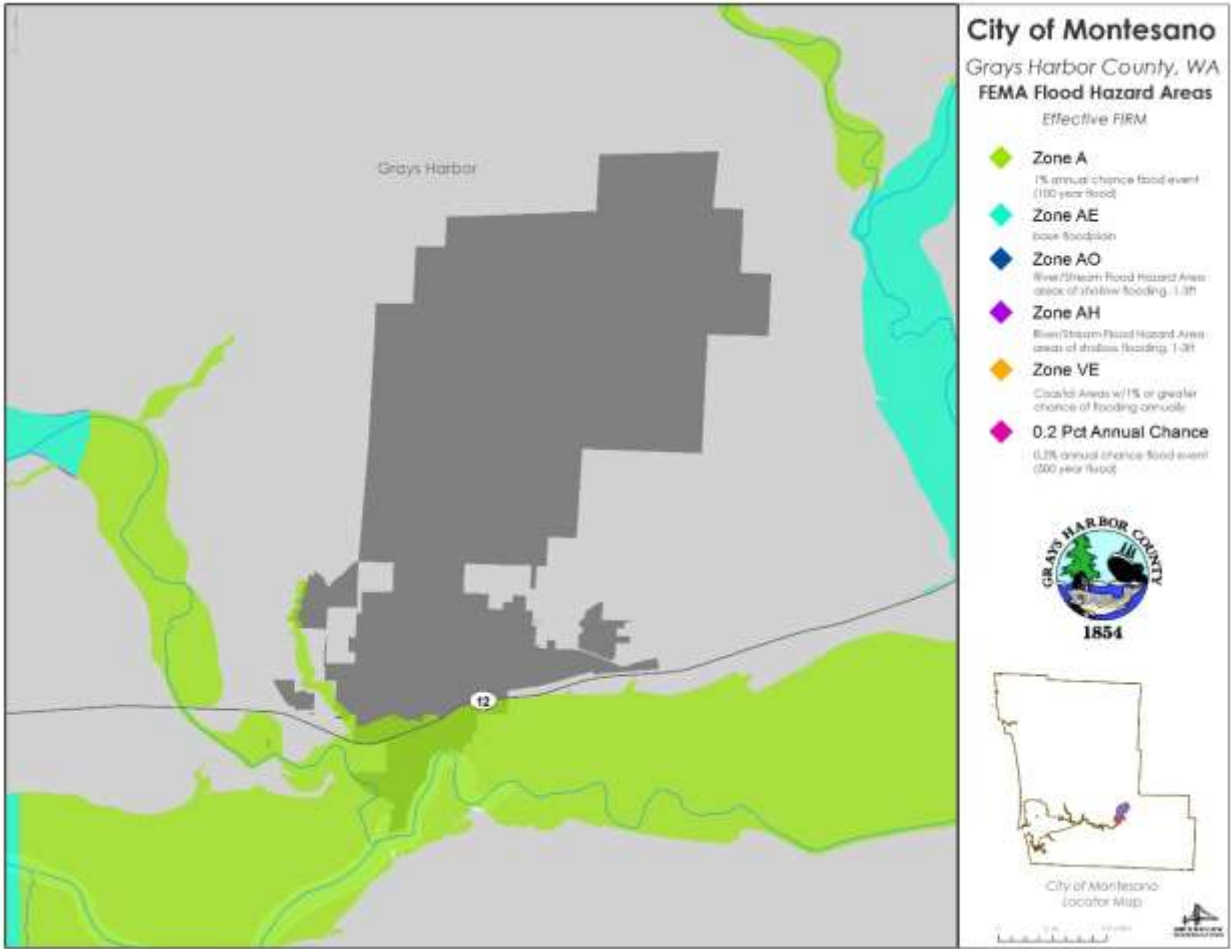
Table 7-9. Mitigation Strategy Priority Schedule							
Initiative #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/Budgets?	Priority ^a
3	5	High	High	Yes	Yes	No	High
1	5	High	High	Yes	Yes	No	High
4	5	High	Medium	Yes	Yes	No	High
6	5	High	High	Yes	Yes	No	Medium
5	5	High	Low	Yes	No	Yes	Medium
2	5	High	High	Yes	Yes	No	Low

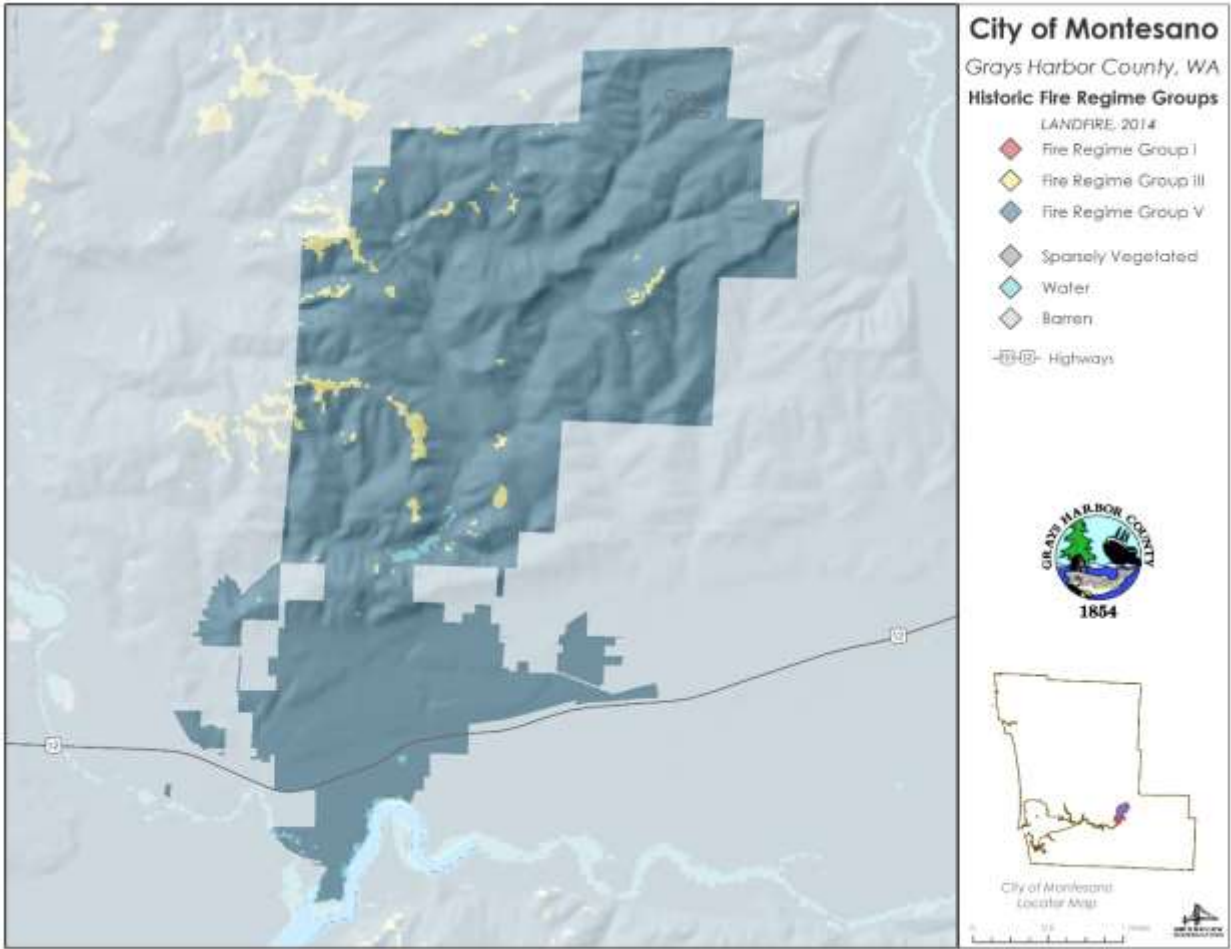
a. See Chapter 1 for explanation of priorities.

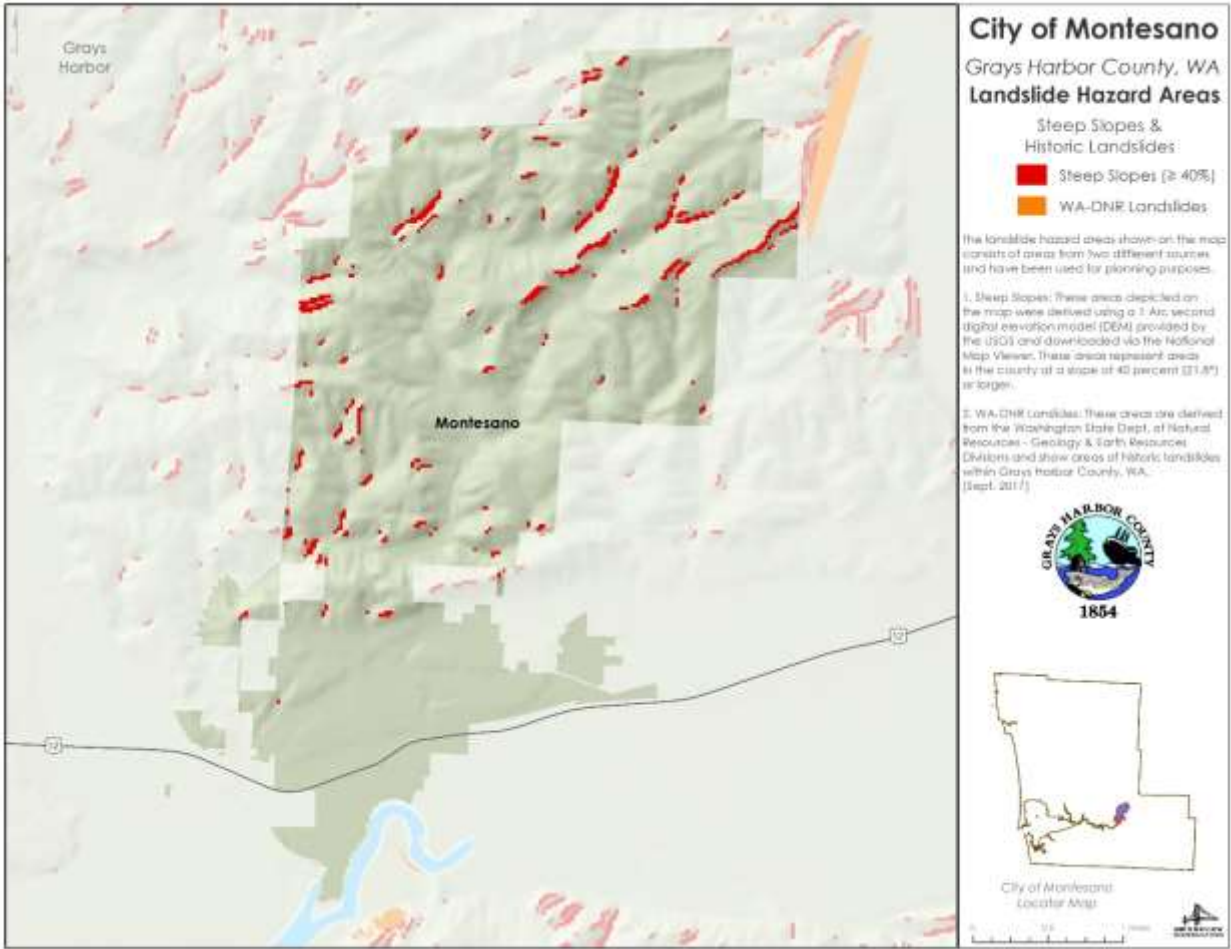
7.11 HAZARD AREA EXTENT AND LOCATION

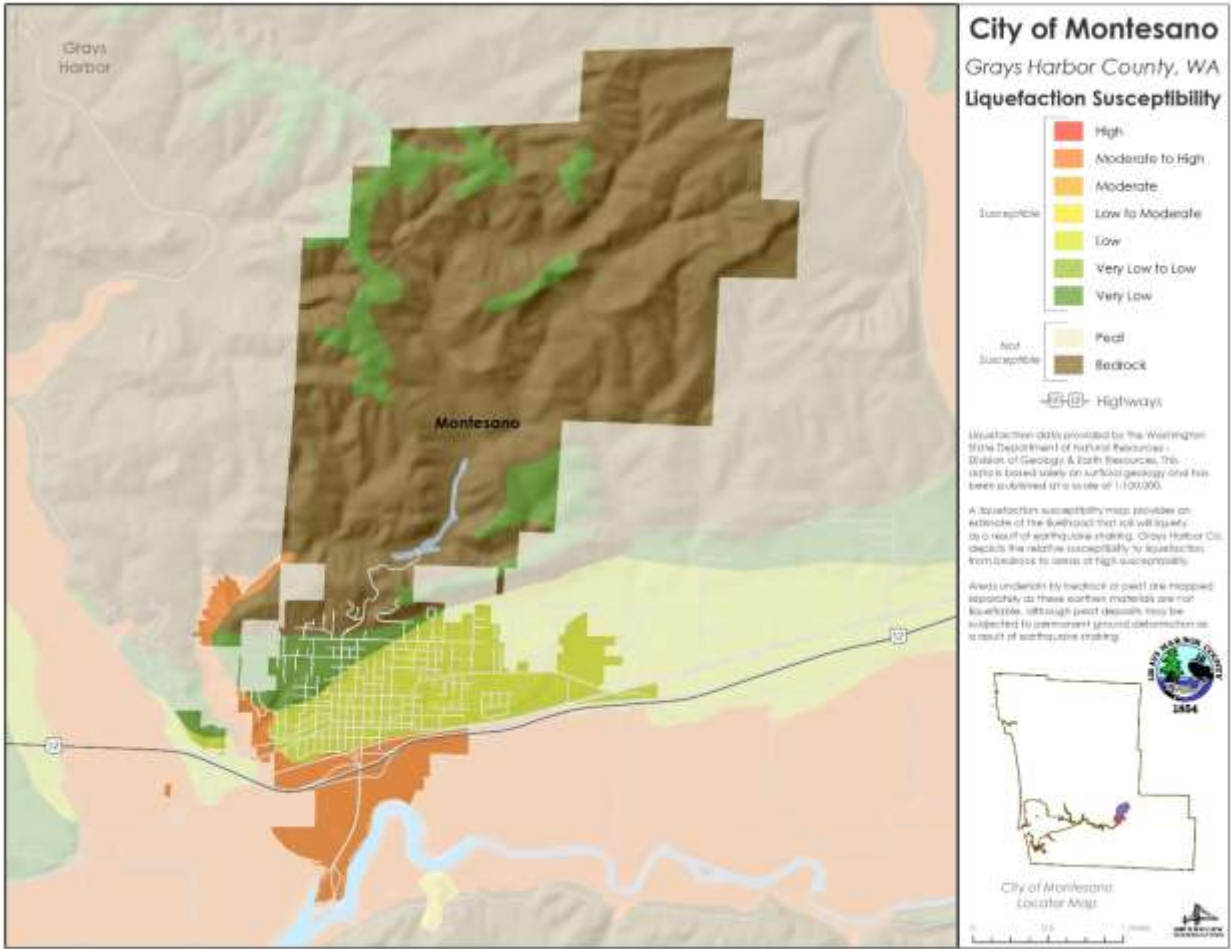
Hazard area extent and location maps are included below. These maps are based on the best available data at the time of the preparation of this plan and are considered to be adequate for planning purposes. Additional hazard-related data is contained within each of the hazard profiles within Volume 1 of the County’s 2018 Hazard Mitigation Plan. Readers are encouraged to review that portion of the planning document for more additional impact data.

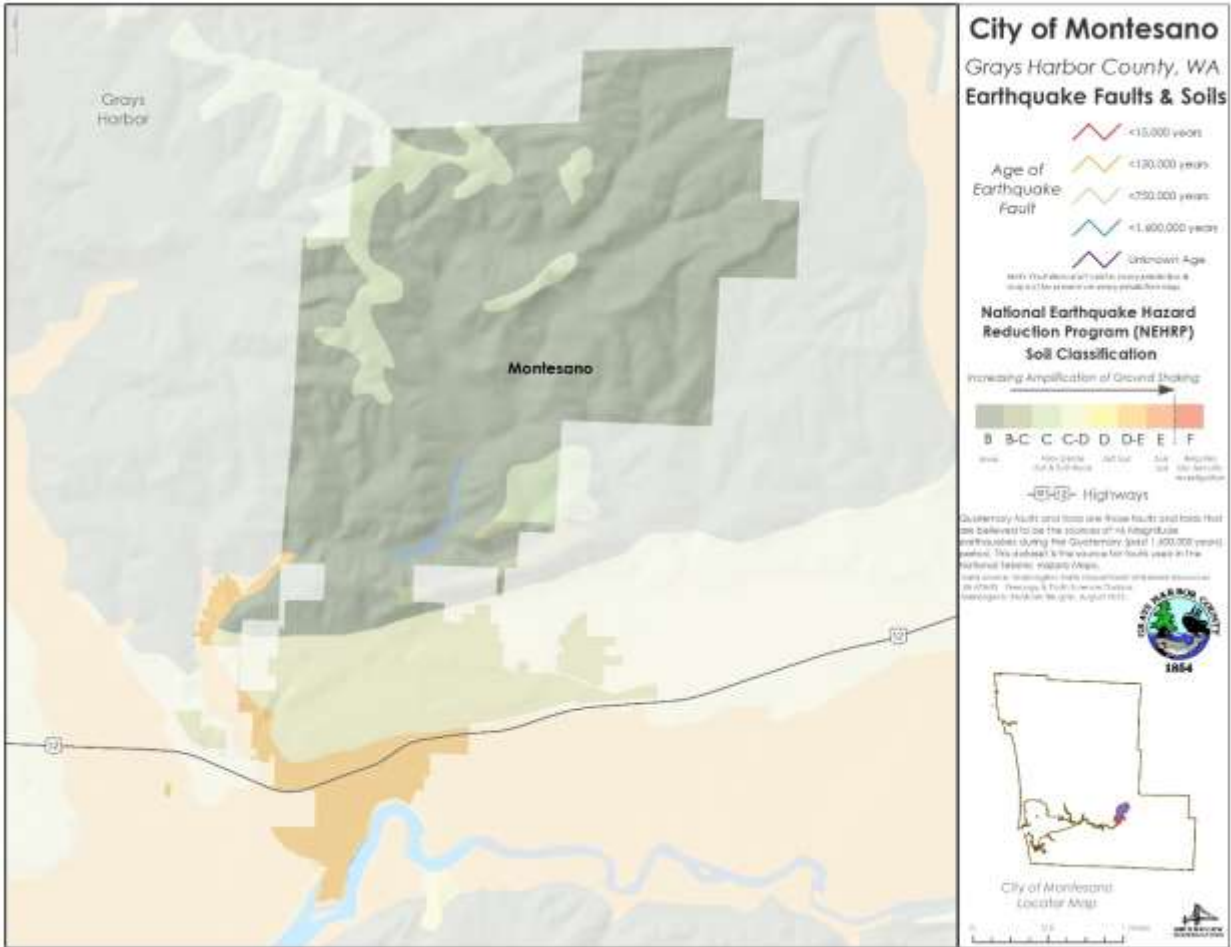












CHAPTER 8. CITY OF OAKVILLE ANNEX UPDATE

8.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the City of Oakville, a participating jurisdiction to the Grays Harbor County Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by the City of Oakville. For planning purposes, this Annex provides additional information specific to the jurisdiction, with a focus on providing greater details on the risk assessment and mitigation strategy for this community only. This document serves as an update to the previously completed plan. All relevant data has been carried over and updated with new information as appropriate and as identified within the planning process discussed in Volume 1.

8.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

The City of Oakville followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County’s Planning Team, the City of Oakville also formulated their own internal planning team to support the broader planning process. Individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Richard Armstrong, Cell Phone # 360-791-8772 oakvillepublicworks@gmail.com	Director of Public Works *Primary Point of Contact	
Traci Fallow Cell Phone # 909-953-9099 councilfallow@gmail.com	Oakville City Council	
Allen Werth Cell Phone # 253-606-1063 councilwerth@gmail.com	Oakville City Council	
Bill Rodicker Cell Phone # 360-880-9681 ghcfd1@comcast.net	Fire Chief GH Fire District #1	
Don Terry Cell Phone # 360-701-6619 dterry@chehalistribe.org	Building Official/Inspector and Code Enforcement Officer	
Buck Graham Cell Phone # 360-239-1772 buck.graham@comcast.net	Citizen, City of Oakville	
Bob Johnson	Citizen/Business Owner	

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Cell Phone # 360-878-2323 goatherder101@outlook.com		

8.3 COMMUNITY PROFILE

Date of Incorporation and Brief History

The City of Oakville Washington was incorporated December 18, 1905 and was named for the for the Garry Oak trees found in the area.

Oakville has been called a "frontier logging town nestled between two centuries." Take a walk or drive through town for a unique flavor of the past. From antiques and historical buildings to rodeos and scenic tours; you will experience the millennium with both the rustic past and the brightening future. Historic buildings like the old corner-style bank has its place in the history books as it is the last bank to be robbed by horseback. Many other historic buildings throughout Oakville give the area a unique and welcoming appeal.

Physical Setting/Location and Description

The City of Oakville, Washington is located in the South Eastern corner of Grays Harbor County, is bordered by the Capital Forest in the Black Hills Range to the North and North-West, is within the Chehalis River watershed and is adjacent to State Highway 12 between the cities of Rochester and Elma. The Chehalis Indian Reservation abuts the southerly City limits.

Harris Creek flows from north to south just east of the City limits and then in a westerly direction after crossing Highway 12, flowing along the southern and western boundary of the City limits until reaching the Chehalis River about ¼ mile west of the westerly City limits. The Black River flows in a southerly and westerly direction from approximately one mile east of the easterly City limits until it reaches the confluence with the Chehalis River about one mile south of the southerly City limits. The Chehalis River flows in a westerly direction about one mile south of the City limits and then in a northerly direction as close as within about ¼ mile west of the westerly City limits.

See Figure 1 and 2 for the location of the City limits in relation to all of these features. Oakville's incorporated city limit land area is approximately one square mile. The majority of the City is relatively flat, with gradual elevation increases from the southerly and easterly portions of the City in the vicinity of Harris Creek to US Highway 12. North of Highway 12 and the railroad, the land area is relatively flat until areas near the northerly city limits where the land is 100 or more feet higher in elevation than the majority of the city.

Climate

The climate in Oakville, Washington is generally mild with the majority of the precipitation falling in the cooler months from October through April. The approximate annual precipitation is 58 inches of rain and 3 inches of snow with an average of 130 sunny days per year. The U.S. average of annual precipitation is 39 inches of rain and 26 inches of snow with approximately 132 days of measurable precipitation.

The July high temperature is around 77 degrees and the January low is around 35. Sperling's comfort index for Oakville is a 76 out of 100, where a higher score indicates a more comfortable year-around climate. The US average for the comfort index is 54. Sperling's index is based on the total number of days annually within the comfort range of 70-80 degrees, with an applied penalty for days of excessive humidity. The graph below provides a summary of climate conditions in Oakville.

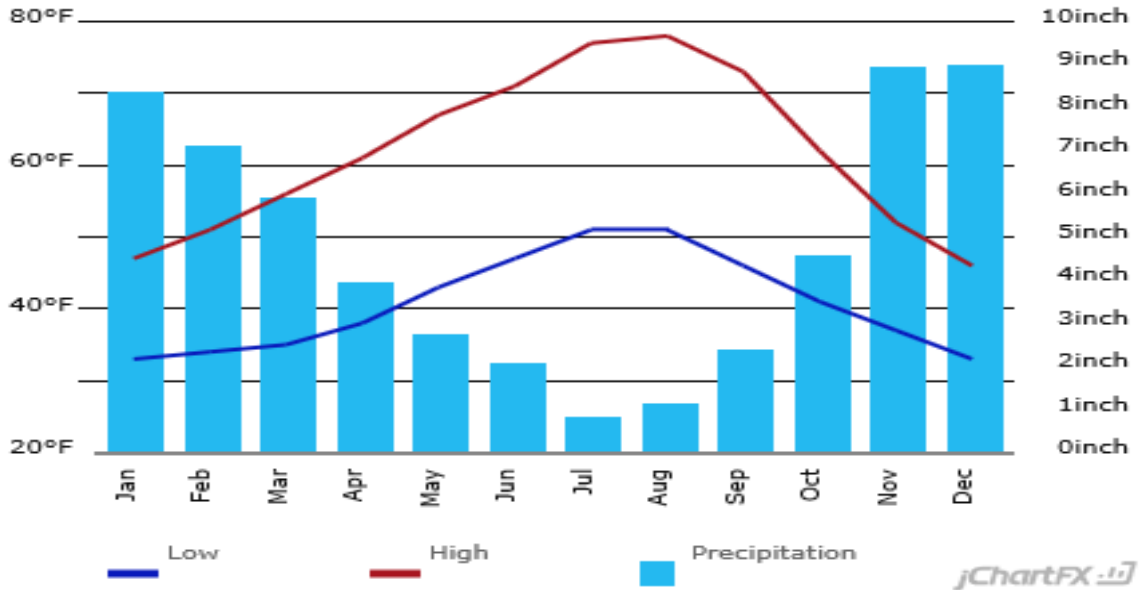


Figure 8-1 City of Oakville Monthly Weather

Population Growth

The current estimated population is approximately 700. The Washington Office of Financial Management April 2017 estimate was 690. As of the 2010 Census there were 684 people, 260 households, and 176 families in the City of Oakville. The 2008-2009 Association of Washington Cities publication estimated Oakville’s population as 715. As of the 2000 Census there were 675 people, 233 households, and 170 families residing in the city. This shows a slight increase in the population base within the City.

In 2000, there were 233 occupied housing units identified; this represents 89.6 percent of the total 260 housing units identified in Oakville. This means there were approximately 27 vacant housing units in Oakville in 2000, which represents 10.4 percent of the total housing stock.

The table below reflects the Historical Census population from 1910 – 2010 and the Washington Office of Financial Management April 2017 population estimate for the City of Oakville, Washington.

Oakville Historical Population 1910-2017		
Census	Pop.	%±
1910	465	—
1920	396	-14.8%
1930	469	18.4%
1940	418	-10.9%
1950	372	-11.0%

Oakville Historical Population 1910-2017		
Census	Pop.	%±
<u>1960</u>	377	1.3%
<u>1970</u>	460	22.0%
<u>1980</u>	537	16.7%
<u>1990</u>	493	-8.2%
<u>2000</u>	675	36.9%
<u>2010</u>	684	1.3%
*Est. 2017	690	+0.9%
*The Washington Office of Financial Management April 2017 population estimate.		

Governing Body Format

Oakville is a Code City operating under a Mayor-Council Governing Body format.

Development Trends

Important land uses in Oakville and its vicinity include agriculture, logging and forestry, industrial and manufacturing.

Economy

The City of Oakville's economic base consists mainly of retail and wholesale sales and services, and wood product manufacturing. The largest Employers include: Willis Industries and Auto Sales Unlimited.

8.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are no additional hazards that are unique to the jurisdiction. Table 8-1 lists all past occurrences of natural hazards within the jurisdiction. If available, dollar loss data is also included.

Table 8-1 Natural Hazard Events				
Disaster Number	Declaration Date	Incident Type	Title	Dollar Losses or Impact
4253	2/2/2016	Flood	Severe Winter Storm, Straight-Line Winds, Flooding, Landslides, Mudslides	
4242	10/15/2015	Severe Storm(s)	Severe Windstorm	
4056	3/5/2012	Severe Storm(s)	Severe Winter Storm, Flooding, Landslides, and Mudslides	
1825	3/2/2009	Severe Storm(s)	Severe Winter Storm, Record and Near Record Snow	
1817	1/30/2009	Flood	Severe Winter Storm, Landslides, Mudslides, and Flooding	
1734	12/8/2007	Severe Storm(s)	Severe Storms, Flooding, Landslides, and Mudslides	
1682	2/14/2007	Severe Storm(s)	Severe Winter Storm, Landslides, and Mudslides	
1671	12/12/2006	Severe Storm(s)	Severe Storms, Flooding, Landslides, and Mudslides	
1641	5/17/2006	Severe Storm(s)	Severe Storms, Flooding, Tidal Surge, Landslides, and Mudslides	
1499	11/7/2003	Severe Storm(s)	Severe Storms and Flooding	
1361	3/1/2001	Earthquake	Earthquake	
1172	4/2/1997	Flood	Heavy Rains, Snow Melt, Flooding, Land and Mudslides	
1159	1/17/1997	Severe Storm(s)	Severe Winter Storms, Land and Mudslides, Flooding	
1100	2/9/1996	Flood	High Winds, Severe Storms, Flooding	
1079	1/3/1996	Severe Storm(s)	Severe Storms, High Wind, and Flooding	
1037	8/2/1994	Fishing Losses	The El Nino (The Salmon Industry)	
883	11/26/1990	Flood	Severe Storms, Flooding	
852	1/18/1990	Flood	Severe Storms, Flooding	
623	5/21/1980	Volcano	Volcanic Eruption, Mt. St. Helens	
612	12/31/1979	Flood	Storms, High Tides, Mudslides, Flooding	
545	12/10/1977	Flood	Severe Storms, Mudslides, Flooding	
492	12/13/1975	Flood	Severe Storms and Flooding	
322	2/1/1972	Flood	Severe Storms and Flooding	
300	2/9/1971	Flood	Heavy Rains, Melting Snow, Flooding	
185	12/29/1964	Flood	Heavy Rains and Flooding	

In addition to the above disasters, the City of Oakville has been impacted by historic events as follows. Additional information on Oakville-specific impact can be ascertained within Volume 1 of the Countywide

Multi-Jurisdictional Hazard Mitigation Plan, which provides greater detail within each specific hazard profile.

Flood History

The most significant flooding events in Oakville have occurred when heavy rainfall has caused the Chehalis River and Harris Creek to overflow their banks. The record December 2007 flood in Oakville was the result of heavy rains and resulting flooding from the Black River and the Chehalis River that overflowed Blockhouse Road east of the City into the Harris Creek drainage, which then overflowed into the southeasterly portion of the City as shown in the aerial photo. The flood waters effectively isolated Oakville for days with flood water blocking residents from traveling on Highway 12 to the east to Rochester, west to Elma, or south on South Bank Road. Oakville was without power for 54 hours as flood waters prevented utility crews from reaching the electrical substation serving the area. Generators also had to be connected to the City's water well to begin refilling the reservoir to ensure safe drinking water for residents. County-wide, firefighters and sheriff's deputies had to evacuate hundreds of people stranded by the high water. In Oakville, as many as 200 people had to seek help at local shelters because of dwindling gasoline and food supplies available within the City. National Guard members brought in food and bottled water for residents.

Earthquake History

Reports of earthquakes in Grays Harbor County are available from pioneer accounts in the 1800s to current real time observations found on the internet. The 1949 Olympia earthquake measured 7.1 magnitude and was large enough to be recorded at many seismograph stations around the world. The two most recent damaging earthquakes to affect Grays Harbor County were the 1999 Satsop and the 2001 Nisqually events. A magnitude 5.8 deep earthquake occurred 11 miles north of Satsop on July 2, 1999. There were no fatalities, but there was heavy damage to the Grays Harbor County Courthouse. The PUD Station in Aberdeen, which is the main connection between Grays Harbor and the Bonneville Power Administration, was also damaged. Considering the magnitude and proximity to so many buildings and structures, the impact to Grays Harbor County was relatively minimal. There have been no significant earthquakes affecting Grays Harbor County since 2004. The Nisqually earthquake occurred February 28, 2001 with the epicenter about 11 miles northeast of the City of Olympia. It was a deep magnitude 6.8 event and due to extensive damage in several counties, was declared Federal Disaster #1361. Impacts included major traffic disruptions; small power outages; and temporary closure of state offices. Cracks in roads and buildings and falling bricks also resulted from the shaking. There was only limited damage in Oakville due to either of these earthquakes.

Severe Weather History

Windstorms

Windstorms have historically been frequent and important weather events in Oakville and Grays Harbor County. Early settlers of the county recorded accounts of hard wind, southerly gales and rain during the winter of 1852. In 1855, "rough, squally weather on Grays Harbor, very cold, wind blowing a gale from the northwest" is described in the Michael Luark diary. P. W. Gillette writes that the hardest windstorm in 10 years occurred late December 1862. A severe windstorm was noted on May 6, 1889 and a gale blew down trees in Hoquiam on Christmas Day 1890. Windstorms continued to make headlines in the early 1900s. They hampered jetty construction at Grays Harbor in late May 1900 and a storm on May 17, 1909 isolated the Grays Harbor area causing heavy damage. Several windstorms of impressive magnitude have occurred in Grays Harbor County which have made national headlines, as described below.

**The Great Blow Down*

A severe windstorm on January 29, 1921 which caused damage in many communities in the region became known as the great blow down. Wind velocity on Grays Harbor was estimated at 100 miles per hour. Ships and river craft broke loose of moorings, in some cases smashing into bridges, and whole sections of timber were blown down all along the west side of the Olympic Peninsula.

**The Columbus Day Storm*

On October 12, 1962 the strongest non-tropical windstorm recorded in the lower 48 states in American history struck Grays Harbor County. Peak wind gusts of more than 100 mph were recorded. The storm caused extensive damage to property, and power and telephone outages occurred throughout the county. An estimated 15 billion board feet of timber throughout the Olympic Peninsula were blown down. Total damages in the county reported to be approximately \$2.5 Million.

**The Inauguration Day Storm*

On January 20, 1993 a fierce windstorm hit western Washington. At the height of the storm more than 750,000 residential and commercial customers in the Puget Sound region were without power. Grays Harbor County was included in the federal disaster declaration specified for the storm.

**Other Recent Windstorm Events*

- On March 31, 1997, a windstorm with gusts to 71 mph caused power outages and resulted in three deaths in the region. Approximately 15,000 customers lost electricity as a result of high winds. It was reported that a kerosene lamp being used during the power outage caused a fire that heavily damaged a house north of Hoquiam.
- In November 2002, nearly one-third of Grays Harbor PUD customers were without power during parts of the night on November 23rd and 24th.
- In November 2006, a windstorm toppled trees and knocked out power to about 8,000 customers. Wind gusts of 78 mph were reported in Aberdeen.
- On December 2-3, 2007 approximately 90 percent of county residents were without power, from two to seven days. This outage resulted from a windstorm with sustained winds of 45-50 mph, and a measured wind gust of 81 mph which was recorded at Bowerman Field (this station was later shut down by a stronger gust).

**Snow and Ice*

Winter storms with snow and icy conditions presented a challenge to early pioneers. The Henry Coonse diary describes a winter storm the first week of March 1852 with “west wind with hail, snow on ground and ice.” Several days of very cold weather were reported in December 1856 and again in the winter of 1862. Snow and ice was reported in the Grays Harbor region in December 1884 and a snowfall of 40 inches at Copalis was described in a letter John Porter sent to his father. The Grays Harbor area experienced a severe winter in 1893 with 26 inches of snow reported on February 1st and 2nd. The most momentous winter storm in Grays Harbor County began on December 29, 1949 and continued throughout the month of January 1950. The winter of 1949 - 1950 is the coldest winter on record, with snow sweeping over the entire county from New Year’s Eve continuing throughout the next several days causing enormous damage and disruption.

Other more recent winter storm events affecting the region include:

- In December 1989 and January 1990, cold temperatures and high winds iced streets and left nearly 150,000 western Washington residents without power for several hours.
- An ice storm in December 1996 lasted for four days and left almost 14 inches of snow and ice in western Washington.

Volcano History

Observation by local Indians and early settlers as well as scientific studies indicates Mt. St. Helens has been active over time. Explorers, traders, and missionaries all heard reports of a major explosive eruption about 1800. Other descriptions indicating possible activity included: a physician at Fort Vancouver writing of

darkness and haze in 1831 and reports by Reverend Josiah Parrish, corroborated by missionaries at the Dalles, Oregon of an eruption (Grays Harbor County All Hazards Mitigation Plan, 2005).

An eruption of Mt. St. Helens in 1980 is the only completely documented volcanic event to affect Grays Harbor County. After about a 150-year time span, a catastrophic eruption occurred on May 18, 1980. A new period of unrest began in September of 2004. Initial increases in seismic activity were followed by magma rising to the surface on September 23rd. After 14 days, new lava was visible and seismic activity and dome building continues to the date of this report (Grays Harbor County All Hazards Mitigation Plan, 2005).

The May 18th eruption carried huge amounts of ash to the east all the way to the State of Montana in a matter of hours. Grays Harbor County escaped the initial ash fall because of prevailing wind direction; however, a smaller but significant eruption on May 25th affected the county for a short period of time. Prevailing winds from the southeast during this eruption deposited ash from the volcanic plume over Grays Harbor County from east to west (Grays Harbor County All Hazards Mitigation Plan, 2005).

Landslide History

Landslides take lives, destroy buildings, interrupt transportation systems, damage utilities, and cover marine habitat. Washington has a history of landslides; however, Oakville is not known as an area that is considered to be at high risk for landslides (Washington State Hazard Mitigation Plan, 2004). Elevation contour maps indicate the location of steep slopes on the north side of the City and north of the City with the potential to cause landslides in Oakville. Although there has been no history of landslides in Oakville, there is the potential in the northerly portion of the City.

Wildfire History

There are no historic examples of wildfires in the City.

Hazardous Material Incident History

Hazardous materials incidents occur in Grays Harbor County frequently. However, most incidents involve small quantities and/or happen at a fixed facility with very limited to no impact to people or the environment. For example, the log at the Grays Harbor County Division of Emergency and Risk Management for 2003 through 2004 showed 15 separate incidents, 10 at fixed facilities, three involving transportation systems, and two miscellaneous situations. The number of drug labs reported was 50 in 2003 and 24 in 2004 (Grays Harbor County All Hazards Mitigation Plan, 2005).

Information about serious hazardous materials incidents in Grays Harbor County is available through the county records, state documents, and archived newspapers. The vast majority of these reports were considered minor. Most hazardous waste enforcement actions in Grays Harbor County have focused on small, routine, or periodic releases beyond what state or federal permits allow. For instance, this has happened frequently with several local manufacturing firms who exceed their air and water pollution control permit standards (Grays Harbor County All Hazards Mitigation Plan, 2005). Many reported hazardous materials incidents involve small-scale spills and atmospheric releases of hazardous materials due to human error or equipment failure that require minimal response. Between 1995 and 2004, the Department of Ecology received reports of over 1,200 such incidents. While the cumulative consequences of small toxic releases into the environment can be extremely dangerous to humans and the environment over the long-term, they are not equivalent to a serious one-time hazardous materials incident (Grays Harbor County All Hazards Mitigation Plan, 2005). There have been no documented historic events of hazardous materials spills in Oakville.

8.5 CAPABILITY ASSESSMENT

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction’s capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: National Flood Insurance Information; regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation, and classifications under various community programs.

8.6 NATIONAL FLOOD INSURANCE INFORMATION

Information on the community’s National Flood Insurance Program (NFIP) compliance is presented in Table 8-2. This identifies the current status of the jurisdiction’s involvement with the NFIP.

Repetitive flood loss records are as follows:

- Number of FEMA-Identified Repetitive Loss Properties: None
- Number of FEMA-Identified Severe Repetitive Loss Properties: None
- Number of Repetitive Flood Loss/Severe Repetitive Loss Properties That Have Been Mitigated: None known.

Table 8-2 National Flood Insurance Compliance	
What department is responsible for floodplain management in your community?	Public Works
Who is your community’s floodplain administrator? (department/position)	Public Works/Director
Do you have any certified floodplain managers on staff in your community?	No
What is the date of adoption of your flood damage prevention ordinance?	January 30, 2017
When was the most recent Community Assistance Visit or Community Assistance Contact?	Unknown
To the best of your knowledge, does your community have any outstanding NFIP compliance violations that need to be addressed? If so, please state what they are.	No
Do your flood hazard maps adequately address the flood risk within your community? (If no, please state why)	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	Yes. Certification, Continuing Education, Resource Partnerships
Does your community participate in the Community Rating System (CRS)? If so, is your community seeking to improve its CRS Classification? If not, is your community interested in joining the CRS program?	No

8.6.1 Regulatory Capability

The assessment of the jurisdiction’s legal and regulatory capabilities is presented in Table 8-3. This includes planning and land management tools, typically used by local jurisdictions to implement hazard mitigation activities and indicates those that are currently in place.

Table 8-3 Legal and Regulatory Capability				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Codes, Ordinances & Requirements				
Building Code Version: 1 Year: 2015 plus Washington	Y			
State Amendments				
Zoning Ordinance	Y			
Subdivision Ordinance	Y			
Floodplain Ordinance	Y			Updated 2017
Stormwater Management	Y			
Post Disaster Recovery	N			
Real Estate Disclosure	N			
Growth Management	Y			Oakville Comprehensive Plan
Site Plan Review	Y			Code Enforcement
Public Health and Safety	Y	Y		Relies on Grays Harbor County
Coastal Zone Management	N			
Climate Change Adaptation	N			
Natural Hazard Specific Ordinance (stormwater, steep slope, wildfire, etc.)	N			
Planning Documents				
General or Comprehensive Plan				<i>Is the plan equipped to provide linkage to this mitigation plan? Yes</i>
Floodplain or Basin Plan	Y			Part of the Chehalis River Basin Plan
Stormwater Plan	Y			
Capital Improvement Plan	Y			
Habitat Conservation Plan	Y			Through growth management
Economic Development Plan				
Shoreline Management Plan	Y			Permitting Process
Community Wildfire Protection Plan	N			
Transportation Plan	N			

Table 8-3 Legal and Regulatory Capability				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Response/Recovery Planning				
Comprehensive Emergency Management Plan	Y			
Threat and Hazard Identification and Risk Assessment	N			
Terrorism Plan	N			
Post-Disaster Recovery Plan	N			
Continuity of Operations Plan	Y			
Public Health Plans	Y			Relies on Grays Harbor County
Boards and Commission				
Planning Commission	N			
Mitigation Planning Committee	Y			Part of the Grays Harbor County plan
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems, chipping, etc.)	Y			Tree trimming, clearing drainage systems
Mutual Aid Agreements / Memorandums of Understanding	Y	Y		DOT, GHC (PW, Sheriff, EMS), GHFD #1, CRBFA, ERWOW

8.6.2 Administrative and Technical Capabilities

The assessment of the jurisdiction’s administrative and technical capabilities, including educational and outreach efforts, and on-going programmatic efforts are presented in Table 8-4Table 5-4. These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 8-4 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	N	Contracted Service as needed
Professionals trained in building or infrastructure construction practices (building officials, fire inspectors, etc.)	Y	Code Enforcement/Chief Building Official
Engineers specializing in construction practices?	N	Contracted Service

Table 8-4 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Planners or engineers with an understanding of natural hazards	N	We do have the capacity of hiring engineers under contract.
Staff with training in benefit/cost analysis	N	
Surveyors	N	Contracted Service.
Personnel skilled or trained in GIS applications	Y	County staff occasionally provides this assistance.
Personnel skilled or trained in Hazus use	N	
Scientist familiar with natural hazards in local area	N	
Emergency Manager	Y	Director of Public Works
Grant writers	N	
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?)	Y	Rely on county to provide service, do have Reverse 9-1-1
Hazard data and information available to public	Y	Hazard Mitigation Plan is a public document which will remain accessible to the citizens of the community.
Maintain Elevation Certificates	N	Property owner/surveyor file with Grays Harbor County
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	N	
Local citizen groups or non-profit organizations focused on environmental protection?	N	
Organization focused on individuals with access and functional needs populations	N	
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Y	County provides service
Public-private partnership initiatives addressing disaster-related issues?	N	
Multi-seasonal public awareness program?	Y	County provides service
Other		
On-Going Mitigation Efforts		
Hazardous Vegetation Abatement Program	Y	Public Works
Noxious Weed Eradication Program or other vegetation management	Y	Public Works
Fire Safe Councils	N	
Chipper program	N	
Defensible space inspections program		

Table 8-4 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Creek, stream, culvert or storm drain maintenance or cleaning program	Y	Public Works
Stream restoration program	N	
Erosion or sediment control program	N	Building Code Ordinance
Address signage for property addresses	Y	
Other		

8.6.3 Fiscal Capability

The assessment of the jurisdiction’s fiscal capabilities is presented in Table 8-5. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

Table 8-5 Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	Y
Capital Improvements Project Funding	Y
Authority to Levy Taxes for Specific Purposes	Y
User Fees for Water, Sewer, Gas or Electric Service	Y
Incur Debt through General Obligation Bonds	Y
Incur Debt through Special Tax Bonds	Y
Incur Debt through Private Activity Bonds	Y
Withhold Public Expenditures in Hazard-Prone Areas	Y
State Sponsored Grant Programs	Y
Development Impact Fees for Homebuyers or Developers	Y
Other	

8.6.4 Community Classifications

The jurisdiction’s classifications under various hazard mitigation programs are presented in Table 8-6. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community.

Table 8-6. Community Classifications		
	Participating (Yes/No)	Date Enrolled
Community Rating System	No	
Building Code Effectiveness Grading Schedule (Commercial)	5	October 2017
Building Code Effectiveness Grading Schedule (Residential)	5	October 2017
Public Protection Classification	5	Unknown
Storm Ready	Y	County
Firewise	N	
Tsunami Ready (if applicable)	Y	County

8.7 HAZARD RISK AND VULNERABILITY RANKING

The jurisdiction’s Planning Team reviewed the hazard list identified within the Base Plan and have identified the hazards that affect the City of Oakville.

Table 8-7 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and /or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

Table 8-7. Hazard Risk and Vulnerability Ranking			
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank
1	Earthquake	3.45	High
1	Flood	3.45	High
2	Severe Weather	3.05	High
3	Landslides	2.55	Medium
4	Drought	2.35	Medium
4	Climate Change	2.35	Medium
5	Wildfire	2.3	Medium
6	Hazardous Materials	2	Medium
7	Tsunami	1.85	Low
8	Volcano	1.5	Low
9	Erosion	1.15	Low

8.8 ADDITIONAL HAZARD IMPACT

Volume 1 of the Grays Harbor County Hazard Mitigation Plan provides specific loss data contained within each hazard profile concerning the impact of the various hazards on concern for the City's built environment. Readers should review the hazard profiles contained in the base plan for additional and specific information.

8.9 MITIGATION GOALS AND OBJECTIVES

The City of Oakville adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

8.10 HAZARD MITIGATION ACTION PLAN

The Planning Team for the jurisdiction identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the jurisdiction's assets and hazards of concern. Table 8-8 lists the action items/strategies that make up the jurisdiction's hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, who will benefit from the activity, and the type of initiative associated with each item are also identified.

Table 8-8. Hazard Mitigation Action Plan Matrix									
Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE #1 Evaluate ingress and egress routes for Oakville area and assess alternate routes of access where possible. Evacuation or providing aid may require vehicles capable of travelling through deep water, boats, or aircraft where no alternate route is available; assistance in developing emergency preparedness kits; informing citizens of the hazards of concern, and where to obtain such information during disaster incidents.									
New/Existing	All	All	PW, County	High	Grants	Long-Term	Y-Partial	Prevention, Response, Public Information, Emergency Services, Recovery	Local and County
INITIATIVE #2 Maintain existing and acquire additional emergency generators or other alternate power options for EOC, City Hall, hazard shelters/distribution centers, Well # 1, and booster pump facility.									
New/Existing	All	All	PW	Medium	Grant	Long-Term	Y	Prevention, Emergency Services, Recovery	Local
INITIATIVE #3 Develop agreements with local suppliers for incident fuel, food & water source availability. Review and develop MOUs/MOAs with surrounding jurisdictions as needed for emergency response and recovery.									
New/Existing	All	All	Legal, PW, Council	Low	General Fund	Short-Term	N	Prevention, Public Information, Emergency Services, Recovery	Local
INITIATIVE #4 Develop an emergency response plan that identifies emergency food, water, and medical supply sources, and potential areas of distribution for those areas of the City which become potentially isolated during various storm events.									
New/Existing	All	All	Council, Clerk, Legal, PW	Medium	General and Grant	Short-Term	Y-Partial	Prevention, Public Information, Emergency Services, Recovery	Local
INITIATIVE #5 Work with Red Cross and other public private partnerships to develop emergency preparedness storage plan (acquire cots/sleeping mats, blankets, food and water storage and service items, nonperishable food for emergency use).									
New/Existing	All	All	PW, Council, Clerk	High	General and Grant	Long-Term	N	Public Information, Emergency Services, Recovery	Local
INITIATIVE #6 Develop plan for travelers that become isolated from their resources and rely on Oakville during incident.									
New/Existing	All	All	PW, Council	Low	General	Long-Term	N	Public Information, Emergency Services, Recovery	Local
INITIATIVE #7 Establish city-owned EOC. Once identified, recruit, train, practice, and continually educate Emergency Coordination Center Volunteers Network.									

**Table 8-8.
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
New/ Existing	All	All	Council, PW	High	Grant	Long-Term	Y (Partial)	Prevention, Response, Public Information, Emergency Services, Recovery	Local
INITIATIVE #8 Complete formal hazard evaluation of city facilities, reservoirs, and stormwater drainage systems to determine stability during a hazard event									
New/ Existing	F, EQ, SW, LS, WF	All	PW	Medium	General, Grant	Long-Term	Y	Prevention, Emergency Services, Recovery	Local
INITIATIVE #9 Consider grant opportunities to assist homeowners in elevating residential structures in frequently flooded areas. As available pursue grants to assist homeowners.									
Existing	F, SW, T	All	PW	High	Grant	Long-Term	Y	Property Protection, Structural Project	Local
INITIATIVE #10 Continue working in conjunction with the County to provide: public information program concerning risk, NOAA Radio use, damage assessment information, public health issues.									
New/ Existing	All	All	PW, County EM	Low	General	Long-Term	Y	Prevention, Public Information, Emergency Services, Recovery	Local and County
INITIATIVE #11 Work with local businesses to identify supplies, skill personnel, equipment, and materials which support response and recovery efforts throughout the City. As identified, begin discussions and possible development of MOAs with those entities which will support efforts during disaster incidents.									
New/ Existing	All	All	PW, Legal, Council	Medium	General	Short-Term	Y	Prevention, Public Information, Emergency Services, Recovery	Local
INITIATIVE #12 Develop various response plans needed to address the various hazards of concern. This includes plans and SOPs for city personnel, as well as advising and assisting (as staffing allows) private entities in identifying and developing similar-typed plans.									
New/ Existing	All	All	PW, County EM	Medium	General, Grant	Short-Term	Y	Prevention, Public Information, Emergency Services, Recovery	Local and County
INITIATIVE #13 Work with DOT and County to establish mechanism to protect Highway 12 at Porter from landslide hazard. Incidents along this roadway block ingress and egress into and out of the City of Oakville.									
New/ Existing	L, SW, F, EQ	All	PW	High	DOT, Grant	Long-Term	N	Structural Project, Property Protection	Local, County, Region

Table 8-8. Hazard Mitigation Action Plan Matrix									
Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE #14 Work with County and State DOT to address flooding issue over Highway 12 and East Elma Gate Road East of Oakville between I-5 and the City. Historical flood events have blocked ingress and egress to the City.									
New/ Existing	F, SW, T	All	PW	High	DOT, Grant	Long-Term	N	Structural Project, Property Protection	Local, County, Region

8.11 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of six different initiative types for each identified action item was conducted. Table 8-9 identifies the prioritization for each initiative.

Table 8-9. Mitigation Strategy Priority Schedule								
Initiative #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/ Budgets?	Priority ^a	
1	8	H	H	Y	Y	N	M	
2	8	H	M	Y	Y	N	H	
3	6	H	L	Y	N	Y	H	
4	8	H	M	Y	Y	N	H	
5	8	H	H	Y	Y	N	M	
6	9	H	L	Y	N	Y	L	
7	9	H	H	Y	Y	N	H	
8	9	H	M	Y	N	N	H	
9	7	H	H	Y	Y	Y	M	
10	7	H	L	Y	N	Y	H	
11	6	H	M	Y	N	Y	H	
12	9	H	M	Y	Y	N	H	
13	9	H	H	Y	Y	N	H	
14	9	H	H	Y	Y	N	H	

a. See Chapter 1 for explanation of priorities.

8.12 STATUS OF PREVIOUS PLAN INITIATIVES

Table 8-10 summarizes the initiatives that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

Table 8-10 Status of previous Hazard Mitigation Action Plan						
Mitigation Strategy	Previous Timeline	Project Status	Current Status			
			Completed	Continual /Ongoing Nature	Removed -/No Longer Relevant / No Action	Carried Over
Evaluate and prioritize critical facilities in hazard areas to assess their resistance to hazard events.	0-1 years	This was part of the HMP update process and will again occur during the next update.	X			
Maintain emergency generators or similar equipment to avoid disruption of power of critical City facilities during storm events.	1-3 years					X #2
Establish city-owned Emergency Operations Center Facility.	1-3 years					X #7
Complete formal hazard evaluation of city reservoirs to determine stability during a hazard event.	2-3 years					X #8
Conduct analysis of existing storm water drainage system and implement recommended improvements.	0-2 years					X #8
Retrofit critical facilities in hazard areas to increase their resistance to hazard events.	6-10 years					X #8
Elevation of housing (home elevation) in flooded areas	1-5 years					X #9
Conduct annual Disaster Preparedness Workshops to educate the public about actions they should take before, during and after a disaster.	0-1 years		X	X		X #10

Table 8-10 Status of previous Hazard Mitigation Action Plan						
Mitigation Strategy	Previous Timeline	Project Status	Current Status			
			Completed	Continual /Ongoing Nature	Removed -/No Longer Relevant / No Action	Carried Over
Provide the public with information on the proper use of 9-1-1 during a hazard event using such tools as telephone books, bookmarks for school children, and posters in public buildings.	0-1 years		X	X		X #10
Distribute hazard mitigation information and publications published by FEMA, EMD, Red Cross, and other agencies and organizations to the Library, schools, and other public facilities to promote citizen commitment to hazard mitigation.	0-1 years		X	X		X #10
Encourage citizens and businesses to have access to the NOAA Weather Radio (NWR) service with a NOAA All Hazard Alert Weather Radio, including supporting efforts to purchase NWR receivers for low-income households as well as provide public information about using receivers efficiently.	0-1 years		X	X		X #10
Develop and maintain a list of assets and capabilities of all public and private entities in the City that could be utilized for emergency response to hazards.	0-1 years			X		X #11

Table 8-10 Status of previous Hazard Mitigation Action Plan						
Mitigation Strategy	Previous Timeline	Project Status	Current Status			
			Completed	Continual /Ongoing Nature	Removed -/No Longer Relevant / No Action	Carried Over
Create a Disaster Information Section on the City’s website with up-to-date information on current storm watches and warnings, road closures, evacuation routes, shelter locations, emergency contacts, and hazard mitigation planning and implementation.	0-1 years			X		X #10
Maintain an updated resident list for reservoir failure response plan.	2-5 years	Carried forward but restructured.				X #12
Shelter supplies for emergencies with a storage area for emergency supplies. Place cargo containers in relatively high area such as City shop area north of Hwy 12. Shelter for people during emergency events and maintain a list of people to be in charge of shelter.	0-1 years	Revised in 2018 update, but intent carried forward.				X #11
Support Grays Harbor County Public Health and Social Services Department to make information available on basic health problems and solutions during and after disasters, especially concerning water contamination and food spoilage.	0-1 years			X		X #10
Complete City Emergency Response Plan.	0-1 years					X #12

Table 8-10 Status of previous Hazard Mitigation Action Plan						
Mitigation Strategy	Previous Timeline	Project Status	Current Status			
			Completed	Continual /Ongoing Nature	Removed -/No Longer Relevant / No Action	Carried Over
Partner with high density care facility providers to encourage alternatives and plans for independent evacuation and emergency response.	0-1 years					X #12
Create a Quick Reference Guide for all city personnel and each vehicle to be used in a disaster.	0-1 years					X #12
Maintain a disaster contingency fund within the City budget.	0-1 years					X
Establish interagency radio links between the City and the Grays Harbor Emergency Operations Center, law enforcement agencies, fire districts, emergency medical services, the 9-1-1 call center, and state and federal agencies to ensure coordinated communication during hazard events.	0-2 years	This has been identified as a countywide effort contained within the base plan for all planning partners.				X
Set funding priorities for hazard mitigation projects annually based on urgency and need, including home elevation and/or buyout of facilities.	0-2 years	This is part of the capital improvement plan, as well as grant prioritization when grant opportunities arise.		X		
Develop partnerships with the school district to teach children about weather watches and warnings, hazard mitigation, emergency actions, early release plans and emergency service providers.	1-3 years	These responsibilities have been primarily assumed by the school districts in development of their respective safety plans. The City or County provide assistance in this area when asked.	X		X	
Update City Hazard Mitigation Plan every 5 years.	4-5 years		X			

Table 8-10 Status of previous Hazard Mitigation Action Plan					
Mitigation Strategy	Previous Timeline	Project Status	Current Status		
			Completed	Continual /Ongoing Nature	Removed -/No Longer Relevant / No Action
Review and update as appropriate flood damage reduction ordinance Chapter 14.08.	0-1 years	The City completed this effort in 2017 through the Chehalis River Basin Flood Zone project.	X		
Floodplain administrator training and seek certification as a Certified Floodplain Manager.	0-2 years	This is an on-going effort as funding, staffing and time allows.			X
Maintain supplies of FEMA/NFIP materials as handouts for property owners, builders, and surveyors.	0-1 years	FEMA has limited supplies available. References to websites are also provided. The City relies on the County to assist with distribution of this type of information.		X	X #10
Hold work session on floodplain management requirements for elected officials and planning commission appointees.	0-2 years	The Chehalis River Basin group.	X		
Participate in Grays Harbor County damage assessment program and associated ongoing training for assessment team personnel.	2-3 years	As disaster incidents occur, the State and County provide training and assistance in this regard.		X	X #10
Establish mutual aid agreement between neighboring communities such as Chehalis Tribe, DOT, Rochester, GHC and Thurston County.	0-1 year	Some MOUs/MOAs already exist. As new needs are identified, contracts or mutual aid agreements are developed.		X	X #3
Establish a protocol between City, County, Chehalis Tribe, state agencies, and all other providers of emergency services to assure consistency of public information provided during a disaster.	2-5 years			X	X #3

Table 8-10 Status of previous Hazard Mitigation Action Plan						
Mitigation Strategy	Previous Timeline	Project Status	Current Status			
			Completed	Continual /Ongoing Nature	Removed -/No Longer Relevant / No Action	Carried Over
Actively search for grants and loans to fund hazard mitigation projects and programs.	0-1 year	On-going		X		X
Research and maintain a list of grant and low interest loan programs that assist homeowners and businesses undertaking hazard mitigation projects.	0-1 year	On-going		X		X

8.13 FUTURE NEEDS TO BETTER UNDERSTAND RISK/ VULNERABILITY

- Study/analysis to better understand vulnerability of Oakville and impact from a Tsunami.
- Updated NFIP and Risk maps.

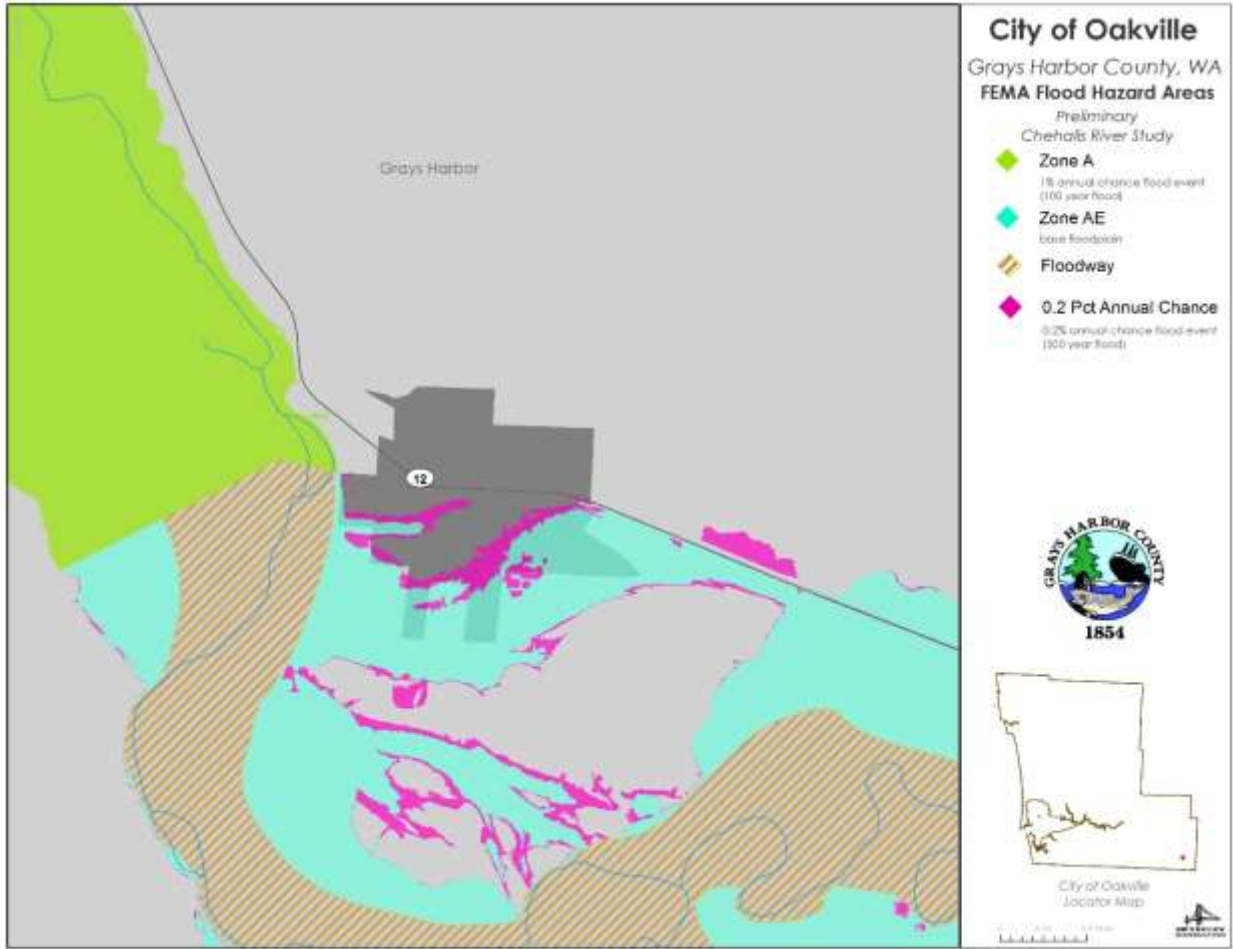
8.14 ADDITIONAL COMMENTS

In addition to the above information, additional items which need to be considered over the course of this planning effort include the following:

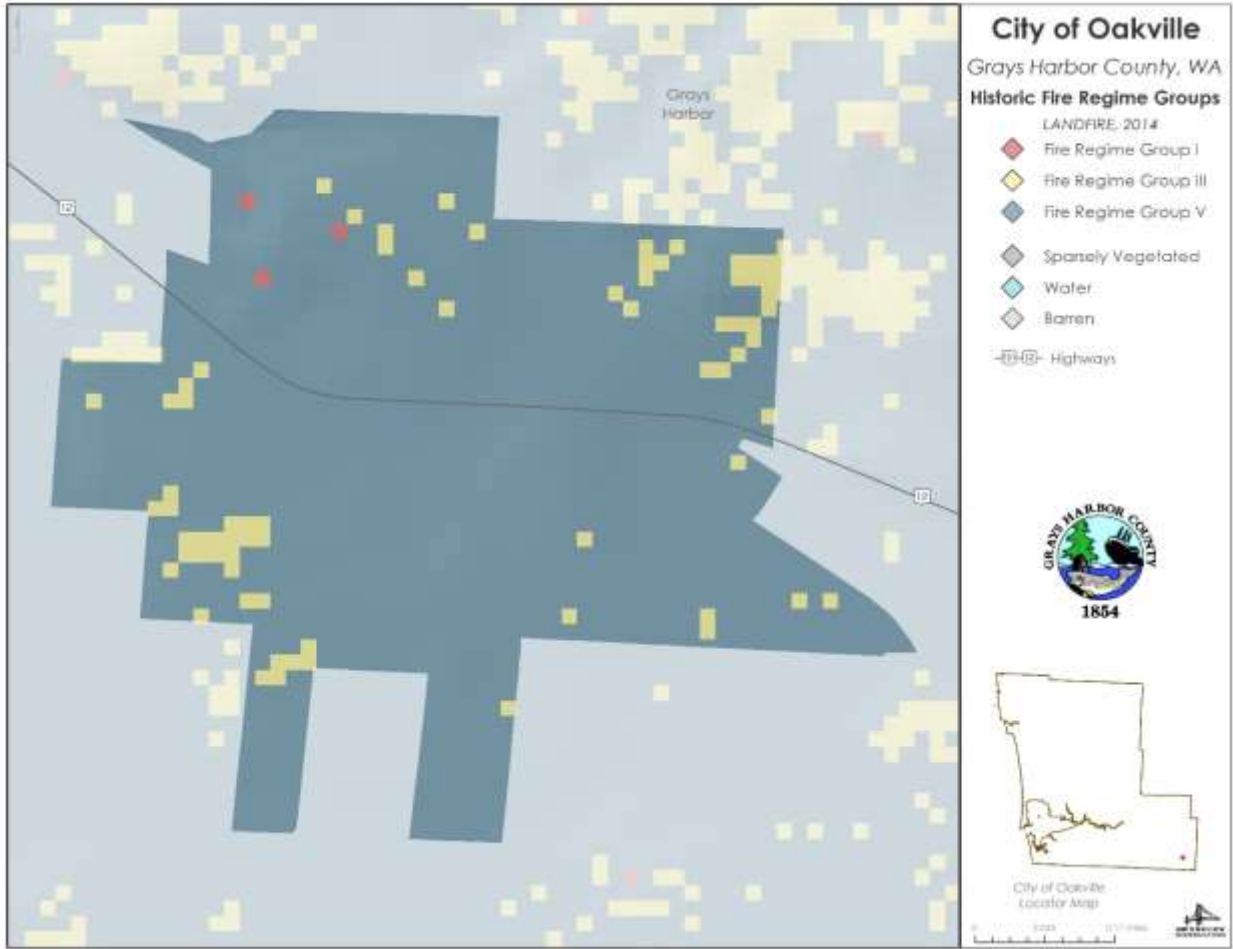
- Failure of bridges on the East, West, and South sides of Oakville and Capital Forest bordering the North side of the City has the potential to isolate the city from surrounding areas and resources.
- The North side of the city is bordered by sloping elevation terrain providing potential for landslide. There have been no landslide incidents in Oakville to my knowledge.
- There have been no Hazardous Material incidents in the City of Oakville to my knowledge. However, there is potential due to the amount of cargo truck and railroad traffic passing through the City.
- There is frequent flooding on the Eastern side of the City. These incidents happen every year and at times multiple incidents occur in a given year. This flooding impacts travel on Elma Gate Road and homes, property, and assets in the Elma Gate Road, Avarie Ct, Arla Ct, Jason Ln, and Blockhouse Road areas. In 2007 this flooding impacted a significant area of the Eastern and Southern parts of the City.

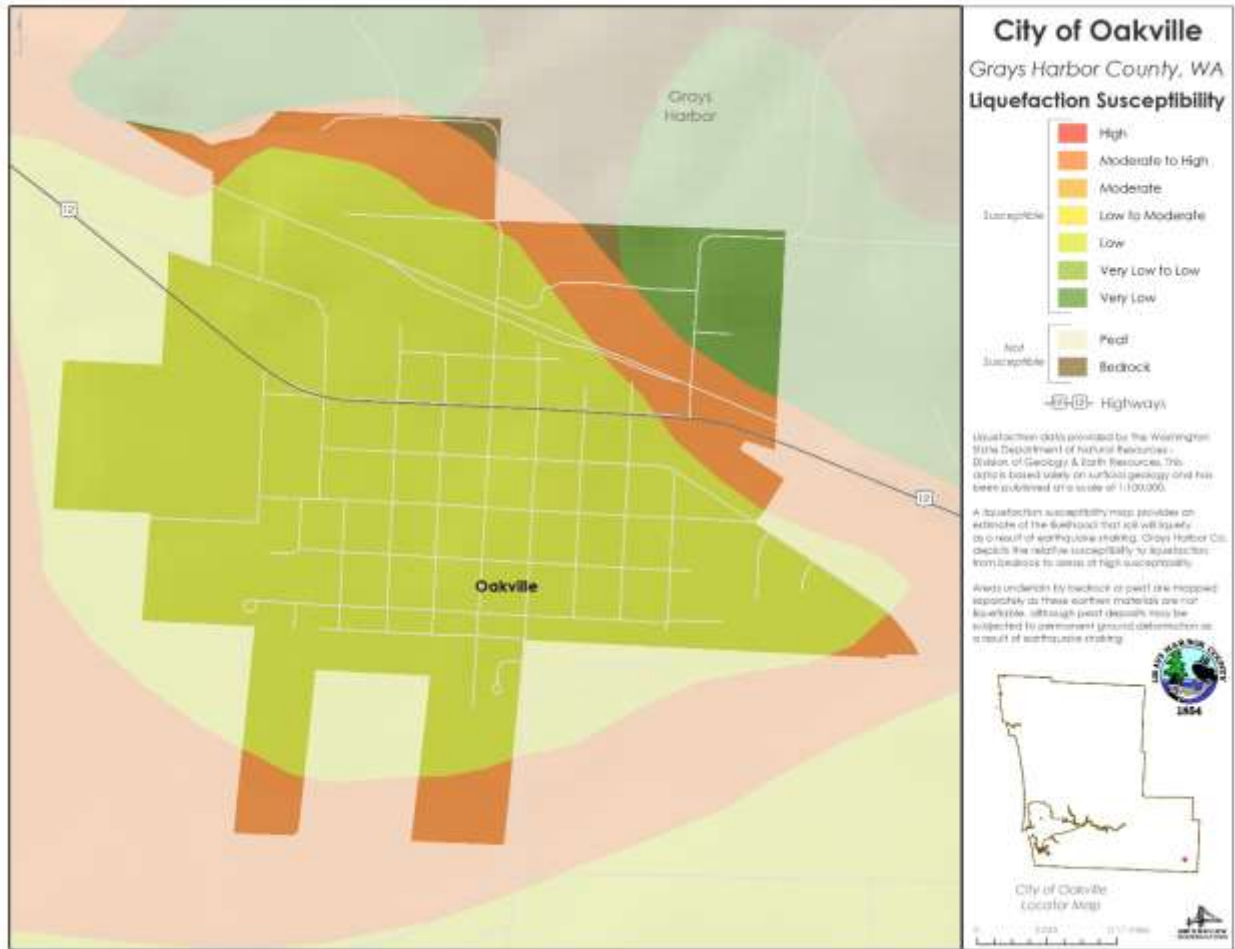
8.15 HAZARD AREA EXTENT AND LOCATION

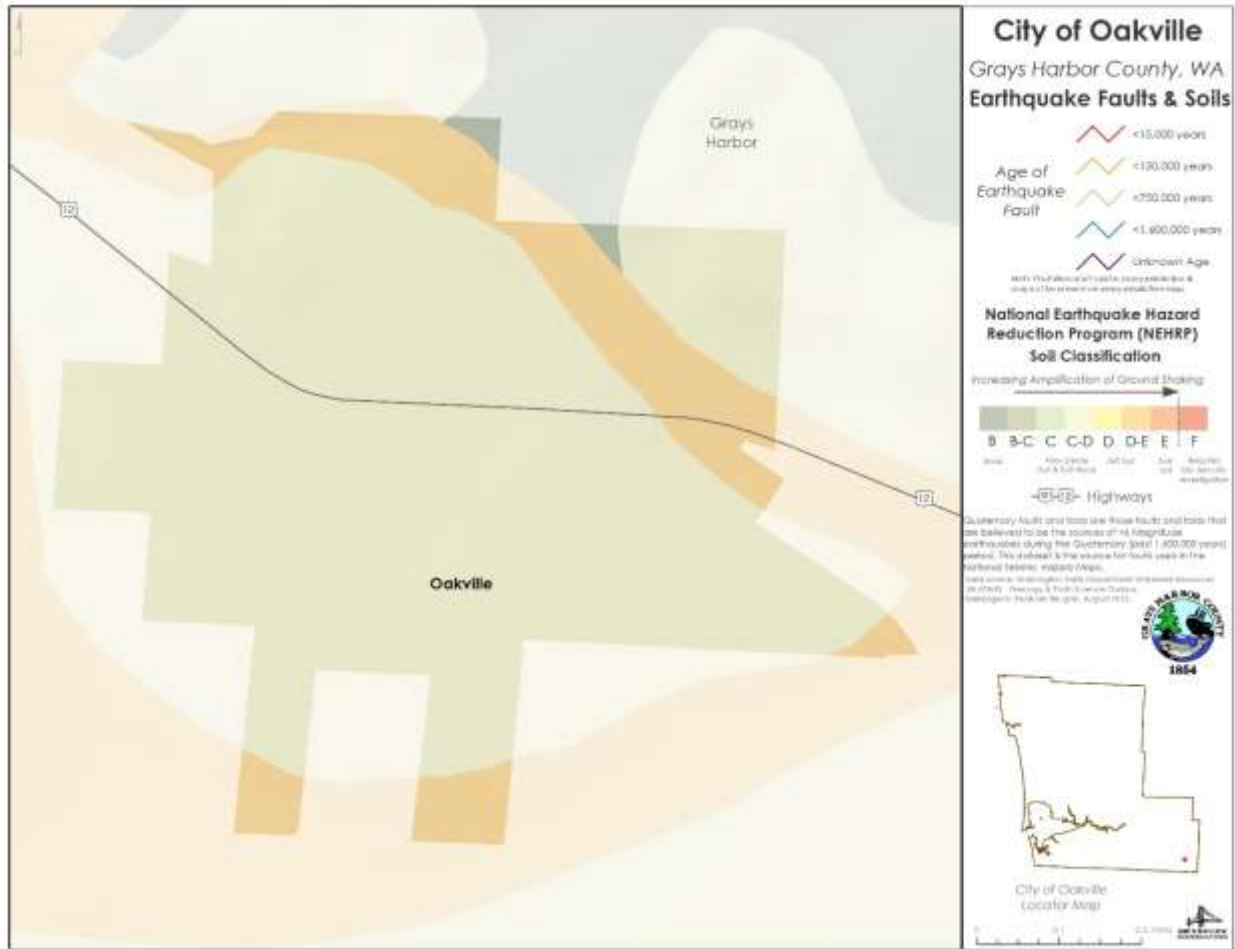
Hazard area extent and location maps are included below. These maps are based on the best available data at the time of the preparation of this plan, and are considered to be adequate for planning purposes.











CHAPTER 9. CITY OF OCEAN SHORES 2018 ANNEX

9.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the City of Ocean Shores, Grays Harbor County, Washington, a participating jurisdiction to the Grays Harbor County, Washington, Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by the City of Ocean Shores, Grays Harbor County, Washington. For planning purposes, this Annex provides additional information specific to the jurisdiction, with a focus on providing greater details on the risk assessment and mitigation strategy for this community only.

9.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

The City of Ocean Shores, Grays Harbor County, Washington followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County’s Planning Team, the City of Ocean Shores, Grays Harbor County, Washington also formulated their own internal planning team to support the broader planning process. Individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

LOCAL PLANNING TEAM MEMBERS		
NAME	POSITION/TITLE	PLANNING TASKS
Crystal Dingler 858 Pt. Brown Ave NE Ocean Shores, WA 98569 Phone #360-581-5386 Email: cdingler@osgov.com	Primary Point of Contact; Mayor	Monitoring, evaluating and updating the annex for our jurisdiction. Principle liaison between our jurisdiction and the Planning Team.
Nick Bird 165 Ocean Lake Way SE Ocean Shores, WA 98569 Phone #360-940-7542 Email: nbird@osgov.com	Alternate Point of Contact; Director of Public Works	Assists with monitoring, evaluating and updating the annex for our jurisdiction. Secondary liaison between our jurisdiction and the Planning Team.
Michael McGivney 801 Minard Ave NW Ocean Shores, WA 98569 Phone #360-289-2754	Building Official and Flood Plain Manager	Monitoring Flood Zone code and updates.

LOCAL PLANNING TEAM MEMBERS		
NAME	POSITION/TITLE	PLANNING TASKS
Email: mmcgivney@osgov.com		
Alicia Bridges 801 Minard Ave NW Ocean Shores, WA 98569 Phone #360-940-7489 Email: abridges@osgov.com	City Planner	A variety of planning tasks
Curt Begley 858 Pt. Brown Ave NE Ocean Shores, WA 98569 Phone #360-940-7587 Email: cbegley@osgov.com	Fire Inspector	Fire advisory role.
Neccie Logan 577 Pt. Brown Ave NE Ocean Shores, WA 98569 Phone #360-940-7566 Email: nlogan@osgov.com	Police Chief	Emergency Manager
David Bathke 585 Pt. Brown Ave NE Ocean Shores, WA 98569 Phone #360-580-2152 Email: dbathke@osgov.com	Fire Chief	Deputy Emergency Manager

9.3 COMMUNITY PROFILE

The following is a summary of key information about the jurisdiction and its history:

- **Date of Incorporation**—1970
- **Current Population**—6,055 as of 2017 (State Office of Financial Management)
- **Population Growth**— The 2000 U.S. census gave Ocean Shores’ population as 3,836 while the 2010 census listed the population at 5,569. The 2017 Department of Revenue estimates our population at 6,055, an increase of about fifty-eight percent (58%) over seventeen (17) years but the majority of that growth happened before 2010. The slower growth rate since 2010 was likely due to the Great Recession. Currently, population appears to be growing at a faster rate.
- **Location and Description**— Coordinates: [46°58’18”N 124°9’17”W](#). The City of Ocean Shores on a peninsula approximately 6 miles long north to south and 2 miles wide east to west

on the Washington coast. The City's highest point is about twenty-four (24) feet above sea level. Grays Harbor is on the east and south sides of the peninsula, while the Pacific Ocean is to the West, giving the City approximately ten (10) miles of outer shoreline. The peninsula is composed entirely of sand to a considerable depth. When the City was first developed, twenty-three (23) miles of fresh waterways including several new canals, Lake Minard and Duck Lake, were dredged to make them navigable. The canals necessitated several bridges throughout the City. The City is replacing the original wooden bridges as funds become available.

The northern ocean shoreline beaches are accreting up to ten (10) feet of new beach yearly, while the southern beaches on the Ocean and Harbor are eroding. There are no rivers or streams in Ocean Shores but storm drains and ditches empty into the waterways, which in turn drain through tide gates into the Ocean.

Dominant land cover is twenty-seven percent (27%) developed/human use, fourteen percent (14%) herbaceous, thirteen percent (13%) barren land, twelve (12%) emergent herbaceous wetland and five percent (5%) woody wetland. Habitat conservation areas are priority habitat for Chinook, Coho, Chum, and Steelhead Salmon, Bull Trout, Coastal Resident Cutthroat, Rainbow Trout, and Herring spawning areas as well as resident and migrating shorebird concentrations, marine mammals, and sensitive vegetation communities (Dune Grass, Eelgrass, Saltmarsh). Shoreline modifications include Shoreline armoring in the Marina and Jetty areas, and south end of Pacific Ocean South levees, overwater structures and tide gates.

Between 1912 and 1916, the Army Corps of Engineers constructed the North Jetty on the northern mouth of Grays Harbor at what would become the southern point of the City. The North Jetty stretches approximately 0.3 miles into the Pacific. Following the construction of the North Jetty, sand accreted on the north side of the North Jetty forming new land which is now largely occupied by homes and condominiums. The south shoreline is armored with huge jetty rock around the marina and across the SW land mass from the Wastewater Treatment Plant to the tip of the North Jetty. The south end of also features levees, overwater structures at the marina, and tide gates

Two (2) miles north of the jetty, accretion along the Pacific Ocean is common. Accumulation rates increase to the north, with recent seaward shoreline migration rates in excess of ten (10) feet per year. Some scientific reports consider the dams along the Columbia River to have limited the amount of sand available for nourishing and replenishing beaches..

- **Brief History**—The peninsula was used by the various local tribes for trading, harvesting shellfish, and other purposes. The Chinook, Chehalis, and Quinault Tribes used the area, as well as others that now make up the Quinault Indian Nation. The first settler of European origin on the Point was Matthew McGee, who settled in the early 1860s. McGee sold the southern portion of the peninsula to A.O. Damon in 1878 for a trading supply center with a dock which extended into the Oyhut channel. Following the construction of the North Jetty at the mouth of Grays Harbor. By 1929, Minard grandchildren used the area as a cattle ranch until selling the land to Ocean Shores Development Corporation in 1960 for \$1,000,000. Later that year, the Corporation started selling lots. The first year 25 homes were constructed. Today, about half of the 12,000 lots have utility service, and a majority of those have dwelling units, but many cleared lots are used as camping lots. And, currently, 24% of the shoreline area (marine and fresh water) has single family homes, 29% is bare or has sheds or other accessory buildings. 17% is undeveloped, 12% wetlands, 10% is commercial, 3% is taken up by the City's airport, and the remainder given to varied uses.
- **Climate**—Mild, wet winters with spectacular storms, and dryer cool summers are normal. Winds can be up to seventy (70) miles per hour along the coast frequently throughout the winter with gusts reaching higher. In the past few years, dry weather from last June through late

September has been the norm. Ocean breezes keep it cool in the summer with rare days into the 80's.

- **Governing Body Format**— The City of Ocean Shores is a non-charter, code city, organized under the Mayor-Council form of government with seven (7) City Councilmembers. Like the Federal and State government, the City's government powers are distributed among the three separate branches: legislative (the City Council), executive (the Mayor), and judicial (the Municipal Court). Also like the Federal and State governments, the three branches of City government operate under the "separation of powers" doctrine, where each of the three branches exercises certain defined powers free from unreasonable interference by the others. The three interact with each other as part of the checks and balances system. The powers of these three City branches are defined by the Washington State statute in the Revised Code of Washington [RCW Chapter 35.A.12](#). As the Chief Executive and Administrator officer of the City, the Mayor is in charge of the day-to-day operation of the city, including the supervision, hiring, and firing of all appointed officers and employees, subject to civil laws. The Mayor also carries out the policies set by the council, seeing that local laws are enforced. The Council is a policy making body that creates the departments of the City, the offices of the City and fixes compensations. The City Council meets the 2nd and 4th Mondays of each month at 6:00 pm in the Convention Center, unless another time and place for meeting is specially designated. Should any regular council meeting fall on any legal holiday, then the meeting shall be held at the same time and place on the next regular business day unless announced in advance otherwise.
- **Development Trends**— About eighty percent (80%) of the City's 3,495 acres is privately owned with sixteen percent (16%) City-owned, and the remainder owned by the County and State. The City was platted for development in the 1960's and has largely remained the same. Developers also put in asphalt streets and water lines throughout the City so that homes have been built in all areas of the City, while the primary business area is in the north end of the City on Point Brown Avenue and Chance a la Mer Street.
- In the late 1990's, the City built a vacuum sewer system throughout the City (replacing the individual septic systems) with several pump stations at strategic locations. The Wastewater Treatment Plant is on the south end shoreline, with jetty rock on the south and west sides, delivering treated water into the ocean. The solids are trucked to disposal areas in another county.
- The City relies on groundwater as its water supply, with several wells supplying the City with drinking water. Ocean Shores uses County guidance, which identifies the entire city as a critical water recharge area. The City built a new water treatment plant which went online in 2012. The Plant is a MIEX system which filters and treats the well water, stores it in above ground facilities prior to sending it to the customers throughout the City in the earlier developed pipe system. The fire hydrant system and potable water system use the same water pipe delivery system. The water piping system is asbestos lined pipes about fifty (50) years old and will need to be replaced in the next twenty (20) years.
- Between 2006 and 2008, up to 150 new homes were built per year. After 2008, home growth slowed to about 35 new homes per year. Since 2012, the construction of new homes has grown incrementally every year with 105 new home starts in 2017.
- Construction of commercial entities lagged with the economy, but Sunny Beach Café opened in a new building in 2015 and Sea-Mar built a large new medical clinic in 2016, a bistro and a coffee shop opened in Oyhut Bay development, with additional businesses slated to open there in 2018-2019. Two large commercial lots were cleared in the north end of the City in 2017. One in the center of town is likely to be an expansion of the existing hardware store currently

in a mall area, the while other near the City entrance off Hwy 115 appears to have been cleared and graded on speculation. A new Thai restaurant is leasing space in the center of town.

- The City's Comprehensive Plan and zoning anticipate pocket developments of small commercial stores and shops throughout the City which will serve their neighborhood populations. The average home occupancy is about two and two tenths (2.2) persons per household, with an average age of fifty-seven (57). With a portion of the buildout for non-resident home owners, the City anticipates a full-time population cap under 20,000. In our planning is a new community town hall across the street from the fire and police stations and the library, creating a consolidated city services area. Public works will also build a wastewater collections building within the public works yard to provide additional public works office area and to shelter equipment and vehicles from the salty, corrosive environment.
- Shoreline land uses within Ocean shores are varied and they include commercial uses, low density and high-density residential uses, public recreation areas, and natural, undeveloped areas. Zoning designations within the shoreline jurisdiction include Retail Commercial, General Commercial, Dune Areas, Private Recreational, Public Recreational, Single Family Residential zones, Multiple Family Residential zones (Duplexes, Triplexes, Fourplexes, Fiveplexes, and Sixplexes), Mobile and Manufactured Homes, and Medium, High and UltraHigh Density Residential zones (Figure 12 in Appendix A from the City's 2017 Shoreline Management Plan "SMP" available on the City of Ocean Shores' website: <https://oceanshores.civicweb.net/filepro/documents>).

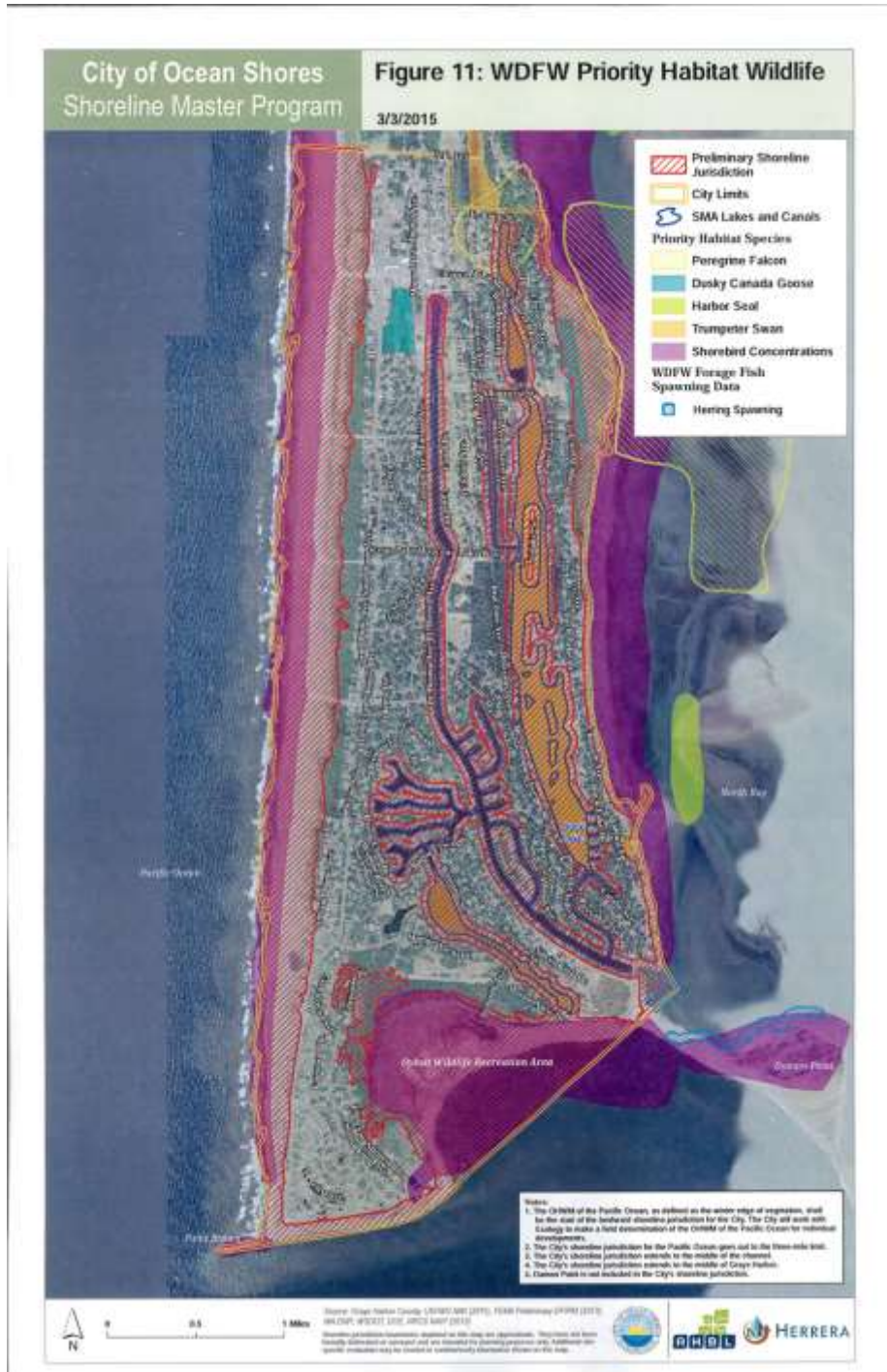


- The shoreline jurisdiction includes a mixture of land covers, as defined by the National Land Cover Database, including open water, woody wetlands, emergent herbaceous wetlands, low intensity development, and barren land1 (Figure 5 in Appendix A of the SMP).



- The local physical processes and conditions determine species and habitat in specific areas. The outer coast is dominated by a dense distribution of dune grass, and it supports a variety fish, shellfish, birds, and marine mammals. Sparse to dense eelgrass beds are a more dominate feature along Grays Harbor, but the areas along the harbor contain a variety of dune grass and salt marsh vegetation communities.

- Nearly all of the marine shoreline provides important shorebird habitat (Figure 11 in Appendix A of SMP. Habitat used by peregrine falcons is documented along the Airport area and northern tip of Duck Lake.

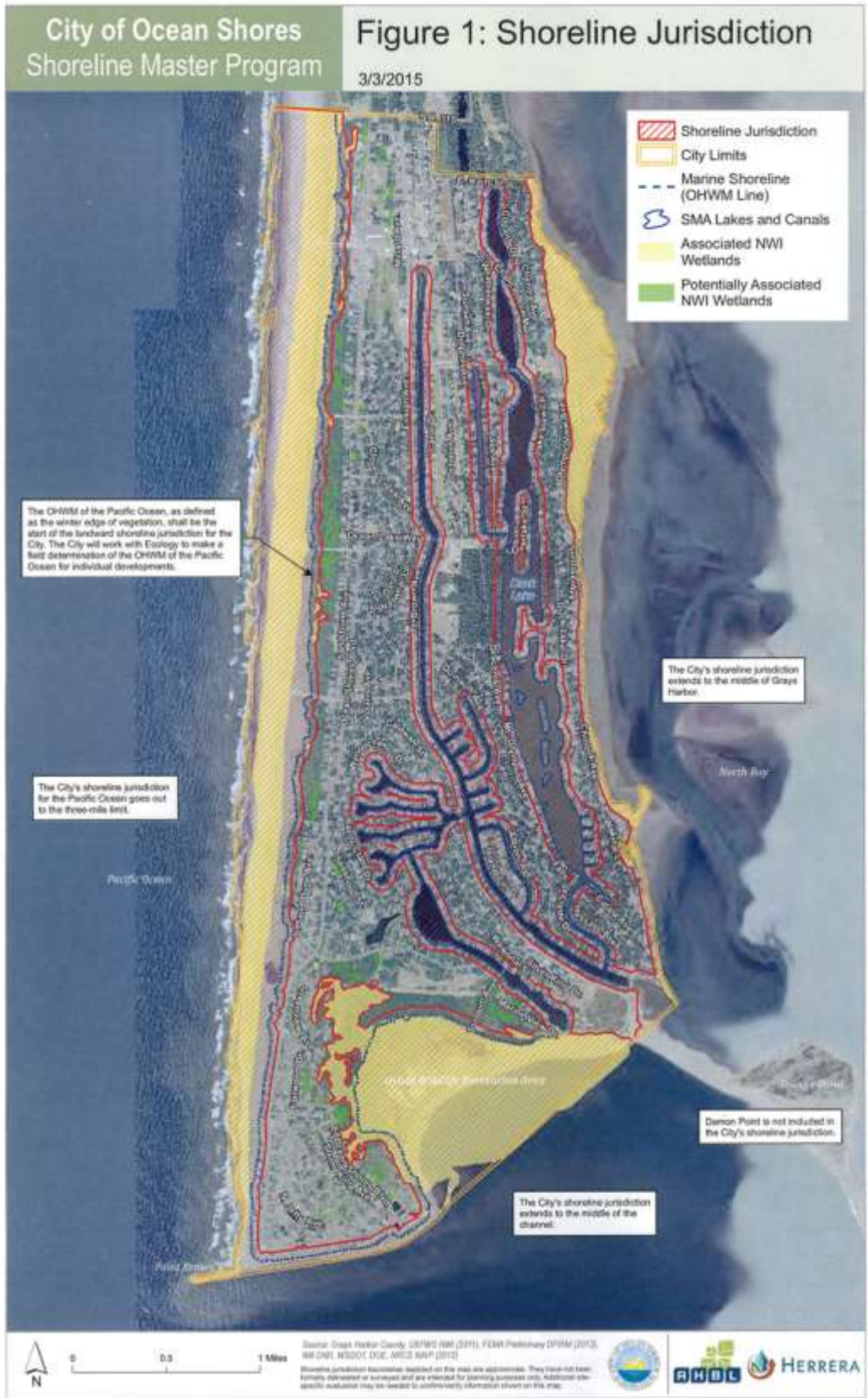


- The majority of marine shorelines are also important shellfish growing areas (Figure 7 in Appendix A of SMP) or managed for wildlife oriented recreational use.



- Species use of Duck Lake and the Canal may be more limited compared to the marine areas in the city due to access constraints (tide gates) and limited connectivity with other habitats. However, these areas support a variety of freshwater dependent species and provide fishing and other recreational and aesthetic water enjoyment opportunities. Pacific Ocean North area and Pacific Ocean South area both consist of Dune Areas and they are primarily used for water-enjoyment and recreational purposes. Jetty area is zoned for General Commercial, and Multi-family High Density Residential uses Private Recreational and Public Recreational uses that include public access to the beach. The wastewater treatment plant falls within this area and is a water-related use. Oyhut Wildlife Recreation Area consists of Public Recreational areas. This area is primarily used for water-enjoyment and wildlife viewing. Ocean Shores Marina Area is comprised entirely of water-dependent and water-enjoyment uses. Canals Area and Duck Lake Area consist primarily of Single Family residential zoned land and include areas for the public to enjoy the shoreline. Duck Lake Area includes two boat launches as well as other recreational facilities and areas to view wildlife.
- In 2016, the City was granted the Weatherwax Mitigation Land Bank by the Department of Ecology and the Army Corps of Engineers and in 2017 received the first credits. The 120 acre property in the center of the City was partially old coastal growth trees and in the migration zone for numerous coastal and water birds. The intent is preservation of the wetlands and mature forest.
- **Economy** – The City of Ocean Shores, Grays Harbor County, Washington’s economic base consists of retail sales to support the local population, construction, and recreational services supporting tourism. The largest employers include: the City, the larger hotels, and the building contractors. Overall, retail sales have grown from \$91,484,318 in 2014 to \$120,208,625 in 2017. Hotel occupancy has risen about 10% with lodging tax revenues (5% of gross sales) has risen from \$762,358 in 2013 to \$975,558 in 2016. The City has about five million visitors a year as calculated by the WSDOT traffic counter (as programmed to eliminate the local population) at the entrances of the City. During the Great Recession years from 2008 to 2015, the numbers dropped by over two million, but have recovered.
- Generally, the City includes all lands South of Damon Road (State Route 115), West of North Bay on Grays Harbor, and East of the Pacific Ocean together with tidelands of the 2nd Class adjacent to or abutting thereon. The City limits exclude the Damon Point spit at the southeastern end of the peninsula at the marina and jutting into Grays Harbor. The City limits also exclude the Oyhut Wildlife Area west of the Marina and Damon Point.

Jurisdictional boundaries are identified in the following map (Figure 1 in Appendix A of SMP).



9.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are hazards which are unique to the jurisdiction as follows. Table 9-1 lists all past occurrences of hazard events within the jurisdiction. If available, dollar loss data is also included.

Table 9-1 Natural Hazard Events			
TYPE OF EVENT	FEMA DISASTER #	DATE	DOLLAR LOSSES (IF KNOWN) OR ACTIVITY
Severe erosion & threatened breach		1998	Unknown – City signed order proclaiming an emergency due to continued severe storms and erosion
Severe erosion		1/9/2015	Unknown – Signed order proclaiming emergency due to severe storms and erosion threatening inundation
Wind event	4242-DR-WA	08/29/15	\$10,305 - Debris (trees) removal
Erosion		10/15/14-11/30/14	Unknown – severe El Nino storms removing sand at geotubes causing undermining
Local Area Disasters – Not Declared			
Erosion and breach		11/27/17-12/12/17	Unknown, 3-5 ft of vertical erosion near the jetty and breaching of dune on jetty road w/debris
Erosion		03/13/17– 04/13/17	Unknown
Wind, rain, debris		01/20/17-02/22/17	Unknown
Erosion, king tide wind storm		01/9/16	Unknown – Army Corps of Engineer placed 300 feet of rock near geobags & geotubes
Erosion, king tide with storm		12/23/15	\$23,000 direct cost to place sand over geobags & geotubes
Wind, rain, erosion		12/1-12/2015	Unknown
Erosion, king tide wind storm		10/31/15	Unknown – Army Corps of Engineers placed 300 feet of sand near geobags & geotubes

Table 9-1 Natural Hazard Events			
TYPE OF EVENT	FEMA DISASTER #	DATE	DOLLAR LOSSES (IF KNOWN) OR ACTIVITY
WF in the dunes		08/2013	Unknown – burned 55 acres of wildland, threatened 12 homes, damaged 1 home
Rain, F, culvert failure		01/4-5/15	\$20,000 to replace culvert
Storm surges, erosion undermining geotubes		12/4-23/14	\$100,000 – Failure of geotubes, later repaired and replaced with geobags
Storm surge, erosion		10/15/14-11/30/14	Unknown – severe El Nino storms removing sand
Erosion		Winter 2009-2010	Unknown – severe storms eroded dune, uncovering geotubes
Wind event, F		12/1 – 12/3/2007	Unknown – trees and debris, no electricity, cut off for nearly a week
Storm surge, F		2003	Unknown
Storm surge, F		1/29-3/11/1999	Unknown. Requested declaration of emergency by Governor Locke denied as “not a major emergency”.
Erosion		1996-1998	Unknown. El Nino Winters cause high erosion rates
Erosion		1995-1996	Unknown. Erosion observed with no observed summer sand fill-in.
Erosion		1993-1994	Unknown. Erosion observed with summer sand fill-in.
Oil Spill during severe storm		12/23/1988	Barge “Nestucca” released 231,000 gallons of fuel oil along the coast of Grays Harbor
High water, F		11/21/1972	Unknown. Erosion near N. Jetty and overtopping of Jetty

9.5 CAPABILITY ASSESSMENT

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction's capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: National Flood Insurance Information; regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation efforts, and classifications under various community programs.

Following the failure of the geotubes along the dune face north of the jetty in late December 2014, and with the considerable help of the Port of Grays Harbor and support of US Rep. Derek Kilmer, the City began meeting regularly every two (2) months or so with representatives of the Port of Grays Harbor, the State Department of Ecology, the U.S. Army Corps of Engineers, Washington Sea Grant, Coast and Harbor Engineering, State Parks, and, occasionally, the State Fish and Wildlife and Department of Natural Resources, to discuss what should and could be done to make repairs and strengthen the Cities shoreline against erosion. The group called itself the North Beach Erosion Committee. The City also secured funding from the State Legislature to support the Committee's efforts with additional research by the Department of Ecology. The Committee developed a plan of action and took it to the State Legislature but failed to get funding.

We also generally educating ourselves by attending Marine Resource Committee (MRC) meetings and developing collaborative efforts with other coastal communities and developing a close relationship with the Department of Ecology and Oregon State University coastal groups. In 2016, the Mayor presented Power Point presentations on the erosion issues to the Department of Ecology and MRC annual meetings, as well as a 2017 meeting with the Washington Coast Marine Advisory Committee (WCMAC). The City also helped spearhead the formation of the Grays Harbor Resiliency Coalition to help each community on the coast to develop plans to take to the legislature for funding and worked with the Department of Ecology, Washington Sea Grant, the Ruckleshaus Center at Washington State University, and the Governor's Office to foster support for creating a Washington coastal resilience effort to integrated coast-wide effort to strengthen coastal resilience. In addition to the standard capabilities identified in this section, the City of Ocean Shores also has a large effort underway with respect to informing our citizens about the hazards of concern. On a regular basis, our planning team has provided reports and findings of studies which we have conducted or where we have worked with others. All Power Point presentations and papers generated by these efforts were shared with the public on the City's website and through various public discussions at City Council meetings, on the City-owned KOSW Radio Station, and other avenues. We have also invited members of the Coalition to speak publicly to the Ocean Shores citizens at Council Study Sessions and Meetings on the issues and preferred actions.

The following existing codes, ordinances, policies, or plans are applicable to this hazard mitigation plan:

- Fish and Wildlife Habitat Conservation Areas in Ocean Shores, which are designated critical areas in Ocean Shores Municipal Code Chapter (OSMC) 19.02 Critical Areas Regulations, include:
 - The dune protection area as delineated in the Ocean Dunes Protection Act (OSMC Chapter 18.56) and the beaches associated with the Pacific Ocean between the OHWM and the line of extreme low tide (city limit line)

- Marshes and tidelands are associated with Grays Harbor between the OHWM and the line of extreme low tide (city limit line).
 - The 683-acre Oyhut Wildlife Area is located at the south end of the Ocean Shores Peninsula in Grays Harbor County. The property is maintained as waterfowl habitat and for associated recreational opportunities. It is one of four remaining snowy plover nesting sites in the state. The Wildlife Area is managed by the Washington State Department of Natural Resources. This is a popular waterfowl hunting and birding area as well as a nesting area for Western Snowy Plover.
- Duck Lake and all City-owned land adjacent to and within 200 feet of the OHWM All of the other freshwater canals and waterways and all City-owned land adjacent to and within 25 feet of the OHWM
 - OSMC Title 13 Water and Sewers
 - OSMC Title 15 Buildings and Construction
 - OSMC 15.36 Flood Damage Prevention ordinance (January 23, 2017)
 - OSMC Title 16 Subdivisions
 - OSMC Title 17 Zoning
 - OSMC Title 18 Shoreline Master Program (2018, under review)
 - OSMC 18.56 Ocean Dunes Protection Act (Ord. 629 (part) (1998)
 - OSMC Title 19 Environment
 - 1989 North Beach Recreation Management Plan for the Ocean Beaches
 - Grays Harbor North Jetty and Ocean Shores Shoreline Erosion Study, Coast and Harbor Engineering, November 15, 2016
 - City of Ocean Shores Water Systems Plan, Pace Engineers, 2011
 - Water Conservation Program, City of Ocean Shores, Resolution 311
 - Grays Harbor Comprehensive Plan, Resource Lands and Critical Areas Element
 - Shoreline Inventory and Characterization for the Cities of Ocean Shores and Westport, Herrera, April 2015
 - Weatherwax Mitigation Bank Enhancement Planting Project, February 26, 2015, GeoEngineers
 - Feasibility Study Report Dune Firebreak and Walk and Bike Path, May 26, 2016, GeoEngineers
 - Ocean Shores Comprehensive Plan (parts under review)
 - Ocean Comprehensive Parks Plan 2018-2023, February 26, 2018
 - 2015 Water Use Efficiency Report
 - 2017 Annual Drinking Water Quality Report
 - 2017 Fresh Waterways Report
 - 2017 Grays Harbor Coalition Report
 - 2017 Marine Spatial Planning Doc., 2017 (under review)

- 2017 Ruckleshaus Center Washington State Coastal Resiliency Report
- Draft Marine Spatial Plan and Draft Programmatic EIS (October 12, 2017)
- Washington Coast Recreational Use Study, Surfrider Fnd & Point 97, 2015
- Grays Harbor North Jetty Feasibility Study, Coast & Engineering, (Nov. 15, 2016)
- Grays Harbor Coastal Resilience, Dept. of Ecology, 2016 (presentation)

9.6 NATIONAL FLOOD INSURANCE INFORMATION

Information on the community’s National Flood Insurance Program (NFIP) compliance is presented in Table 9-2. This identifies the current status of the jurisdiction’s involvement with the NFIP.

Repetitive flood loss records are as follows:

- Number of FEMA-Identified Repetitive Loss Properties: 0
- Number of FEMA-Identified Severe Repetitive Loss Properties: 0
- Number of Repetitive Flood Loss/Severe Repetitive Loss Properties That Have Been Mitigated: 0

As of August 2017, the City of Ocean Shores had 613 Flood policies in force at an insured value of in excess of \$174 million..

Table 9-2 National Flood Insurance Program Compliance	
What department is responsible for floodplain management in your community?	Building & Permitting
Who is your community’s floodplain administrator? (department/position)	Public Works, Building Official
Do you have any certified floodplain managers on staff in your community?	No
What is the date of adoption of your flood damage prevention ordinance?	February 2, 2017 City Ordinance 992
When was the most recent Community Assistance Visit or Community Assistance Contact?	December 12, 2016
To the best of your knowledge, does your community have any outstanding NFIP compliance violations that need to be addressed? If so, please state what they are.	No
Do your flood hazard maps adequately address the flood risk within your community? (If no, please state why)	Yes

Table 9-2 National Flood Insurance Program Compliance	
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	Ongoing support/training would be welcome to keep us abreast of updates and any changes to flood regulations requirements.
Does your community participate in the Community Rating System (CRS)? If so, is your community seeking to improve its CRS Classification? If not, is your community interested in joining the CRS program?	No, not at this time, due to staffing limitations

9.6.1 Regulatory Capability

The assessment of the jurisdiction’s legal and regulatory capabilities is presented in Table 9-3. This includes planning and land management tools, typically used by local jurisdictions to implement hazard mitigation activities and indicates those that are currently in place.

Table 9-3 Legal and Regulatory Capability				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Codes, Ordinances & Requirements				
Building Code Version: current Year	Yes			International Building Code
Zoning Ordinance	Yes			Ordinance #136 and 837
Subdivision Ordinance	Yes		Yes	Ordinance #67, 240, 755 & RCW 98.17
Floodplain Ordinance	Yes		Yes	Ordinance #992 adopted Feb 2, 2017
Stormwater Management	Yes		Yes	Ordinance #983; 2005 SWMWW
Post Disaster Recovery		County		
Real Estate Disclosure			Yes	
Growth Management	No			(I thought you had to do a limited amount of GM planning?)
Site Plan Review	Yes			
Public Health and Safety	Yes	GH County Health		
Coastal Zone Management	Yes		Dept of Ecology	The City of Ocean Shores works closely with the Dept. of Ecology for Coastal Zone Management.
Climate Change Adaptation	No			

Table 9-3 Legal and Regulatory Capability				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Natural Hazard Specific Ordinance (stormwater, steep slope, wildfire, etc.)	Yes			Ordinance #851 critical area regulations, Municipal Code 19.02
Environmental Protection	Yes		Yes	State Environmental Policy Act, OSMC 19.04
Planning Documents				
General or Comprehensive Plan	<i>Is the plan equipped to provide linkage to this mitigation plan? Yes</i>			
Floodplain or Basin Plan		County	Yes	Federal FEMA
Stormwater Plan	Yes			2005 Stormwater Mgt. Manual Western Washington for design and construction standards
Capital Improvement Plan	No			
Habitat Conservation Plan	Yes			Weatherwax Conservation Area
Economic Development Plan	Yes			2013 (under revision)
Shoreline Management Plan	Yes			2017 (under Ecology review)
Community Wildfire Protection Plan	Yes			2014 to present, Firewise Community
Transportation Plan	Yes			6-Year Transportation Plan
Response/Recovery Planning				
Comprehensive Emergency Management Plan	Fire Dept.			We have a plan for emergencies such as tsunami, wildfire, etc. We also rely on the County to provide assistance with respect to Emergency Management, and utilize their CEMP for this purpose.
Threat and Hazard Identification and Risk Assessment	Mayor			Working closely with our insurance carrier WCIA
Terrorism Plan	Police Dept			
Post-Disaster Recovery Plan		County		
Public Health Plans		County		
Boards and Commission				
Planning Commission	Yes			
Mitigation Planning Committee	Yes			In conjunction with the County and the internal planning team.
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems, chipping, etc.)	Yes			Public Works conducts trimming, clearing ditches, etc. year round

Table 9-3 Legal and Regulatory Capability				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Mutual Aid Agreements / Memorandums of Understanding	Yes			With in-county other local agencies; Public Works Statewide Agreement

9.6.2 Administrative and Technical Capability

The assessment of the jurisdiction’s administrative and technical capabilities, educational outreach efforts, and on-going programmatic efforts are presented in Table 9-4. These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 9-4 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	1 FTE Planner, 2 FTE Engineers
Professionals trained in building or infrastructure construction practices (building officials, fire inspectors, etc.)	Yes	1 FTE Building Official, 1 FTE Fire Inspector, & 2 FTE Engineer
Engineers specializing in construction practices?	Yes	2 FTE Engineers
Planners or engineers with an understanding of natural hazards	No	
Staff with training in benefit/cost analysis	Yes	Public Works Director
Surveyors	No	
Personnel skilled or trained in GIS applications	Yes	Public Works
Personnel skilled or trained in Hazus use	Yes	Building Official has had some training
Scientist familiar with natural hazards in local area	No	State Dept of Ecology conducts quarterly profiling on our beaches and we work with USACE and Ecology on erosion and flooding issues
Emergency Manager	Yes	Police Chief, Fire Chief is Assistant EM
Grant writers	Yes	0.5 FTE
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?)	Yes	Outdoor emergency sirens
Hazard data and information available to public	Yes	We have a City-owned radio station that broadcasts emergency information in case of disaster or hazards

Table 9-4 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Maintain Elevation Certificates	Yes	Building Department
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	Yes	CERT Team
Local citizen groups or non-profit organizations focused on environmental protection?	Yes	Countywide
Organization focused on individuals with access and functional needs populations	No	
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes	A Variety of Programs, information on the City website from County Emergency Management
Natural disaster or safety related school programs?	Yes	Earthquake, tsunami preparedness
Public-private partnership initiatives addressing disaster-related issues?	No	
Multi-seasonal public awareness program?	No	
Other	No	
On-Going Mitigation Efforts		
Hazardous Vegetation Abatement Program	Yes	In some sensitive areas
Noxious Weed Eradication Program or other vegetation management	Yes	Limited by resources
Fire Safe Councils	Yes	We are a Fire-Wise City since 2014
Chipper program	No	
Defensible space inspections program	No	
Creek, stream, culvert or storm drain maintenance or cleaning program	Yes	Ongoing effort
Stream restoration program	No	
Erosion or sediment control program	Yes	Public Works / 2005 SWMWW
Address signage for property addresses	Yes	Chapter 15.34: Sign Code (municipal code)
Other		

9.6.3 Fiscal Capability

The assessment of the jurisdiction’s fiscal capabilities is presented in Table 9-5. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

Table 9-5 Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	Yes
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	No
Withhold Public Expenditures in Hazard-Prone Areas	Yes
State Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	Yes
Other	

9.6.4 Community Classifications

Classifications under various community mitigation programs are presented in Table 9-6. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community.

Table 9-6 Community Classifications		
	Participating (Yes/No) or Rank	Date Enrolled
Community Rating System	No	
Building Code Effectiveness Grading Schedule	Yes	
Commercial Structures	3	Rating as of 10/2017
Residential Swellings	3	Rating as of 10/2017
Public Protection Class	6	Rating as of 10/2017
StormReady (NOAA)	Yes	2001
FireWise Community (National Fire Protection Association)	Yes	2014
TsunamiReady - first TsunamiReady community in the nation (NOAA)	Yes	2001

9.7 HAZARD RISK AND VULNERABILITY RANKING

The jurisdiction’s Planning Team reviewed the hazard list identified within the Base Plan and have identified the hazards that affect the City of Ocean Shores, Grays Harbor County, Washington.

Table 9-7 presents the ranking of the hazards of concern based on their Calculated Priority Risk Index (CPRI) score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and /or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one (1) month.

Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank
1	Erosion	3.9	High
2	Severe Weather	3.75	High
3	Earthquake	3.7	High
3	Tsunami	3.7	High
4	Climate Change	3.55	High
5	Wildfire	3.5	High
6	Wind Storm	3.1	High
7	Flooding	3	High
8	Invasive Species	2.65	Medium
9	Drought	2.5	Medium
10	Volcano	2.15	Medium
11	Landslide	0.2	Extremely Low

In addition to the detailed information contained in the hazard profiles contained in Chapter 1 of the County's Plan, the Planning Team also considered the below information in identifying and describing risk to the hazards of concern.

Erosion:

Erosion is the City of Ocean Shores' hazard of greatest concern, due to its impact throughout the city, which includes the following information (additional detailed information is also available in the hazard profile contained in the base plan):

- The dominant shoreline type is marine, but there are significant lengths of freshwater shorelines on Lake Minard, Duck Lake and the canal system.
- Erosion near the north jetty: The Army Corps of Engineers extensively repaired the entire Jetty in 1944 and 1975 and refurbished the landward end of the Jetty in 2003. It currently needs maintenance to hold sand in place.



- Lack of sediment is part of the erosion problem. Sediment transport in the City has been studied extensively (Burch and Sherwood 1992; Buijsman et al. 2003; Kaminsky et al. 2010). Burch and Sherwood (1992) determined that the most dominant modification of sediment transport was the construction of the North Jetty.

- Erosion in Oyhut Bay, the Oyhut Wildlife Recreation Area, and Damon Point: Other than the remnant deteriorating section of the North Jetty between the Wastewater Treatment Plant and the Marina, the east end of the North Jetty near the Wastewater Treatment Plant and the Marina breakwater are the two hard points that control the equilibrium shape and location of the “Oyhut Bay” shoreline. The City needs to have studies done to determine where the equilibrium shoreline is, but it appears to be quite a ways landward along its length between these two points. The Bay is likely to continue to enlarge over the coming decades. If a hard point in the vicinity of the RV park is not maintained, this will affect the evolution of Oyhut Bay, and much of the southeast corner of Ocean Shores could be lost to erosion— in particular, the east end of Marine View Drive SE and the south end of Discovery Ave SE, with seawater intrusion into the freshwater canals.
- Erosion on the east side of the wastewater treatment plant (WWTP): While the WWTP is surrounded by large protective rock on the south, the other sides are not so protected. As Oyhut Bay continues to erode, the WWTP may be in some jeopardy. This is a new phenomena and one we will be researching. Incursions of seawater into the WWTP would be catastrophic to people and wildlife, while causing enormous strain on our utility rate payers to effect repairs and protection from future erosion.
- Erosion on the east side of the peninsula:
- Between the lack of available sand to replenish our shorelines and lack of barriers like large woody debris and rock, our beaches are vulnerable to severe erosion.

Climate Change:

Higher tides, increased number and severity of storms and El Nino events causing additional erosion, flooding, and possible salt water incursion into our wells. During extreme low pressure storms, tides are 2 - 3 feet higher than normal, so that the action of waves, swells, and storm surges are amplified.

Severe Weather:

Unusually heavy rains cause damage to culverts, flooding, strain on the weir/tide gates, etc.

Windstorms:

The City is vulnerable to high winds that knock down or uproot trees, damage homes and habitat, and may cut-off the City from needed supplies. Generally, winds over 70 miles an hour, depending on direction, will do damage.

Earthquake:

Like other areas along the Pacific Rim, earthquakes are frequent, though mostly without doing severe damage. Liquefaction during and following nearby earthquake events, such as a Cascadia earthquake event, will also be a hazard in all areas of Ocean Shores. With a deep sand base and no natural rocks or dirt, seismic events will naturally liquefy the high-water table and sand into a slurry that will damage homes and infrastructure, including streets, water and sewer pipes, etc. This will make evacuation difficult. A tsunami over 10 feet or so will also do extensive damage across the City.

Tsunami:

Scientists tell us that we are due for a tsunami in the next fifty (50) years or so. The last major tsunami was in 1700. Minor tsunamis take place every few years, generally following an Alaska earthquake. A Cascadia earthquake event would give 15-20 minutes warning to residents if a tsunami took place and likely cause a subsidence in the southern part of the City, and liquefaction in the sand causing breaks in water and sewer pipes, failures of electricity and communications, and breaking up of roadways. Evacuation would be difficult to impossible.



Flooding:

Flood hazard areas are present throughout the majority of the marine shorelines of the city.

This photo (L) shows 2016 flood damage at the Quinault RV Park next to the marina on the southern end of the Ocean Shores peninsula on Grays Harbor. Both erosion and flooding have been frequent problems in this area.

Invasive species:

Duck Lake is a 303d listed water body for both invasive species and phosphorus (Category 2). Duck Lake has had a history of aquatic invasive species, including Brazilian elodea (*Egeria densa*) and Eurasian water milfoil (*Myriophyllum spicatum*) (Northwest Aquatic Eco-Systems 2007). The Canals area also suffers from the same invasive species issues that Duck Lake has due to its proximity and interconnectedness (Northwest Aquatic Eco-Systems 2010). In addition, European green crab (*Carcinus maenas*) has been found in the Airport, Ocean Shores Residential, Oyhut Wildlife Recreation Area, and Ocean Shores Marina areas of Grays Harbor. There is regular monitoring of water quality by Ecology throughout the City due to the large areas of recreational and commercial shellfish harvest.

Wildfires:

While most are caused by carelessness, wildfires in the dunes and other areas of the City are fueled by brush, wax myrtle, and invasive plants that have overgrown.



The August 2013 Butterclam Wildfire blackened fifty-five (55) acres of the southwestern dune and threatened homes on its the east side. Crews from several local fire districts and city fire stations answered the call, including prison crews brought by the WA Dept. of Natural Resources. These crews worked for several days putting out hot spots.

Volcano:

Possible volcanic activity at Mt. St. Helens, Mt. Baker, or the long-inactive Mt. Rainier could cause ash, blockage in rivers from pyroclastic flows, and other problems that would affect the City.

Drought:

Long-term drought could cause loss of vegetation or result in fires that remove the barriers to additional erosion, blowing sand from the dunes, and problems with pumping well water.

Landslide:

Highest point in the City is about 22 feet above sea level. Sand caving-in along the erosion scarp or subsidence due to earthquake is more likely.

9.7.1 Public Meeting

The City hosted a public meeting during the March 26, 2018 City Council meeting to provide information on the hazards of concern as they relate to the City of Ocean Shores. A briefing was provided, as well as maps and information distributed through Council Chambers. Over thirty people were present. While the Council Members asked following-up questions to the presentation, citizens did not, though they were given the opportunity.

The meeting was broadcast simultaneously and recorded on the radio and is available on the City’s radio station KOSW for later listening. The meeting was also recorded digitally by the local television station and is aired Tuesday and Friday at 7 pm on local cable channel 68 for two weeks following the meeting and a copy is available at the City Library. The City also placed the televised version on the City’s website with the associated agenda. Citizens could easily access the specific portions of the meeting that they wanted to review by clicking on the agenda topic.

9.8 MITIGATION GOALS AND OBJECTIVES

The City of Ocean Shores, Grays Harbor County, Washington adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1 of the Grays Harbor County Hazard Mitigation Plan.

9.9 HAZARD MITIGATION ACTION PLAN

The Planning Team for the jurisdiction identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the jurisdiction’s assets and hazards of concern. Table 9-8 lists the action items/strategies that make up the jurisdiction’s hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, who will benefit from the activity, and the type of initiative associated with each item are also identified.

Table 9-8 Hazard Mitigation Action Plan Matrix									
Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE # 1 Repair, Reconstruct, and Maintain US Army Corps of Engineers-owned North Jetty per plans developed by Coast and Harbor Engineering, Inc., in 2016.									
New	Erosion, CC, SW, FL	2, 3, 4, 5, 8, 9	Facilities, Public Works, Ecology, Sea Grant	~\$8 million	State Grants, Army Corps, FEMA	Short-term	NO	Preventive Activities, Property Protection	Facility, Local
INITIATIVE # 2 Retrofit or develop new City buildings and facilities to withstand damage from major earthquake and/or tsunami and provide a safe haven for residents and visitors.									
New	EQ, SW Tsunami	2, 3, 4, 5, 8, 9	Facilities, Risk, Public Works	High	FEMA, Ecology	Short-term	NO	Structural Projects, Property Protection, Natural Resource Protection	Local
INITIATIVE # 3 Determine necessity to retrofit City-owned water sources and other vital needs to withstand a major earthquake or tsunami event. Seek grant funding to make determination and build/retrofit structures.									
New	EQ, Erosion, SW, T	2, 3, 4, 5, 8, 9	Facilities, Risk, Public Works	High	Federal and State Grants	Short-term	NO	Structural Projects, Recovery, Services	Local
INITIATIVE # 4 Per Shoreline Master Plan restore and groom dunes, eliminating high hazard vegetation such as Wax Myrtle, brush, dry flammable vegetation.									
New	WF	1, 2, 3, 4, 5, 6, 8, 9	Maintenance, Risk, Public Works	High	Federal and State Grants	Short-term	NO	Preventative Activities	Local
INITIATIVE # 5 Design and construct high dune trail for recreational purposes and as a fire break – defensible firefighting area.									

**Table 9-8
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
New	WF	2, 3, 4, 5, 6, 8, 9	Maintenance, Fire, Public Works	\$1.6 M	Federal and State Grants	Short-term	NO	Preventative Activities	Local
INITIATIVE # 6 Design and construct sand fencing and other features to collect sand and hold it in place.									
Existing	Erosion	2, 3, 4, 5, 8, 9	Maintenance, Public Works	Medium	Federal and State Grants	Short-term	NO	Preventative Activities	Local
INITIATIVE # 7 GIS mapping of events as they happens to determine losses and calculate hot spots.									
Existing	All	2, 3, 4, 5, 6, 8, 9	Public Works	Low	Internal	Long-term	NO	Public Information /Property Protection	Local
INITIATIVE # 8 Outreach Education Flier to help the public, and property buyers to understand the risks.									
Existing	All	2, 3, 4, 5, 6, 8, 9	Planning	Low	State Grant	Short Term	NO	Public Information, Preventative Activities	Local
INITIATIVE # 9 Develop zoning districts for the various hazards of concern, including erosion and F, to ensure land use development occurs more effectively.									
Existing	All	2, 3, 4, 5, 6, 7, 8, 9	Planning & Public Works	Low	Internal	Short-term	NO	Public Information, Preventative Activities	Local
INITIATIVE # 10 Prohibit Building in High Hazard Areas to prevent future loss of homes.									
Existing	Erosion, FL	1, 2, 3, 4, 5, 6, 8, 9	Planning, Permitting, Executive Depts.	Low	General Fund	Short-Term	NO	Resource Protection, Preventative Activities	Local
INITIATIVE # 11 Develop and implement an erosion / flood management plans.									
New	Erosion, WF	2, 3, 4, 5, 6, 7, 8, 9	Planning, Public Works, Executive, Emergency Mgt.	Low	General Fund	Long-Term	NO	Resource Protection, Preventative Activities	Local
INITIATIVE #12 Form an erosion taxing district so that funds exist for ongoing prevention and maintenance efforts.									
New	Erosion, WF	2, 3, 4, 5, 6, 7, 8, 9	Planning, Public Works, Executive	Low	Self-paying	Short-Term	NO	Preventative Activities	Local
INITIATIVE #13 Increase capacity of Oyhut Ditch to prevent flooding of SR 115.									
New	WF	2, 3, 4, 5, 6, 8, 9	Public Works, Ecology	High	WSDOT	Long-Term	NO	Preventative Activities, Construction Activities	Local and County
INITIATIVE #14 Research and use a hybrid of hard/soft engineering techniques to prevent erosion.									

**Table 9-8
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
Existing	Erosion	2, 3, 4, 5, 6, 7, 8, 9	Planning, Public Works, Ecology, Corps	High	Local, State & Federal	Long-Term	NO	Resource Protection	Local
INITIATIVE # 15 Installing riprap boulders or geotextile fabric to protect existing shoreline									
Existing	Erosion, SW, F, CC	2, 3, 4, 5, 6, 8, 9	Army Corps of Engineers, City, Public Works	High	Internal and Federal	Long-Term	NO	Preventative Action, Structural Projects	Local
INITIATIVE # 16 Install protective swales and levies.									
Existing	Erosion, F, SLR/CC	2, 3, 4, 5, 6, 8, 9	Public Works, Ecology	High	Ecology, Legislative	Long-Term	NO	Preventative Activities, Structural Projects, Natural Resource Protection	Local
INITIATIVE # 17 Prepare Continuity of Operations Plan (instead of relying on the County plan).									
New	All	2, 3, 5, 6	Executive	Low	General Fund	Short-Term	NO	Public Information, Preventative Activities, Emergency Services, Recovery	Local
INITIATIVE #18 Construct second outfall weir to increase discharge capacity during storm events									
New	FL, SLR/CC	2, 3, 4, 5, 6, 8, 9	Public Works, Ecology	High	Ecology	Long-Term	NO	Preventative Activities, Structural Activities, Recovery	Local
INITIATIVE #19 Seismically retrofit all welded steel reservoirs, central reservoir pump station piping, and other critical water sources to maintain water supply after earthquake, analyze structural resiliency to seismic events of existing concrete reservoirs, and replace existing concrete reservoirs with seismically resistant steel tanks									
New	EQ	2, 3, 4, 5, 6, 8, 9	Public Works	High		Long-Term	NO	Preventative Activities, Structural Activities	Local
INITIATIVE # 20 Seismically retrofit backup power supply generators, emergency radio tower, pump stations, and other emergency power and communication sources.									
New	EQ	2, 3, 4, 5, 6, 8, 9	Public Works	High		Long-Term	NO	Preventative Activities, Structural Activities	Local
INITIATIVE # 21 Replace AC water main with HDPE on Dolphin Ave NE to prevent flooding of homes after earthquake									

**Table 9-8
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
New	EQ	2, 3, 4, 5, 6, 8, 9	Public Works	High		Long-Term	NO	Preventative Activities, Structural Activities	Local
INITIATIVE # 22 Relocate primary and standby power for WWTP to higher ground (out of area expected to subside during Cascadia Earthquake event).									
New	EQ, T, FL	1, 2, 3, 4, 5, 6, 8, 9	Public Works	Low	WWTP Utility	Short-Term	No	Preventative Activities, Construction Activities	Local
INITIATIVE # 23 Replace all utility bridge crossings with HDPE to prevent environmental contamination after earthquake.									
New	EQ	1, 2, 3, 4, 5, 6, 8, 9	Public Works	High	WSDOT, OS	Long-Term	NO	Preventative Activities, Construction Activities, Natural Resource Protection	Local
INITIATIVE # 24 Replace City bridges to withstand seismic events and flooding.									
Ongoing	EQ	1, 2, 3, 4, 5, 6, 8, 9	WSDOT, Public Works	High	WSDOT	Long-Term	NO	Preventative Activities, Property Protection, Structural Project	Local
INITIATIVE # 25 Initiate studies to determine where the equilibrium shoreline is near the WWTP and the Marina in order to build appropriate protections.									
New	Erosion	2, 3, 5, 6, 9	Ecology, Public Works	High	NOAA Resilience	Short-Term	NO	Preventative Activity, Property Protection, Natural Resource Protection	Local
INITIATIVE # 26 Test fresh waterways for invasive species and eradicate or treat as necessary.									
Ongoing	Invasive Species	2, 4, 5, 6,	Public Works, Fresh Waterways, Ecology	Low	Storm Drain Fund	Short-Term	NO	Natural Resource Protection, Recovery	Local
INITIATIVE # 27 Retrofit South Fire Station and staff for quicker response times to South end of City.									
Ongoing	WF	1, 2, 3, 4, 5, 6, 7, 8, 9	Fire Dept.	\$50,000	Fire Utility and Levy, SAFER	Short-Term	NO	Preventative	Local
INITIATIVE # 28 Review building code to determine whether need to modify for higher winds and more severe storms.									
Ongoing	WS, SW, CC	1, 2, 3, 4, 5, 6, 7, 8, 9	Planning, Permitting, Executive	Low	General Fund	Short-Term	NO	Preventative	Local
INITIATIVE # 29 Research and determine best use of new technology and training to save lives (drones, predictive devices, etc.).									

**Table 9-8
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
Ongoing	Wind Storm, SW, CC, T, WF	1, 2, 3, 4, 5, 6, 7, 8, 9	Police, Fire, Planning, Public Works, Executive	Low	General Fund, EMS Utility, Sales Tax, Emergency Mgt.	Short-Term	NO	Preventative, Emergency Management	County
INITIATIVE # 30 Train citizens to respond to natural disasters (CERT Teams, first aide, go bags, emergency preparedness).									
Ongoing	All	2, 3, 4, 5, 6, 7, 8, 9	Police, Fire, Planning, Executive	Low	General Fund, EMS Utility, Sales Tax, Emergency Mgt.	Short-Term	NO	Public Information, Preventative Activities, Structural Projects, Emergency Services, Recovery, Natural Resource Protection	County
INITIATIVE # 31 Auxiliary fuel tanks to supply generators, heavy equipment, staff vehicles (diesel and gas).									
New	All	2, 3, 4, 5, 6, 8, 9	Public Works	Low	General Fund, Emergency Mgt.	Short-Term	NO	Emergency Services, Recovery	Local
INITIATIVE # 32 A water craft capable of hauling materials, supplies, and personnel from up river									
New	All	2, 3, 4, 5, 6, 8, 9	Public Works	Medium	General Fund, Emergency Mgt.	Long-term	NO	Emergency Services, Recovery	Local
INITIATIVE # 33 Second vector truck to facilitate sewage conveyance in extended duration power outage. Also used for chemical spill cleanup.									
New	All	1, 2, 3, 4, 8, 9	Local	High	Emergency Mgt	Long-term	NO	Recovery, Natural Resource Protection	Local
INITIATIVE # 34 Stockpile pipe and fittings to make distribution, collection, and transmission system repairs. Note: vacuum mains and pits are mostly filled with air, and may float during seismic event.									
Existing	All	1, 2, 3, 4, 5, 6, 8, 9	PW	Low	General Fund & Utilities	Short-term	NO	Recovery	Local
INITIATIVE # 35 Place large water storage container tanks in the dunes to provide water for firefights									
New	WF	1, 2, 3, 4, 9	Fire	Low	General Fund & Utilities	Short-term	NO	Emergency services, Preventative, Natural resource protection	Local

9.10 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of six different initiative types for each identified action item was conducted. Table 8-9 identifies the prioritization for each action item.

Initiative #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/Budgets?	Priority ^a
1	6	H	~\$8 m	Y	Y	N	H
2	6	H	H	Y	Y	N	M
3	6	H	H	Y	Y	N	M
4	8	H	H	Y	Y	N	H
5	7	H	\$1.4 m	Y	Y	N	H
6	6	M	\$15,000	Y	Y	N	M
7	7	H	L	Y	Y	Y	M
8	7	H	L	Y	Y	Y	H
9	8	M	L	Y	Y	Y	M
10	9	M	L	N	Y	Y	M
11	8	H	L	Y	Y	N	H
12	8	M	L	Y	N	N	M
13	7	M	H	N	Y	N	M
14	8	M	H	N	Y	N	M
15	7	H	H	Y	Y	N	M
16	7	M	H	N	Y	N	M
17	4	M	L	Y	N	Y	H
18	7	M	H	Y	Y	Y	M
19	7	H	M	Y	Y	Y	H
20	7	H	M	Y	Y	Y	H
21	7	M	M	Y	Y	Y	L
22	8	H	M	Y	Y	Y	H
23	8	M	M	Y	Y	N	M
24	8	H	H	Y	Y	N	H
25	5	H	M	Y	Y	N	H
26	4	M	L	Y	Y	Y	M
27	9	H	\$50,000	Y	N	Y	H
28	9	H	L	Y	N	Y	H
29	9	H	L	Y	Y	N	H

**Table 9-9.
Mitigation strategy priority schedule**

Initiative #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/Budgets?	Priority ^a
30	8	H	L	Y	N	Y	H
31	7	L	L	Y	Y	N	L
32	7	L	M	N	Y	N	L
33	6	M	L	Y	N	Y	L
34	8	L	L	Y	N	Y	L
35	5	H	L	Y	Y	Y	H

a. See Chapter 1 for explanation of priorities.

9.11 FUTURE NEEDS TO BETTER UNDERSTAND RISK/ VULNERABILITY

Information identified above will require joint efforts with other agencies, and the requirement for funding on a more continual basis to ensure consistency in moving forward without the potential for interruption due to lack of funding, which would potentially negatively impact work completed to date. But one example of this is the shoreline in the Pacific Ocean South area directly north of the North Jetty, which has experienced serious erosion- over the past decade. Currently, rock and geotubes/geobags protect some homes and condominiums from continued erosion. Ocean Shores, in partnership with Ecology, the Corps of Engineers, and other federal agencies, are currently exploring alternatives to protect existing residential development. Such continued joint efforts will continue to further enhance the resiliency of the City of Ocean Shores, while also supporting the efforts on a county-level.

In 2016-2017, as part of the North Beach Erosion Committee effort, the City and the Port of Grays Harbor contracted with Vladimir Shepsis of Coast and Harbor Engineering, LLC, to provide a preliminary design to stop or slow down the erosion near the North Jetty. This effort is attached below along with drawings showing the erosion hot spots in Ocean Shores, done by George Kaminski of the Washington State Department of Ecology in 2018. Kaminski has been taking quarterly profiles of the Ocean Shores beaches since the late 1990's, and has documented the significant erosion that has taken place since that time.

9.12 ADDITIONAL COMMENTS

In addition to the items identified above, recently discovered is a 2-mile scarp that has appeared north of the North Jetty. Near the N. Jetty, it is 15-20 feet high and it tapers down fairly evenly as it moves north, with some areas of erosion eating away at the cliff.

There is also erosion west and east of Damon Point with losses on the west side in the 10's of feet. Erosion on the east side of the peninsula is less severe.

These are items which over the course of the life-cycle of this plan will be addressed and identified in greater detail for future analysis. The full details of the initiatives are available from the City of Ocean Shores website: <https://oceanshores.civicweb.net/filepro/documents>

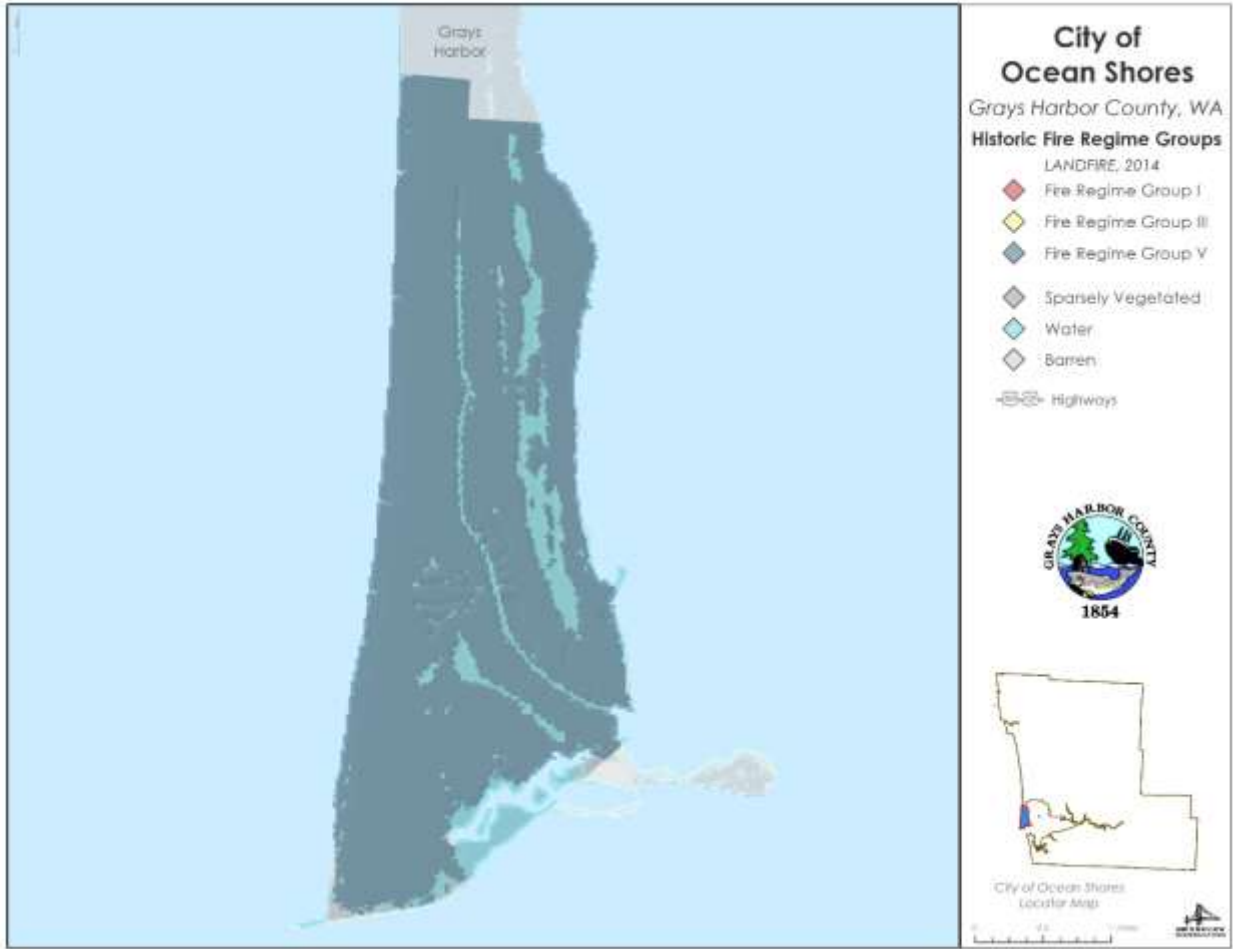
Feasibility study to repair the North Jetty. We have a completed study developed by Vladimir Shepsis, Coast and Harbor Engineering.

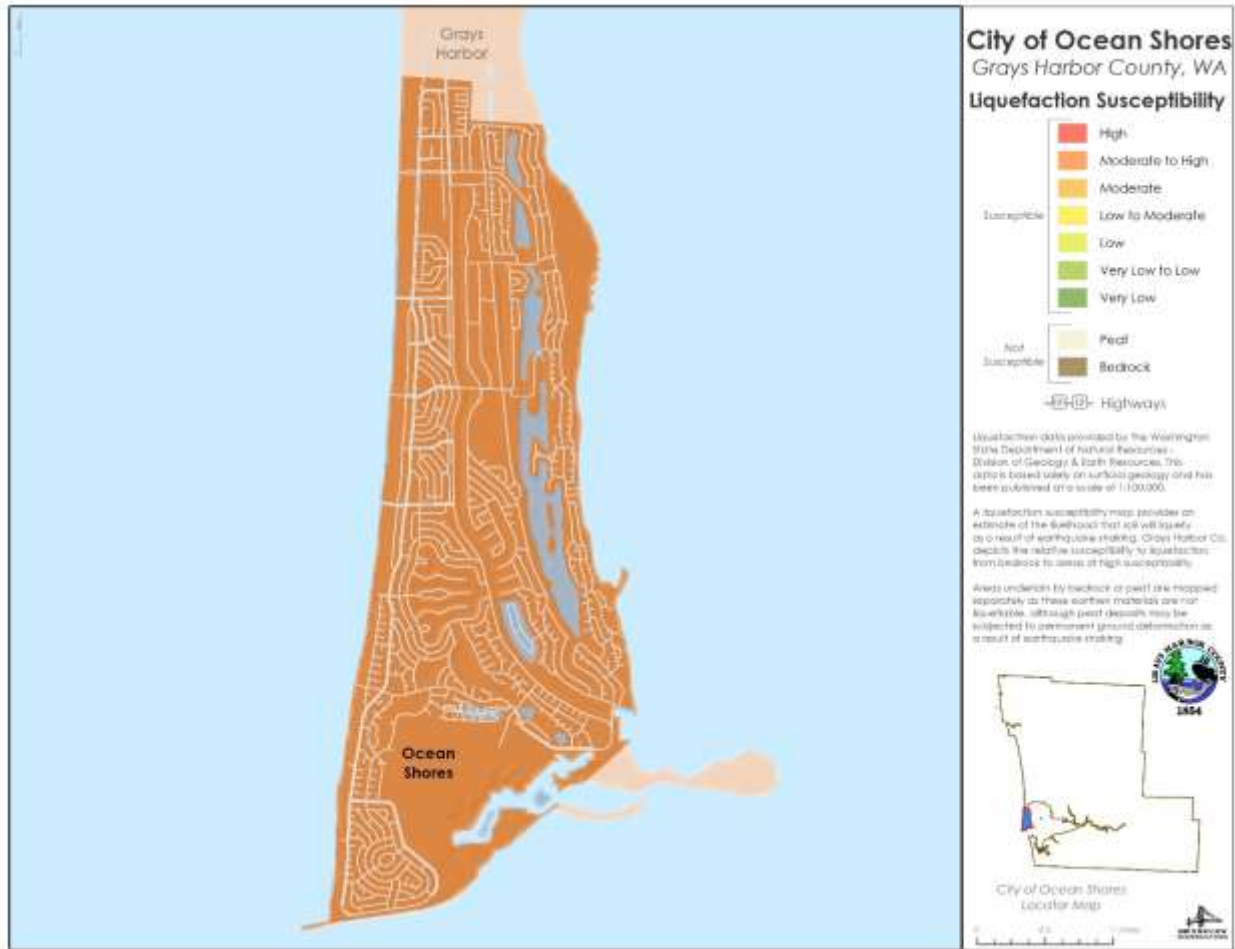
Feasibility study on a firebreak/trail. The Firebreak/trail is planned on the primary dune developed by GeoEngineering, Inc., in 2017.

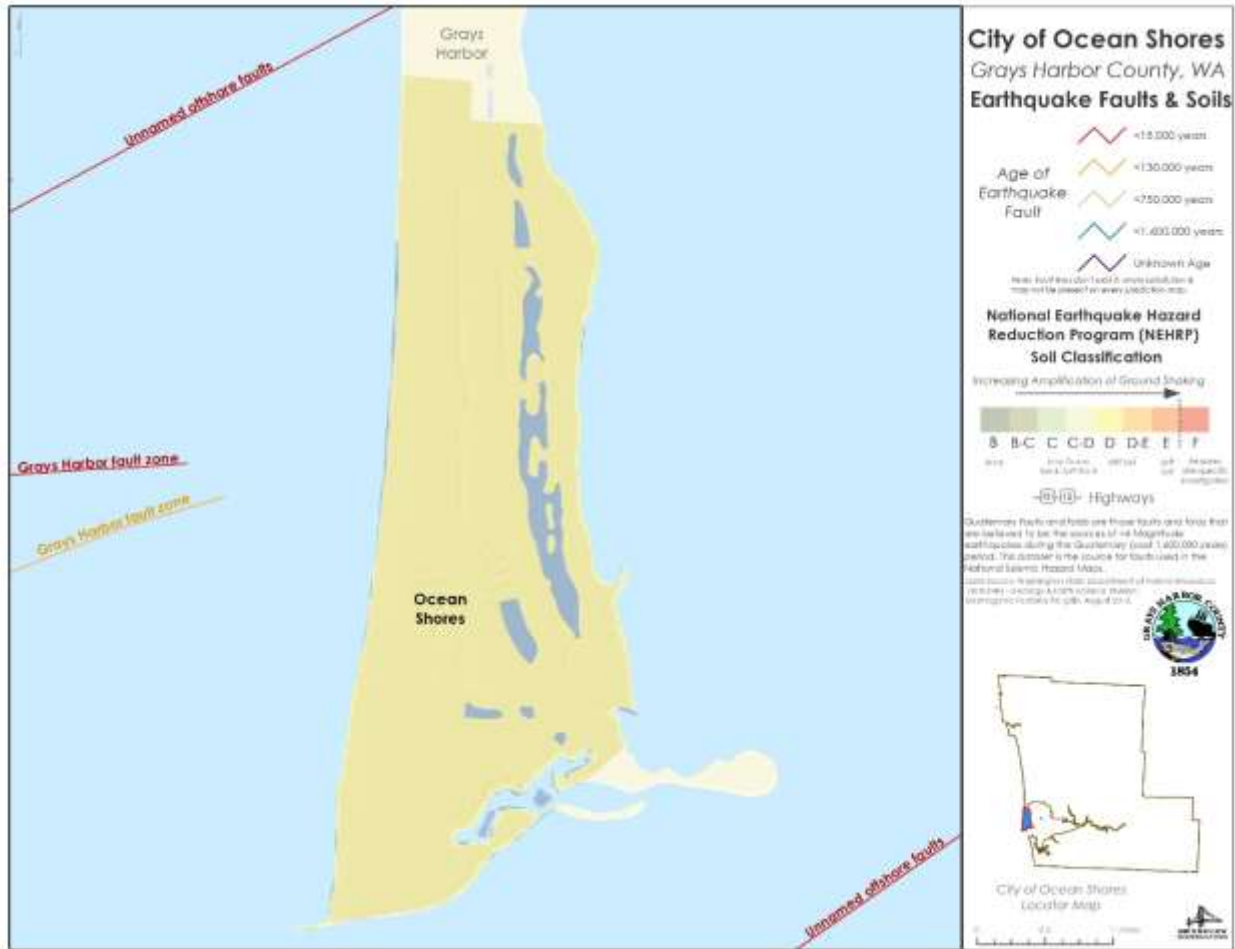
9.13 HAZARD AREA EXTENT AND LOCATION

Hazard area extent and location maps are included below. These maps are based on the best available data at the time of the preparation of this plan and are considered to be adequate for planning purposes. Additional maps developed by Dr. George Kaminsky of the WA Dept. of Ecology showing erosion hot spots in and around Ocean Shores are also available within the Erosion profile of the base plan.











CHAPTER 10. CITY OF WESTPORT 2018 ANNEX UPDATE TO THE GRAYS HARBOR COUNTY

10.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the City of Westport, a participating jurisdiction to the Grays Harbor County Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by the City of Westport. For planning purposes, this Annex provides additional information specific to the jurisdiction, with a focus on providing greater details on the risk assessment and mitigation strategy for this community only. This document serves as an update to the previously completed plan. All relevant data has been carried over and updated with new information as appropriate and as identified within the planning process discussed in Volume 1.

10.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

The City of Westport followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County’s Planning Team, the City also formulated their own internal planning team to support the broader planning process. Individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Kevin Goodrich 604 N. Montesano St Westport, WA 98595 (360) 268-0131 pwd@ci.westport.wa.us	Public Works Director Primary Point of Contact	
Michelle Gooch 604 N. Montesano St Westport, WA 98595 (360) 268-0131 Public_works@ci.westport.wa.us	Administrative Secretary Alternate Point of Contact	
Mark Davis 604 N. Montesano St Westport, WA 98595 (360) 268-0131 building@ci.westport.wa.us	Building Official	
Rob Bearden 604 N. Montesano St Westport, WA 98595 (360) 268-0131 mayorbearden@ci.westport.wa.us	Mayor	

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Margo Tackett Clerk_treasurer@ci.westport.wa.us	Clerk-Treasurer	

10.3 COMMUNITY PROFILE

Date of Incorporation-1914

Current Population-2115 as of April 2017 (OFM)

Population Growth—2,099 as of 2010 Census. The Washington State Office of Financial Management estimates a population growth to 2,115 in 2017. Growth estimates appear to show this minimal growth to be the expected trend.

Location and Description— The City of Westport, Washington is located in Grays Harbor County, at the mouth of Grays Harbor on the southernmost peninsula known as Point Chehalis. The City is situated on a sand spit that separates South Bay of Grays Harbor from the Pacific Ocean. The City is bounded by the ocean to the west, the entrance channel to Grays Harbor to the north, and South Bay to the east. Westport’s land area is very flat, with elevations ranging from sea level up to 60 feet in elevation. (Attach Current Topo Map)

Brief History— The area was in regular use as a summer resort by local Native American tribes before Thomas Barker Speake and his family, the first white settlers, arrived early in the summer of 1857. By 1914, Westport was a busy, though small center for fishing, shell fish harvesting, seafood processing and tourism. Among the earliest structures built at Westport, the Westport Lighthouse, dedicated on April 14, 1898, still stands as a majestic beacon for weary mariners anxious to return home from the sea. The City of Westport was incorporated on June 26, 1914.

Today Westport, with a population of approximately 2,115, still relies on fishing, shellfish harvesting, seafood processing and tourism for much of its livelihood. More recently, boat building has also become an important part of Westport's economic base.

Climate—The climate in Westport is generally mild, although windstorms are frequent in the winter months. (Attach Climate Summery Table)

Governing Body Format—Westport operates by a Mayor/Council form of city government, with five council members serving overlapping 4-year terms.

Economy – Westport’s economy is primarily driven by commercial fishing, the seafood processing industry, yacht building, tourism and sport fishing. The Port of Grays Harbor’s Westport Marina is a large contributing factor to the local economy, generating over 2,000 jobs and more than \$200 million in business revenue. The \$45.5 million in local purchases accounted for 543 indirect jobs in the Grays Harbor economy. Future development opportunities exist in the hospitality and tourism sectors, as well as additional room for growth in seafood processing. The potential for residential growth including single family, multi-family and condominium development also exists. Westport’s tourism industry is very seasonal, with a large influx of tourists from May through September. This seasonal business has a considerable economic impact, and the increased population places a higher demand on police, fire and emergency medical services. It is important to note that this seasonal increase in population, potentially doubling our resident population, is centered in the Marina District. This area of the City is

particularly vulnerable to inundation from storm surge, river flooding and Tsunami, and is the focus of our vertical evacuation project.

10.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are hazards which are unique to the jurisdiction, which may not be identified in the base plan. In addition to the disaster history table in Section 3 of the base plan, Table 10-1 identifies additional information of natural hazards within the jurisdiction. If available, dollar loss data is also included.

Table 10-1 Natural Hazard Events			
Type of Event	FEMA Disaster # (if applicable)	Date	Dollar Losses (if known)
Severe Storm	1734	12/07	<Than \$50,000
Local Area Disaster – Not Declared			
Flooding/Overtopping in the Marina District, caused by storm, tide and swell conditions. Potential hazard to citizens and tourists, as well as damage to local business and economy.			This is an annual (sometimes twice per year) occurrence.

10.5 CAPABILITY ASSESSMENT

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction’s capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: National Flood Insurance Information; regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation, and classifications under various community programs.

10.6 NATIONAL FLOOD INSURANCE INFORMATION

Information on the community’s National Flood Insurance Program (NFIP) compliance is presented in Table 10-2. This identifies the current status of the jurisdiction’s involvement with the NFIP.

Repetitive flood loss records are as follows:

Number of FEMA-Identified Repetitive Loss Properties: 0

Number of FEMA-Identified Severe Repetitive Loss Properties: 0

Number of Repetitive Flood Loss/Severe Repetitive Loss Properties That Have Been Mitigated: 0

Historically, the City of Westport has sustained 13 flood losses. Total Flood Loss Payments for those losses were \$127,860 (as of August 2017 as provided by State EMD and Ecology). The total insurance coverage for the City equals \$45,440,800, with 251 current policies in force.

Table 10-2 National Flood Insurance Compliance	
What department is responsible for floodplain management in your community?	Building
Who is your community’s floodplain administrator? (department/position)	Mark Davis, Building Official
Do you have any certified floodplain managers on staff in your community?	Yes, Mark Davis
What is the date of adoption of your flood damage prevention ordinance?	Amended 2008
When was the most recent Community Assistance Visit or Community Assistance Contact?	December 6, 2016
To the best of your knowledge, does your community have any outstanding NFIP compliance violations that need to be addressed? If so, please state what they are.	NO
Do your flood hazard maps adequately address the flood risk within your community? (If no, please state why)	YES
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	NO
Does your community participate in the Community Rating System (CRS)? If so, is your community seeking to improve its CRS Classification? If not, is your community interested in joining the CRS program?	YES – Class 8

10.6.1 Regulatory Capability

The assessment of the jurisdiction’s legal and regulatory capabilities is presented in Table 10-3. This includes planning and land management tools, typically used by local jurisdictions to implement hazard mitigation activities and indicates those that are currently in place.

Table 10-3 Legal and Regulatory Capability				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Codes, Ordinances & Requirements				
Building Code Version – 2015				
IBC				
Zoning Ordinance	X			
Subdivision Ordinance	X			
Floodplain Ordinance	X			
Stormwater Management	X			
Post Disaster Recovery	X			
Real Estate Disclosure	X			
Growth Management	X			
Site Plan Review	X			
Public Health and Safety		X		
Coastal Zone Management	X			
Climate Change Adaptation		X		
Natural Hazard Specific Ordinance (stormwater, steep slope, wildfire, etc.)	X			
Environmental Protection				
Planning Documents				
General or Comprehensive Plan				
<i>Is the plan equipped to provide linkage to this mitigation plan? Yes</i>				
Floodplain or Basin Plan	X			
Stormwater Plan	X			
Capital Improvement Plan	X			
Habitat Conservation Plan	X			
Economic Development Plan				
Shoreline Management Plan	X			
Community Wildfire Protection Plan				
Transportation Plan	X			
Response/Recovery Planning				
Comprehensive Emergency Management Plan	X			
Threat and Hazard Identification and Risk Assessment	X			
Terrorism Plan		X		

Table 10-3 Legal and Regulatory Capability				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Post-Disaster Recovery Plan	X			
Continuity of Operations Plan	X			
Public Health Plans		X		
Boards and Commission				
Planning Commission	X			
Mitigation Planning Committee				
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems, chipping, etc.)	X			
Mutual Aid Agreements / Memorandums of Understanding	X			
Other				

10.6.2 Administrative and Technical Capabilities

The assessment of the jurisdiction’s administrative and technical capabilities, including educational and outreach efforts, and on-going programmatic efforts are presented in Table 10-4 . These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 10-4 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	No	Consultants On-Call
Professionals trained in building or infrastructure construction practices (building officials, fire inspectors, etc.)	Yes	
Engineers specializing in construction practices?	No	Consultants On-Call
Planners or engineers with an understanding of natural hazards	No	Consultants On-Call
Staff with training in benefit/cost analysis	Yes	

Table 10-4 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Surveyors	No	Contracted
Personnel skilled or trained in GIS applications	Yes	Entry Level
Personnel skilled or trained in Hazus use	No	Regional Fire/EMS
Scientist familiar with natural hazards in local area	No	
Emergency Manager	No	County
Grant writers	No	Contracted
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?)	Yes	AHAB Warning Sirens
Hazard data and information available to public	Yes	
Maintain Elevation Certificates	Yes	
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	No	
Local citizen groups or non-profit organizations focused on environmental protection?	Yes	
Organization focused on individuals with access and functional needs populations	Yes	Building/Public Works
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes	Minimal
Natural disaster or safety related school programs?	No	
Public-private partnership initiatives addressing disaster-related issues?	No	
Multi-seasonal public awareness program?	No	
Other		
On-Going Mitigation Efforts		
Hazardous Vegetation Abatement Program	No	
Noxious Weed Eradication Program or other vegetation management	No	
Fire Safe Councils	No	
Chipper program	No	
Defensible space inspections program	No	
Creek, stream, culvert or storm drain maintenance or cleaning program	Yes	Street/Road Maintenance Department
Stream restoration program	No	
Erosion or sediment control program	No	
Address signage for property addresses	Yes	

10.6.3 Fiscal Capability

The assessment of the jurisdiction’s fiscal capabilities is presented in Table 10-5. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

Table 10-5 Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	Yes
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	Yes
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	Yes
Withhold Public Expenditures in Hazard-Prone Areas	Yes
State Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	Yes
Other	

10.6.4 Community Classifications

The jurisdiction’s classifications under various hazard mitigation programs are presented in Table 10-6. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community.

Table 10-6 Community Classifications		
	Participating (Yes/No)	Date Enrolled
Community Rating System	Yes	
Building Code Effectiveness Grading Schedule	No	
Storm Ready	No	
Firewise	No	
Tsunami Ready (if applicable)	Yes	July, 2011

10.7 HAZARD RISK AND VULNERABILITY RANKING

The jurisdiction's Planning Team reviewed the hazard list identified within the Base Plan and have identified the hazards that affect the City of Westport.

Table 10-7 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and /or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

Additional information on hazard specific impact, dollar loss, and population impact can be found within each respective hazard profile contained within the base plan.

Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank
1	Earthquake	3.85	High
2	Tsunami	3.50	High
3	Erosion	3.30	High
4	Flood	3.25	High
5	Severe Weather	2.85	Medium
6	Climate Change	1.95	Low
7	Drought	1.55	Low
8	Volcano	1.55	Low
9	Wildfire	1.50	Low
10	Landslides	1.10	Low

10.8 MITIGATION GOALS AND OBJECTIVES

The City of Westport adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

10.9 HAZARD MITIGATION ACTION PLAN

The Planning Team for the jurisdiction identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the jurisdiction’s assets and hazards of concern. Table 10-8 lists the action items/strategies that make up the jurisdiction’s hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, who will benefit from the activity, and the type of initiative associated with each item are also identified.

Table 10-8 Hazard Mitigation Action Plan Matrix									
Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE #1-Vertical Tsunami Evacuation Structure – Plan and Construct a Tsunami Evacuation Structure in Westport’s Marina District to provide a high ground evacuation point for residents, workers and visitors in that area of the City of Westport. Project Safe Haven identified the need for vertical evacuation in this area. Ideally, vertical evacuation would be a component of a mixed-use structure.									
New	T, SW	1, 2, 3, 4, 5, 6, 7, 8, 9	Public Works, POGH	High	FEMA, General Fund	Short Term	No	Structural Project	Local
INITIATIVE #2-Public Outreach Program - Conduct annual Disaster Preparedness Workshops to educate the public about actions they should take before, during and after a disaster. Distribute hazard mitigation information and publications published by FEMA, EMD, Red Cross, and other agencies and organizations to the Timberland Regional Library, public schools, and other public facilities to promote citizen commitment to hazard mitigation. Encourage citizens and businesses to have access to the NOAA Weather Radio (NWR) service, including supporting efforts to purchase NWR receivers for low-income households as well as provide public information about using receivers efficiently. Create a Disaster Information Section on the City’s website with up-to-date information on current storm watches and warnings, road closures, evacuation routes, shelter locations, emergency contacts, and hazard mitigation planning and implementation.									
Existing	All	2, 3, 5, 6, 7, 8, 9	City, Public Works, EMD	Med	General Fund	Short Term	Yes	Public Information	Local
INITIATIVE #3-Emergency Management Plans – Utilizing information developed during the HMP risk assessment, develop and maintain a list of assets and capabilities of all public and private entities in the City that could be utilized for emergency response to hazards. Purchase generators or similar equipment to avoid disruption of power to critical City facilities during storm events.									
Existing	E,T,Er,F, SW	1, 2, 3, 5, 6, 7, 8, 9	Public Works, PD, EMS	Low	General Fund, Surplus	Long Term	Yes	Recovery	Local
INITIATIVE #4-Emergency Communications Plan - Establish interagency radio links between the City and the Grays Harbor Emergency Operations Center, law enforcement agencies, fire districts, emergency medical services, the 9-1-1 call center, and state and federal agencies to ensure coordinated communication during hazard events.									

Table 10-8 Hazard Mitigation Action Plan Matrix									
Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
Existing	E,T,Er,F,SW	4, 5, 6, 7, 8	Public Works, PD, EMS	Low	General Fund, HLS funds	Short Term	Yes	Em. Services	Region
INITIATIVE #5- Critical Facilities Evaluation - Evaluate and prioritize critical facilities in hazard areas to assess their resistance to hazard events. Retrofit critical facilities in hazard areas to increase their resistance to hazard events, including the acquisition of generators as funding permits. Conduct analysis of existing stormwater drainage system and implement recommended improvements.									
Existing	E,T,Er,F,SW	1, 2, 3, 4, 6, 8, 9	Public Works	High	General Fund, Grant	Short Term	Yes	Structural Preventative	Region
INITIATIVE #6 Transportation and Right of Way Improvements - Work with Washington State Department of Transportation and Grays Harbor County to augment current tsunami evacuation signs with safe elevation markers in key areas and signs painted directly on roadways.									
Existing	E,T,Er,F,SW	2, 3, 4, 6, 8, 9	Public Works, County, DOT,	Low	General Fund, HMGP, State EQ/ Tsunami Program	Short Term	Yes	Public Information	Region

10.10 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of six different initiative types for each identified action item was conducted. Table 10-9 identifies the prioritization for each initiative.

Table 10-9 Mitigation Strategy Priority Schedule							
Initiative #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/ Budgets?	Priority ^a
1	9	H	H	Y	Y	N	H
2	7	H	M	Y	Y	Y	H
3	8	H	M	Y	Y	Y	H
4	5	H	M	Y	Y	Y	H
5	7	H	M	Y	Y	N	H
6	6	H	L	Y	Y	Y	H

a. See Chapter 1 for explanation of priorities.

10.11 STATUS OF PREVIOUS PLAN INITIATIVES

Table 10-10 summarizes the initiatives that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

Table 10-10 Status of previous Hazard Mitigation Action Plan					
Mitigation Strategy	Project Status	Current Status			
		Completed	Continual/Ongoing Nature	Removed -/No Longer Relevant / No Action	Carried Over
Purchase generators or similar equipment to avoid disruption of power of critical city facilities during storm event.					✓
Retrofit critical facilities in hazard areas to increase their resistance to hazard events.					✓
Expand existing or install new city-wide public warning systems.	This project is carried forward in conjunction with a county-wide effort to ensure interoperability.				County Plan
Conduct analysis of existing stormwater drainage system and implement recommended improvements.	This occurs whenever work is completed.		✓		✓
Explore the use of reverse 9-1-1 hazard warning system.	This project is carried forward in conjunction with a county-wide effort to ensure interoperability.				✓
Conduct annual disaster preparedness workshops.	Done on a countywide basis as well as within the City.	✓			
Provide the public with information on proper use of 9-1-1 during hazard event.	This occurs regularly via county public service announcements.	✓			
Distribute hazard mitigation information publications.	This occurs regularly for the various hazards of concern as new data becomes available. This also just occurred with this HMP Update.	✓			✓
Encourage citizens and businesses to have access to the NOAA Weather Radio Service.			✓		
Develop and maintain list of assets and capabilities of all public and private entities in the City that could be utilized for emergency response to hazards.					✓

Table 10-10 Status of previous Hazard Mitigation Action Plan					
Mitigation Strategy	Project Status	Current Status			
		Completed	Continual/Ongoing Nature	Removed -/No Longer Relevant / No Action	Carried Over
Create disaster information section on the city's website.	Information is presented on the City's website. In addition, the County also provides information, outreach and notifications.	✓			
Work with WDOT and Grays Harbor to augment current tsunami evacuation signs with safe elevation markers in key areas and signs painted directly on roadways.			✓		
Support GHC Public Health and Social Services Dept. to make information available on basic health problems and solutions during and after disasters.	PH regularly conducts outreach efforts to provide information.	✓			
Establish interagency radio links between the City and GH EOC					✓
Establish protocol between the City, County and state agencies to ensure services to assure consistency of public information during a disaster			✓		
Develop partnerships with Ocosta School District to teach children about weather watches, etc.					
Implement program to clear dead vegetation on public lands and education public about importance of removing potential fuels from dune areas on private property.	The newly formed South Beach Fire & Rescue now conducts this outreach effort on behalf of the City.	✓			
Make available to first responders a current list of citizens on life support, who are homebound with special needs, and elderly populations for emergency response or rescue during a hazard event.	The capturing of such information has stringent HIPPA restrictions and liabilities beyond the current capabilities of the City.			✓	
Participate in GHC damage assessment program and training.	As the County and/or state provided training on this topic, City staff attended as available.		✓		

Table 10-10 Status of previous Hazard Mitigation Action Plan					
Mitigation Strategy	Project Status	Current Status			
		Completed	Continual/Ongoing Nature	Removed -/No Longer Relevant / No Action	Carried Over
Facilitate updates to FEMA Floodplain maps.	FEMA recently completed two Risk Map studies which resulted in adopted flood maps in 2015, and preliminary maps in 2017. As appropriate, the City of Westport supports the program, currently being a Class 8 CRS Community. The City will continue to participate in the program to the level that current staffing allows. The City's intention is to incorporate hazard mitigation goals into other programs and policies as they are updated. These include the Comprehensive Plan, Flood Damage Prevention Code, CAO, Shoreline Master Program and others. As these programs and policies are updated, the City will ensure that the provisions included in the HMP will be incorporated and remain consistent.	✓	✓		✓
Update HMP every 5 years.	The City's intention was to incorporate hazard mitigation goals into other programs and policies as they are updated. These include the Comprehensive Plan, Flood Damage Prevention Code, CAO, Shoreline Master Program and others. As these programs and policies are updated, the City will ensure that the provisions included in the HMP will be incorporated and remain consistent. The City will continue to involve the public in the hazard mitigation planning process through council meetings and public outreach. The public will be informed of any mitigation activities, descriptions of damages, and the performance of mitigation measures.	✓			
Review and update Emergency Response Plans.	As new data becomes available concerning the hazards of concern, the plans are reviewed and updated.	✓			✓
Establish City evacuation plan.	As new data becomes available concerning the hazards of concern, the plans are reviewed and updated.		✓		
Establish funding strategies.	The City regularly completes this function as a normal course of business. Therefore, it is removed as a strategy.			✓	

10.12 HAZARD AREA EXTENT AND LOCATION

Hazard area extent and location maps are included below. These maps are based on the best available data at the time of the preparation of this plan and are considered to be adequate for planning purposes. In addition to the hazard maps, the following additional items were taken into consideration during the risk assessment portion of this annex development.

- ✓ Wastewater Treatment Plant – Located in inundation zone, highly vulnerable to earthquake/tsunami damage.
- ✓ Sanitary Sewer Collections System – 13 Sewage Pump Stations, Approx. 20 mi of gravity/pressure sewer mainline. Highly vulnerable to earthquake/tsunami damage.
- ✓ Water Distribution System – Three wellfields, two standpipes, several miles of water distribution mains and service lines. Highly vulnerable to earthquake/tsunami damage.

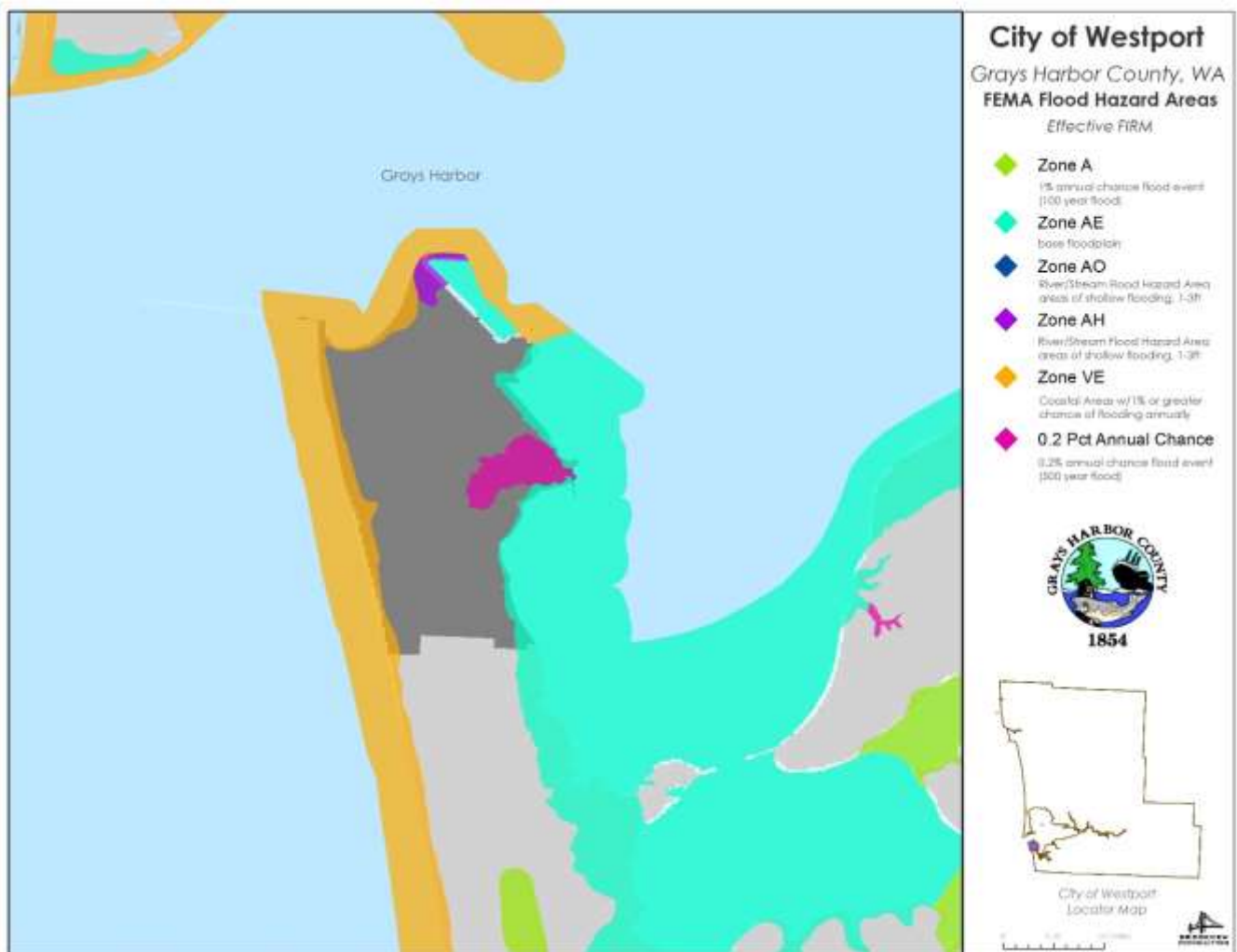


Figure 10-1 City of Westport Flood Hazard Areas

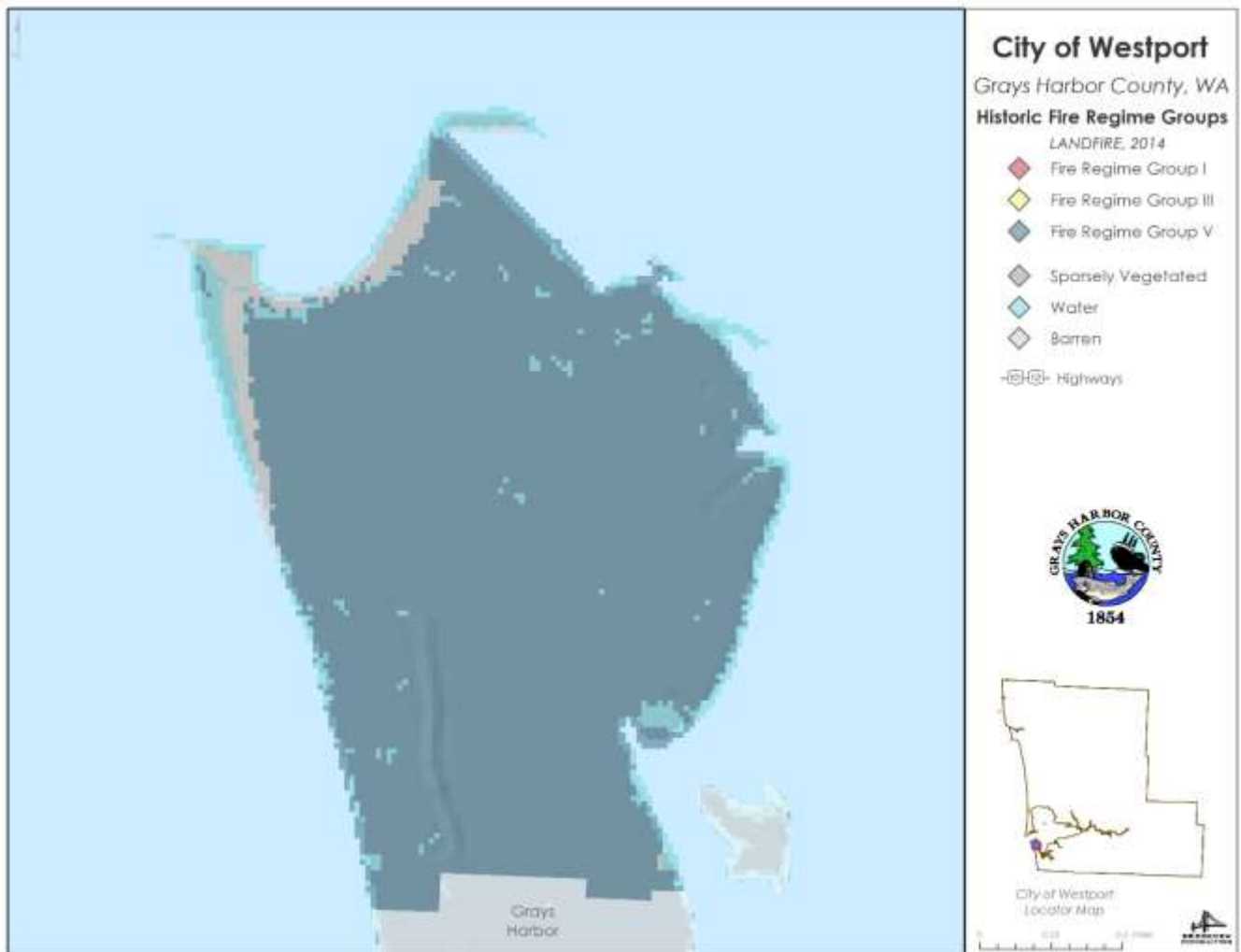


Figure 10-2 City of Westport Fire Regime Groups

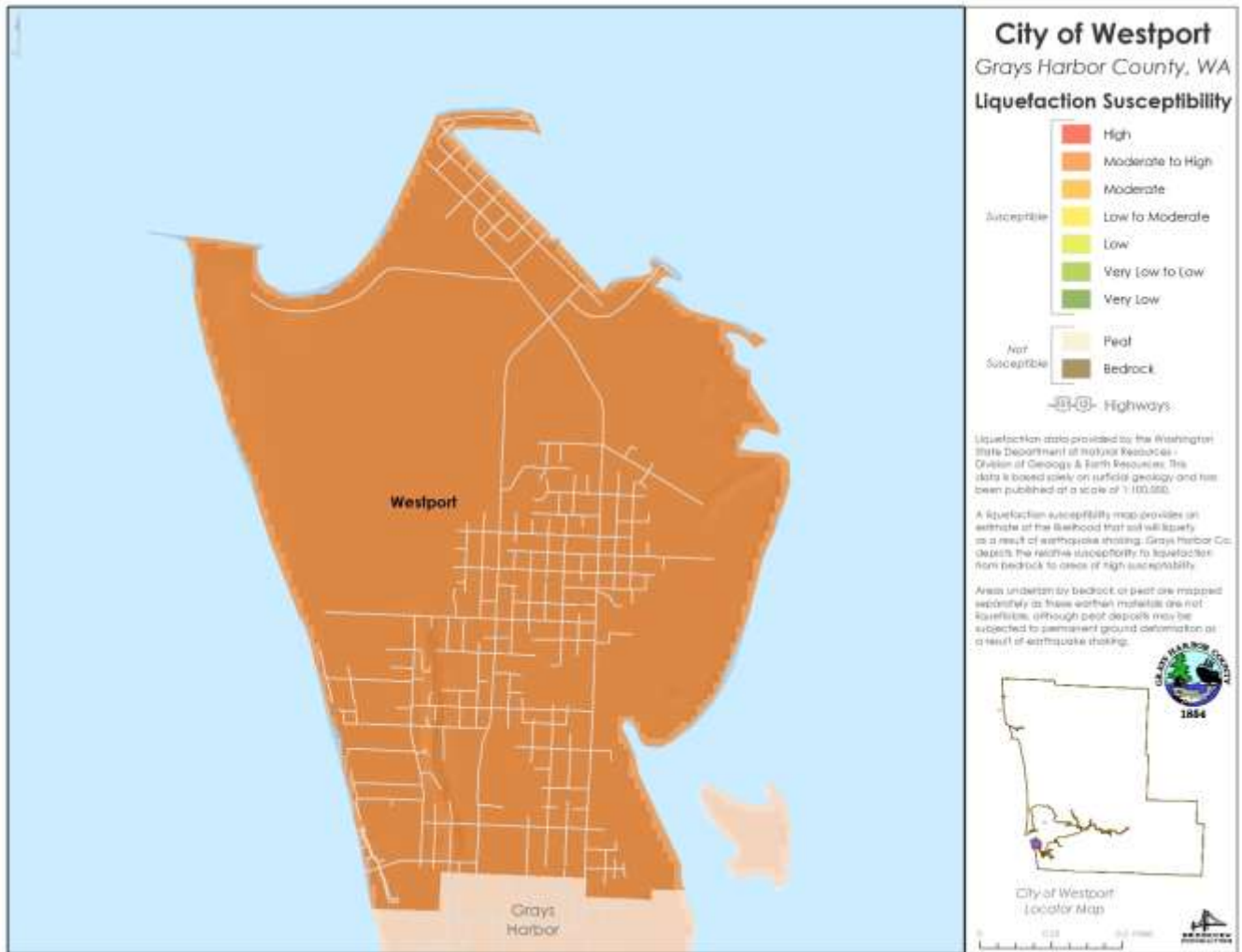


Figure 10-3 City of Westport Liquefaction Map

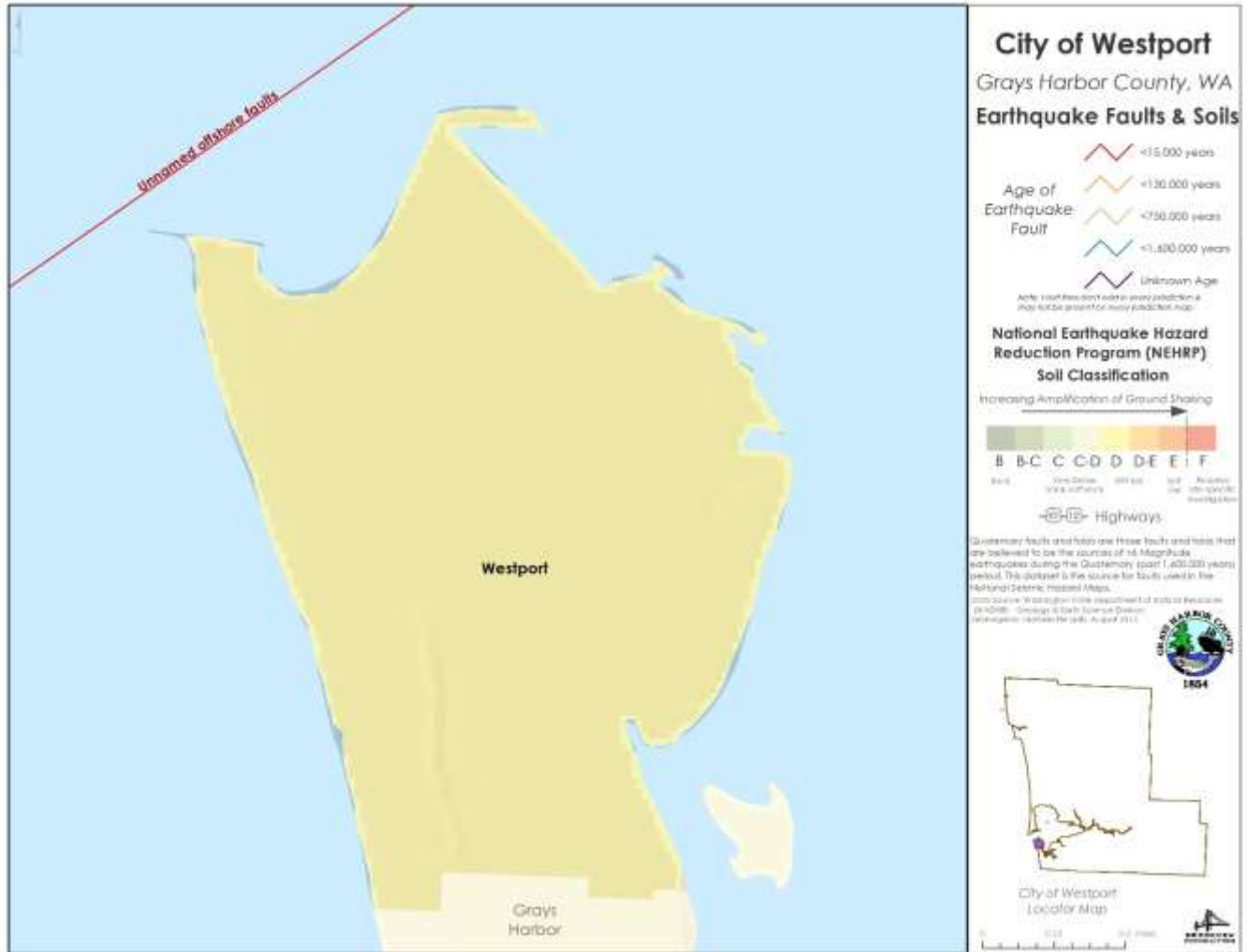


Figure 10-4 City of Westport Earthquake Faults and Soils

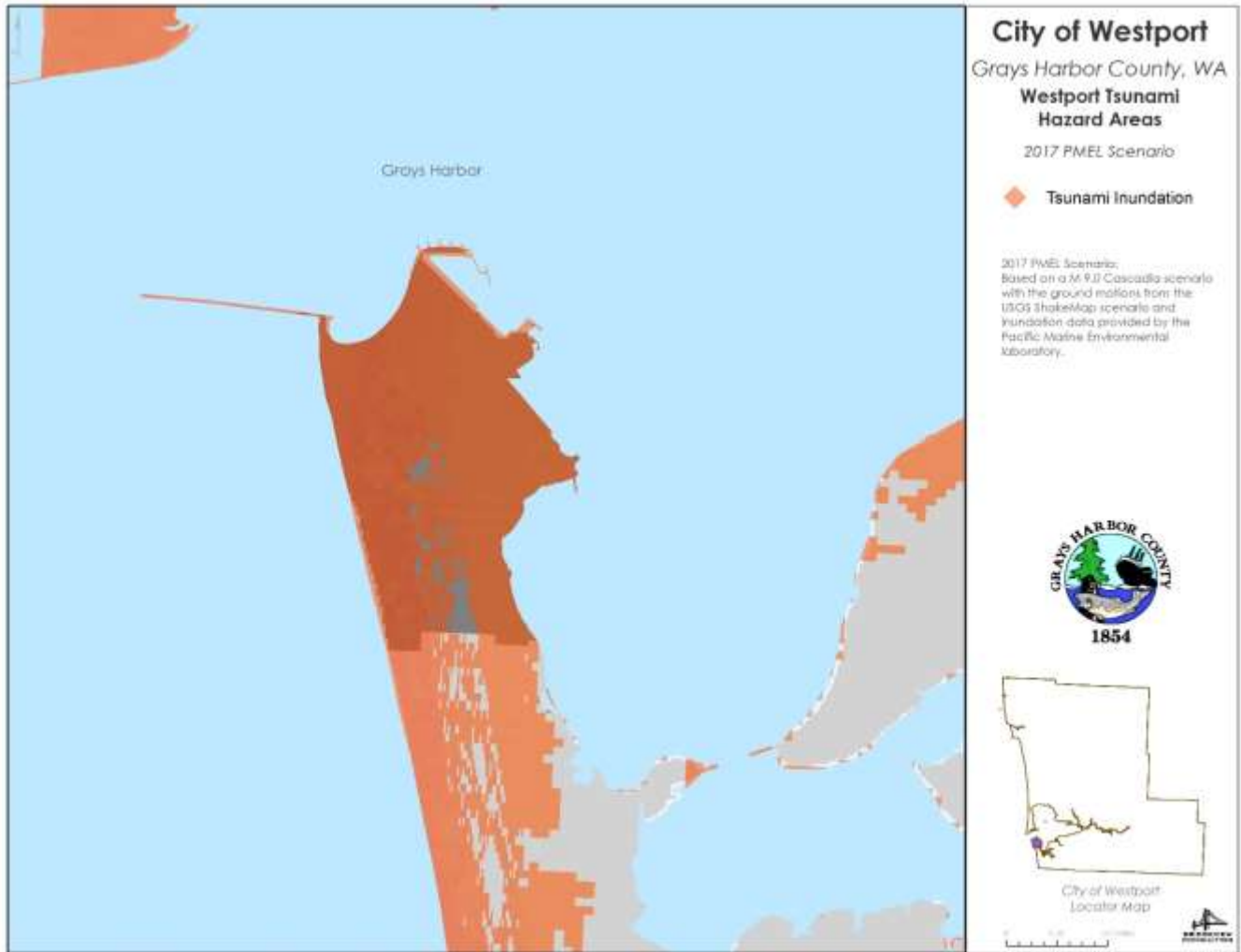


Figure 10-5 City of Westport Tsunami Inundation Map (Based on FEMA 2017 Initial Westport Study)

SPECIAL PURPOSE DISTRICT MAPS

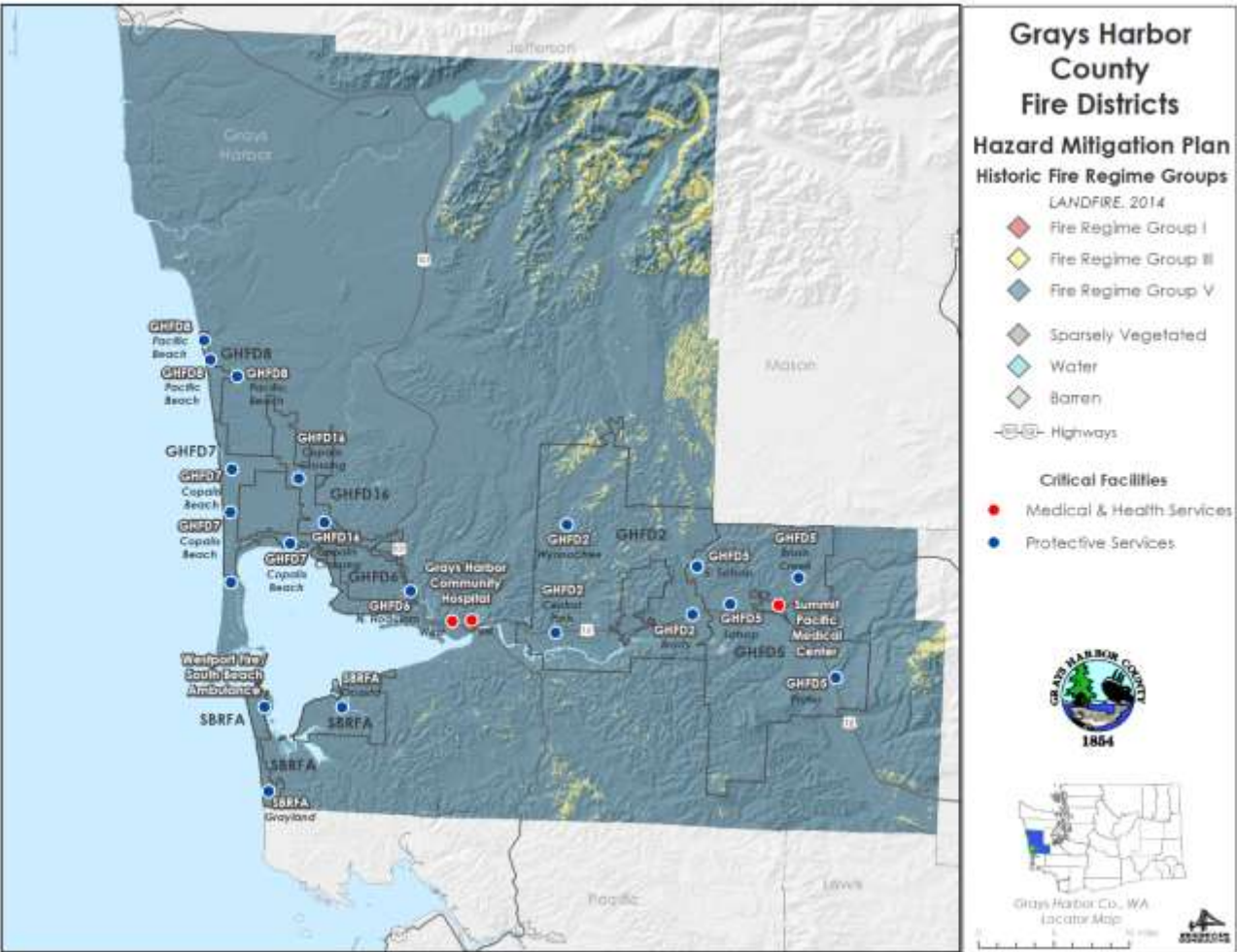


Figure 1 - Fire and Hospital Districts' Fire Regime Map

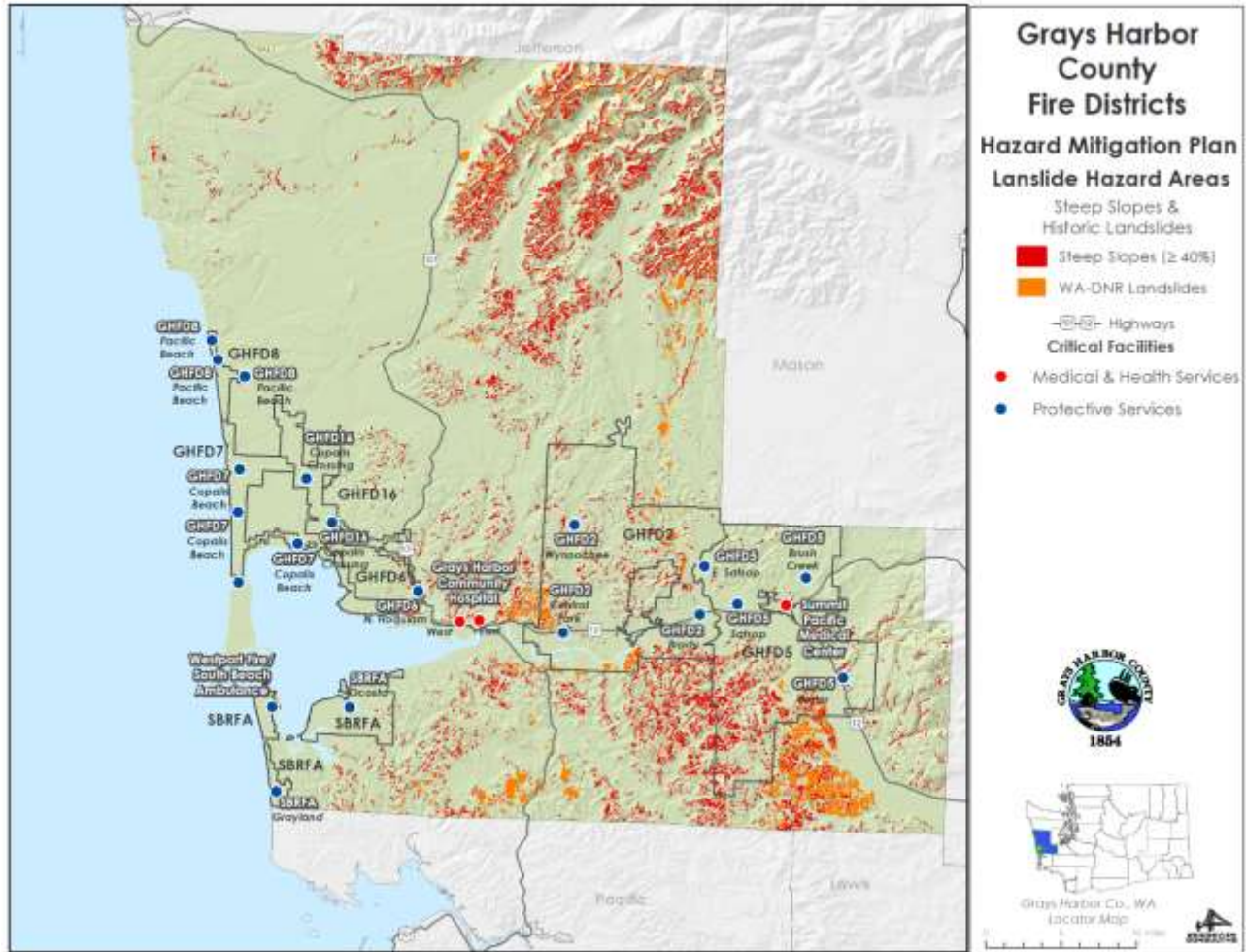


Figure - 2 Fire and Hospital Districts' Landslide Hazard Areas

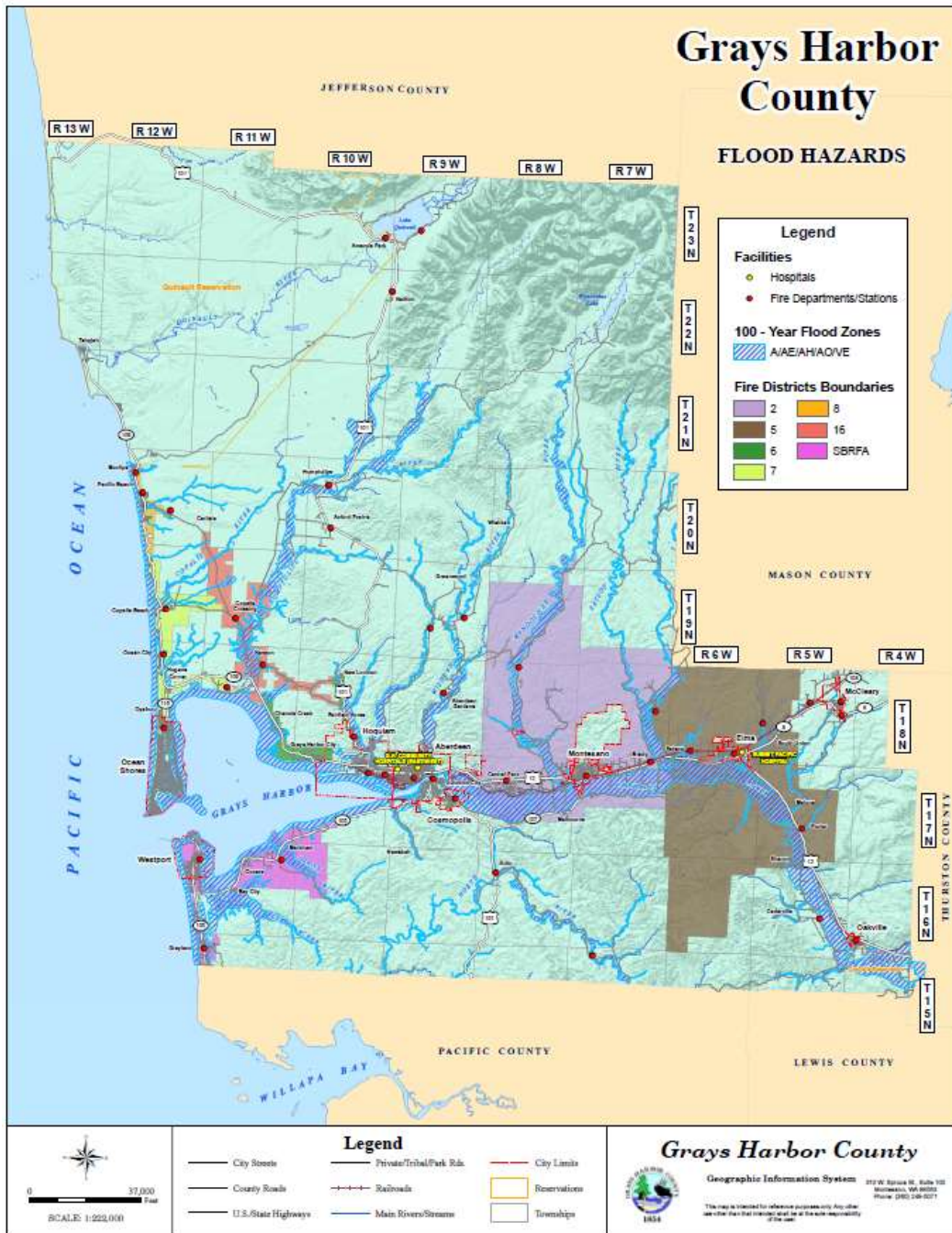


Figure- 3 Fire and Hospital Districts' 100-year Flood Hazard Area



Figure - 4 - Fire and Hospital Districts' Liquefaction Zone

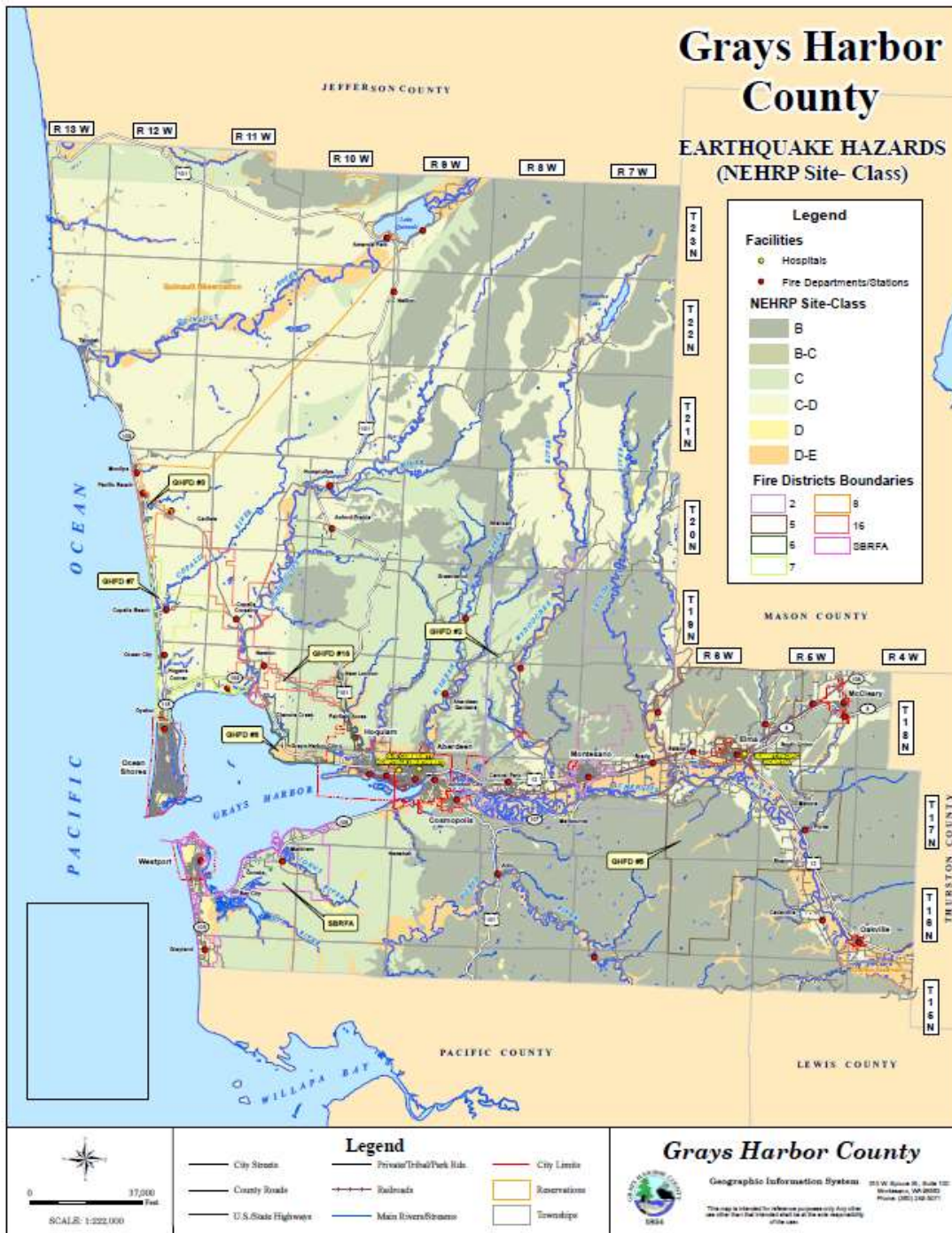


Figure - 5 - Fire and Hospital Districts' NEHRP Soils Classifications

CHAPTER 11. GRAYS HARBOR COUNTY HOSPITAL DISTRICT

11.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the Grays Harbor Community Hospital, a participating special purpose district to the Grays Harbor County Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by Grays Harbor Community Hospital. For planning purposes, this Annex provides additional information specific to the district, with a focus on providing greater details on the risk assessment and mitigation strategy for this entity only. This document serves as an update to the district’s previously completed plan. All relevant data has been carried over and updated with new information as appropriate and as identified within the planning process discussed in Volume 1.

11.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

The Grays Harbor Community Hospital followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County’s Planning Team, Grays Harbor Community Hospital also formulated their own internal planning team to support the broader planning process. Individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Name, Title Street Address City, State ZIP Telephone: Phone # e-mail Address: email address	David Bain, Director of Plant Services 915 Anderson Drive, Aberdeen, WA 98520 360-537-5024 O 360-581-7501 C Email: dbain@ghcares.org	Attend meetings, develop Annex, review base plan.
Name, Title Street Address City, State ZIP Telephone: Phone # e-mail Address: email address	Hannah Cleverly, Environment of Care Coordinator 915 Anderson Drive, Aberdeen, WA 98520 360-537-5031 Email: htaylor@ghcares.org	Attend meetings, develop Annex,

11.3 DISTRICT PROFILE

Grays Harbor Community Hospital (GHCH) is a licensed 140-bed acute care community hospital located in Aberdeen, Washington, the largest city in mostly-rural Grays Harbor County. The hospital is owned by Grays Harbor Public Hospital District No. 2 (the District) and serves the entirety of western Grays Harbor County. Grays Harbor County, named after the large estuarine bay near the County’s southwestern corner, was until the 1960s largely dependent on the logging and fishing industries. In the 1960s, foreign mills began outbidding local timber companies based on price, and in the 1980s, Federal logging restrictions further restricted logging due to threats to the spotted owl and salmon. Fishing and clamming, once important to the county’s economy, also deteriorated based on depleted stocks. Today, charter fishing and ocean beaches bring considerable tourism to the area, and as a result, employment is largely in the services sector. Grays Harbor continues to have higher rates of unemployment than most other areas of the State, and poverty is also considerably higher. The Quinault Tribe’s home is contained within the District, along the coastal areas of the County. In addition to acute inpatient care (OB, intensive care and medical/surgical), GHCH provides a 24/7 emergency department, radiology, physical therapy, laboratory, imaging, rehabilitation, surgery, chemical dependency, cardiac, wound care, ambulatory infusion, and respiratory care among other services. GHCH also owns and operates four primary care and specialty clinics, with a total of approximately 15 providers.

The following is a summary of key information about the jurisdiction:

Governing Authority—Governed by an elected Board of Commissioners

Population Served—71,122 as of 2015

Land Area Served— 2,224 square miles

Value of Area Served—The estimated value of the area served by the jurisdiction is \$7,535,963,453

Land Area Owned— 11.9821 acres

Total Value of Critical Infrastructure/Equipment—The total value of critical infrastructure and equipment owned by the jurisdiction is \$109,974,741.97

List of Critical Facilities Owned by the Jurisdiction:

- West Campus	\$ 56,836,963
- WC Education Bldg	\$ 441,774
- East Campus	\$ 48,140,533
- Montesano Clinic	\$ 1,089,307
- Hoquiam Clinic	\$ 2,260,542
- GHI	\$ 3,162,832
- Oak Street	\$ 129,437

Total Value of Critical Facilities—The total value of critical facilities owned by the jurisdiction is \$ 112,061,388.

Current and Anticipated Service Trends—

GHCH is the only level three trauma center on the Washington coast with approximately 30,000 Emergency Department visits annually. GHCH provides acute care services including medical and pediatric care, surgical, critical care, inpatient chemical dependency, and obstetrics. It performs General, Orthopedic, Gynecological, Dental, and Urological surgery.

Outpatient services include ambulatory infusion, laboratory, cardiac rehabilitation, cardiopulmonary, rehabilitation therapy, wound healing, and a full array of diagnostic imaging services. The hospital’s Harbor Medical Group currently manages 5 rural healthcare clinics which include services for internal medicine, family medicine, pediatrics, orthopedics, general surgery, gastroenterology and urology. GHCH’s desired future state is to become a sustainable regional system of healthcare excellence, partnering to provide integrated care and services in inspirational work environments that support our mission to “Heal, Comfort and Serve Our Community with Compassion.”

11.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are no additional hazards that are unique to the special purpose district. While the County has been declared for several events, the Hospital District has been fortunate, and has sustained little direct impact to date. However, historic events have made roadways impassable, causing first responders and patients difficulties in gaining access to the hospital locations. Table 11-1 lists the past occurrence which has impacted the district. No specific dollar loss data is available.

Table 11-1 Natural Hazard Events			
Type of Event	FEMA Disaster # (if applicable)	Date	Dollar Losses (if known)
Flooding/ Landslides	4253	01/05/2015	No damages. Accessibility issues

11.5 APPLICABLE REGULATIONS AND PLANS

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction’s capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation efforts, and classifications under various community programs.

11.5.1 Regulatory Capability

The assessment of the district’s legal and regulatory capabilities which are customarily used by jurisdictions to implement hazard mitigation activities, are identified in Table 11-2. Those items applicable to the district are identified.

Table 11-2 Hospital District Legal and Regulatory Capability				
	Local Authority	Federal Jurisdictional Authority	State Mandated	Comments
Planning Documents				
Emergency Operations Plan	X			
Strategic Plan	X			
Response/Recovery Planning				
Comprehensive Emergency Management Plan	X			Emergency Operations Plan
Threat and Hazard Identification and Risk Assessment	X			Emergency Operations Plan
Active Shooter Plan	X			Code Silver policy
Post-Disaster Recovery Plan	X			Emergency Operations Plan
Continuity of Operations Plan	X			Emergency Response Policies
Public Health Plans	X			
Specific Training for infectious diseases	X			Internal Infection Control and Prevention policies and procedures
Evacuation Plan for Patients		X		CMS compliant Evacuation Policy
Standard Operating Procedures/Guides	X			Hospital Policies and Procedures
Boards and Commission				
Planning Commission				
Mitigation Planning Committee	X			Emergency Management Committee
Maintenance Programs	X			Plant Services Department
Mutual Aid Agreements/MOU	X		X	Region 3 Healthcare coalition Disaster Medical Command Center (DMCC) to coordinate patient placement between health care organizations.

Table 11-2 Hospital District Legal and Regulatory Capability				
	Local Authority	Federal Jurisdictional Authority	State Mandated	Comments
Governing Commissioners	X			Public Hospital District #2
<ul style="list-style-type: none"> – MaryAnn Welch, President, Position 1 (Junction City, Central Park, Montesano) – Michael Bruce, Position 2 (Westport, Grayland) – Miles Longenbaugh, Position 3 (Ocean Shores and North Beach) – Andrew Bickar, Position 4 (Hoquiam) – Becky Walsh, Position 5 (Aberdeen) – Robert Torgerson, Secretary – At Large 1 				
Codes, Ordinances, & Requirements				
NFPA		X	X	National Fire Protection Agency
TJC		X		The Joint Commission
CMS standards		X		Centers for Medicare and Medicaid Services
FGI building Code			X	Facility Guidelines Institute
IBC building Code	X		X	International Building Code
L&I			X	Labor and Industries
ASHRAE		X		Air and water quality
USP		X		Pharmaceutical Codes
GHCH ERPs	X			Hospital Emergency Response Plans
CDC		X		Centers for Disease Control and Prevention
ANSI		X		American National Standards Institute
OSHA			X	Occupational Safety and Health Administration
DOH			X	Department of Health

Table 11-2 Hospital District Legal and Regulatory Capability				
	Local Authority	Federal Jurisdictional Authority	State Mandated	Comments
EPA			X	Environmental Protection Agency
IFC	X	X		International Fire Code
Hazardous Materials Plan	X			Organizations HAZMAT response plan
FDA		X		Food and Drug Administration
DSHS			X	Department of Social and Health Services

11.5.2 Administrative and Technical Capabilities

The assessment of the district’s administrative and technical capabilities, including educational and outreach efforts, and on-going programmatic efforts are presented in Table 11-3. These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 11-3 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Professionals trained in building or infrastructure construction practices as they relate to the hospital.	Yes	Plant Services, GHCH, Director
Personnel specialized in operation of hospital-specific systems.	Yes	Plant Services, GHCH, Director
Staff with training in benefit/cost analysis	Yes	
Emergency Manager	Yes	Plant Services, GHCH, Director
Grant writers	No	
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?)	Yes	Teleira, Hears radio, Tiger Text, Hospital PA, Amateur Radio
Hazard data and information available to public	Yes	Plant Services, GHCH, Director
Education and Outreach		
Safety committee focused on hospital safety and emergency preparedness efforts?	Yes	Work Place Safety and Emergency Management Committees currently chaired by the hospital Safety Officer

Table 11-3 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Organization focused on individuals with access and functional needs populations	Yes	Various plans in place to ensure evacuation if needed
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes	Education & Marketing, GHCH, Director
Natural disaster or safety related programs?	Yes	Various communicable disease programs.
Public-private partnership initiatives addressing disaster-related issues?	Yes	Plant Services, GHCH, Director
Multi-seasonal public awareness program?	Yes	Education & Marketing, GHCH, Director
MOUs for continuity of services	Yes	Agreements to provide care and receive goods and services for business continuity.

11.5.3 Fiscal Capability

The assessment of the jurisdiction’s fiscal capabilities is presented in Table 11-4. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

Table 11-4 Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	Yes
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	No
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	Yes
Withhold Public Expenditures in Hazard-Prone Areas	No
State Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	No

Table 11-4 Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
Other	No

11.6 HAZARD RISK AND VULNERABILITY RANKING

The District’s Planning Team reviewed the hazard list identified within the Base Plan and have identified the hazards that affect the GH Public Hospital District #2. In addition to the data provided in the District-based maps provided within this Volume 2, the following further identifies the impact of the hazards of concern on the Grays Harbor Hospital District.

Table 11-5 presents the ranking of the hazards of concern based on their CPRI score, as well as a qualitative assessment of District Impact. A qualitative vulnerability ranking was also assigned based on a summary of potential impact determined by: past occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and /or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

Table 11-5 Hazard Risk and Vulnerability Ranking				
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	District Impact
1	Earthquake	3.85	High	Earthquake is the hazard of greatest concern for the district. In terms of facilities, several of the facilities are older in nature. The structures are all in a “Severe” shaking zone, although they are in a very low liquefaction zone. In a significant EQ event, accessibility for patients, responders and staff would be directly impacted. Supplies needed would also be directly impacted.
2	Landslides	3.75	High	While none of the hospitals’ structures are impacted by landslides, landslides historically have caused roadways to be blocked. This impacts not only patients, but also staffing at the hospital for personnel reporting to work.
3	Tsunami	3.5	High	As a coastal community, impact from tsunami would vary on area, but would impact first responders’ ability to transport patients; patients’ ability to gain access to the hospital; supply-chain issues for equipment, medical supplies, etc.
4	Severe Weather	2.4	Medium	Severe weather can impact not only all of the structures, but also power supplies, supplies of equipment, food, medications, etc., coming into the hospital if roadways are impacted. This would also impact capabilities of first responders to transport patients, and for patients to get into the facilities.
5	Flood	2.3	Medium	Flooding throughout the county occurs on a regular basis. The hospital, in 2015, was impacted by a flood incident, sustaining some damage, although none of the facilities are currently identified in the 100- or 500-year flood zone recently completed by FEMA. Again, patients’ ability to gain access to the hospital facilities would be of concern, both for emergency situations, and for patients seeking regular appointments.
6	Wildfire	2.2	Medium	The majority of the districts’ structures are in Fire Regime Group V. The hospitals do have fire control devices such as sprinklers in place.
7	Climate Change	1.95	Low	While climate change will exacerbate other hazards of concern, direct impact on facilities will be limited, with the exception of wildfire. The impact on the district is associated with increase in the number of patients seeking treatment.

Table 11-5 Hazard Risk and Vulnerability Ranking				
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	District Impact
8	Erosion	1.7	Low	The districts assets are not subject to erosion, although roadways in the area could be impacted, causing difficulties with first responders and patients attempting to gain access to the facilities.
9	Drought	1.55	Low	Drought would increase wildfire danger, as well as potentially impact water supply in the area since much of the area is serviced by wells. While the hospital has plans in place for water supply, the heat many times associated with a drought situation could impact more vulnerable populations serviced by the hospital, increasing the number of patients needing treatment.
10	Volcano	1.5	Low	The primary concern for the district with respect to volcano would be the potential impact to motorized equipment due to ash and the clogging of air intake systems. Vulnerable populations would also be of concern, as patients with breathing difficulties could be impacted, thereby increasing service requirements.

11.7 MITIGATION GOALS AND OBJECTIVES

The District adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

11.8 HAZARD MITIGATION ACTION PLAN

The Planning Team for the district identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the district assets and hazards of concern. Table 11-6 lists the action items/strategies that make up the district’s hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, and the type of initiative associated with each item are also identified.

**Table 11-6
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE #1 Evaluate and perform seismic and other upgrades to vulnerable sections of existing hospital to increase protection for patient and continuity of operations due to earthquake or other hazard impact.									
Existing	E, F, SW	All	Plant	High	HMGP, PDM	Long-Term	Yes	Structural Projects, Mitigation, Response, Recovery, Resource Protection	Region
INITIATIVE #2 Continue working with County Emergency Management to conduct educational outreach efforts to hospital staff and citizens wishing to attend concerning the hazards of concern. Provide information on the hazards and how they can impact the hospital and surrounding communities, and ways in which to be self-sustaining. This includes providing information on emergency preparedness kits, family plans, knowing safety zones, etc.									
New and Existing	All	All	EM, County EM	Low	General	Short-Term	No	Public Information, Prevention, Recovery	Local
INITIATIVE #3 Continue to review existing plans in place to ensure new risk assessment data is incorporated appropriately within planning documents to coincide with the risks as identified. Educate and train on those plans.									
New and Existing	All	All	EM, Risk	Medium	DOH, General	Long-Term	No	Prevention, Property Protection, Emergency Services, Recovery	County
INITIATIVE #4 Review and update, as appropriate, MOUs in place concerning supplies needed during incident periods.									
New and Existing	All	All	EM, Risk, Legal, Board	Low	General	Long-Term	No	Prevention, Protection, Emergency Services, Recovery	Facility

11.9 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of six different initiative types for each identified action item was conducted. Table 11-7 identifies the prioritization for each initiative.

<p align="center">Table 11-7 Mitigation Strategy Priority Schedule</p>							
Initiative #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/Budgets?	Priority ^a
1	9	H	H	Y	Y	N	H
2	9	H	L	Y	N	Y	H
3	9	H	M	Y	Y	Y	H
4	9	H	L	Y	N	Y	H

a. See Chapter 1 for explanation of priorities.

CHAPTER 12. GRAYS HARBOR FIRE PROTECTION DISTRICT NO. 2 ANNEX

12.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the Grays Harbor Fire Protection District No. 2 (Fire District 2), a participating special purpose district to the Grays Harbor County Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by Fire District 2. For planning purposes, this Annex provides additional information specific to the district, with a focus on providing greater details on the risk assessment and mitigation strategy for this entity only. This document serves as an update to the district’s previously completed plan. All relevant data has been carried over and updated with new information as appropriate and as identified within the planning process discussed in Volume 1.

12.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

Fire District 2 followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County’s Planning Team, Fire District 2 also formulated their own internal planning team to support the broader planning process. Individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Leonard R Johnson 6317 Olympic Highway Aberdeen, WA 98520 Telephone: (360) 532-6050 Email: l.johnson@ghfd2.net	Fire Chief Primary Point of Contact	Coordinated Planning Process with district personnel. Conducted Commissioners’ briefings and public outreach efforts. Reviewed and updated of plan documents
Hannah Cleverly 6317 Olympic Highway Aberdeen, WA 98520 Telephone: (360)	EM/Planning Specialist Alternate Point of Contact	Assisted with the coordination of the planning process. Attended meetings and public outreach efforts. Reviewed and updated plan documents, annex, and hazard/risk planning development implementation

12.3 DISTRICT PROFILE

Formed in 1949 the Grays Harbor County Fire Protection District No. 2 provides all-hazard response to more than 330 square miles of Grays Harbor County. Services provided by the Fire District include fire suppression, Advanced Life Support (ALS) and Basic Life Support (BLS) emergency medical transport level pre-hospital care, extrication and rescue, and prevention/inspection services. It is governed by an elected three (3) member Board of Fire Commissioners.

To accomplish its mission, the Fire District uses a combination staffing model. Command and administration is provided by a Board appointed full-time Fire Chief, volunteer Deputy Chief and part-time District Secretary/Administrative Assistant. The Fire District is staffed 24-hours from Station 2-1 (Central Park) utilizing a 3-platoon format with two (2) personnel on-duty. The three (3) Lieutenant/Paramedics, three (3) full-time Firefighter/Paramedics along with 31 volunteers are the core of the operations section.

The Fire District is primarily funded by regular property taxes and an EMS levy. Taxes constitute 68 percent of available operating revenue. The remainder of the 1.5 million dollars per year budget is comprised of fees collected for ambulance transport fees, fire and EMS service contracts, cash carryover and inter-governmental services.

The following is a summary of key information about the jurisdiction:

- **Governing Authority**— The district is governed by three (3) elected Fire Commissioners creating the Board of Fire Commissioners.
- **Population Served**— Resident population of 8,331 as of January 2018 from the 2010 Census Redistricting Data provided through the Grays Harbor GIS Office from the WA State Office of Financial Management [P.L. 94-171] Summary Files.
- **Land Area Served**— 152 square miles (within the jurisdictional boundary), EMS services are provided to 330 square miles.
- **Value of Area Served**—The estimated value of the area served by the jurisdiction is \$511,841,802 million (information from the Grays Harbor Assessor’s Office – Levies for tax year 2017 for collection in 2018).
- **Land Area Owned**— 12.17 acres
- **List of Critical Infrastructure/Equipment Owned by the Jurisdiction:**

Grays Harbor County Fire Protection District #2 fleet.

Total Value of Critical Infrastructure/Equipment—The total value of critical infrastructure and equipment owned by the jurisdiction is 2.2 million.

- **List of Critical Facilities Owned by the Jurisdiction is identified below:**

Structure	Building Value	Content Value	Total Value
Station 2-1 (Central Park)	\$1,229,022	\$268,036	\$1,497,058
Station 2-2 (Brady)	\$803,632	\$130,773	\$934,405
Station 2-3 (Wynoochee)	\$396,458	\$116,245	\$512,703
TOTALS	\$2,429,112	\$515,054	\$2,944,166

Current and Anticipated Service Trends are identified in the below table.

SERVICE TREND 2015 - 2017							
Major Incident Break Down	2015	%	2016	%	2017	%	Overall Change 3-years
Fire	42	4.0%	18	1.5%	42	3.2%	2.9%
Rescue & EMS	677	64.4%	775	64.3%	822	63.0%	63.8%
Hazardous Condition (No Fire)	9	0.9%	2	0.2%	10	0.8%	0.6%
Service Call	93	8.8%	97	8.0%	102	7.8%	8.2%
Good Intent Call	213	20.2%	298	24.7%	319	24.4%	23.3%
False Alarm & False Call	17	1.6%	15	1.2%	8	0.6%	1.1%
Severe Weather & Natural Disaster	1	0.1%	0	0.0%	1	0.1%	0.1%
Special Incident Type	0	0.0%	1	0.1%	1	0.1%	0.1%
TOTALS	1052		1206		1305		

12.4 FUTURE DEVELOPMENT

In addition to the above-identified structures, as a result of the passing of Unlimited Tax General Obligation bond in 2015, Station 2-1 (Central Park) will be constructing a new building to house firefighting and EMS response operations adjacent to the existing station to better service the citizens of Grays Harbor County Fire Protection District #2. The building has been engineered and designed to meet the seismic and hazard requirements for an “Essential Facility” under the IBC and IFC. The facility is a critical facility to response operations within the Fire District. It is anticipated that the Fire District will break ground in late Spring 2018. That structure was considered in the risk assessment process.

The Fire District’s boundaries and contracted EMS response area is shown on in the map provided below.

12.5 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are no additional hazards that are unique to the special purpose district. Table 12-1 lists all past occurrences which have impacted the district. If available, dollar loss data is also included.

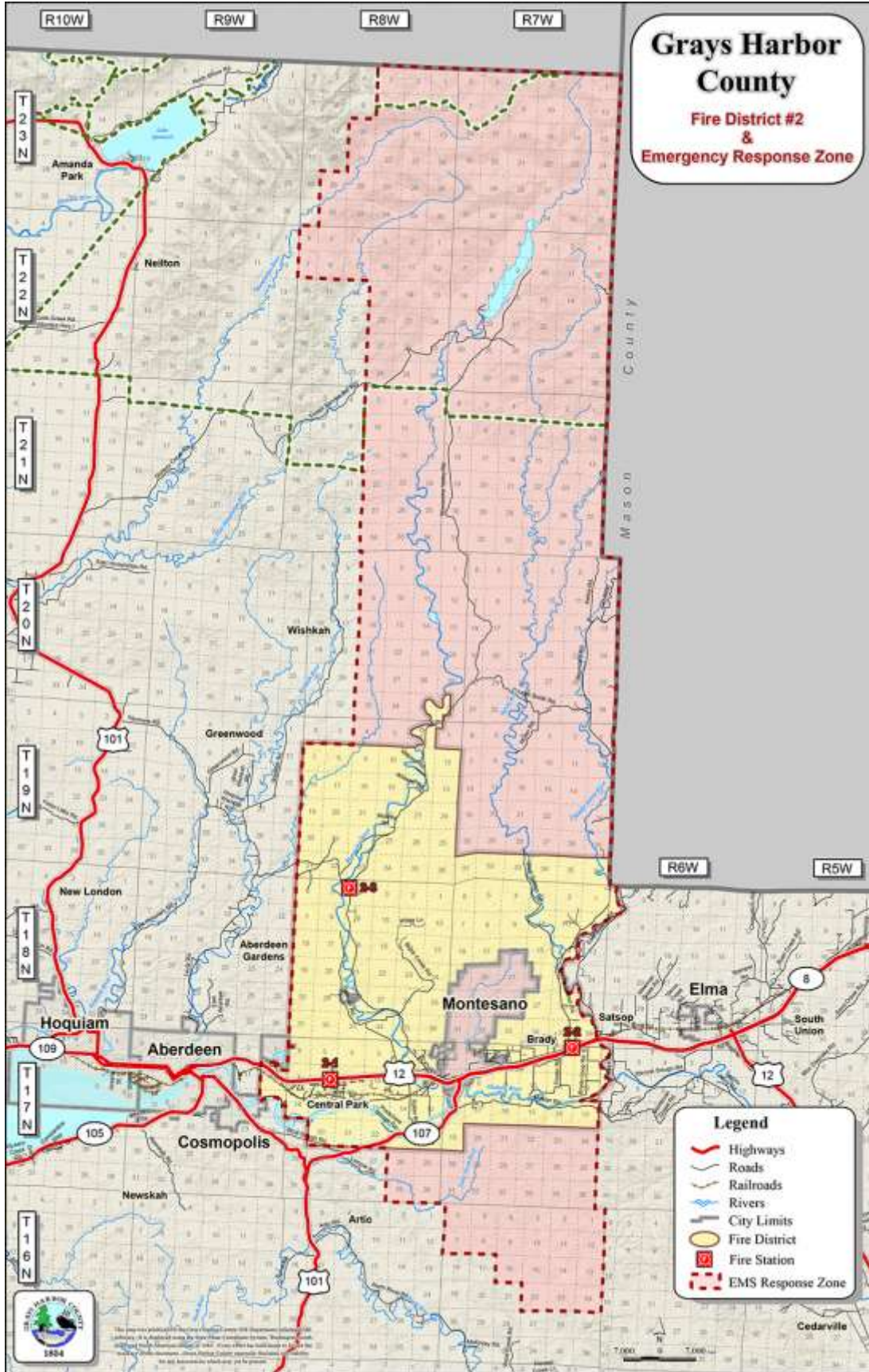


Table 12-1 Natural Hazard Events			
Type of Event	FEMA Disaster # (if applicable)	Date	Dollar Losses (if known)
Flood	4253	12/01/2015	Unknown
Severe Storm(s)	4242	08/29/2015	Unknown
Severe Storm(s)	4056	01/14/2012	Unknown
Severe Storm(s)	1825	12/12/2008	Unknown
Flood	1817	01/06/2009	Unknown
Severe Storm(s)	1734	12/01/2007	Unknown
Severe Storm(s)	1682	12/14/2006	Unknown
Severe Storm(s)	1671	11/02/2006	Unknown
Severe Storm(s)	1641	01/27/2006	Unknown
Severe Storm(s)	1499	10/15/2003	Unknown
Earthquake	1361	02/28/2001	Unknown
Flood	1172	03/18/1997	Unknown
Severe Storm(s)	1159	12/26/1996	Unknown
Flood	1100	01/26/1996	Unknown
Severe Storm(s)	1079	11/07/1995	Unknown
Fishing Losses	1037	05/01/1994	Unknown
Flood	883	11/09/1990	Unknown
Flood	852	01/06/1990	Unknown
Volcano	623	05/21/1980	Unknown
Flood	612	12/31/1979	Unknown
Flood	545	12/10/1977	Unknown
Flood	492	12/13/1975	Unknown
Flood	322	02/01/1972	Unknown
Flood	300	02/09/1971	Unknown
Flood	185	12/29/1964	Unknown

12.6 APPLICABLE REGULATIONS AND PLANS

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction’s capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections:

regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation efforts, and classifications under various community programs.

12.6.1 Regulatory Capability

The assessment of the district’s legal and regulatory capabilities which are customarily used by jurisdictions to implement hazard mitigation activities, are identified below.

- Grays Harbor Fire District 2 – Strategic Plan and Goals
- Fire District 2 – Policies & Procedures
- CEMP – Grays Harbor County
- Federal Mitigation Act of 2000
- Response Plans
- National Response Framework 2008
- National Incident Management System (NIMS)
- Title 52 RCW (entire)
- RCW 18.71, 18.73 EMS
- WAC 296-305 Safety Standards for Firefighters
- WAC 246-967 EMS and Trauma Systems
- International Building & Fire Code (2012 Edition)
- Grays Harbor Tsunami Evacuation Plan
- Grays Harbor County-wide Mutual Aid Agreement

12.6.2 Administrative and Technical Capabilities

The assessment of the district’s administrative and technical capabilities, including educational and outreach efforts, and on-going programmatic efforts are presented in Table 12-2. These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 12-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	YES	Grays Harbor County
Professionals trained in building or infrastructure construction practices (building officials, fire inspectors, etc.)	YES	LT James Sande, Grays Harbor Fire District 2 Grays Harbor County – Fire Marshal
Engineers specializing in construction practices?	YES	TCA Architecture
Planners or engineers with an understanding of natural hazards	YES	Grays Harbor County Planning Department

Table 12-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Staff with training in benefit/cost analysis	YES	Grays Harbor Fire District 2 Fire Chief
Surveyors	NO	
Personnel skilled or trained in GIS applications	YES	Grays Harbor GIS Services
Emergency Manager	YES	The County provides this service
Grant writers	NO	
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?)	YES	The County uses a reverse 9-1-1 system; The county uses the AHEB sirens for Tsunami warning and signage for warning systems and evacuation routes. We also use our PIO and social media for notification to citizens.
Hazard data and information available to public	YES	Hazard maps developed through this process are available on the county's website for review.
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	YES	CERT teams trained with citizens throughout the County
Organization focused on individuals with access and functional needs populations	YES	Coastal Community Action Plan (CCAP) www.costalcap.org
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	YES	Grays Harbor Fire District 2 – direct delivery, website and public meetings. www.ghfd2.org
Natural disaster or safety related school programs?	YES	Grays Harbor Fire District 2 – direct delivery, website and public meetings. www.ghfd2.org Grays Harbor EM
Public-private partnership initiatives addressing disaster-related issues?	YES	NRC Environmental Services Puget Sound & Pacific Railroad
Multi-seasonal public awareness program?	YES	Grays Harbor Fire District 2 and Grays Harbor County regularly provides seasonal awareness programs via its website, safety fairs and social media posts
On-Going Mitigation Efforts		
Hazardous Vegetation Abatement Program	NO	
Noxious Weed Eradication Program or other vegetation management	NO	
Fire Safe Councils	YES	
Chipper program	NO	
Defensible space inspections program	YES	
Address signage for property addresses	YES	

12.6.3 Fiscal Capability

The assessment of the jurisdiction’s fiscal capabilities is presented in Table 12-3. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

Table 12-3 Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	YES
Capital Improvements Project Funding	YES
Authority to Levy Taxes for Specific Purposes	YES
User Fees for Water, Sewer, Gas or Electric Service	NO
Incur Debt through General Obligation Bonds	YES
Incur Debt through Special Tax Bonds	YES
Incur Debt through Private Activity Bonds	NO
Withhold Public Expenditures in Hazard-Prone Areas	NO
State Sponsored Grant Programs	YES
Development Impact Fees for Homebuyers or Developers	YES

12.6.4 Community Classification

The district’s classifications under various hazard mitigation programs are presented in Table 12-4. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community. Those which specifically require district participation or enhance mitigation efforts are indicated accordingly.

Table 12-4 Community Classifications		
	Participating (Yes/No)	Date Enrolled
Community Rating System	6	
Building Code Effectiveness Grading Schedule	4	
Storm Ready	Yes- County	
Firewise	No	
Tsunami Ready (if applicable)	Yes- County	

12.7 HAZARD RISK AND VULNERABILITY RANKING

The district’s Planning Team reviewed the hazard list identified within the Base Plan and have identified the hazards that affect the Grays Harbor County Fire Protection District #2.

Table 12-5 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and /or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

Table 12-5. Hazard Risk and Vulnerability Ranking				
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	District Impact
1	Earthquake	3.85	High	The entire planning area is susceptible to earthquakes. The structures owned by the district range from "very low" to "high" liquefaction zones and are dated making them susceptible to Earthquake hazards. Station 2-1 existing is unreinforced masonry.
2	Tsunami	3.10	High	The Fire Districts risk for Tsunami is similar to the risk of Flood. With a Tsunami in the county increases the population due to citizens seeking refuge out of the inundation zone. The increase of population would impact our ability to provide services greatly.

Table 12-5. Hazard Risk and Vulnerability Ranking				
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	District Impact
3	Flood	3.10	High	<p>Flooding in the district frequently occurs. Although none of the stations are in the 100 –year floodplain, Station 2-2 does have a history of being affected by flood waters and due to the surrounding flat land, response would be hampered by floodwaters over the roadways.</p>
4	Wildfire	3.10	High	<p>The structures owned by the district fall into Fire Regime 5. While structures owned by the district have not been impacted by wildfire, the districts response to wildfire events has increased over the last several years, potentially due to climate change and the drought which the entire state experienced in 2015, as well as the driest summer on record in 2017. We have been fortunate enough to be able to control wildfires which have erupted in our district.</p>
5	Landslides	2.75	Medium	<p>No structures owned by the district fall within the landslide hazard area, although the roadways could be impacted by landslides occurring throughout the county along major roads.</p>
6	Climate Change	2.35	Medium	<p>Climate change will continue to exacerbate other hazards of concern, including increased severity of severe storms, increased flooding events, and impact on water supplies. These have the potential to impact not only district-owned structures, but also response capabilities.</p>
7	Drought	2.35	Medium	<p>Droughts will increase the risk of wildfire and has the ability to limit water supplies needed to fight fires. The increase to wildfire danger could also impact the risk of the district's structures.</p>
8	Severe Weather	2.25	Medium	<p>Severe storms can impact all three of the districts structures. Most of the structures included in this assessment were built in the 1950's era. Strong winds could damage the facilities. Severe storms also impact response capabilities. Falling trees and flooding roadways impact ingress and egress. Snow, while usually not of a long duration or significant amounts, also have the potential to impact response times and increase of calls. Snow-load capacities can also be of a concern.</p>

Table 12-5. Hazard Risk and Vulnerability Ranking				
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	District Impact
9	Erosion	1.90	Low	Erosion, although a hazard for the county due to our coastal line, is low for the district due to being set more inland. The districts assets are not subject to erosion, although roadways in the area could be impacted, causing difficulties and impacting response times.
10	Volcano	1.55	Low	The primary concern for the district with respect to volcano would be the potential impact to motorized equipment due to ash and the clogging of air intake systems. Vulnerable populations would also be affected, as patients with breathing difficulties could be impacted, thereby increasing respiratory and overall response calls.

12.8 MITIGATION GOALS AND OBJECTIVES

The District adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

12.9 HAZARD MITIGATION ACTION PLAN

The Planning Team for the district identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the district assets and hazards of concern. Table 12-6 lists the action items/strategies that make up the district’s hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, and the type of initiative associated with each item are also identified.

**Table 12-6.
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE # 1 Station 2-2 needs an emergency power generator with automatic transfer switch									
Existing 2-2 Station	All	1,2,3,4,6	GHCFFPD #2	\$70,000	Grants, District Funds, UTGO/LTGO Bonds, FEMA, HUD	Short Term	No	Property Protection, Emergency Services, Recovery	Facility, Local, County
INITIATIVE #2 Station 2-3 needs an emergency power generator with automatic transfer switch									
Existing 2-3 Station	All	1,2,3,4,6	GHCFFPD #2	\$70,000	Grants, District Funds, UTGO/LTGO Bonds, FEMA, HUD	Short Term	No	Property Protection, Emergency Services, Recovery	Facility, Local, County
INITIATIVE #3 Station 2-2 needs to be relocated out of the flood plain to a seismically engineered building on higher ground									
Existing 2-2 Station	EQ/TS/F/SW	1,2,3,4,6	GHCFFPD #2	1,800,000	Grants, District Funds, UTGO/LTGO Bonds, FEMA, HUD	Long Term	No	Prevention Activities, Structural Projects, Property Protection, Emergency Services, Recovery	Facility, Local, County, Region
INITIATIVE #4 Station 2-1 old station needs to be seismically retrofitted to withstand earthquake									
Existing 2-1 Station	EQ	1,2,3,4,6	GHCFFPD #2	225,000	Grants, District Funds, UTGO/LTGO Bonds, FEMA, HUD	Long Term	No	Prevention Activities, Structural Projects, Property Protection, Emergency Services, Recovery	Facility, Local, County

Table 12-6. Hazard Mitigation Action Plan Matrix									
Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE #5 Station 2-1 old station needs replacement of 80KW emergency power generator to a 120KW with ATS									
Existing 2-1 Station	All	1,2,3,4,6	GHCFFD #2	110,000	Grants, District Funds, UTGO/LTGO Bonds, FEMA, HUD	Long Term	No	Structural Projects, Property Protection, Emergency Services, Recovery	Facility, Local, County
INITIATIVE #6 Create public education classes, publications, and informational outreach to raise the level of hazard awareness within the district.									
New	All	5,6	GHCFFD#2	5,000	Grants, District Funds, UTGO/LTGO Bonds, FEMA, HUD	Short Term	No	Public Information	Facility, Local, County

12.10 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of six different initiative types for each identified action item was conducted. Table 12-7 identifies the prioritization for each initiative.

Table 12-7. Mitigation Strategy Priority Schedule								
Initiative #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/Budgets?	Priority ^a	
1	5	H	M	Yes	Yes	No	M	
2	5	H	M	Yes	Yes	No	M	
3	5	H	H	Yes	Yes	No	H	

<p align="center">Table 12-7. Mitigation Strategy Priority Schedule</p>							
Initiative #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/Budgets?	Priority ^a
4	5	H	H	Yes	Yes	No	H
5	5	H	M	Yes	Yes	No	M
6	2	M	M	Yes	Yes	No	M

a. See Chapter 1 for explanation of priorities.

12.11 FUTURE NEEDS TO BETTER UNDERSTAND RISK/ VULNERABILITY

- Although the Fire District is part of the Grays Harbor County Emergency Management Plan, a CEMP needs to be created on a local agency basis to better understand the risks and vulnerability of the specific agency.
- A Firewise Community Risk Assessment would benefit the district and its capabilities for wildfire. The only Firewise Community in Grays Harbor County is Ocean Shores and the district feels that a broader assessment would be beneficial for the entire county.
 - <https://www.nfpa.org/Public-Education/By-topic/Wildfire/Firewise-USA/Become-a-Firewise-USA-site>

CHAPTER 13. GRAYS HARBOR FIRE DISTRICT NO. 5

13.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the Grays Harbor Fire District 5, a participating special purpose district to the Grays Harbor Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by the Grays Harbor Fire District 5. For planning purposes, this Annex provides additional information specific to the district, with a focus on providing greater details on the risk assessment and mitigation strategy for this entity only. This document serves as an update to the district’s previously completed plan. All relevant data has been carried over and updated with new information as appropriate and as identified within the planning process discussed in Volume 1.



13.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

The Grays Harbor Fire District 5 followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County’s Planning Team, the Grays Harbor Fire District 5 also formulated their own internal planning team to support the broader planning process. Individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Adam Fulbright, Batt. Chief P.O. Box 717 Elma, WA 98541 Telephone: 360-495-5943 e-mail Address: afulbright@ghfd5.org	Battalion Chief	
Dan Prater, Fire Chief P.O. Box 717 Elma, WA 98541 Telephone: 360-482-6266 e-mail Address: chief@ghfd5.org	Fire Chief	
Name, Title Street Address City, State ZIP Telephone: Phone # e-mail Address: <u>email</u> address	Senior Planner, Public Safety, Assistant Engineer, etc.	

13.3 DISTRICT PROFILE

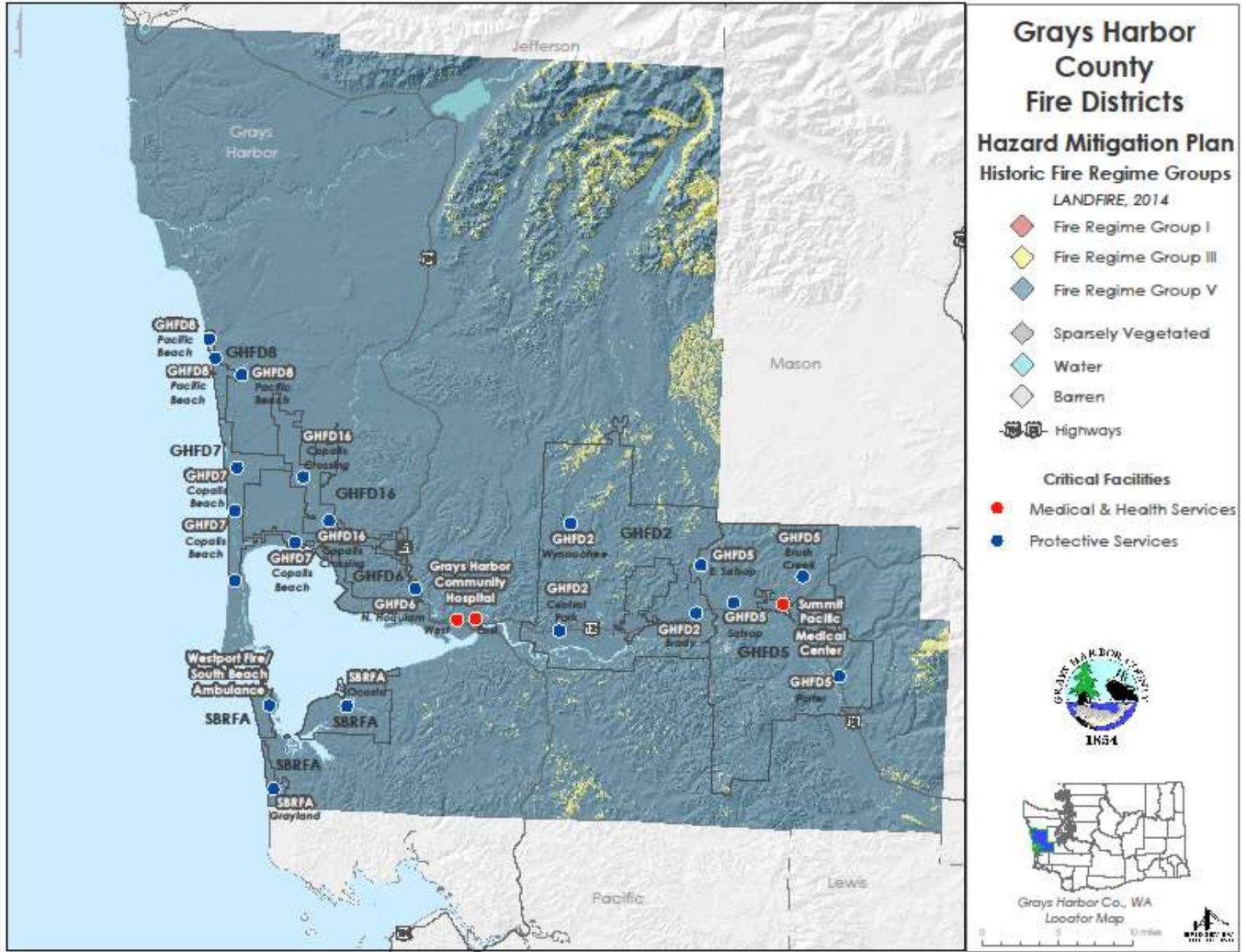
Grays Harbor Fire Protection District #5 is a special purpose district created in 1955 to provide fire and ems services to the unincorporated area around the City of Elma, WA. The districts service areas expanded throughout the years to include Emergency Medical Service to the Cities of Elma, McCleary and Fire Protection District 12. A three-member elected board of directors governs the District. The Board assumes responsibility for the adoption of this plan; the Battalion Chief will oversee its implementation. As of 2010 the district serves a population of 5500 residents and our expanded population for EMS care is 4760. Our funding comes primarily through tax rates and revenue bonds.

The following is a summary of key information about the jurisdiction:

- **Governing Authority**— The district is governed by three member elected board
- **Population Served**—11,782 including our expanded service area as of 2010
- **Land Area Served**—124 square miles and 172 square Miles when you Include expanded EMS service area
- **Value of Area Served**—The estimated value of the area served by the jurisdiction is 574,692,931
- **Land Area Owned**—4.09 Aces
- **List of Critical Infrastructure/Equipment Owned by the Jurisdiction:**

4 Type 1 Engines	2,000,000.00
3 Type 2 Tenders	1,095,000.00
2 Brush Engines	300,000.00
3 Command Vehicles	175,000.00
- **Total Value of Critical Infrastructure/Equipment**—The total value of critical infrastructure and equipment owned by the jurisdiction is \$4,083,965.00
- **List of Critical Facilities Owned by the Jurisdiction:**

Station #1, 428 Stamper Rd	\$212,005.00
Station #2 13 Porter Creek Rd	\$108,390.00
Station #3 1003 Monte Elma Rd	\$133,855.00
Station #4 512 E Satsop Rd	\$59,715.00
- **Total Value of Critical Facilities**—The total value of critical facilities owned by the jurisdiction is \$513,965.00
- **Current and Anticipated Service Trends**— While call volumes have increased, actual growth with respect to new construction has remained stagnant. However, land use designations do allow for an increase in light commercial and residential land uses within the service area. It is anticipated that as the economy continues to grow, the service area for the district will also increase. This increase in density of land uses will also represent an increase in population and thus a projected increase in call volume. Our District is experiencing an average annual increase in call volume of 5 percent.



13.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are no additional hazards that are unique to the special purpose district. Table 13-1 lists all past occurrences which have impacted the district. If available, dollar loss data is also included.

Table 13-1 Natural Hazard Events				
Disaster Number	Incident Type	Title	Date	District Impact
4253	Flood	Severe Winter Storm, Straight-Line Winds, Flooding, Landslides, Mudslides	12/1/2015	

Table 13-1 Natural Hazard Events				
Disaster Number	Incident Type	Title	Date	District Impact
4242	Severe Storm(s)	Severe Windstorm	8/29/2015	
4056	Severe Storm(s)	Severe Winter Storm, Flooding, Landslides, and Mudslides	1/14/2012	
1825	Severe Storm(s)	Severe Winter Storm, Record and Near Record Snow	12/12/2008	
1817	Flood	Severe Winter Storm, Landslides, Mudslides, and Flooding	1/6/2009	
1734	Severe Storm(s)	Severe Storms, Flooding, Landslides, and Mudslides	12/1/2007	Lost power to all District facilities, and delayed response due to road closures.
1682	Severe Storm(s)	Severe Winter Storm, Landslides, and Mudslides	12/14/2006	
1671	Severe Storm(s)	Severe Storms, Flooding, Landslides, and Mudslides	11/2/2006	
1641	Severe Storm(s)	Severe Storms, Flooding, Tidal Surge, Landslides, and Mudslides	1/27/2006	
1499	Severe Storm(s)	Severe Storms and Flooding	10/15/2003	
1361	Earthquake	Earthquake	2/28/2001	
1172	Flood	Heavy Rains, Snow Melt, Flooding, Land and Mudslides	3/18/1997	
1159	Severe Storm(s)	Severe Winter Storms, Land and Mudslides, Flooding	12/26/1996	
1100	Flood	High Winds, Severe Storms, Flooding	1/26/1996	
1079	Severe Storm(s)	Severe Storms, High Wind, and Flooding	11/7/1995	
1037	Fishing Losses	The El Nino (The Salmon Industry)	5/1/1994	

Table 13-1 Natural Hazard Events				
Disaster Number	Incident Type	Title	Date	District Impact
883	Flood	Severe Storms, Flooding	11/9/1990	
852	Flood	Severe Storms, Flooding	1/6/1990	
623	Volcano	Volcanic Eruption, Mt. St. Helens	5/21/1980	
612	Flood	Storms, High Tides, Mudslides, Flooding	12/31/1979	
545	Flood	Severe Storms, Mudslides, Flooding	12/10/1977	
492	Flood	Severe Storms and Flooding	12/13/1975	
322	Flood	Severe Storms and Flooding	2/1/1972	
300	Flood	Heavy Rains, Melting Snow, Flooding	2/9/1971	
185	Flood	Heavy Rains and Flooding	12/29/1964	

13.5 APPLICABLE REGULATIONS AND PLANS

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction’s capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation efforts, and classifications under various community programs.

13.5.1 Regulatory Capability

The assessment of the district’s legal and regulatory capabilities which are customarily used by jurisdictions to implement hazard mitigation activities, are identified in Table 13-2. Those items applicable to the district are identified.

TABLE 13-2 LEGAL AND REGULATORY CAPABILITY				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Codes, Ordinances & Requirements				
Building Code		YES		
Zoning Ordinance		YES		
Subdivision Ordinance		YES		
Sprinkler Codes		YES		
RCW 52.26 (Regional Fire Protection Service)	YES			
WAC 296.305	YES			
Growth Management		YES		
Public Health and Safety	YES			
Natural Hazard Specific Ordinance (stormwater, steep slope, wildfire, etc.)	YES			
Environmental Protection	YES	YES	YES	
National Incident Management System	YES			
Planning Documents				
Capital Improvement Plan	YES			10-year master plan.
Community Wildfire Protection Plan	NO			This is a countywide effort which the District will be a part of as the Firewise program continues to evolve.
Emergency Operations Plan	YES			
Response Plan	YES			
Evacuation Plan	YES			While no plans are in place, we do have guidance in place with respect to evacuation sites. Portions of the City of Elma, which is area District 5 serves, is identified as Tsunami and EQ refugee locations.
Strategic Plan	NO			
Response/Recovery Planning				
Comprehensive Emergency Management Plan		YES		The City of Elma does have a CEMP in place, which incorporates District 5.

TABLE 13-2 LEGAL AND REGULATORY CAPABILITY				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Threat and Hazard Identification and Risk Assessment	YES			
Public Health Plans	YES			Through county.
Standard Operating Procedures/Guides	YES			
Boards and Commission				
Planning Commission	YES			District 5 is part of the LEPC.
Mitigation Planning Committee	YES			Countywide effort.
Governing Commissioners	YES			
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems, chipping, etc.)	NO			
Mutual Aid Agreements / Memorandums of Understanding	YES			
Other				

13.5.2 Administrative and Technical Capabilities

The assessment of the district’s administrative and technical capabilities, including educational and outreach efforts, and on-going programmatic efforts are presented in Table 13-3. These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

TABLE 13-3 ADMINISTRATIVE AND TECHNICAL CAPABILITY		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Staff trained in both regular and wildfire requirements.	NO	
Planners or engineers with an understanding of natural hazards	NO	
Staff with training in benefit/cost analysis	NO	
Surveyors	NO	

TABLE 13-3 ADMINISTRATIVE AND TECHNICAL CAPABILITY		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Personnel skilled or trained in GIS applications	YES	The County does provide GIS services as needed.
Personnel skilled or trained in Hazus use	YES	Contracted through Mitigation Plan.
Emergency Manager	YES	
Grant writers	YES	
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?)	NO	
Hazard data and information available to public	YES	The Hazard Mitigation Plan is available for citizen review. The plan is posted on the County's website, which is available to everyone.
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	NO	
Local citizen groups or non-profit organizations focused on environmental protection?	NO	
Organization focused on individuals with access and functional needs populations	NO	
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	NO	
Natural disaster or safety related school programs?	YES	Provided through schools.
Public-private partnership initiatives addressing disaster-related issues?	NO	
Multi-seasonal public awareness program?	YES	This service is provided Countywide via the County Emergency Manager.
Other	NO	
On-Going Mitigation Efforts		
Hazardous Vegetation Abatement Program	NO	
Noxious Weed Eradication Program or other vegetation management	NO	
Firewise Program Safe Councils	YES	County contractor to assist with program development and Firewise application development.

TABLE 13-3 ADMINISTRATIVE AND TECHNICAL CAPABILITY		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
NOAA Radio Program	YES	
Defensible space inspections program	NO	
Address signage for property addresses	NO	This was previously a program which District 5 had in place; however, due to staffing, that has not been actively pursued.
NIMS Compliant	YES	All district personnel are NIMS compliant.
Other	NO	

13.5.3 Fiscal Capability

The assessment of the jurisdiction’s fiscal capabilities is presented in Table 13-4. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

TABLE 13-4 FISCAL CAPABILITY	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	YES
Capital Improvements Project Funding	YES
Authority to Levy Taxes for Specific Purposes	YES
User Fees for Water, Sewer, Gas or Electric Service (through City of Elma)	YES
Incur Debt through General Obligation Bonds	YES
Incur Debt through Special Tax Bonds	YES
Incur Debt through Private Activity Bonds	NO
State Sponsored Grant Programs	YES
Other	

13.6 COMMUNITY CLASSIFICATION

The district’s classifications under various hazard mitigation programs are presented in Table 13-5. Each of the classifications identified establish requirements which, when met, are known to increase the

resilience of a community. Those which specifically require district participation or enhance mitigation efforts are indicated accordingly.

TABLE 13-5 COMMUNITY CLASSIFICATIONS		
	Participating (Yes/No)	Date Enrolled
Community Protection Class	4	
Building Code Effectiveness Grading Schedule	4	
Storm Ready	NO	
Firewise	NO	
Tsunami Ready (if applicable)	NO	

13.7 HAZARD RISK AND VULNERABILITY RANKING

The district’s Planning Team reviewed the hazard list identified within the Base Plan and have identified the hazards that affect the Grays Harbor Fire Protection District 5.

Table 13-6 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and /or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

TABLE 13-6. HAZARD RISK AND VULNERABILITY RANKING				
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	Hazard Description Impact
1	Earthquake	3.85	High	The majority of all of the district's buildings were built in the early to mid-1960s. Only one structure, built in 1997, is newer and built to meet modern building codes. As such, all of the district's structures would be susceptible to an earthquake. The East Satsop station is also in a moderate-to-high liquefaction location, while the remaining facilities are on low liquefiable soils.
2	Severe Weather	3.25	High	All structures are susceptible to severe weather incident, depending on the type of incident. The area is regularly impacted to high winds. The districts' response capabilities are slowed during power outages, due to no station has back-up generators at this time. This delays 911 notifications, opening of bay doors for response, etc. Severe weather also impacts roadways, causing detours and increasing response times.
3	Tsunami/Flood	3.1	High	The district has had to relocate twice as a result of flooding events. Only one of those events actually caused damage to the structure (2009). Winter storm cause damage to a dike the released flood waters that caused \$8, 594.00 in damage to station 5-4 (Marion Rd Elma). As a result, the district did move locations from the rented facility, which has sense been closed. During the flood events, the District moved to one of the un-maned volunteer stations. Tsunami would also be of concern due to increased levels of water over roadways. None of the district's structures are located in the tsunami inundation zone, but increased traffic volumes and impacted roadways would cause significant issues both for evacuation and response.
4	Landsides	2.95	High	Over the course of the last several years, the district has experienced landslide events in the Porter area, which has closed Highway 12 to response efforts. None of the district's structures are located in the landslide susceptibility zone, but response and evacuation during a significant event would be impacted due to ingress and egress over major roadways impacted by landslide events.

TABLE 13-6. HAZARD RISK AND VULNERABILITY RANKING				
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	Hazard Description Impact
5	Erosion	2.85	Medium	Increased water flows have previously caused erosion along the tributaries feeding into the Chehalis River. This caused the flooding during the 2009 disaster event, which caused the closing of Station 5-4 (Marion Road). That station has since been closed. Currently, none of the stations are identified within FEMA's 100- or 500-year floodplain.
6	Wildfire	2.75	Medium	All of the District's structures fall within Fire Regime Group V. One of the District's structures is constructed out of a combination of wood/masonry, making it more susceptible to wildfire. The remaining structures are a combination steel and masonry. In addition, the primary composition of the residential structures in the district are primarily wood, with metal/masonry being the primary construction type for the commercial structures.
7	Haz-Mat	2.65	Medium	There are limited high-hazard structures within the district's boundaries; however, there is a chemical plant within close proximity which would impact the District's response capabilities. District 5 automatically responds with the City of Elma due to the size and nature of both fire departments.
8	Climate Change	2.35	Medium	Climate Change will influence weather patterns of other hazards, which could then impact the district more severely.
9	Drought	2.35	Medium	Seasons of drought can increase the districts violability to wildfire hazards, as well as increase calls for service for heat-related incidents.
10	Volcano	1.55	Low	The district does not fall into any volcano Lehar zones. Ash could be of concern if a large amount accumulates on rooftops due to the weight of the ash, as well as the impact to mechanical equipment.

13.8 MITIGATION GOALS AND OBJECTIVES

The District adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

13.9 HAZARD MITIGATION ACTION PLAN

The Planning Team for the district identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the district assets and hazards of concern. Table 13-7 lists the action items/strategies that make up the district’s hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, and the type of initiative associated with each item are also identified.

13.10 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of six different initiative types for each identified action item was conducted. Table 13.8 identifies the prioritization for each initiative.

Table 13-7. Hazard Mitigation Action Plan Matrix									
Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE #1 Seek out grant funds to purchase generators for all structure locations.									
New and Existing	All	All	District	Medium	Grant	Short-Term	No	Prevention, Structural Project, Property Protection, Emergency Services, Recovery	Local and County
INITIATIVE #2 Determine level of structural integrity of the district’s buildings to withstand earthquakes and severe weather events. As necessary, begin retrofitting structures to withstand earthquake and severe weather events.									
New and Existing	All	All	District	High	Grant	Long-Term	No	Structural Project	Local and County
INITIATIVE #3 Secure funding sources to enhance fire and EMS coverage for responding to and mitigating all hazards and emergencies within the district. This will ensure the district facilities are in operation and prepared for emergencies of all degrees. This initiative is in alliance with Countywide Hazard Mitigation Initiatives CW-11, CW-19.									
Existing	All	2, 5, 6, 8	District	High	Federal/State/Private Grants	Long-Term	No	Emergency Services	Local and County

**Table 13-7.
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE #4 Develop CERT training, involving local teams in exercises and trainings with First Responders. This initiative is in alliance with County-Specific Hazard Mitigation Initiative C-20 and Countywide Hazard Mitigation Initiatives CW-8, CW-9.									
All	All	2, 5, 6, 8	EM, District Personnel, CERT	Medium	General Fund, Federal, State, Private	Long-Term	No	Public Information, Response, Recovery	Local and County
INITIATIVE #5 Continue to enhance Wildland fire suppression training and resources to improve response capabilities.									
All	All	All	District Personnel	Medium	General Fund, Federal, State, Private	Short-term	No	Prevention, Structural Project, Property Protection, Emergency Services, Recovery	Local and County

TABLE 13-8. MITIGATION STRATEGY PRIORITY SCHEDULE							
Initiative #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/Budgets?	Priority ^a
1	9	High	Medium	Yes	Yes	No	H
2	9	High	High	Yes	Yes	No	H
3	4	High	High	Yes	Yes	No	H
4	4	Medium	Low	Yes	Yes	No	M

a. See Chapter 1 for explanation of priorities.

CHAPTER 14. GRAYS HARBOR COUNTY FIRE DISTRICT #7 ANNEX

14.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the Grays Harbor Fire Protection District #7, a participating special purpose district to the Grays Harbor County Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by the Grays Harbor Fire Protection District #7. For planning purposes, this Annex provides additional information specific to the district, with a focus on providing greater details on the risk assessment and mitigation strategy for this entity only.



14.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

The Grays Harbor Fire Protection District #7 followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County’s Planning Team, the Grays Harbor Fire Protection District #7 also formulated their own internal planning team to support the broader planning process. Individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Name, Title Street Address City, State ZIP Telephone: Phone # e-mail Address: email address	Primary Point of Contact	Nicklaus Falley, FF/EMT 258 Burrows Road Hoquiam, WA 98550 (541) 589-1482 nfalley@ghfd7.com
Name, Title Street Address City, State ZIP Telephone: Phone # e-mail Address: email address	Alternate Point of Contact	Chief James Westby PO Box 141 Copalis Beach, WA 98535 (360) 591-9883 j.h.westby@comcast.net

14.3 DISTRICT PROFILE

Grays Harbor Fire Protection District #7 was established in 1958 to provide fire protection services to the citizens of the North Beach of Grays Harbor County. Fire District #7 serves 55 square miles of unincorporated Grays Harbor County, north of the City of Ocean Shores. Staffing includes a combination

of four paid employees and approximately twelve volunteers. The district provides emergency medical services at a basic life support level as well as fire protection to their 950 citizens in conjunction with numerous mutual aid agreements. Seasonal population elevates response to 35,000 residents. The fire district is governed by a board of three elected commissioners.

The following is a summary of key information about the jurisdiction:

- **Governing Authority**— Fire District #7 is governed by Board of three fire commissioners
- **Population Served**—950 citizens as of December 2016
- **Land Area Served**—55 Sq. Miles
- **Value of Area Served**—The estimated value of the area served by the jurisdiction is \$138,294,660
- **Land Area Owned by District**—1.45 Acres
- **List of Critical Infrastructure/Equipment Owned by the Jurisdiction:**
 - One Fire Engine \$320,000
 - One BLS Ambulance \$200,000
 - Two Medical Support Vehicles \$80,000
 - Two Support Vehicles \$60,000
- **Total Value of Critical Infrastructure/Equipment**—\$660,000
- **List of Critical Facilities Owned by the Jurisdiction:**
 - Station #1 – Copalis Beach \$500,000
 - Station #2 – Ocean City \$80,000
 - Station #3 – North Bay \$80,000
 - Meeting Hall – Ocean City \$220,000
- **Total Value of Critical Facilities**—\$880,000
- **Current and Anticipated Service Trends**—Increasing population and age of population has provoked an increase of call volume by 29%. This increase in call volume is heightening the need for full time paid staff and facilitates the need for infrastructure to house employees.

The district’s boundaries are shown on in the map provided below.

14.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are no additional hazards that are unique to Grays Harbor Fire District #7. Table 14-1 lists all past occurrences which have impacted the county. No dollar loss figures were available for any damage sustained by the District for any of these events.

Table 14-1 Natural Hazard Events			
Disaster Number	Incident Type	Title	Date
4253	Flood	Severe Winter Storm, Straight-Line Winds, Flooding, Landslides, Mudslides	12/1/2015
4242	Severe Storm(s)	Severe Windstorm	8/29/2015
4056	Severe Storm(s)	Severe Winter Storm, Flooding, Landslides, and Mudslides	1/14/2012
1825	Severe Storm(s)	Severe Winter Storm, Record and Near Record Snow	12/12/2008
1817	Flood	Severe Winter Storm, Landslides, Mudslides, and Flooding	1/6/2009
1734	Severe Storm(s)	Severe Storms, Flooding, Landslides, and Mudslides	12/1/2007
1682	Severe Storm(s)	Severe Winter Storm, Landslides, and Mudslides	12/14/2006
1671	Severe Storm(s)	Severe Storms, Flooding, Landslides, and Mudslides	11/2/2006
1641	Severe Storm(s)	Severe Storms, Flooding, Tidal Surge, Landslides, and Mudslides	1/27/2006
1499	Severe Storm(s)	Severe Storms and Flooding	10/15/2003
1361	Earthquake	Earthquake	2/28/2001
1172	Flood	Heavy Rains, Snow Melt, Flooding, Land and Mudslides	3/18/1997
1159	Severe Storm(s)	Severe Winter Storms, Land and Mudslides, Flooding	12/26/1996
1100	Flood	High Winds, Severe Storms, Flooding	1/26/1996
1079	Severe Storm(s)	Severe Storms, High Wind, and Flooding	11/7/1995
1037	Fishing Losses	The El Nino (The Salmon Industry)	5/1/1994
883	Flood	Severe Storms, Flooding	11/9/1990
852	Flood	Severe Storms, Flooding	1/6/1990
623	Volcano	Volcanic Eruption, Mt. St. Helens	5/21/1980
612	Flood	Storms, High Tides, Mudslides, Flooding	12/31/1979
545	Flood	Severe Storms, Mudslides, Flooding	12/10/1977

Table 14-1 Natural Hazard Events			
Disaster Number	Incident Type	Title	Date
492	Flood	Severe Storms and Flooding	12/13/1975
322	Flood	Severe Storms and Flooding	2/1/1972
300	Flood	Heavy Rains, Melting Snow, Flooding	2/9/1971
185	Flood	Heavy Rains and Flooding	12/29/1964

14.5 APPLICABLE REGULATIONS AND PLANS

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction’s capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation efforts, and classifications under various community programs.

14.5.1 Regulatory Capability

The assessment of the district’s legal and regulatory capabilities which are customarily used by jurisdictions to implement hazard mitigation activities, are identified in Table 14-2. Those items applicable to the district are identified.

TABLE 14-2 LEGAL AND REGULATORY CAPABILITY				
	Local Capability or Authority	Other Jurisdictional Authority	State Mandated	Comments
Codes, Ordinances & Requirements				
Building Code	Yes	Yes	Yes	Local and County adoption of building codes.
Zoning Ordinance	Yes	Yes	No	Local and county zoning ordinances
Sprinkler Codes	No	No	Yes	
RCW 52.26 (Regional Fire Protection Service)	No	Yes	Yes	
WAC 296.305	No	No	Yes	

TABLE 14-2 LEGAL AND REGULATORY CAPABILITY				
	Local Capability or Authority	Other Jurisdictional Authority	State Mandated	Comments
Floodplain Ordinance	Yes	Yes	No	Local ordinance in place. Mandated for NFIP Compliance
Post Disaster Recovery	No	Yes	Yes	
Public Health and Safety	Yes	Yes	Yes	
Coastal Zone Management	No	Yes	No	
Natural Hazard Specific Ordinance (steep slope, wildfire, etc.)	No	Yes	Yes	
Environmental Protection	No	Yes	Yes	
National Incident Management System	Yes	Yes	No	
Planning Documents				
General or Comprehensive Plan	Yes			
Shoreline Management Plan	No	Yes	Yes	
Community Wildfire Protection Plan	No	No	No	
Transportation Plan	No	Yes	No	
Emergency Operations Plan	No	Yes	Yes	
Standard Operating Procedures	Yes			
Response Plan	No	Yes	Yes	
Evacuation Plan	No	Yes	Yes	
Strategic Plan	No	Yes	Yes	
Response/Recovery Planning				
Comprehensive Emergency Management Plan	No	Yes	Yes	
Threat and Hazard Identification and Risk Assessment	No	Yes	Yes	
Terrorism Plan	No	Yes	Yes	
Post-Disaster Recovery Plan	No	Yes	Yes	
Continuity of Operations Plan	No	Yes	Yes	
Public Health Plans	No	Yes	No	

TABLE 14-2 LEGAL AND REGULATORY CAPABILITY				
	Local Capability or Authority	Other Jurisdictional Authority	State Mandated	Comments
Standard Operating Procedures/Guides	Yes	Yes	Yes	
Boards and Commission				
Planning Team	No	Yes	Yes	
Mitigation Planning Committee	Yes	Yes	Yes	Utilized to complete the 2018 HMP Annex Update for County and District
Governing Commissioners (3 Commissioners)	Yes	Yes	Yes	
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems, chipping, etc.)	No	No	No	
Mutual Aid Agreements / Memorandums of Understanding	Yes	Yes	Yes	
Other				

14.5.2 Administrative and Technical Capabilities

The assessment of the district’s administrative and technical capabilities, including educational and outreach efforts, and on-going programmatic efforts are presented in Table 14-3. These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

TABLE 14-3 ADMINISTRATIVE AND TECHNICAL CAPABILITY		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Staff trained in fire protection activities.	Yes	
NIMS Compliant	Yes	
Engineers specializing in construction practices?	Yes	City of Ocean Shores and County
Personnel skilled or trained in GIS applications	Yes	Marshall Road/City of Ocean Shores/Wastewater
Personnel skilled or trained in Hazus use	Yes	Through county GIS

TABLE 14-3 ADMINISTRATIVE AND TECHNICAL CAPABILITY		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Emergency Manager	Yes	The county provides emergency management services. The district works in unison with not only county emergency management, but also with the other districts within the county.
Grant writers	No	
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?)	Yes	Grays Harbor County provides this service for the District
Hazard data and information available to public	Yes	Data from the County’s HMP will be available for citizens’ review throughout the lifecycle of the plan. In addition, continued public outreach for the hazards of concern will continue to occur at various events, such as annual safety fairs, or other public meetings.
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	Yes	Dave Agner/Neighborhood Block Watch
Organization focused on individuals with access and functional needs populations	No	These services are provided at the County level, with input and assistance as possible from District 7.
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes	The County regularly provides public outreach efforts to keep citizens informed of various programs, preparedness efforts, etc.
Multi-seasonal public awareness program?	Yes	The County provides seasonal awareness outreach to the citizens of the County.
Fire Safe Councils	No	
Chipper program	No	
Defensible space inspections program	No	
Address signage for property addresses	No	

14.5.3 Fiscal Capability

The assessment of the jurisdiction’s fiscal capabilities is presented in Table 14-4. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

TABLE 14-4 FISCAL CAPABILITY	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	Yes
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	No
State Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	Yes

14.6 COMMUNITY CLASSIFICATION

The district’s classifications under various hazard mitigation programs are presented in Table 14-5. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community. Those which specifically require district participation or enhance mitigation efforts are indicated accordingly.

TABLE 14-5 COMMUNITY CLASSIFICATIONS			
	Participating (Yes/No)	Grade	Date Enrolled/ Grade Received
Building Code Effectiveness Grading Schedule	Yes	4	2017
Protection Class	Yes	8	2017
Storm Ready	Yes		UNK
Firewise	No		
Tsunami Ready (if applicable)	Yes		UNK

14.7 HAZARD RISK AND VULNERABILITY RANKING

The district’s Planning Team reviewed the hazard list identified within the Base Plan, and have identified the hazards that affect the Grays Harbor Fire Protection District #7.

Table 14-6 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past

occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and /or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

TABLE 14-6. HAZARD RISK AND VULNERABILITY RANKING			
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank
1	Tsunami	3.90	High
2	Earthquake	3.85	High
3	Landslides	3.35	High
4	Severe Weather	3.25	High
5	Erosion	3.10	High
6	Flood	2.90	High
7	Wildfire	2.65	Medium
8	Climate Change	2.35	Medium
9	Drought	1.50	Low
10	Volcano	1.00	Low

14.8 HAZARD OVERVIEW

- Tsunami – Fire District #7 is at a great risk of a tsunami due to being directly on the coastline. The District is home to Grays Harbor County Assembly Area #2. All three of the District’s Stations are located within the Tsunami induction zone.
- Earthquake – An earthquake on shore or off can result in a tsunami striking the Pacific Coast. No District buildings or roadways are built seismically proof. In the event of an earthquake, there will be very limited roadways remaining within the district. Additionally, all of the District’s Stations are older buildings. Impact from an earthquake would not only significantly impact the District’s structures themselves, but would also impact the District’s ability to provide services.
- Landslides – Through the center of the district, in the Ocean City area, there are many homes built in land slide areas. In the event of a landslide, State Route 109 is susceptible to being blocked off through this area. One fire station falls within a land slide hazard zone.
- Severe Weather – During events of severe weather, the district is often divided into sections due to roadway hazards on State Route 109. While the District’s structures have not been impacted by a severe weather event, the ability to respond in the area is impacted. Additionally, the area is often times impacted by high winds. Overhead power lines are of concern, as they could impact not only the stations themselves due to the lines falling onto the structures and also impacting ingress and egress to the buildings, but also the power failure associated with a severe wind event. The stations currently do not have generators. Due to the age of the existing structure, it is also uncertain to what wind-load capacity the structures were built.
- Erosion – The district covers approximately ten miles of coastline that is susceptible to erosion. While the district’s structures are not impacted directly, roadways are impacted.
- Flood – Due to the coastline and high amounts of rainfall, the district commonly floods in various areas. Flooding often results in water over roadways. This impacts the district’s ability to respond, and also citizen’s ability to evacuate, if needed.
- Wildfire – Along the coastline are dune grasses that are highly susceptible to wildland fires. 50% of the district total acreage is agricultural, wildland, open spaces, and/or undeveloped land. The district’s structures are within the identified wildfire regimes and could be impacted by a dune fire.
- Climate Change – Changes in weather patterns reinforce other hazards to impact the district more severely.
- Drought – Seasons of drought can increase the district’s vulnerability to landslides and wildfire hazards.
- Volcano – The district does not fall into any volcano induction zones. Ash could be of concern if a large amount accumulates on rooftops due to the weight of the ash, as well as the impact to mechanical equipment.

14.9 MITIGATION GOALS AND OBJECTIVES

The District adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

14.10 HAZARD MITIGATION ACTION PLAN

The Planning Team for the district identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the district assets and hazards of concern. Table 14-7 lists the action items/strategies that make up the district’s hazard mitigation plan. Background information and

information on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, and the type of initiative associated with each item are also identified.

**Table 14-7.
Hazard Mitigation Action Plan Matrix**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE #GHFD7-1 Seek grant funding for relocating one fire station from a high-hazard prone area into Grays Harbor County Tsunami Assembly Area #2. This structure will serve as a primary fire station, emergency point of distribution, emergency operations center, and emergency community assembly location. This initiative is in alliance with County-Specific Hazard Mitigation Initiatives C-1 and C-8 and Countywide Hazard Mitigation Initiatives CW-3, CW-6, CW-12 and CW-17.									
New/Existing	TS, EQ, LS, SW, F	1, 2, 3, 4, 5, 6, 7, 8	Grays Harbor Fire District 7	High	General Fund, Federal/State/Private Grants	Short-Term	No	Structural Projects	Facility, Local, and County
INITIATIVE #GHFD7-2 Secure funding sources to obtain 24/7 paid fire and EMS coverage for responding to and mitigating all hazards and emergencies within the district. This will ensure the district facilities are in operation and prepared for emergencies of all degrees. This initiative is in alliance with Countywide Hazard Mitigation Initiatives CW-11, CW-19.									
Existing	All	2, 5, 6, 8	Grays Harbor Fire District 7	High	General Fund, Federal/State/Private Grants	Long-Term	No	Emergency Services	Local and County
INITIATIVE # GHFD7-3 Train all fire personnel to a universal minimum level of credential: IFSAC Fire Fighter 1 and 2, FEMA ICS Training 100, 200, 700, and 800, NWCG Wildland Red Card Fire Fighter 2, and American Heart Association Basic Life Support Healthcare Provider. Train all fire officers to a universal minimum level of credential above that of fire personnel: IFSAC Fire Officer 1, FEMA ICS Training 300 and 400, Washington State Department of Health Emergency Medical Responder. This initiative is in alliance with County-Specific Hazard Mitigation Initiative C-18 and Countywide Hazard Mitigation Initiatives CW-19, CW-22.									
Existing	All	2, 5, 6	Grays Harbor Fire District 7	Medium	General Fund, Federal/State/Private Grants	Long-Term	No	Emergency Service	Local and County
INITIATIVE # GHFD7-4 Develop CERT training, involving local teams in exercises and trainings with First Responders. This initiative is in alliance with County-Specific Hazard Mitigation Initiative C-20 and Countywide Hazard Mitigation Initiatives CW-8, CW-9.									
New	All	2, 5, 6, 8	EM, CERT	Medium	General Fund, Federal/State/Private Grants	Long-Term	No	Public Information	Local and County

14.11 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of six different initiative types for each identified action item was conducted. Table 14-8 identifies the prioritization for each initiative.

TABLE 14-8 MITIGATION STRATEGY PRIORITY SCHEDULE							
Initiative #	# of Objectives		Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/Budgets?	Priority ^a
	Met	Benefits					
GHFD7-1	8	High	High	Yes	Yes	No	High
GHFD7-2	4	High	High	Yes	Yes	No	Med
GHFD7-3	3	Med	Med	Yes	Yes	Yes	Med
GHFD7-4	4	Low	Low	Yes	Yes	No	Low

a. See Chapter 1 for explanation of priorities.



Figure 14-1 Fire District 7 Boundary and Aid Response Area

CHAPTER 15. GRAYS HARBOR FIRE PROTECTION DISTRICT #8 ANNEX

15.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the Grays Harbor Fire Protection District #8, a participating special purpose district to the Grays Harbor County Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by the Grays Harbor Fire Protection District #8. For planning purposes, this Annex provides additional information specific to the district, with a focus on providing greater details on the risk assessment and mitigation strategy for this entity only. This document serves as an update to the district’s previously completed plan. All relevant data has been carried over and updated with new information as appropriate and as identified within the planning process discussed in Volume 1.

15.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

The Grays Harbor Fire Protection District #8 followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County’s Planning Team, the Grays Harbor Fire Protection District #8 also formulated their own internal planning team to support the broader planning process. Individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

Local Planning Team Members		
Name	Position/Title	Planning Tasks
John Collum, Chief GHFD#8 PO Box 357 Pacific Beach, WA 98571 360-276-4807 Chiefdist8@gmail.com	Primary Point of Contact	
Stephanie Allestad, Commissioner PO Box 357 Pacific Beach, WA 98571 206-715-7780 cell Ghfd8ChocoFireLady@gmail.com	Alternate Point of Contact	
Shari Curtright, Asst. Chief PO Box 357 Pacific Beach, WA 98571 360-276-4807 shari@reachone.com	Alternate Point of Contact	

15.3 DISTRICT PROFILE

The following is a summary of key information about the jurisdiction:

- **Governing Authority**— The district is governed by a board of 3 fire commissioners
- **Population Served**—844 as of 2010 census
- **Land Area Served**—18 square miles as of 2010, there is new area due to newer developments
- **Value of Area Served**—The estimated value of the area served by the jurisdiction is \$316,822,770.00 as of 2016
- **Land Area Owned**—.78 acre
- **List of Critical Infrastructure/Equipment Owned by the Jurisdiction:**
 - Two pumpers \$460,000.00
 - One ladder \$300,000.00
 - One Tender \$106,000.00
 - Two ambulances \$396,000.00
 - One command/response rig \$42,000.00
 - One Brush rig \$12,000.00
 - Wildland Trailer \$25,000.00
- **Total Value of Critical Infrastructure/Equipment**—The total value of critical infrastructure and equipment owned by the jurisdiction is \$1,395,000.00
- **List of Critical Facilities Owned by the Jurisdiction:**
 - North Beach Community Center/Fire hall \$686,000.00
 - Storage Building/Workshop \$290,000.00
- **Total Value of Critical Facilities**—The total value of critical facilities owned by the jurisdiction is \$976,000.00
- **Current and Anticipated Service Trends**—The dollar value and exposure trends in our district are on the rise due to a large planned community within the district. This is increasing the call rate but offers limited personnel opportunities due to the age of the residential homeowners.

15.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are no additional hazards that are unique to the special purpose district. Table 15-1 lists all past occurrences which have impacted the district. If available, dollar loss data is also included.

Table 15-1 Natural Hazard Events				
Disaster Number	Incident Type	Title	Date	District Impact
4253	Flood	Severe Winter Storm, Straight-Line Winds, Flooding, Landslides, Mudslides	12/1/2015	Incident resulted in loss of accessibility to Hwy109 at the Moclips River. A citizen in the District ignored road closures signs and drove into flooded roadway. District fire truck was used to evacuate citizen, but damage was caused to truck.
4242	Severe Storm(s)	Severe Windstorm	8/29/2015	
4056	Severe Storm(s)	Severe Winter Storm, Flooding, Landslides, and Mudslides	1/14/2012	Incident resulted in a slide along Sunset, which required district response. The incident also resulted in loss of accessibility from Hwy 109 for multiple residents.
1817	Flood	Severe Winter Storm, Landslides, Mudslides, and Flooding	1/6/2009	
1825	Severe Storm(s)	Severe Winter Storm, Record and Near Record Snow	12/12/2008	Incident resulted in a slide along Sunset, which required district response. Accessibility to Hwy 109 was also impacted at the Moclips River.
1734	Severe Storm(s)	Severe Storms, Flooding, Landslides, and Mudslides	12/1/2007	
1682	Severe Storm(s)	Severe Winter Storm, Landslides, and Mudslides	12/14/2006	
1671	Severe Storm(s)	Severe Storms, Flooding, Landslides, and Mudslides	11/2/2006	
1641	Severe Storm(s)	Severe Storms, Flooding, Tidal Surge, Landslides, and Mudslides	1/27/2006	
1499	Severe Storm(s)	Severe Storms and Flooding	10/15/2003	
1361	Earthquake	Earthquake	2/28/2001	Throughout the area, reports of buildings settling/shifting, cracked cement foundations, thermo-pane windows losing their seals, & water pipes moving/disengaging.
1172	Flood	Heavy Rains, Snow Melt, Flooding, Land and Mudslides	3/18/1997	Access to Hwy 109 was impacted at the Moclips River. The incident also resulted in a slide along Sunset, which required district response.

Table 15-1 Natural Hazard Events				
Disaster Number	Incident Type	Title	Date	District Impact
1159	Severe Storm(s)	Severe Winter Storms, Land and Mudslides, Flooding	12/26/1996	
1100	Flood	High Winds, Severe Storms, Flooding	1/26/1996	
1079	Severe Storm(s)	Severe Storms, High Wind, and Flooding	11/7/1995	
1037	Fishing Losses	The El Nino (The Salmon Industry)	5/1/1994	
883	Flood	Severe Storms, Flooding	11/9/1990	This storm event impacted the district's ability to utilize Highway 109 at the Moclips River. The flooding also caused a landslide, which resulted in a cabin in the district being destroyed.
852	Flood	Severe Storms, Flooding	1/6/1990	
623	Volcano	Volcanic Eruption, Mt. St. Helens	5/21/1980	
612	Flood	Storms, High Tides, Mudslides, Flooding	12/31/1979	
545	Flood	Severe Storms, Mudslides, Flooding	12/10/1977	
492	Flood	Severe Storms and Flooding	12/13/1975	
322	Flood	Severe Storms and Flooding	2/1/1972	
300	Flood	Heavy Rains, Melting Snow, Flooding	2/9/1971	
185	Flood	Heavy Rains and Flooding	12/29/1964	
Non-Declared Events Impacting District				
NA	Tsunami	Japanese Tsunami	3/11/2011	Evacuation of residents & tourists of Moclips flats to firehall. In the morning district personal fed all evacuees.
	Earthquake	Great Alaskan Earthquake	3/27/1964	The Joe Creek bridge was damaged on Ocean Beach Road and Hwy 109, and the Copalis Beach bridge was taken out. There were houses on the Moclips Flats that were washed away and others that were damaged. This caused many to

Table 15-1 Natural Hazard Events				
Disaster Number	Incident Type	Title	Date	District Impact
				be marooned without help from the district and the county.
	Severe Storm(s)	Columbus Day Storm	10/12/1962	Powerful winds caused houses to be damaged, roofs torn off, trees down and power outages.

15.5 APPLICABLE REGULATIONS AND PLANS

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction’s capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation efforts, and classifications under various community programs.

15.5.1 Regulatory Capability

The assessment of the district’s legal and regulatory capabilities which are customarily used by jurisdictions to implement hazard mitigation activities, are identified in Table 15-2. Those items applicable to the district are identified.

TABLE 15-2 LEGAL AND REGULATORY CAPABILITY				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Codes, Ordinances & Requirements				
Building Code		X		
Zoning Ordinance		X		
Subdivision Ordinance		X		
Sprinkler Codes		X		
RCW 52.26 (Regional Fire Protection Service)			X	

TABLE 15-2 LEGAL AND REGULATORY CAPABILITY				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
WAC 296.305			X	
Stormwater Management		X		
Post Disaster Recovery		X		
Real Estate Disclosure			X	
Growth Management		X		
Site Plan Review		X		
Public Health and Safety		X		
Coastal Zone Management				FEDERAL
Climate Change Adaptation				FEDERAL
Natural Hazard Specific Ordinance (stormwater, steep slope, wildfire, etc.)			X	
Environmental Protection				FEDERAL
National Incident Management System				FEDERAL
Planning Documents				
General or Comprehensive Plan				
<i>Is the plan equipped to provide linkage to this mitigation plan? Yes</i>				
Floodplain or Basin Plan		X		
Stormwater Plan		X		
Capital Improvement Plan		X		
Habitat Conservation Plan		X		
Economic Development Plan		X		
Shoreline Management Plan				FEDERAL
Community Wildfire Protection Plan			X	
Transportation Plan		X		
Emergency Operations Plan		X		
Response Plan	X	X		
Evacuation Plan	X	X		
Strategic Plan		X		

TABLE 15-2 LEGAL AND REGULATORY CAPABILITY				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Response/Recovery Planning				
Comprehensive Emergency Management Plan	X	X		
Threat and Hazard Identification and Risk Assessment	X	X		
Terrorism Plan		X		
Post-Disaster Recovery Plan	X	X		
Continuity of Operations Plan	X	X		
Public Health Plans	X	X		
Standard Operating Procedures/Guides	X			
Boards and Commission				
Planning Commission		X		
Mitigation Planning Committee		X		
Governing 3 Fire Commissioner Board	X			
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems, chipping, etc.)		X		
Mutual Aid Agreements / Memorandums of Understanding	X	X		
Storm outages protocols	X			

15.5.2 Administrative and Technical Capabilities

The assessment of the district’s administrative and technical capabilities, including educational and outreach efforts, and on-going programmatic efforts are presented in Table 15-3. These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

TABLE 15-3 ADMINISTRATIVE AND TECHNICAL CAPABILITY		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	FF Assoc. Fire Comm.
Professionals trained in building or infrastructure construction practices (building officials, fire inspectors, etc.)	Yes	Chief, FF Assoc. County Fire Marshall
Engineers specializing in construction practices?	Yes	Chief, FF Assoc.
Planners or engineers with an understanding of natural hazards	No	
Staff with training in benefit/cost analysis	Yes	Fire Comm., Comm. Sec., Chief, FF Assoc.
Personnel skilled or trained in Hazus use	Yes	Chief, FF Assoc.
Technician familiar with natural hazards in local area	Yes	FF Assoc.
Emergency Manager	Yes	Chief, FF Assoc.
Grant writers	Yes	Comm. Sec., FF Assoc.
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?)	Yes	Chief, PIO, FF Assoc.
Hazard data and information available to public	Yes	Chief, PIO
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	Yes	North Beach & Seabrook CERT HAM radio KXPB-LP
Organization focused on individuals with access and functional needs populations	Yes	Pacific Beach Food Bank Green Lantern Lunch Program
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes	PIO
Natural disaster or safety related school programs?	Yes	Chief, PIO, FF Assoc.
Public-private partnership initiatives addressing disaster-related issues?	Yes	PIO, CERT
Multi-seasonal public awareness program?	Yes	PIO
Open Public Meetings/Potluck	Yes	All
District Newsletter	Yes	Fire Comm., PIO
National Incident Management System	Yes	Chief, FF Assoc.

TABLE 15-3 ADMINISTRATIVE AND TECHNICAL CAPABILITY		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
National Response Framework	Yes	Chief, FF Assoc.
Fire Fighter 1	Yes	Chief, FF Assoc.
Fire Fighter 2	Yes	FF Assoc.
Fire Fighter 1 & 2 Trainers	Yes	FF Assoc.
AHA BLS Trainers	Yes	FF Assoc.
AHA Heartsaver Trainer	Yes	FF Assoc.
Blood Borne Pathogens Trainer	Yes	FF Assoc.
On-Going Mitigation Efforts		
Hazardous Vegetation Abatement Program	Yes	Chief, FF Assoc.
Community Emergency Pantry	Yes	PIO, FF Assoc., CERT
Defensible Space Inspections Program	Yes	Chief
Emergency Operations Plan	Yes	Chief, PIO
Emergency Procedures and Policies	Yes	Chief
Address signage for property addresses	Yes	Chief, FF Assoc.
Other		

15.5.3 Fiscal Capability

The assessment of the jurisdiction’s fiscal capabilities is presented in Table 15-4. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

TABLE 15-4 FISCAL CAPABILITY	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	No
Authority to Levy Taxes for Specific Purposes	Yes
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	No

TABLE 15-4 FISCAL CAPABILITY	
Financial Resources	Accessible or Eligible to Use?
State Sponsored Grant Programs	Yes

15.6 COMMUNITY CLASSIFICATION

The district’s classifications under various hazard mitigation programs are presented in Table 15-5. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community. Those which specifically require district participation or enhance mitigation efforts are indicated accordingly.

TABLE 15-5 COMMUNITY CLASSIFICATIONS		
	Participating (Yes/No)	Date Enrolled
Building Code Effectiveness Grading Schedule	Yes	
Protection Class	6	
Commercial Structures	4	
Residential Structures	4	
Storm Ready	Yes	
Firewise	Yes	
Tsunami Ready (if applicable)	Yes	

15.7 HAZARD RISK AND VULNERABILITY RANKING

The district’s Planning Team reviewed the hazard list identified within the Base Plan and have identified the hazards that affect the Grays Harbor Fire Protection District #8.

Table 15-6 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.

- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and /or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

TABLE 15-6. HAZARD RISK AND VULNERABILITY RANKING				
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	Hazard Impact
1	Tsunami	3.9	High	All of the district’s structures would be impacted by a tsunami event, as would roadways. This would restrict evacuation and response. Distant Tsunamis also have the potential to significantly impact the district properties and area. During the 2011 Tsunami resulting from the Japan EQ, the District evacuated Moclips, including all hotels. Because the Tsunami hit during low-tide, the impact was not as significant. Due to the topography, the area has the potential to flood significantly even from a distant Tsunami, especially if the tsunami were to occur during a high-tide.
2	Earthquake	3.85	High	Earthquake would impact all of the District’s structures due to their age, and the fact that all of the structures are in a severe liquefaction zone. Roadways would also be impacted, restricting response and evacuation capabilities. There are also a number of bridges in the area, which are very old. While not owned by the County, impact to the Joe Creek Bridge, the Moclips Bridge and the 2 nd Ave. Bridge, among others, would significantly hinder not only response, but also evacuation.
2	Wildfire	3.85	High	All of the District’s structures fall within Fire Regime Group V. The District’s structures are constructed out of a combination of wood/masonry, making them more susceptible to wildfire. In addition, the primary composition of the residential structures in the district are primarily wood.

**TABLE 15-6.
HAZARD RISK AND VULNERABILITY RANKING**

Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	Hazard Impact
3	Severe Weather	3.3	High	Severe weather events customarily cause power loss in the area. During the 2007 severe weather event which resulted in a declaration, the District's service area became isolated. As a result, the District prepared and delivered ~1,500 meals over the course of six days. Isolation to the area is a significant concern during SW events. Roadways become impassable, influencing the District's ability to respond and restricting citizens' ability to evacuate. While some of the District's structures have generators, not all do. During significant events, the District also serves as a shelter to citizens in the area.
4	Other Hazards of Concern (propane)	2.5	Medium	There are limited high-hazard structures within the District's boundaries; however, there are a significant number of large propane tanks within close proximity to residential structures.
5	Climate Change	2.35	Medium	Climate Change will influence weather patterns of other hazards, which could then impact the District more severely.
5	Drought	2.35	Medium	Seasons of drought can increase the District's violability to wildfire hazards, as well as increase calls for service for heat-related incidents. Structures would not be impacted directly, except via increased wildfire danger.
6	Erosion	2.15	Medium	Over the course of the last several years, the District has experienced landslide events, including on Roosevelt Beach. None of the District's structures are located in the landslide susceptibility zone, but response and evacuation during a significant event would be impacted due to ingress and egress over major roadways impacted by landslide events.

TABLE 15-6. HAZARD RISK AND VULNERABILITY RANKING				
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	Hazard Impact
7	Flood	1.4	Low	During flooding events, roadways become impacted. While none of the District’s structures fall within the 100- or 500-year flood zone, one of the evacuation sites (the Moclips High School) has flooded. There are two points on Hwy 109 that are always susceptible to flooding. One is at the curve between the Moclips & 2 nd Ave bridges. The other is just beyond Seabrook at Elk Creek. These two points can be completely impassable during high-tide making response impossible for the District.
8.	Volcano	1.35	Low	The district does not fall into any volcano Lehar zones. Ash could be of concern if a large amount accumulates on rooftops due to the weight of the ash, as well as the impact to mechanical equipment.
9.	Landslide	1.	Low	No structures owned by the District are impacted; however, Roosevelt Beach does have landslides occasionally. There has also been one cabin in the area which has been lost due to a landslide. Response capabilities are occasionally impacted by mud/landslides, although not significantly.

15.8 MITIGATION GOALS AND OBJECTIVES

The District adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

15.9 HAZARD MITIGATION ACTION PLAN

The Planning Team for the District identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the District assets and hazards of concern. Table 15-7 lists the action items/strategies that make up the District’s hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, and the type of initiative associated with each item are also identified.

**TABLE 15-7.
HAZARD MITIGATION ACTION PLAN MATRIX**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE #1 Structural repairs to Main building and determining level of structural integrity of the District's building to withstand earthquakes and severe weather events. As necessary, begin retrofitting structure to withstand earthquake and severe weather events.									
Existing	E,SW, T	All	Commission GH Pln/Bld	Med	General Budget	Short-Term	No	Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery	Fire Protection District,
INITIATIVE #2 Structural repair of Red Auxiliary Building and determine level of structural integrity of the District's building to withstand earthquakes and severe weather events. As necessary, begin retrofitting structure to withstand earthquake and severe weather events.									
Existing	E,SW, T	All	Commission	Med	PDM, HMGP, HLS, HUD Grants, General Budget	Short-Term	No	Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery	Fire Protection District
INITIATIVE #3 Continued public outreach programs via District Newsletter to inform and educate the public on emergency, disaster & property protection									
Existing	All	2, 3, 4, 7, 8, 9	Commission	Low	General Budget	Long-Term	No	Public Information, Preventive Activities, Property Protection, Emergency Services, Recovery	Fire Protection District
INITIATIVE #4 Apparatus additional Pumper/Tender. Secure funding sources to enhance fire and EMS coverage for responding to and mitigating all hazards and emergencies within the District. This will ensure the District facilities are in operation and prepared for emergencies of all degrees									
New	All	All	Commission	High	Grant, Public	Long-Term	No	Preventive Activities, Structural Property Protection, Emergency Services, Recovery, Natural Resource Protection	Region
INITIATIVE # 5 Brush (wildland fire) truck/Pumper. Secure funding sources to enhance fire and EMS coverage for responding to and mitigating all hazards and emergencies within the district. This will ensure the district facilities are in operation and prepared for emergencies of all degrees									
New	All	All	Commission	High	Grant, Public	Long-Term	No	Preventive Activities, Structural Property Protection, Emergency Services, Recovery, Natural Resource Protection	Region

15.10 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of six different initiative types for each identified action item was conducted. Table 15-8 identifies the prioritization for each initiative.

TABLE 15-8. MITIGATION STRATEGY PRIORITY SCHEDULE							
Initiative #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/Budgets?	Priority ^a
1	9	High Repair of existing water damage due to age & environment of building will expand the life of the structure	Medium -\$35k	Yes	No	Yes	Medium
2	9	High Retrofitting of the existing structure will allow us to continue to use the structure during incidents and increase capacity.	High	Yes	No	Yes	High

**TABLE 15-8.
MITIGATION STRATEGY PRIORITY SCHEDULE**

Initiative #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/Budgets?	Priority ^a
3	6	High Direct info to district residents to inform & educate disaster preparedness will support response, preparedness and recovery efforts.	Low	Yes	Yes	Yes	High
4	9	High Additional equipment will allow the district to augment water supply for our district & region under mutual aid	High - \$300k	Yes	Yes	No	High
5	9	High - New vehicles will allow for beach access for rescues, wildland fires and access to rough roads	Medium \$40k	Yes	Yes	Yes	High

a. See Chapter 1 for explanation of priorities.

15.11 FUTURE NEEDS TO BETTER UNDERSTAND RISK/ VULNERABILITY

Ongoing education, communication and information from regional agencies that evaluate and predict disaster scenarios.

15.12 ADDITIONAL COMMENTS

This is our District's first Hazard Mitigation Plan. While we have gone through the process, we will continue to enhance the data needed for a more robust risk assessment over the life cycle of this plan and will continue to be part of the County's HMP Committee for future updates.

CHAPTER 16. GRAYS HARBOR FIRE PROTECTION DISTRICT #16 ANNEX

16.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the Grays Harbor Fire Protection District #16, a participating special purpose district to the Grays Harbor County Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by the Grays Harbor Fire Protection District #16. For planning purposes, this Annex provides additional information specific to the district, with a focus on providing greater details on the risk assessment and mitigation strategy for this entity only. This document serves as an update to the district’s previously completed plan. All relevant data has been carried over and updated with new information as appropriate and as identified within the planning process discussed in Volume 1.

16.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

The Grays Harbor Fire Protection District #8 followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County’s Planning Team, the Grays Harbor Fire Protection District #16 also formulated their own internal planning team to support the broader planning process. Individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Jodi Hartle, Fire Chief PO Box 730 Copalis Crossing, WA 98536 360-589-1184 Ghfd16firechief@coastaccess.com	Primary Point of Contact	
Stephanie Allestad, Liaison PO Box 357 Pacific Beach, WA 98571 206-715-7780 cell Ghfd8ChocoFireLady@gmail.com	Alternate Point of Contact	
Allan Landsiedel, Asst. Chief PO Box 730 Copalis Crossing, WA 98536 360-581-	Alternate Point of Contact	

16.3 DISTRICT PROFILE

Grays Harbor Fire 16 is a small, rural volunteer fire department governed by three fire commissioners on a 6- year term. The daily operations are run by the Fire Chief, who reports to the fire commissioners. The

district covers 42 sq. mi. with two major roads (State Route 109 and Ocean Beach Road) running through the coverage area. 21% is residential, .05% is commercial and 78% being wildland. Per the 2010 census, tax base is around 547. Mutual aid is in place with Grays Harbor Fire #6, 7, 8, 17 and Hoquiam Fire for paramedic services.

The following is a summary of key information about the jurisdiction:

- **Governing Authority**— The district is governed by a board of 3 fire commissioners
- **Population Served**—547 as of 2010 census
- **Land Area Served**—42 square miles as of 2010
- **Value of Area Served**—The estimated value of the area served by the jurisdiction is \$36,108,000 as of 2016
- **Land Area Owned**—.50 acre
- **List of Critical Infrastructure/Equipment Owned by the Jurisdiction:**
 - Two pumpers \$175,000
 - Two Tenders \$140,000
 - Two ambulances \$135,000
 - Two command/response rigs \$35,000
 - Two Brush rigs \$140,000
- **Total Value of Critical Infrastructure/Equipment**—The total value of critical infrastructure and equipment owned by the jurisdiction is \$1,235,000
- **List of Critical Facilities Owned by the Jurisdiction:**
 - Station One-Ocean Beach Road
 - Station Two-Powell Road
- **Total Value of Critical Facilities**—The total value of critical facilities owned by the jurisdiction is \$610,000
- **Current and Anticipated Service Trends**—The dollar value and exposure trends in our district are on the rise due to a large planned community that borders the district. This is increasing the call rate but offers limited personnel opportunities due to the age of the residential homeowners.

16.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are no additional hazards that are unique to the special purpose district. Table 16-1 lists all past occurrences which have impacted the district. If available, dollar loss data is also included.

Table 16-1 Natural Hazard Events				
Disaster Number	Incident Type	Title	Date	District Impact
4253	Flood	Severe Winter Storm, Straight-Line Winds, Flooding, Landslides, Mudslides	12/1/2015	Incident resulted in loss of accessibility to Ocean Beach Road near mile markers 7, 8 and 13-15.
4242	Severe Storm(s)	Severe Windstorm	8/29/2015	
4056	Severe Storm(s)	Severe Winter Storm, Flooding, Landslides, and Mudslides	1/14/2012	Incident resulted in loss of accessibility to Ocean Beach Road in several locations.
1817	Flood	Severe Winter Storm, Landslides, Mudslides, and Flooding	1/6/2009	
1825	Severe Storm(s)	Severe Winter Storm, Record and Near Record Snow	12/12/2008	Incident resulted in loss of accessibility to Ocean Beach Road in several locations.
1734	Severe Storm(s)	Severe Storms, Flooding, Landslides, and Mudslides	12/1/2007	
1682	Severe Storm(s)	Severe Winter Storm, Landslides, and Mudslides	12/14/2006	
1671	Severe Storm(s)	Severe Storms, Flooding, Landslides, and Mudslides	11/2/2006	
1641	Severe Storm(s)	Severe Storms, Flooding, Tidal Surge, Landslides, and Mudslides	1/27/2006	
1499	Severe Storm(s)	Severe Storms and Flooding	10/15/2003	
1361	Earthquake	Earthquake	2/28/2001	Throughout the area, reports of buildings settling/shifting, cracked cement foundations, thermo-pane windows losing their seals, & water pipes moving/disengaging.
1172	Flood	Heavy Rains, Snow Melt, Flooding, Land and Mudslides	3/18/1997	Access to Ocean Beach Road was impacted.

Table 16-1 Natural Hazard Events				
Disaster Number	Incident Type	Title	Date	District Impact
1159	Severe Storm(s)	Severe Winter Storms, Land and Mudslides, Flooding	12/26/1996	
1100	Flood	High Winds, Severe Storms, Flooding	1/26/1996	
1079	Severe Storm(s)	Severe Storms, High Wind, and Flooding	11/7/1995	
1037	Fishing Losses	The El Nino (The Salmon Industry)	5/1/1994	
883	Flood	Severe Storms, Flooding	11/9/1990	This storm event impacted the district's ability to utilize Ocean Beach Road as well as Copalis River Bridge
852	Flood	Severe Storms, Flooding	1/6/1990	
623	Volcano	Volcanic Eruption, Mt. St. Helens	5/21/1980	
612	Flood	Storms, High Tides, Mudslides, Flooding	12/31/1979	
545	Flood	Severe Storms, Mudslides, Flooding	12/10/1977	
492	Flood	Severe Storms and Flooding	12/13/1975	
322	Flood	Severe Storms and Flooding	2/1/1972	
300	Flood	Heavy Rains, Melting Snow, Flooding	2/9/1971	
185	Flood	Heavy Rains and Flooding	12/29/1964	

16.5 APPLICABLE REGULATIONS AND PLANS

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction's capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities,

including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation efforts, and classifications under various community programs.

16.5.1 Regulatory Capability

The assessment of the district’s legal and regulatory capabilities which are customarily used by jurisdictions to implement hazard mitigation activities, are identified in Table 16-2. Those items applicable to the district are identified.

Table 16-2 Legal and Regulatory Capability				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Codes, Ordinances & Requirements				
Building Code		X		
Zoning Ordinance		X		
Subdivision Ordinance		X		
Sprinkler Codes		X		
RCW 52.26 (Regional Fire Protection Service)			X	
WAC 296.305			X	
Floodplain Ordinance				FEDERAL
Stormwater Management		X		
Post Disaster Recovery		X		
Real Estate Disclosure			X	
Growth Management		X		
Site Plan Review		X		
Public Health and Safety		X		
Coastal Zone Management				FEDERAL
Climate Change Adaptation				FEDERAL
Natural Hazard Specific Ordinance (stormwater, steep slope, wildfire, etc.)			X	
Environmental Protection				FEDERAL
National Incident Management System				FEDERAL
Planning Documents				

Table 16-2 Legal and Regulatory Capability				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
General or Comprehensive Plan				
<i>Is the plan equipped to provide linkage to this mitigation plan? Yes</i>				
Floodplain or Basin Plan		X		
Stormwater Plan		X		
Capital Improvement Plan		X		
Habitat Conservation Plan		X		
Economic Development Plan		X		
Shoreline Management Plan				FEDERAL
Community Wildfire Protection Plan			X	
Transportation Plan		X		
Emergency Operations Plan		X		
Response Plan	X	X		
Evacuation Plan	X	X		
Strategic Plan		X		
Response/Recovery Planning				
Comprehensive Emergency Management Plan	X	X		
Threat and Hazard Identification and Risk Assessment	X	X		
Terrorism Plan		X		
Post-Disaster Recovery Plan	X	X		
Continuity of Operations Plan	X	X		
Public Health Plans	X	X		
Standard Operating Procedures/Guides	X			
Boards and Commission				
Planning Commission		X		
Mitigation Planning Committee		X		
Governing 3 Fire Commissioner Board	X			

Table 16-2 Legal and Regulatory Capability				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems, chipping, etc.)		X		
Mutual Aid Agreements / Memorandums of Understanding	X	X		
Storm outages protocols	X			

16.5.2 Administrative and Technical Capabilities

The assessment of the district’s administrative and technical capabilities, including educational and outreach efforts, and on-going programmatic efforts are presented in Table 16-3. These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 16-3 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Professionals trained in building or infrastructure construction practices (building officials, fire inspectors, etc.)	No	
Engineers specializing in construction practices?	No	
Planners or engineers with an understanding of natural hazards	No	
Staff with training in benefit/cost analysis	No	
Surveyors	Yes	Grays Harbor Fire 16/Medical Lt./Commissioner
Personnel skilled or trained in GIS applications	Yes	Grays Harbor Fire 8/Liaison
Personnel skilled or trained in Hazus use	No	
Emergency Manager	No	
Grant writers	No	
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?)	No	
Hazard data and information available to public	No	

Table 16-3 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	Yes	North Beach & Seabrook CERT HAM radio KXPB-LP
Local citizen groups or non-profit organizations focused on environmental protection?	No	
Organization focused on individuals with access and functional needs populations	Yes	Copalis Beach Food Bank Green Lantern Lunch Program
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes	Chief, PIO
Natural disaster or safety related school programs?	No	Chief, PIO
Public-private partnership initiatives addressing disaster-related issues?		
Multi-seasonal public awareness program?	Yes	Chief, PIO
District Newsletter	No	

16.5.3 Fiscal Capability

The assessment of the jurisdiction’s fiscal capabilities is presented in Table 16-4. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

Table 16-4 Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	No
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	No
Withhold Public Expenditures in Hazard-Prone Areas	No
State Sponsored Grant Programs	Yes

16.5.4 Community Classification

The district’s classifications under various hazard mitigation programs are presented in Table 16-5. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community. Those which specifically require district participation or enhance mitigation efforts are indicated accordingly.

Table 16-5 Community Classifications		
	Participating (Yes/No)	Date Enrolled
Community Rating System	N	
Protection Class	8/9	
Building Code Effectiveness Grading Schedule		
Commercial	4	
Residential	4	
Storm Ready	County	
Firewise	N	
Tsunami Ready (if applicable)	County	

16.6 HAZARD RISK AND VULNERABILITY RANKING

The district’s Planning Team reviewed the hazard list identified within the Base Plan and have identified the hazards that affect the Grays Harbor Fire Protection District #16.

Table 16-6 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and /or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.

- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

Table 16-6. Hazard Risk and Vulnerability Ranking				
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	Hazard Impact
1	Tsunami	1.7	Low	A portion of the district’s structures would be impacted by a tsunami event, as would roadways. This would restrict evacuation and response. Distant Tsunamis also have the potential to significantly impact the district properties and area. Due to the topography, the area has the potential to flood significantly even from a distant Tsunami, especially if the tsunami were to occur during a high-tide.
2	Earthquake	3.85	High	Earthquake would impact all of the District’s structures due to their age, and the fact that all of the structures are in a severe liquefaction zone. Roadways would also be impacted, restricting response and evacuation capabilities. There are also a number of bridges in the area, which are very old. While not owned by the County, impact to the Copalis River Bridge, the Humptulips River bridge and the Newton Bridge, among others, would significantly hinder not only response, but also evacuation.
2	Wildfire	3.85	High	All of the District’s structures fall within Fire Regime Group V. The District’s structures are constructed out of a combination of wood/masonry, making them more susceptible to wildfire. In addition, the primary composition of the residential structures in the district are primarily wood.

<p align="center">Table 16-6. Hazard Risk and Vulnerability Ranking</p>				
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	Hazard Impact
3	Severe Weather	3.3	High	Severe weather events customarily cause power loss in the area. During the 2007 severe weather event which resulted in a declaration, the District's service area became isolated. Roadways such as Ocean Beach Road, Hwy 109, Kirkpatrick Road become impassable, influencing the District's ability to respond and restricting citizens' ability to evacuate. While some of the District's structures have generators, most do not.
5	Climate Change	2.35	Medium	Climate Change will influence weather patterns of other hazards, which could then impact the District more severely.
5	Drought	2.35	Medium	Seasons of drought can increase the District's violability to wildfire hazards, as well as increase calls for service for heat-related incidents. Structures would not be impacted directly, except via increased wildfire danger.
6	Erosion	1.35	Medium	None of the District's structures are located in the landslide susceptibility zone, but response and evacuation during a significant event would be impacted due to ingress and egress over major roadways impacted by landslide events.
6	Volcano	1.35	Low	The district does not fall into any volcano Lehar zones. Ash could be of concern if a large amount accumulates on rooftops due to the weight of the ash, as well as the impact to mechanical equipment.
7	Landslides	1.0	Low	None of the district's structures are located in the landslide susceptibility zone, but response and evacuation during a significant event would be impacted due to ingress and egress over major roadways impacted by landslide events.
7	Flood	1.0	Low	During flooding events, roadways become impacted. While some of the District's structures fall within the 100- or 500-year flood zone, near Hwy 109. There are several points on Ocean Beach Road that are always susceptible to flooding. These points can be completely impassable during high-tide making response impossible for the District.

16.7 MITIGATION GOALS AND OBJECTIVES

The District adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

16.8 HAZARD MITIGATION ACTION PLAN

The Planning Team for the district identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the district assets and hazards of concern. Table 16-7 lists the action items/strategies that make up the district’s hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, and the type of initiative associated with each item are also identified.

TABLE 16-7. HAZARD MITIGATION ACTION PLAN MATRIX									
Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE #1 Structural repairs to Station One									
Station One	E,SW, T	ALL	Commission GHPln/Bld	High	General Budget USDA	Short-Term	No	Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery	Fire Protection District,
INITIATIVE #2 Structural repairs to Station Two									
Station Two	E,SW, T	ALL	Commission GHPLN/Bld	High	General Budget USDA	Short-Term	No		Fire Protection District
INITIATIVE #3: Secure funding sources to enhance fire and EMS coverage for responding to and mitigating all hazards and emergencies within the district. This will ensure the district facilities are in operation and prepared for emergencies of all degrees. This initiative is in alliance with Countywide Hazard Mitigation Initiatives CW-11, CW-19.									
Existing	ALL	2, 5, 6, 8	District	High	Federal/State/Local grants General Budget	Long term	No	Emergency Services	Fire Protection District, Local and County

16.9 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of six different initiative types for each identified action item was conducted. Table 16-8 identifies the prioritization for each initiative.

Table 16-8. Mitigation Strategy Priority Schedule							
Initiative #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/Budgets?	Priority ^a
1	9	High	High	Yes	Yes	No	H
2	9	High	High	Yes	Yes	No	H
3	4	High	High	Yes	Yes	No	H

a. See Chapter 1 for explanation of priorities.

16.10 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

Since Grays Harbor Fire Protection District 16 is listed as a drop point on the current Cascadia Tsunami plan, the need for a better Fire Station/Community Center/Emergency Shelter has been increased. Our current situation does not allow us to rebuild on our current footprint if loss of our station occurs. Projected models predict the influx of people would be approximately 250 or greater. With those numbers, we are in need of more space to accommodate both people and equipment that would be moving inward. With limited space, we cannot prepare for a natural disaster by accumulating supplies to supplement the District and community.

CHAPTER 17. SOUTH BEACH REGIONAL FIRE AUTHORITY ANNEX

17.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the South Beach Regional Fire Authority, a participating special purpose district to the Grays Harbor Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by the South Beach Regional Fire Authority. For planning purposes, this Annex provides additional information specific to the district, with a focus on providing greater details on the risk assessment and mitigation strategy for this entity only. This document serves as an update to the district’s previously completed plan. All relevant data has been carried over and updated with new information as appropriate and as identified within the planning process discussed in Volume 1.

17.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

The South Beach Regional Fire Authority followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County’s Planning Team, the South Beach Regional Fire Authority also formulated their own internal planning team to support the broader planning process. Individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Art Cole P. O. Box 1195 Westport , WA. 98595 360-268-9832 director_sba@westportci.us	Fire Chief	
Chuck Wallace 310 West Spruce Street Montesano WA. 98563 360) 964-1575 CWallace@co.grays-harbor.wa.us>	Alternate Point of Contact	
Dennis Benn P. O. Box 1195 Westport , WA. 98595 360-268-9832 Dennis .benn@sbrfa.org	Battalion Chief	

17.3 DISTRICT PROFILE

South Beach Regional Fire Authority is a special purpose district created in 2017. The purpose is to provide fire and EMS services to the areas of the city of Westport, the unincorporated areas of Ocosta, Grayland, Rural Westport, North Cove and Tokeland. A five-member elected board, governs the district. The board assumes responsibility for the adoption of this plan. Funding for the district is primarily through tax levies.

The following is a summary of key information about the jurisdiction:

- **Governing Authority**— The district is governed by a five-member elected board.
- **Population Served**—5,000 as of 2017
- **Land Area Served**—33 square miles
- **Value of Area Served**—The estimated value of the area served by the jurisdiction is \$674,255,405
- **Land Area Owned**—5.6 Acres
- **List of Critical Infrastructure/Equipment Owned by the Jurisdiction:**

5 Type 1 Engines	2,000,000.00
3 Type 2 Tenders	700,000.00
One Type 6 Brush Engine	63,000.00
4 Command Vehicles	121,000.00
1 Special Rescue Vehicle	200,000.00
- **Total Value of Critical Infrastructure/Equipment**—The total value of critical infrastructure and equipment owned by the jurisdiction is 3,570,000
- **List of Critical Facilities Owned by the Jurisdiction:**

Station 1, Westport	Owned by City of Westport
Station 2, Grayland	225,000.00
Station 3, North Cove	180,000.00
Station 4, Ocosta	165,000.00
- **Total Value of Critical Facilities**—The total value of critical facilities owned by the jurisdiction is 570,000.00
- **Current and Anticipated Service Trends**—Anticipated to increase 2% per year.

The district’s boundaries are shown on in the map provided below.

17.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are no additional hazards that are unique to the special purpose district. Table 17-1 lists all past occurrences which have impacted the district. If available, dollar loss data is also included.

**Table 17-1
Natural Hazard Events**

Disaster Number	Incident Type	Title	Date	District Impact
4253	Flood	Severe Winter Storm, Straight-Line Winds,	12/1/2015	
4242	Severe Storm(s)	Severe Windstorm	8/29/2015	
4056	Severe Storm(s)	Severe Winter Storm,	1/14/2012	
1825	Severe Storm(s)	Severe Winter Storm, Record and Near Record Snow	12/12/2008	
1817	Flood	Severe Winter Storm,	1/6/2009	
1734	Severe Storm(s)	Severe Storms, Flooding, Landslides, and Mudslides	12/1/2007	Lost power to all District facilities for 8 days, and delayed response due to road closures.
1682	Severe Storm(s)	Severe Winter Storm,	12/14/2006	
1671	Severe Storm(s)	Severe Storms, Flooding, Landslides, and Mudslides	11/2/2006	
1641	Severe Storm(s)	Severe Storms, Flooding, Tidal Surge, Landslides, and Mudslides	1/27/2006	
1499	Severe Storm(s)	Severe Storms and Flooding	10/15/2003	
1361	Earthquake	Earthquake	2/28/2001	
1172	Flood	Heavy Rains, Snow Melt, Flooding, Land and Mudslides	3/18/1997	
1159	Severe Storm(s)	Severe Winter Storms, Land and Mudslides, Flooding	12/26/1996	
1100	Flood	High Winds, Severe Storms, Flooding	1/26/1996	
1079	Severe Storm(s)	Severe Storms, High Wind, and Flooding	11/7/1995	
1037	Fishing Losses	The El Nino (The Salmon Industry)	5/1/1994	
883	Flood	Severe Storms, Flooding	11/9/1990	

Table 17-1 Natural Hazard Events				
Disaster Number	Incident Type	Title	Date	District Impact
852	Flood	Severe Storms, Flooding	1/6/1990	
623	Volcano	Volcanic Eruption, Mt. St. Helens	5/21/1980	
612	Flood	Storms, High Tides, Mudslides, Flooding	12/31/1979	
545	Flood	Severe Storms, Mudslides, Flooding	12/10/1977	
492	Flood	Severe Storms and Flooding	12/13/1975	
322	Flood	Severe Storms and Flooding	2/1/1972	
300	Flood	Heavy Rains, Melting Snow, Flooding	2/9/1971	
185	Flood	Heavy Rains and Flooding	12/29/1964	

17.5 APPLICABLE REGULATIONS AND PLANS

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction’s capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation efforts, and classifications under various community programs.

17.6 REGULATORY CAPABILITY

The District has adopted/enacted codes, resolutions, policies and plans that compliment and support hazard mitigation planning and activities. The following existing District codes, resolutions, policies, and plans are applicable to this hazard mitigation plan:

Fire District Capabilities

- Capital Improvement Program
- Sprinkler Codes

- Strategic Plan
- After Quake Assessment Report
- Citizen Emergency Response Training (CERT)
- Emergency Operations Plan
- Emergency Procedures and Policies
- City/County Comprehensive Emergency Management Plan
- State of Washington Comprehensive Emergency Management Plan
- National Response Framework
- National Incident Management System
- Revised Code of Washington 52.26 (Regional Fire Protection Service)
- WAC 296.305
- Specific incident response plans
- Operations plans or policies
- Employee Handbooks and Safety Manuals
- Mutual Aid Agreements

17.6.1 Administrative and Technical Capabilities

The assessment of the district’s administrative and technical capabilities, including educational and outreach efforts, and on-going programmatic efforts are presented in Table 17-2. These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 17-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Professionals trained in building or infrastructure construction practices.	Yes	Battalion Chief
Planners or engineers with an understanding of natural hazards.	No	
Staff with training in benefit/cost analysis.	Yes	Admin Assistant
Personnel skilled or trained in GIS or Hazus use.	No	
Emergency Manager.	No	
Grant writers.	Yes	Line Staff
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?).	Yes	
Hazard data and information available to public.	Yes	

Table 17-2 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Specific equipment response plans.	Yes	
Specific operational plans.	Yes	
Water Shortage Contingency Plan.	Yes	
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	Yes	CERT
Organization focused on individuals with access and functional needs populations	Yes	Senior Group
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes	Battalion Chief
Natural disaster or safety related school programs?	Yes	Public Education
Public-private partnership initiatives addressing disaster-related issues?	Yes	Red Cross
Multi-seasonal public awareness program?	No	
Other		
On-Going Mitigation Efforts		
Hazardous Vegetation Abatement Program	Yes	State
Noxious Weed Eradication Program or other vegetation management	Yes	State
Fire Safe Councils	No	
Chipper program	No	
Defensible space inspections program	Yes	Battalion Chief
Creek, stream, culvert or storm drain maintenance or cleaning program	Yes	City
Stream restoration program	No	
Erosion or sediment control program	No	
Address signage for property addresses	No	
Other		

17.6.2 Fiscal Capability

The assessment of the jurisdiction’s fiscal capabilities is presented in Table 7-3. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

Table 17-3 Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	Yes
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	No
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	No
Withhold Public Expenditures in Hazard-Prone Areas	No
State Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	No
Other	

17.7 COMMUNITY CLASSIFICATION

The district’s classifications under various hazard mitigation programs are presented in Table 17-4. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community. Those which specifically require district participation or enhance mitigation efforts are indicated accordingly.

Table 17-4 Community Classifications		
	Participating (Yes/No)	Date Enrolled
Community Rating System	Yes/ City of Westport	
Building Code Effectiveness Grading Schedule	City	
Storm Ready	No	

Table 17-4 Community Classifications		
	Participating (Yes/No)	Date Enrolled
Firewise	No	
Tsunami Ready (if applicable)	City	

17.8 HAZARD RISK AND VULNERABILITY RANKING

The district’s Planning Team reviewed the hazard list identified within the Base Plan, and have identified the hazards that affect the South Beach Regional Fire Authority. During discussions by the internal planning team members in identifying the potential impact of those hazards, additional factors were also discussed and considered when estimating the potential financial losses caused by hazard-related damages. Such factors include the number of facilities damaged, the extent of damage to each facility, and the length of time required for repairs, etc. For service providers which generate income, lost revenue from customers being without service and the cost of providing temporary service was also a consideration in identifying the economic losses.

Table 17-5 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and /or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

Table 17-5 Hazard Risk and Vulnerability Ranking				
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank	Description of Impact
1	Severe Weather	3.80	High	All structures are susceptible to severe weather incident, depending on the type of incident. The area is regularly impacted by high winds. The districts' response capabilities are slowed during times of extreme wind events, due to road closures, trees blocking roadways.
2	Wild Fire	3.75	High	All of the District's structures fall within Fire Regime Group V. In addition, the primary composition of the residential structures in the district are primarily wood construction
3	Earthquake	3.65	High	The majority of all of the district's buildings were built in the early to mid-1960s. As such, all of the district's structures would be susceptible to an earthquake and liquefaction.
4	Tsunami	3.50	High	More than 95% of the district is located within the Tsunami inundation zone.
5	Climate Change	2.95	High	With an increase of global warming, the outcome is increased sea levels, the result of increased coastal flooding
6	Drought	2.55	High	During times of drought, it will exponentially increase our second highest risk, wildfire.
7	Flood	2.40	Medium	Flooding causes road closures, affecting our ability to assist our citizens in a timely manner.
8	Erosion	2.20	Medium	Coastal erosion affects our ability to effectively navigate roadways which were in use only hours ago, but now are no longer passable.
9	Volcano	2.15	Low	The district does not fall into any volcano Lehar zones. Ash could be of concern if a large amount accumulates on rooftops due to the weight of the ash, as well as the impact to mechanical equipment.
10	Landslides	2.10	Medium	Every roadway that is used to access or evacuate the district passes through areas which are prone to landslides. Wide range landslides, could severely impact the ability to evacuate the district.

17.9 MITIGATION GOALS AND OBJECTIVES

The District adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

17.10 HAZARD MITIGATION ACTION PLAN

The Planning Team for the district identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the district assets and hazards of concern. Table 17-6 lists the action items/strategies that make up the district’s hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, and the type of initiative associated with each item are also identified.

TABLE 17-6 HAZARD MITIGATION ACTION PLAN MATRIX									
Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE # 1 Determine level of structural integrity of the districts buildings, to withstand earthquakes. Begin Retrofitting structures as necessary.									
Existing	Earthquake	All	District	High	Grant	Long-Term	No	Structural Project	Local
INITIATIVE # 2 Secure funding sources to enhance fire and EMS coverage for responding to and mitigating all hazards and emergencies within the district. This will ensure the district facilities are in operation and prepared for emergencies of all degrees. This initiative is in alliance with Countywide Hazard Mitigation Initiatives CW-11, CW-19.									
Existing	All	2,5,6,8	District	High	Grant	Long-Term	No	Emergency Services	Local
INITIATIVE #3 Continue to enhance Wildland fire suppression training and resources to improve response capabilities.									
All	Wildfire	All	District	Medium	Grant, Partnerships	Short Term	No	Prevention, Structural Project, Property Protection, Emergency Services, Recovery	Local, County, Region
INITIATIVE # 4 Improve partnerships with State and Federal resources for improvement of hazard response.									
All	All	All	District	Low	District	Long Term	No	Public Information, Emergency Services, Recovery, Natural Resource Protection	Local, County, Region
INITIATIVE #4 Develop CERT training, involving local teams in exercises and trainings with First Responders. This initiative is in alliance with County-Specific Hazard Mitigation Initiative C-20 and Countywide Hazard Mitigation Initiatives CW-8, CW-9.									
All	All	2,5,6,8	Grays Harbor E.M., District	Low	General Fund Private	Long Term	No	Public information, Response, Recovery	Local, County

17.11 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of four different initiative types for each identified action item was conducted. Table 17-7 identifies the prioritization for each initiative.

Table 17-7. Mitigation Strategy Priority Schedule							
Initiative #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/Budgets?	Priority ^a
1	9	High	High	Yes	Yes	No	H
2	4	High	High	Yes	Yes	No	H
3	4	Medium	Low	Yes	No	No	H
4	4	Medium	Low	Yes	No	Yes	M

a. See Chapter 1 for explanation of priorities.

CHAPTER 18. PORT OF GRAYS HARBOR ANNEX

18.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the Port of Grays Harbor, a participating special purpose district to the Grays Harbor County Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by the Port of Grays Harbor. For planning purposes, this Annex provides additional information specific to the district, with a focus on providing greater details on the risk assessment and mitigation strategy for this entity only. This document serves as an update to the district’s previously completed plan. All relevant data has been carried over and updated with new information as appropriate and as identified within the planning process discussed in Volume 1.

18.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

The Port of Grays Harbor followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County’s Planning Team, the Port of Grays Harbor also formulated their own internal planning team to support the broader planning process. Individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Randy Lewis, Director of Environmental & Engineering Services 111 S. Wooding Street Aberdeen, WA 98520 360-533-9513 rlewis@portgrays.org	Primary Point of Contact	Review County Planning Process and Comment. Develop Port Specific Plan Elements and Update based on Internal Review Comments
Mike Johnson, Contract & Projects Manager 111 S. Wooding Street Aberdeen, WA 98520 360-533-9518 mjohnson@portgrays.org	Alternate Point of Contact Facility Security Officer	Review and Comment on Port Specific Plan Sections
Leonard Barnes, Deputy Executive Director 111 S. Wooding Street Aberdeen, WA 98520 360-533-9528 lbarnes@portgrays.org	Property Manager, Business Development and Retention, Primary Tenant Liaison	Review and Comment on Port Specific Plan Sections
Seth Taylor, Marine Terminals Manager	Oversees Marine Terminal Operations, Coordinates with Shipping Agents	Review and Comment on Port Specific Plan Sections

Local Planning Team Members		
Name	Position/Title	Planning Tasks
111 S. Wooding Street Aberdeen, WA 98520 360-533-9528 staylor@portgrays.org		
Alissa Shay, Manager of Business Development 150 Technology Way, Suite 100 Elma, WA 98541 ashay@portgrays.org	Manages Satsop Business Park	Review and Comment on Port Specific Plan Sections

18.3 DISTRICT PROFILE

The Port District also known as the Port of Grays Harbor was founded in 1911 as the second port district formed in Washington State. The Port of Grays Harbor boundaries include all of Grays Harbor County, on Washington State's Pacific Coast. Governed by three elected commissioners, the Port of Grays Harbor's diverse facilities include marine terminals, upland industrial and commercial properties, Washington's largest commercial fishing marina, a decommissioned nuclear facility that has been converted into a business park, recreational facilities, and an airport with the state's only jet capable runway on the coast.

The following is a summary of key information about the jurisdiction:

- **Governing Authority**— The district is governed by Three member board of commissioners
- **Population Served**—72,797 as of 2010 Census
- **Land Area Served**—1,902 sq. miles
- **Value of Area Served**—The estimated value of the area served by the jurisdiction is \$6,241,870,892
- **Land Area Owned**—3640 acres
- **List of Critical Infrastructure/Equipment Owned by the Jurisdiction:**
 - Bowerman Field and Fuel Station- \$7,850,000
 - Marine Rail Infrastructure- \$35,600,000
 - Port Industrial Road- 10,000,000
 - Aberdeen Maintenance Facility- \$5,000,000
 - Aberdeen Heavy Construction Equipment- \$6,800,000
 - Westport Marina Fuel Dock- \$250,000
 - Westport Main Dock- \$2,700,000
 - Westport Marina Boat Launch- \$1,665,000
 - Westport Marina Public Restrooms- \$189,000
 - Satsop Heavy Construction Equipment- \$65,000

- **Total Value of Critical Infrastructure/Equipment**—The total value of critical infrastructure and equipment owned by the jurisdiction is \$75,119,000.
- **List of Critical Facilities Owned by the Jurisdiction:**
 - Marine Rail Infrastructure- \$35,600,000
 - Port Industrial Road- 10,000,000
 - Port Main Office Complex- \$11,000,000
 - Westport Marina Fuel Dock- \$250,000
 - Westport Main Dock- \$2,700,000
 - Westport Marina Main Office Complex- \$913,000
 - Westport Marina Boat Launch- \$1,665,000
 - Westport Marina Public Restrooms- \$189,000
 - Satsop Business Park Complex-\$85,560,000
- **Total Value of Critical Facilities**—The total value of critical facilities owned by the jurisdiction is \$147,877,000.
- **Current and Anticipated Service Trends**— The Port of Grays Harbor is projecting the following service patterns related to its critical infrastructure.
 - Marine Terminals – The Port anticipates an increase in the amount of cargo shipped to and from the Port’s terminals. Vessel traffic is anticipated to increase by approximately 20% over the next 5 years. No expansion of the existing facilities is anticipated to handle this increased volume. There is one proposed development at Terminal 3 that will result in a significant increase in infrastructure, including a new terminal and substantially increased vessel traffic. A decision on that development and the details of who will own the infrastructure will be worked out in the next 2 – 3 years.
 - Industrial Complex – The Port is looking for additional industrial property for the development of additional rail storage and has been discussing the potential acquisition of several properties to accomplish that. It is too early to tell whether this will occur or not.
 - Westport Marina – No expansions of the in water infrastructure in the marina is anticipated. The Port will focus primarily on maintenance, including dredging of the marina to maintain access. There is a potential for expansion of the seafood processing industry in the adjacent upland areas.
 - Satsop Business Park – The Port is actively marketing the facility and anticipates increased commercial and industrial development which will trigger upgrades and potential expansions of the potable water and sewer system.

The Port of Grays Harbor is a countywide port district. Therefore the district’s boundaries are the same as the county’s which is shown in Figure 3-1 of the Base Plan.

18.4 HAZARD EVENT HISTORY

Within Chapter 3 of the Base Plan, the Planning Team identified all presidentially declared hazard events which have occurred within the County. In the context of the planning region, it was determined that there

are no additional hazards that are unique to the special purpose district. Table 18-1 below identifies specific information as it relates to the Port.

Table 18-1 Natural Hazard Events			
Type of Event	FEMA Disaster # (if applicable)	Date	Dollar Losses (if known)
Severe Storm	1825	12/8/2007	\$1,135,144
Local Area Disaster – Not Declared			
Severe Storm		11/12/2007	\$29,167
Severe Storm		11/17/2009	\$6,762

18.5 APPLICABLE REGULATIONS AND PLANS

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction’s capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation efforts, and classifications under various community programs.

18.5.1 Regulatory Capability

The assessment of the district’s legal and regulatory capabilities which are customarily used by jurisdictions to implement hazard mitigation activities, are identified in Table 18-2. Under Washington State law, the Port does not have regulatory authority. Regulatory authority related to codes, ordinances, and regulatory requirements for port facilities and activities comes from those established by the County, or from the municipalities each facility is located in. Those items applicable to the district are identified.

Table 18-2 Legal and Regulatory Capability
Planning Documents
Bowerman Field Airport Master Plan (August 2016 Edition)
Satsop Business Park Development Plan (2007 – Update in progress)

Table 18-2 Legal and Regulatory Capability	
Satsop Water System Capital Improvement Plan (2017 Edition)	
Stormwater Pollution Prevention Plan (2018 Edition)	
Westport Marina Boat Basin Master Plan (2009 Edition)	
Port of Grays Harbor Facilities Security Plan (Updated Annually)	
Emergency Shutdown Plan for Terminal 2	
Emergency Response Plan for each Facility (2016 Edition)	
Stormwater Pollution Prevention and Countermeasures Plan	
Rail Yard Operations Plan	
Boards and Commission	
Grays Harbor Safety Committee (Includes stakeholder representatives and is focused on all areas of navigation safety in Grays Harbor)	
Port Safety Committee (made up of reps from all facilities)	
Governing Commissioners (Chuck Caldwell District 1, Jack Thompson District 2, Stan Pinnick District 3)	

18.5.2 Administrative and Technical Capabilities

The assessment of the district’s administrative and technical capabilities, including educational and outreach efforts, and on-going programmatic efforts are presented in Table 18-3. These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 18-3 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	No	Planning Department has knowledge and experience in these areas but is augmented by professional consultant contracts
Professionals trained in building or infrastructure construction practices (building officials, fire inspectors, etc.)	No	Port relies on municipal officials
Engineers specializing in construction practices?	No	Provided by Consultant Contracts

Table 18-3 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Planners or engineers with an understanding of natural hazards	Yes	Planning Department, augmented by consultant contracts for specific projects or plans
Staff with training in benefit/cost analysis	No	
Surveyors	No	Provided by Consultant Contracts
Personnel skilled or trained in GIS applications	No	Provided by Consultant Contracts
Personnel skilled or trained in Hazus use	No	
Scientist familiar with natural hazards in local area	No	Provided by Consultant Contracts
Emergency Manager	No	Coordinates with County
Grant writers	Yes	Planning/Finance Department
Education and Outreach		
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes	Information is included in Port Public Outreach Program including 4 th grade and general public tour programs – Public Affairs
Natural disaster or safety related school programs?	No	Coordinates with County/municipalities
Public-private partnership initiatives addressing disaster-related issues?	No	Coordinates with County/municipalities
Multi-seasonal public awareness program?	No	Coordinates with County/municipalities
On-Going Mitigation Efforts		
Hazardous Vegetation Abatement Program	Yes	Port has active mowing program at several facilities
Creek, stream, culvert or storm drain maintenance or cleaning program	Yes	Port Maintenance Crew
Stream restoration program	No	
Erosion or sediment control program	Yes	Port Maintenance Crew
Address signage for property addresses	Yes	Facility Security Officer
Forestry Management Program at Satsop Facility	Yes	Administered by Grays Harbor College

18.5.3 Fiscal Capability

The assessment of the jurisdiction’s fiscal capabilities is presented in Table 18-4. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

Table 18-4 Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	Yes – 5 year budget
Authority to Levy Taxes for Specific Purposes	Yes-Voted Only
User Fees for Water, Sewer, Gas or Electric Service	Yes at Satsop
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	No
Incur Debt through Private Activity Bonds	Yes
Withhold Public Expenditures in Hazard-Prone Areas	No
State Sponsored Grant Programs	Some programs
Development Impact Fees for Homebuyers or Developers	No

18.5.4 Community Classification

The district’s does not have a separate classification under the various hazard mitigation programs such as the Community Rating System, Storm Ready, etc. These classifications reside with the jurisdiction each facility is located in. The district participates with each jurisdiction when establishing and updating their classifications.

18.6 HAZARD RISK AND VULNERABILITY RANKING

The district’s Planning Team reviewed the hazard list identified within the Base Plan, and have identified the hazards that affect the Port of Grays Harbor.

Table 18-5 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.

- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and /or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

Table 18-5. Hazard Risk and Vulnerability Ranking			
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank
1	Tsunami	3.5	High
2	Earthquake	3.45	High
3	Severe Weather	3.3	High
4	Flood	2.9	High
5	Drought	2.95	Moderate
6	Hazmat	2.8	Moderate
7	Erosion	2.5	Moderate
8	Volcano	2.6	Low
9	Landslides	2.35	Low
10	Climate Change	2.35	Low
11	Wildfire	2.3	Low

The Planning Team for the Port identified the following impacts for the hazards listed above:

- Climate Change – Several facilities are vulnerable to damage from the effects of predicted sea level rise, increases in total water height, and increases in frequency and intensity of ocean waves.
- Drought – Most of the effects would be the result of impacts to utility providers, however the Satsop Business Park has its own potable water system which is tied to the Chehalis River and could be impacted by prolonged drought.
- Earthquake-The Port has several older structures at all facilities built under lower building codes than currently exist and would be vulnerable to damage.
- Erosion-The Port operates several facilities that could be affected by erosion, both directly by increased damage from storms and surges in the eroded area, and by impacts to the navigation channel which would affect access to our terminals.

- Flood- While most of the Port facilities are not within the 100-year flood zones, the Westport Marina is and is vulnerable. The rest of the Port facilities could be impacted during significant flooding events due to being isolated by adjacent flooding.
- Landslides-Similar to flooding, Satsop Business Park is on elevated ground that is in an area that has a landslide potential. The park could be directly impacted however it is highly likely that access would be impacted by adjacent landslides. The primary rail and road access to the marine terminals is also adjacent to a bluff that has a history of landslide events.
- Severe Weather-All facilities in the Port are vulnerable to the effects of large storms and all have been impacted to some extent during the identified declared disasters. In addition to damage, severe weather impacts the ability of vessels to access the marine terminals and causes business disruptions.
- Tsunami-Most of the Port facilities are within the mapped inundation and liquefaction zones and would be devastated by a tsunami.
- Volcano-The primary effects of volcanic action would be the potential for sedimentation of the Chehalis River and the resulting impacts to vessel traffic.
- Wildfire-The Satsop Business Park is surrounded by timberlands and could be directly impacted by a wildfire. Other facilities have very little if any vulnerability
- Hazmat-While the Port uses and stored fuels and lubricants for its equipment, several tenants are large quantity generators and Port facilities would be impacted by spills and releases either as stand-alone events or in conjunction with another listed disaster.

18.7 MITIGATION GOALS AND OBJECTIVES

The District adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

18.8 HAZARD MITIGATION ACTION PLAN

The Planning Team for the district identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the district assets and hazards of concern. Table 18-6 lists the action items/strategies that make up the district's hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, and the type of initiative associated with each item are also identified.

Mitigation Initiative Explanation

- Initiative 1- The Port will continue coordination with the County Emergency Management Office by participating in established and newly formed committees, work groups and planning efforts related to hazard identification, response, and recovery.
- Initiative 2- The Port will coordinate with local fire and EMS agencies to develop response plans related to hazmat spills and vessel fire response.
- Initiative 3- The Port will work with the forestry management team to analyze the potential for wildfires and adapt management and harvest practices to reduce the threat to the extent practicable

- Initiative 4-The Port will work internally with its safety committee to update the current response plans to include a schedule for updates, trainings, and testing which do not exist in the current plan
- Initiative 5- The Port will seek funding to complete seismic analysis of existing critical facilities and include seismic measures in facility upgrade projects.

Table 18-6. Hazard Mitigation Action Plan Matrix									
Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE #1. Emergency Coordination with County/Local Jurisdictions									
All	All	O-2 O-5 O-8	Port County	Low	General Fund	Ongoing	N/A	Emergency Services	County
INITIATIVE #2. Emergency Response Coordination with Local EMS and Fire Agencies									
All	Hazmat Earthquake Flood Tsunami	O-5 O-7	Port and Local Fire/EMS Agencies	Low	General Fund	Short Term	N/A	Emergency Services	County
INITIATIVE #3. Update Satsop Forrest Management Plan to Identify Wildfire Mitigation									
Existing	Wildfire	O-3 O-9	Port	Low	General Fund	Short Term	N/A	Property Protection	Satsop Facility
INITIATIVE #4. Update Emergency Response Plans to Include Update, Training and Testing Schedules									
All	All	O-2 O-3 O-7	Port	Low	General Fund	Short Term	N/A	Emergency Services	District Facilities
INITIATIVE #5. Complete seismic stability of infrastructure based on geologic hazards of concern									
All	Earthquake Tsunami	O-2 O-8	Port	High	General Fund Grant	Long Term	N/A	Property Protection	District Facilities

18.9 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of six different initiative types for each identified action item was conducted. Table 18-7 identifies the prioritization for each initiative.

<p align="center">Table 18-7. Mitigation Strategy Priority Schedule</p>							
Initiative #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/Budgets?	Priority ^a
1	3	Medium	Low	Yes	No	Yes	High
2	2	High	Low	Yes	No	Yes	High
3	2	Medium	Low	Yes	No	Yes	High
4	3	Medium	Low	Yes	No	Yes	High
5	2	Low	High	No/Unknown	Yes	No	

a. See Chapter 1 for explanation of priorities.

18.10 FUTURE NEEDS TO BETTER UNDERSTAND RISK/ VULNERABILITY

The district will continue to work with the County, State and Federal Partners to identify updates in risk hazard mapping, especially related to tsunamis as the best available science is rapidly changing. The District continues to work with the Department of Homeland Security to identify security related requirements and new information.

CHAPTER 19. GRAYS HARBOR COLLEGE

19.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to Grays Harbor College, a participating special purpose district to the Grays Harbor County Hazard Mitigation Plan Update. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by Grays Harbor College. For planning purposes, this Annex provides additional information specific to the district, with a focus on providing greater details on the risk assessment and mitigation strategy for this entity only. This document serves as an update to the district’s previously completed plan. All relevant data has been carried over and updated with new information as appropriate and as identified within the planning process discussed in Volume 1.

19.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

Grays Harbor College followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County’s Planning Team, Grays Harbor College also formulated their own internal planning team to support the broader planning process. Individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Lance James Safety and Security Coordinator 1620 Edward P. Smith Drive Aberdeen, WA 98520 Telephone: 360-538-4120 e-mail: lance.james@ghc.edu	Primary Point of Contact	Research Compilation Composition
Keith Penner Chief of Campus Operations 1620 Edward P. Smith Drive Aberdeen, WA 98520 Telephone: 360-538-4154 e-mail: keith.penner@ghc.edu	Alternate Point of Contact	Oversight
Chris Macht Program Coordinator 1620 Edward P. Smith Drive Aberdeen, WA 98520 Telephone: 360-538-4020 e-mail: chris.macht@ghc.edu	Program Coordinator Campus Operations	Support

19.3 DISTRICT PROFILE

Grays Harbor College is a community college located in Aberdeen, Washington, United States. Founded in 1930, the college sits on a 120-acre campus overlooking the town of Aberdeen and its seaport on the edge of the Pacific Ocean. Additional "learning centers" are located in Raymond, Ilwaco, North Aberdeen and Southside Aberdeen. The mission of Grays Harbor College is to provide meaningful education and cultural enrichment through academic transfer, workforce preparation, basic skills, and service to community. In keeping with service to community, the College serves as a tsunami evacuation point for the County, Red Cross Disaster Site and back-up ECC for the City of Aberdeen.

The following is a summary of key information about the jurisdiction:

- **Governing Authority**— The district is governed by The State Board of Technical and Community Colleges (SBCTC)
- **Population Served**—93,000 as of 2016
- **Land Area Served**—3447 square miles
- **Value of Area Served**—The estimated value of the area served by the jurisdiction is **\$8,776,842,185**
- **Land Area Owned**—120 acres
- **List of Critical Infrastructure/Equipment Owned by the Jurisdiction:**

Campus Generators (various)	\$200,000
Snow Plows (including vehicles)	\$100,000
Tractors (JD and Kubota)	\$150,000
Water Purification System	\$5,000

- **Total Value of Critical Infrastructure/Equipment**—The total value of critical infrastructure and equipment owned by the jurisdiction is **\$455,000**

- **List of Critical Facilities Owned by the Jurisdiction:**

100 Building	\$7,789,192
500 Building	\$5,775,898
700 Building	\$8,110,140
800 Building	\$7,842,340
1400 Building	\$1,992,474
1500 Building	\$8,326,305
1600 Building	\$6,360,424
1700 Building	\$786,624
1800 Building	\$3,300,432
1900 Building	\$7,569,000
2000 Building	\$23,750,905
4000 Building	\$22,089,900

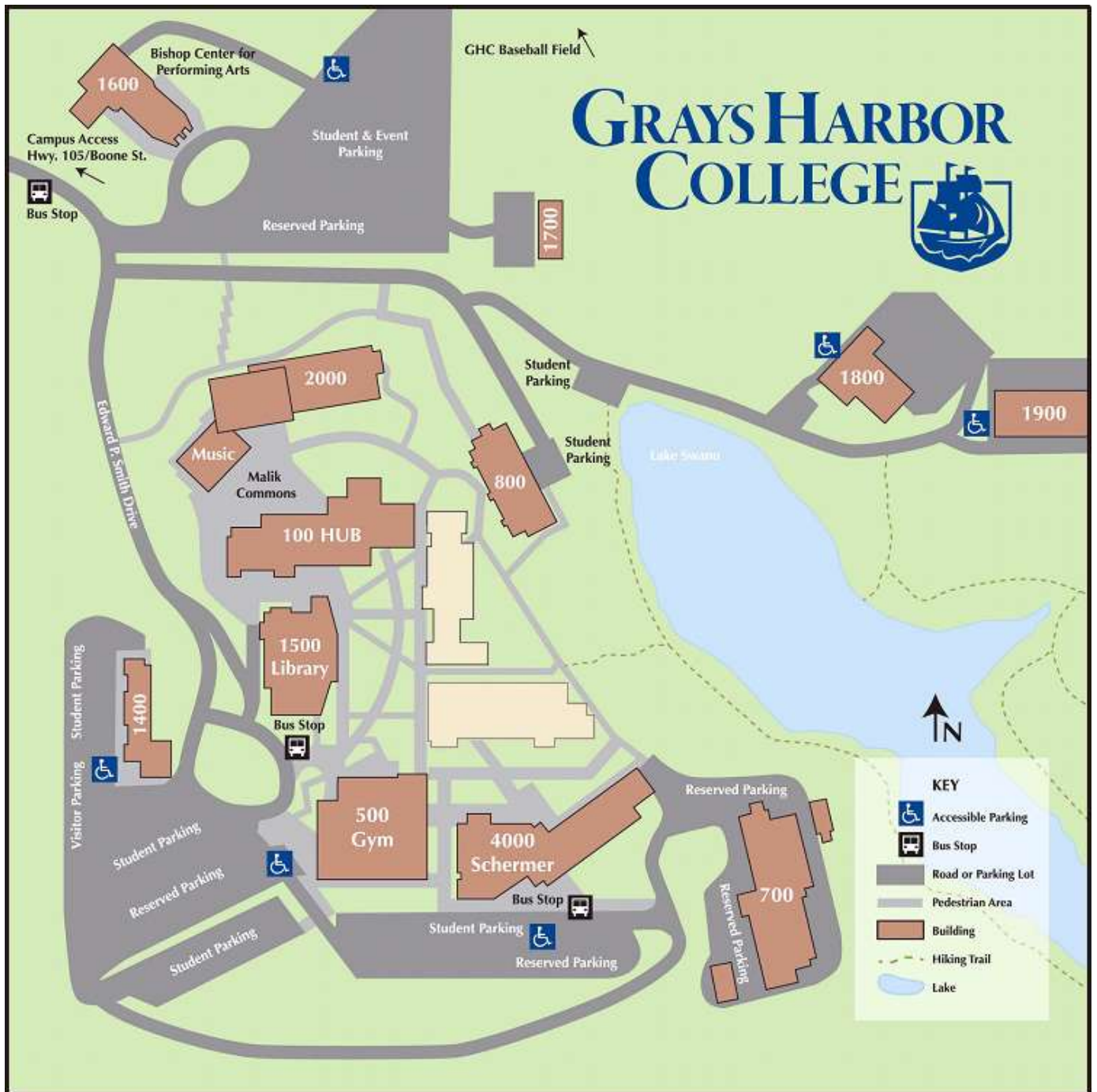
- **Total Value of Critical Facilities**—The total value of critical facilities owned by the jurisdiction is **\$97,333,210**
- **Current and Anticipated Service Trends**—We are focused on success of all varieties - helping students as they work towards an Associate or Bachelor degree; teaching new skills that could lead to a new or improved job; or encouraging someone as they strive to earn a GED®, master English as a new language, or enroll in any one of our community special interest courses while providing necessary emergency support to the surrounding area. The College continues to add baccalaureate programs as it tries to provide better educational service to the area.

The district’s boundaries are shown on in the map provided below.

19.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are no additional hazards that are unique to the special purpose district. Table 19-1 lists all past occurrences which have impacted the district. If available, dollar loss data is also included.

Table 19-1 Natural Hazard Events			
Type of Event	FEMA Disaster # (if applicable)	Date	Dollar Losses (if known)
Severe Winter Storm	4056	January 2012	\$250.00
Severe Winter Storm	1825	December 2008	\$100.00



19.5 APPLICABLE REGULATIONS AND PLANS

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction's capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation efforts, and classifications under various community programs.

19.5.1 Regulatory Capability

The assessment of the district’s legal and regulatory capabilities which are customarily used by jurisdictions to implement hazard mitigation activities, are identified in Table 19-2. Those items applicable to the district are identified.

Table 19-2 Legal and Regulatory Capability				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Codes, Ordinances & Requirements				
Building Code	No			
Post Disaster Recovery	Yes			
Site Plan Review	Yes			
Public Health and Safety	Yes			
Environmental Protection	No			
National Incident Management System	Yes			
Planning Documents				
General or Comprehensive Plan				<i>Is the plan equipped to provide linkage to this mitigation plan?</i> Yes
Capital Improvement Plan	Yes			
Habitat Conservation Plan	No			
Emergency Operations Plan	Yes			
Response Plan	Yes			
Evacuation Plan	Yes			
Strategic Plan	Yes			
Response/Recovery Planning				
Comprehensive Emergency Management Plan	No			

Table 19-2 Legal and Regulatory Capability				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Threat and Hazard Identification and Risk Assessment	No			
Terrorism Plan	No			
Post-Disaster Recovery Plan	No			
Continuity of Operations Plan	No			
Public Health Plans	No			
Standard Operating Procedures/Guides	Yes			
Boards and Commission				
Mitigation Planning Committee	Yes			The College is a part of the County's Mitigation Planning Committee utilized to develop this HMP.
Governing Board	Yes			
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems, chipping, etc.)	Yes			
Mutual Aid Agreements / Memorandums of Understanding	Yes			
Other	No			

19.5.2 Administrative and Technical Capabilities

The assessment of the district's administrative and technical capabilities, including educational and outreach efforts, and on-going programmatic efforts are presented in Table 19-3. These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 19-3 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Professionals trained in building or infrastructure construction practices (facilities personnel, maintenance personnel.)	Yes	Campus Operations
Personnel skilled or trained in GIS applications	No	
Emergency Manager	Yes	Campus Operations/Campus Safety
Grant writers	Yes	Director of Grant Development
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?)	Yes	IT/Student Services/Campus Operations/Student Life
Hazard data and information available to public	Yes	The mitigation plan's risk assessment is available to the public for review.
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	Yes	GHC CERT/Campus Security
Local citizen groups or non-profit organizations focused on environmental protection?	No	
Organization focused on individuals with access and functional needs populations	No	
Ongoing public education or information program	Yes	The campus has safety programs in place pursuant to state and federal requirements.
Natural disaster or safety related school programs?	Yes	The campus has safety programs in place pursuant to state and federal requirements.
Public-private partnership initiatives addressing disaster-related issues?	No	
Multi-seasonal public awareness program?	Yes	The college provides information related to weather events, policies in place with respect to campus closure during incidents, etc.
On-Going Mitigation Efforts		
Hazardous Vegetation Abatement Program	No	
Creek, stream, culvert or storm drain maintenance or cleaning program	Yes	Fish Lab (Volunteers)
Stream restoration program	Yes	Fish Lab (Volunteers)
Erosion or sediment control program	Yes	Campus Operations
Other	No	

19.5.3 Fiscal Capability

The assessment of the jurisdiction’s fiscal capabilities is presented in Table 19-4. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

Table 19-4 Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	No
User Fees for Water, Sewer, Gas or Electric Service	No
Incur Debt through General Obligation Bonds	No
Incur Debt through Special Tax Bonds	No
Incur Debt through Private Activity Bonds	No
Withhold Public Expenditures in Hazard-Prone Areas	No
State Sponsored Grant Programs	No
Development Impact Fees for Homebuyers or Developers	No
Other	No

19.6 COMMUNITY CLASSIFICATION

The district’s classifications under various hazard mitigation programs are presented in Table 19-5. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community. Those which specifically require district participation or enhance mitigation efforts are indicated accordingly.

Table 19-5 Community Classifications		
	Participating (Yes/No)	Date Enrolled
Storm Ready	No	
Firewise	No	
Tsunami Ready (if applicable)	No	

19.7 HAZARD RISK AND VULNERABILITY RANKING

The district’s Planning Team reviewed the hazard list identified within the Base Plan and have identified the hazards that affect the Grays Harbor College.

Table 19-6 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- Extremely Low – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- Low (Negligible) – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- Medium (Limited) – Moderate potential impact. This ranking carries a moderate threat level to the general population and /or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- High (Critical) – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- Extremely High (Catastrophic) – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

Table 19-6. Hazard Risk and Vulnerability Ranking			
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank
1	Earthquake	3.8	Extremely High
2	Landslides	3.2	High
3	Severe Weather	3.1	High
4	Tsunami	3.1	High
5	Erosion	2.7	Medium
6	Other Hazards	2.6	Medium
7	Wildfire	2.5	Medium
8	Climate Change	1.9	Low
9	Drought	1.7	Low

Table 19-6. Hazard Risk and Vulnerability Ranking			
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank
10	Flood**	1.6	Medium**

19.7.1 Additional Impact Data

The College has been previously impacted by a severe weather event in 2007 and a landslide in 2012. As the College sits along the Cascadia Subduction Zone and in close proximity to the Washington Coast, earthquakes and severe weather continue to be at the forefront of our mitigation efforts. In addition, the College is nestled between a massive hillside to the south, Lake Swano to the east and another hillside to the north that overlooks the lower part of campus. Landslides and erosion are constant concerns. In 2016, we experience the beginning signs of erosion that could impact the college as well as the natural habitat surrounding the lake. The College is a Tsunami Evacuation site for the city of Aberdeen as well as a Red Cross Disaster location. Due to this fact, during a natural disaster, many of the residents in the area will see refuge at our location. The 100, 500, 1400, 15000, 2000 and 4000 buildings become critical as these structures will serve as housing and food services for the men, women and children utilizing our facility during these events. The 700 building will serve as the Emergency Command Center and Emergency Operations Center in any situation.

**As the college is built on a hill, the majority of buildings are elevated out of the flood inundation zone. However, the impact to the college has been raised to medium as there are four structures that lie in the zone.

19.8 MITIGATION GOALS AND OBJECTIVES

The District adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

19.9 HAZARD MITIGATION ACTION PLAN

The Planning Team for the district identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the district assets and hazards of concern. Table 19-7 lists the action items/strategies that make up the district’s hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, and the type of initiative associated with each item are also identified.

**TABLE 19-7.
HAZARD MITIGATION ACTION PLAN MATRIX**

Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE #A-1 Construct Parking garage with helipad <i>200 space min.</i>									
New	TS, SW, F	1,2,3,5,6,7	Facilities, Risk Planning	\$13 Mil.	Grant	Long-term	No	Preventive Activity Emergency Services Recovery	Region County Facility
INITIATIVE #A-2 Work with the Department of Natural Resources to refurbish and shore up dam at Lake Swano									
	TS, SW, F	1,3,4	Facilities	Medium	Grant	Long-term	No	Property Protection Mitigation Natural Resource Protection	Facility Local County
INITIATIVE #A-3 Purchase a Container to house Emergency supplies									
New	TS, EQ, F, SW, LS	1,2,3,4,5,6,7,9	Facilities Risk Planning	\$50,000	Grant	Short-term	No	Emergency Services Mitigation Recovery	Facility Local County Region
INITIATIVE #B-1 Purchase PA system to utilize to make public safety announcements.									
New	EQ, TS, SW, O	1,2,7	Facilities Risk Planning	Low	Grant	Short-term	No	Emergency Services Recovery	Facility

19.10 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of six different initiative types for each identified action item was conducted. Table 19-8 identifies the prioritization for each initiative.

The initiatives identified as ‘A’ are purposed to directly mitigate our hazards of greatest impact. These are earthquake, landslides, tsunamis and severe weather. Initiatives identified as ‘B’ are general that will benefit the community we serve in any hazardous condition. The numerical designation is assigned according to the initiative that will have the impact for the most people going down to the one that has the impact for the least amount of people.

Table 19-8. Mitigation Strategy Priority Schedule							
Initiative #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/Budgets?	Priority ^a
A1	1,2,3,5,6, 7	High	High	Yes	Yes	No	High
A2	1,3,4	High	Medium	Yes	Yes	No	High
A3	1,2,3,4,5,6, 7, 9	High	Low	Yes	Yes	No	High
B1	1,2,7	Medium	Low	Yes	Yes	Yes	Medium

a. See Chapter 1 for explanation of priorities.

19.11 FUTURE NEEDS TO BETTER UNDERSTAND RISK/ VULNERABILITY

An ongoing effort must be made to continually assess our risks and capabilities. As a major cog in the city and counties emergency response, care should be taken to insure the College is always ready to receive persons displaced by natural disasters and severe weather.

19.12 ADDITIONAL COMMENTS

Grays Harbor College has researched the construction of a parking garage with helipad capabilities. A minimum 200 space garage would cost approximately \$13,000,000 with the cost rising exponentially for each 100 spaces added. Costs for the refurbishing of Lake Swano Dam would be contingent on an assessment of the dam by qualified personnel.

CHAPTER 20. GRAYS HARBOR TRANSPORTATION AUTHORITY ANNEX



20.1 INTRODUCTION

This Annex details the hazard mitigation planning elements specific to the Grays Harbor Transportation Authority (GHT), a participating municipal corporation to the Grays Harbor County Hazard Mitigation Plan Update. GHT provides county-wide multimodal transportation services to residents of Grays Harbor County, as such all hazards identified in the County’s plan have the potential of impacting GHT. This Annex is not intended to be a standalone document, but rather appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by GHT. For planning purposes, this Annex provides additional information specific to GHT, with a focus on providing greater details on the risk assessment and mitigation strategy for this entity only.

20.2 HAZARD MITIGATION PLANNING TEAM POINT(S) OF CONTACT

Grays Harbor Transit followed the planning process detailed in Section 2 of the Base Plan. In addition to providing representation on the County’s Planning Team, GHT also formulated their own internal planning team to support the broader planning process. Individuals assisting in this Annex development are identified below, along with a brief description of how they participated.

Local Planning Team Members		
Name	Position/Title	Planning Tasks
Name, Title Street Address City, State ZIP Telephone: Phone # e-mail Address: email address	Ken Mehin, General Manager 705- 30 th Street Hoquiam, WA 98550 360-532-2770 ext. 101 kmehin@ghtransit.com	
Name, Title Street Address City, State ZIP Telephone: Phone # e-mail Address: email address	Martin Best, Supervisor Admin Services 705-30 th Street Hoquiam, WA 98550 360-532-2770 ext. 110 mbest@ghtransit.com	
Name, Title Street Address City, State ZIP Telephone: Phone # e-mail Address: <u>email</u> address	Dave Wells, Maintenance Manager 705-30 th Street Hoquiam, WA 98550 360-532-2770 ext. 113	

20.3 ORGANIZATIONAL PROFILE

The Grays Harbor Transportation Authority is a County Transportation Authority (CTA), authorized under Chapter 36.57 RCW located in the southwestern portion of Washington State. The Grays Harbor

Transportation Authority began providing transportation services in June of 1975. Our system map below indicates the extent of our service area. The three Grays Harbor County Commissioners, the Mayors of Aberdeen, Hoquiam and Westport comprise the current Board of Directors. The position held by the Mayor of Westport alternates with the Mayors from McCleary, Elma, Montesano, Oakville, Ocean Shores, or Cosmopolis. The Board of Directors holds public meetings the second Tuesday of each month at the Grays Harbor Transportation Authority's Administrative Offices in Hoquiam. Resolution 11 Establishes By-Laws 1975 The following is a summary of key information about the jurisdiction:

- **Governing Authority**— Chapter 36.57 RCW
- **Population Served**—72,970 as of April 1, 2017
- **Land Area Served**—1,917 square miles
- **Land Area Owned**—Approximately 7 acres
- **List of Critical Infrastructure/Equipment Owned by the Jurisdiction:**

Full size buses (29)	\$7,000,000.00
Mini buses	\$1,300,000.00
Vanpool Vans	\$ 700,000.00
Shop Equipment	\$1,000,000.00

- **Total Value of Critical Infrastructure/Equipment**—The total value of critical infrastructure and equipment owned by the jurisdiction is \$10,000,000
- **List of Critical Facilities Owned by the Jurisdiction:**

GHT Main Facility	\$5,000,000.00
Aberdeen Transit Center	\$2,000,000.00
Hoquiam Transit Center	\$1,200,000.00
Montesano Transit Center	\$ 500,000.00
Elma Transit Center	\$ 500,000.00

- **Total Value of Critical Facilities**—The total value of critical facilities owned by the jurisdiction is \$9,500,000.00
- **Current and Anticipated Service Trends**—Bus ridership has been increasing approximately 8% a year over the last several years and is expected to continue the current trends.

GRAYS HARBOR TRANSIT AUTHORITY					
Facility	Address	City	Total Real Property	Total Personal Property	Total Values
SHELTERS (103)			235,142	0	235,142
MCCLEARY TRANSFER STATION	206 W. SIMPSON AVE	MCCLEARY	789,572	0	789,572
MONTESANO TRANSFER STATION	214 E. PIONEER	MONTESANO	180,834	44,989	225,823
OCEAN SHORES TRANSFER STATION	2174 HWY. 109	OCEAN SHORES	789,572	0	789,572
ABERDEEN TRANSFER STATION	320 E. WISHKAH	ABERDEEN	503,877	172,377	676,254
HOQUIAM TRANSFER STATION	406 7TH STREET	HOQUIAM	362,902	165,875	528,777
ELMA TRANSFER STATION	46 S. UNION ROAD	ELMA	789,572	0	789,572
ADMINISTRATION I	705 30TH ST.	HOQUIAM	435,459	89,549	525,008
BUS WASH	705 30TH ST.	HOQUIAM	234,557	86,142	320,699
BUS SHED	705 30TH ST.	HOQUIAM	530,146	243,500	773,646
MOBILE EQUIPMENT	705 30TH ST.	HOQUIAM	0	250,000	250,000
EDP VALUE	705 30TH STREET	HOQUIAM	0	152,377	152,377
BUS MAINT.	705 30TH STREET	HOQUIAM	1,027,486	472,620	1,500,106
PUMP ISLAND	705 30TH STREET	HOQUIAM	117,150	32,133	149,283
ADMINISTRATION II	615 30TH ST	HOQUIAM	140,291	10,237	150,528
			6,136,560	1,719,799	7,856,359

GHT area of operation boundaries are shown on in the map provided below.



20.4 HAZARD EVENT HISTORY

Within the Base Plan, the Planning Team identified all hazard events which have occurred within the County. In the context of the planning region, it was determined that there are no additional hazards that are unique to Grays Harbor Transit. Being a county-wide service provider, Table 20-1 lists all past occurrences which have impacted GHT operations and facilities since operations began in 1975.

Table 20-1 Grays Harbor County Disaster History 2015-2017					
Disaster Number	Declaration Date	Incident Type	Title	Incident Begin Date	Incident End Date
4253	2/2/2016	Flood	Severe Winter Storm, Straight-Line Winds, Flooding, Landslides, Mudslides	12/1/2015	12/14/2015
4242	10/15/2015	Severe Storm(s)	Severe Windstorm	8/29/2015	8/29/2015
4056	3/5/2012	Severe Storm(s)	Severe Winter Storm, Flooding, Landslides, and Mudslides	1/14/2012	1/23/2012
1825	3/2/2009	Severe Storm(s)	Severe Winter Storm, Record and Near Record Snow	12/12/2008	1/5/2009
1817	1/30/2009	Flood	Severe Winter Storm, Landslides, Mudslides, and Flooding	1/6/2009	1/16/2009
1734	12/8/2007	Severe Storm(s)	Severe Storms, Flooding, Landslides, and Mudslides	12/1/2007	12/17/2007
1682	2/14/2007	Severe Storm(s)	Severe Winter Storm, Landslides, and Mudslides	12/14/2006	12/15/2006
1671	12/12/2006	Severe Storm(s)	Severe Storms, Flooding, Landslides, and Mudslides	11/2/2006	11/11/2006
1641	5/17/2006	Severe Storm(s)	Severe Storms, Flooding, Tidal Surge, Landslides, and Mudslides	1/27/2006	2/4/2006
1499	11/7/2003	Severe Storm(s)	Severe Storms and Flooding	10/15/2003	10/23/2003
1361	3/1/2001	Earthquake	Earthquake	2/28/2001	3/16/2001
1172	4/2/1997	Flood	Heavy Rains, Snow Melt, Flooding, Land and Mudslides	3/18/1997	3/28/1997
1159	1/17/1997	Severe Storm(s)	Severe Winter Storms, Land and Mudslides, Flooding	12/26/1996	2/10/1997
1100	2/9/1996	Flood	High Winds, Severe Storms, Flooding	1/26/1996	2/23/1996
1079	1/3/1996	Severe Storm(s)	Severe Storms, High Wind, and Flooding	11/7/1995	12/18/1995
883	11/26/1990	Flood	Severe Storms, Flooding	11/9/1990	12/20/1990

Table 20-1 Grays Harbor County Disaster History 2015-2017					
Disaster Number	Declaration Date	Incident Type	Title	Incident Begin Date	Incident End Date
852	1/18/1990	Flood	Severe Storms, Flooding	1/6/1990	1/14/1990
623	5/21/1980	Volcano	Volcanic Eruption, Mt. St. Helens	5/21/1980	5/21/1980
612	12/31/1979	Flood	Storms, High Tides, Mudslides, Flooding	12/31/1979	12/31/1979
545	12/10/1977	Flood	Severe Storms, Mudslides, Flooding	12/10/1977	12/10/1977
492	12/13/1975	Flood	Severe Storms and Flooding	12/13/1975	12/13/1975
SIGNIFICANT LOCAL INCIDENTS					
NA	NA	Landslides/Floods	Heavy Rains and Landslides (Countywide)	1/4/2015	1/5/2017

20.5 APPLICABLE REGULATIONS AND PLANS

Coordination with other community planning efforts is paramount to the successful implementation of this plan. This section provides information on how planning mechanisms, policies, and programs are integrated into other on-going efforts. It also identifies the jurisdiction’s capabilities with respect to preparing and planning for, responding to, recovering from, and mitigating the impacts of hazard events and incidents.

Capabilities include the programs, policies and plans currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. The capabilities are divided into the following sections: regulatory capabilities which influence mitigation; administrative and technical mitigation capabilities, including education and outreach, partnerships, and other on-going mitigation efforts; fiscal capabilities which support mitigation efforts, and classifications under various community programs.

20.5.1 Regulatory Capability

The assessment of the district’s legal and regulatory capabilities which are customarily used by jurisdictions to implement hazard mitigation activities, are identified in Table 20-2. Those items applicable to the district are identified.

Table 20-2 Legal and Regulatory Capability				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Codes, Ordinances & Requirements				
Building Code	No	Yes	Yes	
Zoning Ordinance	No	Yes	No	
Subdivision Ordinance	No	Yes	No	
Sprinkler Codes	No	Yes	Yes	
RCW 52.26 (Regional Fire Protection Service)	No	Yes	Yes	
WAC 296.305	No	Yes	Yes	
Floodplain Ordinance	No	Yes	Yes	
Stormwater Management	No	Yes	Yes	
Post Disaster Recovery	No	Yes	Yes	
Real Estate Disclosure	No	Yes	Yes	
Growth Management	No	Yes	Yes	
Site Plan Review	No	Yes	Yes	
Public Health and Safety	No	Yes	Yes	
Coastal Zone Management	No	Yes	Yes	
Climate Change Adaptation	No	Yes	Yes	
Natural Hazard Specific Ordinance (stormwater, steep slope, wildfire, etc.)	No	Yes	Yes	
Environmental Protection	No	Yes	Yes	
National Incident Management System	Yes	Yes	Yes	
Planning Documents				
General or Comprehensive Plan	No	Yes	Yes	
Floodplain or Basin Plan	No	Yes	Yes	
Stormwater Plan	No	Yes	Yes	
Capital Improvement Plan	No	Yes	Yes	
Habitat Conservation Plan	No	Yes	Yes	
Economic Development Plan	No	Yes	Yes	
Shoreline Management Plan	No	Yes	Yes	
Community Wildfire Protection Plan	No	No	Yes	
Transportation Plan	Yes	Yes	Yes	
Emergency Operations Plan	No	Yes	Yes	
Response Plan	No	Yes	Yes	
Evacuation Plan	No	Yes	Yes	
Strategic Plan	No	Yes	Yes	
Response/Recovery Planning				
Comprehensive Emergency Management Plan	No	Yes	Yes	
Threat and Hazard Identification and Risk Assessment	No	No	Yes	
Terrorism Plan	No	No	Yes	
Post-Disaster Recovery Plan	No	No	Yes	

Table 20-2 Legal and Regulatory Capability				
	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Continuity of Operations Plan	No	Yes	Yes	
Public Health Plans	No	Yes	Yes	
Standard Operating Procedures/Guides	Yes	Yes	Yes	
Boards and Commission				
Planning Commission	No	Yes	Yes	
Mitigation Planning Committee	Yes	Yes	Yes	
Governing Commissioners	Yes	Yes	Yes	
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems, chipping, etc.)	No	Yes	Yes	
Mutual Aid Agreements / Memorandums of Understanding	No	Yes	Yes	
Other				

20.5.2 Administrative and Technical Capabilities

The assessment of the district’s administrative and technical capabilities, including educational and outreach efforts, and on-going programmatic efforts are presented in Table 20-3. These are elements which support not only mitigation, but all phases of emergency management already in place that are used to implement mitigation activities and communicate hazard-related information.

Table 20-3 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	Administrative Services
Professionals trained in building or infrastructure construction practices (building officials, fire inspectors, etc.)	No	
Engineers specializing in construction practices?	No	
Planners or engineers with an understanding of natural hazards	Yes	Administrative Services
Staff with training in benefit/cost analysis	Yes	Administrative Services
Surveyors	No	
Personnel skilled or trained in GIS applications	Yes	Operations/Dispatch
Personnel skilled or trained in Hazus use	Yes	Administrative Services
Scientist familiar with natural hazards in local area	No	
Emergency Manager	No	

Table 20-3 Administrative and Technical Capability		
Staff/Personnel Resources	Available (Yes/No)	Department/Agency/Position
Grant writers	Yes	Operations/Administrative Services
Warning Systems/Services (Reverse 9-1-1, outdoor warning signs or signals, flood or fire warning program, etc.?)	No	
Hazard data and information available to public	No	
Maintain Elevation Certificates	No	
Education and Outreach		
Local citizen groups or non-profit organizations focused on emergency preparedness?	No	
Local citizen groups or non-profit organizations focused on environmental protection?	No	
Organization focused on individuals with access and functional needs populations	No	
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	No	
Natural disaster or safety related school programs?	No	
Public-private partnership initiatives addressing disaster-related issues?	No	
Multi-seasonal public awareness program?	No	
Other	No	
On-Going Mitigation Efforts		
Hazardous Vegetation Abatement Program	No	
Noxious Weed Eradication Program or other vegetation management	No	
Fire Safe Councils	No	
Chipper program	No	
Defensible space inspections program	No	
Creek, stream, culvert or storm drain maintenance or cleaning program	No	

20.5.3 Fiscal Capability

The assessment of the jurisdiction’s fiscal capabilities is presented in Table 20-4. These are the financial tools or resources that could potentially be used to help fund mitigation activities.

Table 20-4 Fiscal Capability	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	No
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	Yes
Withhold Public Expenditures in Hazard-Prone Areas	No
State Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	No
Other	

20.6 COMMUNITY CLASSIFICATION

GHT’s classifications under various hazard mitigation programs are presented in Table 20-5. Each of the classifications identified establish requirements which, when met, are known to increase the resilience of a community. Those which specifically require district participation or enhance mitigation efforts are indicated accordingly.

Table 20-5 Community Classifications		
	Participating (Yes/No)	Date Enrolled
Building Code Effectiveness Grading Schedule	Yes	
Storm Ready	Yes	
Tsunami Ready (if applicable)	Yes	

20.7 HAZARD RISK AND VULNERABILITY RANKING

GHT’s Planning Team reviewed the hazard list identified within the Base Plan and have identified the hazards that affect Grays Harbor Transit.

Table 20-6 presents the ranking of the hazards of concern based on their CPRI score. A qualitative vulnerability ranking was then assigned based on a summary of potential impact determined by: past

occurrences, spatial extent, damage, casualties, and continuity of government. The assessment is categorized into the following classifications:

- **Extremely Low** – No or very limited impact. The occurrence and potential cost of damage to life and property is very minimal-to-nonexistent. No impact to government functions with no disruption to essential services.
- **Low (Negligible)** – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. Government functions are at 90% with limited disruption to essential services.
- **Medium (Limited)** – Moderate potential impact. This ranking carries a moderate threat level to the general population and /or built environment. The potential damage is more isolated, and less costly than a more widespread disaster. Government functions are at 80% with limited impact to essential services.
- **High (Critical)** – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past. Government functions are at ~50% operations with limited delivery of essential services.
- **Extremely High (Catastrophic)** – Very widespread with catastrophic impact. Government functions are significantly impacted for in excess of one month.

Table 20-6 Hazard Risk and Vulnerability Ranking			
Hazard Rank	Hazard Type	CPRI Score	Vulnerability Rank
1	Earthquake (EQ)	3.80	High
2	Severe Weather (SW)	3.15	High
3	Tsunami (T)	3.10	High
4	Flood* / ** (F)	2.90	High
5	Other Hazards of Concern (OH)	2.65	Medium
6	Wildfire (WF)	2.30	Low
7	Erosion (E)	2.20	Low
8	Landslides (L)	2.20	Low
9	Climate Change (CC)	1.90	Low
9	Drought	1.90	Low
10	Volcano (V)	1.55	Low

20.7.1 Risk Overview

The hazards listed above have been ranked in relationship to the potential impact to Grays Harbor Transit operations and facilities and demonstrate our level of potential impact as established by the Calculated Priority Risk Index process defined in Chapter 4. This process included a review of our critical facilities that could be impacted, estimated dollar losses, the impacts to people, property, regional economy, and environment for each of the identified hazards of concern. Reviewers should examine Chapter 4 of the County plan for the information on the type of data included in determining the hazard rank and vulnerability identified above.

In addition to the CPRI process, the GHT internal planning team also considered these additional factors for the hazards identified. The first four below are our high vulnerability risks, and the fifth is our medium risk. This section will also briefly touch on the low risks.

Earthquakes are the primary concern to both GHT daily operations as well as our facilities. Our key maintenance and operations facilities are essential to maintaining fleet operations and can be expected to be adversely impacted by earthquakes. Additionally, the potential adverse impacts to the bridges and road systems in Grays Harbor from an earthquake would have significant impact to our ability to provide essential transportation support.

Severe Weather events are significant to GHT primarily from an operational perspective as well as frequency of events. Ice/snow storms, wind storms with downed trees and powerlines, etc., have an immediate impact on our transportation routes significantly reducing our ability to provide essential transportation services in a safe and timely manner.

Tsunamis, like earthquakes, are a primary concern to both GHT daily operations as well as our facilities. Our key maintenance and operations facilities are located in the tsunami inundation zone and would be impacted by any significant tsunami wave action in the harbor. Additionally, the potential adverse impacts to the bridges and road systems in Grays Harbor from a tsunami would have significant impact to our ability to provide essential transportation support.

Floods are less frequent events, but have the potential to impact both our road based transportation activities and our main Hoquiam facility as well. Water over roads, bridge and road closures are common flood related events and impact our service delivery of essential transportation services County wide.

Other Hazards of Concern were identified primarily as HAZMAT type incidents due to the location of our main Hoquiam facility within the Port of Grays Harbor in relationship to facilities that utilize various types of chemicals.

The “low” ranked hazards, Wildfire, Erosion, Landslides, Climate Change, Drought, and Volcano all would have an impact to daily operations – to one extent or another – versus impact to our facilities. Wildfire, erosion, volcano, and landslides hazards have the potential to impact the road and bridge infrastructure systems, while climate change and drought would be a minimal direct impact on either our operations or facilities.

20.8 MITIGATION GOALS AND OBJECTIVES

GHT adopts the hazard mitigation goals and objectives developed by the Planning Team described in Volume 1.

20.9 HAZARD MITIGATION ACTION PLAN

The GHT Planning Team identified and prioritized a wide range of actions based on the risk assessment, and their knowledge of the district assets and hazards of concern. Table 20-7 lists the action items/strategies that make up the GHT hazard mitigation plan. Background information and information on how each action item will be administered, responsible agency/office (including outside the district), potential funding sources, the timeframe, and the type of initiative associated with each item are also identified.

20.10 PRIORITIZATION OF MITIGATION INITIATIVES

Once the mitigation initiatives items were identified, the Planning Team followed the same process outlined within Volume 1 to prioritize their initiatives. An analysis of five different initiative types for each identified action item was conducted. Table 20-8 identifies the prioritization for each initiative.

Table 20-7 Hazard Mitigation Action Plan Matrix									
Applies to new or existing assets	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost (High/Medium/Low) or \$ Figure if Known	Sources of Funding (List Grant type, General Fund, etc.)	Timeline (Long-Term, Short-Term)	Included in Previous Plan? Yes/No	Initiative Type: Public Information, Preventive Activities, Structural Projects, Property Protection, Emergency Services, Recovery, Natural Resource Protection	Who or What Benefits? Facility, Local, County, Region
INITIATIVE #1 Assess needs for backup power generator									
Existing	TS/SW	1, 4, 6, 8	Operations	Low	GF	Short-term	No	Preventive,	Facility
INITIATIVE #2 Assess locations for satellite parking of buses									
Existing	EQ, T	1, 2, 3, 4, 6, 8	Operations	Medium	GF, WSDOT	Med	No	Prop Protection, Recovery	Facility, County, Region
INITIATIVE #3 Seismic retrofit of shop									
Existing	EQ	1, 4, 6, 8	Maintenance	High	GF, WSDOT, HMGP	Long-term	No	Preventive, Structural	Facility
INITIATIVE #4 Relocate facility outside tsunami inundation zone									
Existing	EQ, T	1, 2, 3, 4, 5, 6, 8	Admin	High	GF, WSDOT, HMGP	Long-term	No	Preventive, Structural, Recovery	Facility, County, Region
INITIATIVE #5 Update GPS mapping for dispatch to include tsunami evacuation routes									
Existing	EQ, T	2, 5, 7, 8	Operations	Low	GF	Short-Term	No	Prop Protection, Emergency Services, Preventive	Facility, County, Region

**Table 20-8
Mitigation Strategy Priority Schedule**

Initiative #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Costs?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/Budgets?	Priority ^a
1	4	H	L	Yes	Yes	Yes	H
2	6	H	M	Yes	Yes	Yes	H
3	4	H	H	Yes	Yes	No	H
4	7	H	H	Yes	Yes	No	H
5	4	H	L	Yes	No	Yes	H

a. See Chapter 1 for explanation of priorities.

**Mason County 2018 Multi-Jurisdiction Hazard Mitigation Plan Update
Volume 2: Planning Partner Annexes**

**APPENDIX A.
PLANNING PARTNER EXPECTATIONS TO
THE HAZARD MITIGATION PLAN UPDATE**

Appendix A.

PLANNING PARTNER EXPECTATIONS ACHIEVING DMA COMPLIANCE

One of the goals of the multi-jurisdictional approach to hazard mitigation planning is to achieve compliance with the Disaster Mitigation Act (DMA) for all participating members in the planning effort. There are several different groups who can be involved in this process at different levels, and as determined by the planning partnership. In order to provide clarity, the following is a general breakdown of those groups:

- ✓ The Hazard Mitigation Planning Team (referred to herein as “planning team”, whose makeup includes the project management team (county and consultant), Bridgeview Consulting members, and those planning partners responsible for the plan’s written development;
- ✓ The planning partners, who are those jurisdictions or special purpose districts that are actually developing an annex to the regional plan; and
- ✓ The planning stakeholders, which are the individuals, groups, businesses, academia, etc., from which the planning team gains information to support the various elements of the plan.

DMA compliance requires that *participation* be defined in order to maintain eligibility with respect to meeting the requirements which allow a jurisdiction or special purpose district to develop an annex to the base plan. To achieve compliance for *all* partners, the plan must clearly document how each planning partner that is seeking linkage to the plan participated in the plan’s development. The best way to do this is to clearly define “participation”. For this planning process, “participation” is defined by the following criteria examples (this list is not all-inclusive):

- ✓ **Estimated level of effort.** It is estimated that the total time commitment to meet these “participation” requirements for a planning partner would be ***approximately 40 - 50 hours during the planning process.*** This time is reduced somewhat for special purpose districts.
- ✓ **Participate in the process.** As indicated, it must be documented in the plan that each planning partner “participated” in the process to the best of your capabilities. There is flexibility in defining “participation,” which can vary based on the type of planning partner (i.e.: City or County, vs. a Special Purpose District) involved. However, the level of participation must be defined at the on-set of the planning process, and we must demonstrate the extent to which this level of participation has been met for each partner.
- ✓ The planning team will be responsible for supporting the partnership during the public involvement phases of the planning process. Support could be in the form

of providing venues for public meetings, attending these meetings as participants, providing technical support, etc.

- ✓ **Duration of planning process.** This process is anticipated to take seven to nine months to complete (not including state and FEMA review). It will be easy to become disconnected with the process objectives if you do not participate in some of these meetings to some degree. General tasks associated with this effort include review of existing plans, updating of general profile and Census data, identification and/or verification of critical infrastructure, and public outreach efforts (to be identified and defined during planning meetings, but at a minimum will require two efforts).
- ✓ **Capability Assessment.** All planning partners will be asked to identify their capabilities during this process. This capability assessment will require a review of existing documents (plans, studies, and ordinances) pertinent to each jurisdiction to identify policies or recommendations that are consistent with those in the “base” plan or have policies and recommendations that complement the hazard mitigation initiatives selected (i.e.: comp plans, basin plans or hazard specific plans).
- ✓ **Hazard Identification and Risk Ranking.** All planning partners will participate in the identification of hazards to be addressed during this effort and the overall risk ranking exercise for the base plan. Once the base plan risk ranking has occurred, each planning partner will complete their own risk ranking exercise for their own jurisdiction/entity. This is a facilitated process, and requires mandatory attendance at the risk ranking planning meeting to gain compliance. This meeting will be mandatory attendance.
- ✓ **Action/Strategy Review.** All previous planning partners will be required to perform a review of the strategies from their respective prior action plan to: determine those that have been accomplished and how they were accomplished; and why those that have not been accomplished were not completed. Note – even if your plan has expired, it is still considered an update, and not a new plan. The planning team will be available to assist with this task; however, for existing planning partners, this is mandatory.
- ✓ **Annex Template Development.** Each planning partner will be required to develop their own annex template, which will be the data specific to their entity or jurisdiction. Information contained in this document will include, but is not limited to: community profile, population or service area data, disaster history information, identification of critical facilities. The template itself will be provided; however, the actual completion of the document is a requirement of each planning partner. This element is mandatory for active participation.
- ✓ **Consistency Review.** All planning partners will be required to review the entire base plan when completed, and their respective annex document after final editing by the planning team. Customarily, there is a minimum of two weeks provided for

this review process, but normally we attempt to give an entire month for this element of the project.

- ✓ **Plan adoption.** Each jurisdiction and special purpose district involved in the effort must adopt the plan once FEMA and State approval have been gained. If not adopted by each jurisdiction, that jurisdiction's plan is not considered to be "in place," meaning that in essence, they have no hazard mitigation plan in place even though they have gone through the process.

One of the benefits to multi-jurisdictional planning is the ability to pool resources. This means more than monetary resources. Resources such as staff time, meeting locations, media resources, technical expertise will all need to be utilized to generate a successful plan.

It is anticipated that two or three workshop sessions will be required to complete this plan. Those sessions will last three or four hours each, and take the place of monthly meetings. While the workshop sessions will provide the bulk of actual meeting attendance, based on the progress of the planning partnership as a whole, there may be additional meetings which may be required; *however, each planning partner will be required to attend, at a minimum, the two-three workshops.* Much of the data exchange can occur through email or telephone calls, which will supplement the workshops.

With the above participation requirements in mind, each planning partner will be asked to aid this process by being prepared to develop its own section of the plan. To be an eligible planning partner in this effort, each Planning Partner will be asked to provide the following:

- A. A "Letter of Intent to participate" or Resolution to participate to the Planning Team (see exhibit A).
- B. Designate a lead point of contact for this effort. This designee will be listed as the hazard mitigation point of contact for your jurisdiction in the plan.
- C. Identify their hourly rate of pay for this point of contact, which will be used to calculate the in-kind match for the grant that is funding this project.
- D. If requested, provide support in the form of mailing list, possible meeting space, and public information materials, such as newsletters, newspapers or direct mailed brochures, required to implement the public involvement strategy developed during this planning process.
- E. Participate in the process. There will be many opportunities as this plan evolves to participate. Opportunities such as:
 - a. Hazard Mitigation Planning Team meetings;
 - b. Public meetings or open houses;
 - c. Workshops/ Planning Partner specific training sessions;

d. Public review and comment periods prior to adoption.

At each and every one of these opportunities, attendance will be recorded. Attendance records will be used to document participation for each planning partner. While attendance at every meeting may not be practical, there are meetings which are mandatory. Each planning partner should attempt to attend as many meetings and events as possible, but must attend the minimum established requirement.

- F. There will be **mandatory** workshops that all planning partners will be required to attend. These workshops will cover specific items, one of which will be the proper completion of the jurisdictional annex template which is the basis for each partner's jurisdictional chapter in the plan. Failure to have a representative at these mandatory workshops will disqualify the planning partner from participation in this effort. The scheduling for these workshops will be far enough in advance to allow the planning partners to attend.
- G. In addition to participation in the mandatory workshops, each partner will be required to complete their annex document, and provide it to the planning team in the time frame established. Technical assistance in the completion of these annexes will be available, but the actual writing of the annex document is the responsibility of each planning partner. Failure to complete your annex in the required time frame may lead to disqualification from the partnership.
- H. Each partner will be asked to perform a "consistency review" and "capabilities assessment" of all technical studies, plans, ordinances specific to hazards to determine the existence of any not consistent with the same such documents reviewed in the preparation of the County (parent) Plan. In the same category, each partner will also be required to review the entire base plan once completed, as well as their edited annex.
- I. Each partner will be asked to review the Risk Assessment and identify hazards and vulnerabilities specific to its jurisdiction. Resources will provide the jurisdiction specific mapping and technical consultation to aid in this task if the jurisdiction/entity does not have their own capacity, but the determination of risk and vulnerability will be up to each partner (through a facilitated process during one of the mandatory workshops).
- J. Each partner will be asked to review and determine if the mitigation recommendations chosen in the parent plan will meet the needs of its jurisdiction. Projects within each jurisdiction consistent with the parent plan recommendations will need to be identified and prioritized, and reviewed to determine their benefits vs. costs.
- K. Each partner will be required to create its own action plan that identifies each project, who will oversee the task, how it will be financed and when it is estimated to occur.
- L. Each partner will be required to formally adopt the plan.

Planning tools and instructions to aid in the compilation of this information will be provided to all committed planning partners. Each partner will be asked to complete their annexes in a timely manner and according to the timeline established during the initial planning meeting.

**** Note**:** Once this plan is completed, and FEMA approval has been determined for each partner, maintaining that eligibility will be dependent upon each partner implementing the plan's maintenance protocol identified in the plan.

**Exhibit A.
Example Letter of Intent to Participate**

Date: _____

Grays Harbor County Hazard Mitigation Planning Partnership
C/O Bev O’Dea, Bridgeview Consulting, LLC.
915 No. Laurel Lane
Tacoma, WA 98406

Via email at: bevodea@bridgeviewconsulting.org

Re: Statement of Intent to Participate - Grays Harbor County Multi-Jurisdictional Hazard Mitigation Plan

Dear Grays Harbor County Planning Partnership,

In accordance with the Federal Emergency Management Agency’s (FEMA) Local Mitigation Plan requirements, under 44 CFR §201.6, which specifically identify criteria that allow for multi-jurisdictional mitigation plans, the [Participating Jurisdiction] is submitting this letter of intent to confirm that [Participating Jurisdiction] has agreed to participate in the Grays Harbor County Multi-Jurisdiction Hazard Mitigation Planning effort.

Further, as a condition to participating in the mitigation planning; [Participating Jurisdiction] agrees to meet the requirements for mitigation plans identified in 44 CFR §201.6 and to provide such cooperation as is necessary and in a timely manner to Grays Harbor County to complete the plan in conformance with FEMA requirements.

[Participating Jurisdiction] understands that it must engage in the following planning process, as more fully described in FEMA’s *Local Multi-Hazard Mitigation Planning Guidance*, including, but not limited to:

- Identification of hazards unique to the jurisdiction and not addressed in the master planning document;
- Conducting a vulnerability analysis and identification of risks, where they differ from the general planning area;
- Formulation of mitigation goals responsive to public input and development of mitigation actions complementary to those goals. A range of actions must be identified specific for each jurisdiction;
- Demonstration that there has been proactively offered an opportunity for participation in the planning process by all community stakeholders (examples of participation include relevant involvement in any planning process, attending meetings, contributing research, data, or other information, commenting on drafts of the plan, etc.);
- Documentation of an effective process to maintain and implement the plan;
- Formal adoption of the Multi-Jurisdiction Hazard Mitigation Plan by the jurisdiction’s governing body (each jurisdiction must officially adopt the plan); and
- Documentation of participation in the National Flood Insurance Program (NFIP), continued compliance with NFIP requirements, and address NFIP insured structures that have been repetitively damaged by floods.

Therefore, with a full understanding of the funding obligations incurred by an agreement between the Lead Jurisdiction and the Participating Jurisdiction, I [Name of authorized jurisdiction official], commit [Name of Participating Jurisdiction] to the [Name of Lead Jurisdiction] Multi-Jurisdiction Hazard Mitigation Planning effort.

Executed this ___ day of _____, 20___.

Sincerely,

[Jurisdiction official's signature]

Exhibit B.
(Current) Planning Team Contact information

Name	Representing	Address	Phone	e-mail

**Grays Harbor County 2018 Multi-Jurisdiction Hazard Mitigation Plan Update
Volume 2: Planning Partner Annexes**

**APPENDIX B.
PLANNING TEAM GROUND RULES**

APPENDIX B.

THE GRAYS HARBOR COUNTY PLANNING TEAM GROUND RULES 2018 MULTI-JURISDICTION HAZARD MITIGATION PLAN UPDATE

PURPOSE

As the title suggests, the role of the Planning Team (PT) is to guide the development of the Hazard Mitigation Plan through a facilitated process that will result in a plan that can be embraced both politically and by the constituency within the planning area. The PT will provide guidance and leadership, oversee the planning process, and act as the point of contact for all agency representatives, stakeholders and the various interest groups in the planning area. The PT, made up of all planning partners involved in this process, provides the best possible cross section of views to enhance the planning effort and to help build support for hazard mitigation.

CHAIRPERSON

The Planning Committee has selected a chairperson, Mr. Chuck Wallace, from Grays Harbor County Emergency Management. The role of the chair is to:

1. Lead meetings so that agendas are followed and meetings adjourn on-time;
2. Allow all members to be heard during discussions;
3. Moderate discussions between members with differing points of view;
4. Be a sounding board for staff in the preparation of agendas and how to best involve the full team in work plan tasks; and
5. Serve as the primary spokesperson for this planning effort.

ATTENDANCE

Participation of all Team members in meetings is important and members should make every effort to attend each meeting. If Team members cannot attend, they should inform the planning team before the meeting is conducted. Each Planning Team member should attempt to identify an alternate who will represent that member at any meeting for which attendance cannot be met. If a member accumulates:

- One unexcused absence, or
- Two consecutive excused absences

that member will be contacted by the Chair to see if there are any issues with regards to that individual's participation on the Team.

The Planning Team determined that in order to achieve an active level of participation in this planning efforts, 75 percent of all meetings must be attended by the entity developing an Annex to the Grays Harbor County Multi-Jurisdiction Hazard Mitigation Plan. Any final action determining active participation will be at the direction of the Planning Team. The Planning Team will strive to maintain the Planning Team membership as one from each participating entity.

QUORUM

The Planning Team determined that a minimum attendance at each meeting will not be required in order to conduct business. With the anticipation of an alternate Planning Team member being appointed by each of the participating entities, the Planning Team felt that the different viewpoints of team member will be adequately represented. Alternatively, if neither the primary or alternate team members are present, the decisions reached during meetings will be binding upon absent members based on decisions reached through consensus voting. It should be understood that all entities must maintain an active level of participation in this effort; decisions made during the absence of the member does not meet active participation.

ALTERNATES

There may be circumstances when regular planning team members cannot attend the planning meeting. To address these circumstances, alternate members will be pre-identified as appropriate. The Planning Team determined that the role of alternates will be the same as the primary planning team member. Therefore, the planning team alternate can make a binding decision or vote on any issue at a meeting in which they preside as a fully empowered team representative.

DECISION-MAKING

As the Planning Team provides advice and guidance on the Plan, it will strive for consensus on all decisions that need to be made, with special effort to hear and consider all opinions within the group. Consensus is defined as a recommendation that may not be ideal for each member, but every member can live with it (using the consensus continuum as a gage). Strong minority opinions will be recorded in meeting summaries and the team may choose to note such opinions in their final recommendations.

RECOMMENDATIONS

If differing opinions exist for any significant portion of this planning effort, the Planning Team determined that such recommendations will be recorded in the meeting summaries and reflected in the plan as appropriate.

SPOKESPERSONS

Ideally, the Planning Team will present a united front after considering the different viewpoints of its members, recognizing that each member might have made a somewhat different viewpoint. In order to ensure consistent information is provided, and to consistently represent the Team's united recommendations to participating organizations, the public, and the media, the Chairperson will act as the Team's spokesperson(s). In addition, each member should have a responsibility to represent the Team's recommendation when speaking on plan-related issues as a Team member. Any differing personal or organizational viewpoints should be clearly distinguished from the Team's work. In an effort to enhance community involvement and participation, the Planning Team determined that if questions were posed to the Chairperson about a specific jurisdiction, the community member would be re-directed back to the appropriate Planning Team member so as to allow for relationship building and enhanced communications within the specific planning area.

STAFFING

The Planning Team for this project includes appropriate personnel from Grays Harbor County, along with contract consultant assistance provided by Bridgeview Consulting, LLC. The Planning Team will schedule meetings, distribute agendas, prepare information/presentations for Planning Team meetings, write meeting summaries, and generally seek to facilitate the Team's activities.

PUBLIC COMMENT

As they conduct Planning Team work, members will seek to keep the public and the groups to which they are affiliated informed about the plan. Information of such outreach will be provided to contract consultant for recording in the plan milestones.

All Planning Team meetings will be open to the public and advertised as such. The Planning Team will adhere to the "Rules of Conduct" which are consistent with the Open Public Meetings Act (Chapter 42.30 RCW) and have been administered by the Board of Grays Harbor County Commissioners. Members of the public wishing to address the Planning Team may do so based on the following protocol:

- General guidelines
 - The purpose of the meeting is to address the hazard mitigation plan; therefore, only items identified on the previous meeting's agenda will be recognized - no new items will be addressed.
 - Speakers will be required to sign in previous to the beginning of the meeting so that they may be recognized by the Chair;
 - Presentations by citizens will be made at the onset of the meeting;
 - Any person submitting letters or documents should provide a minimum of six (6) copies prior to the meeting or at the meeting. All copies should be given to the Chair of the Planning Team. The Chair will be officially responsible for distributing the submittal(s).
 - Demonstrations, the displaying of banners, signs, buttons, or apparel expressing opinions on political matters or matters being considered by the Planning Team will not be permitted at meetings to maintain the decorum befitting the deliberative, legislative or executive process.
 - A speaker asserting a statement of fact may be asked to document and identify the source of the factual datum asserted.
 - When addressing the Planning Team, members of the public shall direct all remarks to the PT Chair and shall confine remarks to the matters that are specifically before the board.
- Speaking Time Limits
 - Unless deemed otherwise by the Chair, each person addressing the Planning Team shall be limited to five (5) minutes speaking time. The speaking time limit does not include time necessary to respond to questions asked by members.
 - Speakers may not allocate their five (5) minutes to another speaker.

MEETINGS

Meetings will be advertised on the County's webpage a minimum of one week prior to the meeting occurring. Planning meetings will be established on an as-needed basis throughout the planning process, and will be established customarily as a workshop. All meetings will be held at the Coupeville Recreation

Hall unless otherwise identified. The Planning Team also has the option to adjust this schedule due to holidays or other extenuating circumstances. Meetings will be open to the public and advertised as such.

**Grays Harbor County 2018 Multi-Jurisdiction Hazard Mitigation Plan Update
Volume 2: Planning Partner Annexes**

**APPENDIX C.
PROCEDURES FOR LINKING TO
THE HAZARD MITIGATION PLAN UPDATE**

APPENDIX C. PROCEDURES FOR LINKING TO THE HAZARD MITIGATION PLAN UPDATE

Not all eligible local governments within Grays Harbor County are included in the *Grays Harbor County 2018 Multi-Jurisdiction Hazard Mitigation Plan Update*. It is assumed that some or all of these non-participating local governments may choose to “link” to the Plan at some point to gain eligibility for programs under the federal Disaster Mitigation Act. In addition, some of the current partnership may not continue to meet eligibility requirements due to a lack of participation as prescribed by the plan. The following “linkage” procedures define the requirements established by the Planning Committee for dealing with an increase or decrease in the number of planning partners linked to this plan. It should be noted that a currently non-participating jurisdiction within the defined planning area is not obligated to link to this plan. These jurisdictions can choose to do their own “complete” plan that addresses all required elements of 44 CFR Section 201.6.

INCREASING THE PARTNERSHIP THROUGH LINKAGE

Eligible linking jurisdictions are instructed to complete all of the following procedures during this time frame:

- The eligible jurisdiction requests a “Linkage Package” by contacting the Point of Contact (POC) for the plan:

Name:	Charles Wallace
Title:	Deputy Director
Address:	310 West Spruce Street
City, State ZIP:	Montesano, WA 98563
Phone:	(360) 249-3911 x 290
e-mail:	cwallace@co.grays-harbor.wa.us

The POC will provide a linkage packages that includes:

- Copy of Volume 1 and 2 of the plan
 - Planning partner’s expectations package.
 - A sample “letter of intent” to link to the hazard mitigation plan update.
 - A Special Purpose District or City template and instructions.
 - Catalog of Hazard Mitigation Alternatives
 - A “request for technical assistance” form.
 - A copy of Section 201.6 of Chapter 44, the Code of Federal Regulations (44 CFR), which defines the federal requirements for a local hazard mitigation plan.
- The new jurisdiction will be required to review both volumes of the hazard mitigation plan update, which includes the following key components for the planning area:
 - The planning area risk assessment
 - Goals and objectives
 - Plan implementation and maintenance procedures

- Comprehensive review of alternatives
- County-wide initiatives.

Once this review is complete, the jurisdiction will complete its specific annex using the template and instructions provided by the POC. Technical assistance can be provided upon request by completing the request for technical assistance (TA) form provided in the linkage package. This TA may be provided by the POC or any other resource within the Planning Partnership such as a member of the Planning Team Committee or a currently participating City or Special Purposes District partner. The POC will determine who will provide the TA and the possible level of TA based on resources available at the time of the request.

- The new jurisdiction will be required to develop a public involvement strategy that ensures the public's ability to participate in the plan development process. At a minimum, the new jurisdiction must make an attempt to solicit public opinion on hazard mitigation at the onset of this linkage process and a minimum of one public meeting to present their draft jurisdiction specific annex for comment, prior to adoption by the governing body. The Planning Partnership will have resources available to aid in the public involvement strategy such as the Plan website. However, it will be the new jurisdiction's responsibility to implement and document this strategy for incorporation into its annex. It should be noted that the Jurisdictional Annex templates *do not* include a section for the description of the public process. This is because the original partnership was covered under a uniform public involvement strategy that covered the planning area described in Volume 1 of the plan. Since new partners were not addressed by that strategy, they will have to initiate a new strategy, and add a description of that strategy to their annex. For consistency, new partners are encouraged to follow the public involvement format utilized by the initial planning effort as described in Volume 1 of the plan.
- Once their public involvement strategy is completed and they have completed their template, the new jurisdiction will submit the completed package to the POC for a pre-adoption review to ensure conformance with the Regional plan format.
- The POC will review for the following:
 - Documentation of Public Involvement strategy
 - Conformance of template entries with guidelines outlined in instructions
 - Chosen initiatives are consistent with goals, objectives and mitigation catalog of the hazard mitigation plan update
 - A designated point of contact
 - A ranking of risk specific to the jurisdiction.

The POC may utilize members of the Planning Committee or other resources to complete this review. All proposed linked annexes will be submitted to the Planning Team for review and comment prior to submittal to State Emergency Management.

- Plans approved and accepted by the Planning Team will be forwarded to Washington State Emergency Management for review with a cover letter stating the forwarded plan meets local approved plan standards and whether the plan is submitted with local adoption or for criteria met/plan not adopted review.
- Washington State Emergency Management Division (EMD) will review plans for federal compliance. Non-Compliant plans are returned to the Lead agency for correction. Compliant plans are forwarded to FEMA for review with annotation as to the adoption status.

- FEMA reviews the new jurisdiction's plan in association with the approved plan to ensure DMA compliance. FEMA notifies new jurisdiction of results of review with copies to Washington State EMD and approved planning authority.
- New jurisdiction corrects plan shortfalls (if necessary) and resubmits to Washington State EMD through the approved plan lead agency.
- For plans with no shortfalls from the FEMA review that have not been adopted, the new jurisdiction governing authority adopts the plan (if not already accomplished) and forwards adoption resolution to FEMA with copies to lead agency and Washington State EMD.
- FEMA regional director notifies new jurisdiction governing authority of plan approval.

The new jurisdiction plan is then included with the regional plan with the commitment from the new jurisdiction to participate in the ongoing plan implementation and maintenance.

DECREASING THE PARTNERSHIP

The eligibility afforded under this process to the planning partnership can be rescinded in two ways. First, a participating planning partner can ask to be removed from the partnership. This may be done because the partner has decided to develop its own plan or has identified a different planning process for which it can gain eligibility. A partner that wishes to voluntarily leave the partnership shall inform the POC of this desire in writing. This notification can occur any time during the calendar year. A jurisdiction wishing to pursue this avenue is advised to make sure that it is eligible under the new planning effort, to avoid any period of being out of compliance with the Disaster Mitigation Act.

After receiving this notification, the POC shall immediately notify both Washington State EMD and FEMA in writing that the partner in question is no longer covered by the hazard mitigation plan update, and that the eligibility afforded that partner under this plan should be rescinded based on this notification.

The second way a partner can be removed from the partnership is by failure to meet the participation requirements specified in the "Planning Partner Expectations" package provided to each partner at the beginning of the process, or the plan maintenance and implementation procedures specified within Volume 1 of the plan. Each partner agreed to these terms by adopting the plan.

Eligibility status of the planning partnership will be monitored by the POC. The determination of whether a partner is meeting its participation requirements will be based on the following parameters:

- Are progress reports being submitted annually by the specified time frames?
- Are partners notifying the POC of changes in designated points of contact?
- Are the partners supporting the Planning Team by attending designated meetings or responding to needs identified by the body?
- Are the partners continuing to be supportive as specified in the Planning Partners expectations package provided to them at the beginning of the process?

Participation in the plan does not end with plan approval. This partnership was formed on the premise that a group of planning partners would pool resources and work together to strive to reduce risk within the planning area. Failure to support this premise lessens the effectiveness of this effort. The following procedures will be followed to remove a partner due to the lack of participation:

- The POC will advise the Planning Team of this pending action and provide evidence or justification for the action. Justification may include: multiple failures to submit annual

progress reports, failure to attend meetings determined to be mandatory by the Planning Committee, failure to act on the partner's action plan, or inability to reach designated point of contact after a minimum of five attempts.

- The Planning Team will review information provided by POC, and determine action by a vote. The Planning Committee will invoke the voting process established in the ground rules established during the formation of this body.
- Once the Planning Team has approved an action, the POC will notify the planning partner of the pending action in writing via certified mail. This notification will outline the grounds for the action, and ask the partner if it is their desire to remain as a partner. This notification shall also clearly identify the ramifications of removal from the partnership. The partner will be given 30 days to respond to the notification.
- Confirmation by the partner that they no longer wish to participate or failure to respond to the notification shall trigger the procedures for voluntary removal discussed above.
- Should the partner respond that they would like to continue participation in the partnership, they must clearly articulate an action plan to address the deficiencies identified by the POC. This action plan shall be reviewed by the Planning Team to determine whether the actions are appropriate to rescind the action. Those partners that satisfy the Planning Team's review will remain in the partnership, and no further action is required.
- Automatic removal from the partnership will be implemented for partners where these actions have to be initiated more than once in a 5 year planning cycle.