

## 6 CITY OF EDMONDS ANNEX

### 6.1 HAZARD MITIGATION PLAN POINT OF CONTACT

#### Primary Point of Contact

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### 6.2 JURISDICTION PROFILE

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

- **Date of Incorporation—1890**
- **Current Population—40,760**
- **Population Growth**—The rate of population growth has been relatively stable at about 1% per year with major increases occurring primarily as a result of annexations in the 1960s and 1970s. Based on forecasted continued growth at 1% per year, the population in 2025 is projected to be 44,880.
- **Location and Description**— The City of Edmonds is located in the southwest corner of Snohomish County, about 14 miles north of Seattle and 18 miles south of Everett. It has a population of about 40,760<sup>1</sup> people residing on about 8.9 square miles, or 5,717 acres, of land. Edmonds is the third largest city in Snohomish County.

Most properties in the City already contain some development. Of the remaining undeveloped land, about 75% is designated for single-family residential use. Edmonds' commercial activity is concentrated in three areas: the Downtown/Waterfront, the Westgate, and the Highway 99 corridor. The latter includes Swedish Hospital and the medical facilities affiliated with the Hospital. This Hospital region provides critical facilities, and restoring routes to and from the Hospital will be a priority in any disaster.

The City of Edmonds is a key link in the region's transportation routes. The City has three state routes that connect the region to both the Port of Edmonds and the site of the Edmonds-Kingston Ferry Terminal. The former provides mooring for approximately 1,000 boats and watercraft. The latter is located in the Downtown/Waterfront core and provides a steady stream of vehicles and ferry-commuters into the area.

<sup>1</sup> Washington Office of Financial Management, Forecasting Division.

The Burlington-Northern Railroad runs adjacent to the City's shoreline and links Edmonds to Everett to the north and Seattle to the south. The rail line is currently used for freight and AMTRAK passenger rail service; approximately 40 trains pass through the City each day. Conflict between north-south rail traffic and east-west access to the waterfront and its regional facilities (ferry, port, and parks) is an ongoing concern for its potential effect on response and recovery activities in emergency situations.

- **Brief History**— The City of Edmonds grew out of a homestead and logging operation started by George Brackett in 1876. Incorporated in 1890, the original town site is now occupied primarily by the downtown and adjacent residential areas. The Great Northern Railroad reached the town in 1891 and for many years provided access for goods and passenger travel. Although fires destroyed many of the waterfront mills, shingle production continued to be the primary industry in the city into the 1940s. Ferry service to Kingston began in 1923 when a ferry terminal was built near the location of the existing ferry dock. The present ferry terminal was built in the early 1950s after acquisition of the ferry system by the State of Washington.

The city continued to grow during the 1940s and 50s, resulting in a more active role of the municipality in providing water, sewer and streets for residential and commercial expansion. The Port district was formed in 1948 and began waterfront improvements. Completion of Interstate 5 and increased growth in the Puget Sound region led to a gradual change in the character of the city with more emphasis on residential development and less industrial use.

- **Climate**— On average, the warmest month is July; the highest recorded temperature was 96°F in 1991. January is the average coolest month; the lowest recorded temperature was 11°F in 1989. The maximum average precipitation occurs in December.
- **Governing Body Format**—The City of Edmonds is a Mayor–Council form of government; seven elected council members and a full-time mayor govern Edmonds. The Mayor is the chief executive and administrative officer of the city, and shall see that all laws and ordinances are faithfully enforced and that law and order is maintained in the city. The Mayor is in charge of all departments and employees, and has authority to appoint all director-level positions in the city's adopted budget, including the police chief. These appointments are subject to city council confirmation. The City Council is the legislative body that establishes City policy.
- **Development Trends**— Growth in Edmonds is anticipated to be moderate over the next 20 years, and due to the limited supply of vacant land, will take place primarily through redevelopment of built parcels. This redevelopment will occur with a combination of increased densities and mixed-use zoning in Neighborhood Business areas (Westgate and Five Corners neighborhoods) and the development of Activity Centers in the Downtown/Waterfront and Medical/Highway 99 corridor areas. Employment in Edmonds will continue to be driven by the services sector (health care, food service, arts and entertainment, and professional services), which currently comprises 70% of jobs in the City.

### 6.3 JURISDICTION-SPECIFIC NATURAL HAZARD EVENT HISTORY

Table 6-1 lists all past occurrences of natural hazards within the jurisdiction. Repetitive loss records are as follows:

- Number of FEMA Identified Repetitive Flood Loss Properties: 2
- Number of Repetitive Flood Loss Properties that have been mitigated: none

#### 6.4 HAZARD RISK RANKING

Table 6-2 presents the ranking of the hazards of concern.

#### 6.5 CAPABILITY ASSESSMENT

The assessment of Edmonds' legal and regulatory capabilities is presented in Table 6-3. The assessment of Edmonds' administrative and technical capabilities is presented in Table 6-4. The assessment of Edmonds' fiscal capabilities is presented in Table 6-5. Classifications under various community mitigation programs are presented in Table 6-6.

#### 6.6 HAZARD MITIGATION ACTION PLAN AND EVALUATION OF RECOMMENDED INITIATIVES

Table 6-7 lists the initiatives that make up Edmonds' hazard mitigation plan. Table 6-8 identifies the priority for each initiative. Table 6-9 summarizes the mitigation initiatives by hazard of concern and the six mitigation types.

#### 6.7 STATUS OF PREVIOUS PLAN INITIATIVES

Table 6-10 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.

#### 6.8 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

N/A

#### 6.9 INTERNAL PLANNING PROCESS

The internal planning process was begun on March 1, 2016 at Edmonds City Hall. Representatives from City Finance, Police, Public Works, Engineering, Community Services/Economic Development, and Development Services/Planning/Building attended the kick off meeting, which was facilitated by Snohomish County Department of Emergency Management. The plan development process was discussed, along with a general timeline for completion of the annex. The template and planning resources were provided to the City. At this meeting, the local risk rating also took place and is documented in Table 6-2.

To further completion of the draft annex, Initiatives from the previous Hazard Mitigation Plan (see Table 6-10) were distributed to appropriate staff to determine if the initiative should be carried forward to the new Hazard Mitigation Plan. Staff were also tasked with developing new Initiatives to be included in the new Hazard Mitigation Plan. All Initiatives were compiled in Tables 6-7 and 6-8 and the tables were shared via email in advance of an Initiative Prioritization meeting held on May 31, 2016 to evaluate and discuss each Initiative. In attendance were representatives from Public Works/Facilities/Engineering, Development Services/Building, Community Services/Economic Development, and Parks and Recreation.

Recommendations from the prioritization meeting were incorporated, and the draft annex was sent to the following Department Directors for final review: Development Services, Public Works, Police, Community Services and Economic Development, Parks and Recreation, and Finance. Comments were incorporated in advance of the Open House on June 21, 2016.

#### 6.10 EXTERNAL PLANNING PROCESS

An open house was held on June 21, 2016 from 5 to 7 pm in Edmonds to make the draft hazard mitigation plan available for review by the general public. In addition, staff were available to answer questions. To notify the public, a press release was sent to local media, including the Everett Herald, Edmonds Beacon, and myEdmondsnews.com, one week before the event. The press release was also posted on the City's web site. Notice of the open house was also posted on the City's Facebook page one week prior to the event, and was reposted one day prior to the event.

#### 6.11 ADDITIONAL COMMENTS

NA

#### 6.12 MITIGATION INTEGRATION AND VULNERABILITY TRENDS

The City of Edmonds' planning mechanism is centered on the City's Comprehensive Plan, which includes by reference several stand-alone documents (i.e., Parks, Recreation and Open Space Plan; Sewer/Water/Stormwater Utility System Comprehensive Plans; and Shoreline Master Program). The Comprehensive Plan, including the utility system comprehensive plans, inform the six-year Capital Improvement Plan/Capital Facility Program (CIP/CFP) for determining actions and projects to be included in the annual budget. This planning mechanism is supplemented by ongoing programmatic and facility assessments conducted by each department for actions and projects that are needed to improve facilities or correct deficiencies. These actions or projects could also be added to the six-year (CIP/CFP) for discussion of inclusion in the annual budget.

Integration of the Hazard Mitigation Plan (HMP) with the City's planning mechanism occurs primarily through the City's Comprehensive Plan, as well as during CIP/CFP development and department assessments. The Community Sustainability chapter of the Comprehensive Plan calls out the preparation and implementation of a hazard mitigation plan to reduce and minimize the exposure of Edmonds citizens to future disasters or hazards. Initiatives from the HMP are then considered for inclusion in the CIP/CFP, and also as solutions for improvements or corrections noted in assessment reports. At present, two initiatives (ED-16 and ED-20, Table 6-7) from the current HMP have been moved forward to the design phase.

With the combination of more stringent development-related codes, particularly for development in hazard prone areas, and plans to study and plan for potential impacts of climate change, vulnerability to risk has remained the same or decreased slightly compared to development during the previous hazard mitigation plan. Changes to the City's critical areas code include a requirement for a geotechnical report for development projects within 50 feet of a geologically hazardous area; a requirement for the use of a geotechnical report to establish setbacks and buffers in geologically hazardous areas rather than the use of standardized setbacks and buffers; and the retention of at least 30% of native vegetation in development projects within landslide hazard areas. With regard to frequently flooded areas, the City's building code has been updated to require that buildings within Coastal High Hazard Areas and Coastal A Flood Zones have the lowest floor elevation be at least two feet above base flood elevation.

Due to the limited supply of vacant land in Edmonds, most recent development has taken place through redevelopment of built parcels. Because only a small portion of that development has occurred within hazard prone areas, and the development in these areas would have been done under more stringent requirements, vulnerability to risk would be decreased compared to similar development occurring during the previous hazard mitigation plan.

Finally, climate change was added to the current HMP, and an initiative was proposed for reducing the vulnerability to risk (see Table 6-7, ED-23). The project is a partnership between Edmonds and Western Washington University, with the task of assessing the risks of climate change and a related sea level rise and developing strategies to mitigate those risks. Implementation of these strategies would likely lower the City's vulnerability to risk to this hazard.

**TABLE 6-1.  
NATURAL HAZARD EVENTS**

Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Wind storm	4249	Nov 12-21, 2015	Flooding, landslides, mudslides. \$46,120.
Wind storm	4242	August 29, 2015	\$63,074
Rain storm	NA	Oct 11, 2014	No recovery operations, localized flooding and minor property damage.
Rain storm	NA	Aug 29, 2013	No recovery operations, minor property damage.
Severe winter storm	4056	January 14-23, 2012	Snow, flooding, landslides, mudslides. \$49,717.
Rain storm	NA	Nov 23, 2011	Minor property damage, no recovery operations.
Snow storm	NA	Nov 21-25, 2010	Heavy snow fall and icing conditions City-wide. \$15,700.
Rain and wind storm	NA	December 3, 2007	Flooding, landslides, road damage \$1,000,000.
Nisqually Earthquake	NA	Feb 28, 2001	unknown

**TABLE 6-2.  
HAZARD RISK RANKING**

Rank	Hazard Type	Risk Rating Score (Probability x Impact)	Description of Risk (Describe the community impacts)
1	Earthquake	54	Property damage to buildings and infrastructure.
2	Severe Weather	48	Property damage due to extreme winds, rain, and flooding.
3	Climate Change	18	Flooding and property damage due to sea level rise along shorelines and waterfront/downtown.
3	Flood	18	Flooding and property damage along urban creeks, Lake Ballinger, shorelines and waterfront/downtown.
3	Landslide/Mass Movement	18	Property damage/loss in landslide hazard area in North Edmonds and along critical/steep slopes.
4	Tsunami/Seiche	12	Property damage and flooding along shoreline and waterfront/downtown.
5	Volcano	9	This risk rating pertains to ash fallout.
N/A	Avalanche	0	
N/A	Dam Failure	0	
N/A	Wildland Fire	0	

**TABLE 6-3.  
LEGAL AND REGULATORY CAPABILITY**

	Local Authority	State or Federal Prohibitions	Other Jurisdictional Authority	State Mandated	Comments
<b>Codes, Ordinances &amp; Requirements</b>					
Building Code	Y	N	N	Y	ECC Title 19 adopted 6-28-2013 Ord. 3926; 6-11-2010 Ord. 3796
Zoning	Y	N	N	Y	ECC Title 15 through 21 adopted 6-30-95 Ord. 3030
Subdivisions	Y	N	N	Y	ECC Title 20.75 Subdivisions Ordinance adopted 7-12-1983 Ord. 2379; updated regularly.
Stormwater Management	Y	N	N	Y	ECC Title 18.30 adopted April 26, 2010 Ord. 3792; pending substantial update Dec 2016.
Post Disaster Recovery	Y	N	N	N	ECC Title 6.60 adopted 8-18-1981 Ord. 2224; updated 3-17-1998 Ord. 3196.
Real Estate Disclosure	N	N	N	N	No adopted regulations
Growth Management	Y	N	N	Y	ECC Title 15.05 Comp. Plan adopted July 28, 2015 Ord. 4003.
Site Plan Review	Y	N	N	Y	ECC Title 18 adopted 4-6-2010 Ord. 3788; Title 19 adopted 6-18-2013 Ord. 3926; Title 20 adopted 3-19-1996 Ord. 3076 and updated annually.
Special Purpose (flood management, critical areas)	Y	N	N	Y	ECC Title 23 Natural Resources (Critical Areas regulations) adopted 11-23-2004; update adopted May 2016.
<b>Planning Documents</b>					
General or Comprehensive Plan	Y	N	N	Y	Comp. Plan adopted 3-19-1996 Ord. 3076, major update adopted 7-28-2015.
Floodplain or Basin Plan	N	N	N	N	No adopted plan.

**TABLE 6-3.  
LEGAL AND REGULATORY CAPABILITY**

	Local Authority	State or Federal Prohibitions	Other Jurisdictional Authority	State Mandated	Comments
Stormwater Plan	Y	N	N	Y	Storm and Surface Water Comprehensive Plan adopted July 6, 2010.
Capital Improvement Plan	Y	N	N	N	Capital Improvement Plan for 2016-2021 adopted December 8, 2015.
Habitat Conservation Plan	N	N	N	N	No adopted plan.
Economic Development Plan	Y	N	N	Y	Economic Development Element (Comp Plan), updated/adopted 7-28-2015.
Emergency Response Plan	Y	N	N	N	ECC Title 6.60 adopted 8-18-1981 Ord. 2224; updated 3-17-1998 Ord. 3196.
Shoreline Management Plan	Y	N	N	Y	Shoreline Management Program updated, adopted 7-18-2000, Ord. 3318.
Post Disaster Recovery Plan	Y	N	N	N	ECC Title 6.60 adopted 8-18-1981 Ord. 2224; updated 3-17-1998 Ord. 3196.

**TABLE 6-4.  
ADMINISTRATIVE AND TECHNICAL CAPABILITY**

Staff/Personnel Resources	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Y	Development Services/Planning and Building Divisions: Director, Building Official, Planners, Permit Coordinators  Public Works/Engineering Division: Engineering Program Manager, Engineering Technicians
Engineers or professionals trained in building or infrastructure construction practices	Y	Development Services/Building Division: Building Official, Plans Examiner, Building Inspectors  Public Works/Engineering Division: Director, City Engineer, Utility Engineer, Transportation Engineer, Capital Project Managers, Stormwater Manager, Engineering Program Manager, Engineering Technicians.
Planners or engineers with an understanding of natural hazards	Y	Public Works/Engineering Division: City Engineer, Utility Engineer, Engineering Program Manager, Engineering Technicians.  Development Services/Planning and Building Divisions: Building Official, Planners, Plans Examiners, Building Inspectors.
Staff with training in benefit/cost analysis	Y	Finance: Director
Floodplain manager	N	
Surveyors	N	
Personnel skilled or trained in GIS applications	Y	Information Services: GIS Analyst  Development Services/Planning Division: Planners  Public Works/Operations: GIS Technician
Scientist familiar with natural hazards in local area	N	
Emergency manager	N	
Grant writers	Y	Public Works/Engineering Division: Traffic Engineer

<b>TABLE 6-5. FISCAL CAPABILITY</b>	
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 - Real Estate Excise Tax (REET), Local Infrastructure Financing Tool (LIFT), Conservation Futures	Yes - REET

<b>TABLE 6-6. COMMUNITY CLASSIFICATIONS</b>			
	Participating?	Classification	Date Classified
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	Yes	3	2-4-2015
Public Protection	Yes	3	2-1-2015
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A
Tsunami Ready	No	N/A	N/A

<b>TABLE 6-7. HAZARD MITIGATION ACTION PLAN MATRIX</b>							
New or existing assets?	Hazards Mitigated	Objectives Met	Lead Department	Estimated Cost	Sources of Funding	Timeline	In Previous Plan?
<b>ED-01 - Replace water mains to maintain critical functions, minimize earthquake/landslide damage, and ensure adequate water pressure.</b>							
Existing	Earthquake; Landslide/Mass Movement	9	Public Works/Engineering	High	Water Utility Fund	Short term	Yes
<b>ED-02 – Continue partnership with City of Everett and Alderwood Water District to educate consumers about drought impacts and ways to minimize water waste.</b>							
Existing	Climate Change	5	Public Works/Operations	Low	Water Utility Fund	Short term	Yes
<b>ED-03: Integrate earthquake hazard mapping data and improve analysis of potential hazards (e.g. HAZUS).</b>							
Existing	Earthquake	1, 2, 3	Development Services, Public Works/Facilities	Medium	General Fund, Grants	Short Term	Yes
<b>ED-04 – Conduct non-structural seismic retrofit activities.</b>							
Existing	Earthquake	3, 9	Public Works/Facilities	Medium	General Fund	Short term	Yes

**TABLE 6-7.  
HAZARD MITIGATION ACTION PLAN MATRIX**

New or existing assets?	Hazards Mitigated	Objectives Met	Lead Department	Estimated Cost	Sources of Funding	Timeline	In Previous Plan?
<b>ED-05 – Encourage reduction of structural and non-structural earthquake hazards in homes, schools, businesses and government offices by providing information about retrofitting buildings and securing contents such as filing cabinets and other furnishings.</b>							
Existing	Earthquake	3, 9	Development Services	\$20,000	General fund, grants	Ongoing	Yes
<b>ED-06 – Identify public buildings and infrastructure that require seismic retrofitting.</b>							
Existing	Earthquake	3, 9	Public Works/Facilities, Development Services/Building	Low	General Fund	Short term	Yes
<b>ED-07: Use updated data &amp; mapping for floodplains to update flood-loss estimates for City.</b>							
Existing	Flood; Climate Change; Severe Weather	1, 2, 8	Development Services, Public Works/Facilities	Medium	Grants	Short Term	Yes
<b>ED-08 – Develop acquisition and management strategies to preserve open space for flood mitigation, fish habitat, and water quality in the floodplain.</b>							
Existing and New	Climate Change; Flood; Tsunami/Seiche	4, 5, 8, 9	Public Works, Parks and Recreation	High	FEMA HMGP, RCO/Salmon Recovery, State and Local Funding	Long term	Yes
<b>ED-09 – Continue to enforce regulations regarding development and maintenance within landslide hazard areas. Develop public information to emphasize the risk when building in landslide hazard areas, as well as information on maintaining and enhancing slope stability.</b>							
Existing	Landslide/Mass Movement; Earthquake	1, 2, 3, 9	Development Services	Low	General fund, Grants	Ongoing	Yes
<b>ED-10: Encourage construction &amp; subdivision design to reduce potential steep slope hazards.</b>							
Existing	Landslide/Mass Movement; Earthquake	1, 2, 8	Development Services, Public Works/Engineering	Medium	General Fund	Ongoing	Yes
<b>ED-11 – Enhance public safety strategies for severe weather events.</b>							
Existing	Severe Weather; Climate Change; Flood	3, 5	Public Works/Operations	Low	FEMA HMGP, Stormwater Utility	Ongoing	Yes

**TABLE 6-7.  
HAZARD MITIGATION ACTION PLAN MATRIX**

New or existing assets?	Hazards Mitigated	Objectives Met	Lead Department	Estimated Cost	Sources of Funding	Timeline	In Previous Plan?
<b>ED-12 – Develop/implement programs to coordinate maintenance and mitigation activities to reduce risk to public infrastructure from severe weather events.</b>							
Existing	Severe Weather	5, 9	Public Works/Operations, Facilities	Low	FEMA HMGP, Utility Funds	Ongoing	Yes
<b>ED-13 – Develop and implement programs to reduce risk from trees during severe weather events.</b>							
Existing	Severe Weather; Earthquake	3, 5	Public Works/Operations	Medium	Street Fund, FEMA HMGP	Ongoing	Yes
<b>ED-14 – Investigate opportunities to work with electrical utilities to use underground construction methods where possible to reduce power outages from severe weather.</b>							
Existing	Severe Weather; Earthquake	9	Development Services, Public Works/Engineering	Low	Local Funding	Short term	No
<b>ED-15 – Continue policy for maintaining back stock of air filters for key vehicles (Police, PW-Operations, etc.) and equipment (generators) as preparation for volcanic ash fall.</b>							
Existing	Volcano	9	Public Works/Facilities, Fleet	Low	Local funding	Ongoing	Yes
<b>ED-16 – Conduct a study to investigate the condition of the Five Corners Water Reservoirs in terms of meeting current seismic standards and take action as appropriate.</b>							
Existing	Earthquake	9	Public Works/Engineering	High	FEMA HMGP, Water Utility Fund	Short term	No
<b>ED-17 – Continue North Edmonds Earth Subsidence and Landslide Hazard Area Program including groundwater well monitoring and slope stability studies.</b>							
Existing	Landslide/Mass Movement; Earthquake	1, 2, 9	Public Works/Operations, Engineering	Medium	Stormwater Utility and General Fund	Short term	No
<b>ED-18 – Conduct study to identify hazard avoidance zones, evaluate condition of street infrastructure in those zones, and take action as appropriate.</b>							

**TABLE 6-7.  
HAZARD MITIGATION ACTION PLAN MATRIX**

New or existing assets?	Hazards Mitigated	Objectives Met	Lead Department	Estimated Cost	Sources of Funding	Timeline	In Previous Plan?
Existing	Earthquake; Landslide/Mass Movement; Flood; Tsunami/Seiche; Severe Weather	3, 5, 9	Public Works/Operations, Engineering	High	FEMA HMGP, State and Local Funding	Long term	No
<b>ED-19 – Willow Creek daylighting and Edmonds Marsh Restoration design/construction and flood plain property acquisition.</b>							
Existing	Climate Change; Flood; Tsunami/Seiche; Severe Weather	1, 2, 3, 5, 8, 9	Public Works/Engineering, Parks and Recreation	High	RCO/salmon recovery, FEMA HMGP, Corps CAP, local funds	Long term	No
<b>ED-20 – Dayton/SR104 Stormwater Lift Station construction.</b>							
New	Climate Change; Flood; Severe Weather	5, 9	Public Works/Operations, Engineering	High	FEMA HMGP, State and Local Funding	Short term	No
<b>ED-21 - Public communication, including public safety alerts and related response information, using Facebook, Twitter and the City of Edmonds website.</b>							
New and existing	All	3, 7	Community Services	Low	General Fund	On-going	No
<b>ED-22 - Assessment of economic impact of events to assist in recovery funding.</b>							
New and existing	All	3	Economic Development	Low	General Fund	As needed	No
<b>ED-23: Sea level rise mitigation planning, including assessment of risk and strategies to address.</b>							
Existing	Climate Change; Flood; Severe Weather	1, 2, 3, 5, 8, 9	Development Services, Public Works, Parks and Recreation	Low	General Fund	Short Term	No

**TABLE 6-8.  
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 <sup>a</sup>
ED-01	1	High	High	Yes	Yes	Yes	Medium
ED-02	1	Medium	Low	Yes	No	Yes	Medium
ED-03	3	Medium	Medium	Yes	Yes	Yes	Medium
ED-04	2	Medium	Medium	Yes	No	Yes	Medium
ED-05	2	Medium	Low	Yes	Yes	No	Medium
ED-06	2	Medium	Low	Yes	No	Yes	Medium
ED-07	3	Medium	Medium	Yes	Yes	No	Medium
ED-08	4	Medium	High	No	Yes	No	Medium
ED-09	4	Medium	Low	Yes	Yes	Yes	Medium
ED-10	3	Medium	Medium	Yes	Yes	No	High
ED-11	2	High	Low	Yes	Yes	Yes	High
ED-12	2	High	Low	Yes	Yes	Yes	High
ED-13	2	High	Medium	Yes	Yes	Yes	High
ED-14	1	Medium	Low	Yes	No	No	Medium
ED-15	1	Medium	Low	Yes	No	Yes	Medium
ED-16	1	High	High	Yes	Yes	Yes	High
ED-17	3	Medium	Medium	Yes	No	Yes	High
ED-18	3	Medium	High	No	Yes	No	Medium
ED-19	6	Medium	High	No	Yes	No	Medium
ED-20	2	High	High	Yes	Yes	Yes	High
ED-21	2	High	Low	Yes	No	Yes	Medium
ED-22	1	High	Low	Yes	No	Yes	Medium
ED-23	6	Medium	Low	Yes	Yes	No	High

a. Explanation of priorities

- 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 timeline for completion is long term (5 to 10 years).

**TABLE 6-9.  
ANALYSIS OF MITIGATION INITIATIVES**

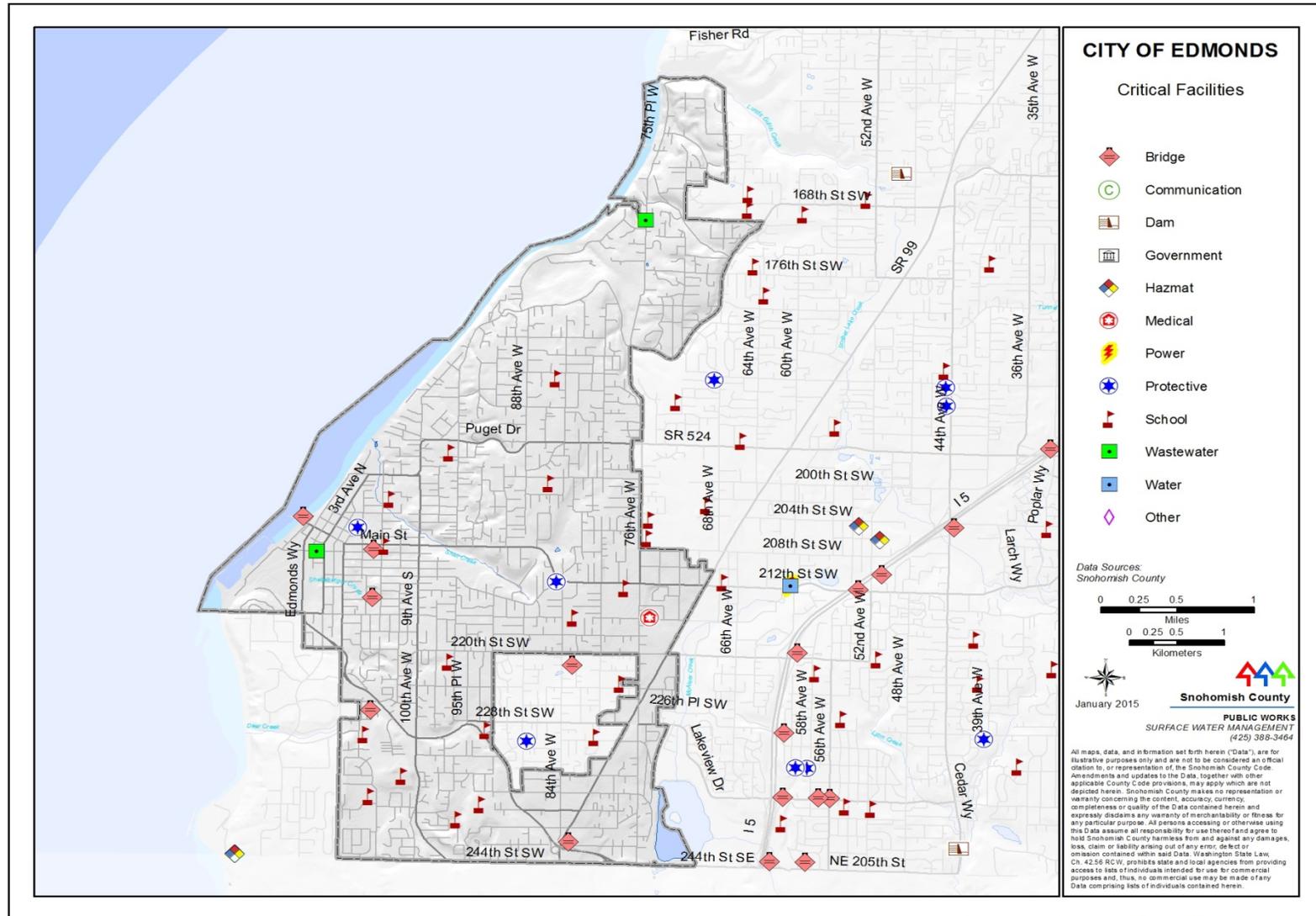
Hazard Type	Initiative Addressing Hazard, by Mitigation Type ( <i>see Notes</i> )					
	1. Prevention	2. Property Protection	3. Public Education and Awareness	4. Natural Resource Protection	5. Emergency Services	6. Structural Projects
Earthquake	3, 9, 10, 14, 17	1, 4, 5, 6, 9, 10, 14, 16	3, 5, 9, 10, 13, 14, 17, 18, 21	3, 9, 10, 13	1, 3, 13, 14, 16, 18, 22	4, 5, 6, 16
Severe Weather	7, 11, 12, 14, 19, 23	12, 14, 19, 20	7, 11, 12, 13, 14, 18, 21, 23	11, 12, 13, 19, 20, 23	11, 12, 13, 14, 18, 20, 22, 23	19, 20
Climate Change	7, 8, 11, 12, 19, 23	8, 12, 19, 20	2, 7, 11, 12, 21, 23	8, 11, 12, 19, 20, 23	11, 12, 20, 22, 23	8, 19, 20
Flood	7, 8, 11, 12, 19, 23	8, 12, 19, 20	7, 11, 12, 21, 23	8, 11, 12, 19, 20, 23	11, 12, 20, 22, 23	8, 19, 20
Landslide	9, 10, 17	1, 9, 10	9, 10, 17, 18, 21	9, 10	1, 18, 22	
Tsunami	8, 19	8, 19	18, 21	8, 19	18, 22	8, 19
Volcano		15	21		15, 22	

Notes:

1. Prevention: Government, administrative or regulatory actions that influence the way land and buildings are developed to reduce hazard losses. Includes planning and zoning, floodplain laws, capital improvement programs, open space preservation, and stormwater management regulations.
2. Property Protection: Modification of buildings or structures to protect them from a hazard or removal of structures from a hazard area. Includes acquisition, elevation, relocation, structural retrofit, storm shutters, and shatter-resistant glass.
3. Public Education and Awareness: Actions to inform citizens and elected officials about hazards and ways to mitigate them. Includes outreach projects, real estate disclosure, hazard information centers, and school-age and adult education.
4. Natural Resource Protection: Actions that minimize hazard loss and 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.
5. Emergency Services: 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.
6. Structural Projects: Actions that involve the construction of structures to reduce the impact of a hazard. Includes dams, setback levees, floodwalls, retaining walls, and safe rooms.

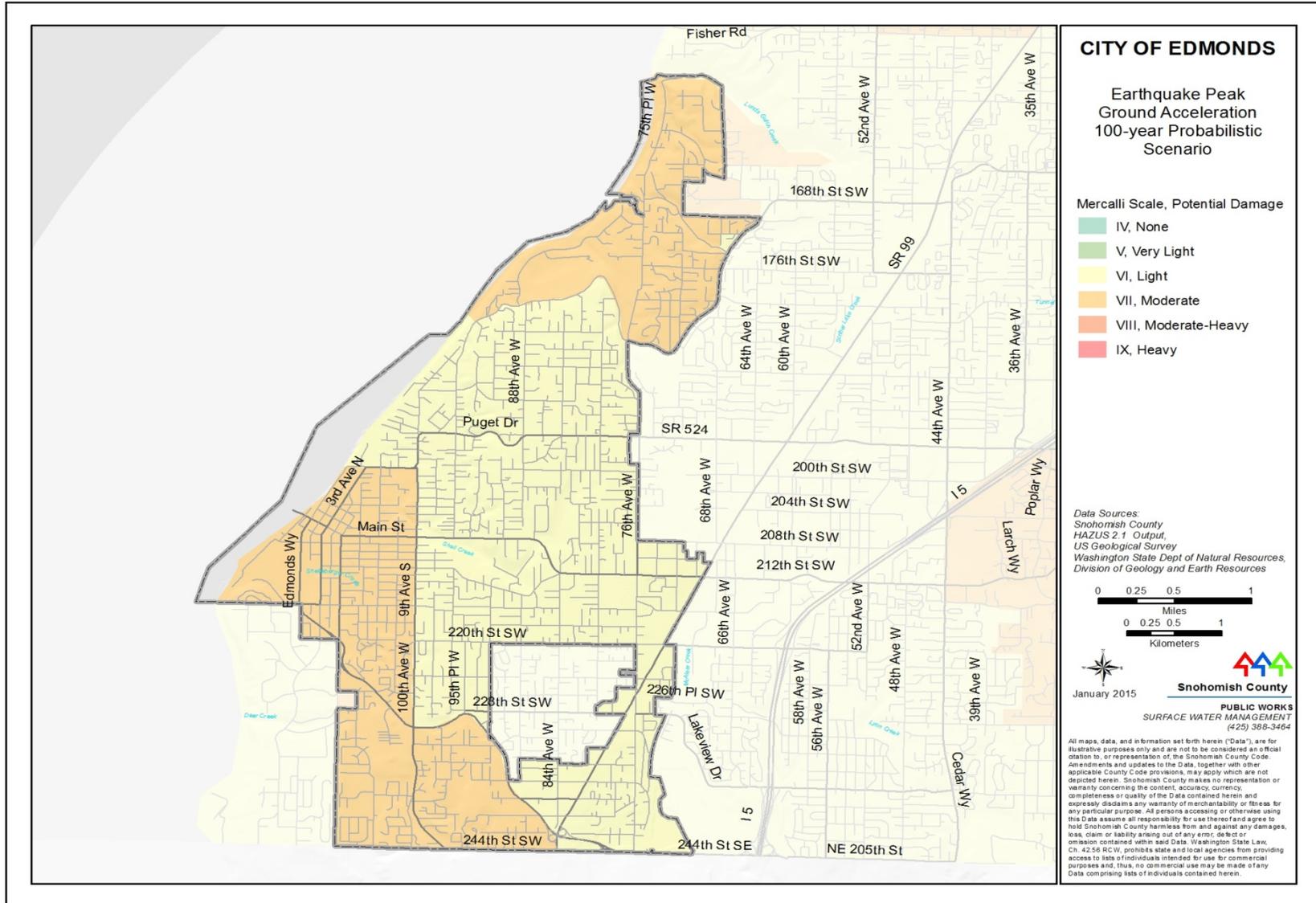
**TABLE 6-10.  
PREVIOUS ACTION PLAN IMPLEMENTATION STATUS**

Action #	Action Status			Comments
	Completed	Carry Over to Plan Update	Removed; No Longer Feasible	
<u>ED-01-MH-ST</u>		X		Carried over as ED-01.
<u>ED-02-D-ST</u>		X		Carried over as ED-02.
<u>ED-03-E-ST</u>		X		Carried over as ED-03.
<u>ED-04-E-ST</u>		X		Carried over as ED-04.
<u>ED-05-E-ST</u>		X		Carried over as ED-05.
<u>ED-06-E-ST</u>		X		Carried over as ED-06.
<u>ED-07-E-ST</u>			X	
<u>ED-08-F-LT</u>		X		Carried over as ED-07.
<u>ED-09-F-LT</u>		X		Carried over as ED-08.
<u>ED-10-L-ST</u>		X		Carried over as ED-10, changed to include continued management through regulation.
<u>ED-11-L-ST</u>	X			Included in critical area update in 2016.
<u>ED-12-L-ST</u>	X			Included in critical area update in 2016.
<u>ED-13-S-ST</u>		X		Carried over as ED-11.
<u>ED-14-S-ST</u>		X		Carried over as ED-12.
<u>ED-15-S-ST</u>			X	Initiative coordinated by Snohomish Fire District, no longer a City department.
<u>ED-16-S-ST</u>		X		Carried over as ED-13.
<u>ED-17-S-LT</u>		X		Carried over as ED-14, changed to more collaborative effort with utilities.
<u>ED-18-V-LT</u>			X	Not practical, the City will make use of County or region-wide models developed by others.
<u>ED-19-V-LT</u>		X		Carried over as ED-15
<u>ED-20-W-LT</u>			X	Initiative coordinated by Snohomish Fire District, no longer a City department.
<u>ED-21-W-LT</u>			X	Initiative coordinated by Snohomish Fire District, no longer a City department.



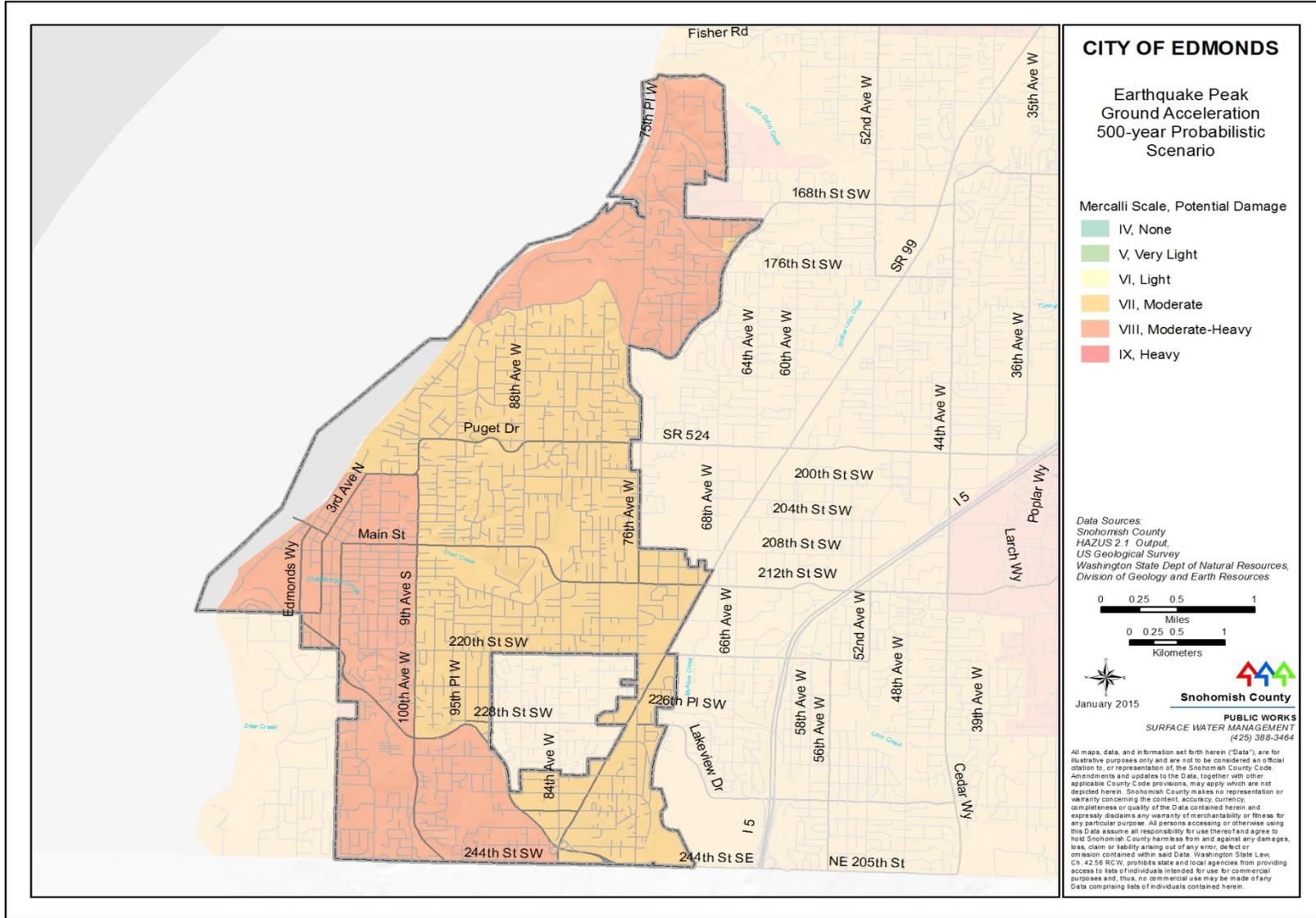
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Map 6-1. City of Edmonds Critical Facilities



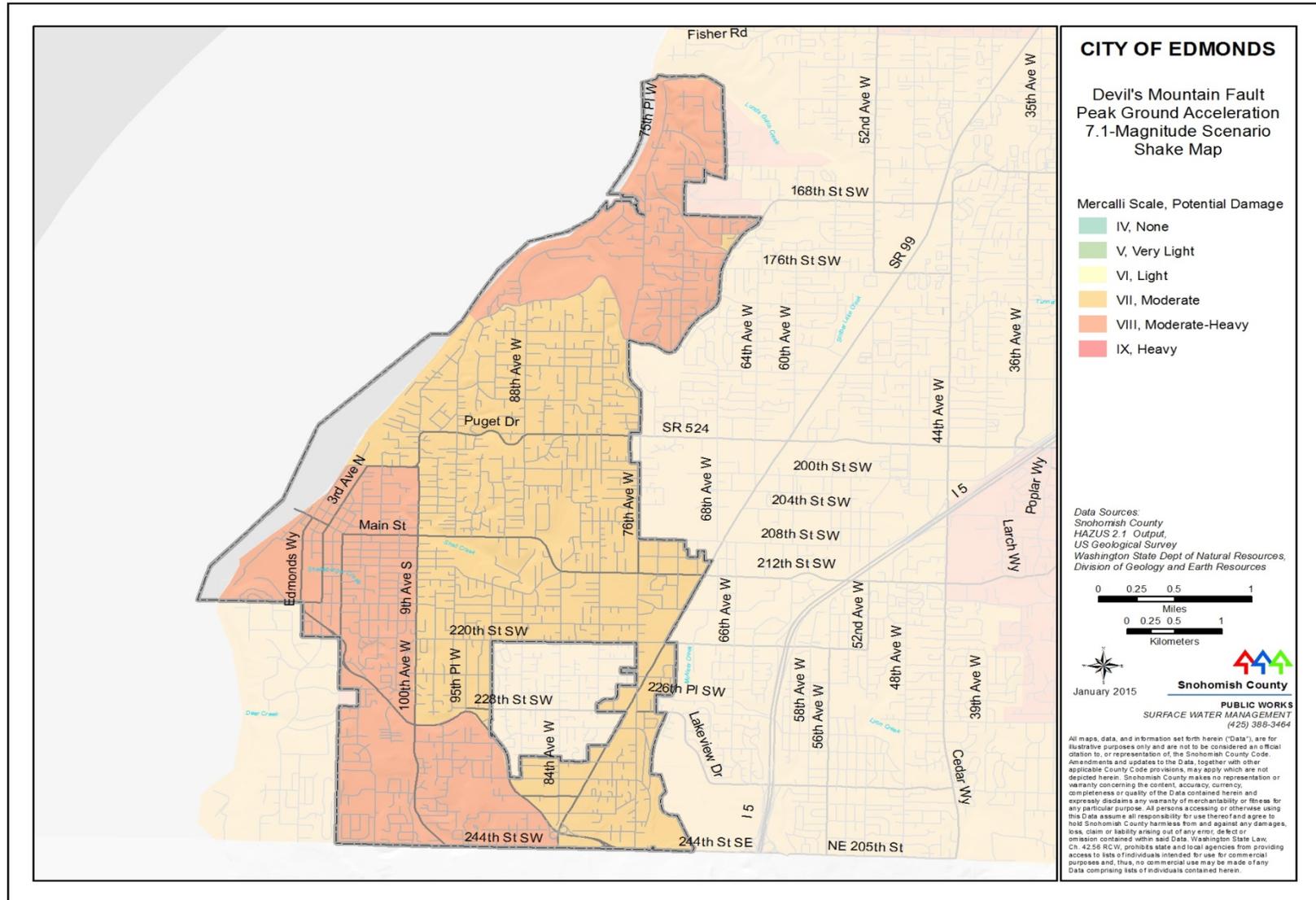
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Map 6-2. City of Edmonds 100-year Probabilistic Earthquake Scenario



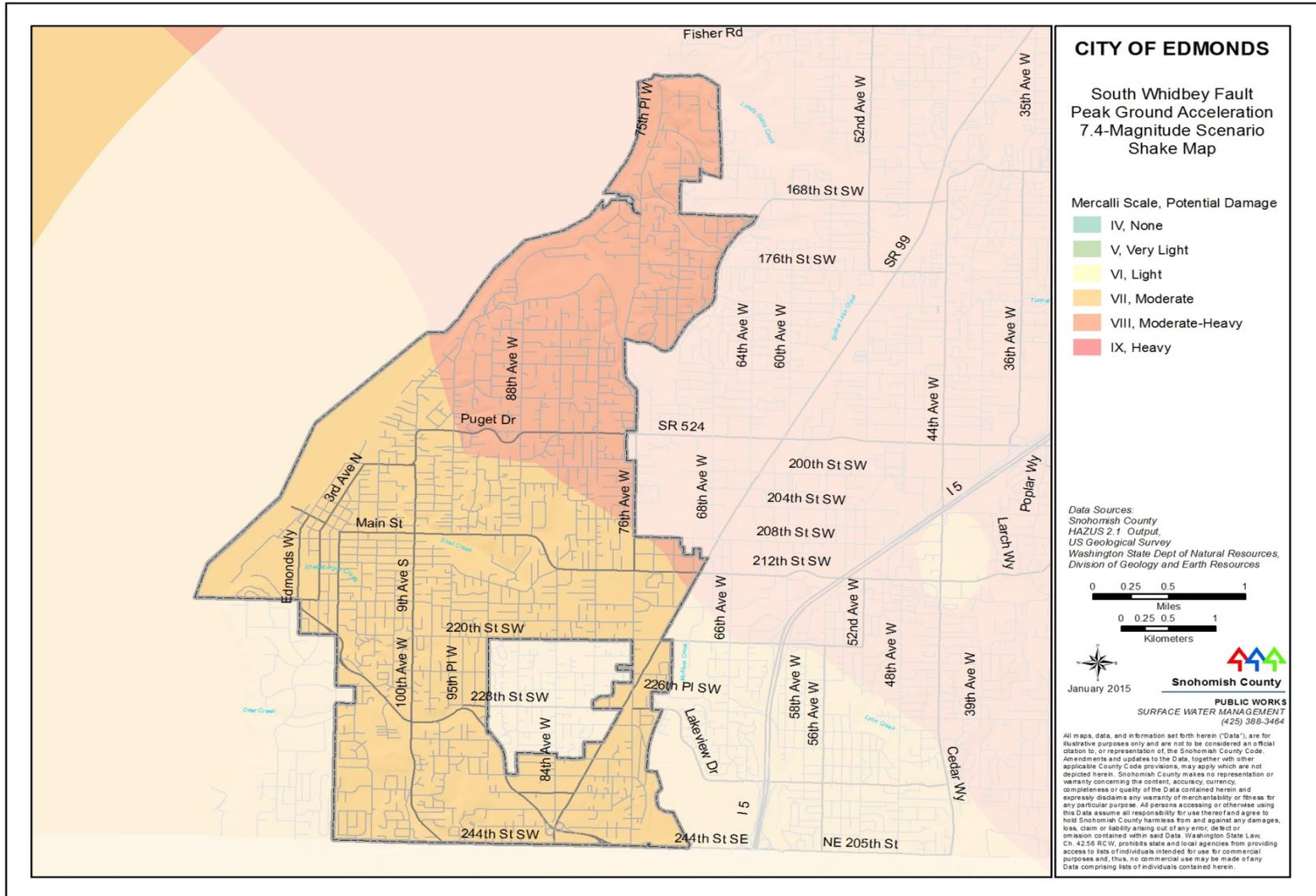
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Map 6-3. City of Edmonds 500-year Probabilistic Earthquake Scenario



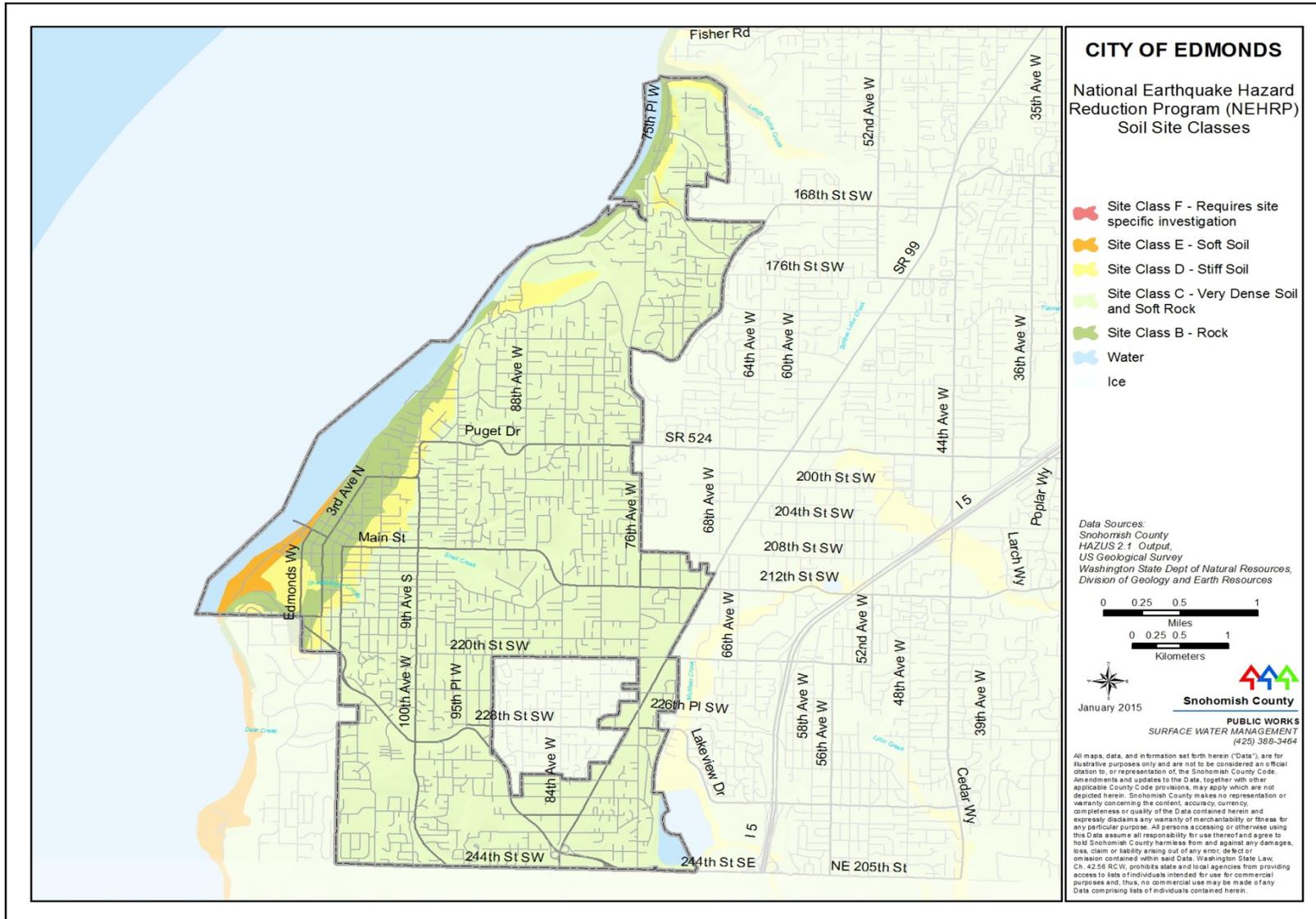
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Map 6-4. City of Edmonds Devil's Mountain Fault 7.1 Magnitude Earthquake Scenario



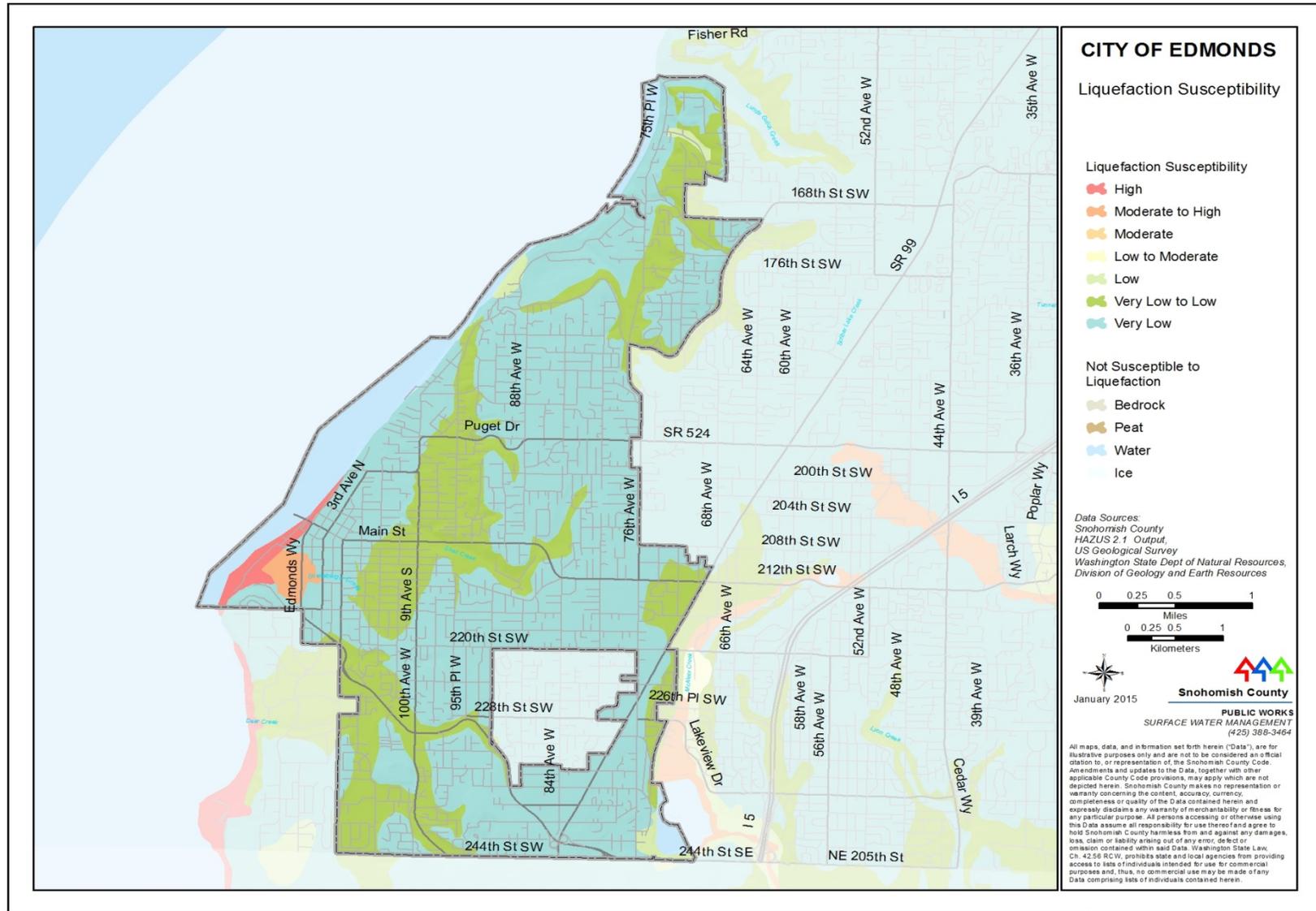
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Map 6-5. City of Edmonds South Whidbey Fault 7.4 Magnitude Earthquake Scenario



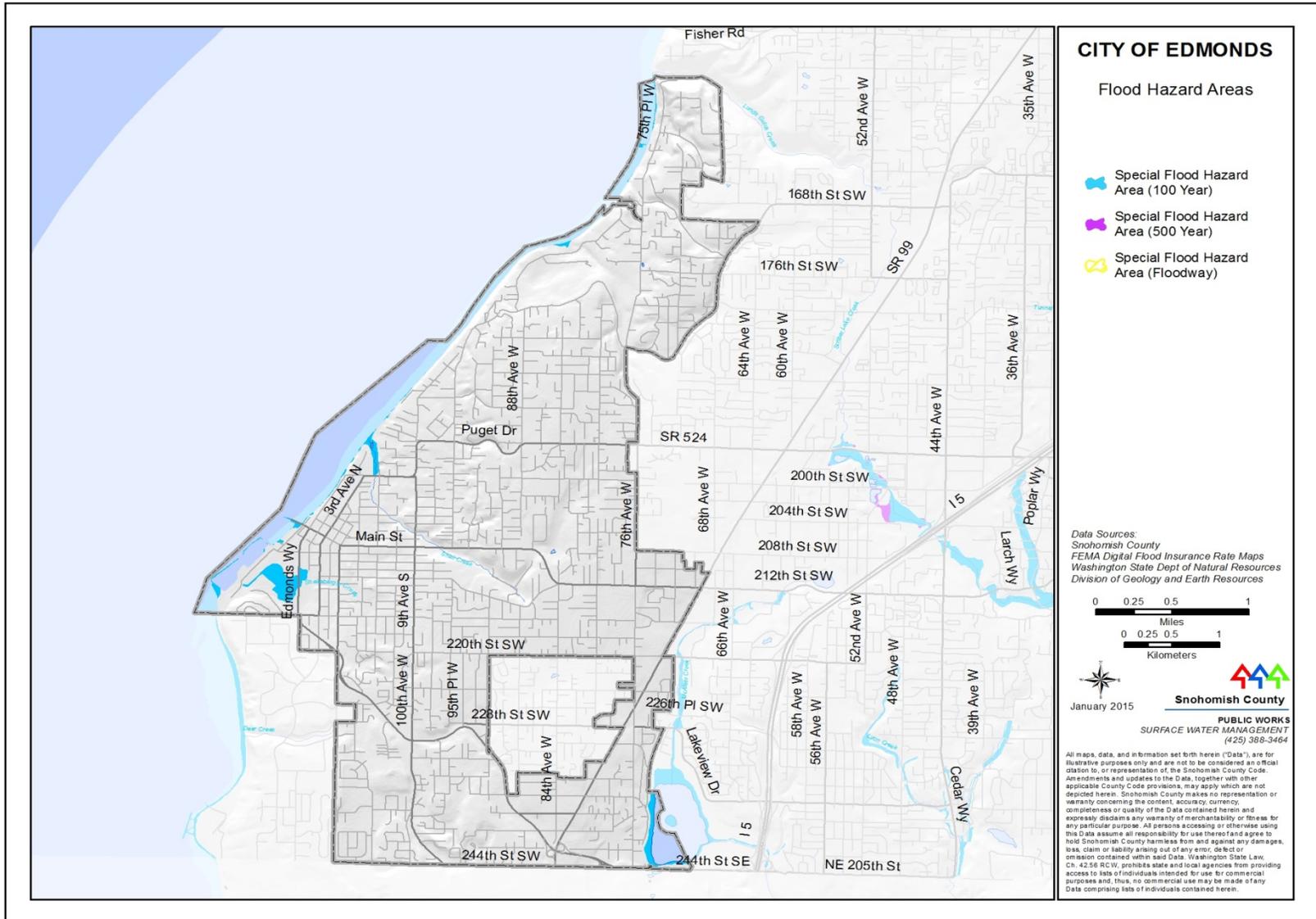
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Map 6-6. City of Edmonds National Earthquake Hazard Reduction Program Soil Classes



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Map 6-7. City of Edmonds Liquefaction Susceptibility



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Map 6-9. City of Edmonds Landslide Hazard Areas

