



**CITY OF MILTON
ADDENDUM A-9
REGION 5 ALL HAZARD MITIGATION PLAN
2015-2020 EDITION**

Prepared for:

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In Cooperation with:

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ADDENDUM A-9

**REGION 5 ALL HAZARD MITIGATION PLAN
2015-2020 EDITIOIN
CITY OF MILTON**

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Section 1

Plan Process Requirements

Planning Process---Requirement §201.6(b):

An open public involvement process is essential to the development of an effective plan.

Documentation of the Planning Process---Requirement §201.6(b):

In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process **shall** include:

- (1) An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval;
- (2) An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process; and
- (3) Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.

Documentation of the Planning Process---Requirement §201.6(c)(1):

[The plan **shall** document] the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.

- Does the plan provide a narrative description of the process followed to prepare the new or updated plan?
- Does the new or updated plan indicate who was involved in the current planning process? (Who led the development at the staff level and were there any external contributors such as contractors? Who participated on the plan committee, provided information, reviewed drafts, etc.?)
- Does the new or updated plan indicate how the public was involved? (Was the public provided an opportunity to comment on the plan during the drafting stage and prior to the plan approval?)
- Does the new or updated plan discuss the opportunity for neighboring communities, agencies, businesses, academia, nonprofits, and other interested parties to be involved in the planning process?
- Does the planning process describe the review and incorporation, if appropriate, of existing plans, studies, reports, and technical information?
- Does the updated plan document how the planning team reviewed and analyzed each section of the plan and whether each section was revised as part of the update process?

SECTION 1

**REGION 5 ALL HAZARD MITIGATION PLAN
2015-2020 EDITION
CITY OF MILTON
PROCESS SECTION**

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Changes To Jurisdiction Plan in this Document

This Process Section for the City of Milton Hazard Mitigation Plan includes the following changes that are documented as a result of a complete review and update of the existing plan. The purpose of the following change matrix is to advise the reader of these changes updating this plan from the original document approved in November 2008.

The purpose for the changes is three-fold: 1) the Federal Law (Code of Federal Regulations (CFR), Title 44, Part 201.4) pertaining to Mitigation Planning has changed since the original Plan was undertaken; 2) the Local Mitigation Planning Requirements of the Disaster Mitigation Act of 2000 201.6 (d) (3) Plan Review states Plans **must** be reviewed, revised if appropriate, and resubmitted for approval within five years in order to continue to be eligible for HMGP project grant funding. This document when completed and approved will become the City of Milton Hazard Mitigation Plan.

Change Matrix

This Matrix of Changes documents the pertinent changes made from the November 2008 City of Milton Plan for the Region 5 All Hazard Mitigation Plan; 2015-2020 Edition. Most of the changes are a matter of additional detail, more information provided, some reformatting to the current Pierce County DEM format and in some cases a response to new requirements. This 2015 version represents a complete review and update by Pierce County Department of Emergency Management using a detailed process for development and following an established format. During this procedure, all web links have been verified and updated.

Change Matrix – City of Milton Region 5 All Hazard Mitigation Plan 2015 Edition

| Section 1 – Plan Development, Process Section | |
|---|---|
| Section or Part of Plan | New in 2015 Plan |
| Section 1 – Process Section | Section 1 – Process Section |
| | The 2015 Process Section contains this Change Matrix Table. |
| | The 2015 Process Section contains a revised Risk Section to include nine (9) Technological Hazards. |
| | The 2015 Process Section contains a description of the new process to define goals and objectives for this jurisdiction in the Mitigation Strategy. |

| Section 1 – Plan Development, Process Section | |
|---|--|
| | The 2015 Process Section contains a Mitigation Measure Matrix that reviews all the |

| | |
|--|---|
| | prior Mitigation Measures and shows those complete, those still viable and those no longer retained for further action. |
|--|---|

| Section 2 – Participating Jurisdiction Profiles | | |
|--|---|--|
| Section or Part of Plan | Previous | 2015 Plan |
| Section 2 – Profile | Information was current as of 2000 Census Data. | The 2015 version of the Profile has been updated using 2010 Census Data and most current GIS information from Pierce County. |

| Section 3 – Capability Identification | | |
|--|---|--|
| Section or Part of Plan | Previous | 2015 Plan |
| Section 3 – Capability | The Capability Tables shown in the previous plan are in a similar format. | The 2015 Capability Section has been improved and updated to show current information from the jurisdiction. |

| Section 4 – Vulnerability, Risk Analysis | |
|--|---|
| Section or Part of Plan | 2015 Plan |
| The previous version of the plan contained a chart for previous history of disaster declarations broken down into Geological and Meteorological Hazards. | The 2015 Risk Section includes this same chart but it has been updated to show all additional declarations and expanded to include Technological Hazards as well. |
| The previous version of the plan contained four hazard maps. | The 2015 Risk Section includes updated maps and may contain additional hazard maps according to the specific jurisdiction’s hazards. |
| The previous version included specific analysis showing vulnerability of population, land and infrastructure according to Census 2000. | The 2015 Risk Section includes completely updated tables showing vulnerability of population, land and infrastructure using Census 2010 data. |

| Section 5 – Mitigation Strategy | |
|---|--|
| Section or Part of Plan | 2015 Plan |
| The previous document used the standard goals as outlined for the entire project. | The 2015 Mitigation Section was drafted using specific goals and objectives written by the jurisdictions to their specific hazards and |

| | |
|--|---|
| | concerns. |
| The previous document contained a Mitigation Measure Matrix chart followed by written descriptions of each individual measure. | The new document uses the same format as the original plan but with emphasis on new goals and objectives. New measures have been added to both the Matrix and the individual measure descriptions. Measures completed in the past five years have been deleted with explanation of same in the Process Section. |

| Section 6 – Infrastructure | |
|---|---|
| Section or Part of Plan | 2015 Plan |
| The previous plan used a full table with detail on each piece of infrastructure as well as summary information on hazards and dependencies. | The 2015 plan uses the same table but with additional technological hazards now included. This table has been completely updated as have the accompanying tables. |

| Section 7 – Plan Maintenance | |
|--|---|
| Section or Part of Plan | 2015 Plan |
| The previous Plan Maintenance for the jurisdiction was very similar in format to the newer version for 2015. | The 2015 version of the Plan Maintenance borrows from the format and content of the original; however the entire document has been reviewed and updated to current information. |

| Section 8 – Other Changes | |
|---|--|
| Section or Part of Plan | 2015 Plan |
| The previous document contained three Appendices. | The 2015 Plan contains three Appendices including place for the final resolution and approval letter from FEMA and also the team members for the jurisdiction and a chart for any changes. The Acronym list appears in the Base Plan for the entire project. |

Plan Process

The Region 5 Hazard Mitigation Plan Process Section is a discussion of the planning process used to update the Region 5 Hazard Mitigation Plan (Pierce County is Region 5 for Homeland Security (HLS) in Washington State, including how the process was prepared, who aided in the process, and the public involvement.

The Plan update is developed around all major components identified in 44 CFR 201.6, including:

- **Public Involvement Process;**
- **Jurisdiction Profile;**
- **Capability Identification;**
- **Risk Assessment;**
- **Mitigation Strategy;**
- **Infrastructure Section;** and,
- **Plan Maintenance Procedure.**

Below is a summary of those elements and the processes involved in their development.

Public Involvement Process

Public participation is a key component to strategic planning processes. Citizen participation offers citizens the chance to voice their ideas, interests, and opinions.

“Involving stakeholders who are not part of the core team in all stages of the process will introduce the planning team to different points of view about the needs of the community. It will also provide opportunities to educate the public about hazard mitigation, the planning process, and findings, and could be used to generate support for the mitigation plan.”ⁱ

In order to accomplish this goal and to ensure that the updated Region 5 All Hazard Mitigation Plan be comprehensive, the seven planning groups in conjunction with Pierce County Department of Emergency Management developed a public participation process of three components:

1. A Planning Team comprised of knowledgeable individual representatives of HLS Region 5 area and its hazards;
2. Hazard Meetings to target the specialized knowledge of individuals working with populations or areas at risk from all hazards; and
3. Public meetings to identify common concerns and ideas regarding hazard mitigation and to discuss specific goals, objectives and measures of the mitigation plan.

This section discusses each of these components in further detail below with public participation outlined in each. Integrating public participation into the development of the Region 5 All

Hazard Mitigation Plan update has helped to ensure an accurate depiction of the Region’s risks, vulnerabilities, and mitigation priorities.

Planning Team

The Planning Team was organized early in 2012. The individual Region 5 Hazards Mitigation Planning Team members have an understanding of the portion of Pierce County containing their specific jurisdiction, including how residents, businesses, infrastructure, and the environment may be affected by all hazard events. The members are experienced in past and present mitigation activities, and represent those entities through which many of the mitigation measures would be implemented. The Planning Team guided the update of the Plan, assisted in reviewing and updating goals and measures, identified stakeholders, and shared local expertise to create a more comprehensive plan. The Planning Team was comprised of:

Table 1-1 Planning Team – City and Town Group

| NAME | TITLE | JURISDICTION |
|--------------------|--------------------------------------|--|
| Brian Hartsell | Executive Assistant | City of Bonney Lake |
| Don Morrison | | City of Bonney Lake |
| Alan Predmore | Fire Chief/Emergency Manager | City of Buckley |
| Jim Arsanto | Chief of Police | City of Buckley |
| Bob Sheehan | Fire Chief | City of DuPont |
| Ed Knutson | Chief of Police | City of Edgewood |
| Kevin Stender | Community Development Senior Planner | City of Edgewood |
| Mark Mears | Assistant Police Chief | City of Fife |
| John Cheesman | Chief of Police | City of Fircrest |
| Mike Davis | Chief of Police | City of Gig Harbor |
| Paul Rice | Building and Fire Safety Director | City of Gig Harbor |
| Christine Badger | Emergency Management Coordinator | City of Lakewood |
| Dana Herron | Building Official | City of Milton |
| Jim Jaques | Assistant Chief | City of Milton/East Pierce Fire and Rescue |
| Mark Bethune | City Manager | City of Orting |
| Karen Yates | Mayor | City of Roy |
| Bill Llewellyn | Council Member | City of Roy |
| Ryan Windish | Planning Manager | City of Sumner |
| Ute Weber | Emergency Manager | City of Tacoma |
| Tricia Tomaszewski | Clerk-Treasurer | Town of Carbonado |
| Dailene Argo | Town Clerk | Town of Carbonado |
| Bob Hudspeth | Fire Chief | Town of Eatonville |
| Doug Beagle | Town Administrator | Town of Eatonville |
| Kerry Murphy | Public Works | Town of Eatonville |
| Peggy Levesque | Mayor | Town of South Prairie |
| Marla Nevil | Town Clerk | Town of South Prairie |
| Paul Loveless | Town Administrator | Town of Steilacoom |
| Melanie Kohn | Clerk/Treasurer | Town of Wilkeson |

The Planning Team held 10 Planning Team Meetings for the following Planning Groups: City and Town Group, Fire Group, School Group, Special Purpose Group, and Utility Group for a total of 50 meetings from March of 2012 to February of 2013.

Table 1-2 Planning Team Meetings – Cities and Towns Group

| |
|--|
| Planning Team Meeting #1 - Pierce County Library Administration Bldg-March 21, 2012 |
| <p>Planning Team members Katie Gillespie and Debbie Bailey conducted the meeting and the Planning Team discussed the following items: Introduction of Planning Team, Review of the history of the Grant Application, Defining the Planning Requirements, How We Establish the In-Kind Match, Benefits of Developing a Plan, Defining the Planning Process, Establishing the Planning Team Meetings, Elected Official Meetings and Public Comment Meetings, reviewing each jurisdiction’s profile information, and defining next steps.</p> |
| Planning Team Meeting #2 – Pierce County Emergency Operations Center-May 1, 2012 |
| <p>Planning Team members Katie Gillespie and Debbie Bailey conducted the meeting and the Planning Team discussed the following items: Introduction of Planning Team as there were new members present, review of items presented at previous meeting, Defining the Planning Requirements, Defining the Process, Establishing the Planning Team Meetings, Elected Official Meetings and Public Comment Meetings, and explaining the next steps.</p> <p>This meeting focused on continuing review of the Profile Section, an introduction to begin thinking about mitigation strategies to include a review of what measures from their original plan have already been completed and thinking about new measures they may like to add, and a review of existing infrastructure for accuracy or necessary changes. It was explained how the Homeland Security sectors correlate with the information on the Infrastructure Forms and the potential uses of the information as a means of populating a database of resources for future use. There was also information handed out on dependencies and how important it is to know who depends on you and who you depend on. Everyone was reminded to set up their Elected Official meetings. Everyone was given a copy of their original Section 6 – Infrastructure Information.</p> |
| Planning Team Meeting #4 - Pierce County Emergency Operations Center-July 10, 2012 |
| <p>Planning Team members Katie Gillespie and Debbie Bailey conducted the meeting and the Planning Team discussed the following items: Reminder to set up Elected Official meetings. There was a recap of the Infrastructure Forms and the information necessary and some forms were collected at the meeting. Because this group missed one meeting in April, there were two areas of focus for this meeting; the Capability Section and the Risk Section. There was a discussion on how to recognize capabilities that already exist within the jurisdiction. Copies of existing Capability Sections were handed out and a discussion followed regarding making this section more comprehensive for everyone. The discussion continued, focusing on an explanation of the Risk Assessment and beginning to look at the local hazards for each jurisdiction. There was also some discussion about hazard maps and jurisdiction hazard maps were shown for the first time since they were updated. These now include technological hazards.</p> |
| THERE WERE NO PLANNING TEAM MEETINGS IN JUNE OF 2012 |

Planning Team Meeting #5 - Pierce County Emergency Operations Center-Aug 7, 2012

Planning Team members Katie Gillespie and Debbie Bailey, along with special guest Casey Broom from State EMD, conducted the meeting and the Planning Team discussed the following items: State EMD Mitigation Coordinator, Casey Broom was present at this meeting to lead the discussion on goals and objectives. The primary discussion for this meeting was a review of how to write goals and how to move forward in developing objectives to address the goals as a part of the Mitigation Strategy for the project.

Planning Team Meeting #6 - Pierce County Emergency Operations Center-Sept 4, 2012

Planning Team members Katie Gillespie and Debbie Bailey, along with Casey Broom, conducted the meeting and the Planning Team discussed the following items: Casey led the discussion continuing with Goals and Objectives for each jurisdiction. There was also a lot of discussion regarding good mitigation measures and how they need to address the objectives identified.

Planning Team Meeting #7 - Pierce County Emergency Operations Center-Oct 2, 2012

Planning Team members Katie Gillespie and Debbie Bailey, along with Casey Broom, conducted the meeting and the Planning Team discussed the following items: The jurisdiction hazard maps (base map as well as hazard maps) and other administrative items were discussed. The majority of the meeting was dedicated to a discussion revolving around developing new mitigation measures and having ‘shovel-ready’ projects included in all plans. A general discussion was productive in finding new measures that others might also be able to include.

Planning Team Meeting #8 - Pierce County Emergency Operations Center-Nov 6, 2012

Planning Team members Katie Gillespie and Debbie Bailey conducted the meeting and the Planning Team discussed the following items: There was a call for questions on all sections completed thus far and any final cleanup of sections as necessary. The majority of the meeting was dedicated to continuing discussions about mitigation measures and answering all the questions regarding new measures and how they will be added to the plans. The jurisdictions were briefed and given guidance on how to prioritize their mitigation measures.

THERE WERE NO PLANNING TEAM MEETINGS IN DECEMBER OF 2012

The month of December was dedicated allowing the Plan Coordinators time to catch up on documentation for the 78 jurisdictions.

REGIONAL PLANNING MEETINGS WERE HELD IN JANUARY OF 2013

(See Table 1-15)

The month of January was dedicated to eight Regional Meetings where the groups were divided into geographical districts rather than their normal groups in order to develop potential regional measures together.

Planning Team Meeting #9 - Pierce County Emergency Operations Center-Feb 5, 2013

Planning Team members Katie Gillespie and Debbie Bailey conducted the meeting and the Planning Team discussed the following items: The primary discussion, besides a general review once more, was about the Plan Maintenance section and how that will be updated by the jurisdictions. Each jurisdiction was given copies of their existing section and we discussed possible changes and improvements. Those jurisdictions that still had outstanding sections of documentation brought those forward at this time.

Planning Team Meeting #10 - Pierce County Emergency Operation Center-March 5, 2013

Planning team members Katie Gillespie and Debbie Bailey conducted the meeting and the Planning Team was able to discuss any final questions or concerns regarding the final sections of the plans and any updates or changes that will still need to be made before the plans are complete.

Joint Planning Requirement

The City of Milton has not identified plans which must collaborate with the mitigation plan at time of publication.

| Plan | Next Update |
|--------------------|-------------|
| Comprehensive Plan | 2015 |

Endnotes

ⁱ State and Local Mitigation Planning How-to Guide, Getting Started: building support for mitigation planning, FEMA 386-1, September 2002, p. 3-1.

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SECTION 2

REGION 5 ALL HAZARD MITIGATION PLAN 2015-2020 EDITION CITY OF MILTON PROFILE SECTION

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Mission Statement

The mission of the City of Milton is as follows:

In active partnership with Milton Citizens, we will build a forward-looking, SERVICE oriented, people friendly community.

WE BELIEVE IN SERVICE:

SERVICE

**Serving our community by keeping it safe
Supporting the personal and professional growth of City Staff
Supporting People-oriented neighborhoods.**

EXCELLENCE

**Excelling in Service
Enhancing public trust
Employee empowerment to achieve excellence**

RESPECT

**Respect for Learning, Teaching and Valuing
 Our History
 Our Cultural Heritage
 Our Communities**

VISION

**Vision for citizen participation
Vision for positive regional and local issues
Vision and partnership for a safe city**

INNOVATIVE

**Assist citizens in being innovative in areas of
 Your Programs
 Environmental Issues
 Enhancement of our infrastructure**

COOPERATION

Cooperate with citizens in

Working together in communities

Preventing crime

Enhancing our environment

ENVIRONMENT

Respect and nurturance for all the environments in our lives

Social, Professional and Natural

Services Summary

The City of Milton was incorporated in the year 1907.

The jurisdiction provides the following services through their own capabilities:

Table 2-1 City Services¹

| CITY SERVICES | | | |
|---|-----|--|-----|
| Service | Yes | Service | Yes |
| Mayor/City Manager | Yes | Municipal Airport | No |
| City Attorney | Yes | Municipal Court | Yes |
| City Clerk | Yes | Public Works/Improvements | Yes |
| City Treasurer | Yes | Comprehensive Planning | Yes |
| Sheriff or Police | Yes | Parking Meter Revenue | No |
| Parks Commissioners/Board | Yes | Construction and Operation of Boat Harbors, Marinas, Docks, etc. | No |
| City Council | Yes | Issue Bonds and Levies of General Tax | Yes |
| License and Tax Fees | Yes | Fire Department/EMS | Yes |
| Non-Polluting Power Generation | No | Parking, Off-street Facilities | No |
| Hydroelectric Resources | No | Sanitary Landfill/Refuse Service | No |
| Radio Communications | Yes | Sidewalks | Yes |
| Streets | Yes | Storm Drains | Yes |
| Waste Water Treatment | No | Streets/Alleys | Yes |
| Water Utility | Yes | Parks and Parkways | Yes |
| Public Transportation Systems | No | Water Pollution Abatement | Yes |
| Residential Care Facilities (not owned by City) | Yes | Local Improvement Districts | |
| Child Care Facilities (not owned by City) | Yes | | |

Geo-Political Summary

Table 2-2 Geo-Political Summary²

| Jurisdiction | Area (sq mi) | Elevation Range (ft) | Major Water Features | Regional Partners | |
|----------------|--------------|----------------------|---|--|--|
| | | | | Shared Borders | Land Use Authorities |
| City of Milton | 2.1635 | 20-340 | <ul style="list-style-type: none"> • Puyallup Watershed • 4-Hylebos Basin • 15-Lower White River Basin | <ul style="list-style-type: none"> • Fife • Edgewood • Unincorporated Pierce County • Federal Way (KC) • Unincorporated King County • Puyallup Tribe | <ul style="list-style-type: none"> • Milton • Fife • Edgewood • Unincorporated Pierce County • Federal Way (KC) • Unincorporated King County • Puyallup Tribe |

Population Summary

Demographics

Table 2-3 Population^{3, 4, 5, 6}

| Jurisdiction | Population | Population Density (people/sq mi) | Population Served | Projected Year 2022 Population Change (%) | Projected Population Density | Projected 2022 Population Served |
|----------------|------------|-----------------------------------|-------------------|---|------------------------------|----------------------------------|
| City of Milton | 6,968 | 3,221 | 6,968 | 4.05% | 3,351 | 7,250 |
| Region 5 | 795,225 | 440 | 795,225 | -18.39% | 359 | 648,895 |

Special Populations

Table 2-4 Special Populations⁷

| Jurisdiction | Population | Population 65 Plus | % of Total | Population Under 20 | % of Total |
|----------------|------------|--------------------|------------|---------------------|------------|
| City of Milton | 6,968 | 692 | 10% | 1,611 | 23% |
| Region 5 | 795,225 | 87,770 | 11% | 220,351 | 28% |

Demographic Analysis

In comparison to the last update, the overall population has increased by nearly 2,000 people while the 65+ population and the population ages 20 and under decreased. Due to the decrease in these special populations their representation of the total population further reduces the City of Milton’s population vulnerability.

Infrastructure Summary

General

Table 2-5 Parcel Summary⁸

| Jurisdiction | # Parcels | Land Value | Average Land Value | Improved Value | Average Improved Value |
|----------------|-----------|------------------|--------------------|------------------|------------------------|
| City of Milton | 2,509 | \$212,489,900 | \$84,691 | \$326,521,100 | \$130,140 |
| Region 5 | 319,165 | \$29,742,651,792 | \$93,189 | \$49,650,950,160 | \$155,577 |

| Jurisdiction | Total Assessed Value | Average Assessed Value |
|----------------|----------------------|------------------------|
| City of Milton | \$539,011,000 | \$214,831 |
| Region 5 | \$79,393,601,952 | \$248,766 |

Table 2-6 Housing Summary⁹

| Jurisdiction | # Houses | Housing Density | Avg Year Built | Avg Year Built (%) |
|----------------|----------|-----------------|--|--|
| City of Milton | 2,724 | 1,259 | <ul style="list-style-type: none"> • < 1939: 150 • 1940 – 1979: 1,236 • 1980 – 2004: 1,713 • 2005> 63 | <ul style="list-style-type: none"> • < 1939: 4.7% • 1940 – 1979: 39% • 1980 – 2004: 54.1% • 2005< 2.0% |
| Region 5 | 291,983 | 162 | <ul style="list-style-type: none"> • < 1939: 34,368 • 1940 – 1979: 126,363 • 1980 – 2004: 139,894 • 2005> 22,830 | <ul style="list-style-type: none"> • < 1939: 10.6% • 1940 – 1979: 39% • 1980 – 2004: 43.2% • 2005>7.1% |

Jurisdiction Infrastructure

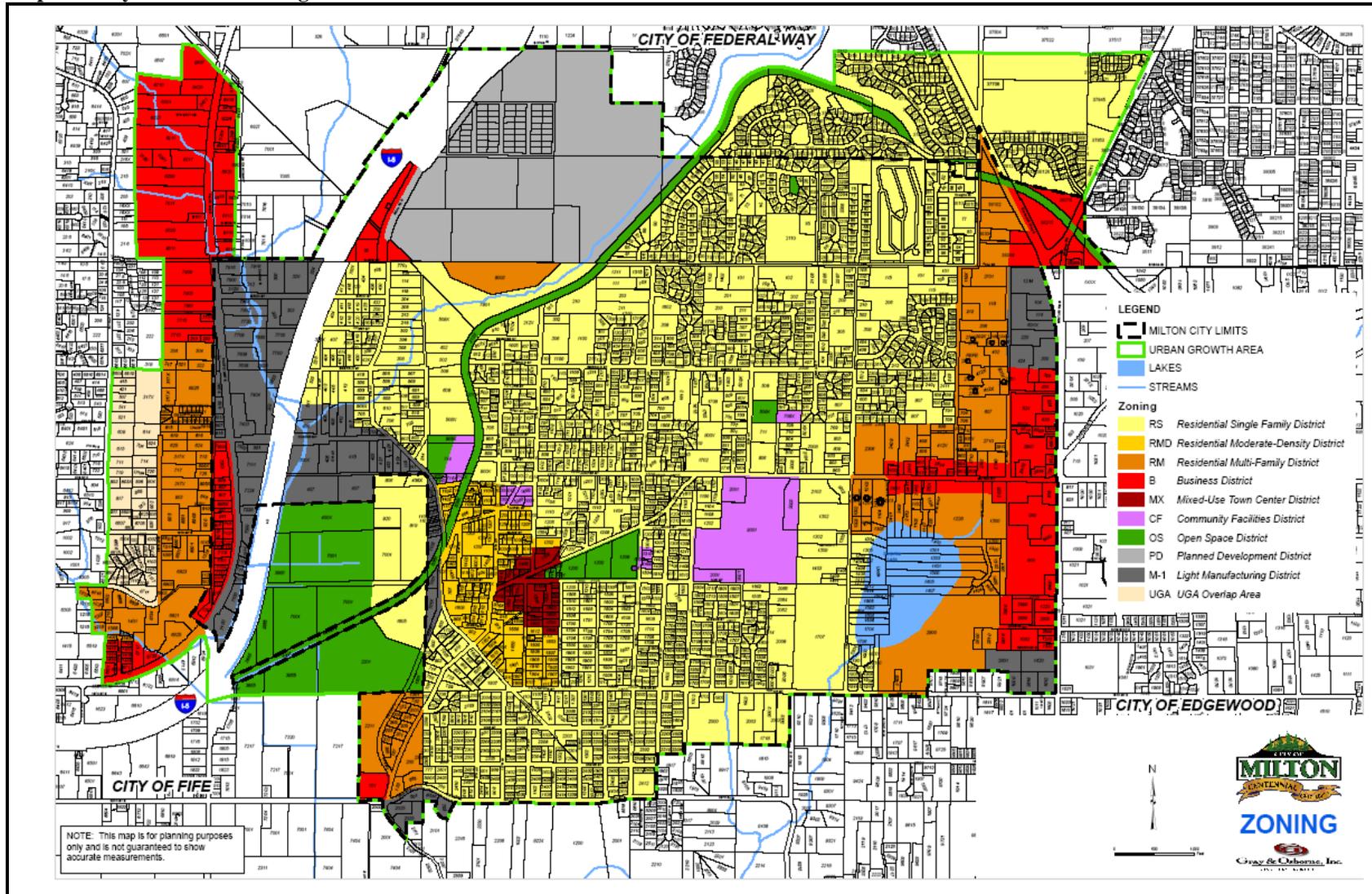
The following table shows the overview of infrastructure owned by the City of Milton. The infrastructure is categorized according to the infrastructure sectors as designated by the Department of Homeland Security. This chart is intended as a summary only.

For further details on Department of Homeland Security infrastructure sectors, please see the Process Section 1.

Table 2-7 Owned Infrastructure¹⁰

| Total Infrastructure | Emerg. Services | Tele-comm | Transportation | Water | Energy | Government | Commercial | Total Value (\$) |
|----------------------|-----------------|-----------|----------------|-------|--------|------------|------------|------------------|
| 25 | 2 | 0 | 0 | 12 | 1 | 10 | 0 | \$24,449,700 |

Map 2- 2 City of Milton - Zoning



Economic Summary

Table 2-8 Fiscal Summary¹¹

| Jurisdiction | Operating Costs (per month) | Operating Budgeted Revenues ¹² | Operating Budgeted Expenditures ¹³ | Fund Balance as % of Operating Cost | Avg Fund Balance (5 yrs) |
|----------------|-----------------------------|---|---|-------------------------------------|--------------------------|
| City of Milton | Not Available | Not Available | Not Available | Not Available | Not Available |

Table 2-9 Employment Profile¹⁴

| Employment Category (SIC) | City of Milton | Pierce County |
|--|----------------|---------------|
| Agriculture, Forestry, Fishing, Mining and Hunting | 0 | 2,532 |
| Construction | 314 | 29,441 |
| FIRES (Finance, Insurance, Real Estate, and Services) | 269 | 21,862 |
| Wholesale Trade | 144 | 13,064 |
| Transportation and Warehousing and Utilities | 213 | 21,796 |
| Manufacturing | 523 | 35,050 |
| Retail | 343 | 43,247 |
| Education, Health and Social Services | 619 | 76,821 |
| Professional, Scientific, Management, Administrative, Waste Management | 509 | 31,890 |
| Public Administration | 249 | 22,860 |

Table 2-10 Economic Summary¹⁵

| Jurisdiction | Unemployment Rate |
|----------------|-------------------|
| City of Milton | 8.2% |
| Region 5 | 9.6% |
| WA State | 8.4% |

Resource Directory

Regional

- **City of Milton**
<http://www.cityofmilton.net/>
- **Pierce County Government**
<http://www.piercecountywa.org/PC/>
- **Pierce County DEM**
<http://www.piercecountywa.org/pc/abtus/ourorg/dem/abtusdem.htm>
- **Pierce County PALS**
<http://www.co.pierce.wa.us/pc/abtus/ourorg/pals/palshome.htm>
- **Municipal Research & Services Center of Washington (MRSC)**
<http://www.mrsc.org/>

National

- **US Census**
www.census.gov/

Endnotes

¹ Information from a survey completed by the City.

² Information from Pierce County GIS application, CountyView Pro (2013/14).

³ “Population” from Census 2010, Office of Financial Management.

⁴ “Projected Population Change (%)” from Pierce County Buildable Lands Report, Dec. 2007.

⁵ “Projected Population Density” is based on an assumption of the jurisdiction maintaining the same geographic area and boundaries. It does not consider changes in annexation, district mergers, etc.

⁶ “Projected 2022 Population” from Pierce County Buildable Lands Report, Dec. 2007.

⁷ “Special Population” from Census 2010, Office of Financial Management.

⁸ Information from Pierce County GIS application, CountyView Pro 2013/14.

⁹ Information from Census 2010, Office of Financial Management.

¹⁰ Information obtained from Jurisdiction from Infrastructure Matrix.

¹¹ Information obtained from the Budget of the jurisdiction.

¹² Non-Capital

¹³ Non-Capital

¹⁴ Information from Census 2010, Office of Financial Management.

¹⁵ Information from Census 2010, Office of Financial Management.

Section 3

Capability Identification Requirements

Planning Process---Requirement §201.6(b):

An open public involvement process is essential to the development of an effective plan.

Documentation of the Planning Process---Requirements §201.6(b):

In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process **shall** include:

(3) Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.

- Does the planning process describe the review and incorporation, if appropriate, of existing plans, studies, reports, and technical information?

Assessing Vulnerability: Analyzing Development Trends---Requirement §201.6(c)(2) (ii)(C):

[The plan **should** describe vulnerability in terms of] providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.]

- Does the plan describe land uses and development trends?

Identification and Analysis of Mitigation Actions: National Flood Insurance Program (NFIP) Compliance--Requirement §201.6(c)(3)(ii):

[The mitigation strategy] must also address the jurisdiction's participation in the National Flood Insurance Program (NFIP), and continued compliance with NFIP requirements, as appropriate.

- Does the new or updated plan describe the jurisdiction(s) participation in the NFIP?

SECTION 3

**REGION 5 ALL HAZARD MITIGATION PLAN
2015-2020 EDITION
CITY OF MILTON
CAPABILITY IDENTIFICATION SECTION**

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Legal and Regulatory

Table 3-1 Legal and Regulatory

| Regulatory Tools (Ordinances and Codes) | Yes or No |
|---|-----------|
| <u>Jurisdiction Capabilities</u> | |
| Building Construction/Design Construction Codes | Yes |
| Flood Damage Prevention Ordinance | Yes |
| Growth Management Ordinance | Yes |
| Critical Area Ordinance | Yes |
| Hazard Setback Requirements | Yes |
| Hillside and Steep Slope Ordinance | Yes |
| Land Use and Regulatory Codes | Yes |
| Mechanical Codes | Yes |
| Plan Review Requirements | Yes |
| Plumbing Codes | Yes |
| Real Estate Disclosure Requirements | No |
| Storm Water Management | Yes |
| Subdivision Ordinance or Regulations | Yes |
| Tax and License Codes | Yes |
| Wildfire Ordinance | Yes |
| Zoning Ordinance | Yes |

Administrative Capability

Table 3-2 Administrative Capability

| Administrative Tools (Agency, Departments or Programs) | Yes or No |
|--|-----------|
| Jurisdiction Capabilities | |
| Architectural Review Board/Historic Review | No |
| Board of Adjustments/Hearing Examiner | Yes |
| Building Official | Yes |
| Chamber of Commerce | Yes |
| City/Town Council | Yes |
| City/Town Meetings | Yes |
| City/Town Planning Commission | Yes |
| City/Town Website | Yes |
| Commercial Fire Safety/Code Inspection Program | Yes |
| Community CPR/First Aid Program | Yes |
| Community Emergency Response Teams | Yes |
| Downtown Revitalization Committee | No |
| Economic Development Board | Yes |
| Emergency Manager | Yes |
| Engineers | Yes |
| Families First Coalition | No |
| Fire and Injury Prevention Program | Yes |
| Fire Chief | Yes |
| Fire Safety & Disaster Classes in Schools | Yes |
| Flood Plan Manager | No |
| Government TV Access | Yes |
| Grant Writers | No |
| Home Safety Council | No |
| Information included in Utility Bills | Yes |
| Lahar Warning System | Yes |
| Planners | Yes |
| Planning Commission | Yes |
| Police Chief | Yes |
| Police Department | Yes |
| Public Utility | Yes |
| Public Works Department | Yes |
| Safe Streets Program | No |
| Safety Fairs | Yes |
| Stream Team (Friends of Hylebos) | Yes |
| Surveyors | No |

Table 3-3 Administrative Capability (Cont)

| Administrative Tools (Agency, Departments or Programs) | Yes or No |
|---|------------------|
| Regional Capabilities | |
| Local Business Districts | No |
| Local Department of Emergency Management | No |
| Local Fire Agencies plus Mutual Aid with others | Yes |
| Local Hospitals | No |
| Local Law Enforcement Agencies and Mutual Aid with others | Yes |
| Local Neighborhood Associations | Yes |
| Local Neighborhood Emergency Teams (NET) | Yes |
| Local Newspapers | Yes |
| Local Parks Commission/Board | Yes |
| Local Power Companies | Yes |
| Local Parent Teacher's Association | Yes |
| Neighboring Counties | Yes |
| Pierce County Department of Emergency Management | Yes |
| Pierce County Fire Chiefs Association | Yes |
| Pierce County Neighborhood Emergency Teams (PCNET) | Yes |
| Pierce County Police Chiefs Association | Yes |
| Pierce County Safe Kids Coalition | Yes |
| Pierce County Sheriffs Department | Yes |
| Puget Sound Clean Air Agency | Yes |
| Puget Sound Energy | Yes |
| Puget Sound Regional Council | Yes |
| Puget Sound Water Quality Management Plan | No |
| Service Organizations | Yes |
| Tacoma/Pierce County Health Department | Yes |
| Tribes | Yes |

Technical Capability

Table 3-4 Technical Capability

| Technical Tools (Plans and Other) | Yes or No |
|--|-----------|
| Jurisdiction Capabilities | |
| After Action Reports of Any Incident | Yes |
| Capital Improvement Plan | Yes |
| Comprehensive Emergency Management Plan | Yes |
| Comprehensive Plan | Yes |
| Continuity of Governmental Services and Operations Plan (COOP and COG) | Yes |
| Critical Facilities Plan | No |
| Drainage Master Plan | Yes |
| Economic Development Plan | No |
| Emergency Evacuation Plan | Yes |
| Emergency Response Plan | Yes |
| Generator Placement Plan | No |
| Habitat Plan | No |
| Hazardous Materials Response Plan | No |
| Lahar Evacuation Plan | Yes |
| Pandemic Flu Plan | No |
| Post-Disaster Recovery Plan | Yes |
| Sewer/Wastewater Comprehensive Plan | Yes |
| Storm Comprehensive Plan | No |
| Water Comprehensive Plan | Yes |
| Regional Capabilities | |
| Coordinated Water System Plan and Regional Supplement 2001 | |
| Local and Regional Emergency Exercises – All Types | Yes |

Fiscal Capability

Table 3-5 Fiscal Capability

| Fiscal Tools (Taxes, Bonds, Fees, and Funds) | Yes or No |
|--|-----------|
| <u>Jurisdiction Capabilities</u> | |
| TAXES: | |
| Authority to Levy Taxes | Yes |
| | |
| BONDS: | |
| Authority to Issue Bonds | Yes |
| | |
| FEES: | |
| Fees for Water, Sewer, Gas or Electric Service | Yes |
| Impact Fees for Homebuyers/Developers for New Developments/Homes | Yes |
| Local Improvement District (LID) | Yes |
| | |
| FUNDS: | |
| Capital Improvement Project Funds | Yes |
| Enterprise Funds | Yes |
| General Government Fund (Departments) | Yes |
| Internal Service Funds | ? |
| Special Revenue Funds | ? |
| Withhold Spending in Hazard-Prone Areas | No |
| | |
| <u>Regional Capabilities</u> | |
| Pierce County Land Conservancy | No |
| Cascade Land Conservancy | No |

Specific Capabilities

Table 3-6 Specific Capabilities

| Jurisdiction Specific Capabilities |
|---|
| Legal & Regulatory |
| |
| Administrative & Technical |
| Pierce County Coop Cities Police Chiefs |
| |
| Fiscal |
| |

Section 4

Risk Assessment Requirements

Identifying Hazards--- Requirement §201.6(c)(2)(i):

[The risk assessment **shall** include a] description of the type ... of all natural hazards that can affect the jurisdiction.

- Does the new or updated plan include a **description** of the types of **all natural hazards** that affect the jurisdiction?

Profiling Hazards---Requirement §201.6(c)(2)(i):

[The risk assessment **shall** include a] description of the ... location and extent of all natural hazards that can affect the jurisdiction. The plan **shall** include information on previous occurrences of hazard events and on the probability of future hazard events.

- Does the risk assessment identify (i.e., geographic area affected) of each hazard being addressed in the new or updated plan?
- Does the risk assessment identify the extent (i.e., magnitude or severity) of each hazard addressed in the new or updated plan?
- Does the plan provide information on previous occurrences of each hazard addressed in the new or updated plan?
- Does the plan include the probability of future events (i.e., chance of occurrence) for each hazard addressed in the new or updated plan?

Assessing Vulnerability: Overview---Requirement §201.6(c)(2) (ii):

[The risk assessment **shall** include a] description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description **shall** include an overall summary of each hazard and its impact on the community.

- Does the new or updated plan include an overall summary description of the jurisdiction's vulnerability to each hazard?
- Does the new or updated plan address the impacts of each hazard on the jurisdiction?

Assessing Vulnerability: Addressing Repetitive Loss Properties---Requirement §201.6(c)(2) (ii):

[The risk assessment] **must** also address the National Flood Insurance Program (NFIP) insured structures that have been repetitively damaged by floods.

- Does the new or updated plan describe vulnerability in terms of the types and numbers of repetitive loss properties located in the identified hazard areas?

Assessing Vulnerability: Identifying Structures---Requirement §201.6(c)(2) (ii)(A):

The plan **should** describe vulnerability in terms of the types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas...

- Does the new or updated plan describe vulnerability in terms of the types and numbers of existing buildings, infrastructure, and critical facilities located in the identified hazard areas?
- Does the new or updated plan describe vulnerability in terms of the types and numbers of future buildings, infrastructure, and critical facilities located in the identified hazard areas?

Assessing Vulnerability: Estimating Potential Losses---Requirement §201.6(c)(2) (ii)(B):

[The plan **should** describe vulnerability in terms of an] estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(ii)(A) of this section and a description of the methodology used to prepare the estimate...

- Does the new or updated plan estimate potential dollar losses for vulnerable structures?
- Does the new or updated plan describe the methodology used to prepare the estimate?

Assessing Vulnerability: Analyzing Development Trends---Requirement §201.6(c)(2) (ii)(c):

[The plan **should** describe vulnerability in terms of] providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.

- Does the new or updated plan describe land uses and development trends?

SECTION 4

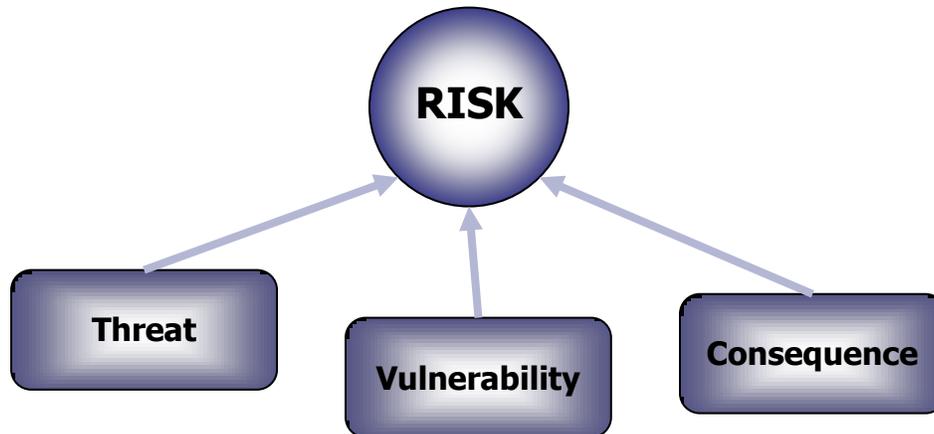
REGION 5 ALL HAZARD MITIGATION PLAN 2015-2020 EDITION CITY OF MILTON RISK ASSESSMENT SECTION

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Section Overview

The Risk Assessment portrays the threats of natural hazards, the vulnerabilities of a jurisdiction to the hazards, and the consequences of hazards impacting communities. Each hazard is addressed as a threat and is identified and profiled in the Hazard Identification. The vulnerabilities to and consequences of a given hazard are addressed in the Vulnerability Analysis. Vulnerability is analyzed in terms of exposure of both population and infrastructure to each hazard. Consequences are identified as anticipated, predicted, or documented impacts caused by a given hazard when considering the vulnerability analysis and the characteristics of the hazard as outlined in its identification.



The WA Region 5 **Hazard Identification** was used for this plan. Each jurisdiction's Vulnerability and Consequence Analysis are based on the Region 5 Hazard Identification. The Region 5 Hazard Identification can be found in the Base Plan. Each hazard is identified in subsections. The subsections are grouped by hazard-type (i.e., geological and meteorological hazards) and then alphabetically within each type. A summary table of the WA Region 5 Hazard Identification is included in this section as Table 4-1a and Table 4-1b.

The **Vulnerability Analysis** is displayed in six tables:

- **Table 4-2 General Exposure**
- **Table 4-3 Population Exposure**
- **Table 4-4 General Infrastructure Exposure**
- **Table 4-5a Consequence Analysis Chart – Geological**
- **Table 4-5b Consequence Analysis Chart – Meteorological**
- **Table 4-5c Consequence Analysis Chart – Technological**

Each jurisdiction has its own Vulnerability Analysis, and it is included in this section.

The **Consequence Identification** is organized by Threat. Each threat page summarizes the hazard, graphically illustrates exposures from the Vulnerability Analysis, and lists corresponding Consequences. Each jurisdiction has its own Consequence Identification and it is included in this section: avalanche, earthquake, landslide, tsunami, volcanic, drought, flood, severe weather, and wildland/urban interface fire.

Specific information and analysis of a jurisdiction's owned (public) infrastructure is addressed in the Infrastructure Section of its Plan.

Table 4-1a WA Region 5 Hazard Identification Summary – Geological

| THREAT | DECLARATION # DATE/PLACE | PROBABILITY/ RECURRENCE | MAPS, FIGURES AND TABLES |
|--------------------------|--|---|---|
| <u>AVALANCHE</u> | Not Applicable | Yearly in the mountainous areas of the County including Mt. Rainier National Park and the Cascades. | Slab Avalanche Areas Vulnerable to Avalanche Pierce County Avalanches of Record |
| <u>EARTHQUAKE</u> | N/A--7/22/2001 Nisqually Delta N/A--6/10/2001 Satsop DR-1361-WA--2/2001 Nisqually N/A--7/2/1999 Satsop DR-196-WA--4/29/1965 Maury Island, South Puget Sound N/A--4/13/1949 South Puget Sound N/A--2/14/1946 Maury Island | Magnitude 4.3 Magnitude 5.0—Intraplate Earthquake Magnitude 6.8—Intraplate Earthquake Magnitude 5.8—Intraplate Earthquake Magnitude 6.5—Intraplate Earthquake Magnitude 7.0—Intraplate Earthquake Magnitude 6.3 40 years or less occurrence Historical Record—About every 23 years for intraplate earthquakes | Types of Earthquakes Major Faults in the Puget Sound Basin Seattle and Tacoma Fault Segments Pierce County Seismic Hazard Major Pacific Northwest Earthquakes Notable Earthquakes Felt in Pierce County Salmon Beach, Tacoma Washington following Feb 2001 Earthquake Liquefaction Niigata Japan-1964 Lateral Spreading – March 2001 |
| <u>LANDSLIDE</u> | DR-1159-WA--12/96-2/1997 DR-852-WA--1/1990 DR-545-WA--12/1977 | Slides with minor impact (damage to 5 or less developed properties or \$1,000,000 or less damage) 10 years or less. Slides with significant impact (damage to 6 or more developed properties or \$1,000,000 or greater damage) 100 years or less. | Northeast Tacoma Landslide January 2007 Pierce County Landslide and Soil Erosion Hazard Pierce County Shoreline Slope Stability Areas Notable Landslides in Pierce County Ski Park Road – Landslide January 2003 SR-165 Bridge Along Carbon River – Landslide February 1996 Aldercrest Drive - Landslide |
| <u>TSUNAMI</u> | N/A--1894 Puyallup River Delta N/A--1943 Puyallup River Delta (did not induce tsunami) N/A--1949 Tacoma Narrows | Due to the limited historic record, until further research can provide a better estimate a recurrence rate of 100 years plus or minus will be used. | Hawaii 1957 – Residents Explore Ocean Floor Before Tsunami Hawaii 1949 – Wave Overtakes a Seawall Puget Sound Fault Zone Locations, Vertical Deformation and Peak Ground Acceleration Seattle and Tacoma Faults Tsunami Inundation and Current Based on Earthquake Scenario Puget Sound Landslide Areas and Corresponding Tsunamis Puget Sound River Deltas, Tsunami Evidence and Peak Ground Acceleration Salmon Beach, Pierce County 1949 – Tsunamigenic Subaerial Landslide Puyallup River Delta – Submarine Landslides Puyallup River Delta – Submarine Landslides and Scarp Damage in Tacoma from 1894 Tsunami |
| <u>VOLCANIC</u> | DR-623-WA--5/1980 | The recurrence rate for either a major lahar (Case I or Case II) or a major tephra eruption is 500 to 1000 years. The recurrence rate for either a major lahar (Case I or Case II) or a major tephra eruption is 500 to 1000 years. | Volcano Hazards Debris Flow at Tahoma Creek – July 1988 Douglas Fir Stump – Electron Lahar Deposit in Orting Landslide from Little Tahoma Peak Covering Emmons Glacier Tephra Types and Sizes Lahars, Lava Flows and Pyroclastic Hazards of Mt. Rainier Estimated Lahar Travel Times for Lahars 10 ₇ to 10 ₈ Cubic Meters in Volume Ashfall Probability from Mt. Rainier Annual Probability of 10 Centimeters or more of Tephra Accumulation in the Pacific NW Cascade Eruptions Mt. Rainier Identified Tephra, last 10,000 years Pierce County River Valley Debris Flow History |

Geological

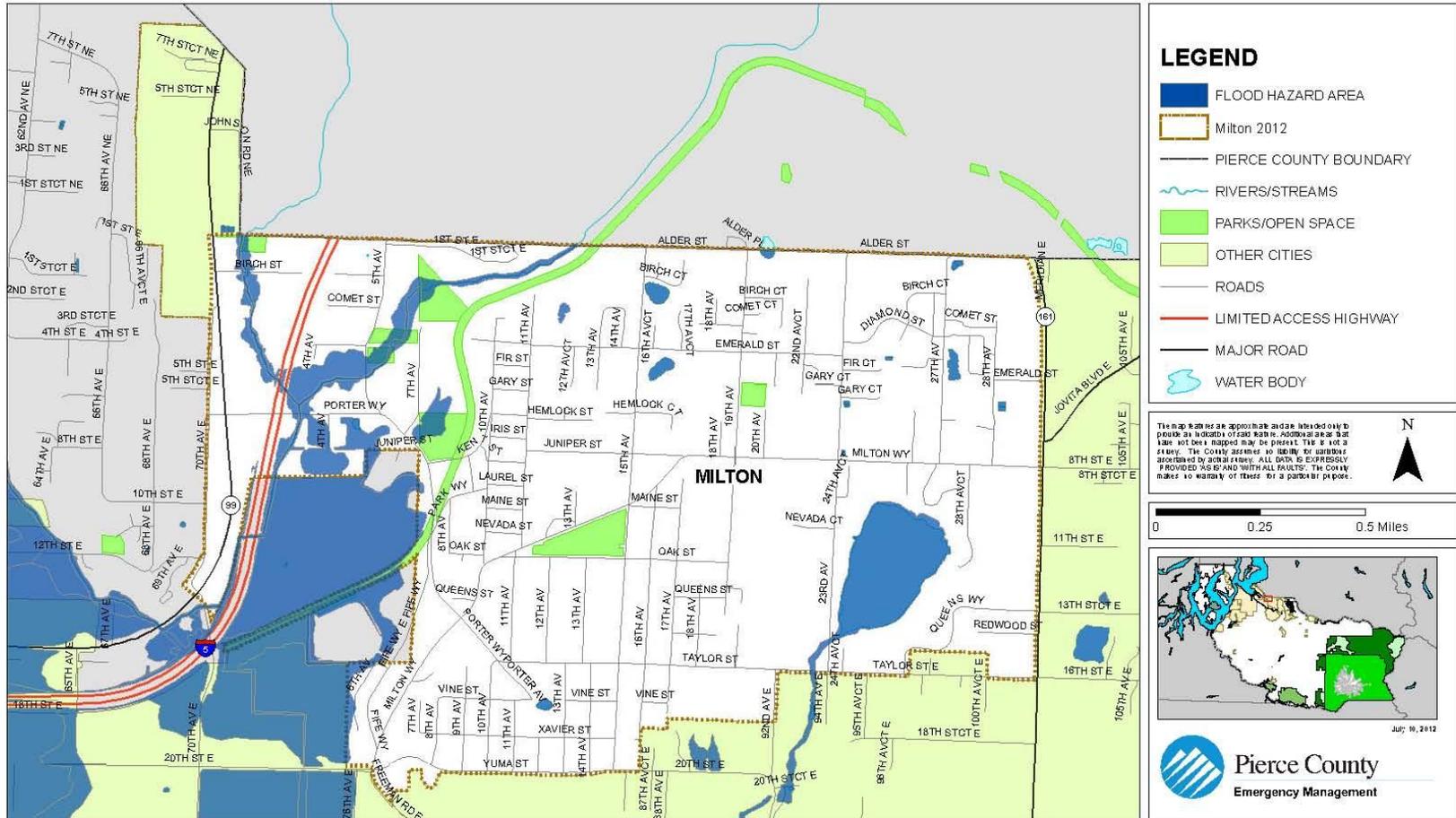
Table 4-1b WA Region 5 Hazard Identification Summary – Meteorological and Technological

| HAZARD | | FEMA DECLARATION # DATE/PLACE | | PROBABILITY/ RECURRENCE | MAPS, FIGURES AND TABLES |
|-----------------------|---|--|--|---|--|
| Meteorological | <u>CLIMATE CHANGE</u> | Not Applicable | | Not Applicable | Global Temperature Change: 1850 to 2006 Recent and Projected Temperatures for the Pacific Northwest Comparison of the South Cascade Glacier: 1928 to 2003 Lower Nisqually Glacier Retreat: 1912 to 2001 |
| | <u>DROUGHT</u> | Many dry seasons but no declarations | | 50 years or less occurrence | Sequence of Drought Impacts Palmer Drought Severity Index Pierce County Watersheds %Area of Basin in Drought Conditions Since 1895 %Time in Severe to Extreme Drought: 1895-1995 %Time in Severe to Extreme Drought: 1985-1995 Notable Droughts Affecting Pierce County Columbia River Basin USDA Climate Zones – Washington State |
| | <u>FLOOD</u> Since 1978 3 Repetitive Loss Areas have produced 83 Claims totaling Nearly \$1.78 Million Dollars. | DR-WA 1817--01/2009 NA-11/2008 DR-1734-WA--12/2007 DR-1671-WA--11/2006 DR-1499-WA--10/2003 DR-1159-WA--12/96-2/97 DR-1100-WA--1-2/1996 DR-1079-WA--11-12/1995 DR-896-WA--12/1990 DR-883-WA--11/1990 | DR-852-WA--1/1990 DR-784-WA--11/1986 DR-545-WA--12/1977 DR-492-WA--12/1975 DR-328-WA--2/1972 DR-185-WA--12/1964 | 5 years or less occurrence Best Available Science--The frequency of the repetitive loss claims indicates there is approximately a 33 percent chance of flooding occurring each year. | Pierce County Watersheds Pierce County Flood Hazard Pierce County Repetitive Loss Areas Clear Creek Basin Repetitive Flood Loss Aerial Photo Flood Hazard Declared Disasters Feb 8, 1996 Flooding – Del Rio Mobile Homes Along Puyallup River Nov 2006 Flooding River Park Estates – Along Puyallup River Nov 2006 Flooding State Route 410 – Along Puyallup River Nov 2006 Flooding Rainier Manor – Along Puyallup River |
| | <u>SEVERE WEATHER</u> | DR-4056-WA – 01/2012 DR-1825-WA – 12/2008 – 01/2009 DR-1682-WA--12/2006 DR-1159-WA--12/96-2/1997 DR-1152-WA--11/19/1996 | DR-981-WA--1/1993 DR-137-WA--10/1962 | The recurrence rate for all types of severe storms is 5 years or less. | Fujita Tornado Damage Scale Windstorm Tracks Pierce County Severe Weather Wind Hazard – South Wind Event Pierce County Severe Weather Wind Hazard – East Wind Event Notable Severe Weather in Pierce County Snowstorm January 2004 Downtown Tacoma Satellite Image – Hanukkah Eve Windstorm Before/After Tornado Damage Greensburg KS May 2007 Public Works Responds 2005 Snowstorm Downed Power Pole February 2006 Windstorm County Road December 2006 Windstorm Tacoma Narrows Bridge – November 1940 Windstorm |
| | <u>WUI FIRE</u> | Not Applicable | | Based on information from WA DNR the probability of recurrence for WUI fire hazard to Pierce County is 5 years or less. | Washington State Fire Hazard Map Pierce County Forest Canopy Industrial Fire Precaution Level Shutdown Zones Carbon Copy Fire August 2006 Washington State DNR Wildland Fire Statistics: 1973-2007 DNR Wildland Response South Puget Sound Region: 2002-2007 Pierce County DNR Fires |

| Technological | HAZARD | FEMA DECLARATION # DATE/PLACE | PROBABILITY/ RECURRENCE | MAPS, FIGURES AND TABLES |
|---------------|--------------------------------|-------------------------------|---|---|
| | <u>ABANDONED MINES</u> | Not Applicable | Based on Information from WA DNR The Pierce County Sheriff's Department reports that they have had very few incidents of citizens entering the abandoned mines in east Pierce Co. Isolated issues of minor subsidence have occurred, typically following flood events in 2009/2010 | Pierce County – Mine Hazard Areas MapBased on WA DNR Information Schasse, Koler, Eberle, and Christie, <u>The Washington State Coal Mine Map Collection: A Catalog, Index, and User's Guide</u> , Open File Report 94-7, June 1984 Pierce County 2009 HIRA |
| | <u>CIVIL DISTURBANCE</u> | Not Applicable | Looking at the historical record, major civil unrest is a rare occurrence. Movement of military supplies from Port of Tacoma to Joint Base Lewis McChord | Pierce County Civil Disturbance Map Pierce County 2009 HIRA Hilltop Riots Tacoma 1969, 1991 |
| | <u>DAM FAILURE</u> | Not Applicable | No occurrences in Pierce County 50+ years recurrence | Table D-1 PC Dams that Pose a High or Significant Risk, Pierce County 2009 HIRA Table D-2 Dam Failures in WA State |
| | <u>ENERGY EMERGENCY</u> | Not Applicable | <ul style="list-style-type: none"> January 2009 Loss of electricity to Anderson Island (underground [water] cable) Power Outage is the most frequent energy incident, via natural hazards (storms, ice) Recurrence Rate – 5 years (storms) Recurrence Rate – 50+ years (major) | Pierce County 2009 HIRA Tacoma Power Outage 1929, USS Lexington provide power Anderson Island January 2009 Underwater power cable broke |
| | <u>EPIDEMIC</u> | Not Applicable | Pandemics <ul style="list-style-type: none"> 2009-2010 "Swine Flu Recurrence Rate – 20 years | Pierce County 2009 HIRA Tacoma Pierce County Health District Pan Flu Plan Measles, State of WA, 1990 E Coli, January 1993, September 1998 |
| | <u>HAZARDOUS MATERIALS</u> | Not Applicable | <ul style="list-style-type: none"> Dalco Passage oil spill of October 13, 2004 Chlorine Spill Port of Tacoma February 12, 2007 Large Incidents 5 year recurrence Small Incidents 1 week recurrence | Pierce County 2009 HIRA Table HM-1 Reported Releases (in lbs.)of all chemicals, for Pierce Co. in 2008, all industries Chlorine Spill in the Port of Tacoma (February 12, 2007) Dalco Passage oil spill (October 13, 2004) Illegal methamphetamine sites (A high of 258 sites in 2001-56 sites in 2009) |
| | <u>PIPELINE FAILURE</u> | Not Applicable | <ul style="list-style-type: none"> Northwest Pipeline Corporation natural gas incident May 1st 2003, in Sumner 10 years recurrence | Map P-1 Pierce County Pipelines Pierce County 2009 HIRA |
| | <u>TERRORISM</u> | Not Applicable | Minor PC Incident –Recurrence 1-year Major Incident – Recurrence 100 years | Pierce County 2009 HIRA Tacoma's Model Cities and Human Rights Offices burned 1972 African American church burned 1993 White Supremacy Group Hate Crimes, 1998 Westgate Family Medicine Clinic bombed, 2011 |
| | <u>TRANSPORTATION ACCIDENT</u> | Not Applicable | Minor Incidents occur daily Major Incidents rare Recurrence Rate – 10 years | Pierce County 2009 HIRA Rail: Freight Derailment, Steilacoom 1996 Freight Train Derailment, Chambers Bay, 2011 |

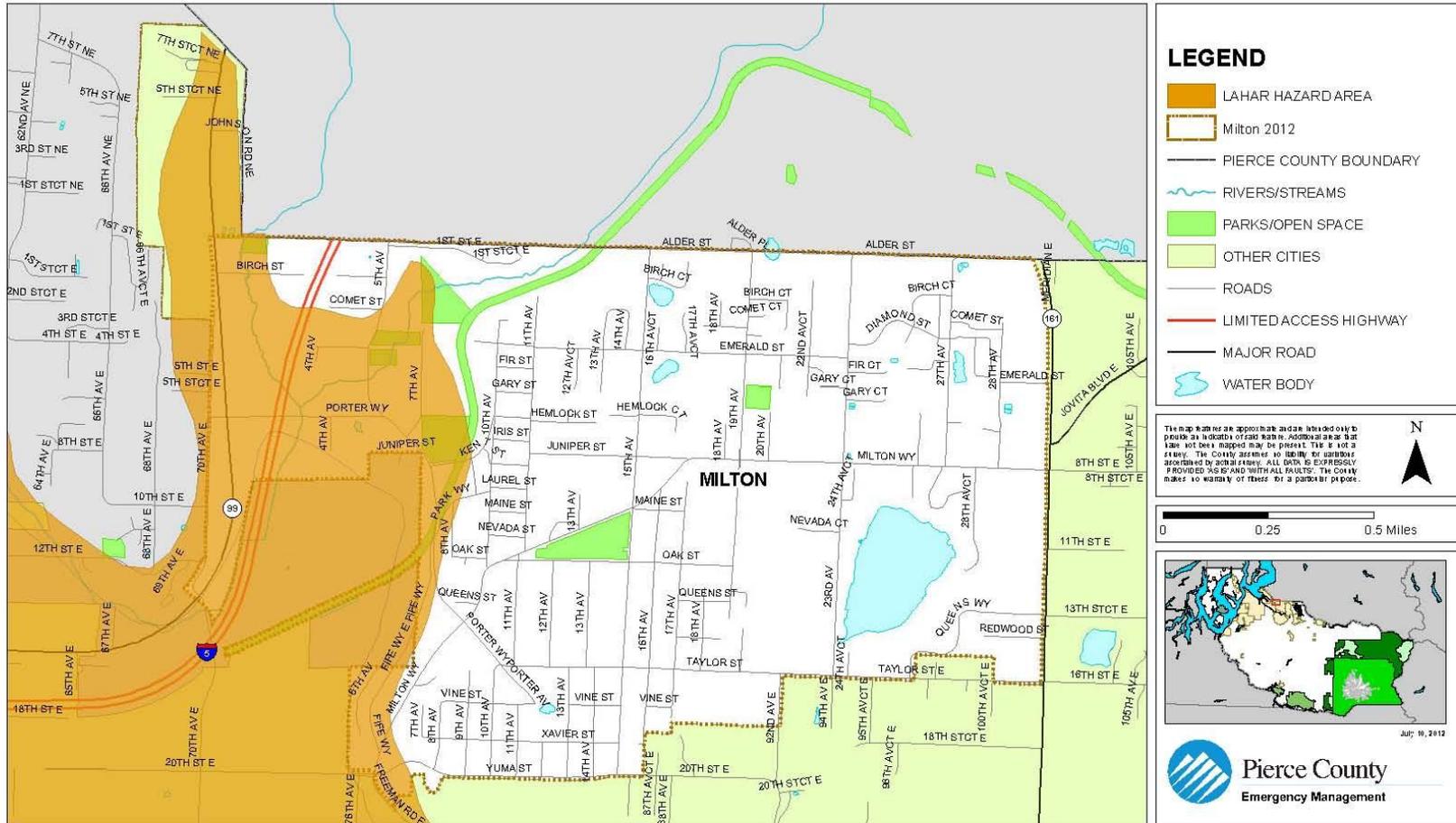
Map 4-1 City of Milton – Flood Hazard Map

CITY OF MILTON - FLOOD HAZARD AREA



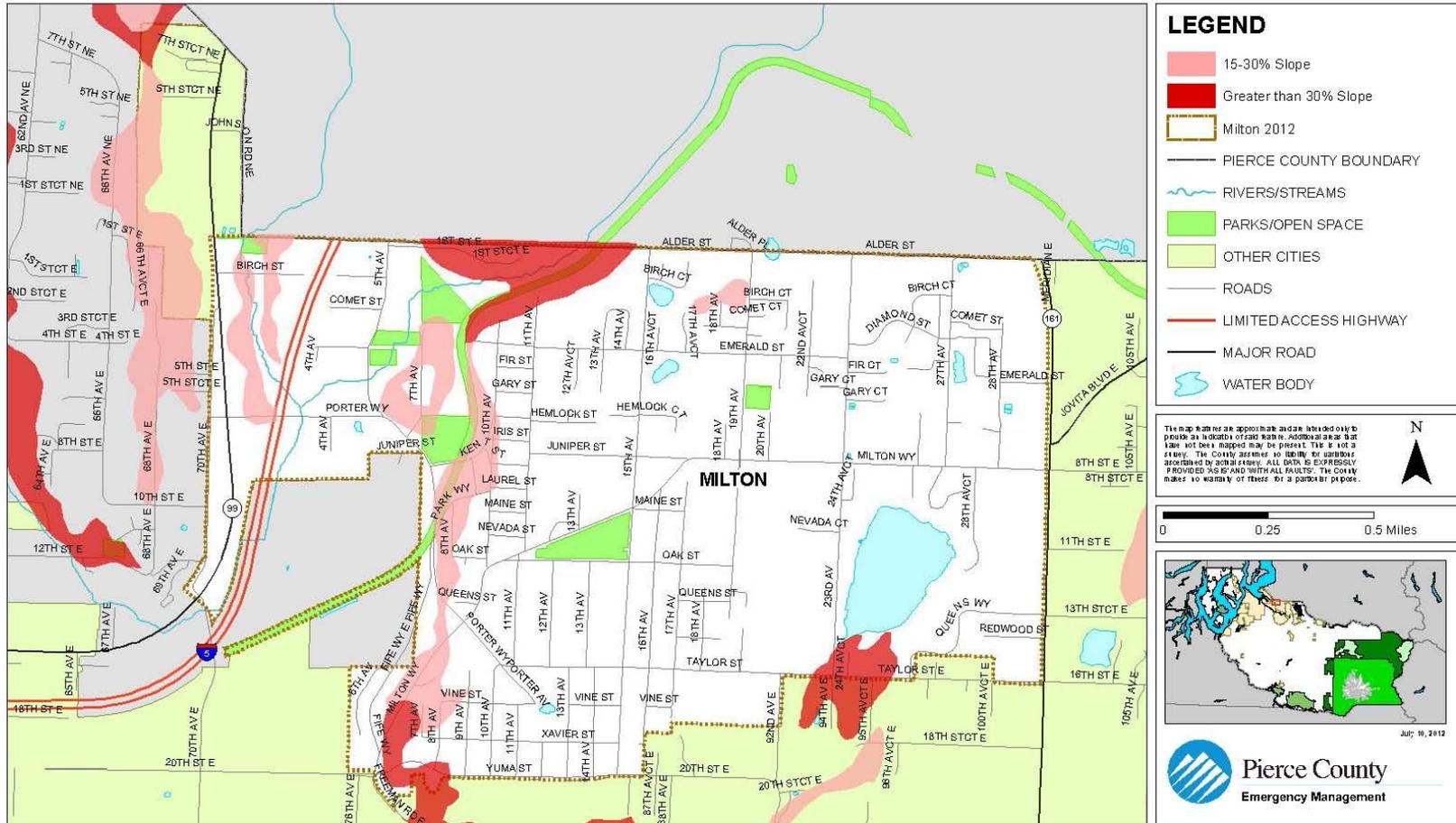
Map 4-2 City of Milton – Lahar Hazard Map

CITY OF MILTON - LAHAR HAZARD AREA



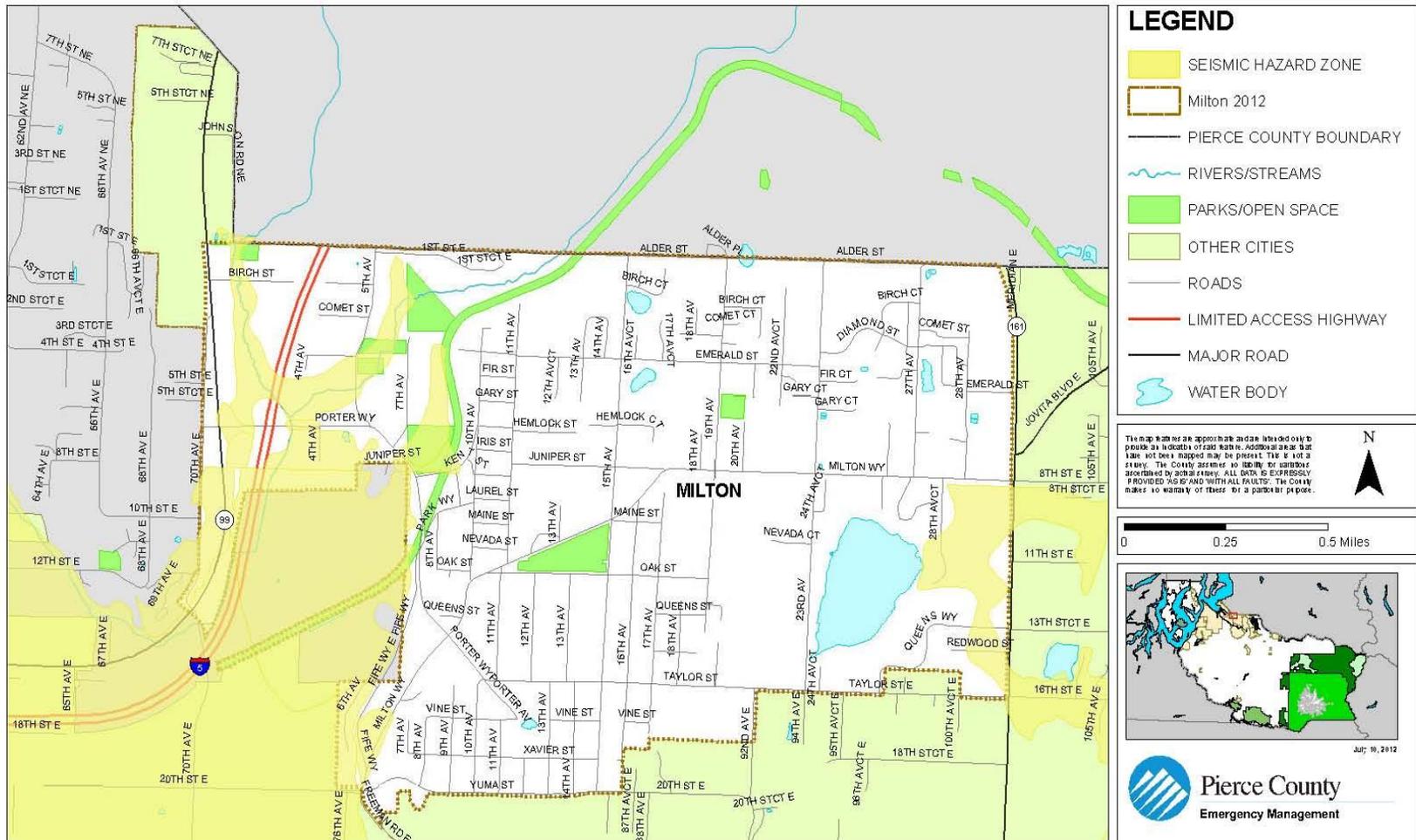
Map 4-3 City of Milton – Landslide Hazard Map

CITY OF MILTON - LANDSLIDE HAZARD AREA



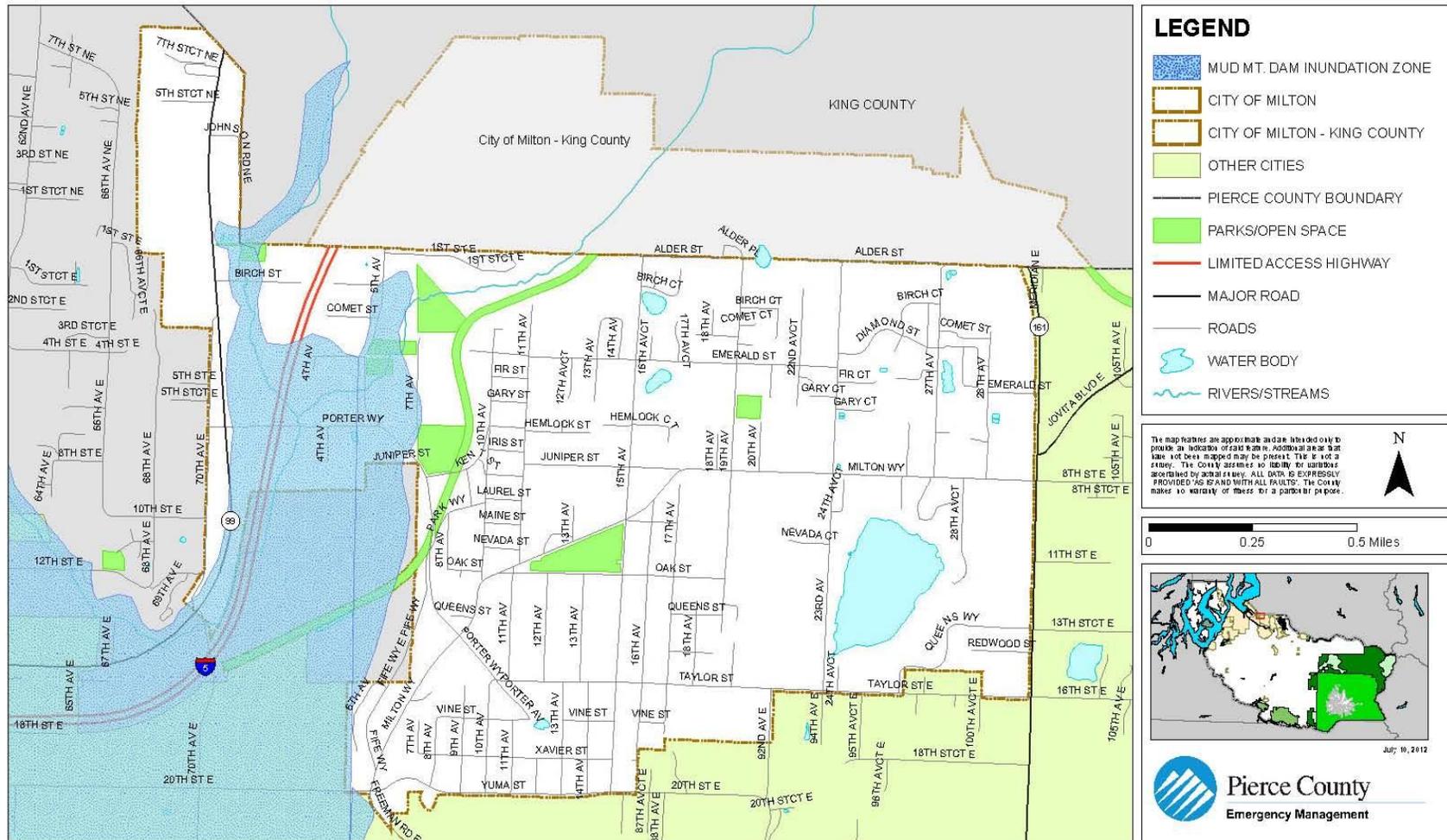
Map 4-4 City of Milton – Seismic Hazard Map

CITY OF MILTON - SEISMIC HAZARD AREA



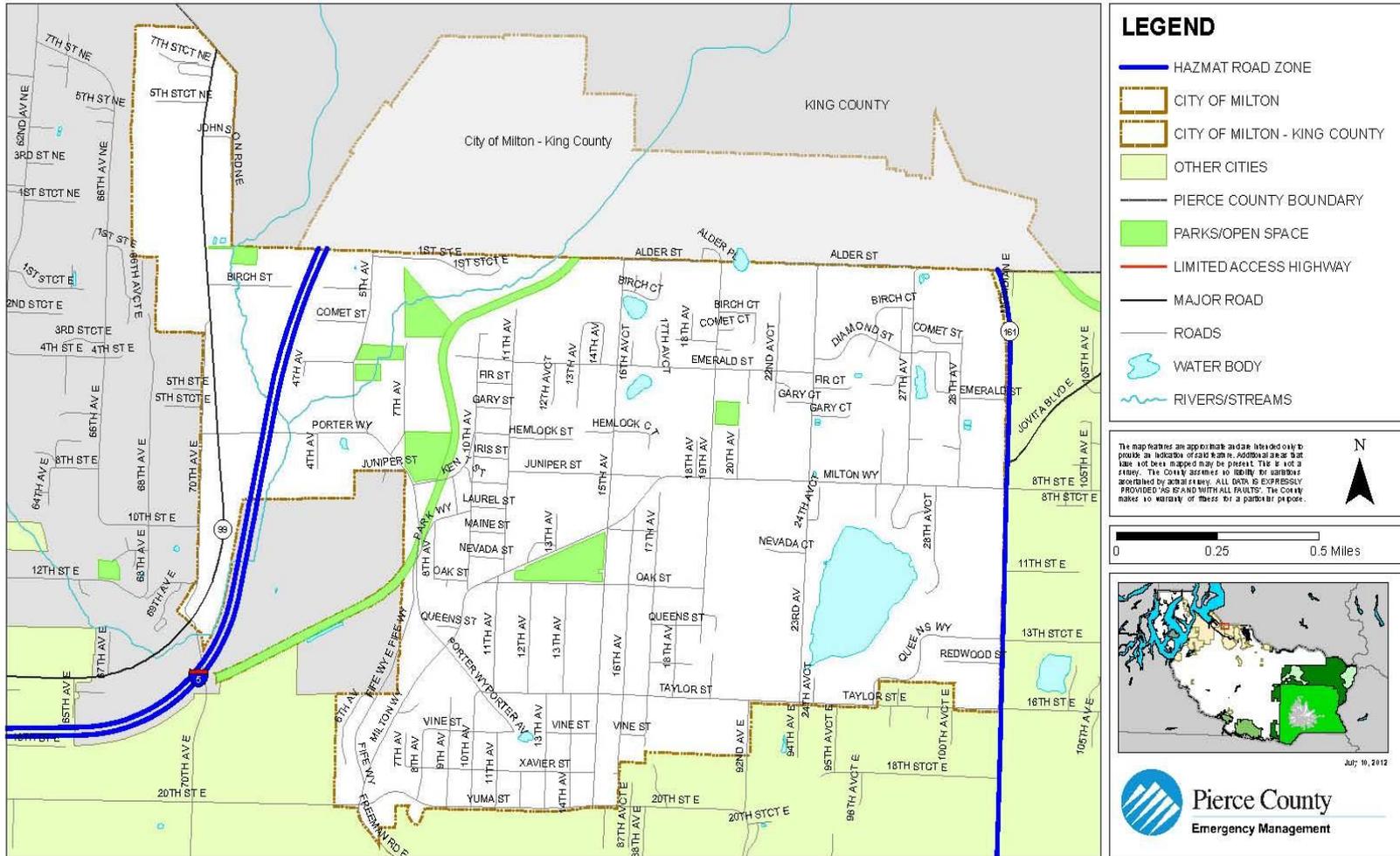
Map 4-5 City of Milton – Dam Failure –Mud Mt. Dam Hazard Area Map

CITY OF MILTON - DAM FAILURE-MUD MT. DAM HAZARD AREA



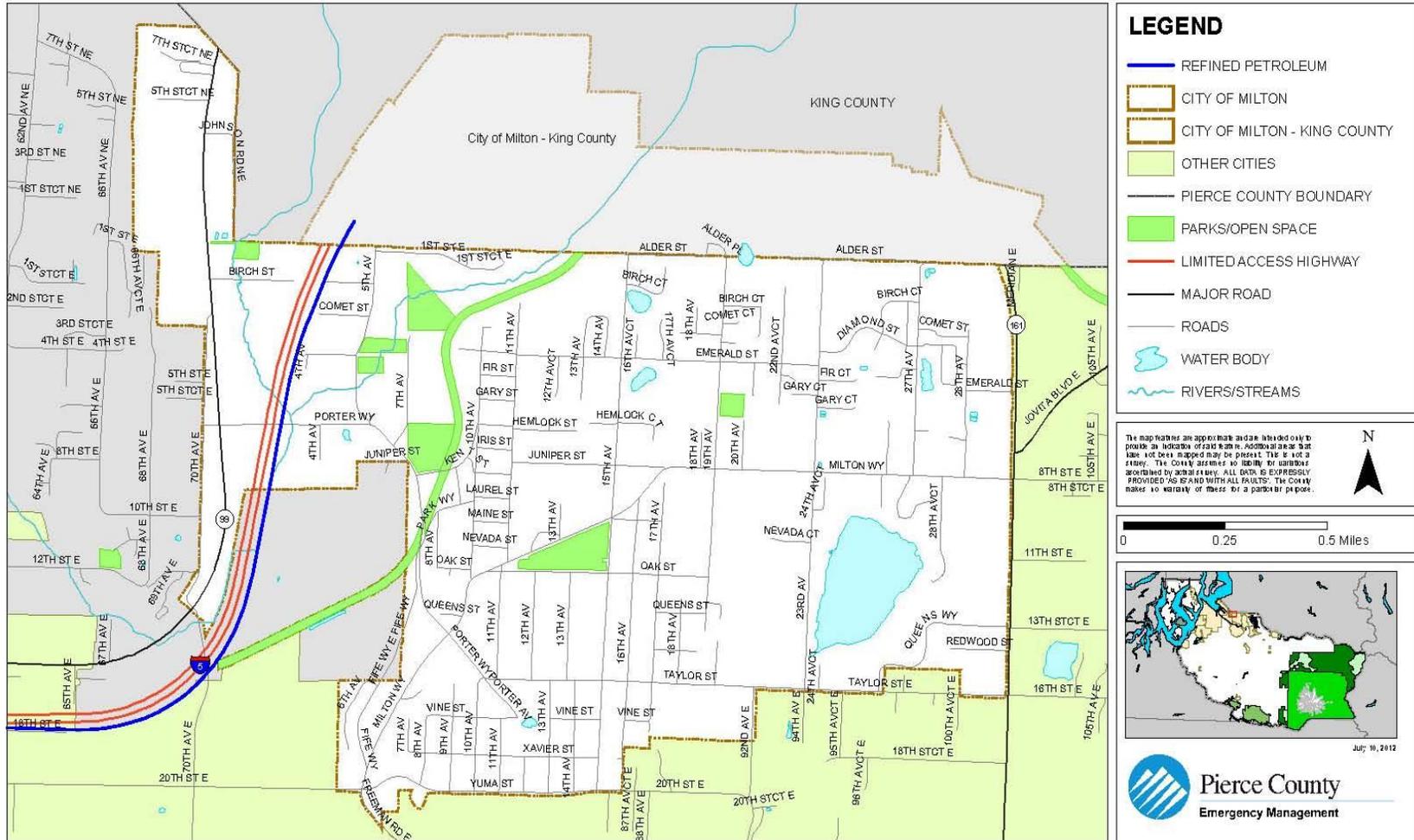
Map 4-6 City of Milton – Hazardous Material Hazard Area Map

CITY OF MILTON - HAZARDOUS MATERIAL HAZARD AREA



Map 4-7 City of Milton – Pipeline Hazard Area Map

CITY OF MILTON - PIPELINE HAZARD AREA



Map 4-8 City of Milton – Transportation Emergency Hazard Area Map

CITY OF MILTON - TRANSPORTATION EMERGENCY HAZARD AREA

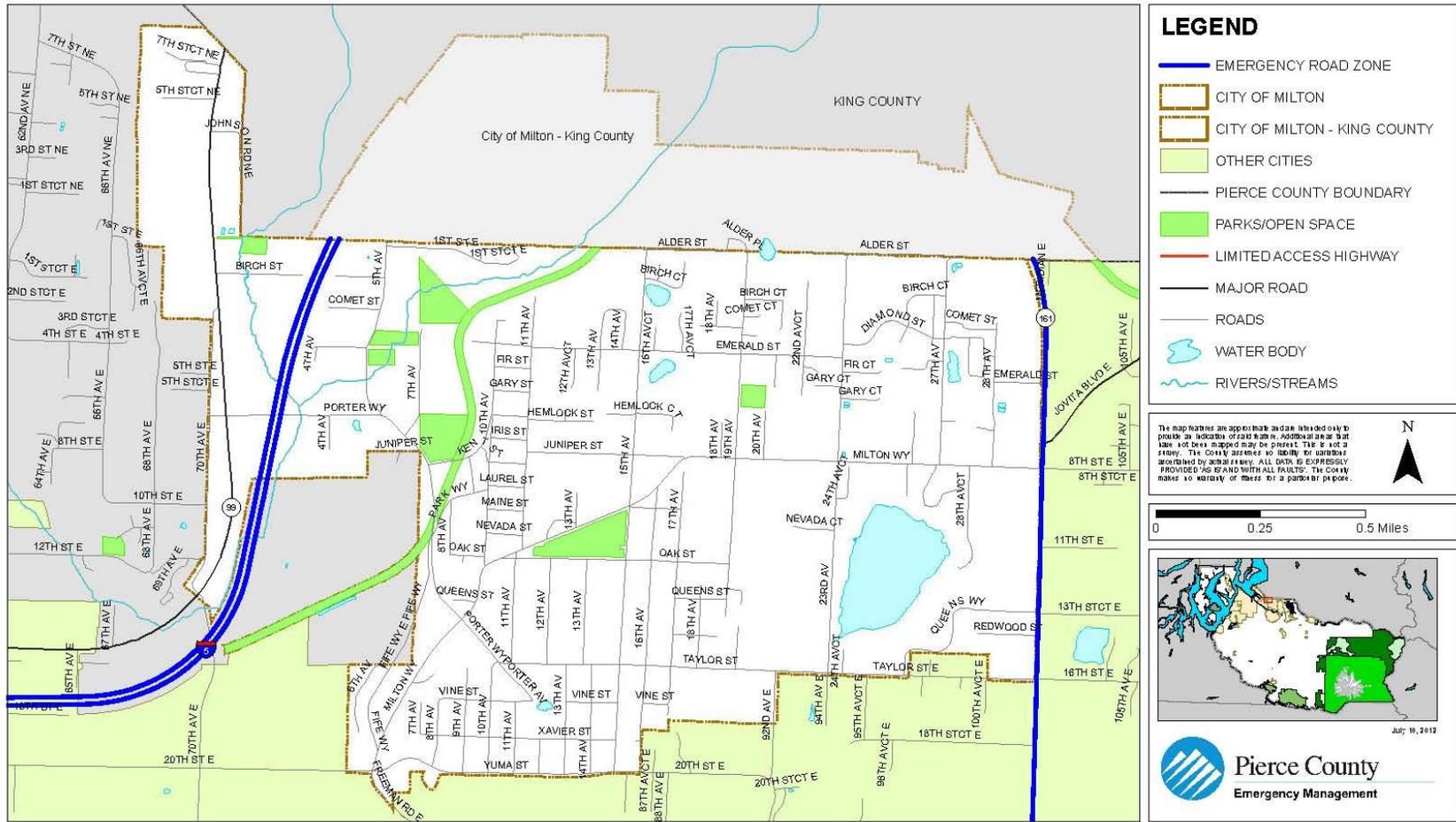


Table 4-2 Vulnerability Analysis: General Exposure¹

| THREAT ² | | AREA (SQ MI) | | PARCELS | |
|-----------------------|--|--------------|-------------|--------------|-------------|
| | | Total | % Base | Total | % Base |
| BASE | | 1.80 | 100% | 2,509 | 100% |
| <i>Geological</i> | Avalanche ³ | NA | NA | NA | NA |
| | Earthquake ⁴ | .40 | 20.5% | 173 | 6.9% |
| | Landslide | .44 | 25.7% | 277 | 11% |
| | Tsunami | NA | NA | NA | NA |
| | Volcanic ⁵ | .44 | 14.6% | 283 | 11.3% |
| <i>Meteorological</i> | Drought ⁶ | 1.80 | 100% | 2,509 | 100% |
| | Flood | .39 | 25.4% | 144 | 5.7% |
| | Severe Weather | 1.80 | 100% | 2,509 | 100% |
| | WUI Fire ⁷ | NA | NA | NA | NA |
| <i>Technological</i> | Abandoned Mines ⁸ | NA | NA | NA | NA |
| | Civil Disturbance ⁹ | 1.80 | 100% | 2,509 | 100% |
| | Dam Failure ¹⁰ | .21 | 6.5% | 145 | 5.78% |
| | Energy Emergency ¹¹ | 1.80 | 100% | 2,509 | 100% |
| | Epidemic ¹² | 1.80 | 100% | 2,509 | 100% |
| | Hazardous Material ¹³ | .93 | 54.2% | 1,236 | 49.3% |
| | Pipeline Hazard ¹⁴ | .24 | 6% | 165 | 6.5% |
| | Terrorism ¹⁵ | 1.80 | 100% | 2,509 | 100% |
| | Transportation Accidents ¹⁶ | .93 | 54.2% | 1,236 | 49.3% |

Table 4-3 Vulnerability Analysis: Population Exposure

| THREAT ² | | POPULATION | | | SPECIAL POPULATIONS (OF TOTAL EXPOSED POPULATION) | | | |
|-----------------------|---------------------------|--------------|-------------|------------------------|--|------------|--------------|------------|
| | | Total | % Base | Density (pop/sq mi) | 65+ yrs | | 20- yrs | |
| | | | | | # | % | # | % |
| BASE | | 6,968 | 100% | 3,869 | 692 | 10% | 1,611 | 23% |
| <i>Geological</i> | Avalanche | NA | NA | NA | NA | NA | NA | NA |
| | Earthquake | 1,739 | 25% | 4,354.3 | 142 | 20.5% | 450 | 28% |
| | Landslide | 2,247 | 32.2% | 5,079.22 | 178 | 25.7% | 582 | 36.1% |
| | Tsunami | NA | NA | NA | NA | NA | NA | NA |
| | Volcanic | 1,083 | 15.5% | 2,444 | 101 | 14.6% | 287 | 17.8% |
| <i>Meteorological</i> | Drought | 6,968 | 100% | 3,869 | 692 | 10% | 1,611 | 23% |
| | Flood | 1,048 | 15% | 2,682.3 | 176 | 25.4% | 273 | 14.7% |
| | Severe Weather | 6,968 | 100% | 3,869 | 692 | 10% | 1,611 | 23% |
| | WUI Fire | NA | NA | NA | NA | NA | NA | NA |
| <i>Technological</i> | Abandoned Mines | NA | NA | NA | NA | NA | NA | NA |
| | Civil Disturbance | 6,968 | 100% | 3,869 | 692 | 10% | 1,611 | 23% |
| | Dam Failure | 574 | 8.2% | 2,796.8 | 45 | 6.5% | 167 | 10.4% |
| | Energy Emergency | 6,968 | 100% | 3,869 | 692 | 10% | 1,611 | 23% |
| | Epidemic | 6,968 | 100% | 3,869 | 692 | 10% | 1,611 | 23% |
| | Hazardous Material | 3,752 | 53.8% | 4,049 | 375 | 54.2% | 968 | 60.1% |
| | Pipeline Hazard | 2,726 | 7% | 5,846.65 | 151 | 6% | 853 | 7% |
| | Terrorism | 6,968 | 100% | 3,869 | 692 | 10% | 1,611 | 23% |

| | | | | | | | | |
|--|-------------------------------------|-------|-------|-------|-----|-------|-----|-------|
| | Transportation Accidents | 3,752 | 53.8% | 4,049 | 375 | 54.2% | 968 | 60.1% |
|--|-------------------------------------|-------|-------|-------|-----|-------|-----|-------|

Table 4-4 Vulnerability Analysis: General Infrastructure Exposure

| THREAT ² | | LAND VALUE | | | IMPROVED VALUE | | | TOTAL ASSESSED VALUE | | |
|-----------------------|--------------------------|----------------------|-------------|-----------------|----------------------|-------------|------------------|----------------------|-------------|------------------|
| | | Total (\$) | % Base | Avg. Value (\$) | Total (\$) | % Base | Avg. Value (\$) | Total (\$) | % Base | Avg. Value (\$) |
| BASE | | \$212,489,900 | 100% | \$84,691 | \$326,521,100 | 100% | \$130,140 | \$539,011,000 | 100% | \$214,831 |
| <i>Geological</i> | Avalanche | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | Earthquake | \$47,678,300 | 22.4% | \$275,597 | \$59,730,000 | 18.3% | \$345,260 | \$107,408,300 | 19.9% | \$620,857 |
| | Landslide | \$41,212,000 | 19.4% | \$148,780 | \$68,414,100 | 21% | \$246,982 | \$109,626,100 | 20.3% | \$395,762 |
| | Tsunami | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | Volcanic | \$52,910,800 | 24.9% | \$186,964 | \$36,346,200 | 11.1% | \$128,432 | \$89,257,000 | 16.6% | \$315,396 |
| <i>Meteorological</i> | Drought | \$212,489,900 | 100% | \$84,691 | \$326,521,100 | 100% | \$130,140 | \$539,011,000 | 100% | \$214,831 |
| | Flood | \$34,063,900 | 16% | \$236,555 | \$57,527,700 | 17.6% | \$399,498 | \$91,591,600 | 17% | \$636,053 |
| | Severe Weather | \$212,489,900 | 100% | \$84,691 | \$326,521,100 | 100% | \$130,140 | \$539,011,000 | 100% | \$214,831 |
| | WUI Fire | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| <i>Technological</i> | Abandoned Mines | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | Civil Disturbance | \$212,489,900 | 100% | \$84,691 | \$326,521,100 | 100% | \$130,140 | \$539,011,000 | 100% | \$214,831 |
| | Dam Failure | \$27,611,800 | 13% | \$190,426 | \$17,052,300 | 5% | \$117,602 | \$44,664,100 | 8% | \$308,028 |
| | Energy Emergency | \$212,489,900 | 100% | \$84,691 | \$326,521,100 | 100% | \$130,140 | \$539,011,000 | 100% | \$214,831 |
| | Epidemic | \$212,489,900 | 100% | \$84,691 | \$326,521,100 | 100% | \$130,140 | \$539,011,000 | 100% | \$214,831 |

| | | | | | | | | | | |
|--|---------------------------------|---------------|------|-----------|---------------|-------|-----------|---------------|-------|--------------|
| | Hazardous Material | \$125,446,300 | 59% | \$101,494 | \$180,460,100 | 55.3% | \$146,003 | \$305,906,400 | 56.8% | \$247,497.09 |
| | Pipeline Hazard | \$30,895,100 | 15% | \$187,243 | \$27,839,500 | 9% | \$168,724 | \$58,734,600 | 11% | \$355,967.27 |
| | Terrorism | \$212,489,900 | 100% | \$84,691 | \$326,521,100 | 100% | \$130,140 | \$539,011,000 | 100% | \$214,831 |
| | Transportation Accidents | \$125,446,300 | 59% | \$101,494 | \$180,460,100 | 55.3% | \$146,003 | \$305,906,400 | 56.8% | \$247,497.09 |

Table 4-5a Consequence Analysis Chart – Geological^{17,18}

| THREAT | | CONSEQUENCE | YES OR NO |
|--|--|---|------------------|
| <i>Geological</i> | Avalanche | Impact to the Public | No |
| | | Impact to the Responders | No |
| | | Impact to COG and/or COOP in the Jurisdiction | No |
| | | Impact to Property, Facilities and Infrastructure | No |
| | | Impact to the Environment | No |
| | | Impact to the Jurisdiction Economic Condition | No |
| | Impact to Reputation or Confidence in Jurisdiction | No | |
| | Earthquake | Impact to the Public | Yes |
| | | Impact to the Responders | Yes |
| | | Impact to COG and/or COOP in the Jurisdiction | Yes |
| | | Impact to Property, Facilities and Infrastructure | Yes |
| | | Impact to the Environment | Yes |
| | | Impact to the Jurisdiction Economic Condition | Yes |
| | Impact to Reputation or Confidence in Jurisdiction | Yes | |
| | Landslide | Impact to the Public | Yes |
| | | Impact to the Responders | No |
| | | Impact to COG and/or COOP in the Jurisdiction | No |
| | | Impact to Property, Facilities and Infrastructure | Yes |
| | | Impact to the Environment | Yes |
| | | Impact to the Jurisdiction Economic Condition | No |
| | Impact to Reputation or Confidence in Jurisdiction | Yes | |
| | Tsunami | Impact to the Public | No |
| | | Impact to the Responders | No |
| | | Impact to COG and/or COOP in the Jurisdiction | No |
| | | Impact to Property, Facilities and Infrastructure | No |
| | | Impact to the Environment | No |
| | | Impact to the Jurisdiction Economic Condition | No |
| Impact to Reputation or Confidence in Jurisdiction | No | | |
| Volcanic¹⁹ | Impact to the Public | Yes | |
| | Impact to the Responders | Yes | |
| | Impact to COG and/or COOP in the Jurisdiction | No | |
| | Impact to Property, Facilities and Infrastructure | Yes | |
| | Impact to the Environment | Yes | |
| | Impact to the Jurisdiction Economic Condition | Yes | |
| Impact to Reputation or Confidence in Jurisdiction | No | | |

Table 4-5b Consequence Analysis Chart – Meteorological

| THREAT | | CONSEQUENCE | YES OR NO |
|--|-----------------------|--|-----------|
| <i>Meteorological</i> | Drought | Impact to the Public | Yes |
| | | Impact to the Responders | No |
| | | Impact to COG and/or COOP in the Jurisdiction | No |
| | | Impact to Property, Facilities and Infrastructure | No |
| | | Impact to the Environment | Yes |
| | | Impact to the Jurisdiction Economic Condition | No |
| | | Impact to Reputation or Confidence in Jurisdiction | No |
| | Flood | Impact to the Public | Yes |
| | | Impact to the Responders | Yes |
| | | Impact to COG and/or COOP in the Jurisdiction | No |
| | | Impact to Property, Facilities and Infrastructure | Yes |
| | | Impact to the Environment | Yes |
| | | Impact to the Jurisdiction Economic Condition | Yes |
| | | Impact to Reputation or Confidence in Jurisdiction | No |
| | Severe Weather | Impact to the Public | Yes |
| | | Impact to the Responders | Yes |
| | | Impact to COG and/or COOP in the Jurisdiction | No |
| | | Impact to Property, Facilities and Infrastructure | Yes |
| | | Impact to the Environment | Yes |
| | | Impact to the Jurisdiction Economic Condition | Yes |
| | | Impact to Reputation or Confidence in Jurisdiction | Yes |
| | WUI Fire | Impact to the Public | Yes |
| | | Impact to the Responders | Yes |
| | | Impact to COG and/or COOP in the Jurisdiction | No |
| Impact to Property, Facilities and Infrastructure | | Yes | |
| Impact to the Environment | | Yes | |
| Impact to the Jurisdiction Economic Condition | | Yes | |
| Impact to Reputation or Confidence in Jurisdiction | | No | |

Table 4-5c Consequence Analysis Chart – Technological²⁰

| THREAT | | CONSEQUENCE | YES OR NO |
|----------------------|--------------------------|--|-----------|
| <i>Technological</i> | Abandoned Mines | Impact to the Public | |
| | | Impact to the Responders | |
| | | Impact to COG and/or COOP in the Jurisdiction | |
| | | Impact to Property, Facilities and Infrastructure | |
| | | Impact to the Environment | |
| | | Impact to the Jurisdiction Economic Condition | |
| | | Impact to Reputation or Confidence in Jurisdiction | |
| | Civil Disturbance | Impact to the Public | |
| | | Impact to the Responders | |
| | | Impact to COG and/or COOP in the Jurisdiction | |
| | | Impact to Property, Facilities and Infrastructure | |
| | | Impact to the Environment | |
| | | Impact to the Jurisdiction Economic Condition | |
| | | Impact to Reputation or Confidence in Jurisdiction | |
| | Dam Failure | Impact to the Public | |
| | | Impact to the Responders | |
| | | Impact to COG and/or COOP in the Jurisdiction | |
| | | Impact to Property, Facilities and Infrastructure | |
| | | Impact to the Environment | |
| | | Impact to the Jurisdiction Economic Condition | |
| | | Impact to Reputation or Confidence in Jurisdiction | |

| | | | |
|------------------------------------|--|--|--|
| | Energy Emergency | Impact to the Public | |
| | | Impact to the Responders | |
| | | Impact to COG and/or COOP in the Jurisdiction | |
| | | Impact to Property, Facilities and Infrastructure | |
| | | Impact to the Environment | |
| | | Impact to the Jurisdiction Economic Condition | |
| | Epidemic | Impact to Reputation or Confidence in Jurisdiction | |
| | | Impact to the Public | |
| | | Impact to the Responders | |
| | | Impact to COG and/or COOP in the Jurisdiction | |
| | | Impact to Property, Facilities and Infrastructure | |
| | | Impact to the Environment | |
| | Hazardous Materials | Impact to the Jurisdiction Economic Condition | |
| | | Impact to Reputation or Confidence in Jurisdiction | |
| | | Impact to the Public | |
| | | Impact to the Responders | |
| | | Impact to COG and/or COOP in the Jurisdiction | |
| | | Impact to Property, Facilities and Infrastructure | |
| | Pipeline Hazards | Impact to the Environment | |
| | | Impact to the Jurisdiction Economic Condition | |
| | | Impact to Reputation or Confidence in Jurisdiction | |
| | | Impact to the Public | |
| | | Impact to the Responders | |
| | | Impact to COG and/or COOP in the Jurisdiction | |
| Terrorism | Impact to Property, Facilities and Infrastructure | | |
| | Impact to the Environment | | |
| | Impact to the Jurisdiction Economic Condition | | |
| | Impact to Reputation or Confidence in Jurisdiction | | |
| | Impact to the Public | | |
| | Impact to the Responders | | |
| Transportation Accident | Impact to COG and/or COOP in the Jurisdiction | | |
| | Impact to Property, Facilities and Infrastructure | | |
| | Impact to the Environment | | |
| | Impact to the Jurisdiction Economic Condition | | |
| | Impact to Reputation or Confidence in Jurisdiction | | |
| | Impact to the Public | | |

Summary Vulnerability and Impact Analysis

The City of Milton is located in the North West portion of Pierce County. The City is highly susceptible to six of the eighteen hazards we considered in this plan. The risks are Drought, Severe Weather, Civil Disturbance, Energy Emergency, Epidemic and Terrorism. The risks impact critical infrastructure including Interstate 5, Pacific Highway 99, Highway 161 and essential facilities of water power, and emergency services. The cross-county transportation in this area is a high priority to remain functional but could easily be blocked by any number of hazards. Surprise Lake and Hylebos Creek are in this area and would threaten the City its self with flooding by affecting 25% of land within the city limits.

Endnotes

¹ Info obtained from the Pierce County GIS application, CountyView Pro (13/14).

² Currently the expanding body of empirical data on climate change supports its basic premise that the long term average temperature of the earth's atmosphere has been increasing for decades (*1850 to 2008*). This trend is continuing and will create dramatic changes in the local environment of Pierce County. Today, questions revolve around the overall increase in local temperature and its long term effects. Climate change today refers to variations in either regional or global environments over time. Time can refer to periods ranging in length from a few decades to other periods covering millions of years. A number of circumstances can cause climate change. Included herein are such diverse factors as solar cycles, volcanic eruptions, changing ocean current patterns, or even something as unusual as a methane release from the ocean floor. Over the past 150 years good temperature records have allowed comparisons to be made of global temperatures from year-to-year. This has shown an overall increase of approximately 0.7° C during this period. An increasing body of scientific evidence implies that the primary impetus driving climate change today is an increase in atmospheric green house gases.

³ Jurisdiction is not vulnerable to this hazard, therefore it is marked NA or non-applicable.

⁴ It should be noted here that although all residents, all property and all infrastructure of the City of Milton are vulnerable to earthquake shaking, not all are subject to the affects of liquefaction and liquefiable soils which is what is represented here.

⁵ The threat of volcanic ashfall affects the entire Region 5 however some jurisdictions are specifically threatened by lahar flows directly from Mt. Rainier; an active volcano.

⁶ The entire jurisdiction is vulnerable to drought. There are three things that must be understood about the affect of drought on the jurisdiction: 1) Drought is a Region wide event. When it does affect Pierce County, it will affect every jurisdiction, 2) Drought will gradually develop over time. It is a gradually escalating emergency that may take from months to years to affect the jurisdiction. Initially lack of water may not even be noticed by the citizens. However, as the drought continues, its effects will be noticed by a continually expanding portion of the community until it is felt by all, and 3) Jurisdictions will be affected differently at different times as a drought develops. This will vary depending on the needs of each local jurisdiction. Some examples are: jurisdictions that have industry that requires a continuous supply of a large quantity of water; others have agriculture that requires water, but may only require it at certain times of the year; and, some jurisdictions have a backup source of water while others do not.

⁷ According to the most recent information from the Department of Natural Resources, the City of Milton while undergoing development does not have large areas of forested land that could develop into a wildland/urban interface fire. Further study is needed to determine the extent of the area that could be affected.

⁸ The definition of Abandoned Mines comes from the 2010 Pierce County HIRA: Abandoned mines are any excavation under the surface of the earth, formerly used to extract metallic ores, coal, or other minerals, and that are no longer in production.

⁹ The definition of Civil Disturbance comes from the 2010 Pierce County HIRA: Civil Disturbance (unrest) is the result of groups or individuals within the population feeling, rightly or wrongly, that their needs or rights are not being met, either by the society at large, a segment thereof, or the current overriding political system. When this results in community disruption of a nature where intervention is required to maintain public safety it has become a civil disturbance. Additionally, the Region 5 Strategic Plan includes Operational Objectives 3 & 4: Intelligence Gathering, Indicators, Warnings, etc; and Intelligence and Information Sharing.

¹⁰ The definition of Dam Failure comes from the 2010 Pierce County HIRA: A dam is any “barrier built across a watercourse for impounding water.”¹⁰ Dam failures are catastrophic events “characterized by the sudden, rapid, and uncontrolled release of impounded water. The vulnerability analysis was based on the potential dam failure from Mud Mountain Dam and Lake Tapps using Pierce County’s GIS data which originated from each of the dams emergency plans inundation maps.

¹¹ The definition of an Energy Emergency comes from the 2010 Pierce County HIRA: Energy emergency refers to an out-of-the-ordinary disruption, or shortage, of an energy resource for a lengthy period of time. Additionally the Region 5 Strategic Plan addresses Energy Emergencies in its Operational Objective 32, Restoration of Lifelines which addresses the restoration of critical services such as oil, gas, natural gas, electric, etc.

¹² The definition of epidemic comes from the TPCHD Flu Plan of 2005: A Pandemic is an epidemic occurring over a very wide area and usually affecting a large proportion of the population. Pandemics occur when a wholly new

subtype of influenza A virus emerges. A “novel” virus can develop when a virulent flu strain that normally infects birds or animals infects a human who has influenza; the two viruses can exchange genetic material, creating a new, virulent flu virus that can be spread easily from person-to-person. Unlike the flu we see yearly, no one would be immune to this new flu virus, which would spread quickly, resulting in widespread epidemic disease – a pandemic. (DOH Plan & U.S. Dept. of HHS).

¹³ The definition of Hazardous Materials comes from the 2010 Pierce County HIRA: Hazardous materials are materials, which because of their chemical, physical or biological properties, pose a potential risk to life, health, the environment, or property when not properly contained. A hazardous materials release then is the release of the material from its container into the local environment. A general rule of thumb for safety from exposure to hazardous material releases is 1000ft; the Emergency Response Guidebook 2008, established by the US Dept of Transportation, contains advice per specific materials. The vulnerability analysis was broken into two sub sections for a better understanding of the hazard using Pierce County’s GIS data with a 500 foot buffer on either side of the railroads and major roadways.

¹⁴ The definition of Pipeline Emergency comes from the 2010 Pierce County HIRA: While there are many different substances transported through pipelines including sewage, water and even beer, pipelines, for the purpose of this chapter, are transportation arteries carrying liquid and gaseous fuels. They may be buried or above ground

¹⁵ The definition of Terrorism comes from the 2010 Pierce County HIRA: Terrorism has been defined by the Federal Bureau of Investigation as, “the unlawful use of force or violence against persons or property to intimidate or coerce a Government, the civilian population or any segment thereof, in furtherance of political or social objectives.” These acts can vary considerably in their scope, from cross burnings and the spray painting of hate messages to the destruction of civilian targets. In some cases, violence in the schools has also been labeled as a form of terrorism.

¹⁶ The definition of Transportation Accident comes from the 2010 Pierce County HIRA: Transportation accidents as used in this assessment include accidents involving a method of transportation on the road, rail, air, and maritime systems within the confines of Pierce County. The vulnerability analysis was broken into three sub sections for a better understanding of the hazard using Pierce County’s GIS data; Commencement Bay to include inland rivers and streams, railroads, and roads. A 200 foot buffer was applied to all the shorelines and a 500 foot buffer on either side of the railroads and roadways.

¹⁷ In the Impact to Property, Facilities and Infrastructure, both Tables 4-5a and 4-5b, look at the impact to all property, facilities and infrastructure existing in the jurisdiction, not just to that owned by the jurisdiction.

¹⁸ The consideration for each of these hazards, in both Tables 4-5a and 4-5b, as to whether an individual hazard’s consequences exist, or not, is based on a possible worst case scenario. It must also be understood that a “yes” means that there is a good possibility that the consequence it refers to could happen as a result of the hazard, not that it will. Conversely “No” means that it is highly unlikely that that consequence will have a major impact, not that there will be no impact at all.

¹⁹ While the major volcanic hazard from Mt. Rainier is from a lahar descending the main river valleys surrounding the mountain, it is not the only problem. Most jurisdictions could receive tephra in greater or lesser amounts, sometimes with damaging results. Consequence analyses in this section take into account the possibility of tephra deposition in addition to a lahar.

²⁰ The Technological Consequences are added herein to acknowledge the role of human-caused hazards in the health and safety of unincorporated Pierce County. The consequences noted are under the same criteria as natural hazards given their impacts to the departmental assets.

Section 5

Mitigation Strategy Requirements

Mitigation Strategy---Requirement §201.6(c)(3):

The plan **shall** include a strategy that provides the jurisdiction's blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools.

Local Hazard Mitigation Goals---Requirement §201.6(c)(3)(i):

[The hazard mitigation strategy **shall** include a] description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.

- Does the new or updated plan include a description of mitigation **goals** to reduce or avoid long-term vulnerabilities to the identified hazards?

Identification and Analysis of Mitigation Actions---Requirement §201.6(c)(3) (ii):

[The mitigation strategy **shall** include a] section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure.

Identification and Analysis of Mitigation Actions: National Flood Insurance Program (NFIP) Compliance--Requirement §201.6(c)(3)(ii):

[The mitigation strategy] must also address the jurisdiction's participation in the National Flood Insurance Program (NFIP), and continued compliance with NFIP requirements, as appropriate.

- Does the new or updated plan identify and analyze a **comprehensive range** of specific mitigation actions and projects for each hazard?
- Do the identified actions and projects address reducing the effects of hazards on **new** buildings and infrastructure?
- Do the identified actions and projects address reducing the effects of hazards on **existing** buildings and infrastructure?
- Does the new or updated plan describe the jurisdiction(s) participation in the NFIP?
- Does the mitigation strategy identify, analyze and prioritize actions related to continued compliance with the NFIP?

Implementation of Mitigation Actions---Requirement: §201.6(c)(3) (iii):

[The mitigation strategy section **shall** include] an action plan describing how the actions identified in section (c)(3)(ii) will be prioritized, implemented, and administered by the local jurisdiction. Prioritization **shall** include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.

- Does the new or updated mitigation strategy include how the actions are **prioritized**? (For example, is there a discussion of the process and criteria used?)
- Does the new or updated mitigation strategy address how the actions will be **implemented and administered**, including the responsible department, existing and potential resources and the timeframe to complete each action?
- Does the new or updated prioritization process include an emphasis on the use of **cost-benefit review** to maximize benefits?
- Does the updated plan identify the completed, deleted or deferred mitigation actions as a benchmark for progress, and if activities are unchanged (i.e., deferred), does the updated plan describe why no changes occurred?

SECTION 5

REGION 5 ALL HAZARD MITIGATION PLAN 2015-2020 EDITION CITY OF MILTON MITIGATION STRATEGY SECTION

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Table 5-1 City of Milton Mitigation Strategy Matrix

| Implementation Mechanism | Mitigation Measure (<i>Hazard(s)</i>) ¹ | Lead Jurisdiction(s) / Department(s) | Timeline (years) | Plan Goals | | | | | |
|--------------------------|--|--|------------------|-------------------|-----------------------|--------------|-------------------|--------------|---------------------|
| | | | | Life and Property | Operations Continuity | Partnerships | Natural Resources | Preparedness | Sustainable Economy |
| Startup | 1. Existing Mitigation Actions (<i>E,L,T,V,D,F,WUI,SW,MM</i>) | Milton - Administration | Ongoing | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 2. Plan Maintenance (<i>E,L,T,V,D,F,WUI,SW,MM</i>) | Milton - Administration | Ongoing | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| HMF | 1. Pierce County Hazard Mitigation Forum (<i>E,L,T,V,D,F,WUI,SW,MM</i>) | PC DEM; Milton - Administration | Ongoing | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| City Government | 1. Capability Identification and Evaluation (<i>E,L,T,V,D,F,WUI,SW,MM</i>) | Milton | 1-2 | N/A | | | | | |
| | 2. Conduct Assessment and Develop Strategy for City Roads Impacted by Flooding (<i>F,SW</i>) | Milton | 5 | ✓ | ✓ | ✓ | ✓ | | ✓ |
| | 3. Seismic Replacement/Retrofit of City Owned Infrastructure (<i>E,SW</i>) | Milton | 5 | ✓ | ✓ | ✓ | | ✓ | ✓ |
| | 4. Flood: Identify and Mitigate Flood Prone Property (<i>F,SW</i>) | Milton | 5 | ✓ | | ✓ | ✓ | | ✓ |
| | 5. Conduct Assessment and Develop Strategy for City Roads Impacted by Flooding (<i>E,F,SW</i>) | Milton – Public Works Water | 5 | ✓ | ✓ | | | ✓ | |
| | 6. Replace Existing I-5 Crossing Substandard Water Main (<i>E</i>) | Milton – Public Works Water | 5 | ✓ | ✓ | | | ✓ | ✓ |
| | 7. Seismic Retrofit – Milton’s Water Reservoirs (<i>E,WUI,SW</i>) | Milton – Public Works Water | 5 | ✓ | ✓ | | | ✓ | ✓ |
| | 8. Construct Kent Street Detention Facilities (<i>L,F,,SW</i>) | Milton – Public Works | 5 | ✓ | ✓ | | | ✓ | ✓ |
| | 9. National Flood Insurance Program (<i>F</i>) | Milton (Community Development); PC PWU | Ongoing | ✓ | ✓ | ✓ | ✓ | ✓ | |
| | 10. Replace Existing Asbestos Concrete Water Mains (<i>E,F,SW</i>) | Milton – Public Works Water | 5 | ✓ | ✓ | | | ✓ | |
| | 11. Underground Feeders (<i>E,V,SW,MM</i>) | Milton and BPA | 5 | ✓ | ✓ | ✓ | | | ✓ |
| | 12. Replacement of 5 th Ave Culvert (<i>F</i>) | Milton –Public Works | 5 | ✓ | ✓ | | ✓ | | |
| | 13. Business Continuity Program Development (<i>E,V,WUI,SW</i>) | Milton – Light Division | Ongoing | | ✓ | ✓ | | | ✓ |
| | 14. Electric Emergency Notification (<i>E,V, SW</i>) | Milton - Electric | 1-2 | ✓ | ✓ | ✓ | | ✓ | |
| | 15. Emergency Public Works Generator (<i>E, V,SW,MM</i>) | Milton | 5 | ✓ | ✓ | | | | |
| | 16. Operations Continuity Program Development (<i>E,V, SW</i>) | Milton - Electric | 1-2 | | ✓ | ✓ | | ✓ | |
| | 17. Replace Substation Transformer (<i>MM</i>) | Milton - Electric | 5 | ✓ | ✓ | | | | ✓ |
| | 18. Substation Transformer Replacement (<i>E, V, SW,MM</i>) | Milton - Electric | 5 | ✓ | ✓ | | | | ✓ |
| | 19. Tacoma Power Tie (<i>E,V, SW, MM</i>) | Milton - Electric | 5 | ✓ | ✓ | ✓ | | ✓ | ✓ |
| | 20. Emergency Fire Generator (<i>E, MM</i>) | Milton – Fire/Electric | 1-2 | ✓ | ✓ | ✓ | | | |
| | 21. Landslide and Seismic Mitigation on Fife Way (<i>E, L, F, SW, MM</i>) | Milton – Public Works | 5 | ✓ | ✓ | | | | |

| Implementation Mechanism | Mitigation Measure (<i>Hazard(s)</i>) ¹ | Lead Jurisdiction(s) / Department(s) | Timeline (years) | Plan Goals | | | | | |
|--------------------------------|---|--------------------------------------|------------------|-------------------|-----------------------|--------------|-------------------|--------------|---------------------|
| | | | | Life and Property | Operations Continuity | Partnerships | Natural Resources | Preparedness | Sustainable Economy |
| <u>Public Education</u> | 1. Continue Hazard Related Training for City Staff and Elected Officials (<i>E,L,T,V,D,F,WUI,SW,MM</i>) | Milton – Emergency Management | Ongoing | ✓ | ✓ | ✓ | | ✓ | ✓ |
| | 2. Pandemic Influenza Preparedness (<i>MM</i>) | Milton - Fire | 5 | ✓ | ✓ | ✓ | | ✓ | |

Startup Mitigation Measures

Existing Mitigation Actions

Hazards: E, L, T, V, D, F, WUI, SW¹, MM²

The City of Milton will integrate the hazard mitigation plan into existing plans, ordinances, and programs to dictate land uses within the jurisdiction. Further, Milton will continue to implement existing programs, policies, and regulations as identified in the Capability Identification Section of this Plan. This includes such actions as updating the Critical Area Regulations and any ensuing land use policies with best available science. It also includes continuing those programs that are identified as technical capabilities.

1. **Goal(s) Addressed** = Protect Life and Property; Promote A Sustainable Economy; Ensure Continuity of Operations; Increase Public Preparedness for Disasters; Preserve or Restore Natural Resources; Establish and Strengthen Partnerships for Implementation.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be accomplished with local budgets or grants.
4. **Lead Jurisdiction(s)** = City of Milton - Administration
5. **Timeline** = Ongoing
6. **Benefit** = City-Wide
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Plan Maintenance

Hazards: E, L, T, V, D, F, WUI, SW¹, MM²

Milton will adopt those processes outlined in the Plan Maintenance Section of this Plan.

1. **Goal(s) Addressed** = Protect Life and Property; Promote A Sustainable Economy; Ensure Continuity of Operations; Increase Public Preparedness for Disasters; Preserve or Restore Natural Resources; Establish and Strengthen Partnerships for Implementation.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget.
4. **Lead Jurisdiction(s)** = City of Milton - Administration
5. **Timeline** = Ongoing
6. **Benefit** = City-Wide
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Hazard Mitigation Forum

Pierce County Hazard Mitigation Forum

Hazards: E, L, T, V, D, F, WUI, SW¹, MM²

Milton will work in conjunction with the County through the Pierce County Hazard Mitigation Forum (HMF). The Forum will continue as a means of coordinating mitigation planning efforts among all jurisdictions within the County that have completed a mitigation plan. This ensures efficient use of resources and a more cooperative approach to making a disaster resistant county. The HMF meets annually; every October. This is addressed in the Plan Maintenance Section of this Plan.

1. **Goal(s) Addressed** = Protect Life and Property; Promote A Sustainable Economy; Ensure Continuity of Operations; Increase Public Preparedness for Disasters; Preserve or Restore Natural Resources; Establish and Strengthen Partnerships for Implementation.
2. **Cost of Measure** = Minor
3. **Funding Source and Situation** = Funding could be obtained through local budget.
4. **Lead Jurisdiction(s)** = PC DEM; City of Milton
5. **Timeline** = Ongoing
6. **Benefit** = Regional
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

City Government Mitigation Measures

Capability Identification and Evaluation

Hazards: E, L, T, V, D, F, WUI, SW¹, MM²

Milton will develop a consistent and replicable system for evaluating the City's capabilities. A comprehensive evaluation will lead to specific policy recommendations to more effectively achieve disaster resistant communities. Further, a capability evaluation involves measurable variables so that capabilities may eventually be tracked in conjunction with the implementation of all mitigation measures. This is a key component in evaluating the success of the City's overall mitigation strategy.

1. **Goal(s) Addressed** = N/A. Goals addressed are contingent upon the mitigation measures resulting from this priority.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget or grants.
4. **Lead Jurisdiction(s)** = City of Milton
5. **Timeline** = Short-term
6. **Benefit** = City-Wide
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Conduct Assessment and Develop Strategy for City Roads Impacted by Flooding

Hazards: F, SW¹

The measure will involve identifying roads in the City that are impacted by flooding. Once the roads have been identified (such as 5th and Xavier Street), the City will develop a strategy to mitigate the flooding. This could be done through a number of techniques, such as creating compensatory storage by raising roads, creating retention ponds, or buying out property.

1. **Goal(s) Addressed** = Protect Life and Property; Promote A Sustainable Economy; Ensure Continuity of Operations; Preserve or Restore Natural Resources; Establish and Strengthen Partnerships for Implementation.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget local budgets or grants and state or federal grants.
4. **Lead Jurisdiction(s)** = City of Milton
5. **Timeline** = Long-term
6. **Benefit** = City of Milton and other regional partners
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Seismic Replacement/Retrofit of City Owned Infrastructure

Hazards: E, SW¹

The measure will involve identifying and mitigating City owned infrastructure that is in need of a seismic replacement/retrofit. The current City Hall and Activity Buildings are examples of such candidates, which would be good candidates for a seismic replacement.

1. **Goal(s) Addressed** = Protect Life and Property; Promote A Sustainable Economy; Ensure Continuity of Operations; Increase Public Preparedness for Disasters; Establish and Strengthen Partnerships for Implementation.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget or grants and state or federal grants.
4. **Lead Jurisdiction(s)** = City of Milton
5. **Timeline** = Long-term
6. **Benefit** = City of Orting and regional partners
7. **Life of Measure** = Varies and 5 years for assessment
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Flood: Identify and Mitigate Flood Prone Property

Hazards: F, SW¹

The measure will involve identifying and mitigating flood prone property. The City has a few areas that experience closed depression flooding. Over the past decade properties within these areas have been flooded. The City will catalog the properties and develop a strategy to mitigate the flooding. The strategy could include such measures as purchasing structures and turning the property back to its natural state or elevating structures on the property.

1. **Goal(s) Addressed** = Protect Life and Property; Promote A Sustainable Economy; Preserve or Restore Natural Resources; Establish and Strengthen Partnerships for Implementation.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budgets or grants and state or federal grants.
4. **Lead Jurisdiction(s)** = City of Milton, impacted parcels and Regional Partners
5. **Timeline** = Long-Term
6. **Benefit** = City of Orting and regional partners
7. **Life of Measure** = Varies – Perpetual for buyout
8. **Community Reaction** = the proposal would be somewhat controversial.

National Flood Insurance Program

Hazards: F

Milton will ensure that the City is compliant with the National Flood Insurance Program by updating floodplain identification and mapping, enforcing the flood damage prevention ordinance, and providing public education on floodplain requirements and impacts. The City of Milton will be an active participant in the Pierce County Flood Control District.

1. **Goal(s) Addressed** = Protect life and property; Ensure Continuity of Operations; Increase Public Preparedness; Increase and Strengthen Partnerships; Protect the Environment; Increase Public Preparedness
2. **Cost of Measure** = Staff time, special materials required, permits
3. **Funding Source and Situation** = Funding could be obtained through local budget or grants
4. **Lead Jurisdiction(s)** = Milton (Community Development); PC PWU
5. **Timeline** = On-going
6. **Benefit** = City-wide; Regional
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Conduct Assessment and Develop Strategy for City Roads Impacted by Flooding

Hazards: E, F, SW¹

The measure will involve identifying and implementing improvements to replace existing vulnerable water mains with newer reliable type materials.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations Increase; Public Preparedness for Disasters.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget or grants and state or federal grants.
4. **Lead Jurisdiction(s)** = City of Milton – Public Works Water Division
5. **Timeline** = Long-term
6. **Benefit** = All Citizens in the City of Milton corporate limits and customers in the City of Edgewood
7. **Life of Measure** = 50 years
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Replace Existing I-5 Crossing Substandard Water Main

Hazards: E¹

The measure will involve implementing improvements to replace existing vulnerable substandard water main crossing Interstate 5 at Birch Street with a new standard water main.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Increase Public Preparedness for Disasters; Promote A Sustainable Economy.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget or grants and state or federal grants.
4. **Lead Jurisdiction(s)** = City of Milton – Public Works Water Division
5. **Timeline** = Long-term
6. **Benefit** = Properties served west of I-5 corridor that are in the City of Milton limits and service areas.
7. **Life of Measure** = 50 years
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Seismic Retrofit – City of Milton’s Water Reservoirs

Hazards: E, WUI, SW¹

The measure will involve a seismic retrofit of the City of Milton’s water towers (15th Ave, 20th Ave, and 18th St Ct E). A seismic retrofit of the water towers would reduce the vulnerability of the existing infrastructure to the seismic hazard. The City relies on these towers for fire and water service which is vital to many aspects of the life and safety in the area.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Increase Public Preparedness for Disasters; Promote A Sustainable Economy.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget or grants and state or federal grants.
4. **Lead Jurisdiction(s)** =City of Milton – Public Works Water Division
5. **Timeline** = Long-term
6. **Benefit** = All citizens in the City of Milton city limits
7. **Life of Measure** = Varies-50 years
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Construct Kent Street Detention Facilities

Hazards: L, F, SW¹

The measure will involve implementing improvements to construct the Kent Street retention Pond in north western area of the city. This project will assist with reducing the flooding in the area of the Cities shops which is the location of three of the cities Domestic Water wells.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Increase Public Preparedness for Disasters; Promote A Sustainable Economy.
2. **Cost of Measure** = \$100,000 or TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget or grants and state or federal grants.
4. **Lead Jurisdiction(s)** = City of Milton – Public Works
5. **Timeline** = Long-term
6. **Benefit** = All Citizens within the City of Milton Corporate limits
7. **Life of Measure** = Varies-50 years
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Replace Existing Asbestos Concrete Water Mains

Hazards: E, F, SW¹

The measure will involve identifying and implementing improvements to replace existing vulnerable water mains with newer reliable materials.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Increase Public Preparedness for Disasters.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budgets or grants and state or federal grants.
4. **Lead Jurisdiction(s)** = City of Milton – Public Works Water Division
5. **Timeline** = Long-term
6. **Benefit** = All Citizens within the City of Milton Corporate limits
7. **Life of Measure** = 50 years
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Underground Feeders

Hazards: E, V, SW¹, MM²

Put the three feeders that serve the City of Milton underground from the point where they exit the Surprise Lake Substation to a predetermined location.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation; Promote A Sustainable Economy.
2. **Cost of Measure** = \$18,000,000
3. **Funding Source and Situation** = Funding could be obtained through state or federal grants.
4. **Lead Jurisdiction(s)** = City of Milton and BPA
5. **Timeline** = Long-term
6. **Benefit** = City of Milton, Tacoma Power/BPA
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal is likely to be somewhat controversial.

Replacement of 5th Ave Culvert

Hazards: F¹

Replace existing culvert at 5th Ave with new structure that won't flood surrounding properties, also improve Hylebos Creek environment.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Preserve or Restore Natural Resources.
2. **Cost of Measure** = \$3 Million
3. **Funding Source and Situation** = Funding could be obtained through local state or federal grants.
4. **Lead Jurisdiction(s)** = City of Milton - Department of Public Works
5. **Timeline** = Long-term
6. **Benefit** = Citizens of Milton
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Business Continuity Program Development

Hazards: E, V, WUI, SW¹

Identify critical business functions differentiating the critical from the less critical for power restoration.

1. **Goal(s) Addressed** = Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation; Promote A Sustainable Economy.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget or grants.
4. **Lead Jurisdiction(s)** = City of Milton – Light Division
5. **Timeline** = Ongoing
6. **Benefit** = Targeted businesses and customers
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal would be endorsed by the entire community.

Electric Emergency Notification

Hazards: E, V, SW¹

Provide updated outage reports during outages, especially those affecting the business corridor.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation; Increase Public Preparedness for Disasters.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budgets or grants.
4. **Lead Jurisdiction(s)** = City of Milton - Electric
5. **Timeline** = Short-term
6. **Benefit** = City business and residences
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal would is likely to be endorsed by the entire community.

Emergency Public Works Generator

Hazards: E, V, SW¹, MM²

Provide emergency generators for emergency power to the Public Works Maintenance shop and facilities.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations.
2. **Cost of Measure** = \$100,000
3. **Funding Source and Situation** = Funding could be obtained through local budget.
4. **Lead Jurisdiction(s)** = City of Milton
5. **Timeline** = Long-term
6. **Benefit** = Public Works employees
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal would benefit those affected, with no adverse reaction from others.

Operations Continuity Program Development

Hazards: E, V, SW¹

Identify each division's critical function and determine the role of each individual in maintaining the operations.

1. **Goal(s) Addressed** = Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation; Increase Public Preparedness for Disasters.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget.
4. **Lead Jurisdiction(s)** = City of Milton - Electric
5. **Timeline** = Short-term
6. **Benefit** = City of Milton staff
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Replace Substation Transformer

Hazards: MM²

Replace the aging transformer that feeds the City of Milton from the BPA owned substation.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Promote A Sustainable Economy.
2. **Cost of Measure** = \$1,500,000
3. **Funding Source and Situation** = Funding could be obtained through local budget or grants.
4. **Lead Jurisdiction(s)** = City of Milton - Electric
5. **Timeline** = Long-term
6. **Benefit** = City of Milton, City of Tacoma/BPA
7. **Life of Measure** = 30 years
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Substation Transformer Replacement

Hazards: E, V, SW¹, MM²

Replace the aging transformer that serves the City of Milton through the Surprise Lake Substation presently owned by BPA.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Promote A Sustainable Economy.
2. **Cost of Measure** = Varies
3. **Funding Source and Situation** = Funding could be obtained through local budget.
4. **Lead Jurisdiction(s)** = City of Milton - Electric
5. **Timeline** = Long-term
6. **Benefit** = City of Milton
7. **Life of Measure** = 30 years
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Tacoma Power Tie

Hazards: E, V, SW¹, MM²

Install a second feeder tie with Tacoma Power at I-5 and Porter Way.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation; Increase Public Preparedness for Disasters; Promote A Sustainable Economy.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget.
4. **Lead Jurisdiction(s)** = City of Milton - Electric
5. **Timeline** = Long-term
6. **Benefit** = City of Milton/Tacoma Fire
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Emergency Fire Generator

Hazards: E, MM²

Strengthen emergency operations by eliminating a lengthy start-up time during power outages due to present aging generator. The generator will also support joint operations with Public Works and other city divisions and maintain fire operations.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation.
2. **Cost of Measure** = \$100,000
3. **Funding Source and Situation** = Funding could be obtained through local budget.
4. **Lead Jurisdiction(s)** = City of Milton – Fire/Elect
5. **Timeline** = Short-term
6. **Benefit** = City Fire and City of Milton
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Landslide and Seismic Mitigation on Fife Way

Hazards: E, L, F, SW¹, MM²

Repair/Retrofit Fife Way from 2006 Landslide

1. **Goal(s) Addressed** = Protect Life and Property; Provide/Ensure Continuity of Operations.
2. **Cost of Measure** = \$250,000
3. **Funding Source and Situation** = Funding could be obtained through state or federal budgets.
4. **Lead Jurisdiction(s)** = City of Milton - Department of Public Works
5. **Timeline** = Long-Term
6. **Benefit** = Roadway, Water and Storm Infrastructure
7. **Life of Measure** = 50 years
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Public Education Mitigation Measures

Continue Hazard Related Training for City Staff and Elected Officials

Hazards: E, L, T, V, D, F, SW, WUI¹, MM²

The measure will involve continuing the Hazard Related Disaster Training for City Staff and Elected Officials. This will build on such classes that involve: Preparedness at Work, Home, and on the Road, NIMS Training, ATC Training, and Hazard Awareness Training. Having employees and officials prepared will help ensure City Operations and provide a faster response when hazards threaten the City.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation; Increase Public Preparedness for Disasters; Promote A Sustainable Economy.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget or grant and state or federal grant.
4. **Lead Jurisdiction(s)** = City of Milton – Emergency Mgmt
5. **Timeline** = Ongoing
6. **Benefit** = City of Milton (employees, elected officials, residents and businesses)
7. **Life of Measure** = Varies
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Pandemic Influenza Preparedness

Hazards: MM²

Develop a plan of countermeasures in the event of a major pandemic or similar event that would strategically alter the division's ability to function.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation; Increase Public Preparedness for Disasters.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = No potential funding sources can be readily identified.
4. **Lead Jurisdiction(s)** = City of Milton - Fire
5. **Timeline** = Long-term
6. **Benefit** = City Staff
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Mitigation Measure Monitoring

In comparison to the last update, the City of Milton has added the National Flood Insurance Program as a mitigation measure and is continuing all of the mitigation strategies as seen below in the table.

| Mitigation Strategy | New | Continuing | Accomplished | Removed from update (if applicable) |
|--|-----|------------|--------------|-------------------------------------|
| Existing Mitigation Actions (All) | | X | | |
| Plan Maintenance (All) | | X | | |
| Pierce County Hazard Mitigation Forum (E,L,T,V,D,F,WUI,SW,MM) | | X | | |
| Capability Identification and Evaluation (E,L,T,V,D,F,WUI,SW,MM) | | X | | |
| Conduct Assessment and Develop Strategy for City Roads Impacted by Flooding (F,SW) | | X | | |
| Seismic Replacement/Retrofit of City Owned Infrastructure (E,SW) | | X | | |
| Flood: Identify and Mitigate Flood Prone Property (F,SW) | | X | | |
| Conduct Assessment and Develop Strategy for City Roads Impacted by Flooding (E,F,SW) | | X | | |
| Replace Existing I-5 Crossing Substandard Water Main (E) | | X | | |
| Seismic Retrofit – Milton’s Water Reservoirs (E,WUI,SW) | | X | | |
| Construct Kent Street Detention Facilities (L,F,,SW) | | X | | |
| National Flood Insurance Program (F) | X | | | |
| Replace Existing Asbestos Concrete Water Mains (E,F,SW) | | X | | |

| | | | | |
|---|--|---|--|--|
| Underground Feeders (<i>E, V, SW, MM</i>) | | X | | |
| Replacement of 5 th Ave Culvert (<i>F</i>) | | X | | |
| Business Continuity Program Development (<i>E, V, WUI, SW</i>) | | X | | |
| Electric Emergency Notification (<i>E, V, SW</i>) | | X | | |
| Emergency Public Works Generator (<i>E, V, SW, MM</i>) | | X | | |
| Operations Continuity Program Development (<i>E, V, SW</i>) | | X | | |
| Replace Substation Transformer (<i>MM</i>) | | X | | |
| Substation Transformer Replacement (<i>E, V, SW, MM</i>) | | X | | |
| Tacoma Power Tie (<i>E, V, SW, MM</i>) | | X | | |
| Emergency Fire Generator (<i>E, MM</i>) | | X | | |
| Landslide and Seismic Mitigation on Fife Way (<i>E, L, F, SW, MM</i>) | | X | | |
| Continue Hazard Related Training for City Staff and Elected Officials (<i>E, L, T, V, D, F, WUI, SW, MM</i>) | | X | | |
| Pandemic Influenza Preparedness (<i>MM</i>) | | X | | |

Endnotes

¹ Hazard Codes:

Where necessary, the specific hazards addressed are noted as follows:

| | |
|-------------------|--|
| A: | Avalanche |
| E: | Earthquake |
| F: | Flood |
| D: | Drought |
| T: | Tsunami |
| V(L OR T): | Volcanic (lahar or tephra-specific) |
| SW: | Severe Storm (wind-specific) |
| L: | Landslide |
| WUI: | Wildland/Urban Interface Fire |
| MM: | Manmade to include terrorism |
| ALL: | All hazards, including some man made. Where only natural hazards are addressed, it is noted. |

² While this Plan is strictly a *Natural* hazard mitigation plan, where a measure stems from a facility recommendation (Infrastructure Section) that deals specifically with terrorism, the mitigation strategy will use that analysis. Other measures, such as those that deal with multi-hazard community preparedness or recovery planning, mitigate man-made hazards and are noted as such. It is not the intent of this notation to imply that all measures were analyzed with regards to man-made hazards or that measures were identified with that in mind. Rather, the notation merely illustrates the potential on this template for the inclusion of man-made hazard analysis.

Section 6

Infrastructure Requirements

Assessing Vulnerability: Identifying Structures---Requirement §201.6(c)(2) (ii)(A):

The plan **should** describe vulnerability in terms of the types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas.

- Does the new or updated plan describe vulnerability in terms of the **types and numbers** of **existing** buildings, infrastructure, and critical facilities located in the identified hazard areas?
- Does the new or updated plan describe vulnerability in terms of the **types and numbers** of **future** buildings, infrastructure, and critical facilities located in the identified hazard areas?

Assessing Vulnerability: Estimating Potential Losses---Requirement §201.6(c)(2) (ii)(B):

The plan **should** describe vulnerability in terms of an] estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(i)(A) of this section and a description of the methodology used to prepare the estimate.

- Does the new or updated plan estimate **potential dollar losses** to vulnerable structures?
- Does the new or updated plan describe the **methodology** used to prepare the estimate?

**REGION 5 ALL HAZARD MITIGATION PLAN
2015-2020 EDITION
CITY OF MILTON
INFRASTRUCTURE SECTION**

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The **Infrastructure** for the **City of Milton** is displayed in following tables and graphics:

- **Table 6-1 Infrastructure Summary**
- **Table 6-2 Infrastructure Category Summary**
- **Table 6-3 Infrastructure Vulnerability – Dependency Summary**
- **Table 6-4 Infrastructure Vulnerability – Hazard Summary**
- **Table 6-5 Infrastructure Dependency Matrix**
- **Table 6-6 Infrastructure Table**

The tables and graphics show the overview of infrastructure owned by the City of Milton. The infrastructure is categorized according to the infrastructure sectors as designated by the Department of Homeland Security. These tables are intended as a summary only. For further details on Department of Homeland Security infrastructure sectors, please see the Process Section 1.

Table 6-1 Infrastructure Summary

| INFRASTRUCTURE SUMMARY¹ | |
|---|--------------|
| TOTAL INFRASTRUCTURE (#) | 25 |
| TOTAL VALUE (\$) | \$24,449,700 |

Table 6-2 Infrastructure Category Summary

| INFRASTRUCTURE CATEGORY SUMMARY² | |
|--|----|
| EMERGENCY SERVICES | 2 |
| TELECOMMUNICATIONS | 0 |
| TRANSPORTATION | 0 |
| WATER | 12 |
| ENERGY | 1 |
| GOVERNMENT | 10 |
| COMMERCIAL | 0 |

Table 6-3 Infrastructure Vulnerability – Dependency Summary

| DEPENDENCE | # DEPENDENT ON SERVICE | % |
|---------------------------------------|-------------------------------|----------|
| RELIANCE ON EMERGENCY SERVICES | 2 of 25 | 8% |
| RELIANCE ON POWER | 17 of 25 | 68% |
| RELIANCE ON SEWER | 0 of 25 | 0% |
| RELIANCE ON TELECOMMUNICATION | 0 of 25 | 0% |
| RELIANCE ON TRANSPORTATION | 3 of 25 | 12% |
| RELIANCE ON WATER | 5 of 25 | 2% |

Table 6-4 Infrastructure Vulnerability – Hazard Summary

| HAZARD | # IN HAZARD ZONE | % |
|----------------------------|-------------------------|----------|
| DROUGHT | 17 of 25 | 68% |
| EARTHQUAKE | 25 of 25 | 100% |
| FLOOD | 5 of 25 | 20% |
| LANDSLIDE | 4 of 25 | 16% |
| VOLCANIC | 25 of 25 | 100% |
| WEATHER | 25 of 25 | 100% |
| WILDLAND/URBAN FIRE | 6 of 25 | 24% |

Table 6-5 Infrastructure Dependency Matrix

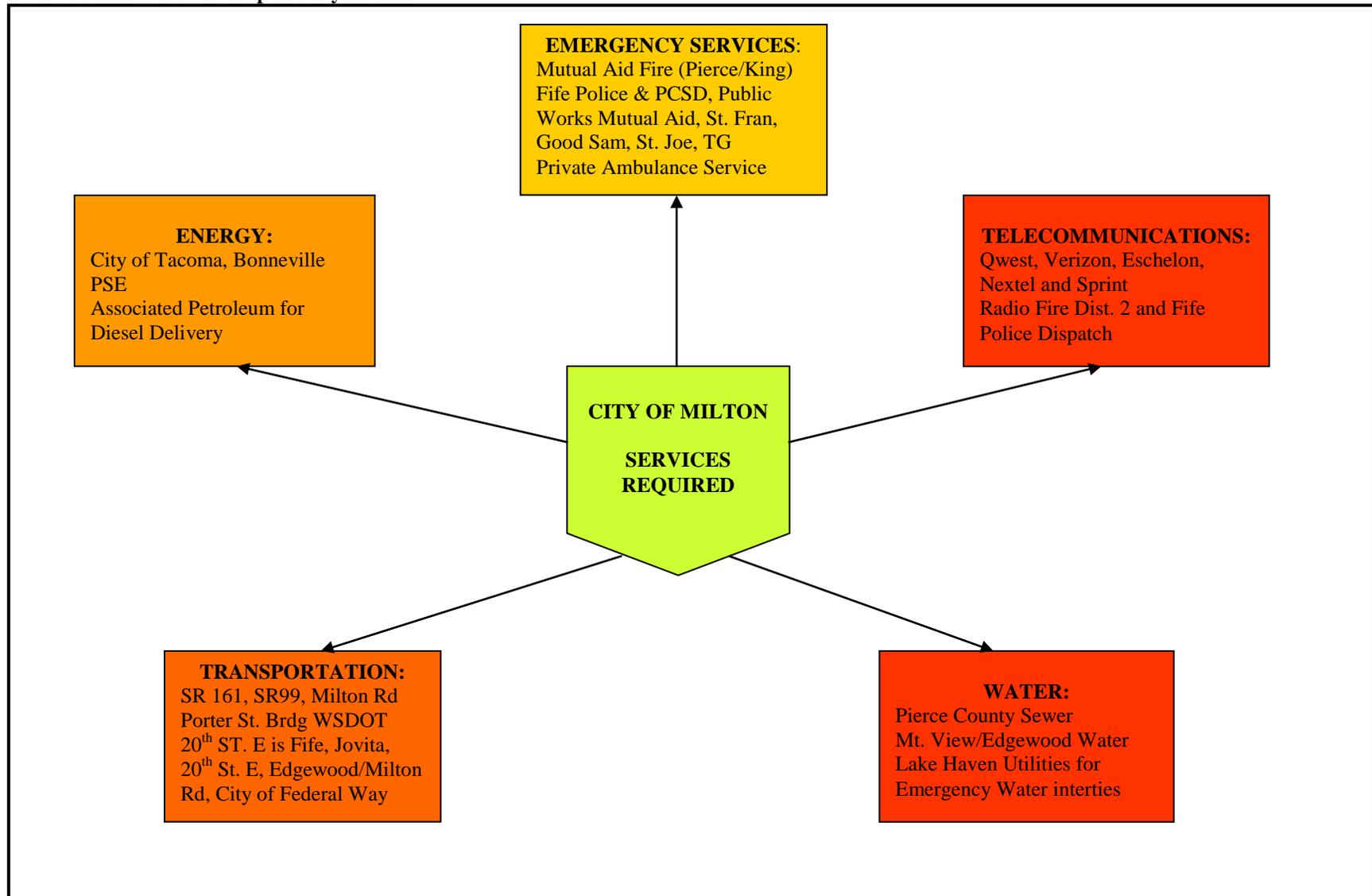


Table 6-6 Infrastructure Table

| INFRASTRUCTURE ³ | BUILT ⁴ | FLOORS | UPGRADES ⁵ | VALUE | OCCUPANCY | HAZARD | | | | | | | RELIANCE | | | | | | | |
|---|--------------------|--------|-----------------------|--------------|-----------|------------|---------|------------|----------|-------|-----------|---------|----------|---------|-----------|-------|-------|----------|-----------|-------|
| | | | | | | AVAILANCHE | DROUGHT | EARTHQUAKE | WUI FIRE | FLOOD | LANDSLIDE | Tsunami | VOLCANIC | WEATHER | EMERGENCY | POWER | SEWER | TELECOMM | TRANSPORT | WATER |
| Fire Station (C,9) | | | | \$1,030,900 | | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 1 |
| Olympic View Park (9) | 2000 | NA | | | | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19th Avenue Park (9) | 1984 | NA | No | \$383,700 | | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| West Milton Park (9) | 1977 | NA | No | Assessed | | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Triangle Park, Restrooms/Facilities (9) | 1977 | NA | No | \$144,000 | | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Skate Park (9) | 2004 | NA | No | \$417,000 | | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Public Water Pipe, Valves, Hydrants (C,9) | 1940 | NA | Constant | \$14,000,000 | | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 2 | 0 | 0 | 0 | 0 |
| Activity Center/Library (C,AP,9,S) | 1985 | 1 | No | \$3,300,000 | 0-100 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 |
| City Hall (C,AP,9) | 1950 | 2 | No | \$3,500,000 | 25 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 |
| Well #5 (9) | 1992 | 1 | No | \$100,000 | | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 0 |
| Well #3 (C,9) | 1996 | 1 | No | \$100,000 | | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 2 | 1 | 0 | 2 | 0 | 0 | 0 | 0 |
| Well #10 (C,AP,9) | 1989 | 1 | No | \$350,000 | | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| Well #12 (C,AP,9) | 2004 | 1 | No | \$356,000 | | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| Water Purification Plant (C,AP,9) | 1991 | 1 | No | \$260,000 | | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| Public Works Maintenance Bldg (C,9) | 1990 | 1 | No | \$313,000 | 15 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 2 | 1 |
| 20th Ave Booster Station (C,9) | 1975 | 1 | \$115,000 | \$350,000 | | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 20th Ave 1MG Tank (C,9) | 1958 | NA | No | \$1,050,000 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 15th Ave Booster Station (C,AP,9) | 1962 | 1 | \$138,000 | \$300,000 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 350,000 tank (C,9) | 1958 | NA | No | | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| Police Station (C,AP,9) | 1984 | 1 | No | | | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 2 | 1 |
| Corridor well ad filtration treatment plant (C,9) | 2006 | NA | \$395,000 | \$1,500,000 | | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 2 | 1 | 0 | 2 | 0 | 0 | 0 | 0 |
| Wells #13 & #14 (C,9) | 2006 | NA | No | | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 2 | 1 | 0 | 2 | 0 | 0 | 0 | 0 |
| Interurban Trail (9) | | NA | No | | | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| BPA Sub-Station Connector (C,9) | | NA | No | | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 0 |

| INFRASTRUCTURE ³ | BUILT ⁴ | FLOORS | UPGRADES ⁵ | VALUE | OCCUPANCY | HAZARD | | | | | | | | | | | RELIANCE | | | | |
|---------------------------------------|--------------------|--------|-----------------------|-------------|-----------|------------|---------|------------|----------|-------|-----------|---------|----------|---------|-----------|-------|----------|----------|-----------|-------|--|
| | | | | | | AVAILANCHE | DROUGHT | EARTHQUAKE | WUI FIRE | FLOOD | LANDSLIDE | TSUNAMI | VOLCANIC | WEATHER | EMERGENCY | POWER | SEWER | TELECOMM | TRANSPORT | WATER | |
| 2MG Tank and booster Station (C,AP,9) | | NA | No | \$2,500,000 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | |
| Small activities bldg. (9) | | NA | No | | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | |

Table 6-7 Infrastructure Table Key – Hazard Ratings

| HAZARD CATEGORY | RATING | SELECTION FACTOR OR DESCRIPTION |
|------------------------|---------------|--|
| Avalanche | 0 | The infrastructure is not located in a known avalanche prone area. |
| | 1 | The infrastructure is in an avalanche prone area but has no prior history of avalanche damage. |
| | 2 | The infrastructure is in an avalanche prone area and has experienced some limited avalanche damage in the past. |
| | 3 | The infrastructure is in an avalanche prone area and has experienced significant avalanche damage. |
| Drought | 0 | The infrastructure would not suffer any damage or operational disruption from a drought. |
| | 1 | The infrastructure could suffer some damage or minor operational disruption from a drought. |
| | 2 | The infrastructure has suffered damages or significant operational disruption from past droughts. |
| | 3 | The infrastructure has suffered damages or significant disruption from past droughts which has had serious community economic or health consequences. |
| Flood | 0 | The infrastructure is not located in a known flood plain or flood prone area. |
| | 1 | The infrastructure is in a flood plain or flood prone area but has no prior history of flood damage. |
| | 2 | The infrastructure is in a flood plain or flood prone area and has experienced some flood damage in the past. |
| | 3 | The infrastructure is in a flood plain or flood prone area and has experienced significant flood damage, or the property is an NFIP repetitive loss property. |
| Earthquake | 0 | The infrastructure is not located in an area considered to have any significant risk of earthquake |
| | 1 | The infrastructure is in an area considered as at risk to earthquakes but has no prior history of earthquake damage. |
| | 2 | The infrastructure is in an area considered as at risk to earthquakes, is located on soft soils, and has no history of damage OR In an area considered as at risk to earthquakes and has experienced some limited earthquake damage. |
| | 3 | The infrastructure is in an area considered as at risk to earthquakes, is located on soft soils and experienced significant earthquake damage. |
| Landslide | 0 | The infrastructure is not located in a known area considered vulnerable to landslides. |
| | 1 | The infrastructure is in area vulnerable to landslides but has no prior history of landslides. |
| | 2 | The infrastructure is in area vulnerable to landslides area and infrastructure has experienced some landslide damage. |
| | 3 | The infrastructure is in area vulnerable to landslides and infrastructure has experienced significant landslide damage. |
| Major U/I Fire | 0 | The infrastructure meets the current fire code, has adequate separation from other structures and good access, and is not close to heavily vegetated areas. |
| | 1 | The infrastructure meets the current code, is not close to heavily vegetated areas, but access and/or separation from nearby structures increase fire risk. |
| | 2 | The infrastructure does not meet current fire code, is in or adjacent to large vegetated areas, and has inadequate access and/or separation from other structures. |

| HAZARD CATEGORY | RATING | SELECTION FACTOR OR DESCRIPTION |
|--------------------------|--------|---|
| | 3 | The infrastructure does not meet the current code, is in or adjacent to vegetated areas, with access limitations or structure separation making fire suppression difficult. |
| Severe Weather | 0 | The infrastructure would not suffer any damage or operational disruption from severe weather. |
| | 1 | The infrastructure could suffer some damage or minor operational disruption from severe weather. |
| | 2 | The infrastructure has suffered damages or significant operational disruption from past severe weather. |
| | 3 | The infrastructure has suffered damages or significant disruption from past severe weather which has had serious community economic or health consequences. |
| Tsunami/or Seiche | 0 | The infrastructure is not located in or near a known area considered to be a tsunami or seiche inundation area. |
| | 1 | The infrastructure is located at the edge of a designated tsunami or seiche risk zone. |
| | 2 | The infrastructure is located just inside a designated tsunami or seiche risk zone, but has no prior damage. |
| | 3 | The infrastructure is located well inside a designated tsunami or seiche risk zone, and/or has experienced prior tsunami or seiche damage. |
| Volcanic | 0 | The infrastructure is not located in or near a known area with significant risk from volcanic hazards. |
| | 1 | The infrastructure is in or near an area that could receive some ashfall, but has no structural features, equipment or operations considered vulnerable to ash. |
| | 2 | The infrastructure is in or near an area where heavy ashfall or a debris flow could occur. |
| | 3 | The infrastructure is in an area known to have experienced heavy ashfall, debris flow or blast effects from past volcanic activity. |

Table 6-8 Infrastructure Table Key – Dependency Ratings

| EXTERNAL DEPENDENCY CATEGORY | RATING | SELECTION FACTOR OR DESCRIPTION |
|------------------------------------|--------|--|
| Emergency Services | 0 | The infrastructure can maintain essential functions without emergency services. |
| | 0 | The infrastructure has ability to independently provide emergency services to all essential functions of infrastructure. |
| | 1 | The infrastructure would have to <u>curtail</u> operations somewhat without emergency services with <u>no</u> direct economic/environmental/safety/health consequences. |
| | 2 | The infrastructure would have to <u>curtail</u> operations somewhat without emergency services with <u>some</u> direct economic/environmental/safety/health consequences. OR <u>stop</u> operations with <u>no</u> direct economic/environmental/safety/health consequences. |
| | 3 | The infrastructure would have to <u>stop</u> its operations without emergency services and <u>significant</u> economic/environmental/safety/health consequences will occur. |
| Power Outage | 0 | The infrastructure can maintain essential functions without electricity or gas supply. |
| | 0 | Infrastructure has ability to independently provide power to all essential functions of infrastructure. |
| | 1 | The infrastructure would have to <u>curtail</u> operations somewhat without gas or electrical supply, with <u>no</u> direct economic/environmental/safety/health consequences. |
| | 2 | The infrastructure would have to <u>curtail</u> operations somewhat without gas or electrical supply, with <u>some</u> direct economic/environmental/safety/health consequences. OR <u>stop</u> operations with <u>no</u> direct economic/environmental/safety/health consequences. |
| | 3 | The infrastructure would have to <u>stop</u> its operations without gas or electrical supply and <u>significant</u> economic/environmental/safety/health consequences will occur. |
| Sewer Out | 0 | The infrastructure can maintain essential functions without sewer service |
| | 0 | The infrastructure has ability to independently provide wastewater or septic service to support essential functions. |
| | 1 | The infrastructure would have to <u>curtail</u> operations somewhat without wastewater service, with <u>no</u> direct economic/environmental/safety/health consequences. |
| | 2 | The infrastructure would have to <u>curtail</u> operations somewhat without wastewater service, with <u>some</u> direct economic/environmental/safety/health consequences. OR <u>stop</u> operations with <u>no</u> direct economic/environmental/safety/health consequences. |
| | 3 | The infrastructure would have to <u>stop</u> its operations without wastewater service and <u>significant</u> economic/environmental/safety/health consequences will occur. |
| Telecomm Failure | 0 | The infrastructure can maintain essential functions without telecommunications. |
| | 0 | The infrastructure has ability to independently provide phone service or alternate/redundant communications systems to support essential functions. |
| | 1 | The infrastructure would have to <u>curtail</u> operations somewhat without telecommunication service, with <u>no</u> direct economic/environmental/safety/health consequences. |
| | 2 | The infrastructure would have to <u>curtail</u> operations somewhat without telecommunication service, with <u>some</u> direct economic/environmental/safety/health consequences. OR <u>stop</u> operations with <u>no</u> direct economic/environmental/safety/health consequences. |
| | 3 | The infrastructure would have to <u>stop</u> its operations without telecommunication service and <u>significant</u> economic/environmental/safety/health consequences will occur. |
| Transportation | 0 | The infrastructure can maintain essential functions without transportation routes. |
| | 0 | Infrastructure has ability to independently provide alternate transportation, in the absence of transportation routes, to ensure all essential functions. |
| | 1 | The infrastructure would have to <u>curtail</u> operations somewhat without transportation routes with <u>no</u> direct economic/environmental/safety/health consequences. |
| | 2 | The infrastructure would have to <u>curtail</u> operations somewhat without transportation routes with <u>some</u> direct economic/environmental/safety/health consequences. OR <u>stop</u> operations with <u>no</u> direct economic/environmental/safety/health consequences. |

| EXTERNAL DEPENDENCY CATEGORY | RATING | SELECTION FACTOR OR DESCRIPTION |
|------------------------------------|--------|---|
| | 3 | The infrastructure would have to <u>stop</u> its operations without transportation routes and <u>significant</u> economic/environmental/safety/health consequences will occur. |
| Water Supply | 0 | The infrastructure can maintain essential functions without its water supply. |
| | 0 | The infrastructure has ability to independently provide water to support essential functions. |
| | 1 | The infrastructure would have to <u>curtail</u> operations somewhat without water supply, with <u>no</u> direct economic/environmental/safety/health consequences. |
| | 2 | The infrastructure would have to <u>curtail</u> operations somewhat without water supply, with <u>some</u> direct economic/environmental/safety/health consequences. OR <u>stop</u> operations with <u>no</u> direct economic/environmental/safety/health consequences. |
| | 3 | The infrastructure would have to <u>stop</u> its operations without its water supply and <u>significant</u> economic/environmental/safety/health consequences will occur. |

Endnotes

¹ This is a total of infrastructure and the approximate value provided by the jurisdiction. If no value, then value was not provided or not available.

² These are the Homeland Security Infrastructure Categories which were used in completing the Infrastructure Tables in the plan.

³ The following table explains the codes used in this column:

| Code | Explanation |
|-------------|--|
| C | Infrastructure critical in first 72 hours after disaster |
| AP | Infrastructure has auxiliary or backup power |
| (#) | Homeland Security Infrastructure Category Number |
| S | Infrastructure is a designated community shelter |

⁴ The “built” column refers to the year in which the original infrastructure was constructed.

⁵ This column addresses major remodels, upgrades or additions to the infrastructure in dollar amount and/or year of changes.

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Section 7

Plan Maintenance Procedures Requirements

Monitoring, Evaluating, and Updating the Plan---Requirement §201.6(c)(4)(i):

[The plan maintenance process **shall** include a] section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle.

- Does the new or updated plan describe the method and schedule for **monitoring** the plan, including the responsible department?
- Does the new or updated plan describe the method and schedule for **evaluating** the plan, including how, when and by whom (i.e. the responsible department)?
- Does the new or updated plan describe the method and schedule for **updating** the plan within the five-year cycle?

Incorporation into Existing Planning Mechanisms---Requirement §201.6(c)(4) (ii):

[The plan **shall** include a] process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans, when appropriate...

- Does the new or updated plan identify other local planning mechanisms available for incorporating the mitigation requirements of the mitigation plan?
- Does the new or updated plan include a process by which the local government will incorporate the mitigation strategy and other information contained in the plan (e.g., risk assessment) into other planning mechanisms, when appropriate?
- Does the updated plan explain how the local government incorporated the mitigation strategy and other information contained in the plan (e.g., risk assessment) into other planning mechanisms, when appropriate?

Continued Public Involvement---Requirement §201.6(c)(4) (iii):

[The plan maintenance process **shall** include a] discussion on how the community will continue public participation in the plan maintenance process.

- Does the new or updated plan explain how continued public participation will be obtained? (For example, will there be public notices, an on-going mitigation plan committee, or annual review meetings with stakeholders?)

SECTION 7

**REGION 5 ALL HAZARD MITIGATION PLAN
2015-2020 EDITION
CITY OF MILTON
PLAN MAINTENANCE SECTION**

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The planning process undertaken in the last two years is just the foundation of breaking the disaster cycle by planning for a disaster resistant City of Milton and Pierce County Region 5. This Section details the formal process that will ensure the City of Milton Hazard Mitigation Plan remains an active and relevant document. The Plan Maintenance Section includes a description of the documentation citing the Plan's formal adoption by the Administration. The Section also describes: the method and schedule of monitoring, evaluating, and updating within a five-year cycle; the process for incorporating the mitigation strategy into existing mechanisms; and, the process for integrating public participation throughout the plan maintenance. The Section serves as a guide for implementation of the hazard mitigation strategy.

Plan Adoption

Upon completion of the City of Milton Plan, it will be submitted to Washington State Emergency Management Division (EMD) for a Pre-Adoption Review. The EMD has 30 days to then take action on the Plan and forward it to the Federal Emergency Management Agency (FEMA) Region X for review. This review, which is allowed 45 days by law, will address the federal criteria outlined in FEMA Interim Final Rule 44 CFR Part 201.6. In completing this review there may be revisions requested by the EMD and/or FEMA. Revisions could include changes to background information, editorial comments, and the alteration of technical content. Pierce County Department of Emergency Management (PC DEM) will call a Planning Team Meeting to address any revisions needed and resubmit the changes.

The Milton City Council is responsible for the adoption of the Plan after the Pre-Adoption Review by the EMD and the FEMA Region X. Once the City adopts the Plan, the Fire Chief will be responsible for submitting it, with a copy of the resolution, to the State Hazard Mitigation Officer at the Washington State EMD. EMD will then take action on the Plan and forward it to the FEMA Region X for final approval. Upon approval by FEMA, the City will gain eligibility for both Hazard Mitigation Grant Program and Pre-Disaster Mitigation Grant Program funds.

Appendix A will list the dates and include a copy of the signed Resolution from the jurisdiction as well as a copy of the FEMA approval of the jurisdiction's Plan. In future updates of the Plan, Appendix C will be used to track changes and/or updates. This plan will have to be re-adopted and re-approved prior to the five year deadline of February 10, 2020.

Maintenance Strategy

The City of Milton maintenance strategy for implementation, monitoring, and evaluation provides a structure that encourages collaboration, information transference, and innovation. Through a multi-tiered implementation method, the City of Milton will provide its citizens a highly localized approach to loss reduction while serving their needs through coordinated policies and programs. The method's emphasis on all levels of participation promotes public involvement and adaptability to changing risks and vulnerabilities. Finally, it will provide a tangible link between citizens and the various levels of government service, ranging from

community action to the Department of Homeland Security. Through this strategy, City of Milton will continue to break the disaster cycle and achieve a more disaster resistant community.

Implementation

In order to ensure efficient and effective implementation, the City of Milton will make use of its capabilities, infrastructure, and dedicated population. The City will implement its mitigation strategy over the next five years primarily through its annual budget process and varying grant application processes. All programs and entities identified in the Capability Identification Section will serve as the implementing mechanisms within those processes.

The City Administration will work in conjunction with those departments identified in both the capability identification and under each mitigation measure to initiate the mitigation strategy. For example, any infrastructure-related measures will be implemented through the Capital Improvement Plan and the various departments involved through the normal budget schedule. Any regulatory and land use measures will continue to be implemented through collaboration with the Community Development Department and its updates of the City's Comprehensive Plan. Other measures will be implemented through collaboration with the identified jurisdictions/departments listed under each measure's evaluation and through the mechanisms and funding sources identified in the Capability Identification Section.

These efforts fall under a broader implementation strategy that represents a county-wide effort. This strategy must be adaptable to change while being consistent in its delivery.

The mitigation implementation strategy is a three-tiered method that emphasizes localized needs and vulnerabilities while addressing both City and multi-jurisdictional policies and programs. The first tier is implementation through individual citizen level—existing Public Education Programs in the City (for example, at the individual level through the Public Safety Fair and at the neighborhood level through PC NET). The second tier is the City-Wide mechanism for implementation, in this case the City Administration. The third tier is a more external and multi-jurisdictional mechanism, the Hazard Mitigation Forum (HMF).

This method ensures that implementation speaks to unique vulnerabilities at the most local level, allows for coordination among and between levels, and promotes collaboration and innovation. Further, it provides a structured system of monitoring implementation. Finally, it is a method that can adapt to the changing vulnerabilities of the City, the region, and the times. These three levels and their means of implementation and collaboration are described below.

Public Education Programs

At the individual citizen level, Public Education Programs provide the City with a localized mechanism for implementation. This approach to mitigation can adapt to the varying vulnerabilities and needs within a growing City and region. Public Education Programs are also a means for involving the public in mitigation policy development. Departments conducting mitigation-related programs will provide the existing targeted neighborhoods and special-needs populations a catalogue of mitigation measures from which individuals can choose those that would be most effective in their communities. For example, currently the City is working with PC DEM to begin forming City of Milton Pierce County Neighborhood Emergency Teams (PC NETs) to better prepare for, and respond to, disasters. PC NETs provide a coordinated group of communities through which individuals can implement home and neighborhood level mitigation measures.

Jurisdiction-Wide: City Administration

The City Administration will be the body responsible for determining the direction of the Plan's implementation. The City Administration is responsible to the Mayor for the day-to-day operations of the City and its departments, the annual budget, and personnel. The City Administrator follows the general policy as set by the City Council. The Department is responsible for the City's selection, evaluation, and training of all city staff. It oversees, coordinates, and manages the activities of all city departments and offices in carrying out the requirements of ordinances, laws, rules and regulations.

Initially, the City Administration will be responsible for the overall review of the plan and will designate mitigation measures to those departments responsible for their implementation. This will be done with assistance from both the Emergency Management Coordinator and a Senior Planner from Community Development Department. The City Administration will address the Plan on an annual basis during the month of October. Both the Fire and the Community Planning Departments will monitor the plan's implementation throughout the year and report to the City Administration at this annual meeting. Evaluation and updates will be completed at this meeting. Recommendations will be made to coincide with the normal budgeting processes and provide an ample time period for review and adoption of any necessary changes to the implementation schedule.

Eventually, the City Administration may choose to cede this responsibility to an Emergency Management Committee. This committee would be composed of representatives from the departments identified in the Capability Identification Section as having a role in hazard mitigation. The Committee would ultimately provide a mechanism for coordination among those departments engaged in mitigation to ensure that a comprehensive and efficient approach be undertaken in Milton's efforts at all-hazards mitigation.

Hazard Mitigation Forum

The PC Hazard Mitigation Forum (HMF) represents a broader and multi-jurisdictional

approach to mitigation implementation. The PC HMF will be comprised of representatives from unincorporated Pierce County and all jurisdictions, partially or wholly, within its borders that have undertaken mitigation planning efforts. The PC HMF will serve as coordinating body for projects of a multi-jurisdictional nature and will provide a mechanism to share successes and increase the cooperation necessary to break the disaster cycle and achieve a disaster resistant Pierce County. Members of the PC HMF will include the following jurisdictions who have completed, or who have begun the process of completing, DMA 2000 compliant plans:

- City of Bonney Lake
- City of DuPont
- City of Fife
- City of Gig Harbor
- City of Milton
- City of Roy
- City of Tacoma
- Town of Eatonville
- Town of Steilacoom
- Pierce County
- East Pierce Fire and Rescue
- Graham Fire and Rescue
- Orting Valley Fire and Rescue
- Pierce County Fire District 14
- Pierce County Fire District 27
- West Pierce Fire and Rescue
- Clover Park School District
- Eatonville School District
- Franklin Pierce School District
- Pacific Lutheran University
- Puyallup School District
- Sumner School District
- University Place School District
- Crystal River Ranch HOA
- Herron Island HOA
- Pierce Transit
- Raft Island HOA
- Taylor Bay Beach Club
- Firgrove Mutual Water Company
- Graham Hill Mutual Water Company
- Lakewood Water District
- Ohop Mutual Light Company
- Spanaway Water Company
- Tanner Electric
- City of Buckley
- City of Edgewood
- City of Fircrest
- City of Lakewood
- City of Orting
- City of Sumner
- Town of Carbonado
- Town of South Prairie
- Town of Wilkeson
- Central Pierce Fire and Rescue
- Gig Harbor Fire and Medic One
- Key Peninsula Fire Department
- Pierce County Fire District 13
- Pierce County Fire District 23
- South Pierce Fire and Rescue
- Carbonado School District
- Dieringer School District
- Fife School District
- Orting School District
- Peninsula School District
- Steilacoom School District
- Tacoma School District
- American Red Cross
- Crystal Village HOA
- Metropolitan Park District
- Port of Tacoma
- Riviera Community Club
- Clear Lake Water District
- Fruitland Mutual Water Company
- Lakeview Light and Power
- Mt. View-Edgewood Water Company
- Peninsula Light Company
- Summit Water and Supply Company
- Valley Water District

- Cascade Regional Blood Services
- Dynamic Partners
- Group Health
- MultiCare Health System
- 76 Jurisdictions in this effort
- Community Health Care
- Franciscan Health System
- Madigan Hospital
- Western State Hospital

Coordinated by PC DEM, the PC HMF will meet annually in November. The City of Milton will be an active participant in the PC HMF, and will be represented by the Emergency Management Coordinator. Only through this level of cooperation can these jurisdictions meet all of their mitigation goals.

Plan Evaluation and Update

It should be noted this planning process began in early 2012 following the then current CFR 201.6 Hazard Mitigation Planning Requirements. Based on new requirements in the Stafford Act, the City of Milton will evaluate and update the plan to incorporate these new requirements as necessary. Furthermore, if there are additional Stafford Act changes affecting CFR 201.6 in the coming years, the planning process will incorporate those as well.

The City of Milton Plan will guide the City's mitigation efforts for the foreseeable future. City of Milton Representatives on the Planning Team has developed a method to ensure that regular review and update of the Plan occur within a five year cycle. The City Administration will coordinate any reviews through the November meeting noted above.

PC DEM will collaborate with the Emergency Management Coordinator and the PC HMF to monitor and evaluate the mitigation strategy implementation. PC DEM will track this implementation through Pierce County's GIS database. Findings will be presented and discussed at the annual meeting.

The Fire and Community Planning Departments will provide a report of the Plan's implementation to the City Administration at the annual meeting. This report will drive the meeting agendas and will include the following:

- Updates on implementation throughout the City;
- Updates on the PC HMF and mitigation activities undertaken by neighboring jurisdictions;
- Changes or anticipated changes in hazard risk and vulnerability at the City, county, regional, State, FEMA, and Homeland Security levels;
- Problems encountered or success stories;
- Any technical or scientific advances that may alter, make easier, or create measures.

The City Administration and local experts will decide on updates to the strategy based on the above information and a discussion of:

- The various resources available through budgetary means as well as any relevant

- grants;
- The current and expected political environment and public opinion;
- Meeting the mitigation goals with regards to changing conditions.

PC DEM will work with the Emergency Management Coordinator to review the Risk Assessment Section to determine if the current assessment should be updated or modified based on new information. This will be done during the regularly scheduled reviews of the Hazard Identification and Vulnerability Analysis and the Comprehensive Emergency Management Plan.

Additional reviews of this Plan will be required following disaster events and will not substitute for the annual meeting. Within ninety days following a significant disaster or an emergency event impacting the City, Emergency Management Coordinator will provide an assessment that captures any “success stories” and/or “lessons learned.” The assessment will detail direct and indirect damages to the City and its infrastructure, response and recovery costs, as part of the standard recovery procedures that use EMD Forms 129, 130, and 140. This process will help determine any new mitigation initiatives that should be incorporated into the Plan to avoid similar losses due to future hazard events. In this manner, recovery efforts and data will be used to analyze mitigation activities and spawn the development of new measures that better address any changed vulnerabilities or capabilities. Any updates to the Plan will be addressed at the annual November meeting.

As per 44 CFR 201.6, the City of Milton must re-submit the Plan to the State and FEMA with any updates every five years. This process will be coordinated by PC DEM through the Pierce County Hazard Mitigation Forum. In 2013 and every five years following at the Hazard Mitigation Forum, the City of Milton will submit the updated plan to PC DEM. PC DEM’s Mitigation and Recovery Program Manager will collect updates from the Region 5 Plan jurisdictions and submit them to the State EMD and FEMA.

Continued Public Involvement

City of Milton is dedicated to continued public involvement and education in review and updates of the Plan. The City will retain copies of the Plan and will post it on the City of Milton website.¹ Announcements regarding the Plan’s adoption and the annual updates to the Plan will be advertised on the City of Milton website.

The three-tiered implementation method provides an opportunity for continuous public involvement. Public Education campaigns are a means of informing the public on updates and implementation activities. Further, prior to submitting the Plan to WA EMD and FEMA for the five year review, the City Administration and the Emergency Management Team will hold public information and comment meeting. These meetings will provide the public a forum for which it can express its concerns, opinions, or ideas about the City of Milton. This meeting will be advertised in the City of Milton through a variety of media, including the City of Milton official newspaper and a posting on the website.

The City of Milton will conduct a review on a yearly basis to ensure all elements of the mitigation plan are updated and accurate. Each of the 76 jurisdictions has been tasked with having to provide documentation on public involvement including a brief description for each public hearing held, a summary on attendance, any feedback received from the public and the an overall description of what was accomplished. Even further, the City of Milton will provide proof of their attempts for public involvement such as screenshots of websites including date ranges, flyers and other relevant material documenting the public involvement process. Lastly, the City of Milton will look for new innovative ways for public involvement.

Endnotes

¹<http://www.cityofmilton.net>

APPENDIX A

REGION 5 ALL HAZARD MITIGATION PLAN 2015-2020 EDITION CITY OF MILTON

Plan Adoption

The “*Region 5 Hazard Mitigation Plan*” was adopted by the City of Milton’s City Council on XXX by resolution number XXX. The following page shows a copy of that resolution.

CITY OF MILTON
RESOLUTION NO. 1877-16

A RESOLUTION OF THE CITY OF MILTON COUNCIL
ADOPTING THE REGION 5 ALL HAZARD MITIGATION
PLAN – 2015-2020 EDITION AND THE CITY OF MILTON
ADDENDUM TO THE REGION 5 HAZARD MITIGATION
PLAN; AND UPDATING THE 2004 PIERCE COUNTY
NATURAL HAZARD MITIGATION PLAN.

WHEREAS, the Federal Disaster Mitigation Act of 2000 requires that for all disasters declared on or after November 1, 2004, applicants for sub-grants following any disaster must have an approved Natural Hazard Mitigation Plan in accordance with 44CFR 201.6 prior to receipt of Hazard Mitigation Grant Program project funding; and

WHEREAS, the Federal Disaster Mitigation Act of 2000 requires that for Pre-Disaster Mitigation grant program project funding on or after November 1, 2003, applicants must have an approved Natural Hazard Mitigation Plan in accordance with 44CFR 201.6 prior to receipt of project funding; and

WHEREAS, the All Hazard Mitigation Plan Update represents the commitment of the City of Milton along with other surrounding government entities to reduce the risks from natural, man-made and technological hazards, serving as a guide for decision makers as they commit resources to reducing the affects of hazards, and it is in the public interest to proceed with the planning process in a timely manner; and

WHEREAS, City of Milton has participated with the Pierce County Department of Emergency Management in the development of the City of Milton's All Hazard Mitigation Plan Update, and recognizes the economic loss, personal injury, and damage that can arise from these hazards; and

WHEREAS, reduction of these impacts can be achieved through a comprehensive coordinated planning process which includes an updated risk assessment that provides the factual basis for activities proposed in the mitigation strategies to reduce losses and vulnerabilities, a 5-year cycle for plan maintenance, and documentation of formal adoption by City of Milton; and

WHEREAS, the 2015-2020 Region 5 All Hazard Mitigation Plan Edition has been completed and approved by the State and the Federal Emergency Management Agency; and

WHEREAS, the City of Milton could risk not receiving future disaster funding if the All Hazard Mitigation Plan Update is not adopted;

WHEREAS, the City of Milton Council reviewed the All Hazard Mitigation Plan Update; and

NOW, THEREFORE BE IT RESOLVED that the City Council of the City of Milton HEREBY RESOLVES as follows:

Section 1. The Region 5 Hazard Mitigation Plan, 2015-2020 Edition, is hereby adopted as set forth in Exhibit A, which is attached.

Section 2. The City of Milton Addendum to the Region 5 Hazard Mitigation Plan, an update to the City of Milton Natural Hazard Mitigation Plan is hereby adopted and shall be in full force and effect upon passage and signatures hereon.

APPROVED by the City Council this 21 day of, March, 2016.



DEBRA PERRY, MAYOR

ATTEST/AUTHENTICATED:



KATIE BOLAM, CITY CLERK

The plan was reviewed and approved as follows:

| AGENCY | REPRESENTATIVE | DATE |
|---|--|----------------------------|
| Washington State Military Dept., Emergency Management Division | Tim Cook Hazard Mitigation Programs Manager | Approved— |
| FEMA Region X | Tamra Biasco Chief, Risk Analysis Branch Mitigation Division | Approved— February 2, 2015 |

FEMAs Pre-Approval and Approval letter follows below.

U.S. Department of Homeland Security
FEMA Region X
Federal Regional Center
130 228th Street, SW
Bothell, WA 98021-8627



FEMA

February 2, 2015

Mr. Tim Cook
Hazard Mitigation Programs Manager
Washington State Emergency Management Division
Building 20, MS TA-20
Camp Murray, Washington 98430-5122

Dear Mr. Cook:

As requested, the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) has completed a pre-adoption review of the *Region 5 Hazard Mitigation Plan*. The plan successfully contains the required criteria, excluding the adoption, for hazard mitigation plans, as outlined in 44 CFR Part 201. This letter serves as Region 10's commitment to approve the plan upon receiving documentation of its adoption by the participating jurisdictions.

The plan will not be formally approved by FEMA until it is adopted. Each jurisdiction is not eligible for mitigation project grants until the plan is formally approved by FEMA.

Please contact our Regional Mitigation Planning Manager, Kristen Meyers, at (425) 487-4543 with any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Tamra Biasco".

Tamra Biasco
Chief, Risk Analysis Branch
Mitigation Division

KM:bb

www.fema.gov

FEMA approval letter inserted here

FEMA approval letter inserted here

APPENDIX A

REGION 5 HAZARD MITIGATION PLAN 2008-2013 EDITION CITY OF MILTON

Plan Adoption

The “*Region 5 Hazard Mitigation Plan*” was adopted by the City of Milton’s City Council on December 15, 2008, by resolution number 08-1758. The following page shows a copy of that resolution.

**CITY OF MILTON
RESOLUTION NO. 08-1758**

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF
MILTON, WASHINGTON, ADOPTING THE CITY OF MILTON
NATURAL HAZARD MITIGATION PLAN.**

WHEREAS, the City of Milton has participated with the Cities of Edgewood and Fife, the Fife School District, and Pierce County Fire District 8 (Edgewood) in the development of the City of Milton Natural Hazard Mitigation Plan; and

WHEREAS, the Federal Emergency Management Agency has mandated that all local and state governmental entities develop and submit for approval a Natural Hazard Mitigation Plan to address per-disaster planning issues; and

WHEREAS, The Natural Hazard Mitigation Plan is completed and ready for adoption by the City of Milton; and

WHEREAS, the Natural Hazard Mitigation Plan has been submitted and approved by Washington State Emergency Management and the Federal Emergency Management Agency; and

WHEREAS, the City of Milton has previously authorized the expenditure of \$6,000 to contract with Pierce County Emergency Management to aid in the development of Milton's Natural Hazard Mitigation Plan; and

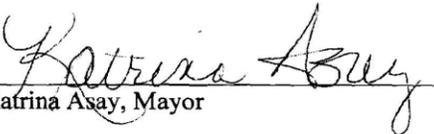
WHEREAS, the Milton City Council reviewed the Natural Hazard Mitigation Plan preparation process in a Council Study Session on May 8, 2006, and the final draft at a regular Council meeting on March 3, 2008; and

WHEREAS, the City of Milton could risk not receiving future disaster funding if the Natural Hazard Mitigation Plan is not adopted; **NOW, THEREFORE**,

**THE CITY COUNCIL OF THE CITY OF MILTON, WASHINGTON
DOES HEREBY RESOLVE AS FOLLOWS:**

Section 1. That the City Council does hereby adopt the City of Milton Natural Hazard Mitigation Plan, attached as "Exhibit A" and incorporated by this reference as if set forth in full.

PASSED AND APPROVED this 15th day of December, 2008


Katrina Asay, Mayor

Attest:


Barbara J. Fortier, Deputy City Clerk

The plan was reviewed and approved as follows:

| AGENCY | REPRESENTATIVE | DATE |
|---------------|--|-------------|
| FEMA Region X | Mark Carey Mitigation Division Director | Approved-- |

FEMA approval letter appears below:



FEMA

July 9, 2009

Mr. Steven C. Bailey, Director
 Pierce County Department of Emergency Management
 2501 South 35th Street
 Tacoma, Washington 98409-7405

Dear Mr. Bailey:

On November 24, 2008, the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) approved the **Region 5 Hazard Mitigation Plan** as a multi-jurisdictional local plan as outlined in 44 CFR Part 201. With approval of this plan, the following entities are now eligible to apply for the Robert T. Stafford Disaster Relief and Emergency Assistance Act's hazard mitigation project grants through November 24, 2013:

| Cities and Towns: | Fire Districts: | School Districts: | Utilities: |
|-----------------------|--|-----------------------------|----------------------------------|
| City of Buckley | Lakewood Fire Department (PCFD #2) | Carbonado SD | Clear Lake Water District |
| City of Dupont | Gig Harbor Fire & Medic One (PCFD #5) | Dieringer SD | Fruitland Mutual Water Company |
| City of Edgewood | Central Pierce Fire & Rescue (PCFD #6) | Eatonville SD | Graham Hill Mutual Water Company |
| City of Fife | PCFD #8 | Fife SD | Lakeview Light and Power |
| City of Fircrest | PCFD #13 | Franklin Pierce SD | Lakewood Water District |
| City of Gig Harbor | South Pierce Fire & Rescue (PCFD #15) | Orting SD | Mt. View-Edgewood Water Company |
| City of Lakewood | Key Peninsula Fire Department (PDFD #16) | Peninsula SD | Ohop Mutual Light Company |
| City of Milton | PCFD #18 | Puyallup SD | Port of Tacoma |
| City of Orting | Graham Fire and Rescue (PCFD #21) | Steilacoom Historical SD | Summit Water and Supply Company |
| City of Tacoma | PCFD #23 | Tacoma SD | Valley Water District |
| Town of Eatonville | PCFD #27 | University Place SD | |
| Town of South Prairie | | White River SD | |
| Town of Wilkeson | | Pacific Lutheran University | |

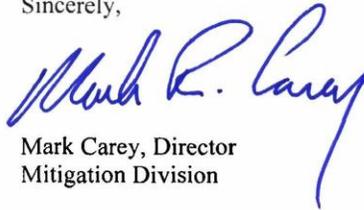
www.fema.gov

Mr. Bailey
July 9, 2009
Page 2

The list of approved jurisdictions has been updated to include the jurisdictions in italics above, which have recently adopted the Region 5 Hazard Mitigation Plan. To continue eligibility, the plan must be reviewed, revised as appropriate, and resubmitted within five years of the original approval date.

If you have questions regarding your plan's approval or FEMA's mitigation grant programs, please contact our State counterpart, Washington Emergency Management Division, which coordinates and administers these efforts for local entities.

Sincerely,



Mark Carey, Director
Mitigation Division

cc: Mark Stewart, Washington Emergency Management Division

KM:bb

APPENDIX B

**REGION 5 ALL HAZARD MITIGATION PLAN
2015-2020 EDITION
CITY OF MILTON**

Region 5 Hazard Mitigation Planning Team

City of Milton

| NAME | TITLE | JURISDICTION-DEPARTMENT |
|-------------|-----------------|--------------------------------|
| Jim Jaques | Assistant Chief | East Pierce Fire and Rescue |

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APPENDIX D

**REGION 5 ALL HAZARD MITIGATION PLAN
2015-2020 EDITION
CITY OF MILTON**

OVERVIEW

This appendix contains the spatial results from the Hazus Earthquake Scenario results showing the Essential Facilities for 90% functionality for Day 1 and Day 7 following an earthquake event based on three earthquakes scenarios. Information was based on ShakeMaps developed by U.S. Geological Survey for a 7.1M earthquake occurring on the Tacoma Fault, 7.2M earthquake on the Nisqually Fault and a 7.2M earthquake on the SeaTac Fault. There was a total of four Essential Facilities that were modeled; fire stations, police stations, schools and hospitals. Additional information can be found in the Risk Assessment Section of the Pierce County All Hazard Mitigation Plan.

Inherent Errors

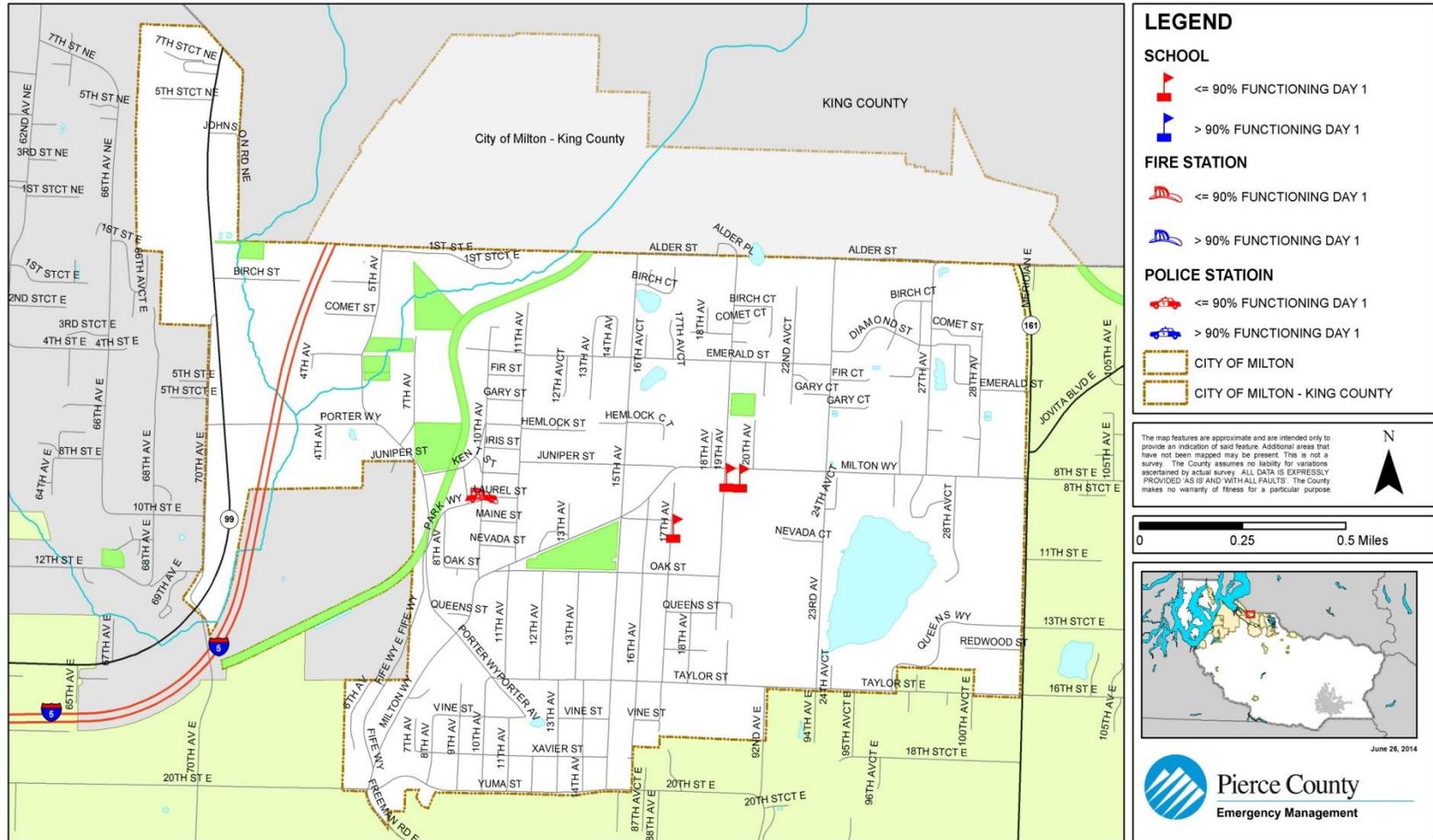
As a special note to the Gig Harbor and Key Peninsula areas St. Anthony's Hospital is not identified on Maps D-6, D-7, D-15, D-16, D-24 or D-25 due to the recent construction of St. Anthony's Hospital and lack of data. With future updates of the Region 5 All Hazard Mitigation Plan, St. Anthony's Hospital will be included in the scenario analysis. If this information becomes available prior to the five-year update in 2020, revised analysis will be done and the revised maps will be distributed to the City of Gig Harbor, Gig Harbor Fire & Medic One and the Key Peninsula Fire Department.

It has been identified that the police station located to the west side of Orting is not in the correct location as seen on Maps: D-4, D-5, D-13, D-14, D-22 and D-23. The police department shares a building with the Fire District #18 at 401 Washington Ave S, which is located in the middle of town. As Hazus-MH is updated the police station will show a co-location with the fire station at this same location. If this information becomes available prior to the five-year update in 2020, revised analysis will be done and the revised maps will be distributed to the City of Orting and to Pierce County Fire District #18.

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Map D-1 City of Milton Tacoma Fault Scenario Essential Facilities Day 1 Map

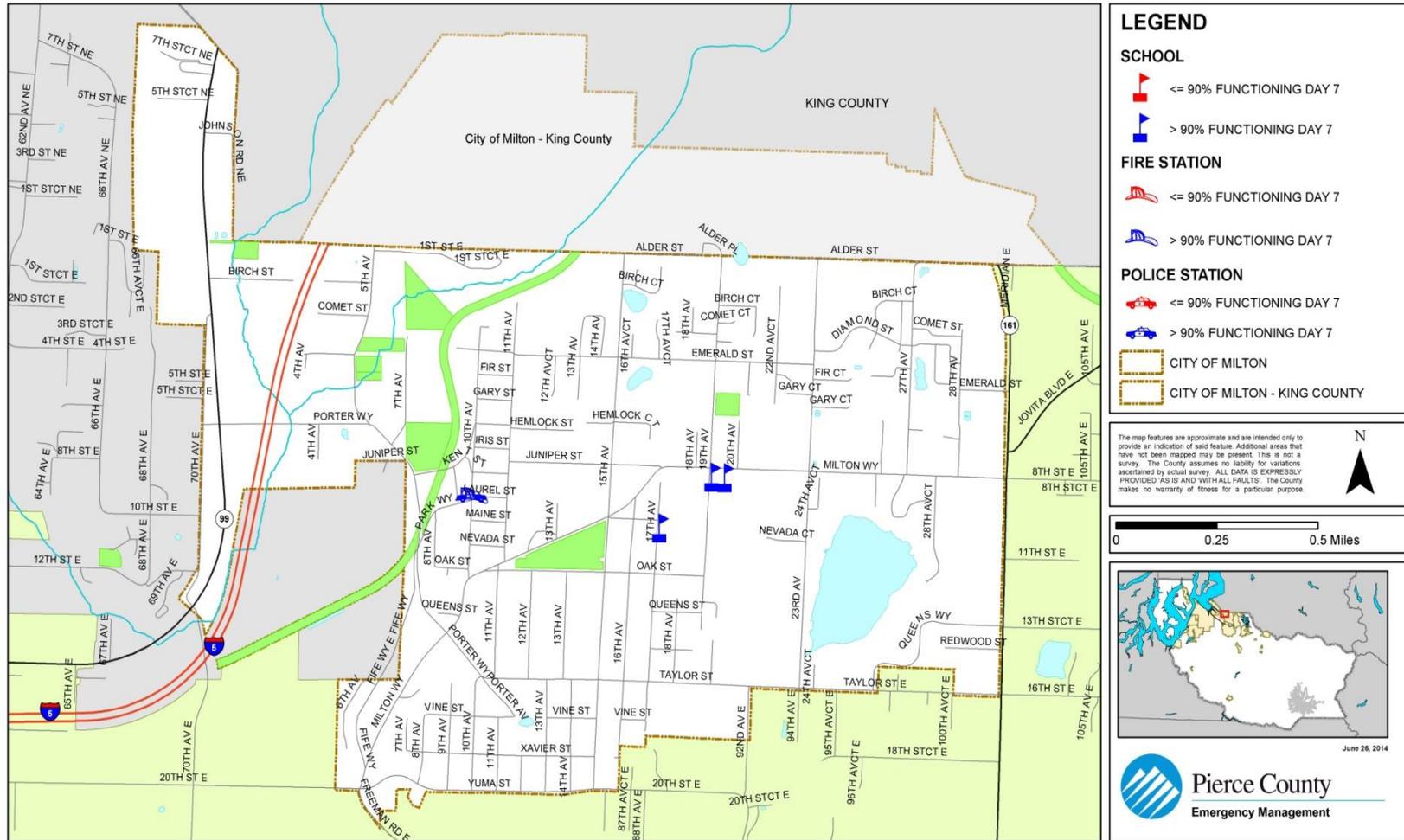
CITY OF MILTON - 7.1M TACOMA EARTHQUAKE SCENARIO - ESSENTIAL FACILITIES



APPENDIX D-3

Map D-2 City of Milton Tacoma Fault Scenario Essential Facilities Day 7 Map

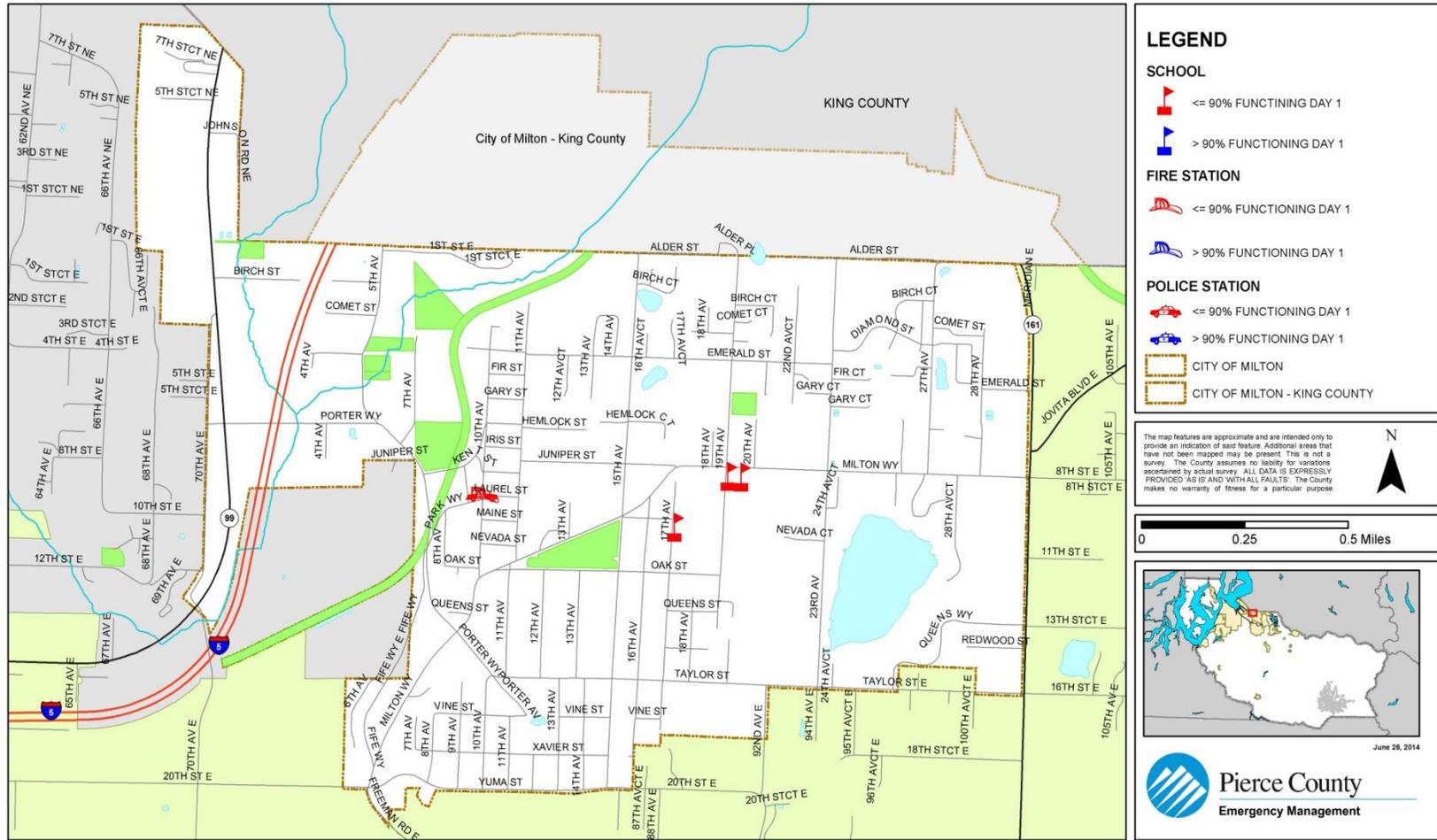
CITY OF MILTON - 7.1M TACOMA EARTHQUAKE SCENARIO - ESSENTIAL FACILITIES



APPENDIX D-4

Map D-3 City of Milton Nisqually Fault Scenario Essential Facilities Day 1 Map

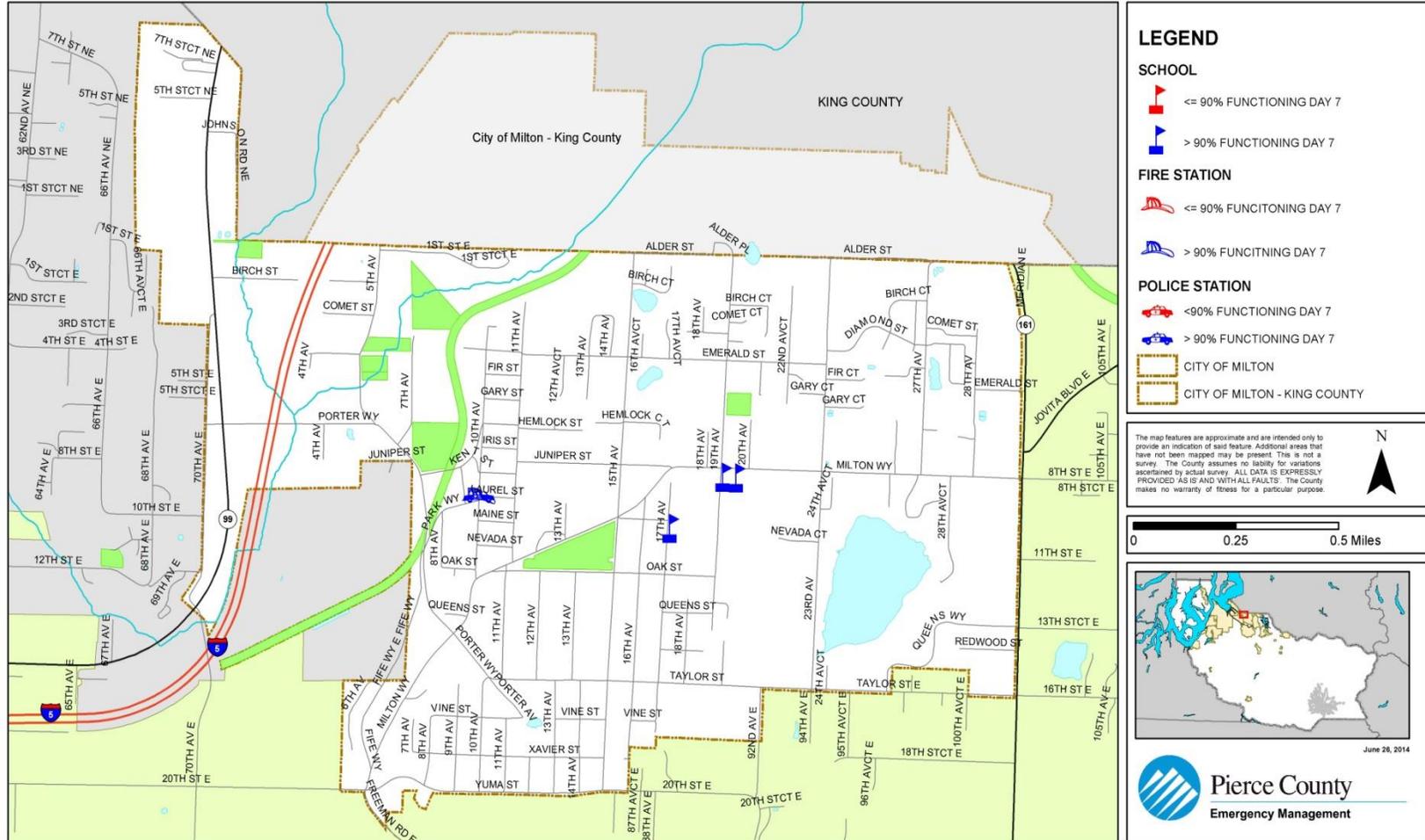
CITY OF MILTON - 7.2M NISQUALLY EARTHQUAKE SCENARIO - ESSENTIAL FACILITIES



APPENDIX D-5

Map D-4 City of Milton Nisqually Fault Scenario Essential Facilities Day 7 Map

CITY OF MILTON - 7.2M NISQUALLY EARTHQUAKE SCENARIO - ESSENTIAL FACILITIES



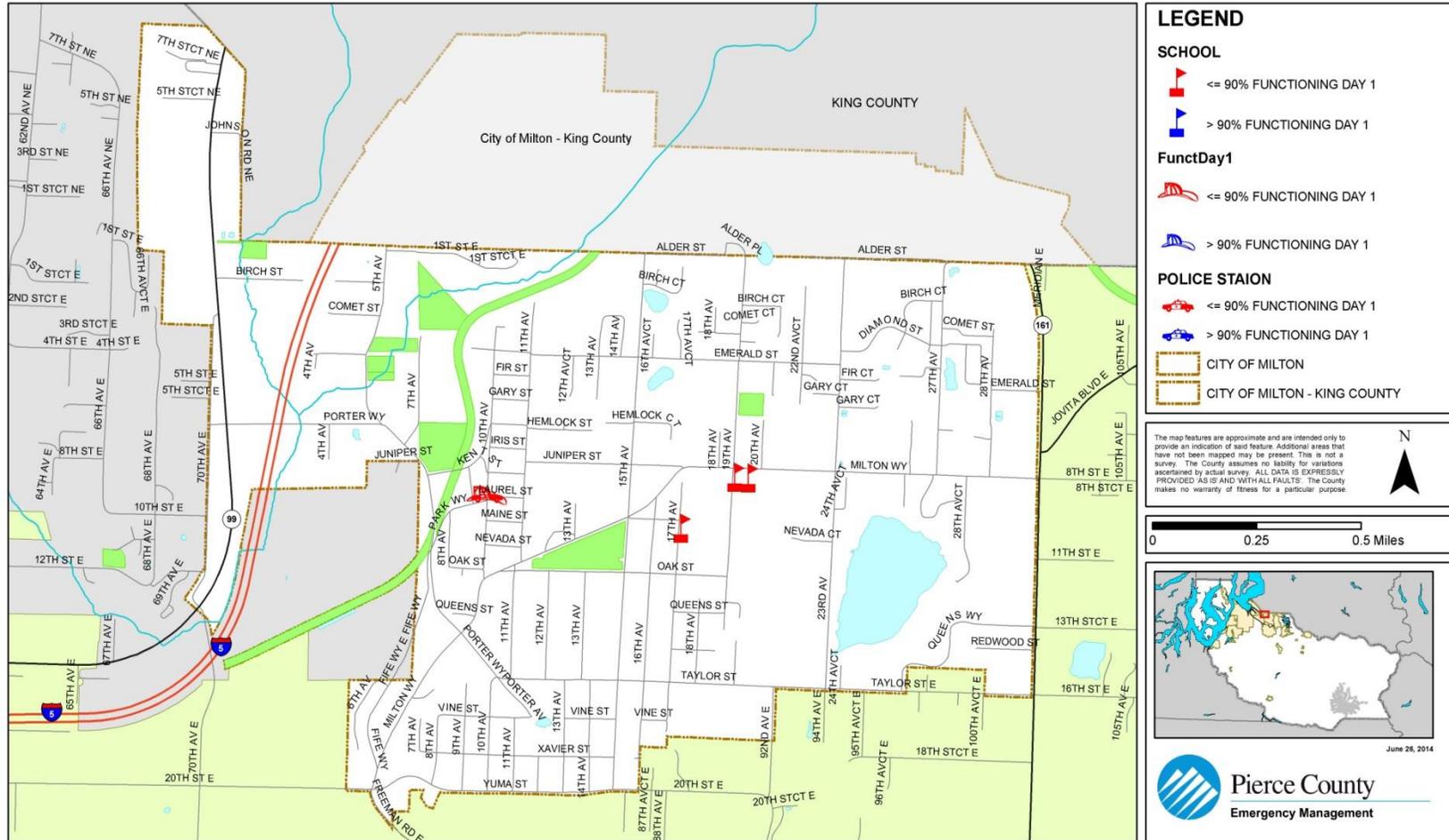
APPENDIX D-6

REGION 5 ALL HAZARD MITIGATION PLAN – 2015-2020 EDITION

CITY OF MILTON ADDENDUM

Map D-5 City of Milton SEATAC Fault Scenario Essential Facilities Day 1 Map

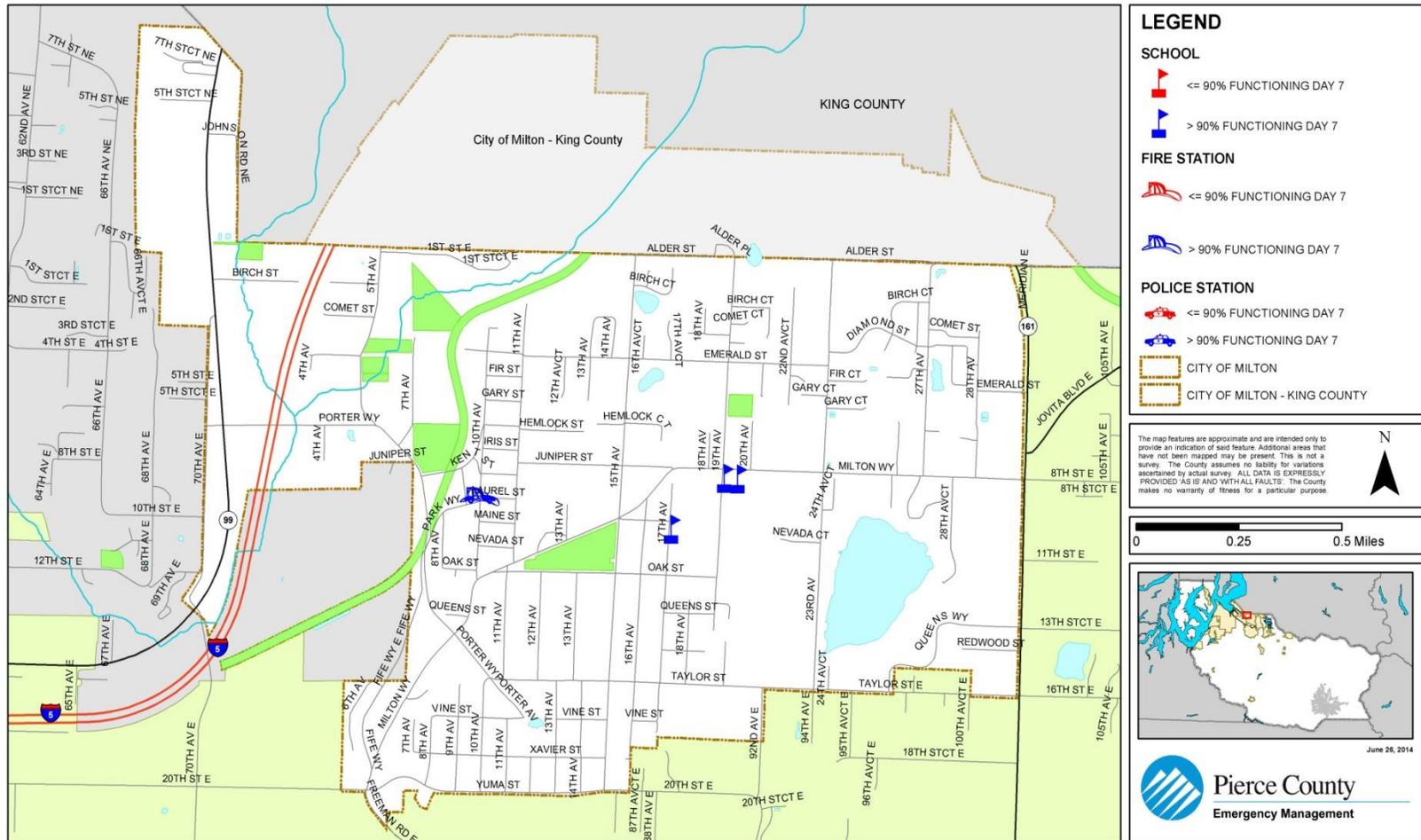
CITY OF MILTON - 7.2M SEATAC EARTHQUAKE SCENARIO - ESSENTIAL FACILITIES



APPENDIX D-7

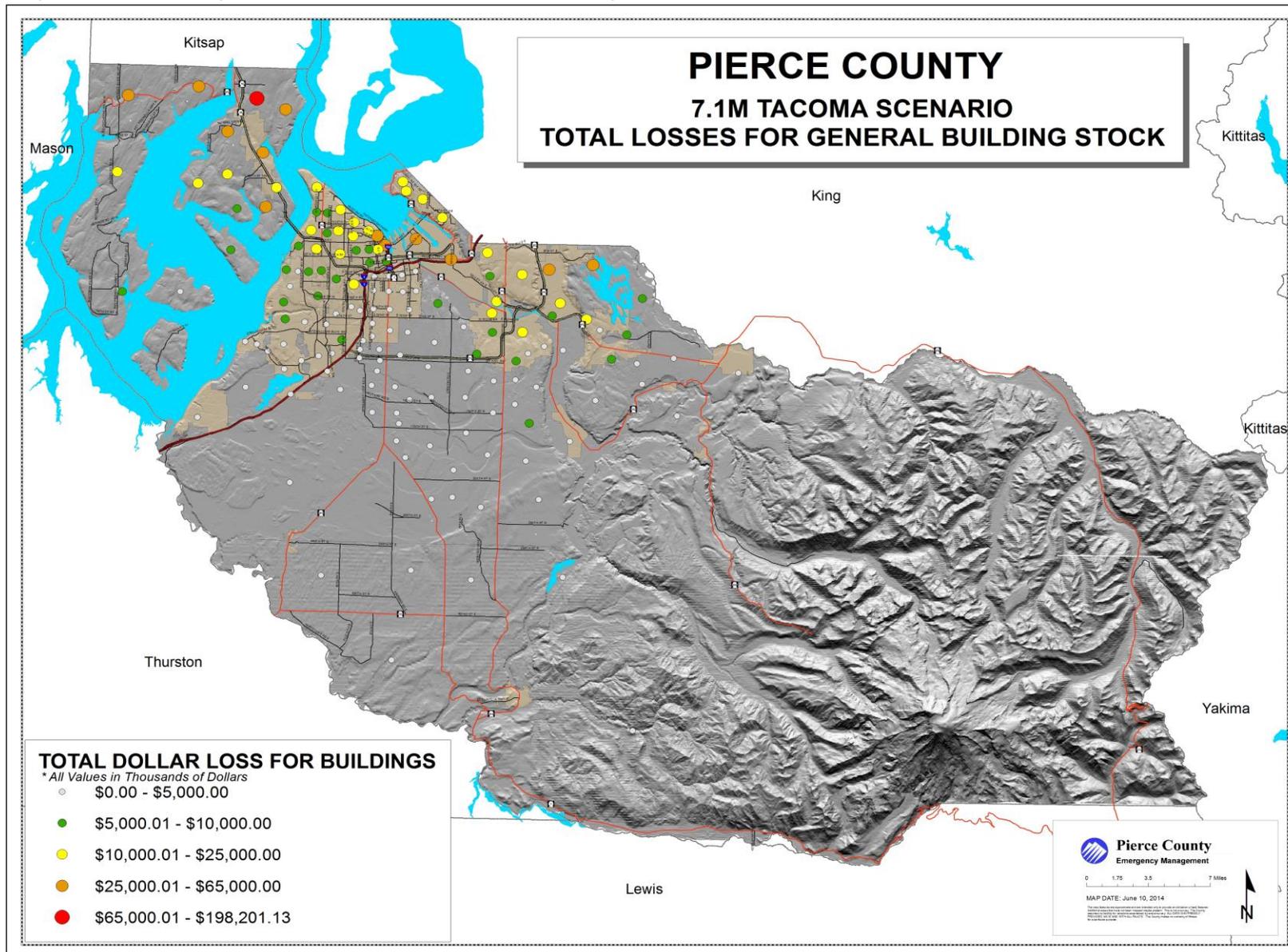
Map D-3 City of Milton SEATAC Fault Scenario Essential Facilities Day 7 Map

CITY OF MILTON - 7.2M SEATAC EARTHQUAKE SCENARIO - ESSENTIAL FACILITIES

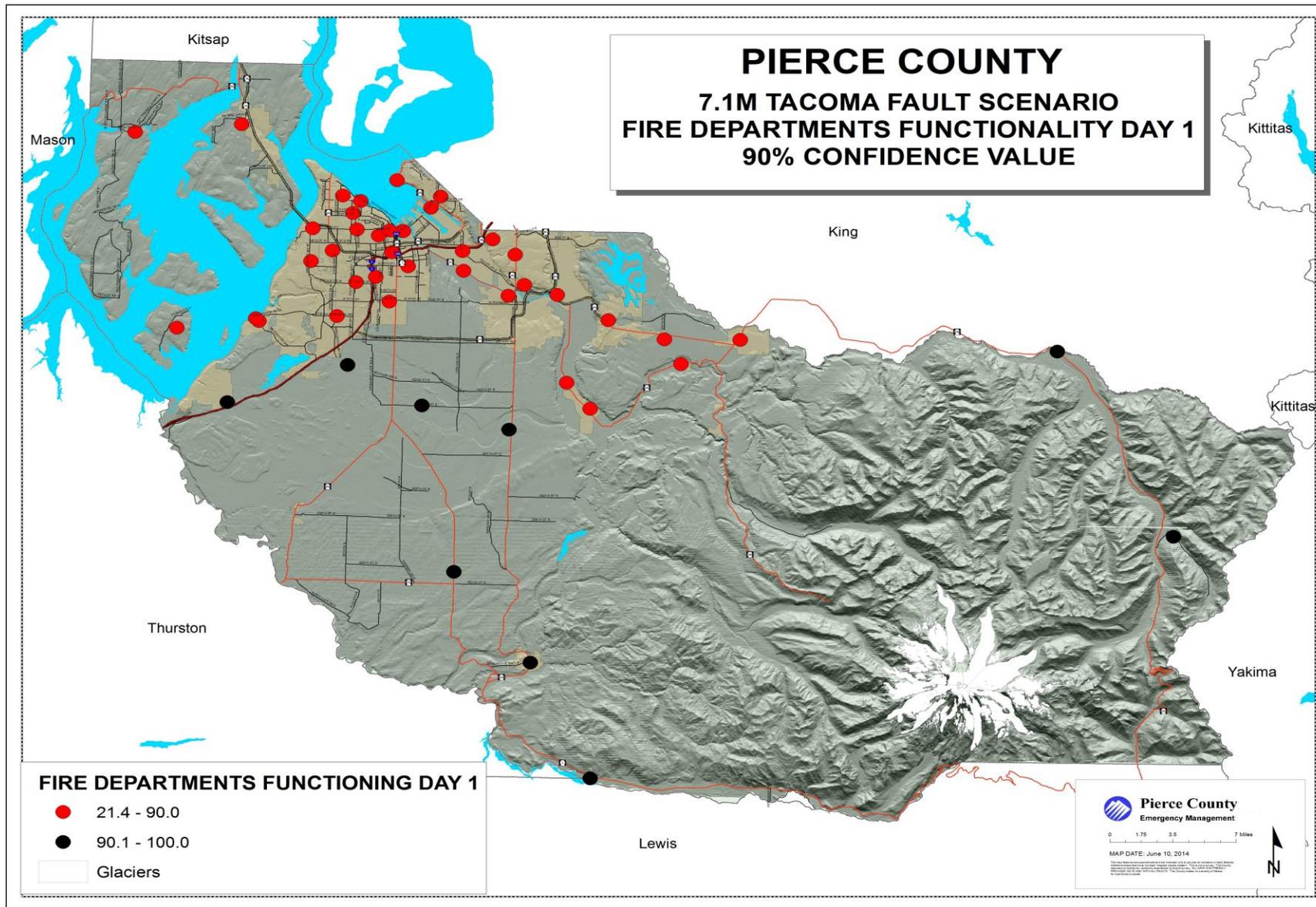


APPENDIX D-8

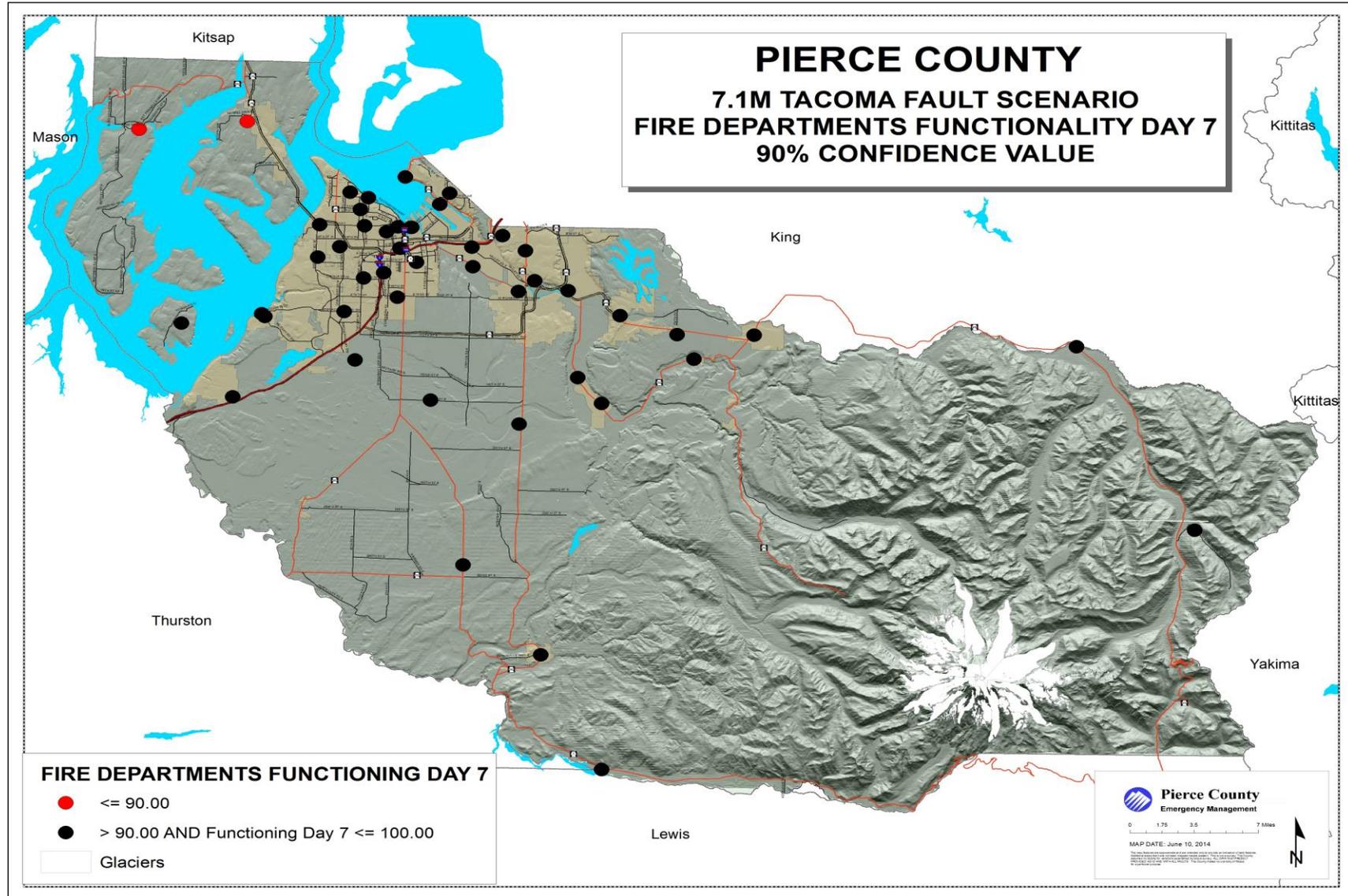
Map D-7 Pierce County Tacoma Fault Scenario Total Losses Map



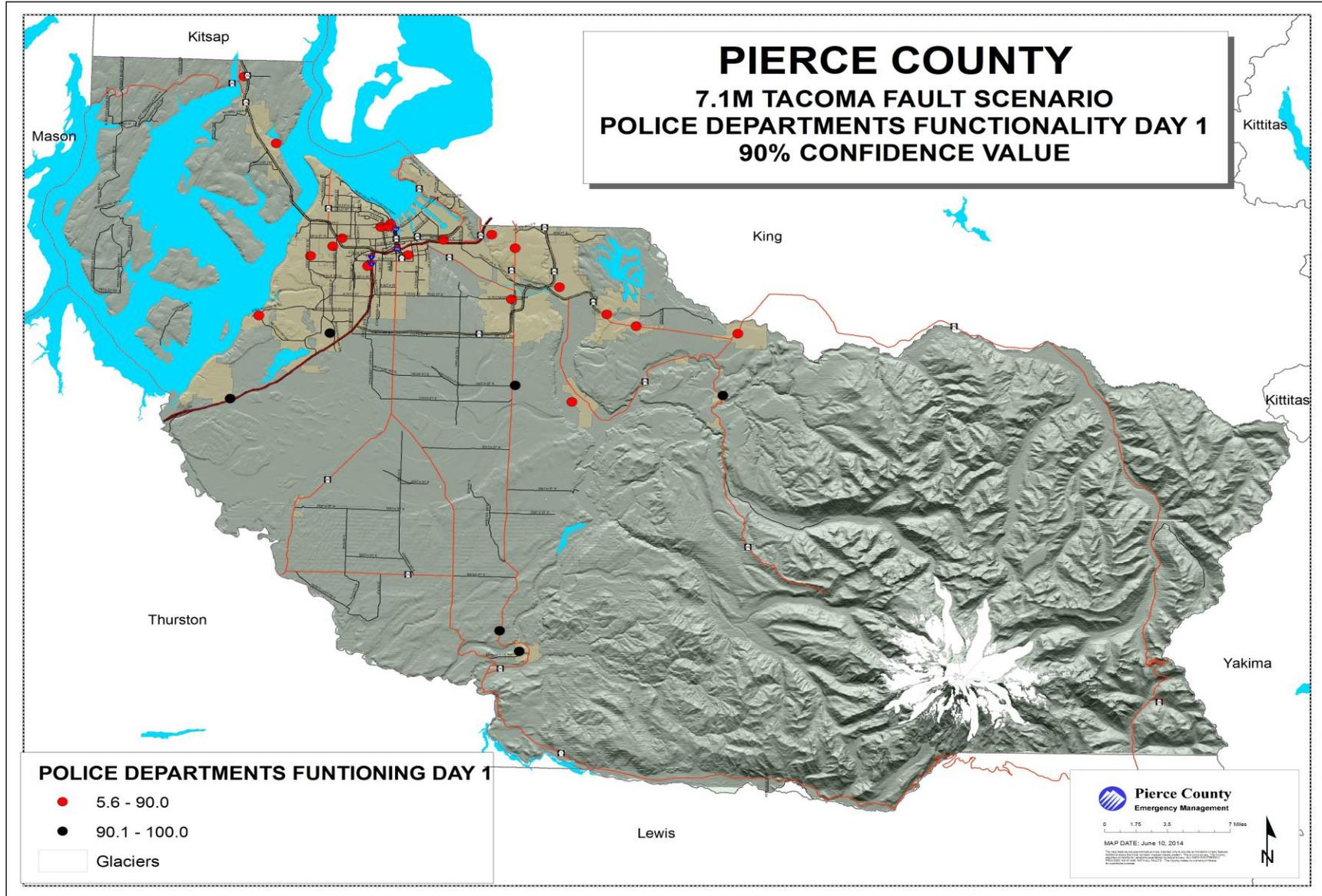
Map D-8 Pierce County Tacoma Fault Scenario Fire Department Functionality Day 1 Map



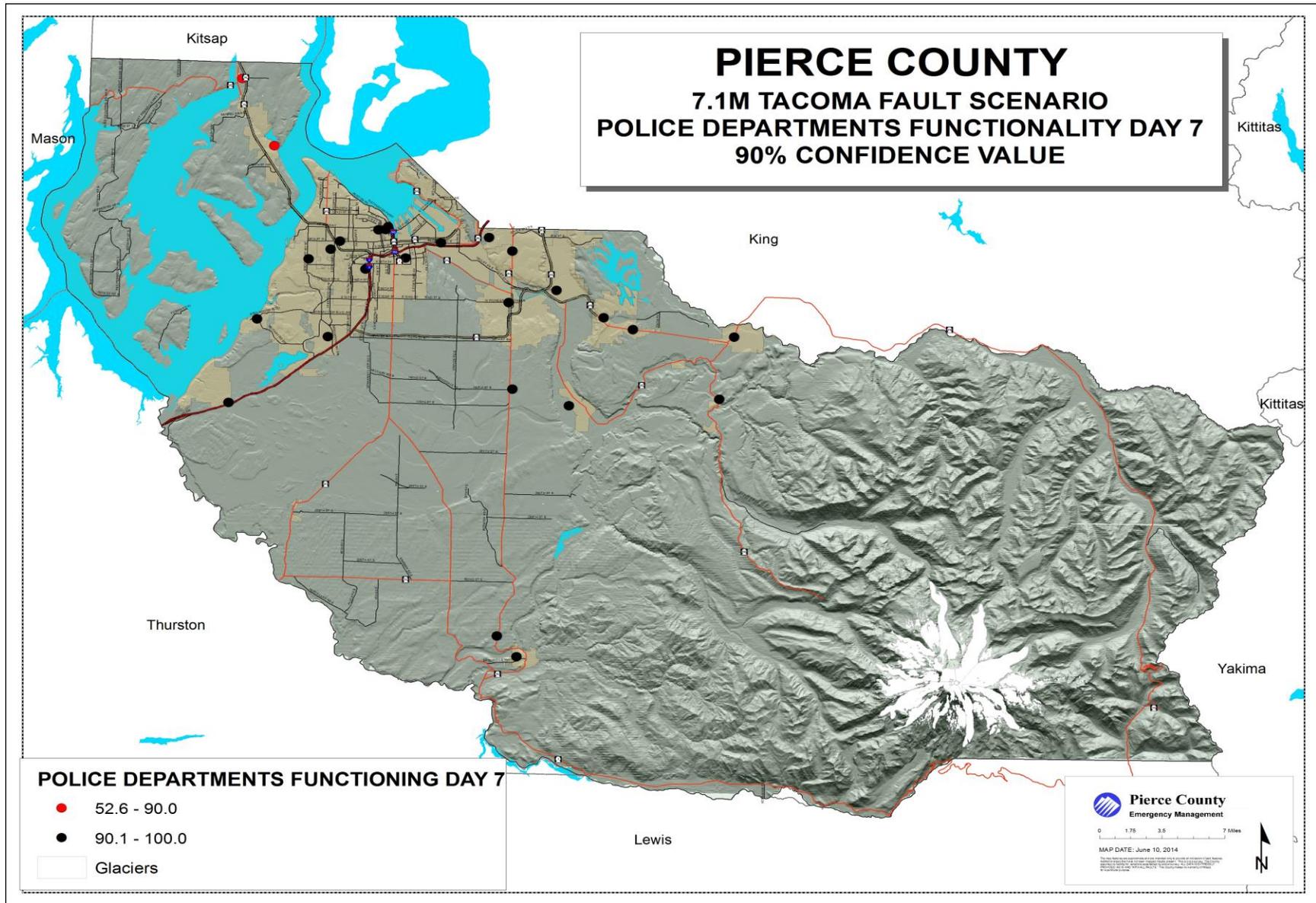
Map D-9 Pierce County Tacoma Fault Scenario Fire Department Functionality Day 7 Map



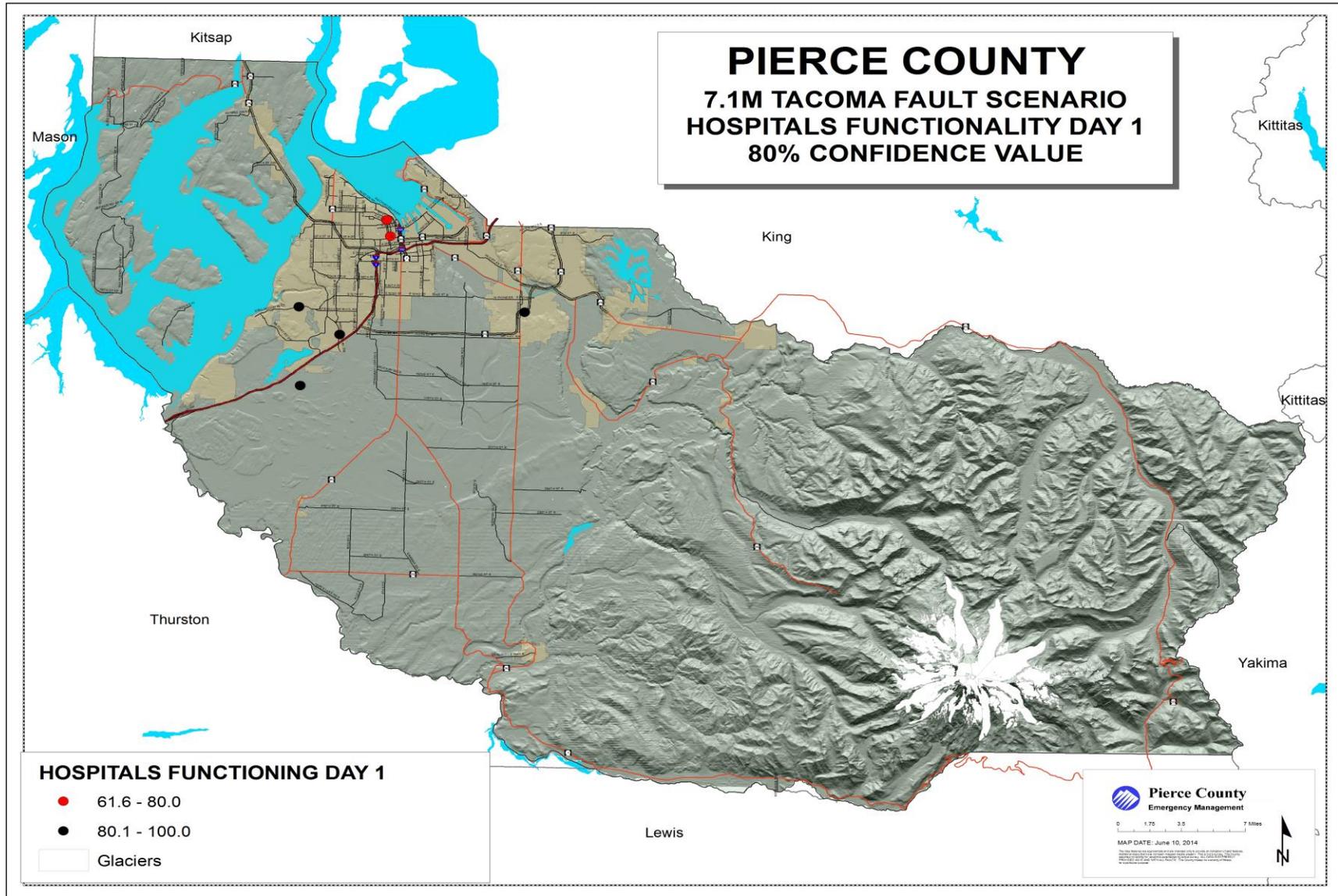
Map D-10 Pierce County Tacoma Fault Scenario Police Department Functionality Day 1¹



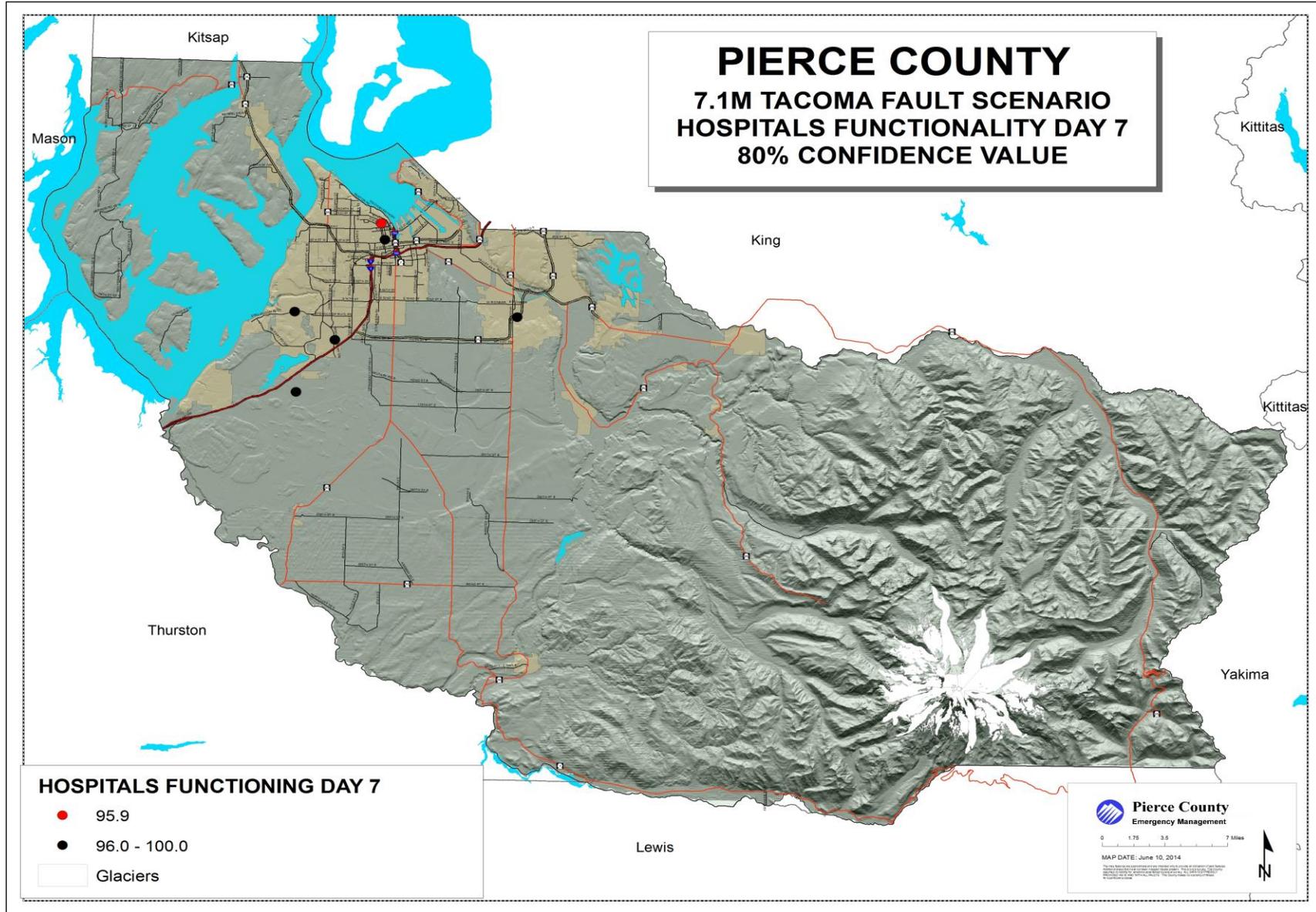
Map D-11 Pierce County Tacoma Fault Scenario Police Department Functionality Day 7 Map²



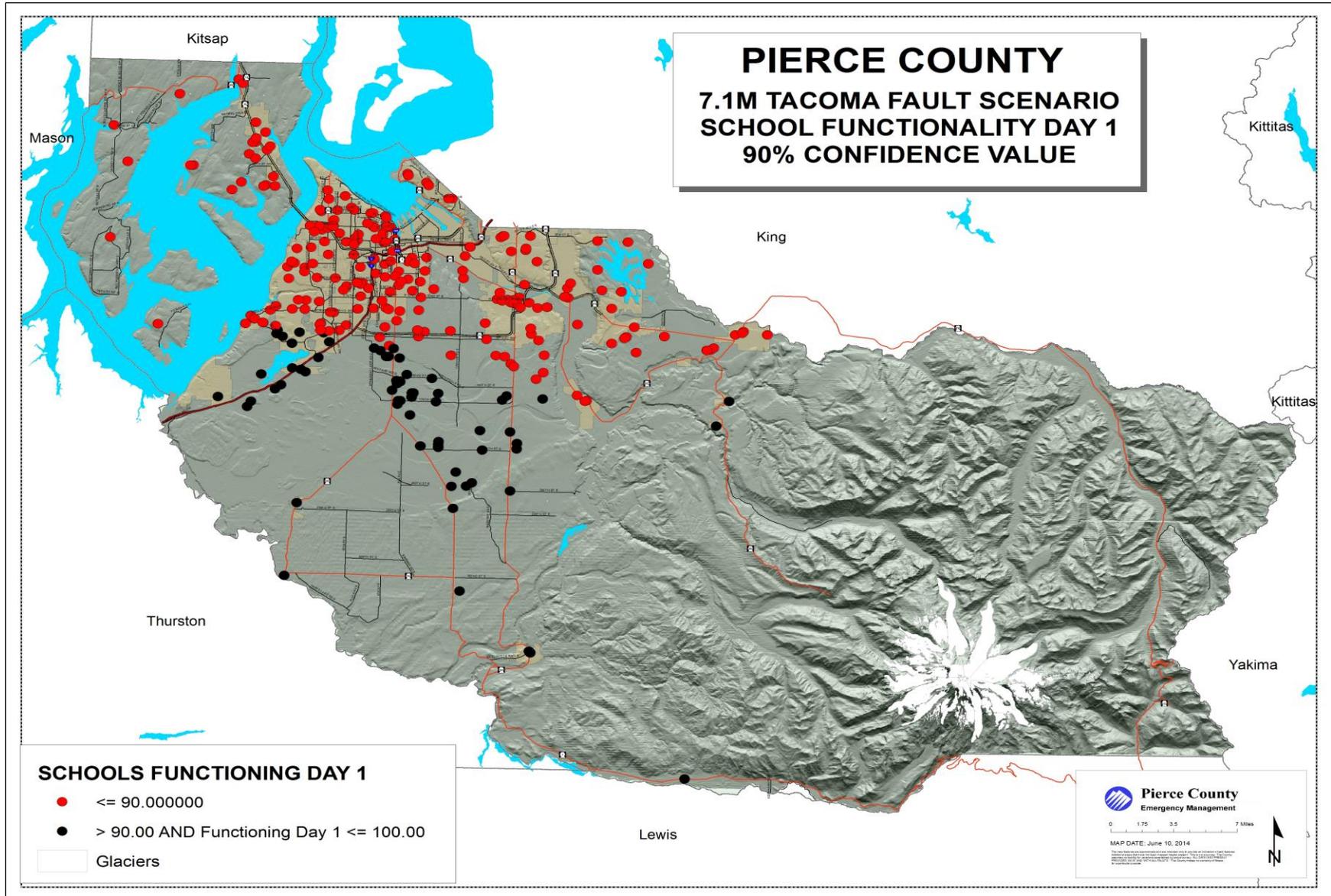
Map D-12 Pierce County Tacoma Fault Scenario Hospitals Functionality Day 1 Map³



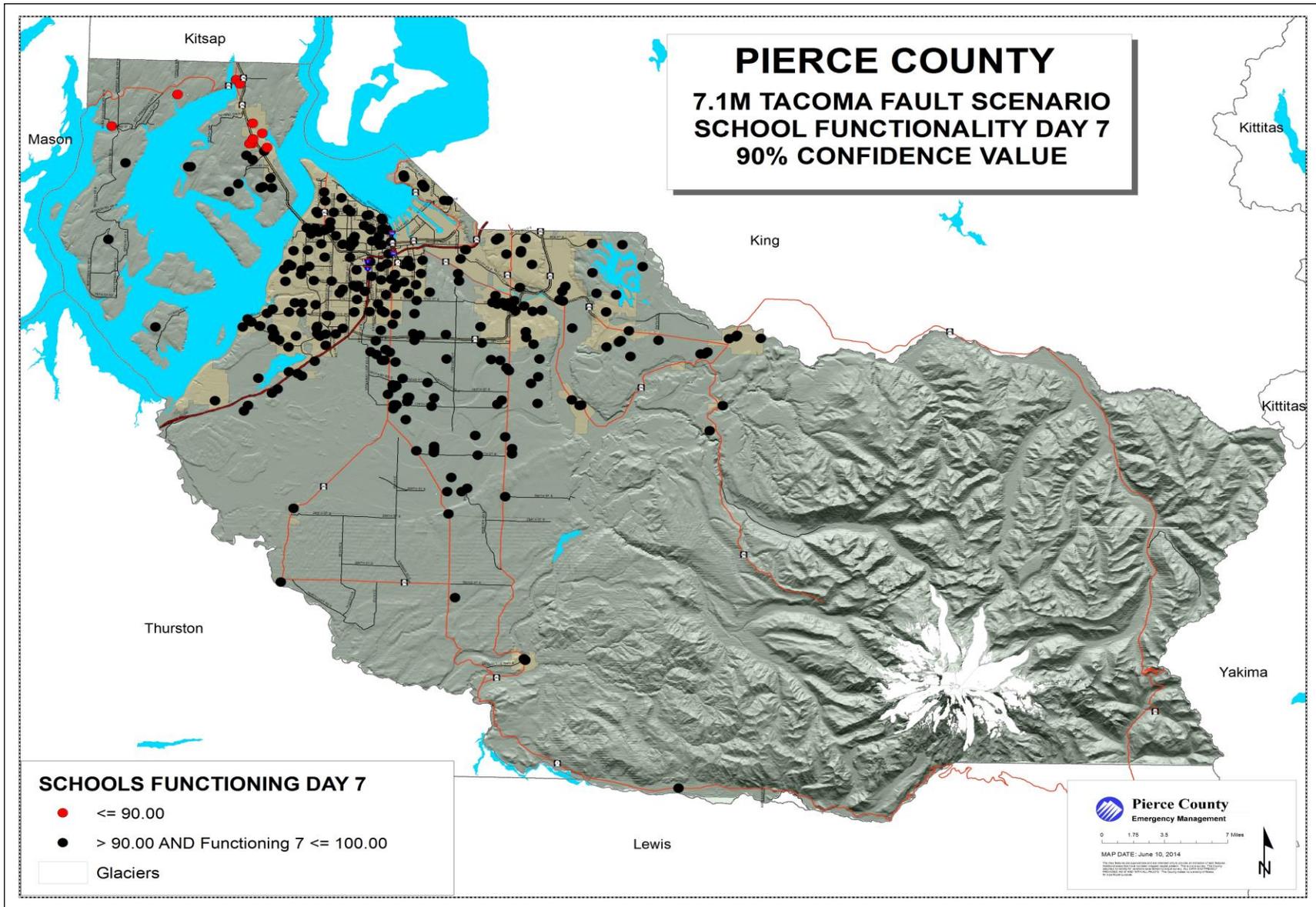
Map D-13 Pierce County Tacoma Fault Scenario Hospitals Functionality Day 7 Map⁴



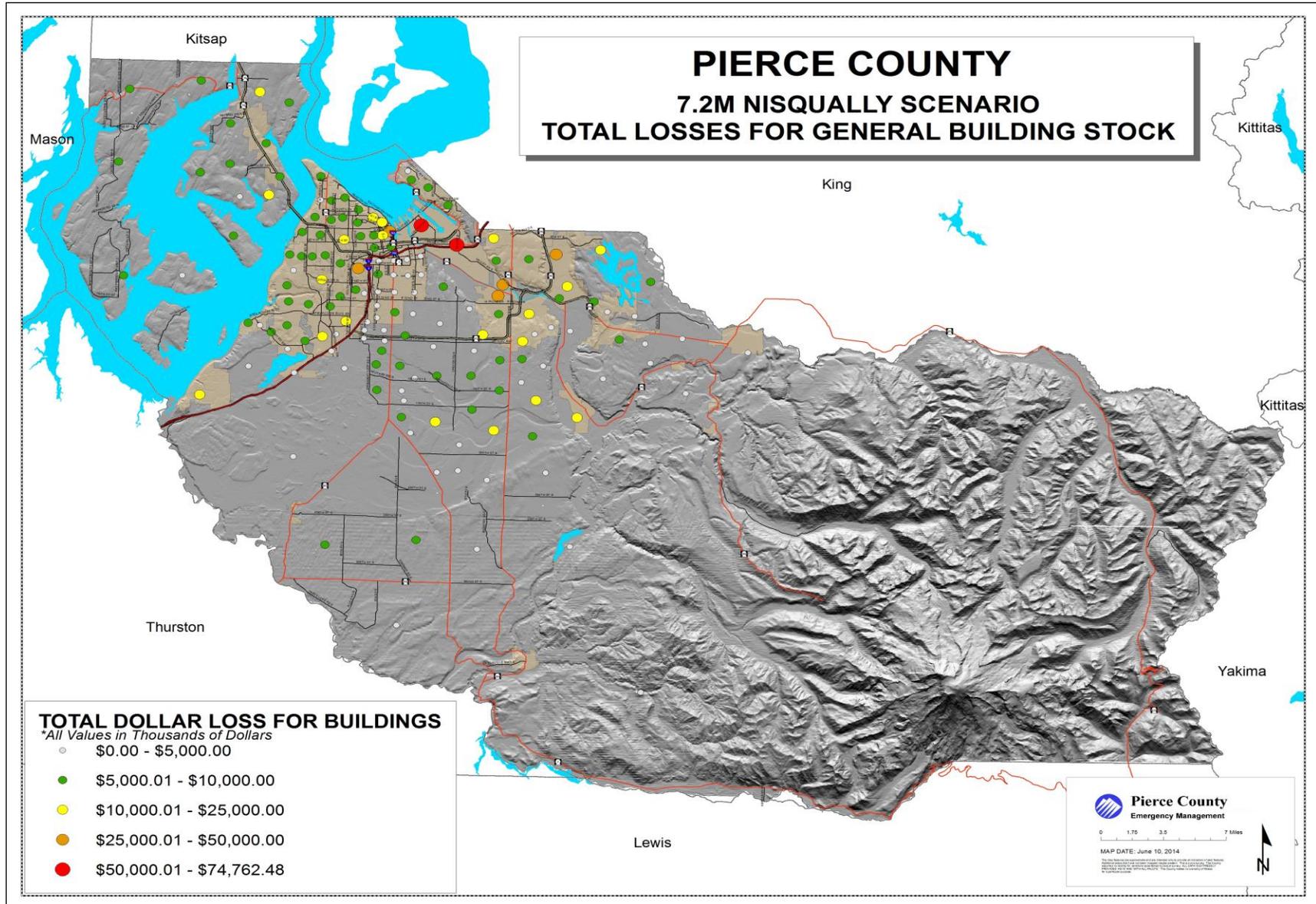
Map D-14 Pierce County Tacoma Fault Scenario School Functionality Day 1 Map



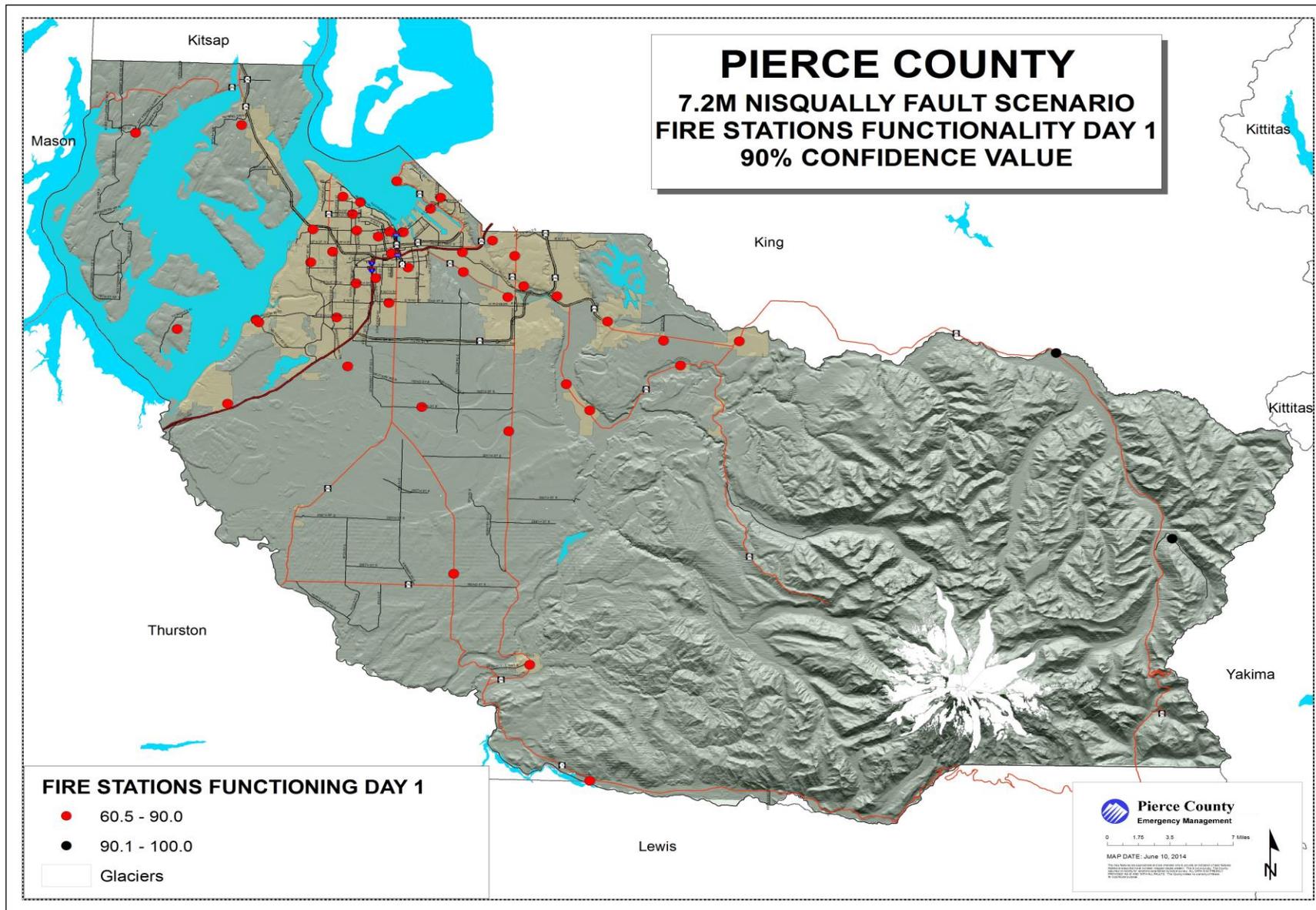
Map D-15 Pierce County Tacoma Fault Scenario School Functionality Day 7 Map



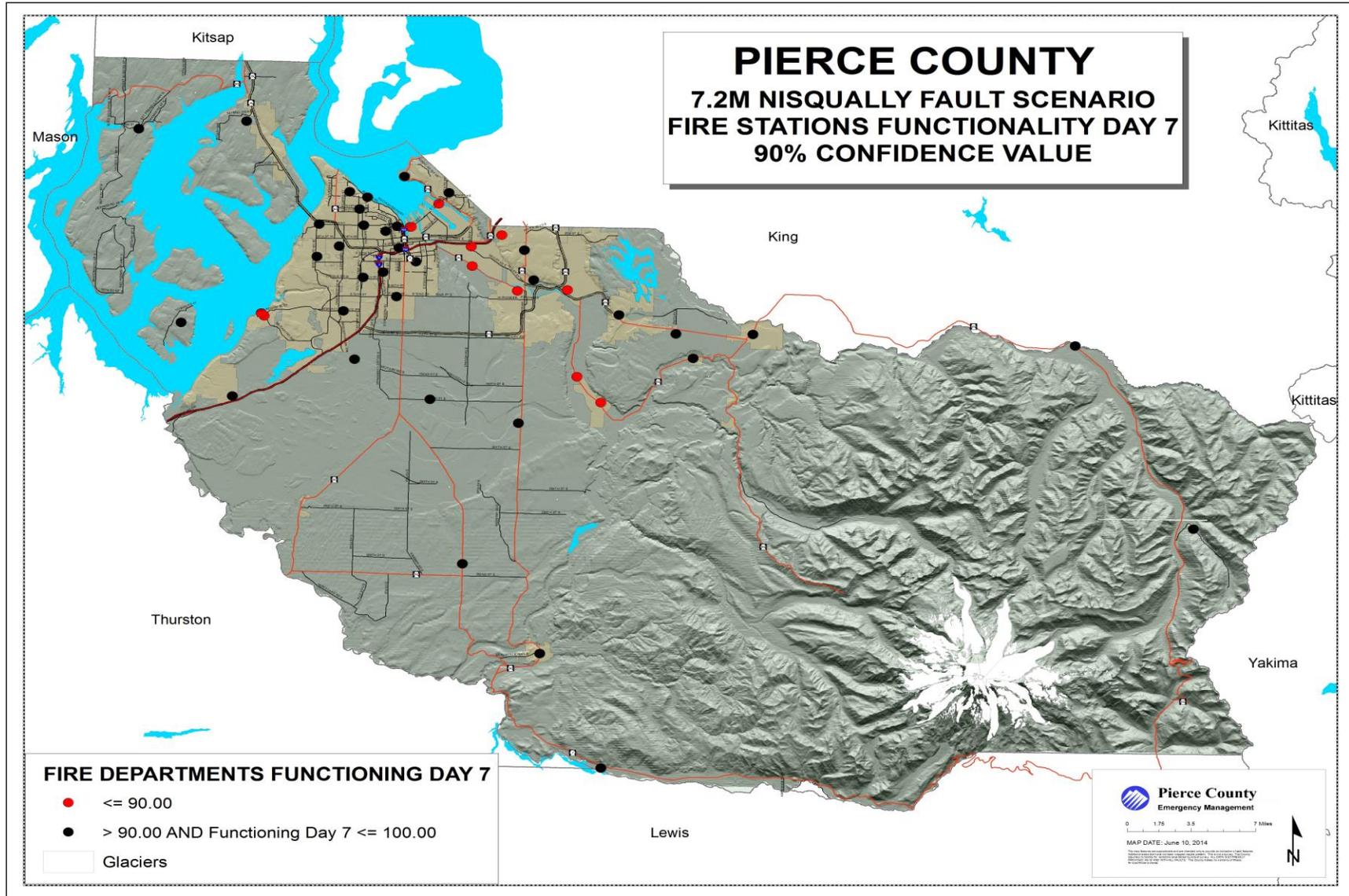
Map D-16 Pierce County Nisqually Fault Scenario Total Losses Map



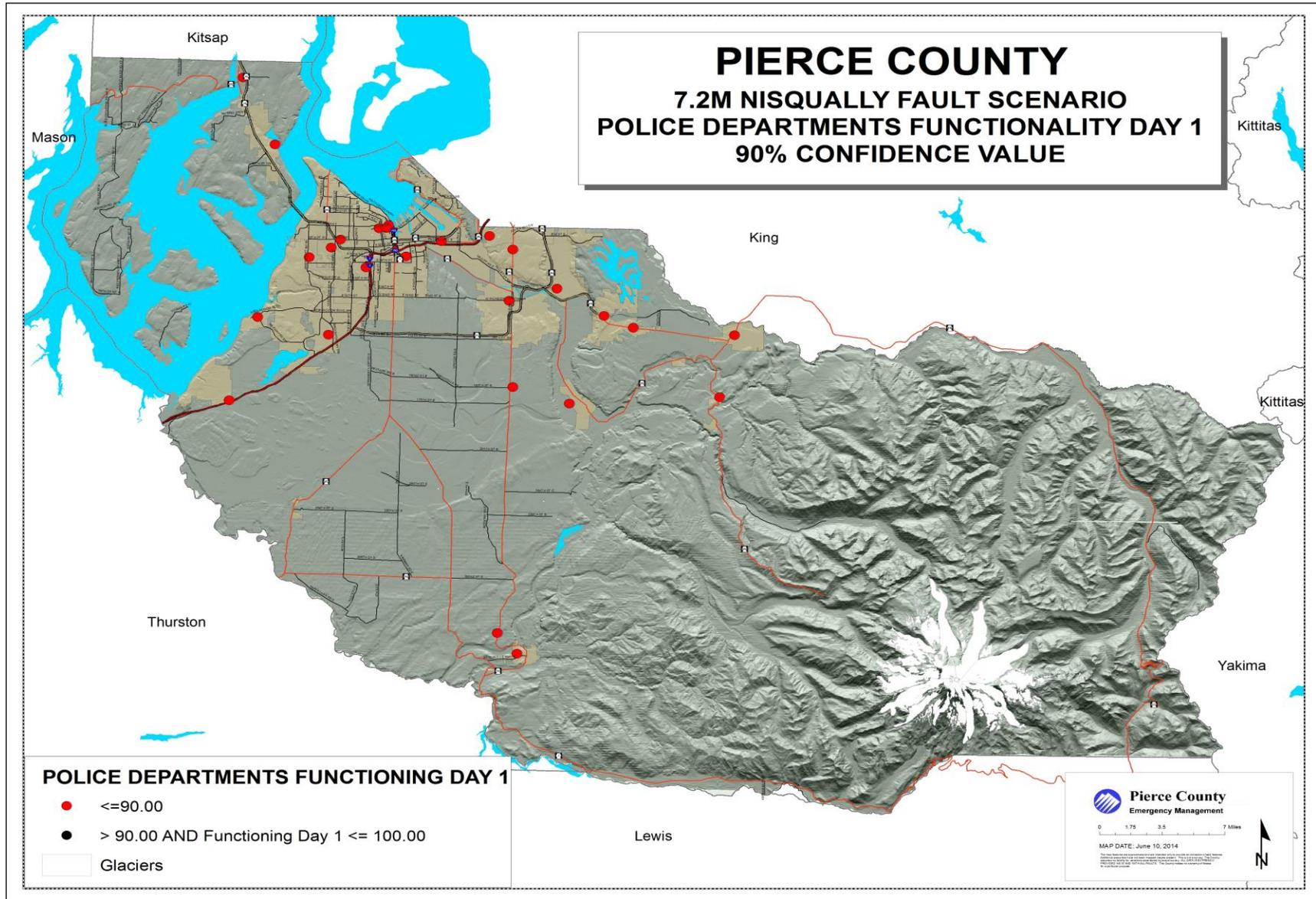
Map D-17 Pierce County Nisqually Fault Scenario Fire Stations Functionality Day 1 Map



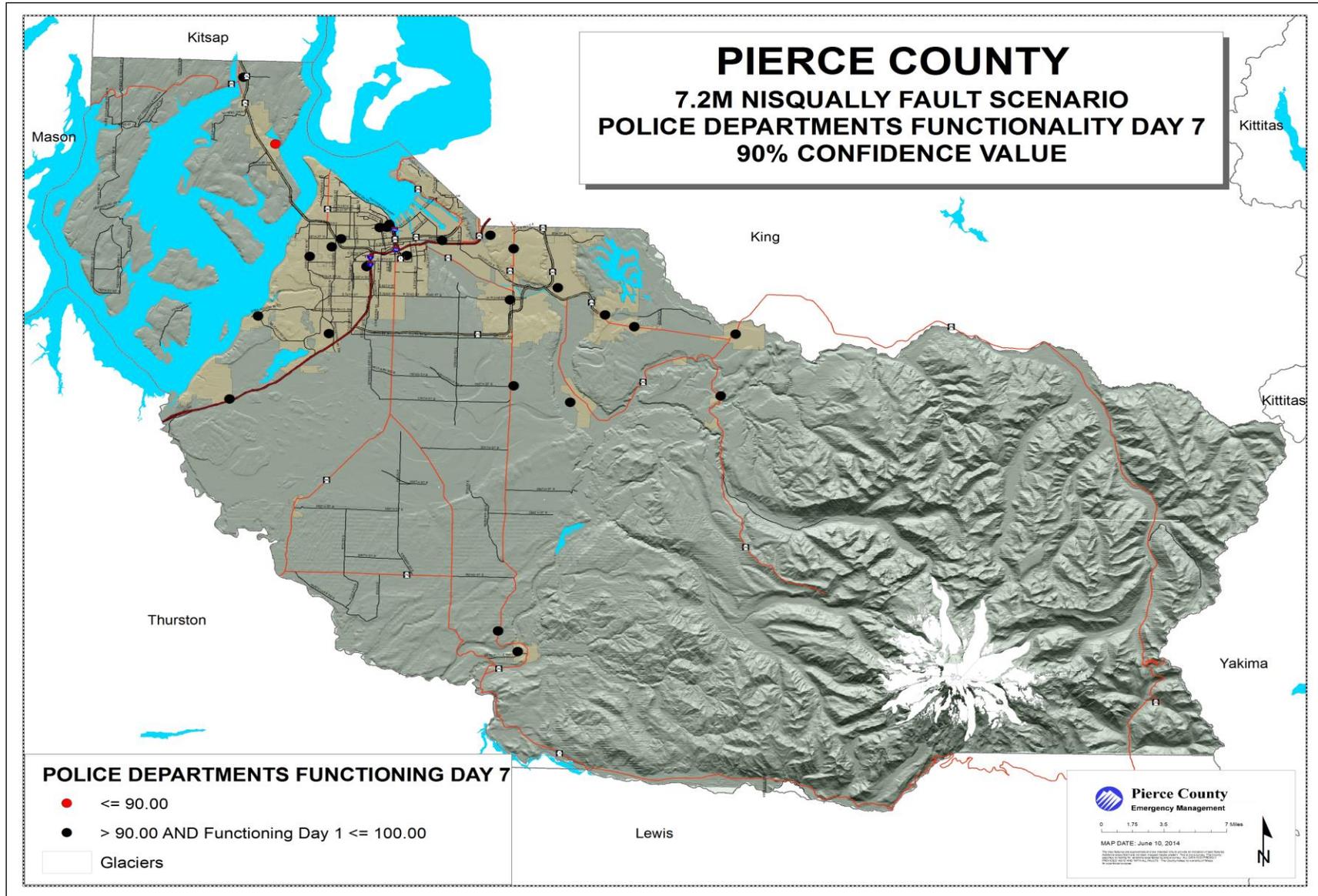
Map D-18 Pierce County Nisqually Fault Scenario Fire Stations Functionality Day 7 Map



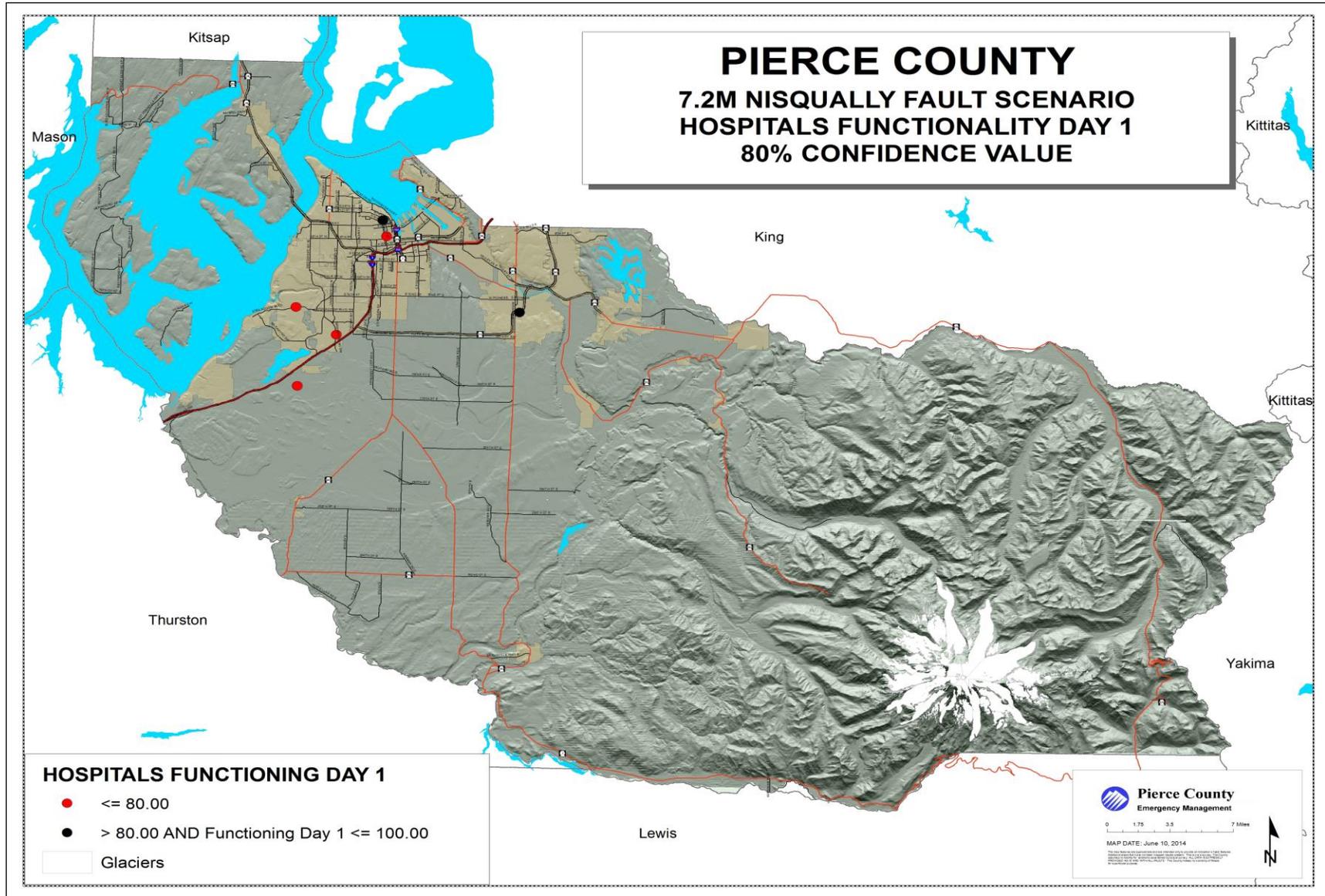
Map D-19 Pierce County Nisqually Fault Scenario Police Departments Functionality Day 1 Map⁵



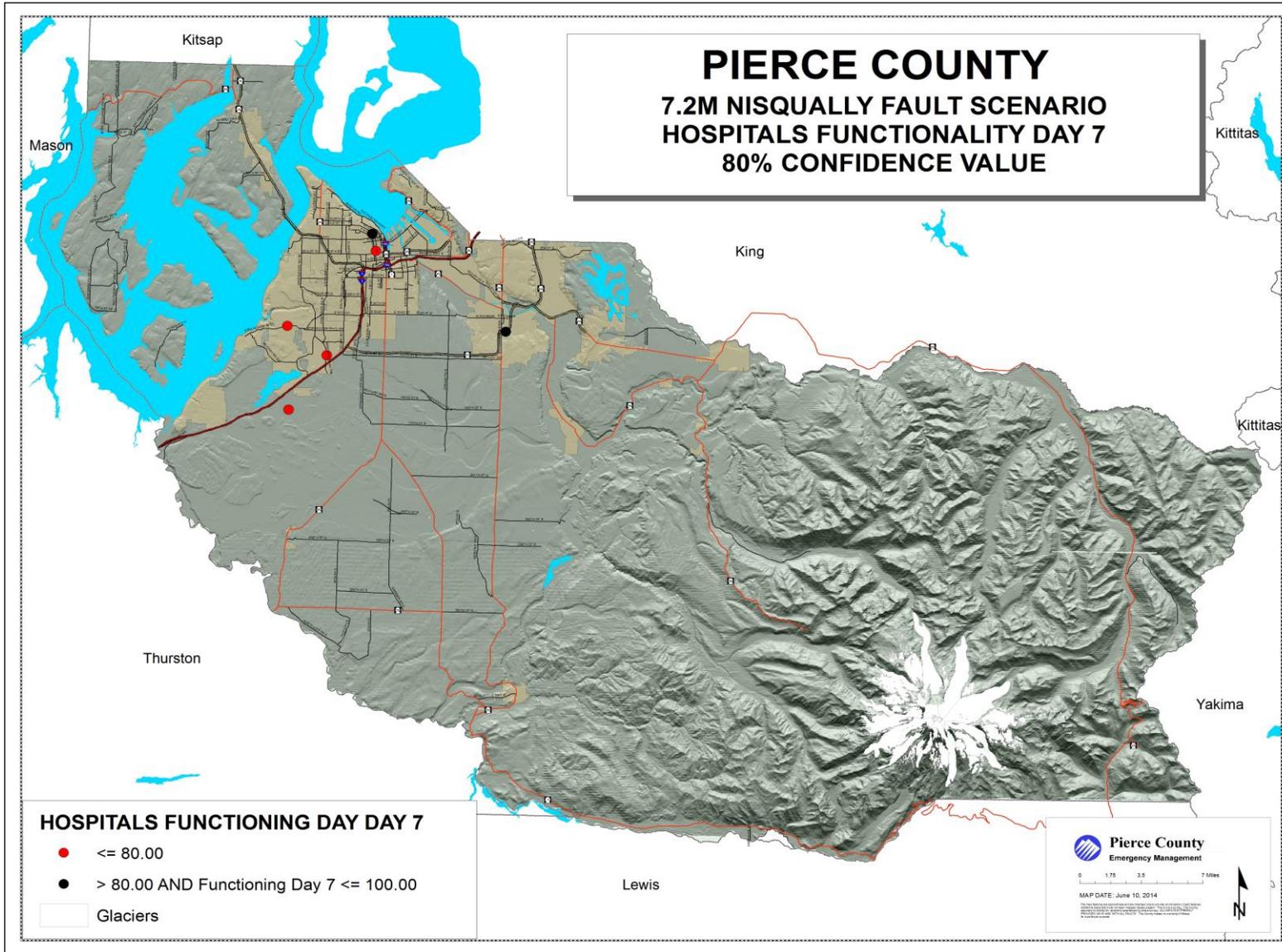
Map D-20 Pierce County Nisqually Fault Scenario Police Departments Functionality Day 7 Map⁶



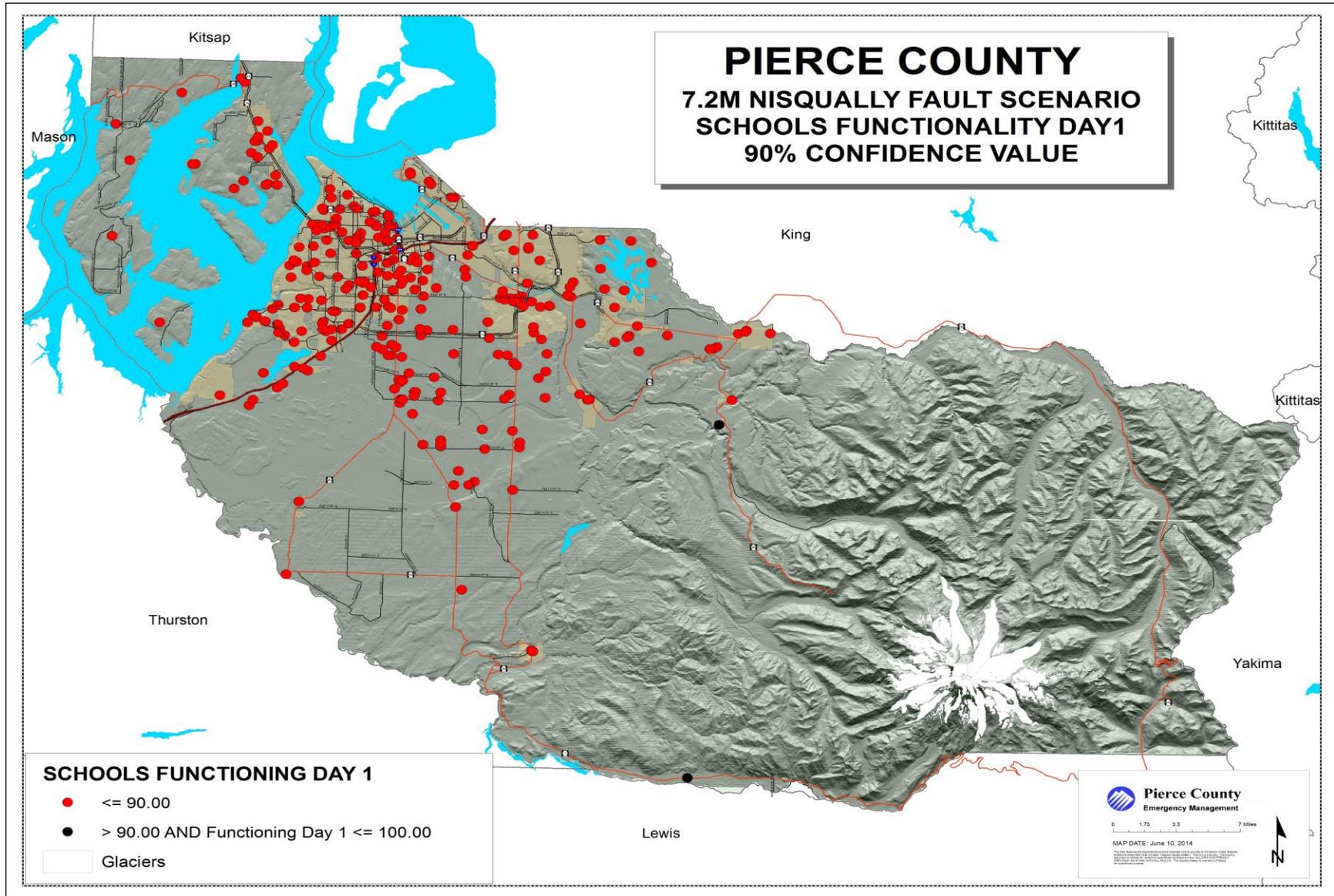
Map D-21 Pierce County Nisqually Fault Scenario Hospital Functionality Day 1 Map⁷



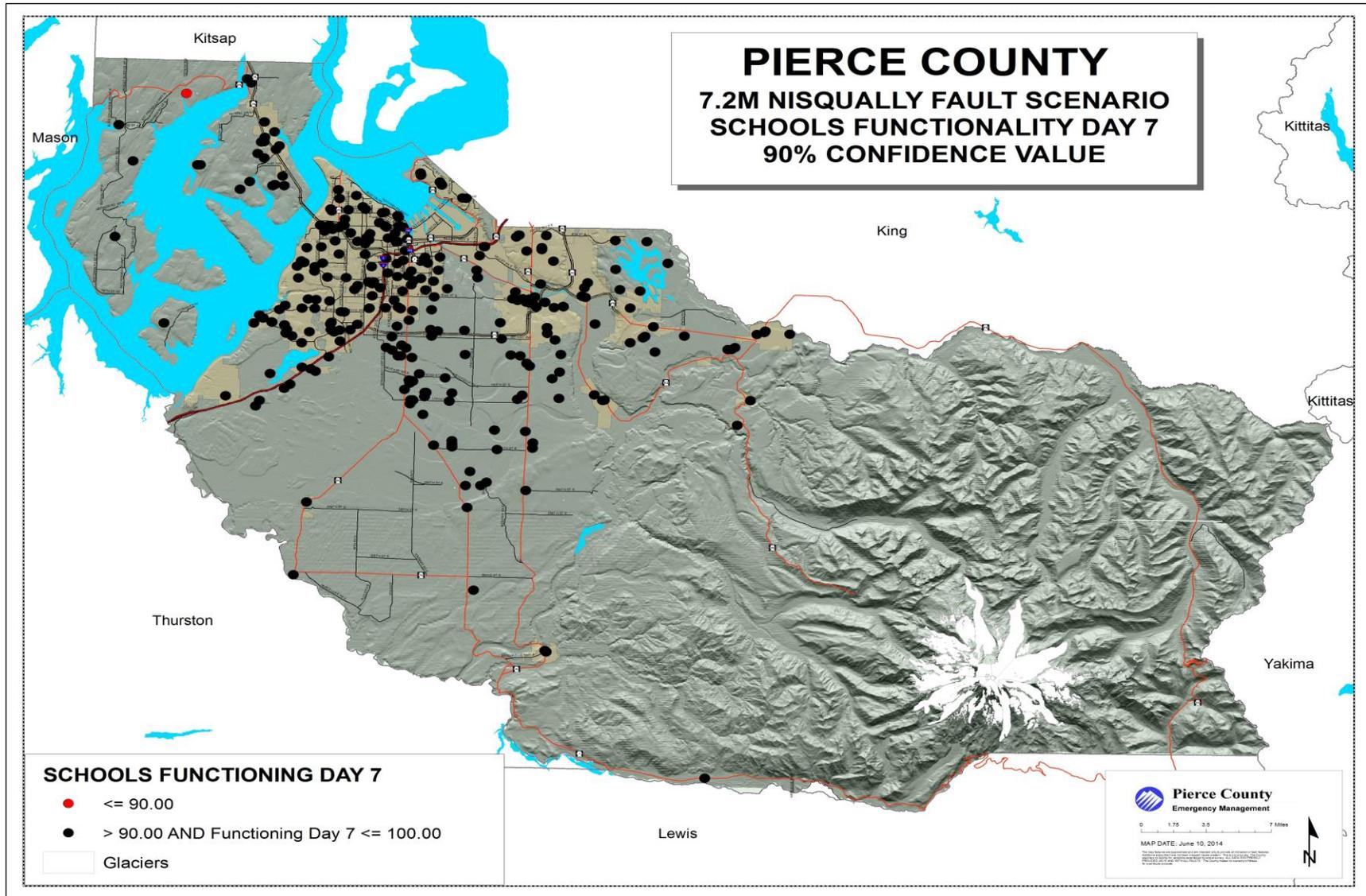
Map D-22 Pierce County Nisqually Fault Scenario Hospital Functionality Day 7 Map⁸



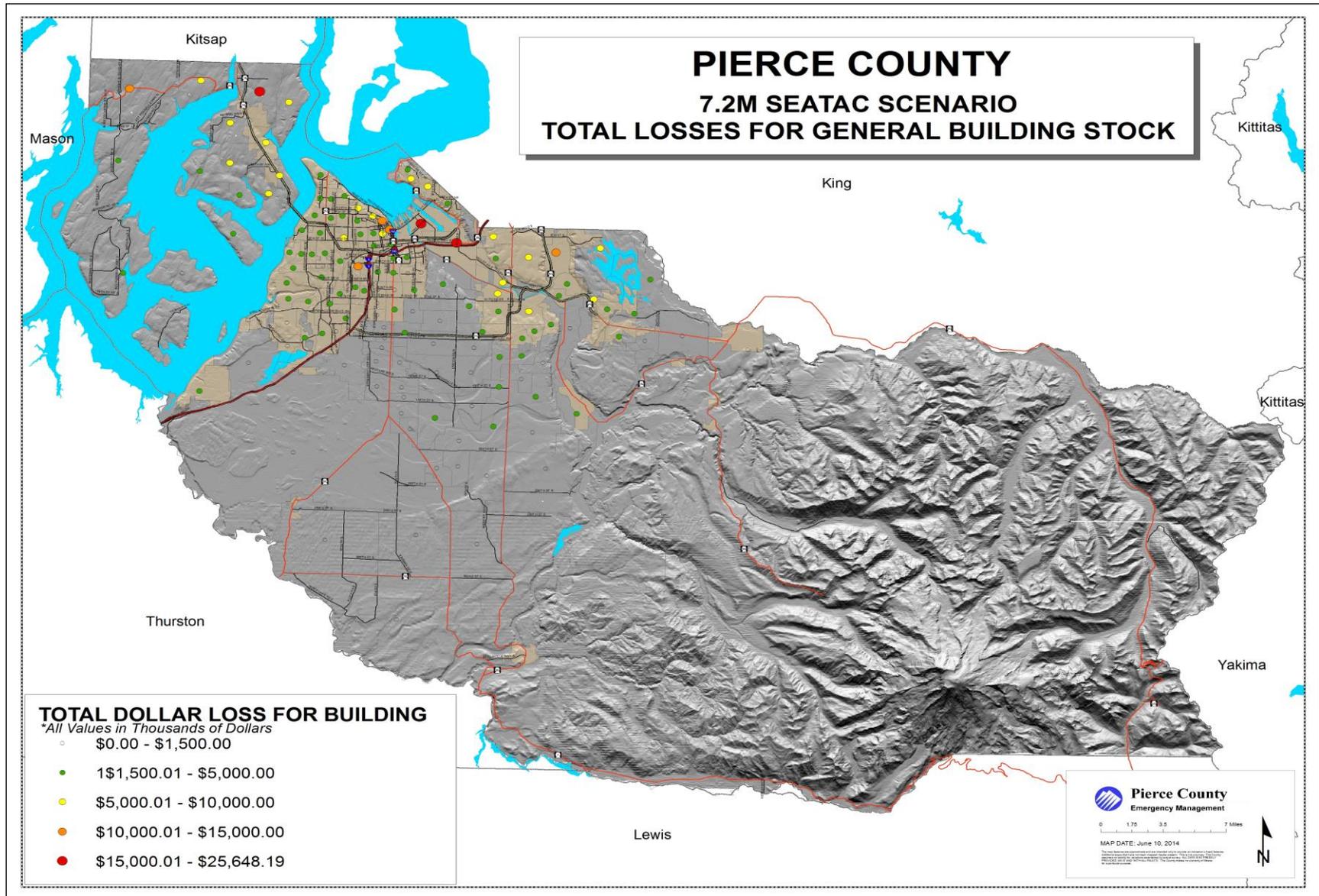
Map D-23 Pierce County Nisqually Fault Scenario Schools Functionality Day 1 Map



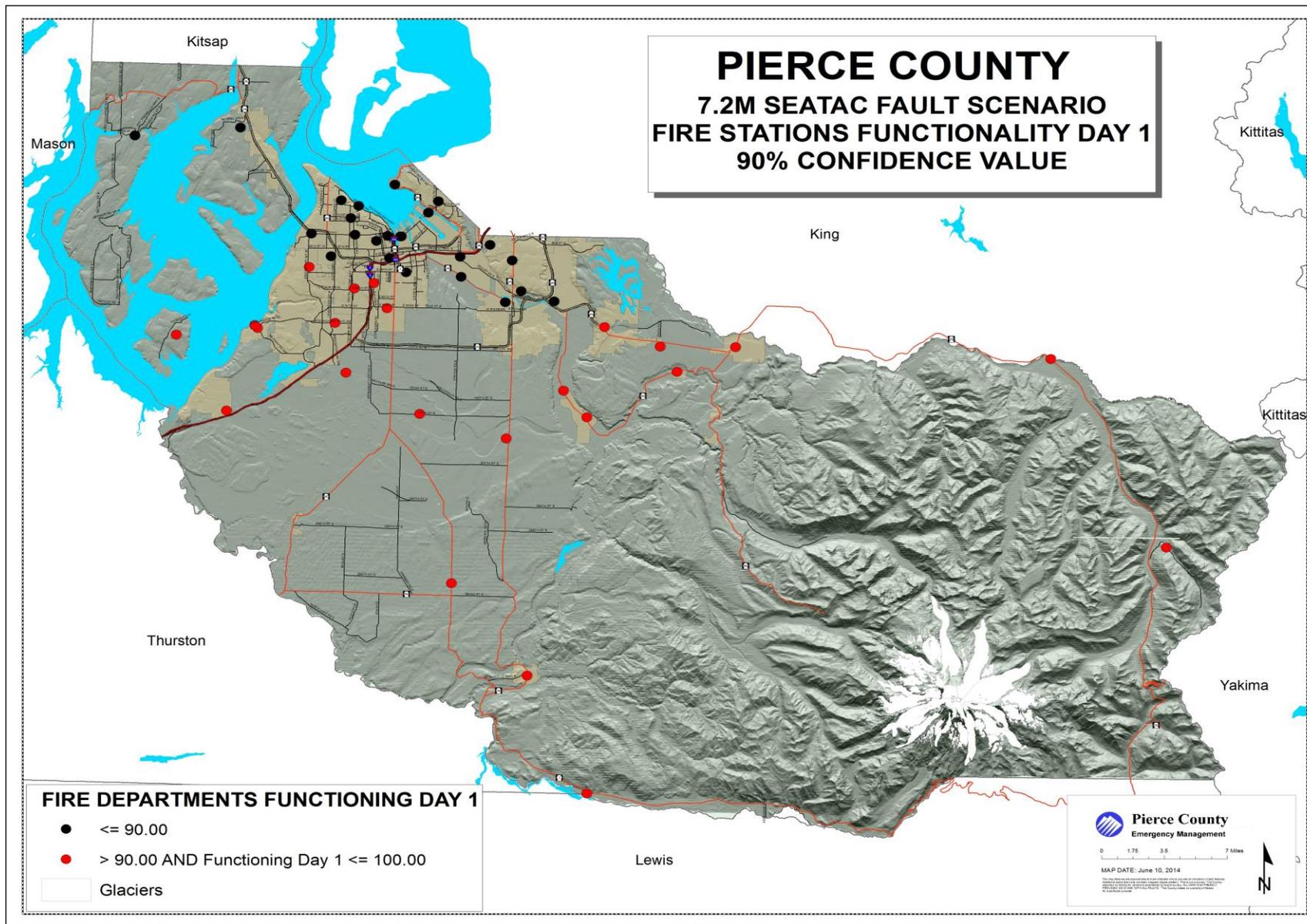
Map D-24 Pierce County Nisqually Fault Scenario Schools Functionality Day 7 Map



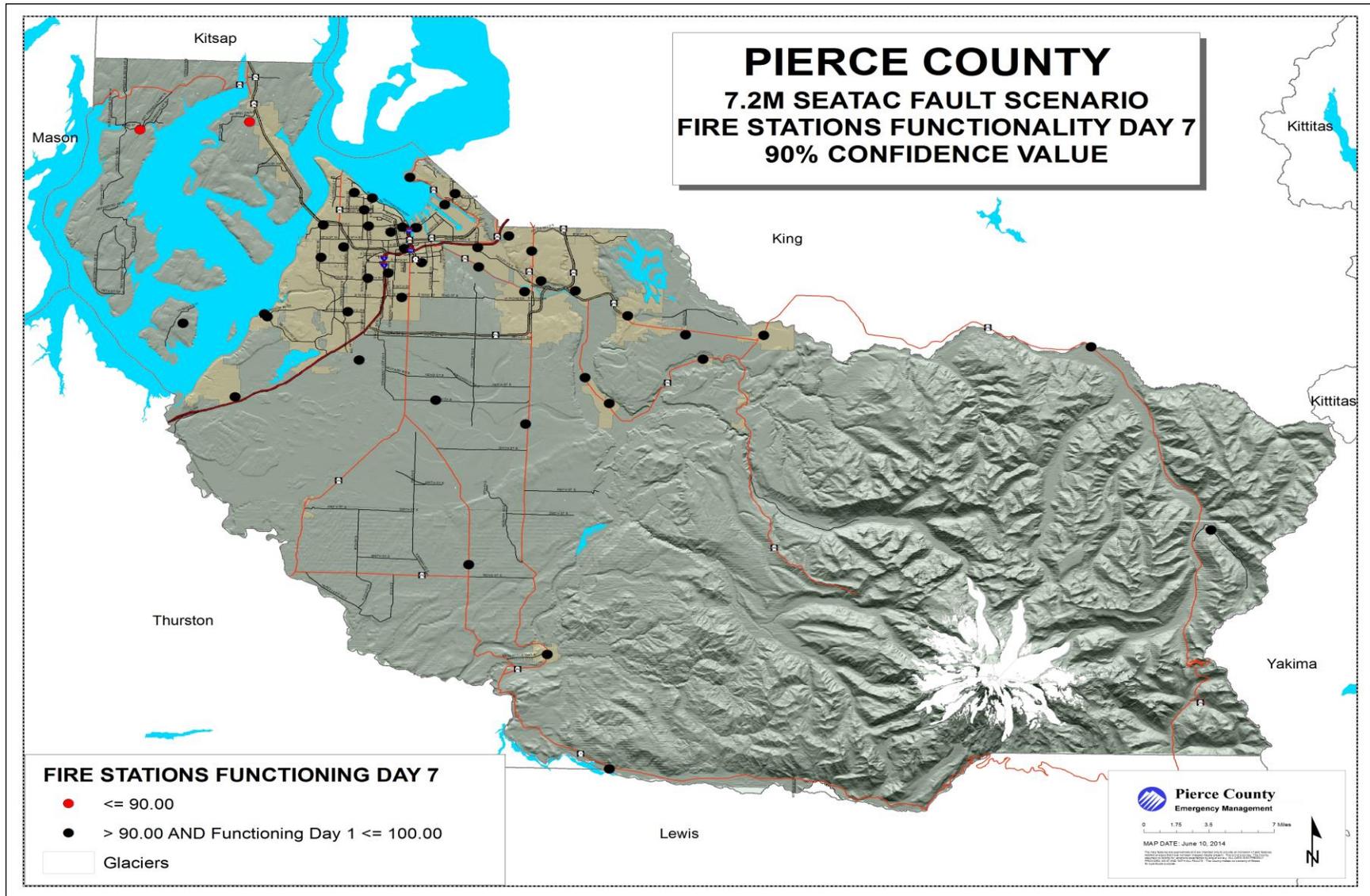
Map D-25 Pierce County SEATAC Fault Scenario Total Losses Map



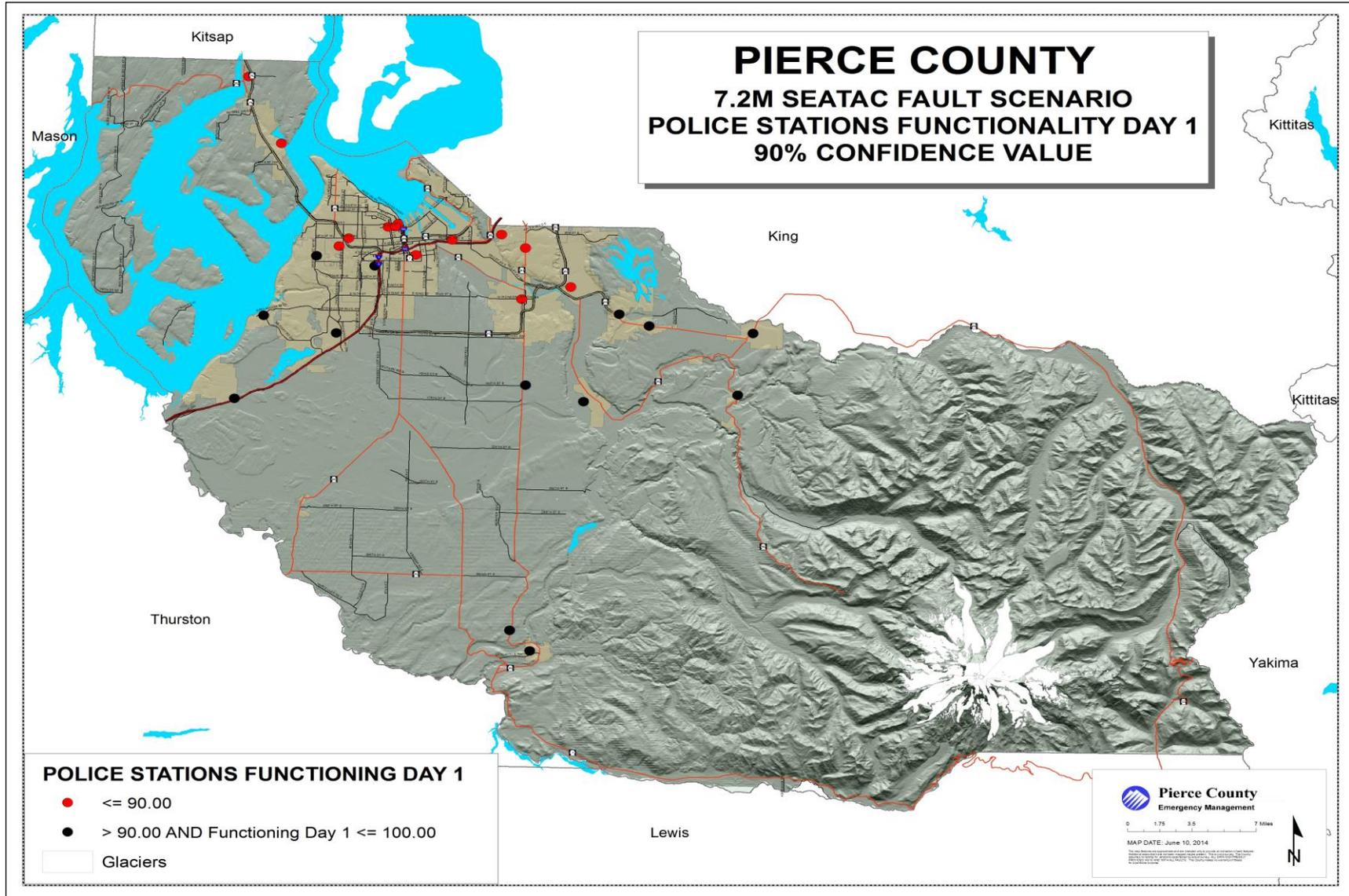
Map D-26 Pierce County SEATAC Fault Scenario Fire Stations Functionality Day 1 Map



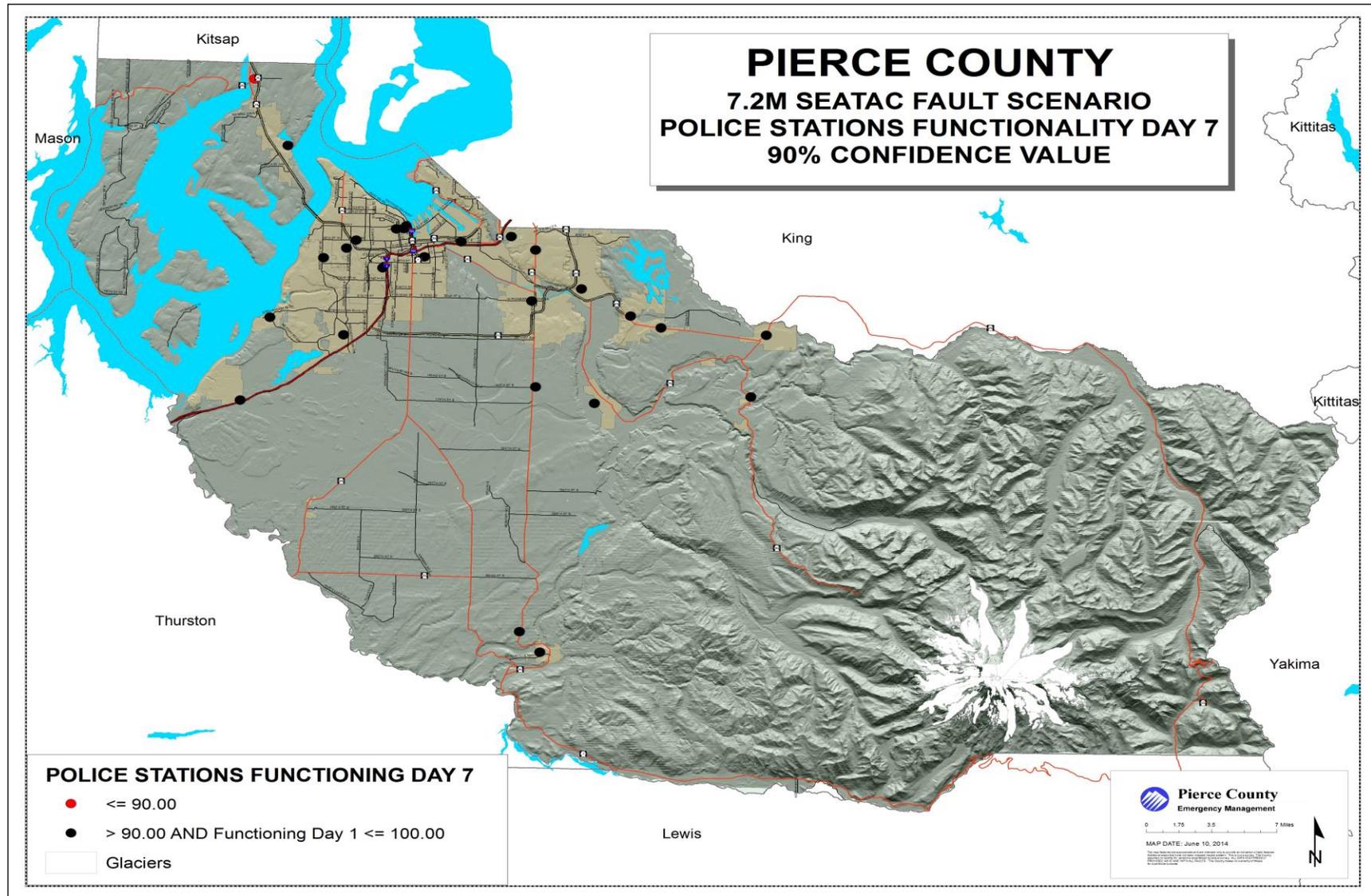
Map D-27 Pierce County SEATAC Fault Scenario Fire Stations Functionality Day 7 Map



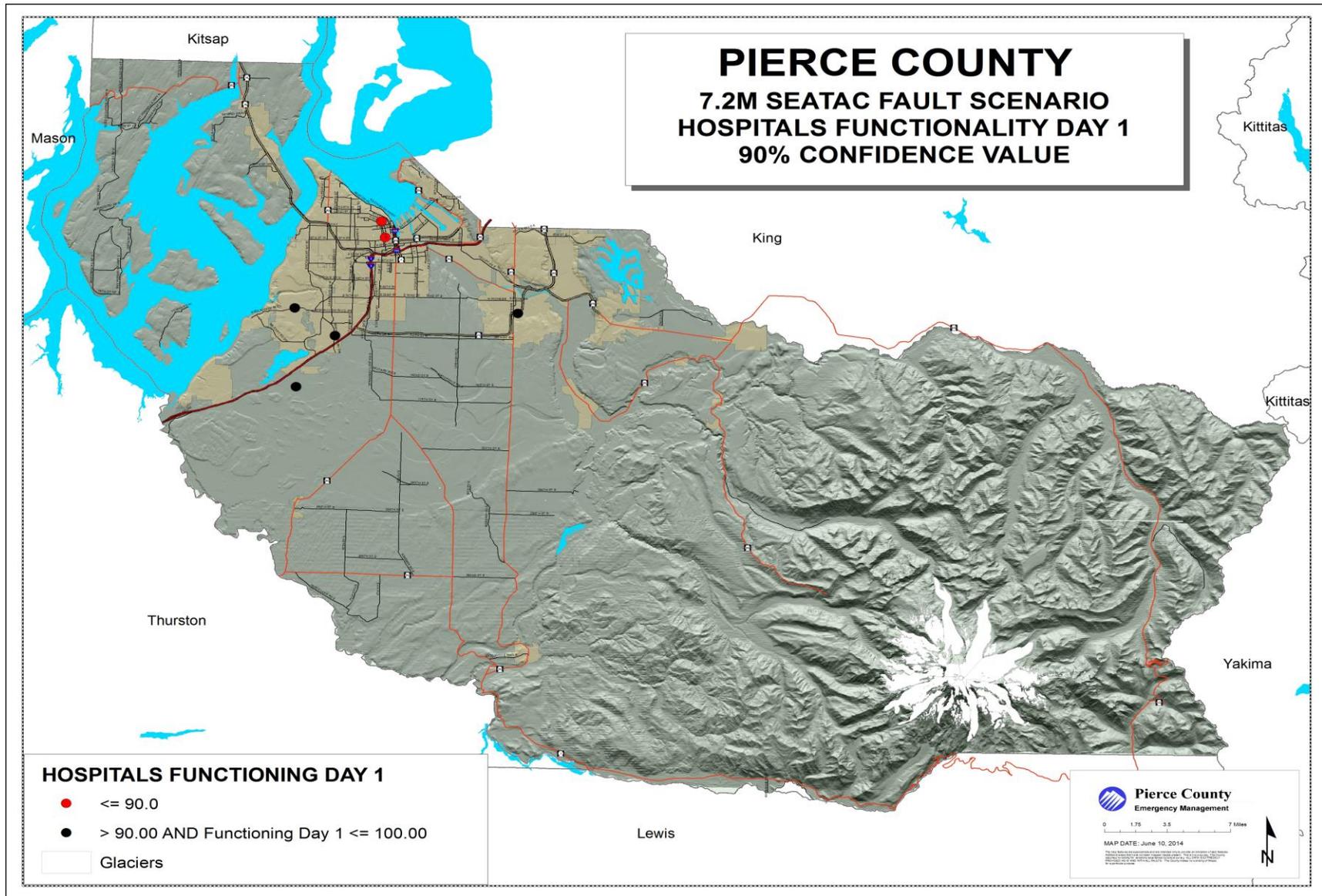
Map D-28 Pierce County SEATAC Fault Scenario Police Department Functionality Day 1 Map⁹



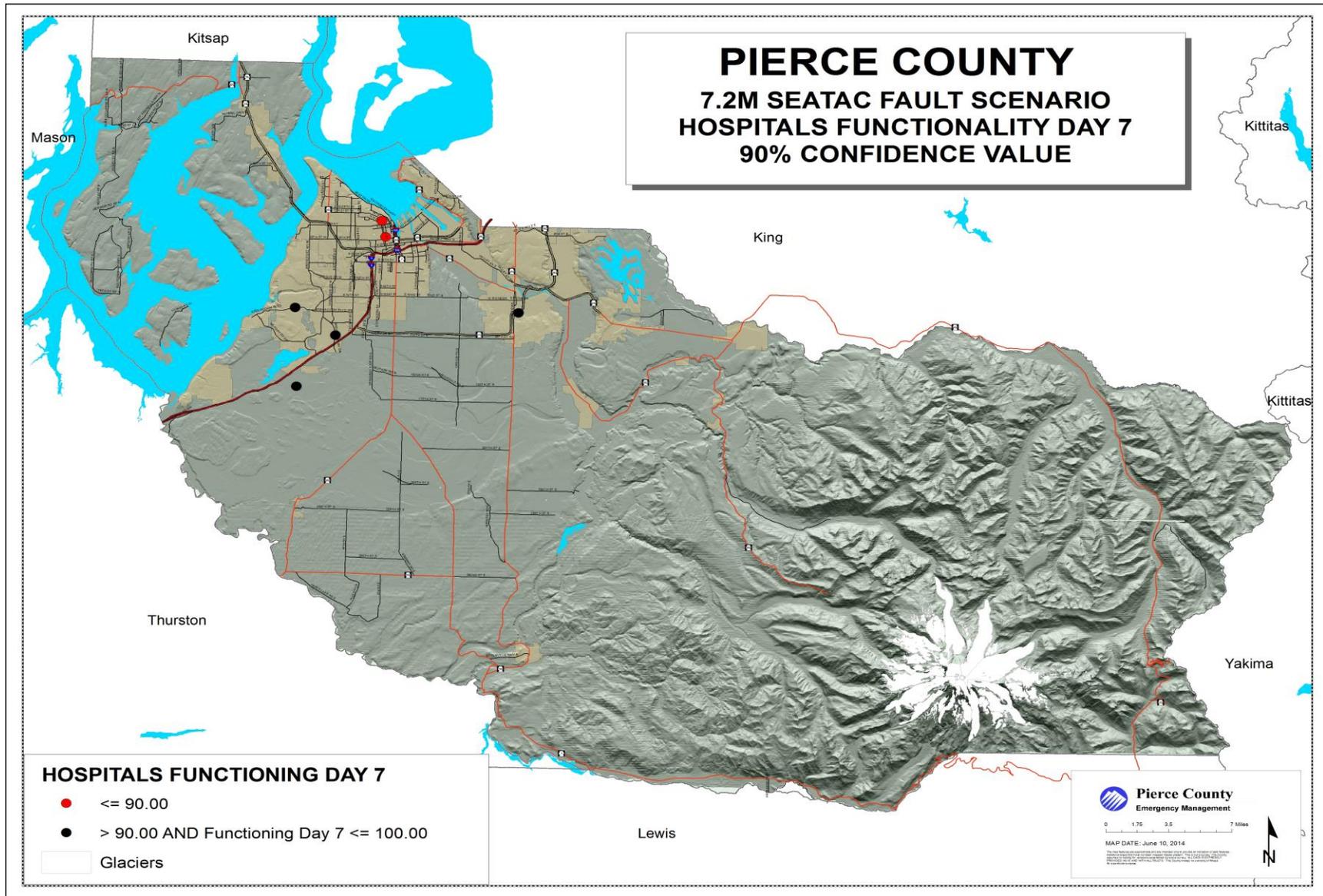
Map D-29 Pierce County SEATAC Fault Scenario Police Department Functionality Day 7 Map¹⁰



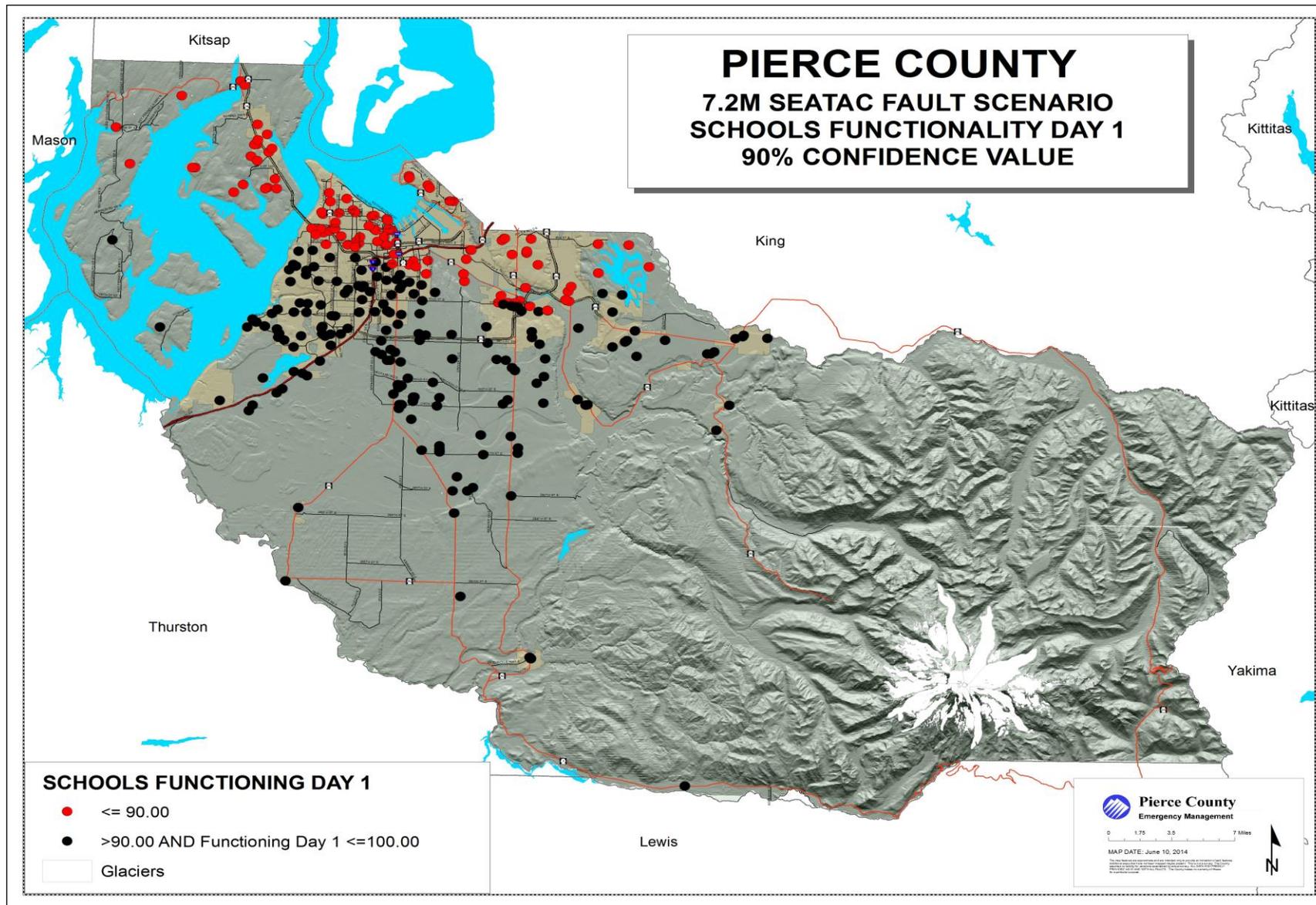
Map D-30 Pierce County SEATAC Fault Scenario Hospital Functionality Day 1 Map¹¹



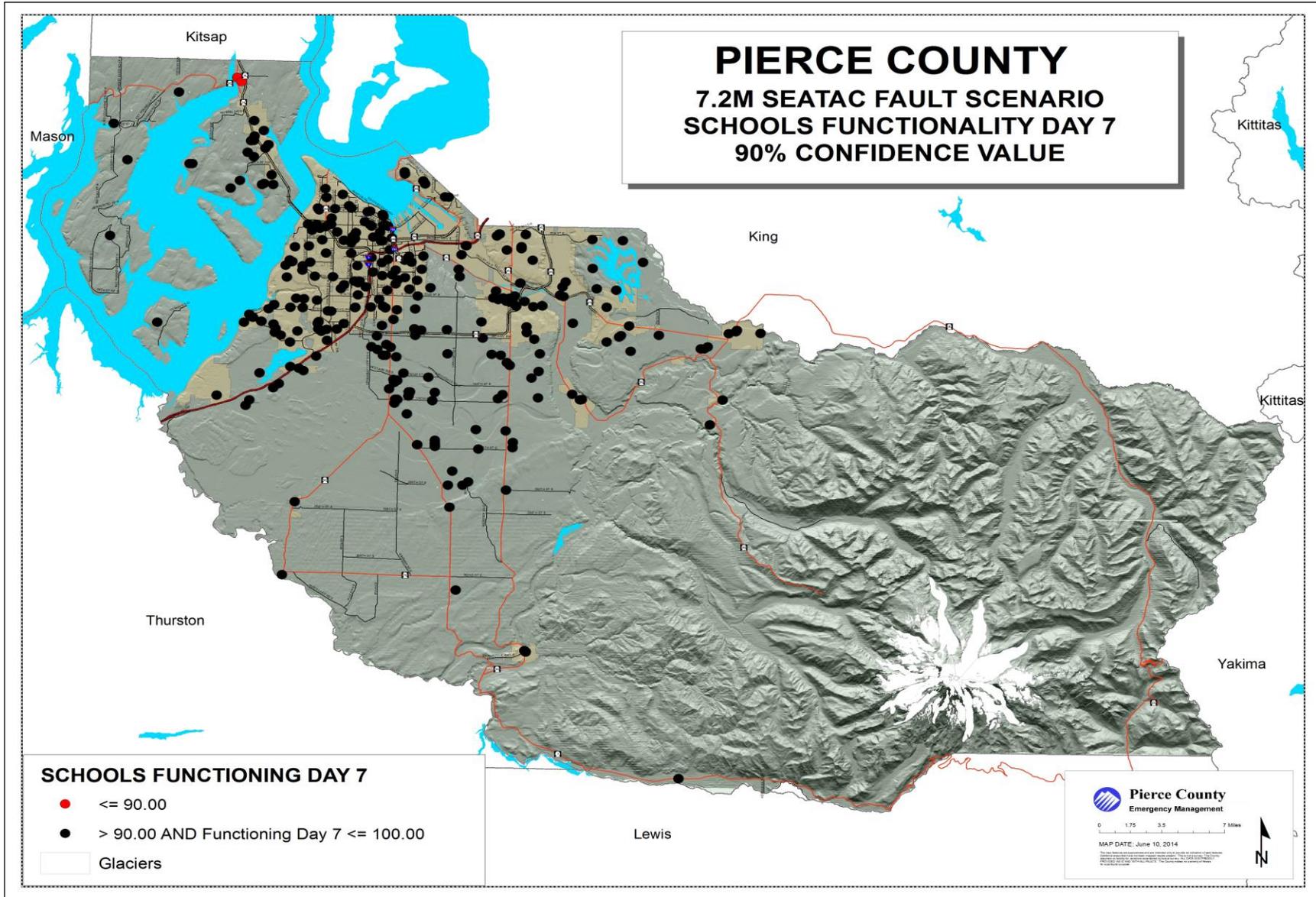
Map D-31 Pierce County SEATAC Fault Scenario Hospital Functionality Day 7 Map¹²



Map D-32 Pierce County SEATAC Fault Scenario Schools Functionality Day 1 Map



Map D-33 Pierce County SEATAC Fault Scenario Schools Functionality Day 7 Map



Endnotes

¹ Hazus has placed the police station location incorrectly for the City of Orting. It should be located in the middle of the city with Fire District #18 as they share the same building.

² Hazus has placed the police station location incorrectly for the City of Orting. It should be located in the middle of the city with Fire District #18 as they share the same building.

³ St. Anthony's Hospital is not included on the map due to the recent construction of the hospital lack of data at the time the analysis was done.

⁴ St. Anthony's Hospital is not included on the map due to the recent construction of the hospital lack of data at the time the analysis was done.

⁵ Hazus has placed the police station location incorrectly for the City of Orting. It should be located in the middle of the city with Fire District #18 as they share the same building.

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