PACIFIC LUTHERAN UNIVERSITY
ADDENDUM B-9
REGION 5 ALL HAZARD MITIGATION PLAN
2015-2020 EDITION

Prepared for:

Pacific Lutheran University
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ADDENDUM B-9

REGION 5 ALL HAZARD MITIGATION PLAN
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PACIFIC LUTHERAN UNIVERSITY

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Appendices

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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
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PACIFIC LUTHERAN UNIVERSITY
PROCESS SECTION

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Changes To Jurisdiction Plan in this Document

This Process Section for the City of Pacific Lutheran University 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 Pacific Lutheran University Hazard Mitigation Plan.

Change Matrix

This Matrix of Changes documents the pertinent changes made from the November 2008 Pacific Lutheran University 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 – Pacific Lutheran University Region 5 Hazard Mitigation Plan 2015 Update

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 (Continued)	
	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 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 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 Teams – School Group

NAME	TITLE	JURISDICTION-DEPARTMENT
Scott Hubbard	Superintendent	Carbonado School District
Hal Longan	Loss Control Specialist	Clover Park School District
Kirsten Parker	Director of Human Resources	Dieringer School District
Clay Jamerson	Manager of Pupil Transportation	Eatonville School District
Daniel Lea	Manager of Maintenance	Fife School District
John McCrossin	Director of Student Programs	Fife School District
Willie Painter	Public Information Officer	Franklin Pierce School District
Kristin Heather	Director of Finance and Operations	Orting School District
Jennifer Wamboldt	Emergency Programs Manager	Pacific Lutheran University
Joseph Bell	Environmental Health & Safety Officer	Pacific Lutheran University
Ernie Elton	Director of Facilities	Peninsula School District
Brian Devereux	Director of Facilities Planning	Puyallup School District
Bruce Parker	Maintenance Supervisor	Steilacoom School District No. 1
Peggy Uglick	Facilities Operations Manager	Steilacoom School District No. 1
Cheryl Collins	Risk Manager	Sumner School District
Ken Wilson	Safety and Environmental Manager	Tacoma Public Schools
Mike Patterson	Director of Maintenance	University Place School District
Michelle Martinez	Prevention Specialist	White River School District

Planning Team Meetings

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 1-8 Planning Team Meetings – School Group

Planning Team Meeting #1 - Pierce County Library Administration Bldg-April 12, 2012

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.

Planning Team Meeting #2 – Franklin Pierce School Admin Bldg-May 18, 2012

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.
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. In addition, this group discussed the Capability Section and how to recognize capabilities that already exist within the jurisdiction. Everyone was reminded to set up their Elected Official meetings. Everyone was given a copy of their original Section 6 – Infrastructure Information and Section 3 – Capability Section.

THERE WERE NO PLANNING TEAM MEETINGS IN JUNE OF 2012

Planning Team Meeting #4 – Franklin Pierce School Admin Bldg-July 20, 2012

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 as well as a review of the sections discussed thus far. The primary focus of the meeting was 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.

Planning Team Meeting #5 – Franklin Pierce School Admin Bldg-August 17, 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 – Franklin Pierce School Admin Bldg-September 21, 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 – Franklin Pierce School Admin Bldg-October 19, 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 – Franklin Pierce School Admin Bldg-November 16, 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 – Franklin Pierce School Admin Bldg-February 22, 2012
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 – Franklin Pierce School Admin Bldg-March 22, 2012
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

Pacific Lutheran University has the following identified plan which must collaborate with the mitigation plan; these plans are identified in the table below and must be updated within the predetermined timeline.

Plan	Next Update
PLU Major Institute Master Plan	2015
PLU South Campus Open Space Master Plan	2015
PLU Campus Master Plan	2014

Endnote

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

SECTION 2

REGION 5 ALL HAZARD MITIGATION PLAN
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PACIFIC LUTHERAN UNIVERSITY
PROFILE SECTION

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Mission Statement

The mission of the Pacific Lutheran University is as follows:

PLU seeks to educate students for lives of thoughtful inquiry, service, leadership and care for other persons, for the community and for the earth.

Services Summary

The University provides the following educational and community programs:

Pacific Lutheran University was founded in the year 1890. Today Pacific Lutheran University is a comprehensive university with an enrollment of about 3,500 students. As a member of the The New American Colleges and Universities, PLU is committed to the integration of liberal arts studies and professional preparation. In addition to the College of Arts and Sciences, a dynamic academic program features five professional schools and selective graduate programs that maintain a strong liberal arts emphasis at their core.

PLU offers the following majors: Anthropology, Applied Physics, Art History, Biology, Business, Chemistry, Chinese Studies, Classical Languages, Communication Studies, Computer Engineering, Computer Science, Economics, Elementary Education, Engineering Dual Degree, English, Environmental Studies, Financial Mathematics, French, Geosciences, German History, Hispanic Studies, Mathematics, Mathematics Education, Music, Norwegian, Nursing, Philosophy, Physical Education, Physics, Political Science, Psychology, Religion, Scandinavian Area Studies, Secondary Education, Social Work, Sociology, Spanish, Studio Arts, Theater. Complementary majors include: Global Studies and Women's and Gender Studies.

Master's degrees are offered in Business, Education, Marriage and Family Therapy, Nursing, and Writing. The University offers a Doctorate in Nursing Practice.

PLU is host to events, including sporting functions, continuing education, musical and theatrical performances, community activities, conferences, and graduations. It serves a diverse event population with many interests and capabilities.

Many events are organized by external users, such as School Districts, religious organizations, The Religious Society of Friends, pre-college programs, and many conferences.

PLU has developed Memorandum of Understanding's with: Mount Rainer Chapter of American Red Cross and Central Pierce Fire & Rescue to provide shelter, food services and an operational base in response to an emergency condition.

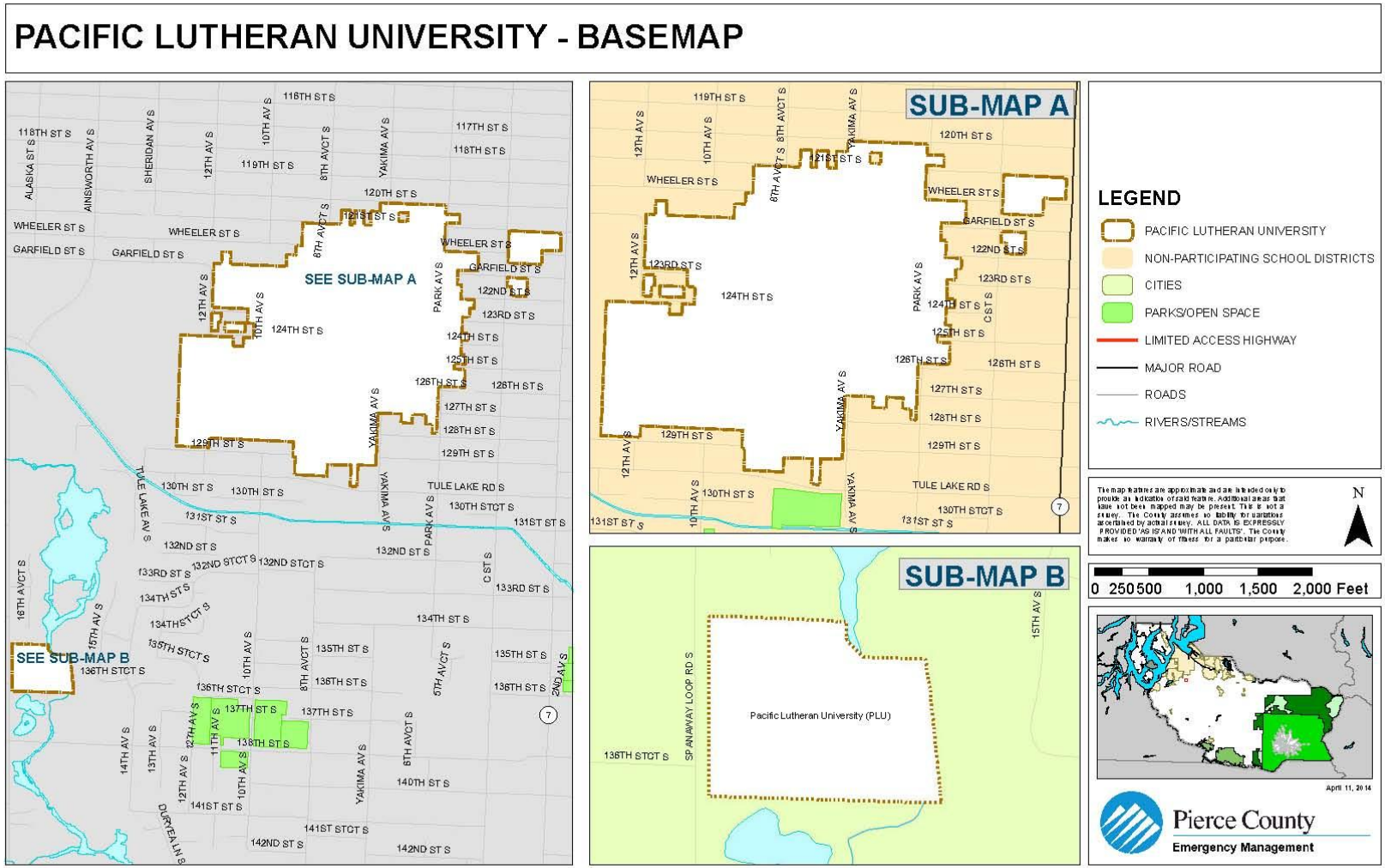
Lastly, while PLU is a private, non-profit institution, it operates a very a public and open campus. Local residents walk on campus. Students from local schools use PLU's fields and visit PLU's public spaces. Others shop at the Garfield Book Company at PLU. The University welcomes the community.

Geo-Political Summary

Table 2-1 Geo-Political Summary[1]

Jurisdiction	Area (sq mi)	Elevation Range (ft.)	Major Water Features	Regional Partners	
				Shared Borders	Land Use Authorities
Pacific Lutheran University	.25	300-320	• Tacoma Watershed • 6-Clover Creek/Steilacoom Basin	N/A	• Unincorporated Pierce County

Map 2- 1 Pacific Lutheran University Basemap



Population Summary

Demographics

Table 2-2 Population[2]

Jurisdiction	Population	Population Density (people/sq mi)	Population Served
Pacific Lutheran University Resident Students	1,517	5231	1,517
Pacific Lutheran University Commuter (Day) Students	1,971	6797	1,971
Pacific Lutheran University Employees	871	3003	871
Total Daytime Population on Campus	3,526 [3]	12,159	3,526
Region 5	795,225	440	795,225

Guests

PLU Conferences & Events served 12,500 guests in 2011-12. Most events are no larger than 500 people. Some very large events can be up to 1-2000 guests and take place during evenings, weekends, and summers when typical student and/or employee populations are lower. Of the 12,500 guests served in 2011-12, 7-15,000 visit during the summer months.[4]

Special Populations

Table 2-3 Special Populations[5]

Jurisdiction	Population	Population 65 Plus	% of Total	Population Under 20	% of Total
Pacific Lutheran University Resident Students	1,517	0	0%	23	1.53%
Pacific Lutheran University Commuter Students	1,971	0	0%	0	0%
Pacific Lutheran University Employees	871	82	9.41%	0	0%
Region 5	795,225	89,860	11.3%	193,240	24.3%

Demographic Analysis

Pacific Lutheran University has decreased in relation to the total day time populations and resident students on campus. The populations ages 20 and under represent 1.53% of the total population while the 65+ population represent 9.41% of the total population. The population

density fluctuates but of significance is the total daytime population on campus which has increased to 12,156 people per square mile. Pacific Lutheran University has an identified higher population density which increases their vulnerability in comparison to the last update.

Infrastructure Summary

General

Table 2-4 Parcel Summary[6]

Jurisdiction	# Parcels	Land Value	Average Land Value	Improved Value	Average Improved Value
Pacific Lutheran University	167	$13,569,700	$81,256	$66,576,300	$389,660
Region 5	319,165	$29,742,651,792	$93,189	$49,650,950,160	$155,577

Jurisdiction	Total Assessed Value	Average Assessed Value
Pacific Lutheran University	$80,146,000	$479,916
Region 5	$79,393,601,952	$248,766

Jurisdiction Infrastructure

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

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

Table 2-5 Owned Infrastructure[7]

Total Infrastructure	Commercial	Telecommunication	Energy	Total Value ($)
75	74	1 (radio station)	0	$232,650,234

Economic Summary

Table 2-6 Fiscal Summary[8]

Jurisdiction	Operating Costs (2012-2013 annual)	Operating Budgeted Revenues[9]	Operating Budgeted Expenditures[10]	Fund Balance as % of Operating Cost	Avg Fund Balance (5 yrs)
Pacific Lutheran University	$86,486,852	$87,816,620	$87,316.620	70.0%	$60,660,862

Resource Summary

Regional

- **Pacific Lutheran University**
  http://www.plu.edu/

- **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 Pierce County GIS application, CountyView Pro (2013/14).
[2] Resident, commuter students and employee population were provided by PLU Institutional Research. Student population based on Sept 2011 official numbers. Employees based on official reporting date of Oct 15, 2011.
[3] Count distinct students registered in a class that meets on a Wednesday between 8 a.m. and 5 p.m. in the first half of the fall term, distinct faculty teaching a class that meets on a Wednesday between 8 a.m. and 5 p.m. in the first half of the fall term, and all full-time administrators and staff plus half of the part-time administrators and staff
[4] PLU Conferences and Events
[5] Population 65 plus and population under 20 numbers provided by PLU Institutional Research.
[6] Information from Pierce County GIS application, CountyView Pro (2013/14). Numbers derived from tax parcels whose centers are within selected jurisdictions.
[7] Information obtained from Jurisdiction from Infrastructure Matrix.
[8] Information obtained from Jurisdiction from current Budget.
[9] Non-Capital
[10] Non-Capital

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
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CAPABILITY IDENTIFICATION SECTION

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Legal and Regulatory

Table 3-1 Legal and Regulatory

Regulatory Tools (Ordinances and Codes)	Yes or No
Jurisdiction Capabilities	
Shelter	Yes
Eminent Domain	No
RCW 28A - Common School Provisions	No
WAC Title 392 - Office of Superintendent of Public Instruction	No

Administrative Capability

Table 3-2 Administrative Capability

Administrative Tools (Agency, Departments or Program)	Yes or No
Jurisdiction Capabilities	
Administrative Staff Council	Yes
Alumni & Parent Relations	Yes
Associated Students of PLU	Yes
Auxiliary Services	Yes
Board of Regents	Yes
Budget and Finance Division	Yes
Campus Safety Department (Pierce County Sheriff)	Yes
Counseling Center	Yes
Development Office (Grant Writing Capability)	Yes
Dining and Culinary Services	Yes
Environmental Health and Safety	Yes
Earthquake & Evacuation Drills	Yes
Emergency Programs Manager / Emergency Programs Office	Yes
Emergency Response Training Program	Yes
Employee Assistance Program	Yes
Facilities Management	Yes
Faculty Governance	Yes
Health Center	Yes
Information and Technology Services	Yes
Lahar Warning System, Evacuation Routes, Evacuation Program, and SOPs	No
Lock Down, Earthquake and Evacuation Drills	Yes
University Communications	Yes
Emergency Planning Committee	Yes
Human Resources	Yes
University President and Council	Yes
University Website and Emergency Preparedness Website	Yes
Resident Life	Yes
Safety and Security Task Force	Yes
Student Life	Yes
Students with various skills	Yes
Violence Prevention Program	Yes
Volunteer Center	Yes
Women's Center	Yes
Regional Capabilities	
American Red Cross	Yes
Citizen Corps	Yes
Department of Ecology	Yes

Department of Occupational Health and Safety	Yes
Educational Facilities Professionals (formerly APPA)	Yes
Nonstructural Mitigation Measures	Yes
Pierce County Assessor-Treasurer	Yes
Pierce County Colleges Group	Yes
Pierce County CountyView GIS	No
Pierce County Department of Emergency Management	Yes
Pierce County Fire Districts – Central Pierce Fire and Rescue	Yes
Pierce County Fire Prevention Bureau	Yes
Pierce County Sheriff's Department – Under Contract	Yes
Pierce County Sewer Utility	Yes
Pierce County Transportation Program – Commuter Reduction Program	Yes
Pierce County Water Programs	No
Rapid Responder System	No
School Threat System (Pierce Responder) Portal	Yes
Tacoma Pierce County Health Department	Yes
Washington State Emergency Management Division	Yes
Workman's Compensation Trust	Yes

Technical Capability

Table 3-3 Technical Capability

Technical Tools (Plans and Other)	Yes or No
Jurisdiction Capabilities	
Amateur Radio System (Ham)	Yes
Building Evacuation Plan	Yes
Capital Master Plan	Yes
Construction Standards/Specifications	Yes
Emergency Procedures and Assembly Area Posters	Yes
In An Emergency Employee Handbook	Yes
Human Resources Policies and Procedures	Yes
Mitigation Plan 2008	Yes
Pandemic Flu Plan	Yes
PLU 2020	Yes
PLU Emergency Management Plan for All Hazards	Yes
Post-Incident/Exercise Debriefs and Reports	Yes
Response Policies and Procedures – Various	Yes
Seismic Rehabilitation of School Buildings	Yes
Student Rights & Responsibilities	Yes
Regional Capabilities	
Pierce County Flood Loss Plan	No

Fiscal Capability

Table 3-4 Fiscal Capability

Fiscal Tools (Taxes, Bonds, Funds and Fees)	Yes or No
Jurisdiction Capabilities	
Tuitions	Yes
Development Office	Yes
Insurance	Yes
FUNDS:	
Capital Equipment Fund	
Capital Projects Fund	Yes
Debt Services Fund	Yes
General Fund	Yes
Transportation Vehicle Fund	No
Trust Funds	Yes
GRANTS:	
FEMA grant programs	Yes
Grants from Foundations	Yes
Sustainability Grants	Yes
Regional Capabilities	
School Based Partnerships Grant Program	No

Specific Capabilities

Table 3-5 Specific Capabilities

Jurisdiction Specific Capabilities
Legal & Regulatory
Federal and State Financial Aid
Administrative & Technical
American Chemical Society of Puget Sound Chapter
Campus Safety Health and Environmental Management Association (CSHEMA)
Educational and Institutional Insurance Administrators/Evangelical Lutheran Church of America Risk Managers (EIIA/ELCARM)
Franklin Pierce School District
Garfield Business District and Parkland U.S.P.S
National Safety Council Membership
NFPA Membership
Parkland Community Association
Parkland Land Use Advisory Committee
Red Cross Shelter – Olson Auditorium
Safe Streets
South County Chamber of Commerce
Technical College (Clover Park and Bates) – Student Support Facilities
United Educators
University Risk Management and Insurance Administration (URMIA)
Fiscal
Garfield North LLC
Garfield Partners LLC

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?

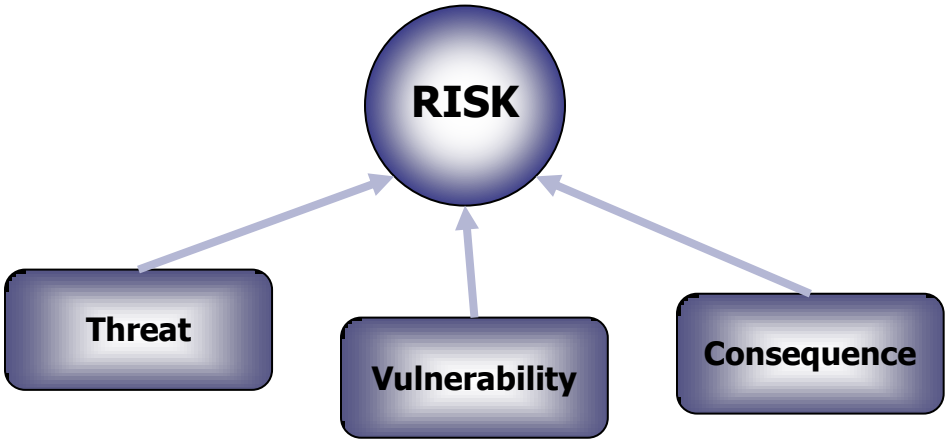
SECTION 4

REGION 5 ALL HAZARD MITIGATION PLAN
2015-2020 EDITION
PACIFIC LUTHERAN UNIVERSITY
RISK ASSESSMENT SECTION

Table of Contents

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 five 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

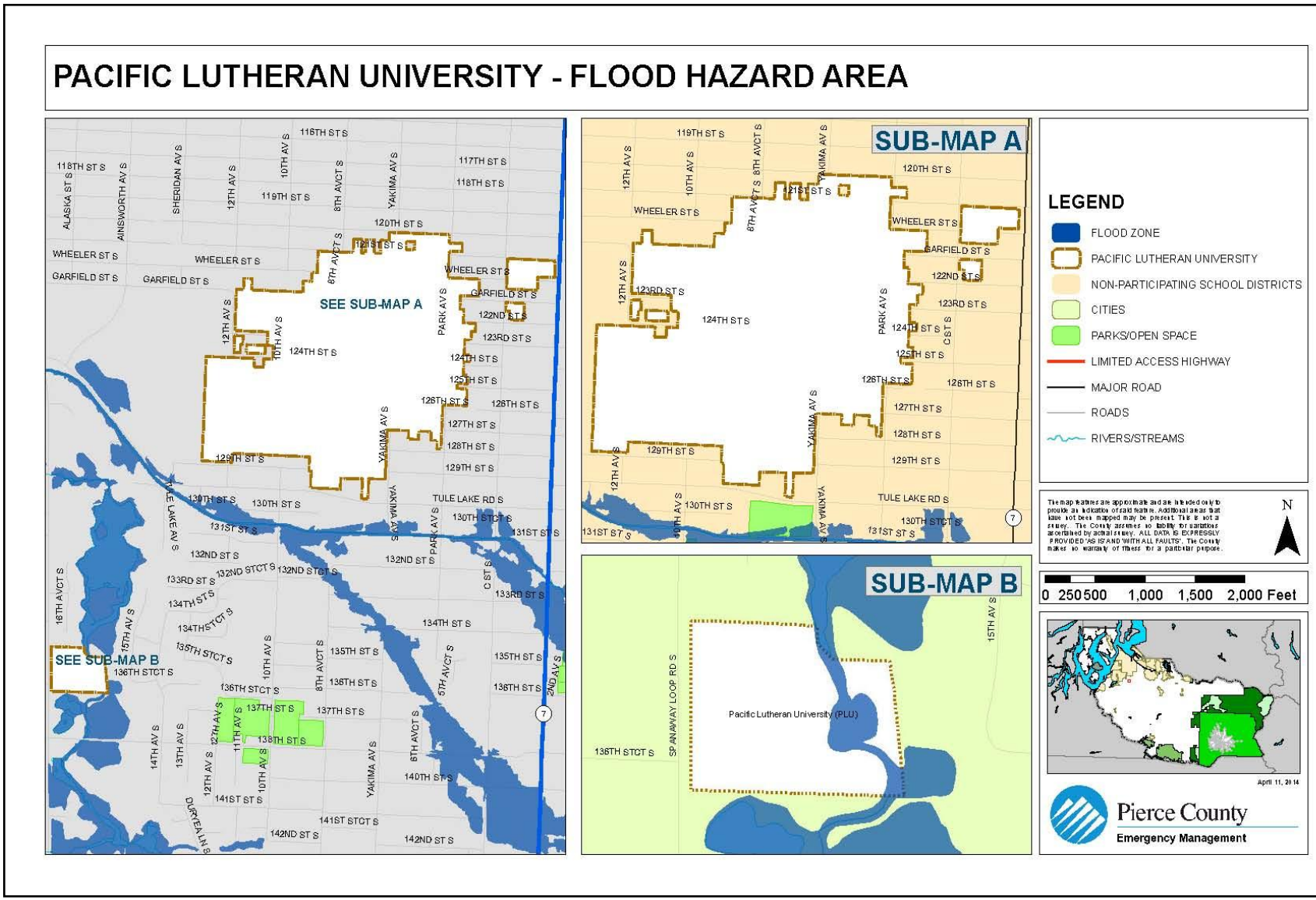
	THREAT	DECLARATION # DATE/PLACE	PROBABILITY/ RECURRENCE	MAPS, FIGURES AND TABLES
Geological	**AVALANCHE**	Not Applicable	Yearly in the mountainous areas of the County including Mt. Rainier National Park and the Cascades.	Slab Avalanche Areas Vulnerable to Avalanche Pierce County Avalanches of Record
	EARTHQUAKE	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
	LANDSLIDE	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
	TSUNAMI	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 Zones, 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
	VOLCANIC	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 C meters 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

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

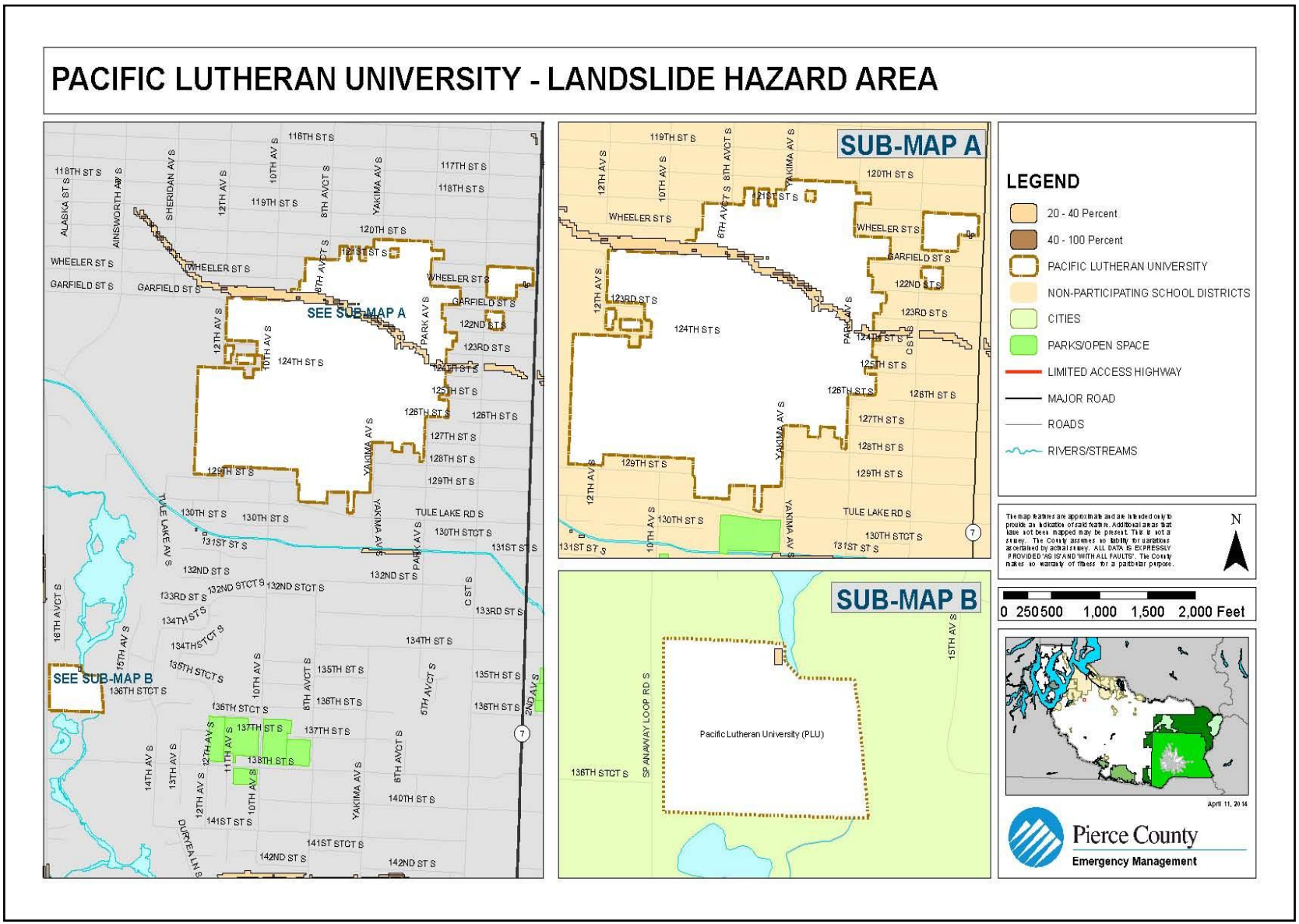
	HAZARD	FEMA DECLARATION # DATE/PLACE		PROBABILITY/ RECURRENCE	MAPS, FIGURES AND TABLES
Meteorological	**CLIMATE CHANGE**	Not Applicable		Not Applicable	Global Temperature Change: 1850 to 2006 Recent and Projected Temperatures for the Pacific Northwest Comparison of the South Cascade Glacier: 1928 to 2003 Lower Nisqually Glacier Retreat: 1912 to 2001
	DROUGHT	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
	FLOOD 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
	SEVERE WEATHER	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
	WUI FIRE	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

	HAZARD	FEMA DECLARATION # DATE/PLACE	PROBABILITY/ RECURRENCE	MAPS, FIGURES AND TABLES
Technological	**ABANDONED MINES**	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, The Washington State Coal Mine Map Collection: A Catalog, Index, and User's Guide, Open File Report 94-7, June 1984 Pierce County 2009 HIRA
	CIVIL DISTURBANCE	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
	DAM FAILURE	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
	ENERGY EMERGENCY	Not Applicable	• 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
	EPIDEMIC	Not Applicable	Pandemics • 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
	HAZARDOUS MATERIALS	Not Applicable	• 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
	PIPELINE FAILURE	Not Applicable	• Northwest Pipeline Corporation natural gas incident May 1st 2003, in Sumner 10 years recurrence	Map P-1 Pierce County Pipelines Pierce County 2009 HIRA
	TERRORISM	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
	TRANSPORTATION ACCIDENT	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

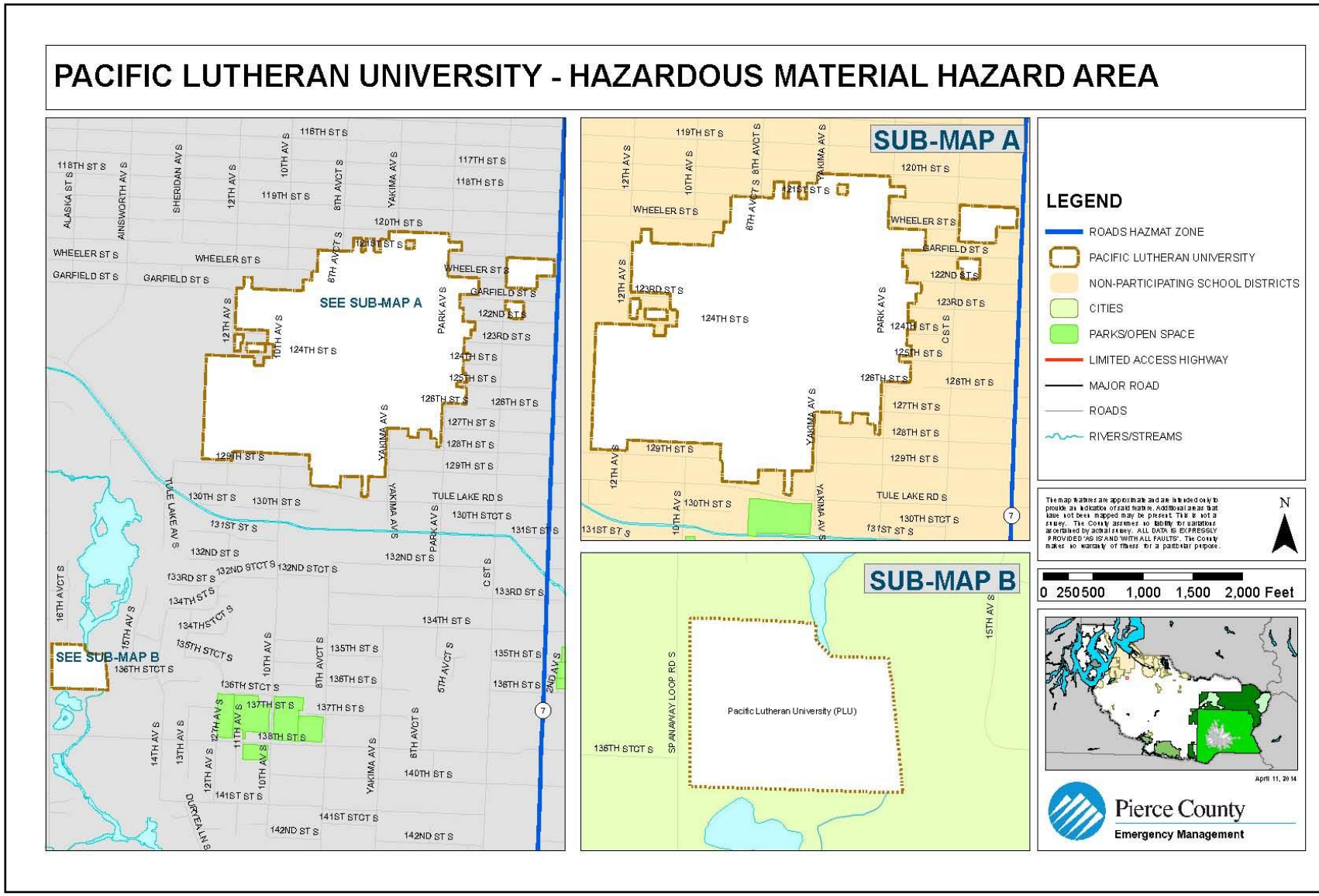
Map 4-1 Pacific Lutheran University Flood Hazard Map



Map 4-2 Pacific Lutheran University Landslide Hazard Map



Map 4-3 Pacific Lutheran University Hazardous Material Hazard Map



Map 4-4 Pacific Lutheran University Transportation Hazard Area Map

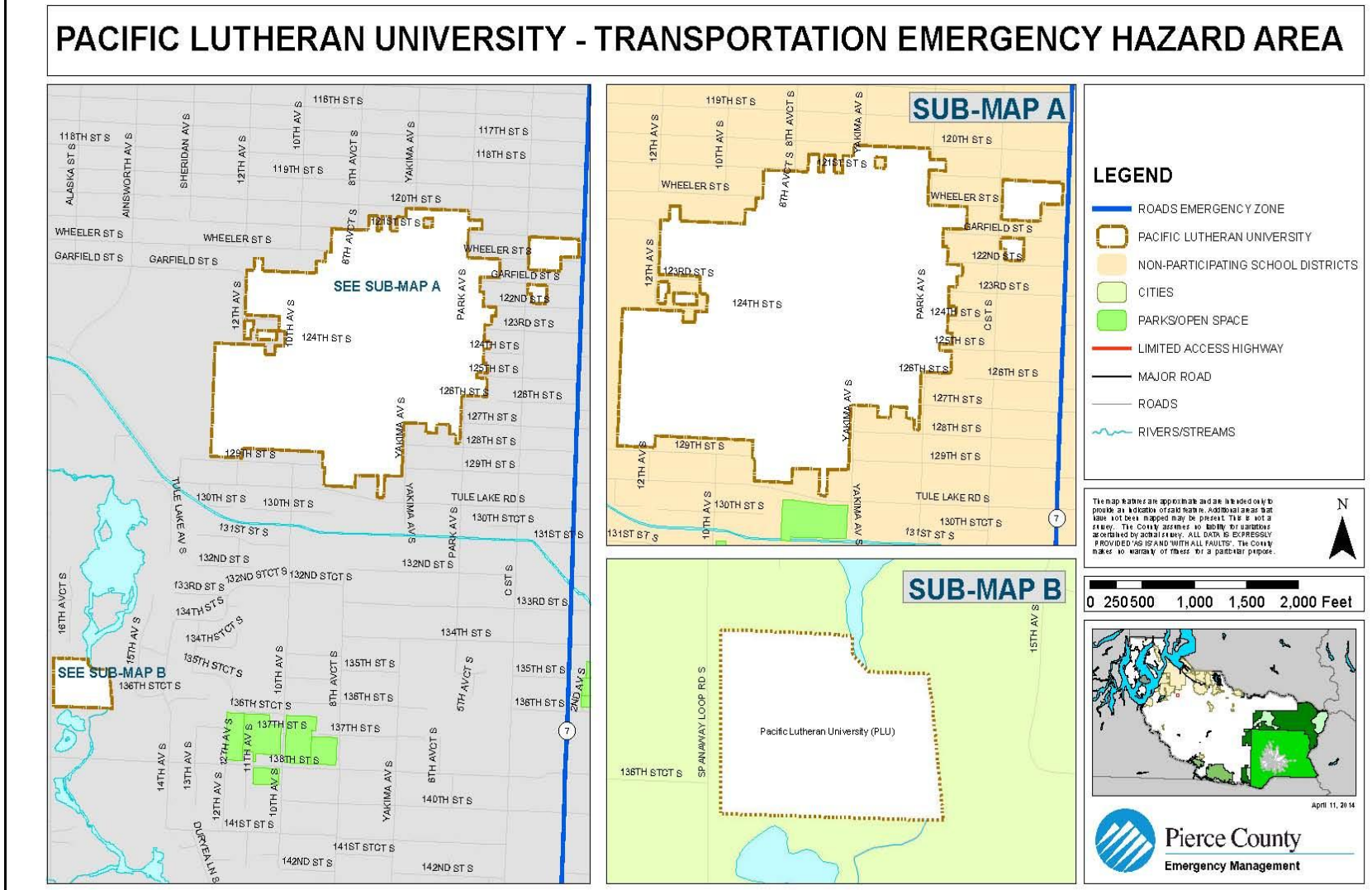


Table 4-2 Vulnerability Analysis: General Exposure[1]

THREAT[2]		AREA (SQ MI)		PARCELS	
		Total	% Base	Total	% Base
BASE		.29	100%	167	100%
Geological	Avalanche[3]	NA	NA	NA	NA
	Earthquake[4]	NA	NA	NA	NA
	Landslide	.03	10.3%	22	13.17%
	Tsunami	NA	NA	NA	NA
	Volcanic[5]	NA	NA	NA	NA
Meteorological	Drought[6]	.29	100%	167	100%
	Flood	0.01	3.4%	3	1.80%
	Severe Weather	.29	100%	167	100%
	WUI Fire[7]	NA	NA	NA	NA
Technological	Abandoned Mines[8]	NA	NA	NA	NA
	Civil Disturbance[9]	.29	100%	167	100%
	Dam Failure[10]	NA	NA	NA	NA
	Energy Emergency[11]	.29	100%	167	100%
	Epidemic[12]	.29	100%	167	100%
	Hazardous Material[13]	NA	NA	NA	NA
	Pipeline Hazard[14]	NA	NA	NA	NA
	Terrorism[15]	.29	100%	167	100%
	Transportation Accidents[16]	NA	NA	NA	NA

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		**1,771**	**100%**	**6,014**	**31**	**2%**	**827**	**47%**
Geological	**Avalanche**	NA	NA	NA	NA	NA	NA	NA
	Earthquake	NA	NA	NA	NA	NA	NA	NA
	Landslide	1,338	75.55%	40,545.45	8	25.81%	259	31.32%
	Tsunami	NA	NA	NA	NA	NA	NA	NA
	Volcanic	NA	NA	NA	NA	NA	NA	NA
Meteorological	**Drought**	1,771	100%	6,014	31	2%	827	47%
	Flood	23	1.3%	1,863	3	9.7%	4	0.48%
	Severe Weather	1,771	100%	6,014	31	2%	827	47%
	WUI Fire	NA	NA	NA	NA	NA	NA	NA
Technological	**Abandoned Mines**	NA	NA	NA	NA	NA	NA	NA
	Civil Disturbance	1,771	100%	6,014	31	2%	827	47%
	Dam Failure	NA	NA	NA	NA	NA	NA	NA
	Energy Emergency	1,771	100%	6,014	31	2%	827	47%
	Epidemic	1,771	100%	6,014	31	2%	827	47%
	Hazardous Material	NA	NA	NA	NA	NA	NA	NA
	Pipeline Hazard	NA	NA	NA	NA	NA	NA	NA
	Terrorism	1,771	100%	6,014	31	2%	827	47%
	Transportation Accidents	NA	NA	NA	NA	NA	NA	NA

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		**$13,569,700**	**100%**	**$81,256**	**$66,576,300**	**100%**	**$398,660**	**$80,146,000**	**100%**	**$479,916**
Geological	**Avalanche**	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Earthquake	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Landslide	$1,553,400	11.45%	$70,609	$10,111,800	15.19%	$459,627	$11,665,200	14.55%	$530,236
	Tsunami	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Volcanic	NA	NA	NA	NA	NA	NA	NA	NA	NA
Meteorological	**Drought**	$13,569,700	100%	$81,256	$66,576,300	100%	$398,660	$80,146,000	100%	$479,916
	Flood	$234,400	1.73%	$78,133	$335,700	0.50%	$111,900	$570,100	0.7%	$190,033
	Severe Weather	$13,569,700	100%	$81,256	$66,576,300	100%	$398,660	$80,146,000	100%	$479,916
	WUI Fire	NA	NA	NA	NA	NA	NA	NA	NA	NA
Technological	**Abandoned Mines**	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Civil Disturbance	$13,569,700	100%	$81,256	$66,576,300	100%	$398,660	$80,146,000	100%	$479,916
	Dam Failure	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Energy Emergency	$13,569,700	100%	$81,256	$66,576,300	100%	$398,660	$80,146,000	100%	$479,916
	Epidemic	$13,569,700	100%	$81,256	$66,576,300	100%	$398,660	$80,146,000	100%	$479,916

	Hazardous Material	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Pipeline Hazard	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Terrorism	$13,569,700	100%	$81,256	$66,576,300	100%	$398,660	$80,146,000	100%	$479,916
	Transportation Accidents	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 4-5a Consequence Analysis Chart – Geological[17,18]

THREAT		CONSEQUENCE	YES OR NO
Geological	**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	No
		Impact to the Jurisdiction Economic Condition	Yes
		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
	Volcanic[19]	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

Table 4-5b Consequence Analysis Chart – Meteorological

THREAT		CONSEQUENCE	YES OR NO
Meteorological	**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	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
	Severe Weather	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
	WUI Fire	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

Table 4-5c Consequence Analysis Chart – Technological[20]

THREAT		CONSEQUENCE	YES OR NO
Technological	**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	
		Impact to Reputation or Confidence in Jurisdiction	
	Epidemic	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	
	Hazardous Materials	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	
	Pipeline Hazards	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	
	Terrorism	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	
	Transportation Accident	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	

Summary

The Region 5 School District partners are vulnerable to a variety of hazards in which they serve within Pierce County; however they can only mitigate within their specific individual school boundaries. Acquiring situational awareness of the hazards is a critical component to their safety response efforts with potential school closures. Pacific Lutheran University is located in the North Central portion of Pierce County. The University 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. Due to the severe weather events, Pacific Lutheran University experiences extended power outages. Additionally, the technological

impacts of such events present challenges to the operations of the School Districts and the Colleges of Pierce County. The technological threats, though not required as part of a formal mitigation process, are none-the-less important to Schools to provide a safe environment for students.

Endnotes

[1] Info obtained from Pierce County GIS application, CountyView Pro (12/09).

[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^{o} 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 Franklin Pierce School District 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 Franklin Pierce School District 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
PACIFIC LUTHERAN UNIVERSITY
MITIGATION STRATEGY SECTION

Table of Contents

Table 5-1 Pacific Lutheran University Mitigation Strategy Matrix

Implementation Mechanism	Mitigation Measure *(Hazard(s))*[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 *(E,L,V,D,F,SW,WUI,MM)*	PLU - Administration	Ongoing	✓	✓	✓	✓	✓	✓
	2. Plan Maintenance *(E,L,V,D,F,SW,WUI,MM)*	PLU - Administration	Ongoing	✓	✓	✓	✓	✓	✓
HMF	1. Pierce County Hazard Mitigation Forum *(E,L,V,D,F,SW,WUI,MM)*	PC DEM; PLU - Administration	Ongoing	✓	✓	✓	✓	✓	✓
University President's Council	1. Capability Identification *(E,L,V,D,F,SW,WUI,MM)*	PLU	1-2	N/A					
	2. Emergency Response Teams *(All)*	PLU Facilities Mgmt — Safety Environmental Health – PCDEM	Annually						
	3. Damage Assessment Guidebooks *(All)*	PLU Facilities Mgmt	5 years						
	4. Install Card Access Security System *(MM)*	PLU - Construction Mgmt & Facilities Mgmt	Ongoing	✓					
	5. Develop and Implement a Comprehensive Communication Strategy *(E,L,V,D,F,SW,WUI,MM)*	PLU - Emergency Programs and Computing & Telecomm	5	✓	✓				
	6. Evaluate and Upgrade Building Seismic Systems *(E,L,V,SW)*	PLU - Construction Mgmt & Facilities Mgmt	Ongoing	✓	✓				
	7. Install Automatic Earthquake Natural Gas Shut-off Valves *(E,SW)*	PLU - Construction Mgmt & Facilities Mgmt	5	✓	✓				
	8. Upgrade to Single-Action Fresh Air Intake Shut-offs Inside Bldg *(V,MM)*	PLU - Construction Mgmt & Facilities Mgmt	Ongoing	✓	✓				
	9. Upgrade Fire Alarms and Add Voice Enunciators *(E,V,SW,MM)*	PLU - Construction Mgmt & Facilities Mgmt	Ongoing	✓	✓				
	10. Create Written Emergency Response Protocols *(E,L,V,D,F,WUI,SW,MM)*	PLU - Emergency Programs	1-2	✓	✓			✓	
	11. Increase Use of Non-Structural Earthquake Mitigation Devices *(E,L,SW)*	PLU - Emergency Programs	5	✓	✓				
	12. Develop Resources to Assess Structural Integrity of Buildings *(E,SW)*	PLU - Facilities Mgmt	5	✓					
	13. Upgrade/Install Fire Sprinklers *(MM)*	PLU - Construction Mgmt & Facilities Mgmt	Ongoing	✓	✓				
	14. Establish Mutual Aid Agreements *(E,V,D,F,SW,MM)*	PLU - Emergency Programs	5	✓	✓	✓			✓
	15. Revise Emergency Response Plan *(E,L,V,D,F,SW,MM)*	PLU - Emergency Programs	Ongoing	✓		✓			
	16. Department Emergency and Continuity Plans *(E,L,V,D,F,WUI,SW,MM)*	PLU - Emergency Programs	5	✓	✓			✓	✓

Implementation Mechanism	Mitigation Measure *(Hazard(s))*[1]	Lead Jurisdiction(s) / Department(s)	Timeline (years)	Plan Goals					
				Life and Property	Operations Continuity	Partnerships	Natural Resources	Preparedness	Sustainable Economy
	17. Prepare for Pandemic Events *(MM)*	PLU - Emergency Programs	Ongoing	✓	✓			✓	✓
	18. Organize/Set-up the EOC *(E,L,V,D,F,WUI,SW,MM)*	PLU - Emergency Programs	1-2	✓	✓				
	19. One Week of Potable Water Source *(E,D,F,SW,MM)*	PLU – Emergency Programs with Student Life, Facilities and Dining	5	✓	✓	✓	✓	✓	
	20. Evacuation Plan *(E,V,F,SW,MM)*	PLU - Emergency Programs	5	✓		✓		✓	
	21. Stockpile One Week of Food *(E,V,F,SW,MM)*	PLU - Emergency Programs with Dining, Student Life & HR	5	✓	✓	✓		✓	
	22. Prepare Students and Employees for Emergencies *(E,V,F,SW,MM)*	PLU - Emergency Programs	1-2	✓	✓	✓		✓	
	23. Track Response/Recovery Costs *(E,V,F,SW,MM)*	PLU - Business Offices	5		✓				✓
	24. Cost Values *(E,V,F,SW,MM)*	PLU - Business Offices	5		✓	✓			✓
	25. Back Up Power *(E,SW,MM)*	PLU - Construction Mgmt and Facilities Mgmt	5		✓				
	26. Spill Prevention, Control and Countermeasure Plan *(MM)*	Environmental Health & Safety	5	✓	✓		✓		
	27. Campus Safety Location *(E,V,F,SW,MM)*	PLU - Finance & Operations, Campus Safety, Student Life	5	✓	✓				
Public Education	1. Train University Personnel for Emergency Preparedness and Response *(E,L,V,D,F,WUI,SW,MM)*	PLU - Emergency Programs	1-2	✓	✓			✓	✓
	2. Emergency Bldg Coordinators will be Trained in Emergency Response *(E,L,V,D,F,SW,WUI,MM)*	PLU - Emergency Programs	Ongoing	✓	✓			✓	
	3. Expand Programs to Include More of the PLU a. Community in Emergency Drills *(E,V,F,SW,MM)*	PLU - Emergency Programs	5	✓	✓			✓	
	4. Policy Team Training *(E,V,F,SW,MM)*	PLU - Emergency Programs	1-2	✓	✓				✓
	5. ATC 20 Training *(E,SW)*	PLU - Facilities Mgmt	Ongoing	✓	✓	✓			
	6. Comprehensive Emergency Training Program *(E,V,F,SW,MM)*	PLU - Emergency Program	Ongoing	✓	✓			✓	

Startup Mitigation Measures

Existing Mitigation Actions

Hazards: E, L, V, D, F, SW, WUI[1], MM[2]

Pacific Lutheran University will integrate the hazard mitigation plan into existing plans, ordinances, and programs to dictate land uses within the jurisdiction. Further, Pacific Lutheran University (PLU) will continue to implement existing programs, policies, and regulations as identified in the Capability Identification Section of this Plan. This includes continuing those programs that are identified as technical capabilities.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation; Preserve or Restore Natural Resources; Increase Public Preparedness for Disasters; Promote A Sustainable Economy.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be accomplished with local budgets or grants.
4. **Lead Jurisdiction(s) =** PLU - Administration
5. **Timeline =** Ongoing
6. **Benefit** = Campus population, First Responders
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal would benefit those affected, with no adverse reaction from others.

Plan Maintenance

Hazards: E, L, V, D, F, SW, WUI[1], MM[2]

Pacific Lutheran University (PLU) will adopt those processes outlined in the Plan Maintenance Section of this Plan.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation; Preserve or Restore Natural Resources; 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) =** PLU - Administration
5. **Timeline =** Ongoing
6. **Benefit** = Campus population, First Responders
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal would benefit those affected, with no adverse reaction from others.

Hazard Mitigation Forum

Pierce County Hazard Mitigation Forum

Hazards: E, L, V, D, F, SW, WUI[1], MM[2]

Pacific Lutheran University (PLU) 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; Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation; Preserve or Restore Natural Resources; Increase Public Preparedness for Disasters; Promote A Sustainable Economy.
2. **Cost of Measure** = Minor
3. **Funding Source and Situation** = Funding could be obtained through local budget.
4. **Lead Jurisdiction(s) =** PC DEM; PLU
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.

University President's Council Mitigation Measures

Emergency Response Teams:

Maintain established Damage Assessment and Search & Rescue Teams through continuing training and exercises

Hazards: E

Pacific Lutheran University (PLU) will maintain established Damage Assessment and Search & Rescue Teams through continuing training exercises. Schools must be prepared to care for populations stranded on campus after an earthquake disaster. Schools should anticipate that resources may not be available to assist in assessing building safety or rescuing trapped or injured persons from buildings. Schools are a resource for the community.

1. **Goal(s) Addressed** = Prepare the PLU Community to Make It Through
2. **Objectives =** A. Give employees the skills and knowledge to successfully respond to emergencies of all scales B. Give employees the tools to respond effectively C. Create practice opportunities for the whole community and its functional units.
3. **Cost of Measure** = $3,600/year
4. **Funding Source and Situation** = Facilities Management & Environmental Health, Safety, & Emergency Management operational budgets.
5. **Lead Jurisdiction(s) =** PLU – Facilities management, Environmental Health, Safety, & Emergency Management
6. **Timeline =** Annually
7. **Benefit** = PLU
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Damage Assessment Guidebooks

Hazards: E

Pacific Lutheran University (PLU) will continue to invest in the development of post-earthquake rapid-assessment guidebooks for PLU buildings and update as needed. (Small occupancy, low-risk buildings will not be included.)

1. **Goal(s) Addressed** = Prepare the PLU Community to Make It Through
2. **Objectives =** A. Give employees the skills and knowledge to successfully respond to emergencies of all scales B. Give employees the tools to respond effectively C. Create practice opportunities for the whole community and its functional units.
3. **Cost of Measure** = $250/building with 20-25 buildings remaining
4. **Funding Source and Situation** = Facilities Management operational budget as available for this purpose.
5. **Lead Jurisdiction(s) =** PLU – Facilities management, Environmental Health, Safety, & Emergency Management

6. **Timeline =** Any remaining buildings should be completed within 5 years. Updates as needed.
7. **Benefit** = PLU
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Emergency Coordination Center

Hazards: All

Pacific Lutheran University (PLU) will have a fully-functional Emergency Coordination Center (ECC) and personnel who are familiar with ECC tools and resources. Having a central location from which coordinate response will improve communication between various response units on campus. Understanding the ECC layout and tools that are available to support responders will also improve response capability and effectiveness.

1. **Goal(s) Addressed** = Prepare the PLU Community to Make It Through
2. **Objectives =** A. Give employees the skills and knowledge to successfully respond to emergencies of all scales B. Give employees the tools to respond effectively C. Create practice opportunities for the whole community and its functional units.
3. **Cost of Measure** = $0
4. **Funding Source and Situation** = N/A
5. **Lead Jurisdiction(s) =** PLU –Environmental Health, Safety, & Emergency Management
6. **Timeline =** Ongoing
7. **Benefit** = PLU
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Training:

Adopt May 2011 NIMS Training Requirements Applied to PLU

Hazards: All

Pacific Lutheran University (PLU) will adopt the May 2011 *NIMS Training Requirements Applied to PLU* and train university personnel accordingly. Personnel trained in NIMS practices will be better able to sync response with other agencies, such as Central Pierce Fire and Rescue or the Pierce County Sheriff Department.

1. **Goal(s) Addressed** = Prepare the PLU Community to Make It Through
2. **Objectives =** A. Give employees the skills and knowledge to successfully respond to emergencies of all scales
3. **Cost of Measure** = $0
4. **Funding Source and Situation** = N/A
5. **Lead Jurisdiction(s) =** PLU –Environmental Health, Safety, & Emergency Management
6. **Timeline =** 2015 for adoption, on-going for training implementation
7. **Benefit** = PLU
8. **Life of Measure** = Perpetual

9. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Emergency Building Coordinators:

Continue Emergency Building Coordinator training program

Hazards: E, L, V, D, F, SW, WUI[1], MM[2]

Within three years, 100% of Emergency Building coordinators and 10% of backups will complete EBC training series. Continue Emergency Building Coordinator (EBC) training program. EBC's perform critical services during emergencies, including accounting for students and employees during evacuations ad facilitating response during threats of violent incidents.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Increase Public Preparedness for Disasters.
2. **Objectives =** A. Give employees the skills and knowledge to successfully respond to emergencies of all scales.
3. **Cost of Measure** = <$50 / year
4. **Funding Source and Situation** = Campus Safety Operating Budget
5. **Lead Jurisdiction(s) =** Pacific Lutheran University Campus Safety
6. **Timeline =** Ongoing
7. **Benefit** = PLU Community and local responders
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal would be somewhat controversial.

Plans, Annexes, and Implementing Instructions

Hazards: All

Pacific Lutheran University (PLU) will continually identify, create or revise, adopt, and implement written procedures, All Hazards Management Plan, annexes, task lists, and other documentation that will facilitate an effective response. The process of planning itself builds understanding regarding capabilities and tools available to respond effectively. Implementing instructions can be used to aid response actions and can help overcome training challenges and lack of experience with a particular action.

1. **Goal(s) Addressed** = Prepare the PLU Community to Make It Through
2. **Objectives =** B. Give employees the tools to respond effectively
3. **Cost of Measure** = Personnel Time
4. **Funding Source and Situation** = PLU Personnel Budget
5. **Lead Jurisdiction(s) =** PLU –Environmental Health, Safety, & Emergency Management, Campus Safety, Emergency Planning Team
6. **Timeline =** On-going as needs are identified or updates are necessary
7. **Benefit** = PLU
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Crisis Communication Plan

Hazards: All

Pacific Lutheran University (PLU) will develop a current Crisis Communication Plan that addresses: Public Information Officer Authorities, use of social media and other technical tools, pre-scripted messages for various incident types. Being quick and nimble with tools (pre-scripted messages) already in the toolbox will be critical for managing safety and image.

1. **Goal(s) Addressed** = Prepare the PLU Community to Make It Through
2. **Objectives =** B. Give employees the tools to respond effectively
3. **Cost of Measure** = N/A
4. **Funding Source and Situation** = PLU Budgets
5. **Lead Jurisdiction(s) =** PLU Communications, Emergency Planning Team
6. **Timeline =** Consultant is working on project currently (summer 2014).
7. **Benefit** = PLU
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Disaster Medical Care Plan

Hazards: All

Reassess and develop medical care plan that utilizes Pacific Lutheran University (PLU) resources when outside resources may not be available and train personnel accordingly. Schools must be prepared to care for populations stranded on campus after an earthquake or other large-scale disaster. Schools should anticipate that resources may not be available to assist in caring for injured in the immediate aftermath of a triggering incident. A new Health Services Director positions PLU to re-evaluate its disaster medical care response capabilities.

1. **Goal(s) Addressed** = Prepare the PLU Community to Make It Through
2. **Objectives =** B. Give employees the tools to respond effectively
3. **Cost of Measure** = Personnel Time
4. **Funding Source and Situation** = PLU Personnel Budgets
5. **Lead Jurisdiction(s) =** PLU –Environmental Health, Safety, & Emergency Management, PLU Health Center, Emergency Planning Team
6. **Timeline =** 2018
7. **Benefit** = PLU
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Campus Evacuation Plan

Hazards: All

Pacific Lutheran University (PLU) will develop a campus evacuation plan. Include strategies to help those who do not have an independent means of transportation. Hurricanes Katrina and Sandy have demonstrated needs and challenges associated with evacuating large areas/populations that could be more thoroughly addressed through planning before an incident requires action. The PLU pandemic plan calls for the evacuation of campus under specific conditions.

1. **Goal(s) Addressed** = Prepare the PLU Community to Make It Through
2. **Objectives =** B. Give employees the tools to respond effectively
3. **Cost of Measure** = Personnel Time
4. **Funding Source and Situation** = PLU Personnel Budgets
5. **Lead Jurisdiction(s) =** PLU –Environmental Health, Safety, & Emergency Management, Emergency Planning Team
6. **Timeline =** 2018
7. **Benefit** = PLU
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Exercise

Hazards: All

Pacific Lutheran University (PLU) will continue to use exercises as a means of preparing the PLU community to respond effectively and to test plans, procedures, equipment, and training. Holding campus exercises prompts employees and students to learn how to better protect themselves. Exercises flush out gaps in plans, procedures, equipment or training. Exercises illustrate capabilities and weaknesses, so that PLU can better target its resources towards long-term improvement.

1. **Goal(s) Addressed** = Prepare the PLU Community to Make It Through
2. **Objectives =** C. Create practice opportunities for the whole community and its functional units.
3. **Cost of Measure** = Varies
4. **Funding Source and Situation** = PLU Operational Budgets, County Grants for County Exercises
5. **Lead Jurisdiction(s) =** PLU – Campus Safety, Environmental Health, Safety, & Emergency Management
6. **Timeline =** Ongoing
7. **Benefit** = Campus population, First Responders
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal would benefit those affected, with no adverse reaction from others.

Plan Maintenance

Hazards: E, L, V, D, F, SW, WUI[1], MM[2]

Pacific Lutheran University (PLU) will adopt those processes outlined in the *Plan Maintenance Section* of this Plan. This measure is meant to ensure continued review and implementation per the FEMA planning requirements.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Establish and Strengthen Partnerships for Implementation; Preserve or Restore Natural Resources; Increase Public Preparedness for Disasters; Promote A Sustainable Economy.
2. **Objectives =** D. Institutionalize Mitigation Plan Implementation
3. **Cost of Measure** = N/A
4. **Funding Source and Situation** = N/A
5. **Lead Jurisdiction(s) =** PLU - Environmental Health, Safety, & Emergency Management
6. **Timeline =** Ongoing
7. **Benefit** = Campus population, First Responders
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal would benefit those affected, with no adverse reaction from others.

Project Specifications

Hazards: All

Pacific Lutheran University (PLU) will incorporate mitigation actions into building project specification documents and periodically review. PLU has already made a concerted effort to incorporate many of its mitigation actions into existing construction specification documents. It will continue to review these documents and update them as needed.

1. **Goal(s) Addressed** = Prepare the PLU Community to Make It Through
2. **Objectives =** D. Institutionalize Mitigation Plan Implementation
3. **Cost of Measure** = N/A
4. **Funding Source and Situation** = N/A
5. **Lead Jurisdiction(s) =** PLU – Construction Management
6. **Timeline =** Ongoing
7. **Benefit** = Campus population, First Responders
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal would benefit those affected, with no adverse reaction from others.

Designs

Hazards: All

Pacific Lutheran University (PLU) will include Campus Safety and Environmental Health, Safety & Emergency Programs representatives in the design phase for buildings and large projects. In the interest of this disaster mitigation plan, these two PLU offices may have expertise or perspective that others may not have that could improve upon actions already considered.

1. **Goal(s) Addressed** = Prepare the PLU Community to Make It Through

2. **Objectives =** D. Institutionalize Mitigation Plan Implementation
3. **Cost of Measure** = Personnel Time
4. **Funding Source and Situation** = PLU Personnel Budget
5. **Lead Jurisdiction(s) =** PLU – Campus Safety and Environmental, Health, Safety & Emergency Programs.
6. **Timeline =** Ongoing (As projects are developed)
7. **Benefit** = Campus population, First Responders
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal would benefit those affected, with no adverse reaction from others.

New Strategies

Hazards: All

Pacific Lutheran University (PLU) will continue to identify evaluate, plan, and prioritize new strategies to protect life, property and the environment from the impacts of manmade or natural disaster. It is in PLU's interest to recognize newly identified strategies in a FEMA-approved plan to enable access to federal funding sources that will break the disaster cycle. PLU is always interested in seeking ways to improve the safety and security of its students and employees.

1. **Goal(s) Addressed** = Prepare the PLU Community to Make It Through
2. **Objectives =** D. Institutionalize Mitigation Plan Implementation
3. **Cost of Measure** = Personnel Time
4. **Funding Source and Situation** = PLU Personnel Budget
5. **Lead Jurisdiction(s) =** PLU – Campus Safety and Environmental, Health, Safety & Emergency Programs.
6. **Timeline =** Ongoing (As projects are developed)
7. **Benefit** = Campus population, First Responders
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal would benefit those affected, with no adverse reaction from others.

Seismic Retrofit – Planned Remodel

Hazards: E

All buildings undergoing a significant remodel (50% or greater) and new buildings will be built to Life Safety Engineering Standard ASCE 31-03. PLU serves a population of about 3,500 students and 900 employees who may be injured or die as a result of building collapse during a significant seismic incident. Building structural integrity may mean a faster return to PLU's academic mission and economic resiliency for PLU and the local community. Schools provide a centralized community meeting location, housing, bathroom facilities and feeding facilities. Protecting all of PLU's facilities will mean there is less pressure on any one facility to provide these services. To protect lives and be

a community resource for shelter during an emergency and by continuing to fulfill its primary mission to educate for lives of thoughtful inquiry, service, leadership and care after an earthquake, PLU will look for opportunities to retrofit its buildings.

1. **Goal(s) Addressed** = Protect Life, Property, and the Environment.
2. **Objective =** E. Invest resources in building grounds improvements that will save lives, protect property, and preserve the environment. F. Increase earthquake survivability and building resiliency.
3. **Cost of Measure** = 1) Eastvold: Complete remodel is $15 million 2) Kreidler; Unknown 3) RSC: Unknown 4) Olson: Unknown
4. **Funding Source and Situation** = Hazard Mitigation Grants (existing HMGP DR4056), PLU Building Remodel Project Accounts, Donations, Targeted funding may be solicited by Development as it fits other campaign initiatives, e.g. updating Athletic Facilities for Olson retrofit..
5. **Lead Jurisdiction(s) =** PLU - Construction Management
6. **Timeline =** As buildings are remodeled. 1) Eastvold: 2012-13 Acad. Yr. 2) Kreidler: Not yet scheduled 3) RCS: Not yet Scheduled 4) Olson: Not yet scheduled
7. **Benefit** = Campus population, First Responders
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Seismic Retrofit – Grant

Hazards: E

All buildings undergoing a significant remodel (50% or greater) and new buildings will be built to Life Safety Engineering Standard ASCE 31-03. PLU serves a population of about 3,500 students and 900 employees who may be injured or die as a result of building collapse during a significant seismic incident. Building structural integrity may mean a faster return to PLU's academic mission and economic resiliency for PLU and the local community. Schools provide a centralized community meeting location, housing, bathroom facilities and feeding facilities. Protecting all of PLU's facilities will mean there is less pressure on any one facility to provide these services. Tier 1 engineering studies have been completed for PLU buildings and may be used to help prioritize future project grant requests. To protect lives and be a community resource for shelter during an emergency and by continuing to fulfill its primary mission to educate for lives of thoughtful inquiry, service, leadership and care after an earthquake, PLU will look for opportunities to retrofit its buildings.

1. **Goal(s) Addressed** = Protect Life, Property, and the Environment.
2. **Objective =** E. Invest resources in building grounds improvements that will save lives, protect property, and preserve the environment. F. Increase earthquake survivability and building resiliency.
3. **Cost of Measure** = Stuen: $600,000 – Ordal: $1.3 million
4. **Funding Source and Situation** = Funding Hazard Mitigation Grants (existing HMGP DR4056), Targeted funding may be solicited by Development

5. **Lead Jurisdiction(s) =** PLU - Construction Management, Development, and Environmental, Health Safety, & Emergency Programs.
6. **Timeline =** Stuen: 2013-14 Acad. Yr. – Ordal: 2014 Summer
7. **Benefit** = Campus population, First Responders
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Non-structural Seismic Mitigation

Hazards: E

Pacific Lutheran University (PLU) will educate the community about non-structural earthquake mitigation strategies, e.g. file cabinet straps, base-isolation devices, nets/straps for overhead storage. Personnel should be encouraged to use non-structural mitigation techniques to reduce the potential for injury from falling objects, damage to PLU resources, and to prevent objects (e.g. file cabinets) from blocking egress from the building..

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations.
2. **Objectives =** F. Increase earthquake survivability and building resiliency
3. **Cost of Measure** = Varies
4. **Funding Source and Situation** = Operational Budgets
5. **Lead Jurisdiction(s) =** PLU - Campus Safety and Environmental, Health, Safety & Emergency Management.
6. **Timeline =** Ongoing
7. **Benefit** = Campus population, First Responders
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal is likely to be endorsed by the entire community.

Card Access

Hazards: MM^2

Increase security by replacing key access (lock) systems with electronic card access systems according to Access Office-established implementation plan/priorities. Please refer to Access Control Priorities_2008.1.22. Remote, electronic locking enables quicker, safer locking down of buildings when there is a threat of violence. Lost Key cards do not pose a security threat, because cards can be turned off when reported as lost or stolen. This also reduces the significant cost of re-keying buildings when keys are lost or stolen. Access privileges can be managed in a more timely fashion. Card access systems collect data based o card usage that enables PLU to investigate crimes. The 2010 BRUNS-PAK Data Center Audit recommends a “card out” feature for improved security.

1. **Goal(s) Addressed** = Protect Life, Property, and the Environment.

2. **Objectives =** E. Invest resources in building and grounds improvements that will save lives, protect property, and preserve the environment G. Continually improve security management
3. **Cost of Measure** = The following Priority Projects have been Identified.
    a. University Venter as described in 20012-13 NPSG application (~$75,000)
    b. Xavier Exterior Doors ($15-20K)
    c. Ramstad Exterior Doors ($15-20K)
    d. Athletic Office Suite, Coaches Space
    e. Columbia Center Exteriors and Pro Shop
4. **Funding Source and Situation** = PLU Capital Project Budget, Non-profit Security Grants, Operational Budgets
5. **Lead Jurisdiction(s) =** PLU - Construction Management, Access Office
6. **Timeline =** Currently evaluating the addition of interior door access locks to residence halls, Stuen would be first in 2013-14.
7. **Benefit** = Campus population, Law Enforcement
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal would be somewhat controversial.

Cameras

Hazards: MM^2

Continue to identify needs and expand the safety and security surveillance system. The existing security camera system was installed at the recommendation of a security consultant in the early 2000's. It has proved successful at identifying and interrupting suspect behavior through monitoring and it has helped proved useful as a tool for investigating crimes after-the-fact. Improvements may include adding/replacing cameras with IP megapixel cameras to improve video quality and function. There is current interest I installing cameras at the front desk of residence halls and the Anderson University Center and Olson. The 2010 BRUNS-Pak Data Center Audit recommends adding a CCTV system to the Mortvedt Library data center.

1. **Goal(s) Addressed** = Protect Life, Property, and the Environment.
2. **Objectives =** E. Invest resources in building and grounds improvements that will save lives, protect property, and preserve the environment G. Continually improve security management
3. **Cost of Measure** = $25,000/yr. for repairs, replacements, and maintenance. Unknown for additional projects.
4. **Funding Source and Situation** = PLU Project and Equipment Budgets, Non-profit Security Grants, Operational Budgets
5. **Lead Jurisdiction(s) =** PLU – Campus Safety
6. **Timeline =** On-going as Needs and Budget are Identified.
7. **Benefit** = Campus population, Law Enforcement
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal would be somewhat controversial.

Lighting

Hazards: MM^2

Analyze safety and security factors affecting lighting choices and create a comprehensive lighting plan. Continue to improve security lighting as opportunities arise. Lighting is addressed on a case-by-case basis currently, which poses challenges when selecting the right quantity and quality of lighting lamps and fixtures for an area. Priorities throughout campus are also not comprehensively evaluated and identified, so that funds can be put to their best use. There may be opportunities to improve safety and save money by integrating lighting into other projects.

1. **Goal(s) Addressed** = Protect Life, Property, and the Environment.
2. **Objectives =** E. Invest resources in building and grounds improvements that will save lives, protect property, and preserve the environment G. Continually improve security management
3. **Cost of Measure** = N/A
4. **Funding Source and Situation** = PLU Annual Project and Equipment Budgets, Facilities Management, Construction Management Budget, Security Grants.
5. **Lead Jurisdiction(s) =** PLU – Construction Management, Facilities Management, Campus Safety
6. **Timeline =** 5 years
7. **Benefit** = Campus population, Law Enforcement
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal would be somewhat controversial.

Crime Prevention Through Environment Design

Hazards: MM^2

Apply Crime Prevention Through Environmental Design (CPTED) principles by including selected CPTED measures in design specifications and adopting CPTED standards of practice in maintaining building and grounds. Pacific Lutheran University (PLU) already recognizes the value of CPTED and wishes to continue identifying and implementing standards of practice that will improve security throughout campus for students, employees, and guests of the university.

1. **Goal(s) Addressed** = Protect Life, Property, and the Environment.
2. **Objectives =** G. Continually improve security management
3. **Cost of Measure** = Will vary depending on targeted application
4. **Funding Source and Situation** = PLU Annual Project and Equipment Budgets, Facilities Management, Construction Management Budget, Security Grants
5. **Lead Jurisdiction(s) =** PLU – Construction Management, Facilities Management, Campus Safety
6. **Timeline =** As items are identified ad specific practices can be incorporated into building design, construction, and maintenance
7. **Benefit** = Campus population, Law Enforcement
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal would be somewhat controversial.

Comprehensive Security Plan

Hazards: MM^2

Integrate the evaluation, adoption, and implementation of security measures into a comprehensive system or plan. Pacific Lutheran University (PLU) has made a conscious effort over the last 10-15 years to keep safety and security at the forefront of decisions regarding operations, design, and use of resources across multiple offices. It is felt that a comprehensive look at the application and prioritization of security measures would benefit PLU.

1. **Goal(s) Addressed** = Protect Life, Property, and the Environment.
2. **Objectives =** G. Continually improve security management
3. **Cost of Measure** = Unknown, may include costs for a security consultant
4. **Funding Source and Situation** = PLU Campus Safety, Parking Funds, Security Grants
5. **Lead Jurisdiction(s) =** PLU – Campus Safety
6. **Timeline =** 2018
7. **Benefit** = Campus population, Law Enforcement
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal would be somewhat controversial.

Data Center Monitoring

Hazards: MM^2

Install a comprehensive Building Management System (BMS) in the library data center per the recommendations of the 2010 BRUNS-PAK Data Center Audit. A BMS is recommended to monitor critical infrastructure (e.g. UPS, CRAC units, chilled water system, fire alarm, etc.)

1. **Goal(s) Addressed** = Protect Life, Property, and the Environment.
2. **Objectives =** G. Continually improve security management
3. **Cost of Measure** = ~$90,000
4. **Funding Source and Situation** = PLU Annual Project and Equipment Budgets, Facilities Management, Construction Management Budget, Security Grants
5. **Lead Jurisdiction(s) =** Information and Technology Services
6. **Timeline =** Unknown
7. **Benefit** = Campus population, Law Enforcement
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal would be somewhat controversial.

Incident Command System (ICS) in Event Planning

Hazards: All

Apply Incident Command System practice into event planning, especially when the event has specific, identified risks (e.g. dignitary visit) and/or requires elevated coordination with other agencies (e.g. law enforcement memorial service). Pacific Lutheran University (PLU) adopted the National Incident Management System (NIMS) in 2008, part of which is to adopt and use the incident command system for organizing ad coordinating with other agencies for incidents and events. PLU has participated in hosting or providing the venue for large-scale, high-profile, or a high-risk event where the ICS was already in use

by other participants or where practicing ICS was already in use by other participants or where practicing ICS would have provided benefits to PLU. Using ICS for event planning will prepare PLU and improve emergency response skills among PLU personnel for better response during emergency incidents. Using ICS during events that involve emergency response agencies will enable PLU and those agencies to respond more effectively together during emergency incidents.

1. **Goal(s) Addressed** = Protect Life, Property, and the Environment.
2. **Objectives =** H. Steadily improve PLU's application of standard incident Command System and Emergency Coordination Center principles and practices into emergency response and daily operations (e.g. event planning)
3. **Cost of Measure** = Minimal
4. **Funding Source and Situation** = PLU Conferences and Events
5. **Lead Jurisdiction(s) =** PLU Conferences and Events, Campus Safety
6. **Timeline =** Upon adoption of this Plan
7. **Benefit** = Campus population, Law Enforcement
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal would be somewhat controversial.

Indoor / Outdoor notification System

Hazards: All

Purchase and install an Indoor / Outdoor Notification System throughout campus. Pacific Lutheran University (PLU) has an array of notification delivery methods. However, real life experience and drills have identified gaps in our notification system. The existing analog emergency blue phones have proven unreliable. Experience has shown that emergency response success increases with redundancy in this case, redundant means of notification and system redundancy.

1. **Goal(s) Addressed** = Protect Life, Property, and the Environment.
2. **Objectives =** I. Improve PLU's capability to notify and inform the PLU community of incidents and hazards to fill gaps described in the *Metis 2013 Budget Proposal* document.
3. **Cost of Measure** = $270,000
4. **Funding Source and Situation** = Security Grants, Targeted Funding Through PLU Development Office, PLU Equipment and Project Budgets
5. **Lead Jurisdiction(s) =** PLU – Campus Safety
6. **Timeline =** Initial Investment within 5 years
7. **Benefit** = Campus population, Law Enforcement
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal would be somewhat controversial.

Air Intake Shut-offs

Hazards: V, MM

When HVAC systems are designed, upgraded or replaced, install common-access fresh air intake shut-off button or pull station to protect against atmospheric hazards. A volcanic eruption, natural gas rupture, or other chemical release may result in a hazardous

outdoor atmosphere, which could be drawn into buildings through central heating, ventilation and air conditioning systems. It may be challenging or even unsafe to send maintenance personnel throughout campus to shut-down HVAC systems. This device allows occupants without technical knowledge or access to maintenance rooms to shut-down air intake valves to limit hazards to occupants.

1. **Goal(s) Addressed** = Protect Life, Property, and the Environment.
2. **Objectives =** J. Used engineered systems to protect people from chemical releases.
3. **Cost of Measure** = Will vary by building
4. **Funding Source and Situation** = Security Grants, Targeted Funding Through PLU Development Office, PLU Equipment and Project Budgets
5. **Lead Jurisdiction(s) =** PLU – Construction Management
6. **Timeline =** As buildings are designed, constructed or ventilation systems are upgraded. (The buildings (KHP, Hinderlie, Hong, Kreidler, Stuen, and Ordal) associated with the Karen Hille Phillips power plant project will likely include this new capability when systems are upgraded for the power plant.
7. **Benefit** = Campus population, Law Enforcement
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal would be somewhat controversial.

Gas Shut-offs

Hazards: E

Install earthquake-triggered natural gas shut-off valves. The following buildings still require these devices: Nesvig, East Campus. Natural gas systems can often rupture during earthquake disasters causing secondary effects, such as chemical exposure and fire. Pacific Lutheran University (PLU) has already completed installation of these devices on most of its buildings that were identified in the 2008 Mitigation Plan.

1. **Goal(s) Addressed** = Protect Life, Property, and the Environment; Care for the PLU Community During and After an Incident
2. **Objectives =** J. Used engineered systems to protect people from chemical releases. N: Maintain and improve utility resiliency or strength.
3. **Cost of Measure** = $5,000
4. **Funding Source and Situation** = PLU Annual Project Budget
5. **Lead Jurisdiction(s) =** PLU – Construction Management
6. **Timeline =** Complete by 2014
7. **Benefit** = Campus population, Law Enforcement
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal would be somewhat controversial.

Fire Sprinklers

Hazards: MM

Upgrade/Install fire sprinklers in new buildings or buildings undergoing a significant remodel to meet code requirements and improve safety. Fire sprinklers have clearly been shown to reduce the risk of death or injury. Pacific Lutheran University (PLU) wishes to

improve safety when it updates buildings. Please refer to Facilities Management file Fire Alarm-Sprinkler Status as of 8-5-13 for list of building alarms and sprinkler capabilities and priorities.

1. **Goal(s) Addressed** = Protect Life, Property, and the Environment; Care for the PLU Community During and After an Incident
2. **Objectives =** E. Invest Resources in building grounds improvements that will save lives, protect property, and preserve the environment K. Upgrade / improve aging fire safety infrastructure and install automated systems for new buildings.
3. **Cost of Measure** = Will vary by building
4. **Funding Source and Situation** = PLU Construction Funds, Fire or Mitigation Grants
5. **Lead Jurisdiction(s) =** PLU – Construction Management
6. **Timeline =** As buildings are designed, constructed or fire and sprinkler systems are upgraded. Stuen is being evaluated for the addition of sprinklers in the 2013-14 academic year.
7. **Benefit** = Campus population, Law Enforcement
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal would be somewhat controversial.

Fire Alarms

Hazards: MM

Newly constructed buildings or buildings undergoing a significant remodel (50% or greater) will have fire alarms upgraded to meet code requirements and improve safety, and to enable future addition of devices as buildings usage changes. Please refer to Facilities Management file Fire Alarm-Sprinkler Status as of 8-5-13 for list of building alarms and sprinkler capabilities and priorities. Hauge, Ranstad, East Campus, Ingram, Memorial, Olson, Rieke, Name, Hong, Hinderlie, and Kriedler are identified as buildings, which could benefit from alarm and/or sprinkler upgrades. The risk of death or injury resulting from fire has been reduced since the implementation of automated fire alarm systems. Pacific Lutheran University (PLU) wishes to improve safety and provide alarm location addressable capability in systems that do not already have this. The following buildings do not currently have the addressable capability.

1. **Goal(s) Addressed** = Protect Life, Property, and the Environment; Care for the PLU Community During and After an Incident
2. **Objectives =** E. Invest Resources in building grounds improvements that will save lives, protect property, and preserve the environment K. Upgrade / improve aging fire safety infrastructure and install automated systems for new buildings.
3. **Cost of Measure** = Will vary by building
4. **Funding Source and Situation** = PLU Construction Budget, Fire or Mitigation Grants
5. **Lead Jurisdiction(s) =** PLU – Construction Management
6. **Timeline =** As buildings are designed, constructed or fire and sprinkler systems are upgraded. Stuen is likely to be next in the 2013-14 academic year. Ordal in 2014-15
7. **Benefit** = Campus population, Law Enforcement
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal would be somewhat controversial.

Data Center Floor

Hazards: MM^2

Upgrade the obsolete data center floor system to improve structural integrity and system resiliency. According to the 2010 Pacific Lutheran University (PLU) Data Center Audit performed by BRUNS-PAK, the raised floor system is both in poor condition and obsolete with low load-bearing bolted and snap-on stringers. In addition, there is limited air flow in the floor space, which could also impact system reliability. The data center is the backbone for much of the critical work that PLU does to support students. Continuity and quick recovery after a seismic event would rely heavily on the services provided in the data center.

1. **Goal(s) Addressed** = Protect Life, Property, and the Environment; Care for the PLU Community During and After an Incident; Return as Quickly as Possible to PLU's Primary Mission to Educate for Lives of Thoughtful Inquiry, Service, Leadership and Care
2. **Objectives =** E. invest resources in building and grounds improvements that will save lives, protect property, and preserve the environment. N. Maintain and improve utility resiliency or strength. R. Improve PLU data center resiliency per the 2010 BRUNS-PAK PLU Data Center Audit recommendations.
3. **Cost of Measure** = ~$100,000
4. **Funding Source and Situation** = PLU Annual Project and Equipment Budgets, Facilities Management, Construction Management Budget, Security Grants
5. **Lead Jurisdiction(s) =** PLU Information and Technology Services with the assistance of Construction Management
6. **Timeline =** Unknown
7. **Benefit** = Campus population, Law Enforcement
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal would be somewhat controversial.

Emergency Power:

Re-wire buildings to connect with existing Morken generator.

Hazards: E, SW, MM^2

Re-wire buildings to connect with existing Morken generator. Pacific Lutheran University (PLU) must have the capability to house and care for its resident population during an emergency. PLU expects that it will be a resource for the community –either officially through its shelter agreement with the American Red Cross or a request from Pierce County unofficially because the community will seek shelter at PLU. Experience in the Pierce County Shake and Quake exercise demonstrated the need to expand generator power to other locations and resources within Morken to support the Emergency Coordination Center. Members of the PLU Emergency Planning Team have identified Olson as a priority for connecting to the already existing Morken generator. Rieke Science Center (RSC) is also located near the existing generator and it has been identified after Morken and Olson for connection to the generator to preserve science research specimens.

1. **Goal(s) Addressed** = Protect Life, Property, and the Environment; Care for the PLU Community During and After an Incident; Return as Quickly as Possible to PLU's Primary Mission to Educate for Lives of Thoughtful Inquiry, Service, Leadership and Care
2. **Objectives =** L. Increase emergency power resources in critical facilities as identified and prioritized in the following documents: back up power proposal ver. 6 & Morken generator meeting 1-12-10. M. Continually improve the capability to sustain life-safety services during a disaster.
3. **Cost of Measure** =
    a. Morken Emergency Coordination Center (ECC) and Olson Auditorium Electrical Engineering (phase 1) - $23,000
    b. RSC Engineering: Unknown
    c. Morken Emergency Coordination Center (ECC) and Olson Auditorium Connect to Generator (phase 2): Unknown, depends on engineering
4. **Funding Source and Situation** = PLU Annual Project Budgets, Construction Funds, Targeted funding may be solicited by Development as it fits into other campaign initiatives, e.g. updating athletic facilities for the Olson project.
5. **Lead Jurisdiction(s) =** PLU Construction Management
6. **Timeline =** Unknown. Phase 1 – Morken, Olson, RSC electrical engineering : Unknown
7. **Benefit** = Campus population, Law Enforcement
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal would be somewhat controversial.

Emergency Power:

Replace end-of-life and manual generators with new automatic-start or electric start units.

Hazards: E, SW, MM^2

Replace end-of-life and manual generators with new automatic-start or electric start units, especially in Campus Safety. Campus Safety is the Pacific Lutheran University (PLU) first responder. It needs to be able to power its phones, radios, ad alarm panels to effectively manage incidents for the safety of the community. PLU chose to move to auto-start generators to allow responders to direct their attention on managing the incident rather than trying to re-establish power. It will also eliminate the reliance on training and personnel resources, which are known to be less reliable than machines for this purpose. PLU expect that it will be a resource for the community – either officially through its shelter agreement with the American Red Cross or a request from Pierce County of unofficially because the community will seek shelter at PLU.

1. **Goal(s) Addressed** = Protect Life, Property, and the Environment; Care for the PLU Community During and After an Incident; Return as Quickly as Possible to PLU's Primary Mission to Educate for Lives of Thoughtful Inquiry, Service, Leadership and Care
2. **Objectives =** L. Increase emergency power resources in critical facilities as identified and prioritized in the following documents: back up power proposal ver. 6 & Morken generator meeting 1-12-10. M. Continually improve the capability to sustain life-safety services during a disaster.
3. **Cost of Measure** = Campus Safety electric or auto start replacement generator - $3,000-$13,000
4. **Funding Source and Situation** = PLU Annual Equipment and Capital Project Budgets
5. **Lead Jurisdiction(s) =** PLU Construction Management

6. **Timeline =** Campus Safety funded in 2013-2014. Other System Replacement and Upgrades as Needed
7. **Benefit** = Campus population, Law Enforcement
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal would be somewhat controversial.

Emergency Power:

Purchase and install new generators or install electric transfer switches and standardized plug up for emergency generators in critical facilities per existing generator plan.

Hazards: E, SW, MM^2

Replace end-of-life and manual generators with new automatic-start or electric start units, especially in Campus Safety. Campus Safety is the Pacific Lutheran University (PLU) first responder. It needs to be able to power its phones, radios, ad alarm panels to effectively manage incidents for the safety of the community. PLU chose to move to auto-start generators to allow responders to direct their attention on managing the incident rather than trying to re-establish power. It will also eliminate the reliance on training and personnel resources, which are known to be less reliable than machines for this purpose. PLU expect that it will be a resource for the community – either officially through its shelter agreement with the American Red Cross or a request from Pierce County of unofficially because the community will seek shelter at PLU.

1. **Goal(s) Addressed** = Protect Life, Property, and the Environment; Care for the PLU Community During and After an Incident; Return as Quickly as Possible to PLU's Primary Mission to Educate for Lives of Thoughtful Inquiry, Service, Leadership and Care
2. **Objectives =** L. Increase emergency power resources in critical facilities as identified and prioritized in the following documents: back up power proposal ver. 6 & Morken generator meeting 1-12-10. M. Continually improve the capability to sustain life-safety services during a disaster.
3. **Cost of Measure** = Karen Hille Phillips (Eastvold) Power Plan & Auxiliary Power- $6,814,049 in 2010 dollars.
4. **Funding Source and Situation** = PLU Construction Project Budget, Grants, PLU Development
5. **Lead Jurisdiction(s) =** PLU Construction Management
6. **Timeline =** Karen Hille Phillips (Eastvold) Power Plan & Auxiliary Power- Depends on Funding. Other buildings as needs are defined and opportunities for upgrades and funding are presented.
7. **Benefit** = Campus population, Law Enforcement
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal would be somewhat controversial.

Campus Safety Office

Hazards: All

Look for opportunities to relocate the Campus Safety Office. Campus Safety currently resides in 19^{th}-century girl's residence hall, Harstad, the oldest building on campus. Since it was constructed pre-seismic code, it probably poses a health, safety and property risk. During high rate rain periods, the Campus Safety office floods. The configuration of the

office space is not conductive to performing daily operations, which include security, fire, and medical aid response. Campus Safety is the PLU first responder. To help ensure that it can function without interruption, it should be re-located.

1. **Goal(s) Addressed** = Care for the PLU Community During and After an Incident;
2. **Objectives =** M. Continually improve the capability to sustain life-safety services during a disaster.
3. **Cost of Measure** = Unknown.
4. **Funding Source and Situation** = PLU Construction Project Budget, Targeted funding generated through PLU Development Office
5. **Lead Jurisdiction(s) =** PLU Construction Management
6. **Timeline =** Unknown
7. **Benefit** = Campus population, Law Enforcement
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal would be somewhat controversial.

Utility Resiliency

Hazards: All

Work with providers to strengthen utility systems and/or create redundant systems. PLU serves a population of about 3,500 students and 900 employees who require services. Schools provide a centralized community meeting location, housing, bathroom facilities and feeding facilities. Protecting PLU's utilities will mean it can serve both its own population, as well as the community around PLU. Communication networks, electricity, and sewer are all essential services for supporting a population that may be stranded on campus, so having redundant systems that do not break as easily can be critical for life and safety.

1. **Goal(s) Addressed** = Care for the PLU Community During and After an Incident;
2. **Objectives =** N. Maintain and improve utility resiliency or strength.
3. **Cost of Measure** = Unknown.
4. **Funding Source and Situation** = PLU Annual Project Budget, Construction Fund, Operational Budgets
5. **Lead Jurisdiction(s) =** PLU Facilities Management, Information and Technology Systems, Construction Management
6. **Timeline =** No specific projects identified at this time
7. **Benefit** = Campus population, Law Enforcement
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal would be somewhat controversial.

Universal Power Supply

Hazards: All

Purchase and install a redundant UPS per the 2010 BRUNS-PAK Data Center Audit. The Audit report notes that there is not a redundant UPS for the data center and recommends one be installed.

1. **Goal(s) Addressed** = Care for the PLU Community During and After an Incident; Return as Quickly as Possible to PLU's Primary Mission to Educate for Lives of Thoughtful Inquiry, Service, Leadership and Care
2. **Objectives =** N. Maintain and improve utility resiliency or strength. R. Improve PLU data center resiliency per the 2010 BRUNS-PAK PLU Data Center Audit recommendations.
3. **Cost of Measure** = Unknown.
4. **Funding Source and Situation** = PLU Annual Project Budget, Construction Fund, Operational Budgets
5. **Lead Jurisdiction(s) =** PLU Information and Technology Systems, Construction Management
6. **Timeline =** Unknown
7. **Benefit** = Campus population, Law Enforcement
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal would be somewhat controversial.

Water

Hazards: All

Investigate and implement potable water storage mechanisms to enable use of Parkland Light & Water filling station near campus. A seismic event may result in broken or contaminated water systems on campus. A water filling system is located near campus. PLU does not have the ability to haul large quantities of water to campus should it be needed.

1. **Goal(s) Addressed** = Care for the PLU Community During and After an Incident; Return as Quickly as Possible to PLU's Primary Mission to Educate for Lives of Thoughtful Inquiry, Service, Leadership and Care
2. **Objectives =** O. Continue progress towards having enough food, water and other resources to feed and care for the PLU population for up to one week during disaster.
3. **Cost of Measure** = $3-5,000
4. **Funding Source and Situation** = PLU Environmental Health, Safety, & Emergency Programs, Annual Equipment Budget
5. **Lead Jurisdiction(s) =** PLU Environmental Health, Safety, & Emergency Management
6. **Timeline =** 2018
7. **Benefit** = Campus population, Law Enforcement
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal would be somewhat controversial.

Food

Hazards: All

Continue to purchase and store food bars on site, adopt CPFR Memorandum Of Understanding (MOU) to gain access to their grocery store agreements. And investigate options to enter into our own agreements with local food suppliers. Pacific Lutheran University (PLU) is in the process of entering into an MOU with CPFR to provide food preparation services during times of disaster. It may be able to leverage agreements that CPFR has in place to supplement food resources on campus. PLU already purchases and stores food bars and has enough to sustain the population for up to three days. However,

PLU responders know that we should prepare for a service interruption of seven days, so it has set a goal to prepare accordingly. There may be opportunities to establish our own emergency agreements with vendors or local stores to create supply of food during disaster when normal channels are not functioning.

1. **Goal(s) Addressed** = Care for the PLU Community During and After an Incident; Return as Quickly as Possible to PLU's Primary Mission to Educate for Lives of Thoughtful Inquiry, Service, Leadership and Care
2. **Objectives =** O. Continue progress towards having enough food, water and other resources to feed and care for the PLU population for up to one week during disaster.
3. **Cost of Measure** = $3-5,000/ yr.
4. **Funding Source and Situation** = PLU Environmental Health, Safety, & Emergency Programs, Dining Services
5. **Lead Jurisdiction(s) =** PLU Environmental Health, Safety, & Emergency Programs, Diing Services
6. **Timeline =** On-going
7. **Benefit** = Campus population, Law Enforcement
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal would be somewhat controversial.

Two-way Radios

Hazards: All

Continue phase 4 investment in communication radios for Campus Safety, Facilities management, the Emergency Building Coordinators, and other responders as described in *Radio Communication System Phase 3* proposal. Communication is one of the top points of failure during emergency response. Several years ago, Pacific Lutheran University (PLU) identified regulatory, service-level, and emergency response demands that illustrated the need to invest in an updated communication radio system. PLU has already started investing in its radio communication system by upgrading its Campus Safety and Facilities Management Radio system. It is investing in phase 3 this budget year, 2013-14 with the purchase of additional radios for Facilities Management and re-assignment of existing radios for disaster response teams, such as Search and Rescue. The 4th phase involved the purchase of radios for emergency building coordinators and resident halls.

1. **Goal(s) Addressed** = Care for the PLU Community During and After an Incident; Return as Quickly as Possible to PLU's Primary Mission to Educate for Lives of Thoughtful Inquiry, Service, Leadership and Care
2. **Objectives =** P. Increase PLU capability to provide Logistics and Planning support of Operations during incidents.
3. **Cost of Measure** = $15,000
4. **Funding Source and Situation** = PLU Annual Equipment Budget
5. **Lead Jurisdiction(s) =** PLU Facilities Management
6. **Timeline =** 2014-15
7. **Benefit** = Campus population, Law Enforcement
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal would be somewhat controversial.

Continuity Planning

Hazards: All

Continue phase 4 investment in communication radios for Campus Safety, Facilities management, the Emergency Building Coordinators, and other responders as described in *Radio Communication System Phase 3* proposal. Communication is one of the top points of failure during emergency response. Several years ago, Pacific Lutheran University (PLU) identified regulatory, service-level, and emergency response demands that illustrated the need to invest in an updated communication radio system. PLU has already started investing in its radio communication system by upgrading its Campus Safety and Facilities Management Radio system. It is investing in phase 3 this budget year, 2013-14 with the purchase of additional radios for Facilities Management and re-assignment of existing radios for disaster response teams, such as Search and Rescue. The 4th phase involved the purchase of radios for emergency building coordinators and resident halls.

1. **Goal(s) Addressed** = Care for the PLU Community During and After an Incident; Return as Quickly as Possible to PLU's Primary Mission to Educate for Lives of Thoughtful Inquiry, Service, Leadership and Care
2. **Objectives =** P. Increase PLU capability to provide Logistics and Planning support of Operations during incidents.
3. **Cost of Measure** = $15,000
4. **Funding Source and Situation** = PLU Annual Equipment Budget
5. **Lead Jurisdiction(s) =** PLU Facilities Management
6. **Timeline =** 2014-15
7. **Benefit** = Campus population, Law Enforcement
8. **Life of Measure** = Perpetual
9. **Community Reaction** = the proposal would be somewhat controversial.

Track Response/Recovery Costs

Hazards: E, V, F, SW[1], MM[2]

Develop/Implement means to track costs during emergency event.

1. **Goal(s) Addressed** = Ensure Continuity of Operations; 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) =** PLU - Business Office
5. **Timeline =** Long-term
6. **Benefit** = PLU First Responders and administration
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal would benefit those affected, with no adverse reaction from others.

Cost Values

Hazards: E, V, F, SW[1], MM[2]

Develop cost values for services, equipment, materials to facilitate FEMA reimbursement for expenses associated with responding to specific event.

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 budgets or grants.
4. **Lead Jurisdiction(s) =** PLU - Business Offices with Facilities, Dining and other emergency response units
5. **Timeline =** Long-term
6. **Benefit** = PLU administration, FEMA, Insurance
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal would benefit those affected, with no adverse reaction from others.

Back Up Power

Hazards: E, SW[1], MM[2]

Continue installing back up generators according to the priority in Oct 2006 plan.

1. **Goal(s) Addressed** = Ensure Continuity of Operations.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget or grants.
4. **Lead Jurisdiction(s) =** PLU - Construction Management & Facilities Management
5. **Timeline =** Long-term
6. **Benefit** = PLU community and First Responders
7. **Life of Measure** = 25 years per unit
8. **Community Reaction** = the proposal would benefit those affected, with no adverse reaction from others.

Spill Prevention, Control and Countermeasure Plan

Hazards: MM[2]

As we add new heating and power generating facilities on campus, evaluate the need for a Spill Prevention, Control, and Countermeasures Plan (SPCC).

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; Restore/Protect/Preserve the Environment.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budgets or grants.
4. **Lead Jurisdiction(s) =** PLU - Environmental Health & Safety
5. **Timeline =** Long-term
6. **Benefit** = PLU and local responders
7. **Life of Measure** = Plan is perpetual; physical structure 25 years
8. **Community Reaction** = the proposal would benefit those affected, with no adverse reaction from others.

Campus Safety Location

Hazards: E, V, F, SW[1], MM[2]

Campus Safety Department is located in the basement of the oldest building on campus. Evaluate current location and other possible locations as it relates to PLU's ability to respond effectively during an emergency event, to include earthquakes.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = No potential funding sources can be readily identified.
4. **Lead Jurisdiction(s) =** PLU - Finance & Operations, Campus Safety, Student Life.
5. **Timeline =** Long-term
6. **Benefit** = PLU administrators, responders and community
7. **Life of Measure** = 5 years for study and decision, perpetual after decision
8. **Community Reaction** = the proposal would be somewhat controversial.

Public Education Mitigation Measures

Train University Personnel for Emergency Preparedness and Response

Hazards: E, L, V, D, F, WUI, SW[1], MM[2]

Within five years, 30% of all school personnel will have training in emergency response.

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) =** PLU - Emergency Programs
5. **Timeline =** Short-term
6. **Benefit** = Campus population, PLU and other First Responders
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal would be somewhat controversial.

Emergency Building Coordinators Will Be Trained in Emergency Response and Preparedness

Hazards: E, L, V, D, F, SW, WUI[1], MM[2]

Within three years, 100% of Emergency Building coordinators and 10% of backups will complete EBC training series.

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.
4. **Lead Jurisdiction(s) =** PLU - Emergency Programs
5. **Timeline =** Ongoing
6. **Benefit** = PLU Community and local responders
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal would be somewhat controversial.

Expand Programs to Include More of the PLU Community in Emergency Drills and Exercises

Hazards: E, V, F, SW[1], MM[2]

Within five years, 50% of all PLU Departments will have participated in a department level tabletop exercise.

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.
4. **Lead Jurisdiction(s) =** PLU - Emergency Programs
5. **Timeline =** Long-term
6. **Benefit** = PLU community and local responders
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal would be strongly opposed by most.

Policy Team Training

Hazards: E, V, F, SW[1], MM[2]

Within two years, officers will complete an emergency policy team training.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations; 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) =** PLU - Emergency Programs
5. **Timeline =** Short-term
6. **Benefit** = PLU emergency responders and local responders
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal would be somewhat controversial.

ATC 20 Training

Hazards: E, SW[1]

Within five years, 90% of Facilities Maintenance Personnel will complete ATC-20 training.

1. **Goal(s) Addressed** = Protect Life and Property; Establish and Strengthen Partnerships for Implementation; Ensure Continuity of Operations.
2. **Cost of Measure** = Labor Time
3. **Funding Source and Situation** = Funding could be obtained through local budget.
4. **Lead Jurisdiction(s) =** PLU - Facilities Management
5. **Timeline =**Ongoing
6. **Benefit** = Facilities Management, PLU responders
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal would benefit those affected, with no adverse reaction from others.

Comprehensive Emergency Training Program

Hazards: E, V, F, SW[1], MM[2]

Within two years, we will develop an emergency training program that meets the specific needs of our responders and employees. Within five years, 90% of all university personnel will have training in emergency response.

1. **Goal(s) Addressed** = Protect Life and Property; Ensure Continuity of Operations.
2. **Cost of Measure** = TBD
3. **Funding Source and Situation** = Funding could be obtained through local budget or grants.
4. **Lead Jurisdiction(s) =** PLU - Emergency Program
5. **Timeline =** Ongoing
6. **Benefit** = PLU responders and community
7. **Life of Measure** = Perpetual
8. **Community Reaction** = the proposal would be somewhat controversial.

Mitigation Measure Monitoring

In comparison to the last update, Pacific Lutheran University has 2 new measures and is continuing all of the mitigation strategies as seen in the table below.

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,V,D,F,WUI,SW,MM)*		X		
Emergency Response Teams *(All)*	X			
Damage Assessment Guidebooks *(All)*	X			
Install Card Access Security System *(MM)*		X		
Develop and Implement a Comprehensive Communication Strategy *(E,L,V,D,F,SW,WUI,MM)*		X		
Evaluate and Upgrade Building Seismic Systems *(E,L,V,SW)*		X		
Install Automatic Earthquake Natural Gas Shut-off Valves *(E,SW)*		X		
Upgrade to Single-Action Fresh Air Intake Shut-offs Inside Bldg *(V,MM)*		X		
Upgrade Fire Alarms and Add Voice Enunciators *(E,V,SW,MM)*		X		
Create Written Emergency Response Protocols *(E,L,V,D,F,WUI,SW,MM)*		X		
Increase Use of Non-Structural Earthquake Mitigation Devices *(E,L,SW)*		X		
Develop Resources to Assess Structural Integrity of Buildings *(E,SW)*		X		
Upgrade/Install Fire Sprinklers *(MM)*		X		

Establish Mutual Aid Agreements *(E,V,D,F,SW,MM)*		X		
Revise Emergency Response Plan *(E,L,V,D,F,SW,MM)*		X		
Department Emergency and Continuity Plans *(E,L,V,D,F,WUI,SW,MM)*		X		
Prepare for Pandemic Events *(MM)*		X		
Organize/Set-up the EOC *(E,L,V,D,F,WUI,SW,MM)*		X		
One Week of Potable Water Source *(E,D,F,SW,MM)*		X		
Evacuation Plan *(E,V,F,SW,MM)*		X		
Stockpile One Week of Food *(E,V,F,SW,MM)*		X		
Prepare Students and Employees for Emergencies *(E,V,F,SW,MM)*		X		
Track Response/Recovery Costs *(E,V,F,SW,MM)*		X		
Cost Values *(E,V,F,SW,MM)*		X		
Back Up Power *(E,SW,MM)*		X		
Spill Prevention, Control and Countermeasure Plan *(MM)*		X		
Campus Safety Location *(E,V,F,SW,MM)*		X		
Train University Personnel for Emergency Preparedness and Response *(E,L,V,D,F,WUI,SW,MM)*		X		
Emergency Bldg Coordinators will be Trained in Emergency Response *(E,L,V,D,F,SW,WUI,MM)*		X		
Expand Programs to Include More of the PLU Community in Emergency Drills *(E,V,F,SW,MM)*		X		
Policy Team Training *(E,V,F,SW,MM)*		X		
ATC 20 Training *(E,SW)*		X		
Comprehensive Emergency Training Program *(E,V,F,SW,MM)*		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 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 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 plan estimate **potential dollar losses** to vulnerable structures?
- Does the plan describe the **methodology** used to prepare the estimate?

SECTION 6

REGION 5 ALL HAZARD MITIGATION PLAN
2015-2020 EDITION
PACIFIC LUTHERAN UNIVERSITY
INFRASTRUCTURE SECTION

Table of Contents

The **Infrastructure** for the **Pacific Lutheran University** is displayed in the 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 Pacific Lutheran University. 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 SUMMARY[1]	
TOTAL INFRASTRUCTURE (#)	75
TOTAL VALUE ($)	$ 232,650,234

Table 6-2 Infrastructure Category Summary

INFRASTRUCTURE CATEGORY SUMMARY[2]	
EMERGENCY SERVICES	0
TELECOMMUNICATIONS	1
TRANSPORTATION	0
WATER	0
ENERGY	0
GOVERNMENT	0
COMMERCIAL	74

Table 6-3 Infrastructure Vulnerability – Dependency Summary

DEPENDENCE[3]	# DEPENDENT ON SERVICE	%
RELIANCE ON EMERGENCY SERVICES	54 of 75	72%%
RELIANCE ON POWER	59 of 75	79%
RELIANCE ON SEWER	54 of 75	72%
RELIANCE ON TELECOMMUNICATION	52 of 75	69%
RELIANCE ON TRANSPORTATION	59 of 75	79%
RELIANCE ON WATER	61 of 75	81%

Table 6-4 Infrastructure Vulnerability – Hazard Summary

HAZARD	# IN HAZARD ZONE	%
AVALANCHE	0 of 75	0%
DROUGHT	5 of 75	7%
EARTHQUAKE	74 of 75	99%
WILDLAND/URBAN FIRE	0 of 75	0%
FLOOD	3 of 75	4%
LANDSLIDE	69 of 75	92%
VOLCANIC	74 of 75	99%

WEATHER	66 of 75	88%

Table 6-5 Infrastructure Dependency Matrix

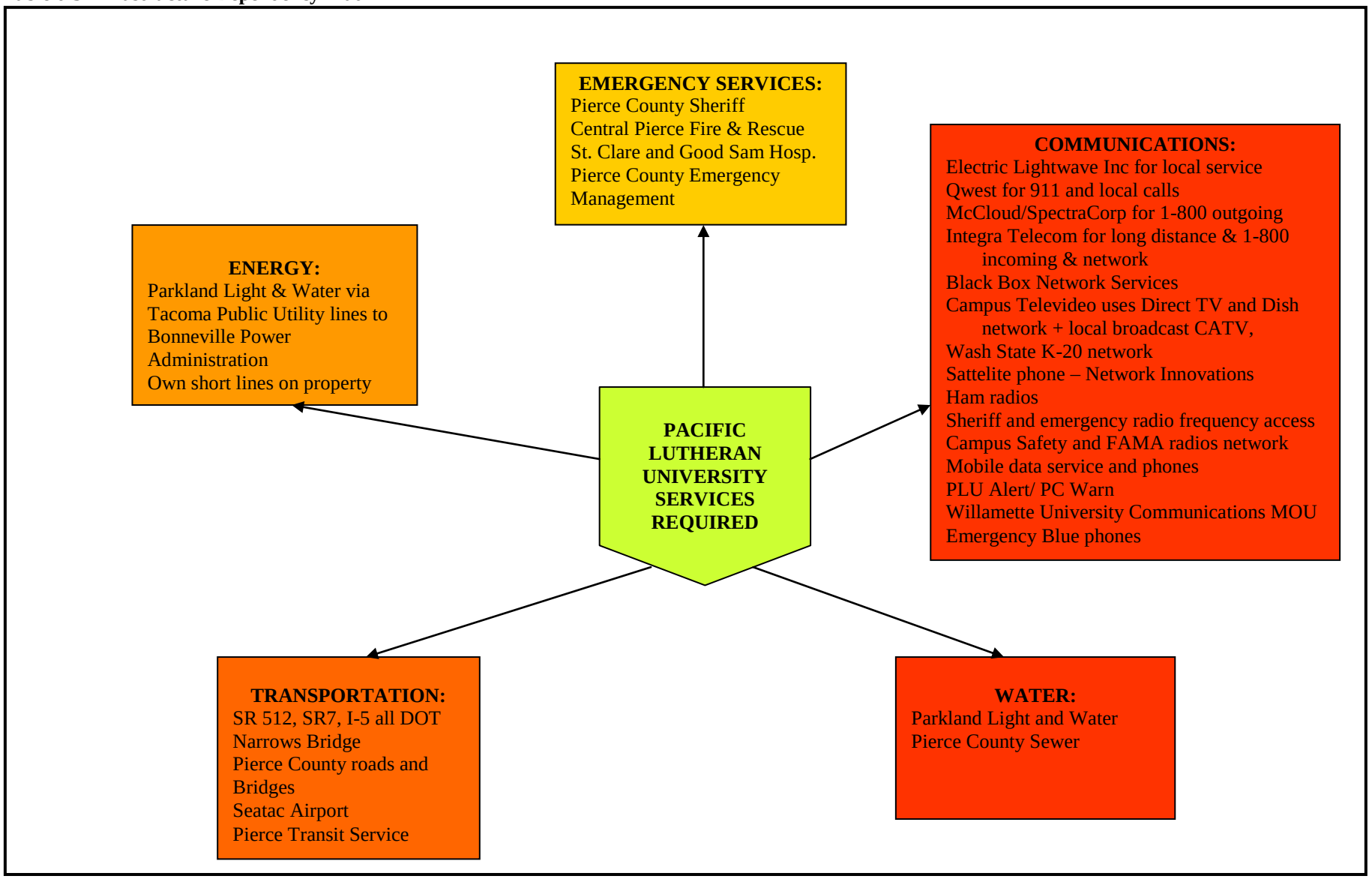


Table 6-6 Infrastructure Table

INFRASTRUCTURE[4]	BUILT[5]	FLOORS	UPGRADES[6]	VALUE	OCCUPANCY[7]	A	U	H Q	FI	O Q	DS	N	C	T	G	W	W E	C Q	P NS	TE A
208 Garfield, Suite 102 – Building owned by LLC	2007	1	N/A		74	0	0	1	0	0	0	0	1	1	2	3	3	1	2	3
320 Garfield St S (leased to USPS)	1955	1	1971	$1,322,000		0	0	1	0	0	0	0	1	1	2	2	2	1	3	2
Aida Ingram Hall-Classroom (4)	1955	1	1971	$5,899,000	412	0	0	1	0	0	0	0	1	2	2	2	2	1	1	2
Athletic Fields: Baseball		0		$200,400		0	1	1	0	0	0	0	1	0	2	1	0	0	2	1
Athletic Fields: Basketball		0		$40,000		0	0	1	0	0	0	0	1	0	2	0	0	0	0	0
Athletic Fields: Soccer		0		$30,668		0	1	1	0	0	0	0	1	0	2	1	0	0	2	1
Athletic Fields: Softball		0		$154,810		0	1	1	0	0	0	0	1	0	2	1	0	0	2	1
Athletic Fields: Tennis		0		$254,400		0	0	1	0	0	0	0	1	0	2	0	0	0	2	0
Athletic Fields: Natural Turf Intramural	2012	0		$293,800		0	1	1	0	0	0	0	1	0	2	1	0	0	2	1
Athletic Fields: Track/Football		0		$780,000		0	1	1	0	0	0	0	1	0	2	1	0	0	2	1
Athletic Fields: Synthetic Turf Field	2012	0		1,960,600		0	0	1	0	0	0	0	1	0	2	0	0	0	2	0
Blomquist House-Academic/Offices – 723 S 121st St S (4)	1954	1	1982	$350,000	10	0	0	1	0	0	0	0	1	1	2	2	1	1	1	1
Clock Tower (4)	1960	0	2007	$66,912	0	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0
Columbia Center- Dining / Meeting (4)	1962	2	N/A	2,792,000	500	0	0	1	0	0	0	0	1	1	2	3	3	1	2	3
East Campus-Offices/Academic (4)	1908	3		$7,422,000		0	0	1	0	0	0	0	1	1	2	2	2	1	1	2
Eastvold Chapel-Offices/Academic/Meeting (4)	1952	3	2011-2012	$8,665,500	1,048	0	0	1	0	0	1	0	1	1	2	2	2	1	1	2
Facilities Breakroom (4, C, AP)	1983	1	2007	$205,500	20	0	0	1	0	0	0	0	1	1	2	1	1	0	0	1
Facilities Covered Vehicle Storage (4)	1982	1	N/A	$20,000	0	0	0	1	0	0	0	0	1	2	2	0	0	0	0	0
Facilities Mgmt-Offices/Shops/Meeting (4, C, AP)	1982	1	2007	$1,087,500	20	0	0	1	0	0	0	0	1	2	2	2	1	1	1	1
Foss Hall-Residence (4, C)	1965	3	2006	$6,578,500	217	0	0	1	0	0	1	0	1	2	2	2	2	1	1	2
Residence - Fynboe Duplexes Public – Rental - 506/508 122nd St (4)	1962	1		$227,000	Rental	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0
Residence - Fynboe House Public Rental – 512 122 St (4)	1916	3		$324,500	Rental	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0
Garfield Book Company – Building owned by LLC	2007	2	N/A		~125	0	0	1	1	0	0	0	1	2	2	2	1	1	2	1
Gonyea -President's House (4)	1940	2	2006	$507,000	up to1,500 on property and 130 in structures	0	0	1	0	1	0	0	1	2	2	2	2	0	0	2
Harstad Hall-Residence (4, C, AP)	1894	6	Partial update in 2011 & 2012	$14,231,500	273	0	0	1	0	0	0	0	1	1	2	2	2	1	1	2
Hauge Administration-Offices/Academic (4)	1960	2	N/A	$9,642,500	838	0	0	1	0	0	0	0	1	2	2	2	2	1	1	2
Health Center (4, C)	1948	2	N/A	$578,500	25	0	0	1	0	0	0	0	1	2	2	2	2	1	1	2

INFRASTRUCTURE[4]	BUILT[5]	FLOORS	UPGRADES[6]	VALUE	OCCUPANCY[7]	AA	UU	HO	FI	OO	DS	NN	CC	TT	GG	WW	EE	CO	PP	ANTENNAS
Hinderlie Hall-Residence (4, C)	1954	4	2009	$6,010,500	132	0	0	1	0	0	1	0	1	1	2	2	2	1	1	2
Residence – 1101 S 124th (Hinkle House) - (4)	1957	1	1971	$186,000	Rental	0	0	1	0	0	0	0	1	1	0	2	1	1	1	1
Hong Hall-Residence (4, C)	1955	4	2009	$5,350,500	198	0	0	1	0	0	0	0	1	1	2	2	2	1	1	2
Human Resource House-Offices/Administrative – 512 S 122nd St (4)	1916	1	1960	$170,000	<10	0	0	1	0	0	0	0	1	1	2	2	1	1	1	1
Keck Observatory	1999	1	N/A	$86,000	40	0	0	1	0	0	0	0	1	1	2	2	0	1	0	0
Kreidler Hall-Residence (4, C)	1957	4	N/A	$5,469,000	77	0	0	1	0	0	0	0	1	1	2	2	2	1	1	2
KVIX Radio Tower and Shack (PLU lease site)	1960	1	N/A	N/A			0	1				0								
Lee House-Offices – 12013 Park Ave S (4)	1933	2		$241,500	< 20	0	0	1	0	0	0	0	1	1	2	2	1	1	1	1
Martin J Neeb Center – Home of KPLU radio (C, AP)	2008	3	N/A	$3,719,112	89	0	0	1	0	0	0	0	1	2	2	2	2	3	1	2
Mary Baker Russell Music Center (4)	1995	3	N/A	$8,086,500	959	0	0	1	0	0	1	0	1	2	2	2	2	1	1	2
Memorial Gym-Classroom/General (4)	1947	2		$5,789,500	1041	0	0	1	0	0	0	0	1	1	2	2	2	1	1	2
Morken Center for Learning and Technology (C, AP)	2005	3		$10,227,917	54	0	0	1	0	1	0	0	1	2	2	2	2	2	0	2
Mortvedt Library (4, C, AP)	1966	3	1987	$14,847,000	~300-400	0	0	1	0	0	0	0	1	2	2	2	2	3	1	2
Music Classroom – Massa - 1012 S 123rd (4)	1959	1	1972	$265,000	10	0	0	1	0	0	0	0	1	1	2	1	1	0	0	1
Nesvig Alumni Center – 518 S 123rd St (4)	1955	1	N/A	$426,000	< 20	0	0	1	0	0	0	0	1	1	2	0	1	1	1	1
Olson Auditorium-Offices/Academic (4, C, S)	1969	2	N/A	$12,718,500	4718	0	0	1	0	0	0	0	1	2	2	2	2	1	1	2
Ordal Hall-Residence (4, C)	1967	4	2004	$7,166,500	173	0	0	1	0	0	0	0	1	1	2	2	2	1	1	2
Park Avenue House-Offices – 12002 Park Ave S (4)	1924	2	1954	$321,500	<10	0	0	1	0	0	0	0	1	1	2	2	1	1	1	1
Parking Lots – 601 126th St S (4)	NA	0		?	Parking	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0
Parking Lots – 602-628 126th St S (4)	NA	0		?	Parking	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0
Parking Lots – 607 126th St S (4)	NA	0		?	Parking	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0
Parking Lots – 621 126th St S (4)	NA	0		?	Parking	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0
Residence - Peabody House – 1021 S 124th St (4)	1959	1	1972	$192,000		0	0	1	0	0	0	0	1	1	0	0	0	0	0	0
Pflueger Hall (4, C)	1964	3	2006	$6,510,500	196	0	0	1	0	0	0	0	1	1	2	2	2	1	1	2
Printshop & Warehouse	1982	1	2007	$1,186,500	<15	0	0	1	0	0	0	0	1	1	2	2	2	1	1	2
Ramstad Hall-Offices/Academic (4)	1947	4	1958	$5,310,500	228 +	0	0	1	0	0	1	0	1	2	2	2	2	1	1	2
Residence - 608 127th St S (4)	1900	1	N/A	$203,000	Rental	0	0	1	0	0	0	0	1	1	0	2	1	1	1	1
Residence – 1020 S 124th St	1959	1	N/A	$219,500	Rental	0	0	1	0	0	0	0	1	1	0	0	0	0		
Residence – 1107 124 ST S (4)	1955	1	1970	$186,000	Rental	0	0	1	0	0	0	0	1	1	0	2	1	1	1	1

INFRASTRUCTURE[4]	BUILT[5]	FLOORS	UPGRADES[6]	VALUE	OCCUPANCY[7]	AVALANCHE	EQUAKE	HOOD	FLOOD	LANDSLIDE	SEICHE	TSUNAMI	VOLCANO	WILDFIRE	WINDSTORM	CLIMATE CHANGE	PANDEMIC	TERRORISM
Residence – 1122 S 124th (4)	1956	1	1970	$243,000	Rental	0	0	1	0	0	0	0	1	1	0	2	1	1	1	1
Residence – 1119 124th St S	1955	1	N/A	$171,500	Rental															
Residence – 514 123rd St	1956	2	2006	$334,500		0	0	1	0	0	0	0	1	1	0	0	0	0		
Sustainable Art House - 515 125th ST S (4)	1941	2	1963	$137,000	Rental	0	0	1	0	0	0	0	1	1	0	2	1	1	1	1
Residence – 601 128th St S (4)	1976	1		$210,500	Rental	0	0	1	0	0	0	0	1	1	0	2	1	1	1	1
Residence – 706 127th St S (4)	1940	1		$171,000	Rental	0	0	1	0	0	0	0	1	1	0	2	1	1	1	1
Residence - 710 120th Street South – Garage (4)	1924	2	1950	$94,500	Rental	0	0	1	0	0	0	0	1	1	0	2	1	1	1	1
Residence - 710 120th Street South – House (4)	1924	2	1950	$258,000	Rental	0	0	1	0	0	0	0	1	1	0	2	1	1	1	1
Residence - 908-910 121st St. (Arbaugh duplex)	1968	1	N/A	$248,500	Rental	0	0	1	0	0	0	0	1	1	0	2	1	1	1	1
Richards Property – 604 S 124th St - Stormwater Retention Pond	2000	0	N/A		0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Rieke Science Center-Offices/Academic (4)	1984	3	N/A	$13,594,000	317	0	0	1	0	0	0	0	1	2	2	3	2	2	1	2
South Hall-Residence (4, C)	2000	5	N/A	$16,254,500	238	0	0	1	0	0	0	0	1	1	2	2	2	1	1	2
Stuen Hall-Residence (4, C)	1996	4	2003	$5,585,000	109	0	0	1	0	0	0	0	1	1	2	2	2	1	1	2
Swimming Pool-Athletic and P.E. (4)	1965	1	2012	$2,754,500	500	0	0	1	0	0	0	0	1	3	2	2	2	1	1	2
Tinglestad Hall-Residence (4, C)	1967	9	2007	$17,305,000	362	0	0	1	0	0	0	0	1	1	2	2	2	1	1	2
University Center Bldg-Office/Academic (4, C, AP)	1970	5	2007	$12,794,615	2867	0	0	1	0	0	1	0	1	1	2	3	3	1	3	3
Wang Center-Offices & Academic – 868 S Wheeler St (4)		1		$203,000	20	0	0	1	0	0	0	0	1	1	2	2	1	1	1	1
Women's Center – 801 121 St S (4)	1954	1		$282,000	< 20	0	0	1	0	0	0	0	1	2	2	2	1	1	1	1
Xavier Hall-Offices/Academic (4)	1937	3	2001	$3,485,500	250	0	0	1	0	0	0	0	1	2	2	2	2	1	1	2

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 curtail operations somewhat without emergency services with no direct economic/environmental/safety/health consequences.
	2	The infrastructure would have to curtail operations somewhat without emergency services with some direct economic/environmental/safety/health consequences. OR stop operations with no direct economic/environmental/safety/health consequences.
	3	The infrastructure would have to stop its operations without emergency services and significant 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 curtail operations somewhat without gas or electrical supply, with no direct economic/environmental/safety/health consequences.
	2	The infrastructure would have to curtail operations somewhat without gas or electrical supply, with some direct economic/environmental/safety/health consequences. OR stop operations with no direct economic/environmental/safety/health consequences.
	3	The infrastructure would have to stop its operations without gas or electrical supply and significant 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 curtail operations somewhat without wastewater service, with no direct economic/environmental/safety/health consequences.
	2	The infrastructure would have to curtail operations somewhat without wastewater service, with some direct economic/environmental/safety/health consequences. OR stop operations with no direct economic/environmental/safety/health consequences.
	3	The infrastructure would have to stop its operations without wastewater service and significant 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 curtail operations somewhat without telecommunication service, with no direct economic/environmental/safety/health consequences.
	2	The infrastructure would have to curtail operations somewhat without telecommunication service, with some direct economic/environmental/safety/health consequences. OR stop operations with no direct economic/environmental/safety/health consequences.
	3	The infrastructure would have to stop its operations without telecommunication service and significant 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 curtail operations somewhat without transportation routes with no direct economic/environmental/safety/health consequences.
	2	The infrastructure would have to curtail operations somewhat without transportation routes with some direct economic/environmental/safety/health consequences. OR stop operations with no direct economic/environmental/safety/health consequences.

EXTERNAL DEPENDENCY CATEGORY	RATING	SELECTION FACTOR OR DESCRIPTION
	3	The infrastructure would have to stop its operations without transportation routes and significant 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 curtail operations somewhat without water supply, with no direct economic/environmental/safety/health consequences.
	2	The infrastructure would have to curtail operations somewhat without water supply, with some direct economic/environmental/safety/health consequences. OR stop operations with no direct economic/environmental/safety/health consequences.
	3	The infrastructure would have to stop its operations without its water supply and significant economic/environmental/safety/health consequences will occur.

Endnotes

[1] This is a total of infrastructure and the approximate value provided by the jurisdiction from Keystone insurance records. 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] Explanation for PLU's application of dependency ratings: Low occupancy buildings received an external dependency rating, in some cases, because services, such as sewer may be obtained in an adjacent larger buildings with little impact to overall operations. The smaller buildings (e.g. Human Resources) are less critical than larger buildings (e.g. University Center). Rental buildings, other than residential halls, do not demand/require emergency services with impacts to PLU in the same way its residence halls or academic buildings do.

[4] 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

[5] The "built" column refers to the year in which the original infrastructure was constructed.
[6] This column addresses major remodels, upgrades or additions to the infrastructure in dollar amount and/or year of changes.
[7] Occupancy data collected from PLU R25 calendar (classrooms/meetings rooms) and Keystone insurance records (resident hall beds) and Emergency Building Coordinator roll call lists (personnel). Occupancy estimate assumes maximum occupancy of spaces within the building.

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
PACIFIC LUTHERAN UNIVERSITY
PLAN MAINTENANCE SECTION

Table of Contents

The planning process undertaken in the last two years is just the foundation of breaking the disaster cycle by planning for a disaster resistant Pacific Lutheran University and Pierce County Region 5. This Section details the formal process that will ensure the Pacific Lutheran University 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 Pacific Lutheran University 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 Pacific Lutheran University Administration is responsible for the University's adoption of the Plan after the Pre-Adoption Review is completed. Once the Administration adopts the Plan, the Program Coordinator of the Mitigation and Recovery Division of Emergency Management 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 University 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 University's maintenance strategy for implementation, monitoring, and evaluation provides a structure that encourages collaboration, information transference, and innovation. Through a multi-tiered implementation method, the University will provide its staff and students 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 staff, students and the various levels of government service, ranging from community action to the Department of Homeland Security. Through this strategy, the University will attempt to break the disaster cycle and achieve a more disaster resistant community.

Implementation

In order to ensure efficient and effective implementation, Pacific Lutheran University will make use of its capabilities, infrastructure, and dedicated population. The University will implement its mitigation strategy over the next five years primarily through its annual budget process and varying grant application processes.

The Emergency Programs Office will work in conjunction with those organizations identified under each mitigation measure to initiate the overall mitigation strategy. Each department or office responsible for carrying out the measures will play a role in self-monitoring and evaluating achievement of measures and objectives. Because the University has no land use or regulatory authority, it must rely heavily on collaboration with neighboring jurisdictions. For example, for density-related issues the University will work with partners Pierce County, and the Hazard Mitigation Forum to implement recommendations into the existing Pierce County Comprehensive Plan. Other measures will be implemented through collaboration with the identified jurisdictions/departments listed under each measure's evaluation.

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 University and multi-jurisdictional policies and programs. The first tier is implementation through individual citizen level—existing public education programs in the University. For example, programs at the individual level through safety presentations and evacuation drills). The second is a University-wide mechanism for implementation comprised of University employees implementing strategies from the Emergency Programs Office, Construction Management Office, Facilities Management Office, and Computing & Telecommunications through an ambitious building construction and remodel plan. This perhaps offers the greatest opportunity to implement mitigation opportunities. 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 University, 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 University with a localized mechanism for implementation. This approach to mitigation can adapt to the varying vulnerabilities and needs within a growing region. Public Education Programs are also a means for involving the public in mitigation policy development. Currently the University pursues a variety of mitigation-related programs that help students, staff and citizens to better prepare for and respond to disasters.

Jurisdiction-Wide: Emergency Programs Office

The Emergency Programs Office will coordinate the maintenance and implementation actions with those departments and offices that must carry out the mitigation measures. The Emergency Planning Team, consisting of departments or offices with emergency responsibilities will review the direction of the Plan's implementation. The Emergency Planning Team will ultimately provide a mechanism for coordination among those groups engaged in mitigation to ensure that a comprehensive and efficient approach be undertaken in the University's efforts at all-hazards mitigation. The Emergency Planning Team will be coordinated by the Emergency Programs Office.

The Emergency Programs Office will be responsible for the overall review of the plan and will designate mitigation measures to those departments responsible for their implementation. The Emergency Planning Team will monitor and evaluate the plan's implementation throughout the year. 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. Members of the Emergency Planning Team and President's Council sit on the budgeting and projects committees and can advance mitigation measures through these annual processes.

The plan will be updated every five years with coordination from the Emergency Programs Office, participation by the Emergency Planning Team and approval from the Administration.

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

PC HMF will meet annually in August and will be coordinated by PC DEM. The University will be an active participant in the PC HMF, and will be represented by the Emergency

Programs Manager. 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 Pacific Lutheran University 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 Pacific Lutheran University Plan will guide the University's mitigation efforts for the foreseeable future. Pacific Lutheran University representatives on the Planning Team have developed a method to ensure that regular review and update of the Plan occur within a five year cycle.

PC DEM will collaborate with the Emergency Programs Office and the PC HMF to help 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 Emergency Programs Office will coordinate reporting of the Plan's implementation to the Emergency Planning Team which meets at least twice each year. Minutes of these meetings will be prepared and will include:

- Updates on implementation throughout the University;
- Updates on the PC HMF and mitigation activities undertaken by neighboring jurisdictions;
- Changes or anticipated changes in hazard risk and vulnerability at the University, 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 Emergency Programs Office 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 Programs Office or the University 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

regional partners' Hazard Identification and Vulnerability Analyses and their Comprehensive Emergency Management Plans.

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 University, the Emergency Programs Office will provide an assessment that captures any "success stories" and/or "lessons learned." The assessment will detail direct and indirect damages to the University and its critical facilities, 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 or reduce 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 ensuing regularly scheduled President's Council or Board of Directors.

As per 44 CFR 201.6, the Pacific Lutheran University 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 2020 and every five years following at the Hazard Mitigation Forum, Pacific Lutheran University and the Emergency Programs Office will submit the updated plan to PC DEM. PC DEM's Mitigation and Recovery Program Coordinator will collect updates from the Region 5 Plan jurisdictions and submit them to the State EMD and FEMA.

Continued Public Involvement

Pacific Lutheran University is dedicated to continued public involvement and education in review and updates of the Plan. The University will retain copies of the Plan and will post it on the Pacific Lutheran University website.[1] Announcements regarding the Plan's adoption and the annual updates to the Plan will be advertised on the Pacific Lutheran University 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 Emergency Programs Office and the Emergency Management Team will hold a public information and comment meeting. These meetings will be advertised in the University through a variety of media, including the University webpage.

Pacific Lutheran University 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, Pacific Lutheran University 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, Pacific Lutheran University will look for new innovative ways for public involvement.

Endnotes

[1] http://www.plu.edu/

APPENDIX A

REGION 5 ALL HAZARD MITIGATION PLAN
2015-2020 EDITION
PACIFIC LUTHERAN UNIVERSITY

Plan Adoption

The *"Region 5 Hazard Mitigation Plan"* was adopted by the Pacific Lutheran University's Board of Directors on March 9, 2015. The following page shows a copy of that resolution.

PACIFIC LUTHERAN UNIVERSITY RESOLUTION

A resolution of Pacific Lutheran University adopting the Region 5 All Hazard Mitigation Plan 2015-2020 Edition and Pacific Lutheran University's 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 Pacific Lutheran University 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, Pacific Lutheran University has participated with the Pierce County Department of Emergency Management in the development of the District's All Hazard Mitigation Plan Update, and recognizes the economic loss, personal injury, and damage that can arise from these hazards; and

WHEREAS, adoption of this plan compels Pacific Lutheran University to make improvements in facilities that mitigate identified hazards within a reasonable timeframe and these improvements will increase safety for students, staff, and others who utilize University facilities; 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 five-year cycle for plan maintenance, and documentation of formal adoption by Pacific Lutheran University; and

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

WHEREAS, Pacific Lutheran University adoption will allow the final approval of Pacific Lutheran University Hazard Mitigation Plan by the Federal Emergency Management Agency, and final approval of the plan will qualify Pacific Lutheran University for future disaster relief funding from the federal government;

NOW, THEREFORE, BE IT RESOLVED by Pacific Lutheran University, Pierce County, Washington,

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 Pacific Lutheran University Addendum to the Region 5 Hazard Mitigation Plan, an update to the Pacific Lutheran University Natural Hazard Mitigation Plan is hereby adopted and shall be in full force and effect upon passage and signature hereon.

ADOPTED by Pacific Lutheran University this 9th **day of** March **, 2015.**

Pacific Lutheran University

President

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

FEMA Pre-Adoption Review and Letter of approval 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,

Tamra Biasco
Chief, Risk Analysis Branch
Mitigation Division

KM:bb

www.fema.gov

Space saved for FEMA Letter here

APPENDIX A

REGION 5 HAZARD MITIGATION PLAN
2008-2013 EDITION
PACIFIC LUTHERAN UNIVERSITY

Plan Adoption

The *"Region 5 Hazard Mitigation Plan"* was adopted by the Pacific Lutheran University's Board of Directors on November 18, 2008. The following page shows a copy of that resolution.

PACIFIC LUTHERAN UNIVERSITY

Office of the President
Tacoma, WA 98447-0003

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253-536-5068 FAX
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PACIFIC LUTHERAN UNIVERSITY

DISASTER MITIGATION PLAN
RESOLUTION

BE IT RESOLVED THAT the University adopts the Pacific Lutheran University mitigation plan as prepared in cooperation with Pierce County Department of Emergency Management and reviewed by Washington State Military Department Emergency Management Division and the Federal Emergency Management Agency.

Adoption of the plan will qualify PLU for disaster funding from the federal government.

Date: 11/18/08

Loren J. Anderson
President

The plan was reviewed and approved as follows:

AGENCY	REPRESENTATIVE	DATE
FEMA Region X	Mark Carey Mitigation Division Director	Approved—November 24, 2008

Letter of approval follows below.

U.S. Department of Homeland Security
Region X
130 228th Street, SW
Bothell, WA 98021-9796

FEMA

January 30, 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 28, 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 28, 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 Orting	***Key Peninsula Fire Department (PDFD #16)***	***Peninsula SD***	***Port of Tacoma***
Town of Eatonville	***Graham Fire and Rescue (PCFD #21)***	***University Place SD***	***Summit Water and Supply Company***
Town of South Prairie	**PCFD #23**	***White River SD***	
Town of Wilkeson		***Pacific Lutheran University***	

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.

www.fema.gov

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

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APPENDIX B

REGION 5 ALL HAZARD MITIGATION PLAN
2015-2020 EDITION
PACIFIC LUTHERAN UNIVERSITY

Region 5 Hazard Mitigation Planning Team

Pacific Lutheran University

NAME	TITLE	JURISDICTION-DEPARTMENT
Jennifer Wamboldt	Emergency Program Manager	Pacific Lutheran University Finance & Operations
Joseph Bell	Environmental Health and Safety	Pacific Lutheran University

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APPENDIX C

REGION 5 ALL HAZARD MITIGATION PLAN
2015-2020 EDITION
PACIFIC LUTHERAN UNIVERSITY

Plan Revisions

RECORD OF CHANGES			
Change Number	**Description of Change (with page numbers)**	**Date**	**Authorized by:**

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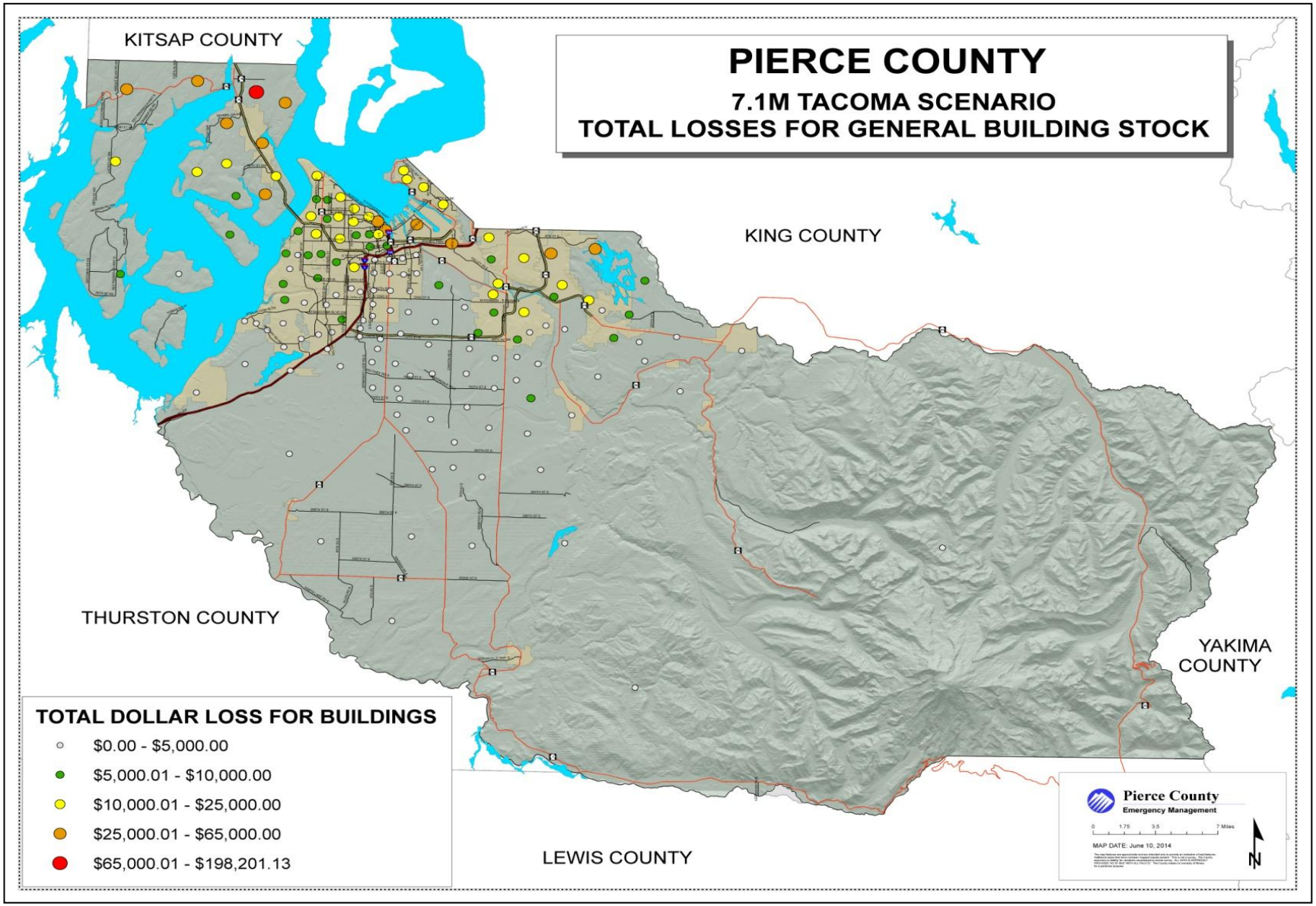
APPENDIX D

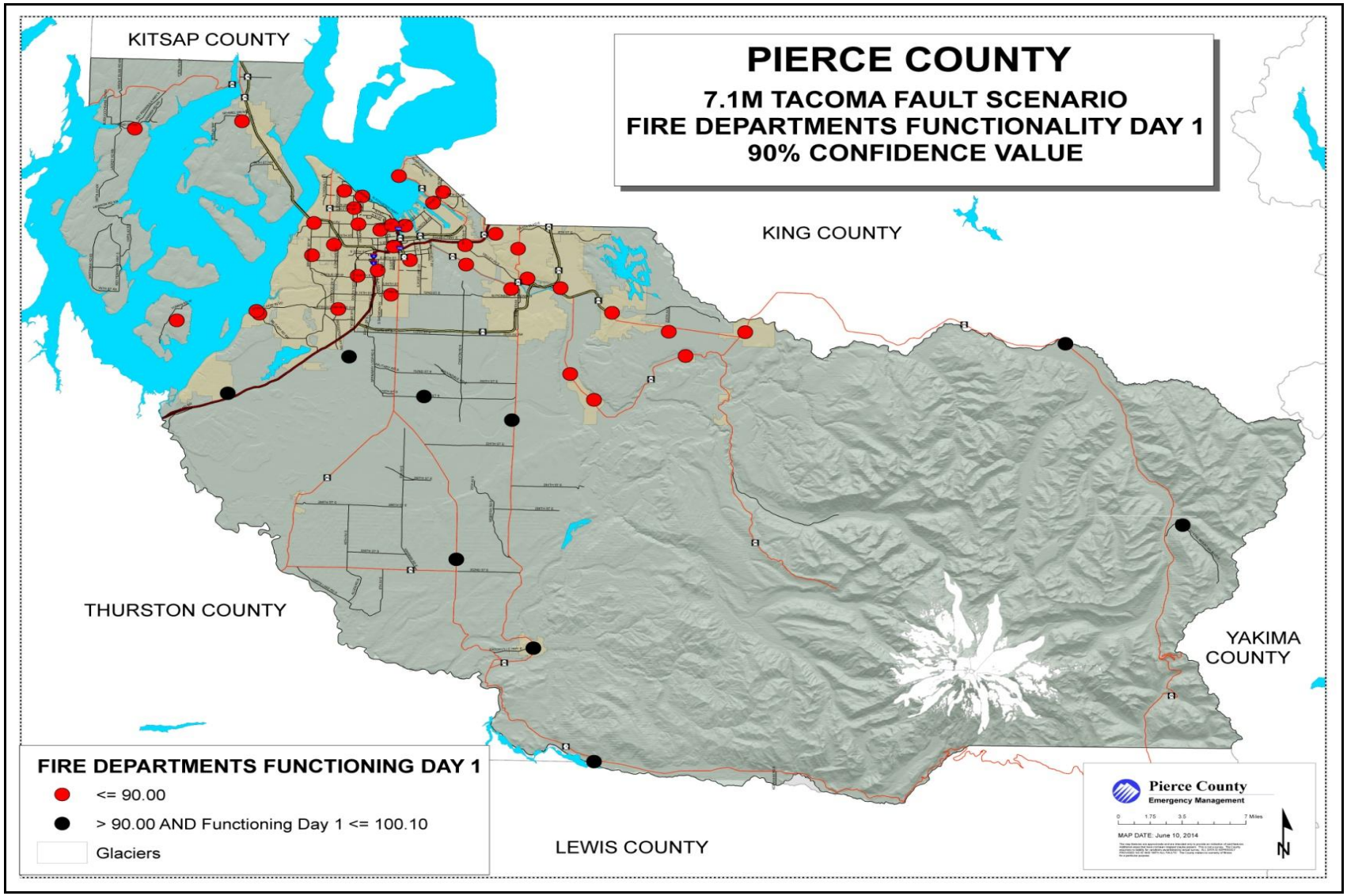
REGION 5 ALL HAZARD MITIGATION PLAN
2015-2020 EDITION
PIERCE COUNTY

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.

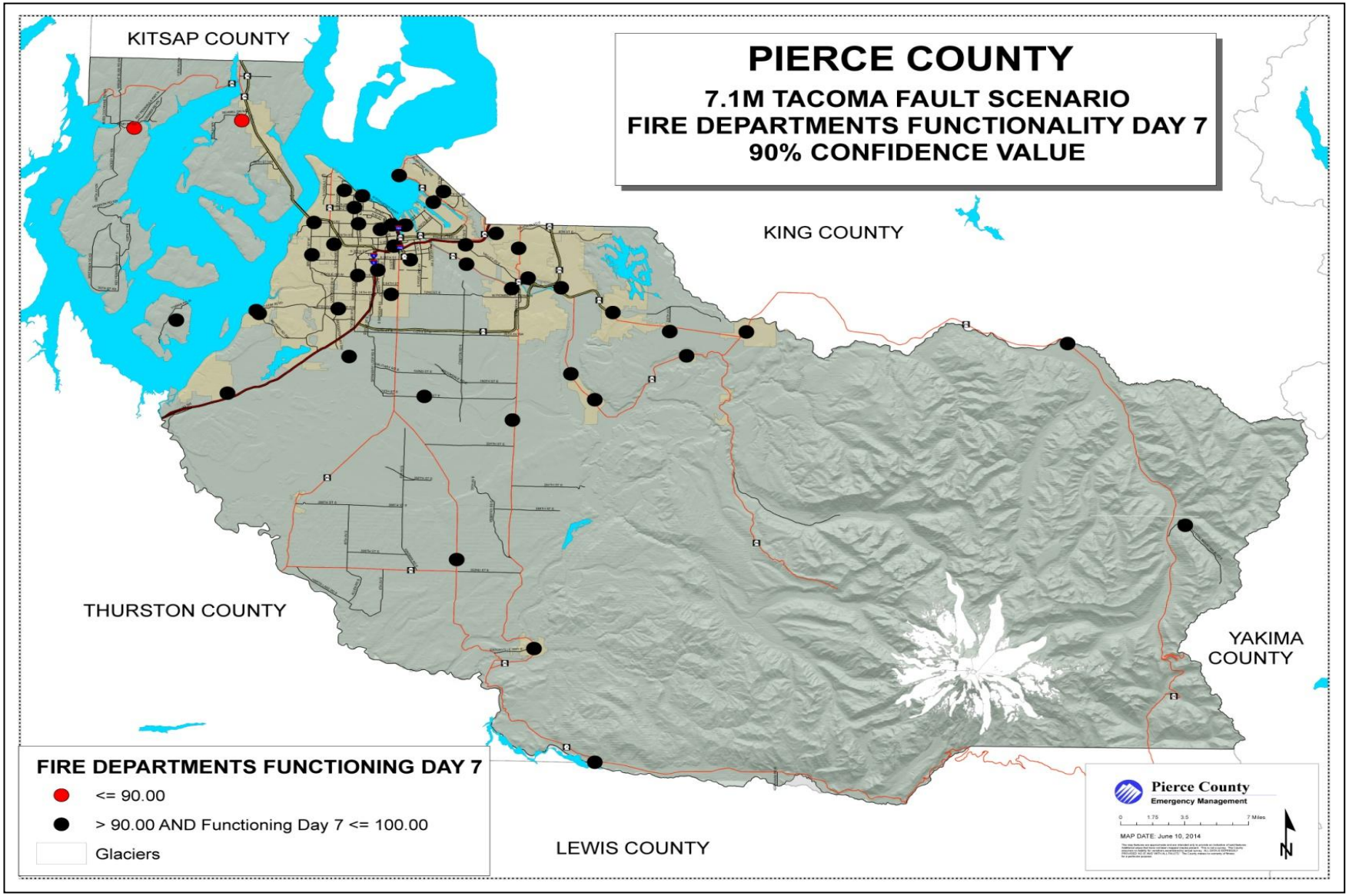
Map D-1 Pierce County Tacoma Fault Scenario Total Losses Map



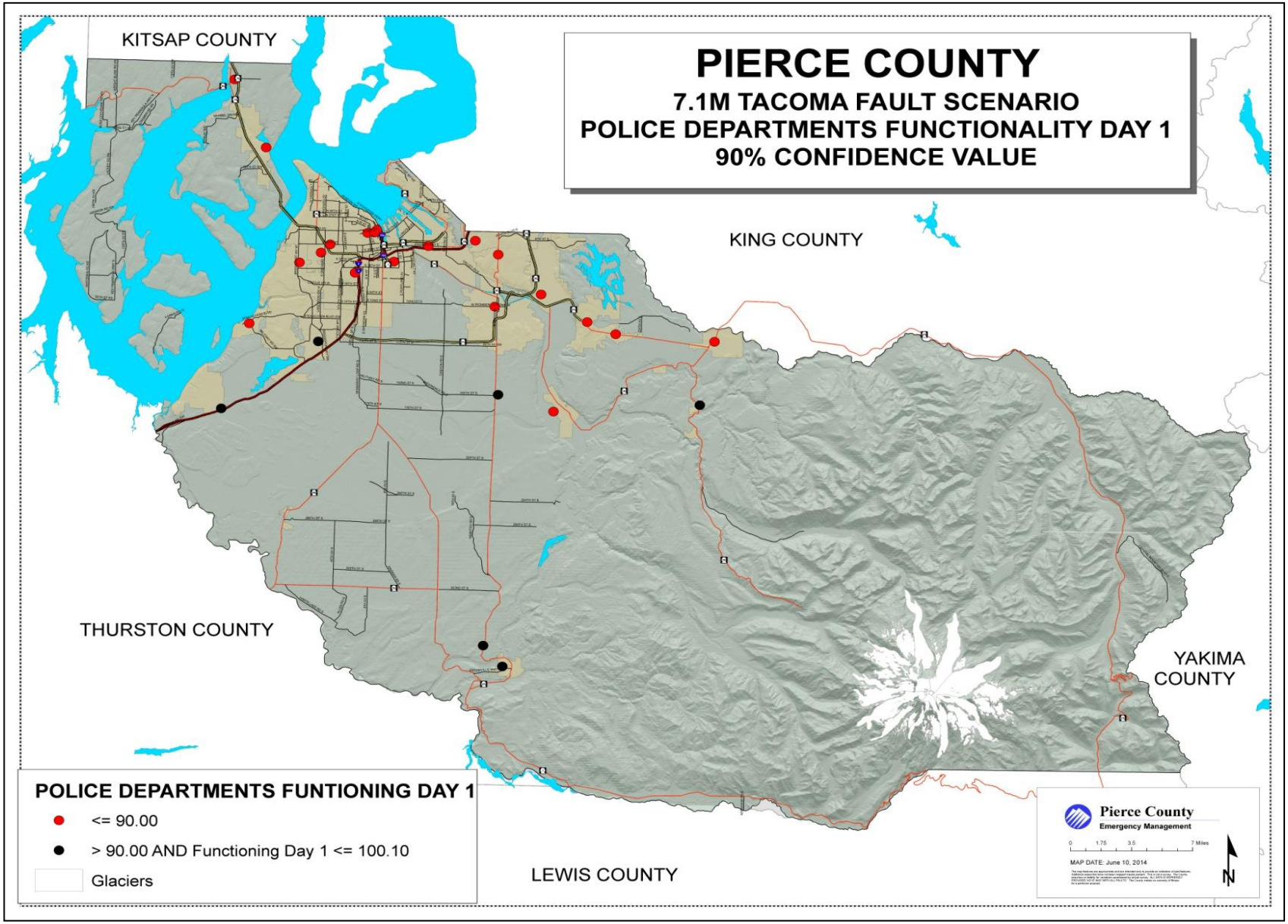
Map D-2 Pierce County Tacoma Fault Scenario Fire Department Functionality Day 1 Map



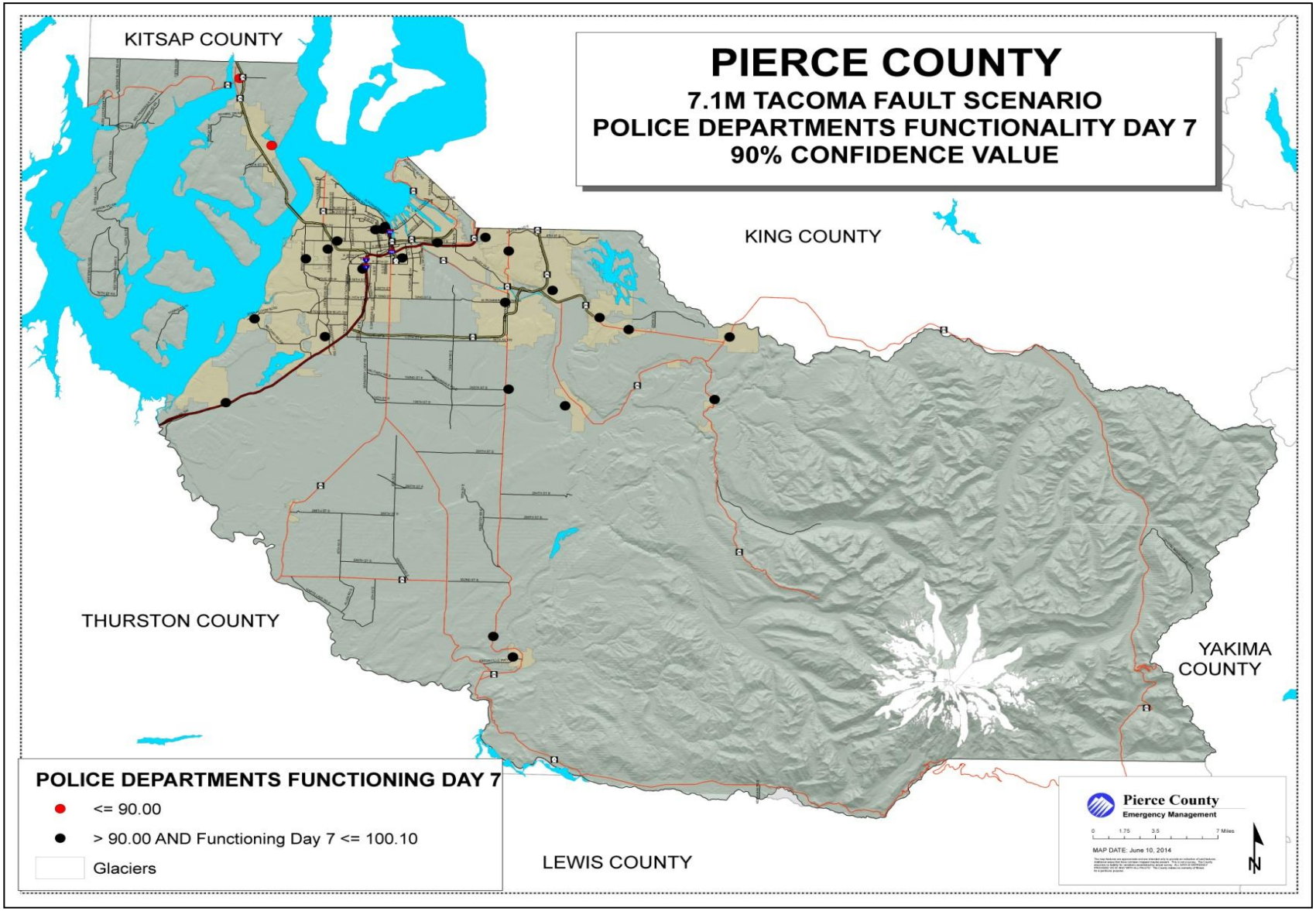
Map D-3 Pierce County Tacoma Fault Scenario Fire Department Functionality Day 7 Map



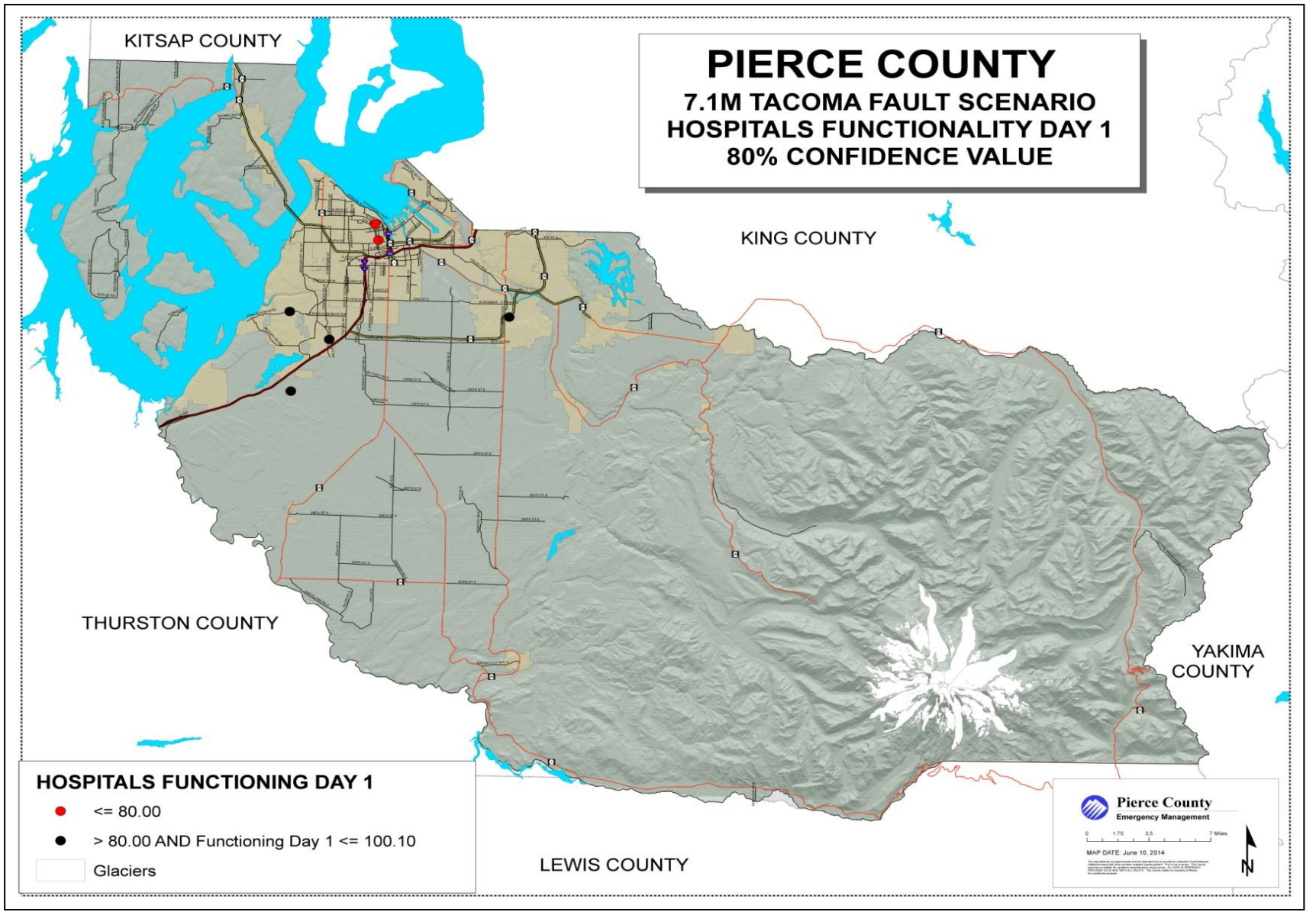
Map D-4 Pierce County Tacoma Fault Scenario Police Department Functionality Day 1



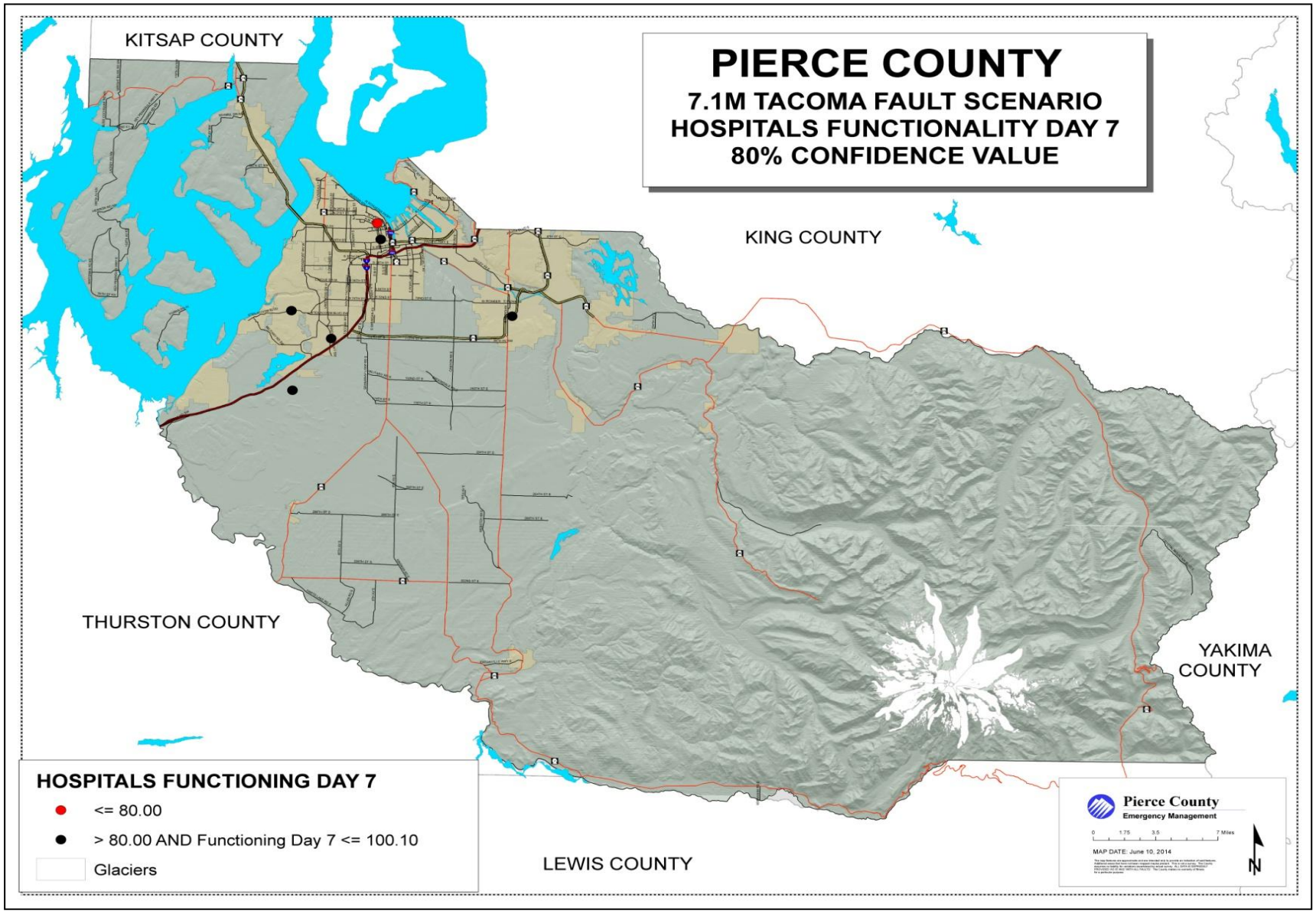
Map D-4 Pierce County Tacoma Fault Scenario Police Department Functionality Day 7 Map



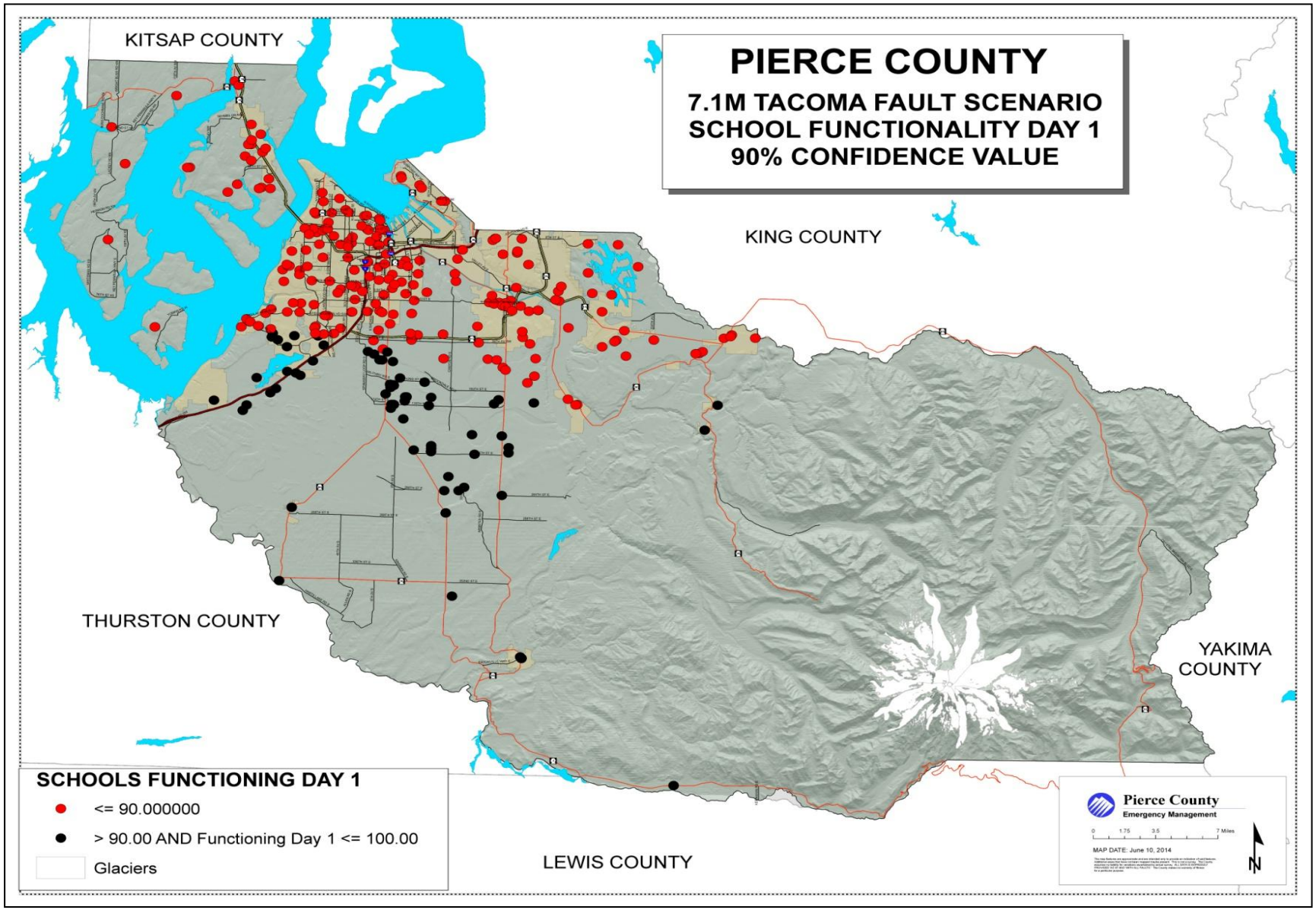
Map D-5 Pierce County Tacoma Fault Scenario Hospitals Functionality Day 1 Map



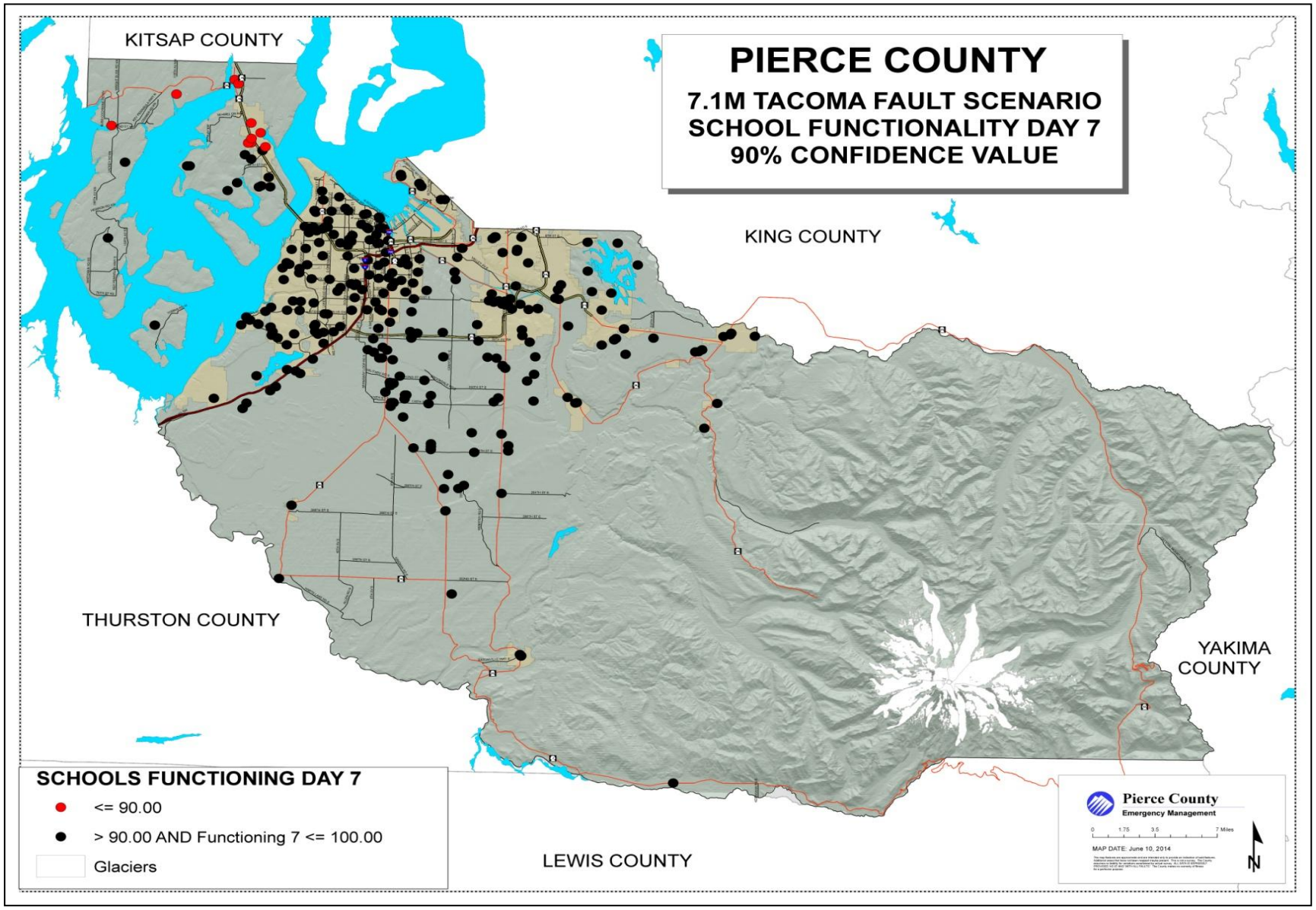
Map D-6 Pierce County Tacoma Fault Scenario Hospitals Functionality Day 7 Map



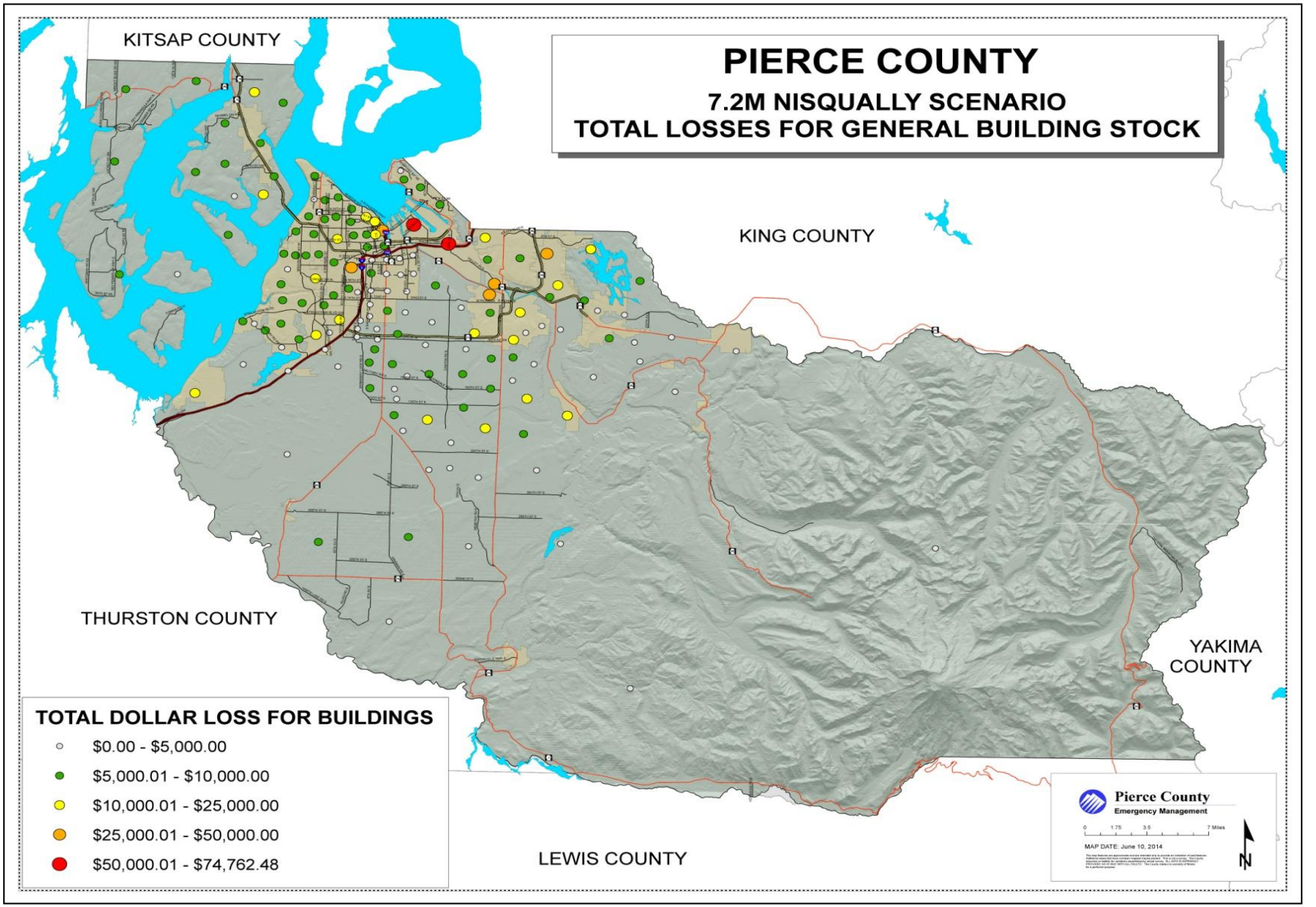
Map D-7 Pierce County Tacoma Fault Scenario School Functionality Day 1 Map



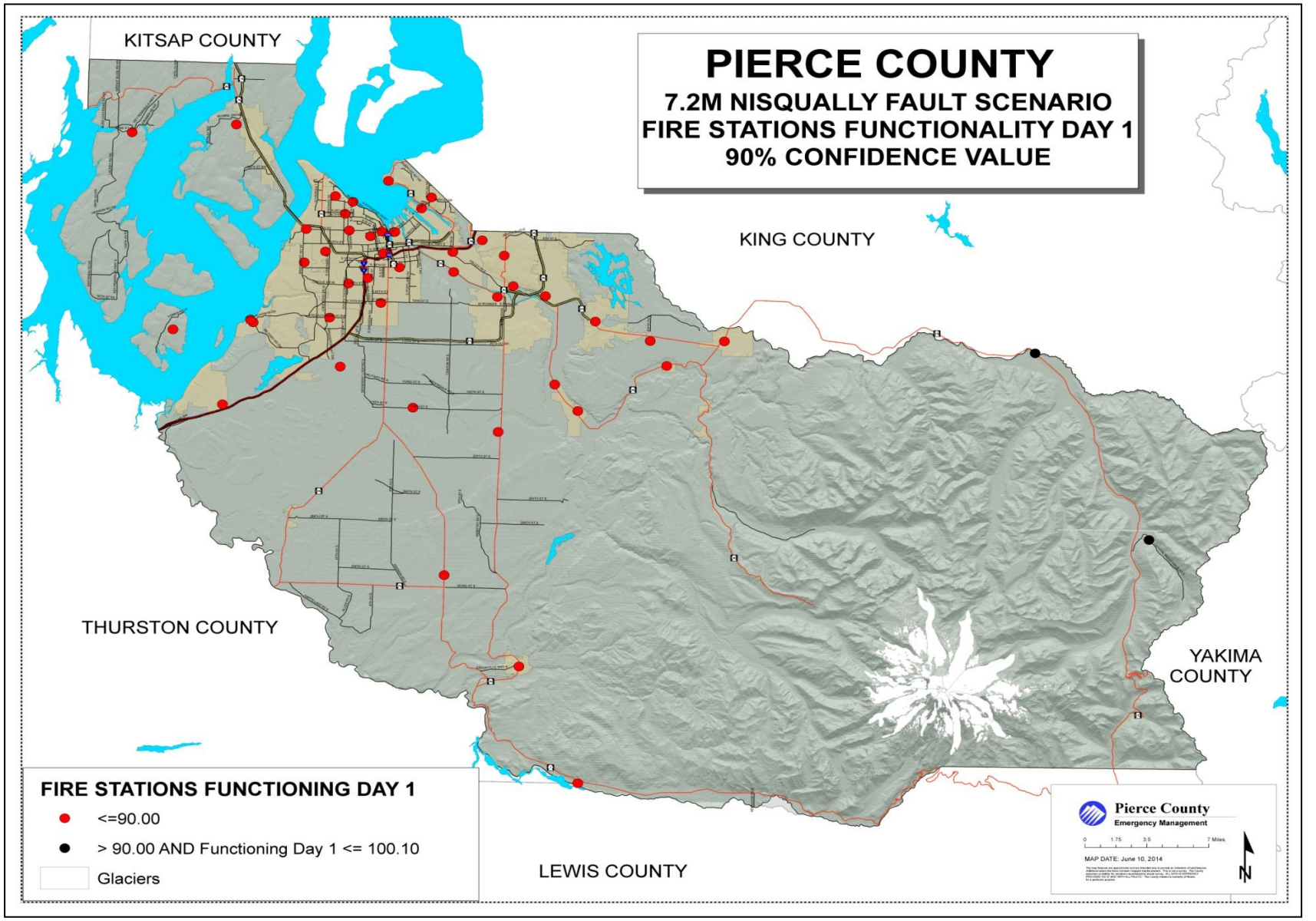
Map D-8 Pierce County Tacoma Fault Scenario School Functionality Day 7 Map



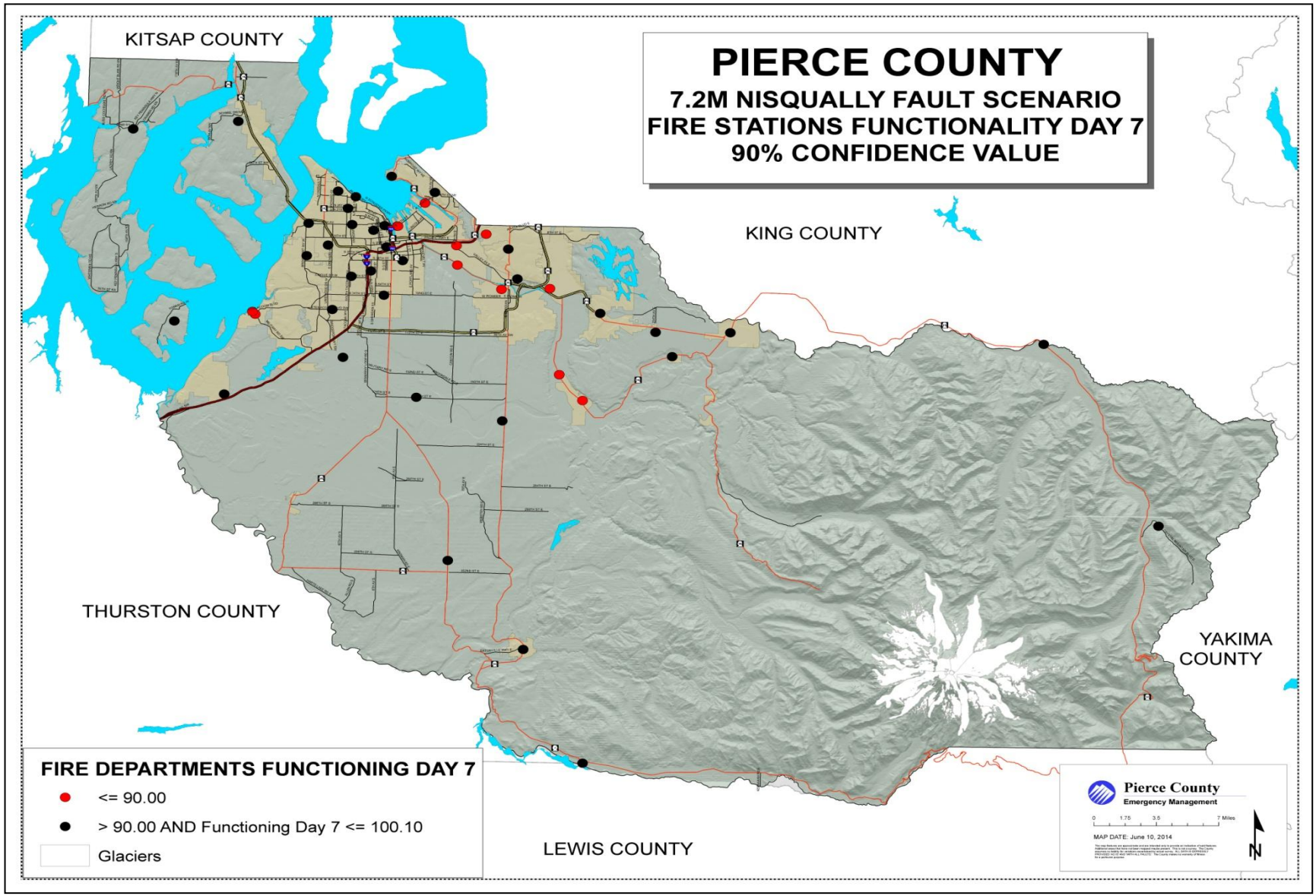
Map D-9 Pierce County Nisqually Fault Scenario Total Losses Map



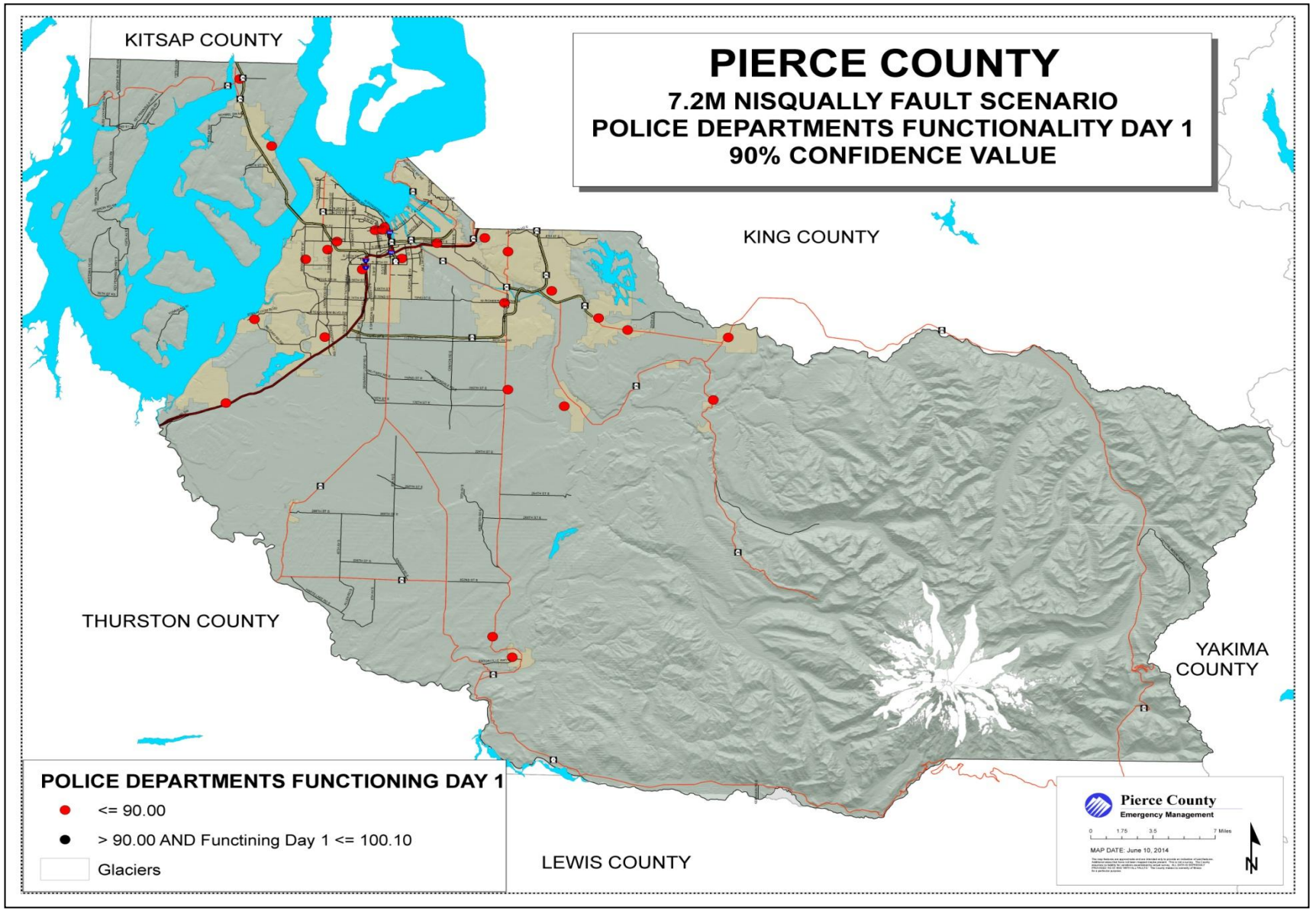
Map D-10 Pierce County Nisqually Fault Scenario Fire Stations Functionality Day 1 Map



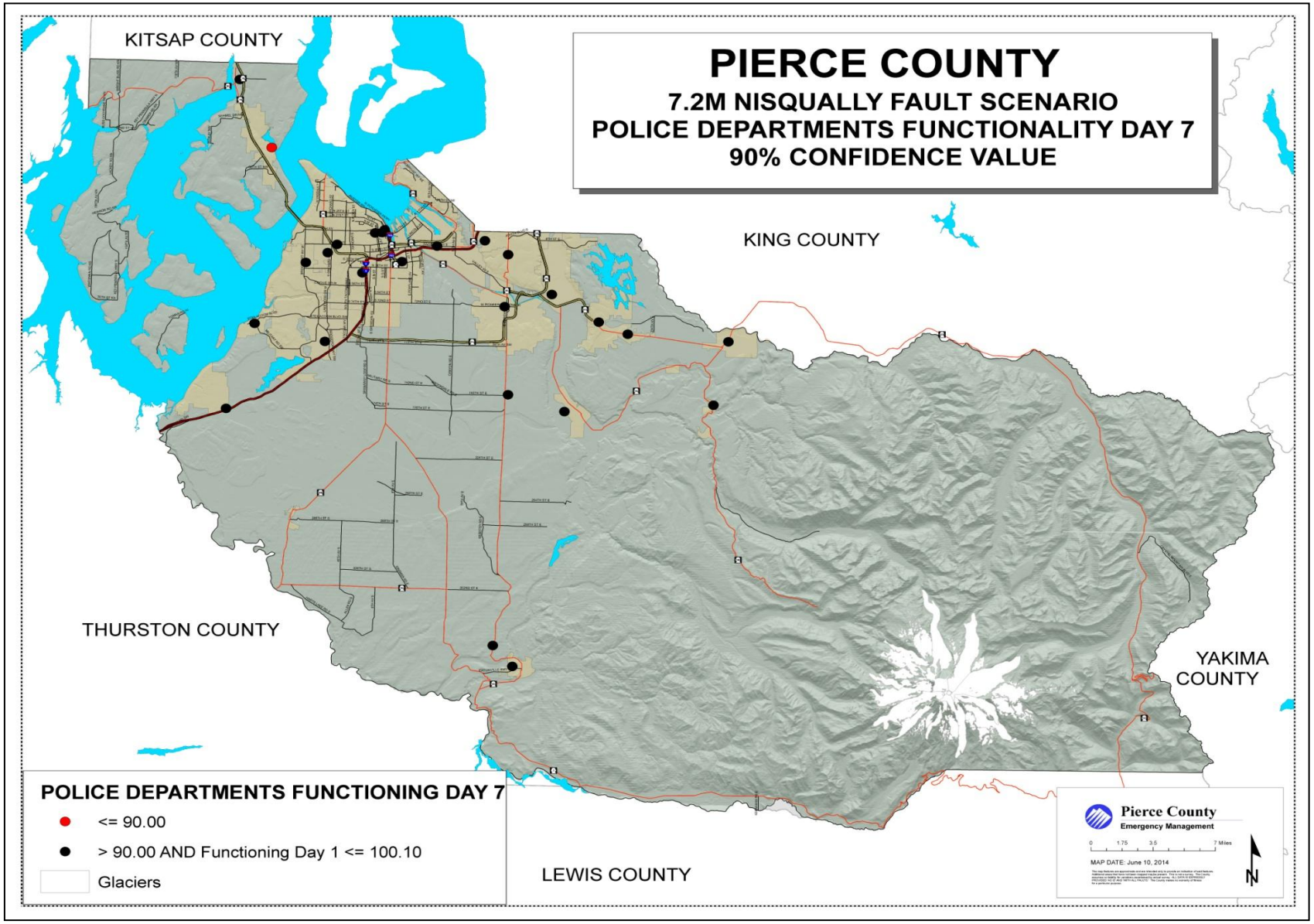
Map D-11 Pierce County Nisqually Fault Scenario Fire Stations Functionality Day 7 Map



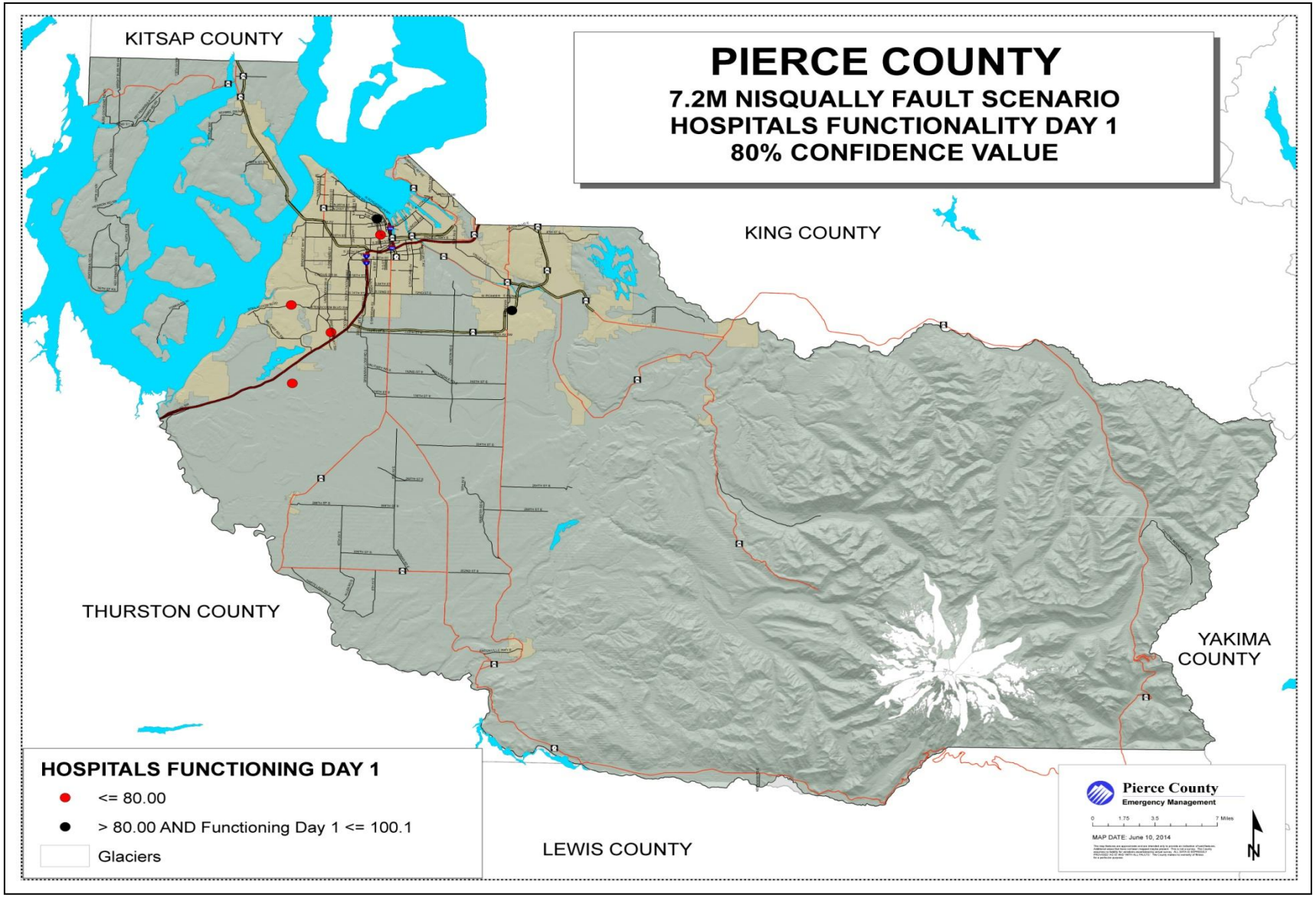
Map D-12 Pierce County Nisqually Fault Scenario Police Departments Functionality Day 1 Map



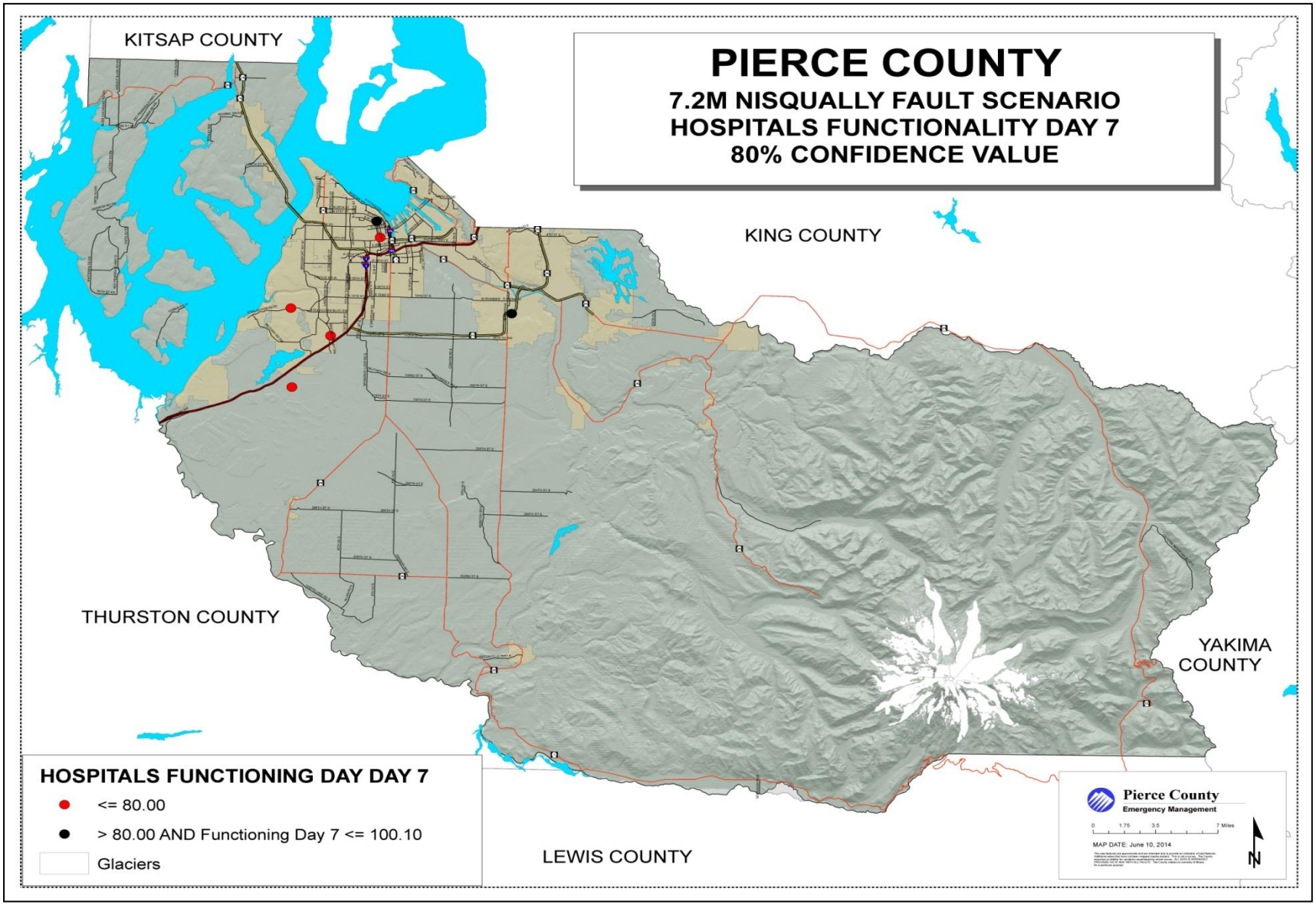
Map D-13 Pierce County Nisqually Fault Scenario Police Departments Functionality Day 7 Map



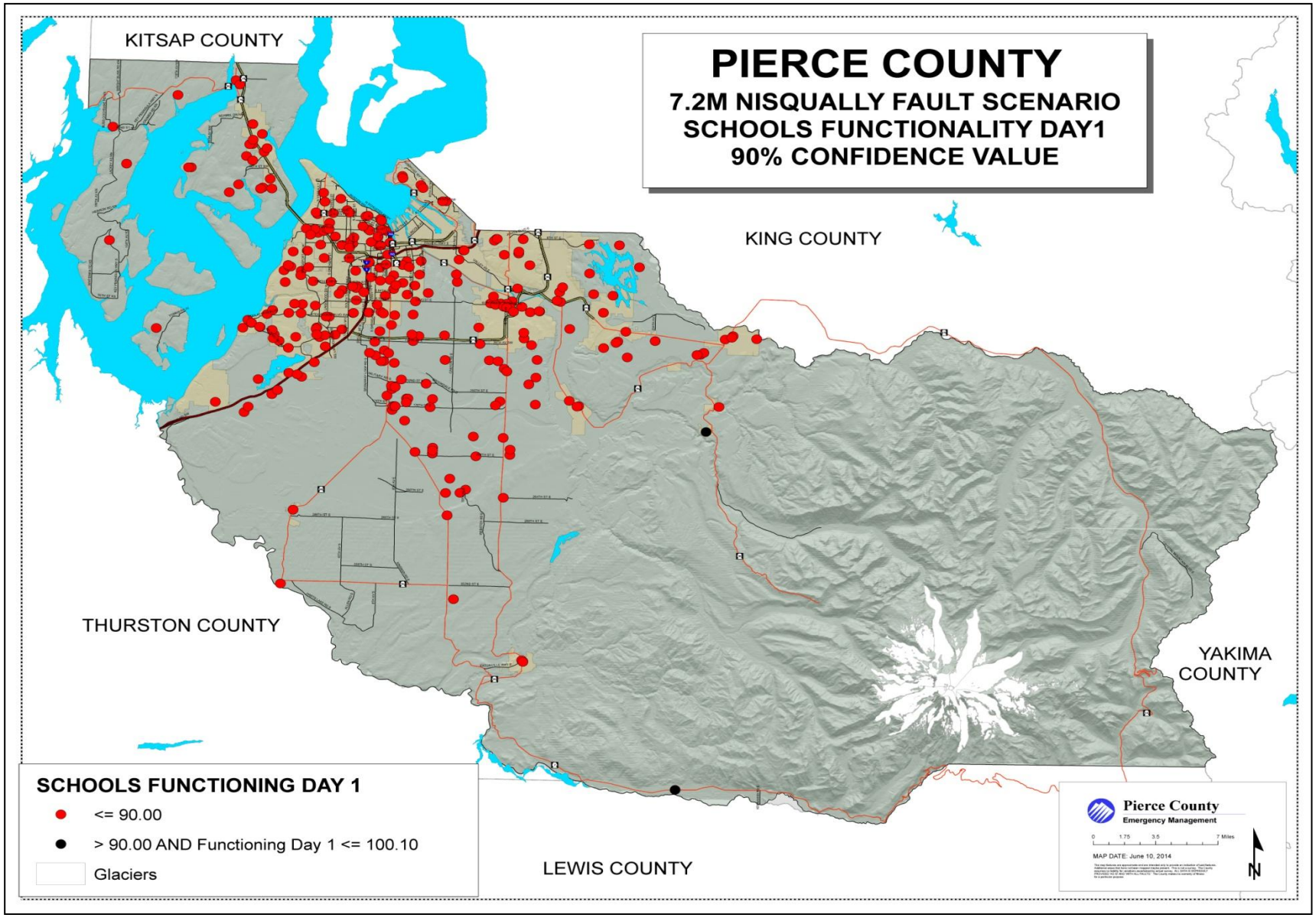
Map D-14 Pierce County Nisqually Fault Scenario Hospital Functionality Day 1 Map



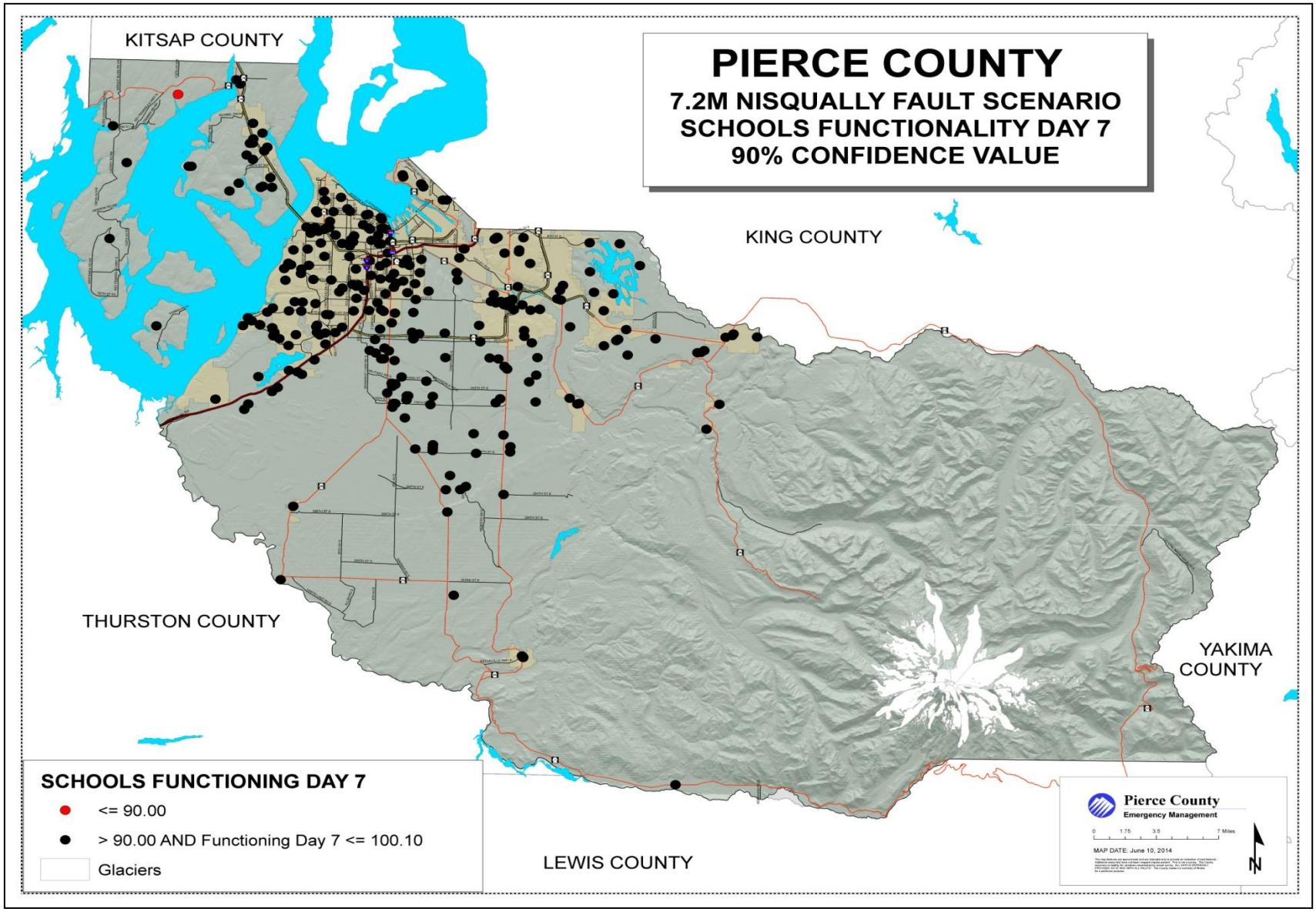
Map D-15 Pierce County Nisqually Fault Scenario Hospital Functionality Day 7 Map



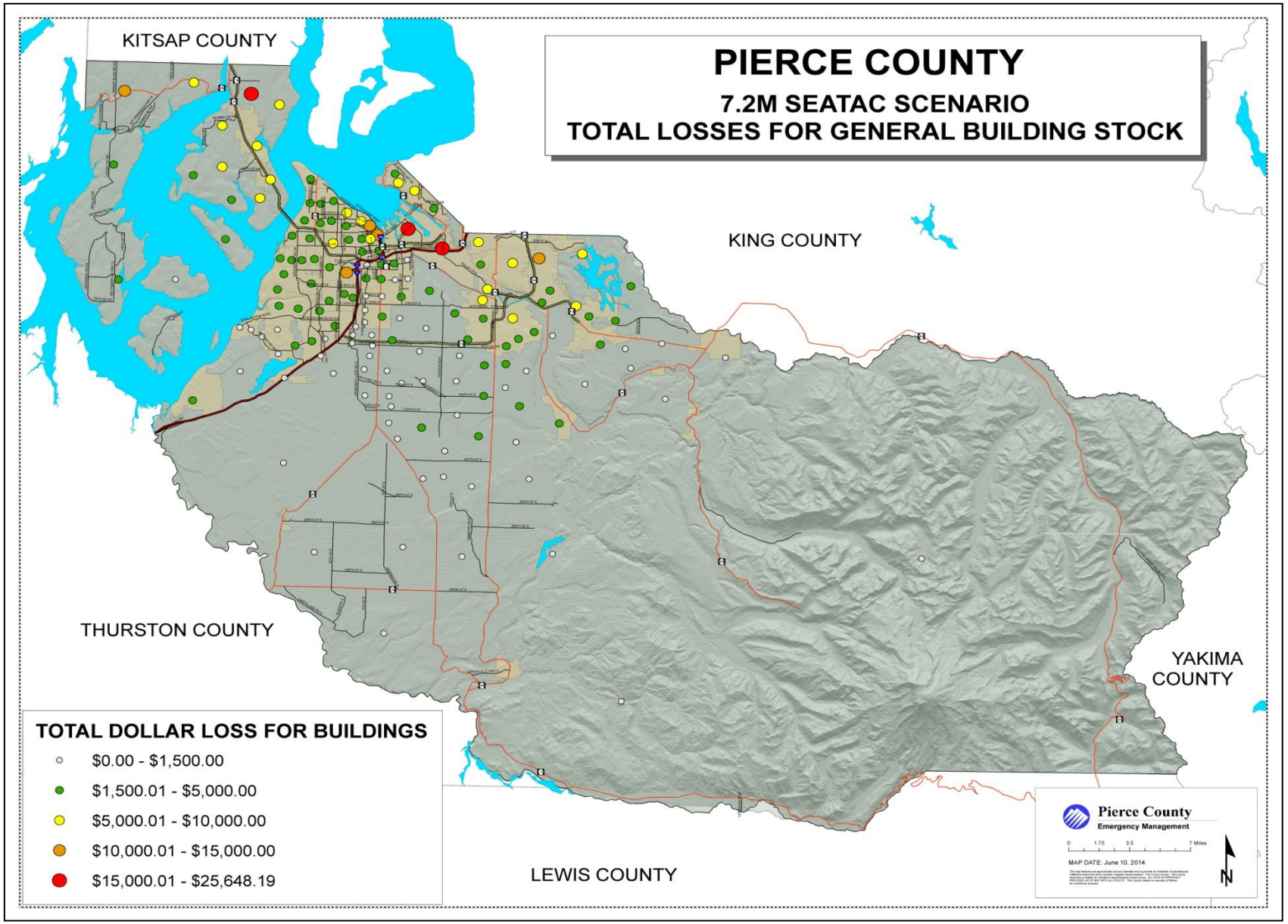
Map D-16 Pierce County Nisqually Fault Scenario Schools Functionality Day 1 Map



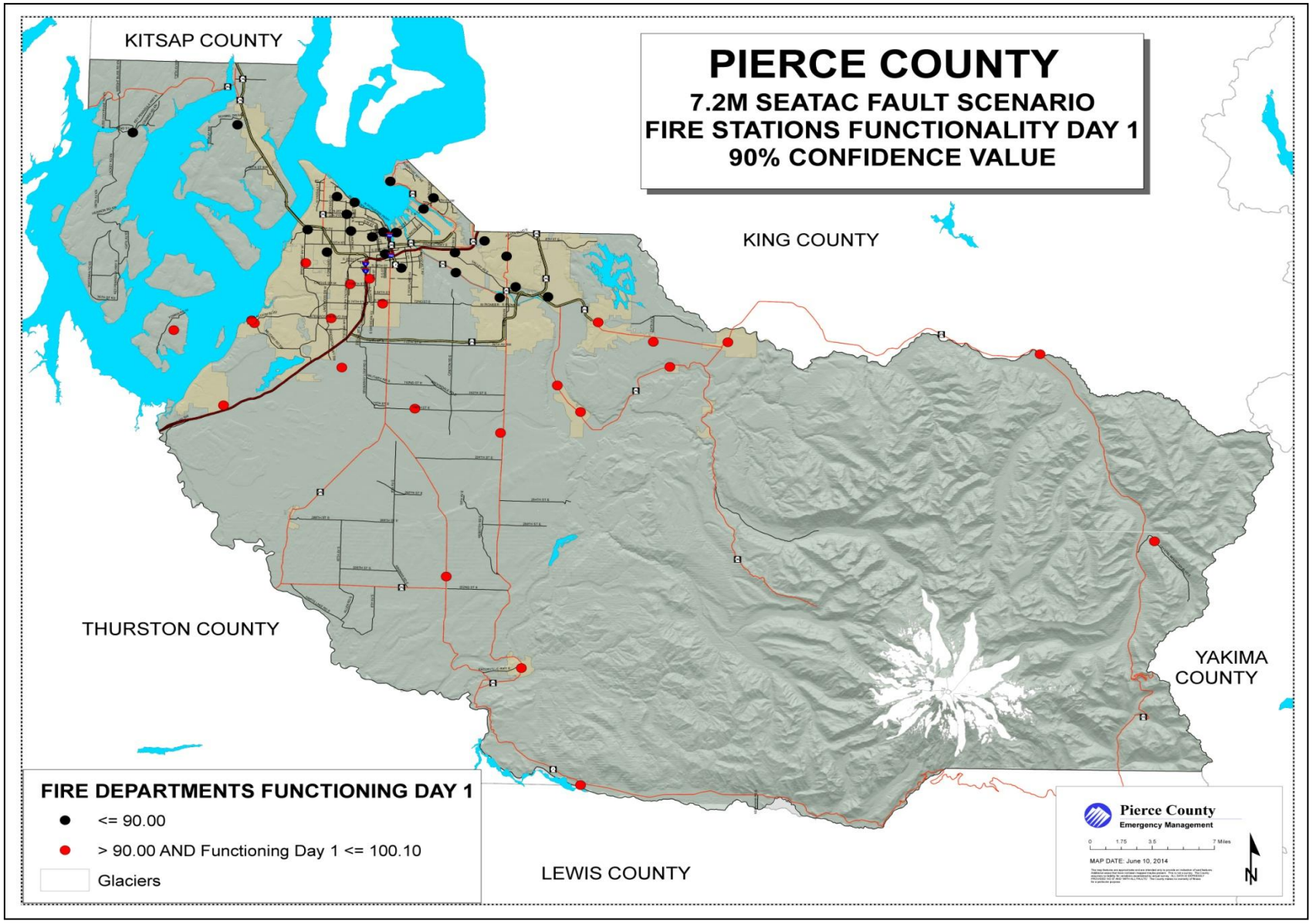
Map D-17 Pierce County Nisqually Fault Scenario Schools Functionality Day 7 Map



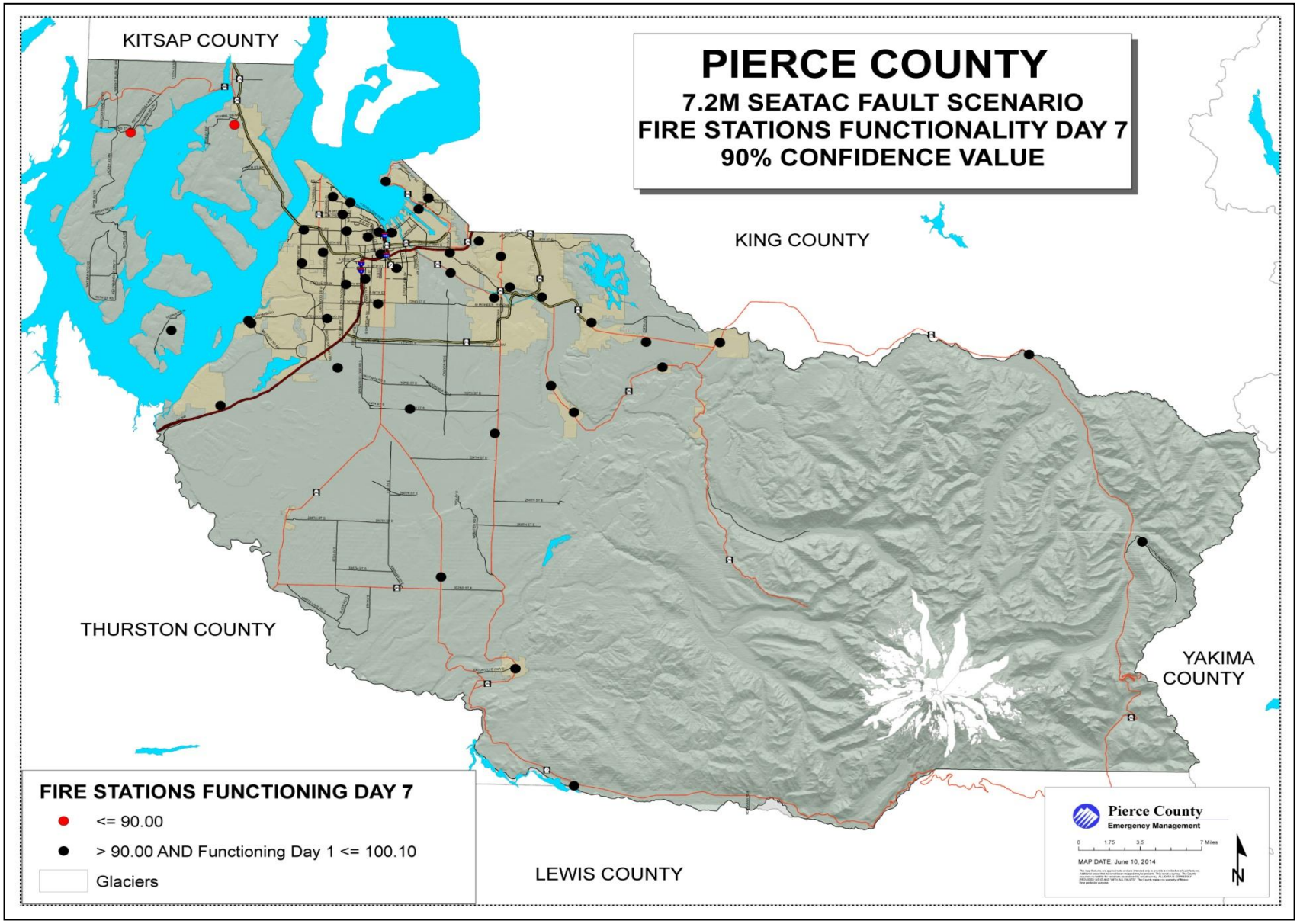
Map D-18 Pierce County SEATAC Fault Scenario Total Losses Map



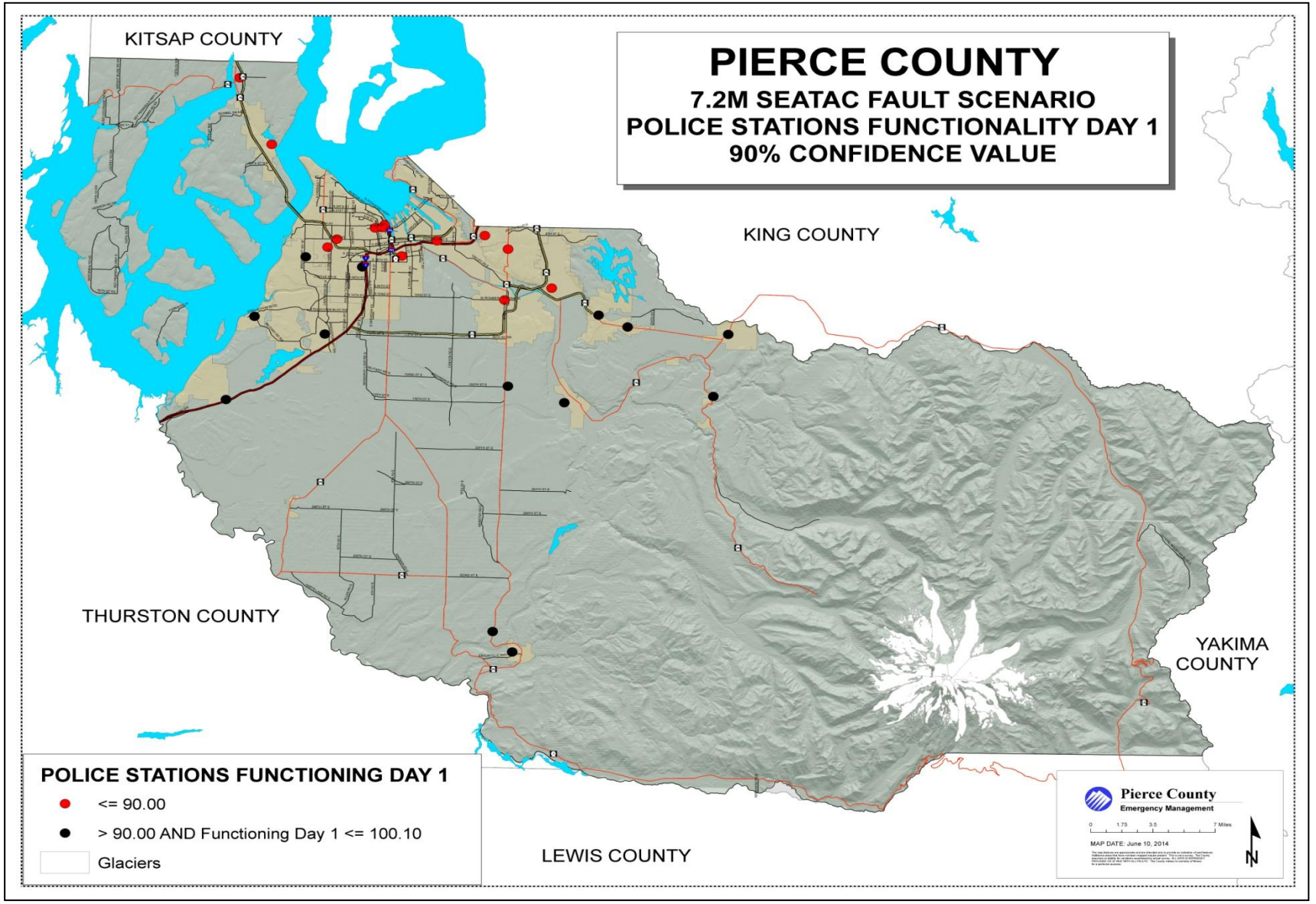
Map D-19 Pierce County SEATAC Fault Scenario Fire Stations Functionality Day 1 Map



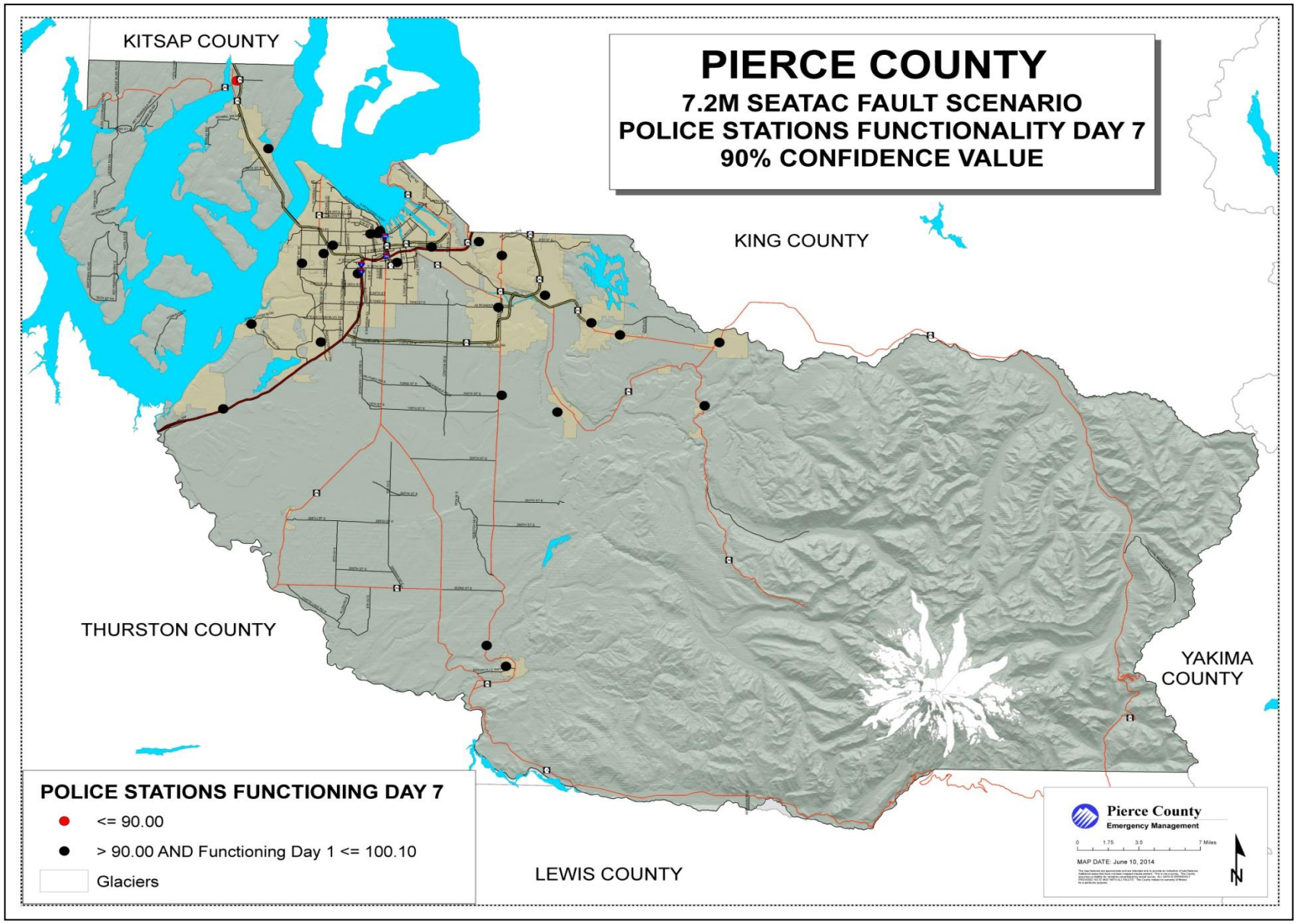
Map D-20 Pierce County SEATAC Fault Scenario Fire Stations Functionality Day 7 Map



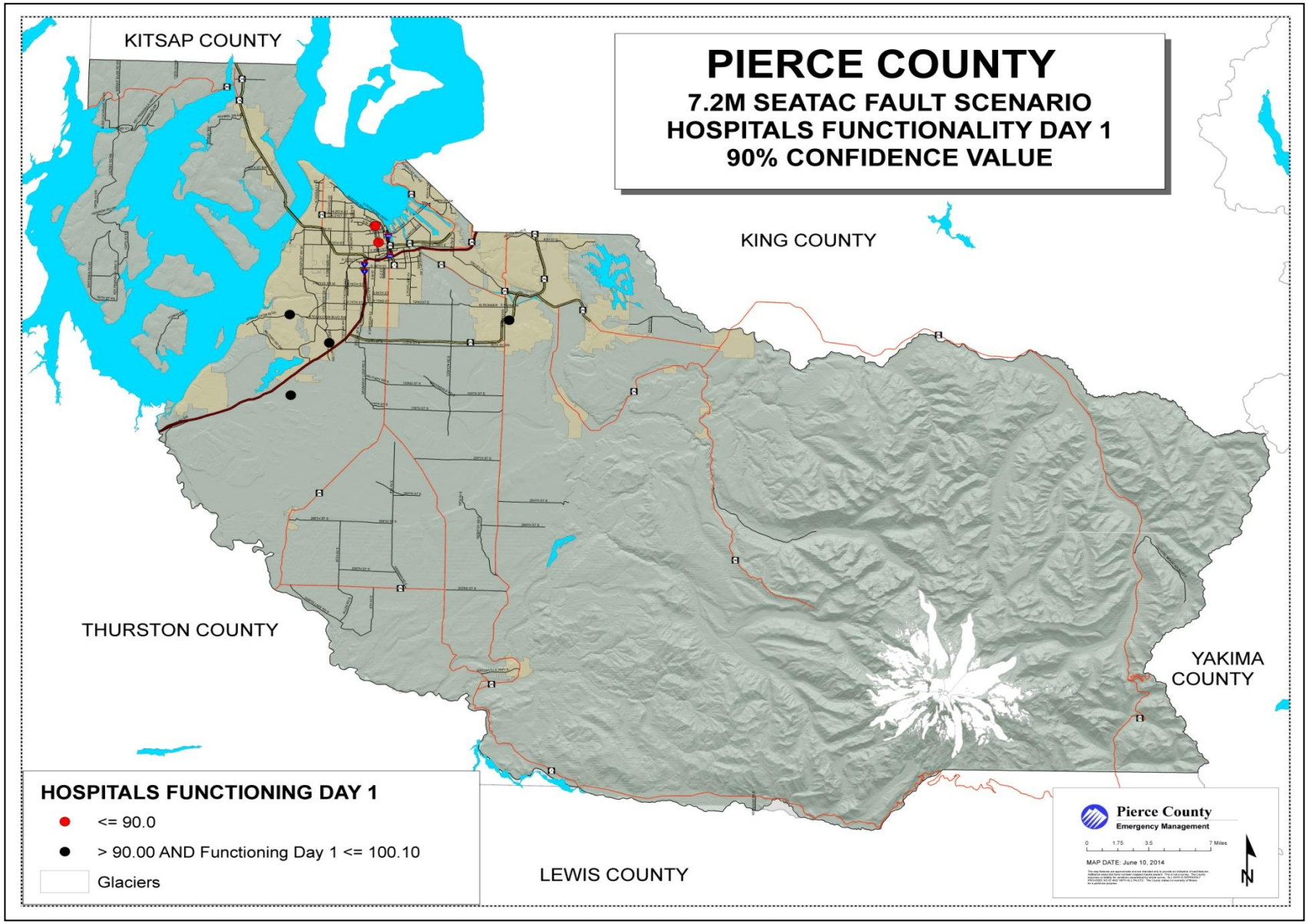
Map D-21 Pierce County SEATAC Fault Scenario Police Department Functionality Day 1 Map



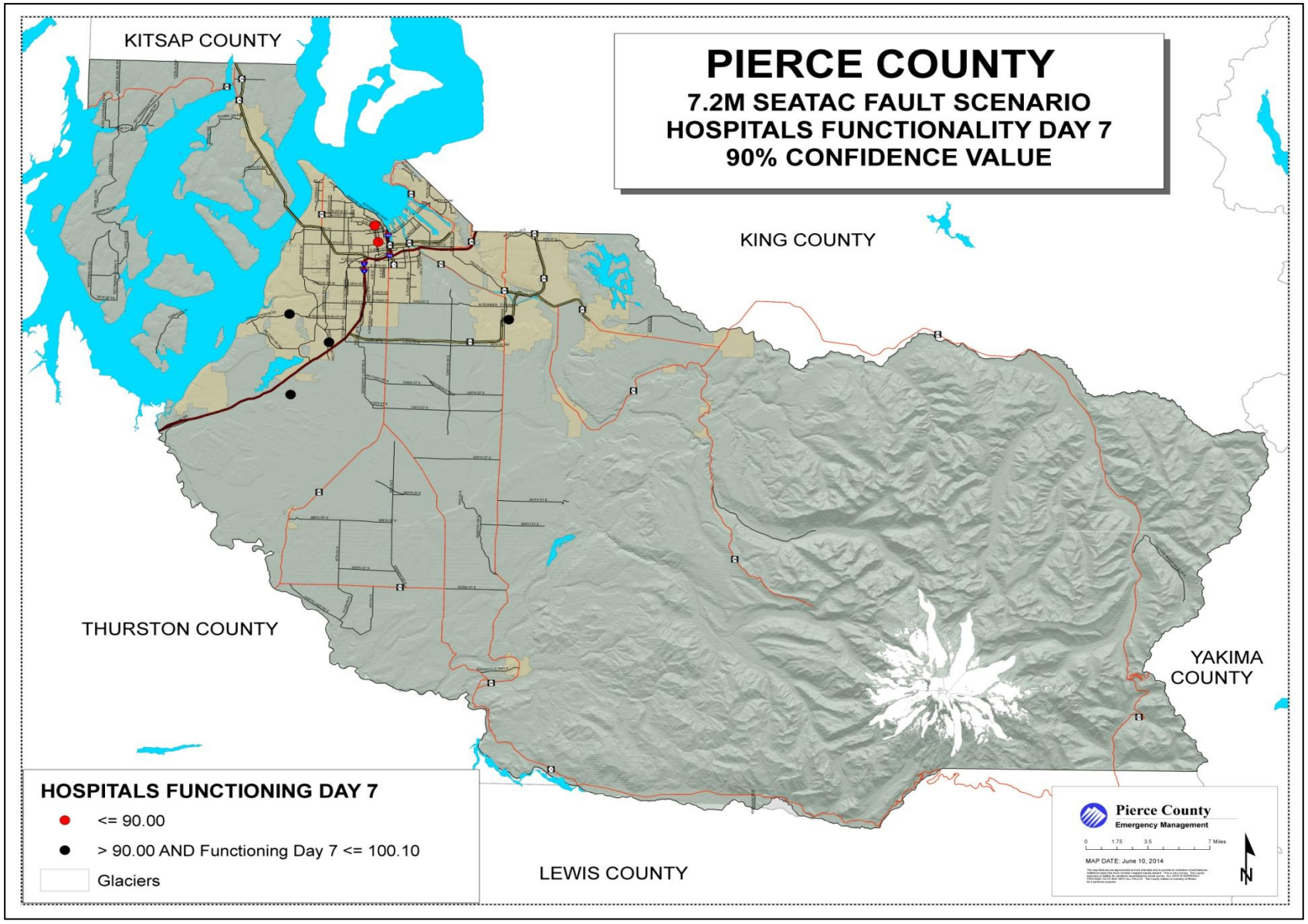
Map D-22 Pierce County SEATAC Fault Scenario Police Department Functionality Day 7 Map



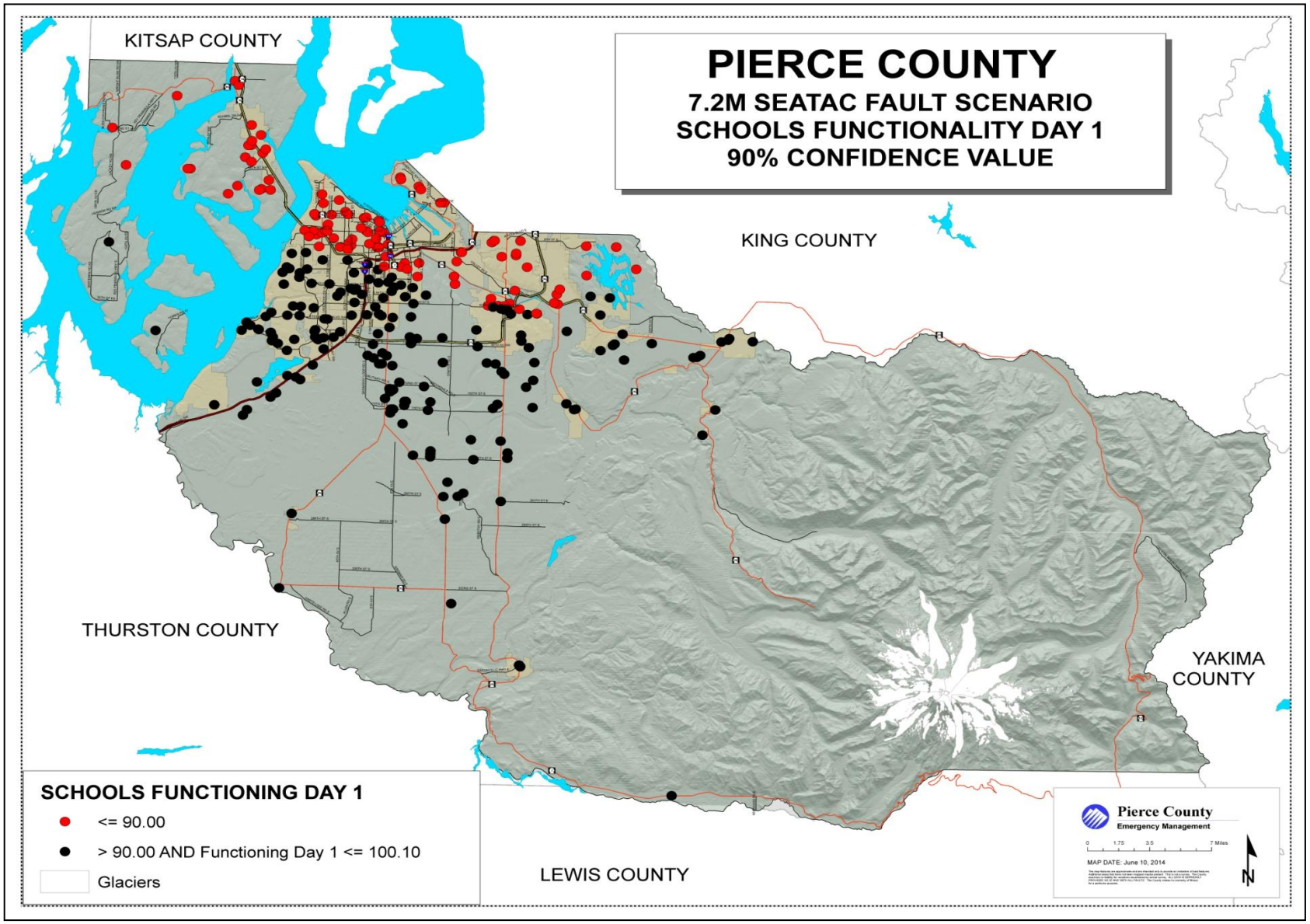
Map D-23 Pierce County SEATAC Fault Scenario Hospital Functionality Day 1 Map



Map D-24 Pierce County SEATAC Fault Scenario Hospital Functionality Day 7 Map



Map D-25 Pierce County SEATAC Fault Scenario Schools Functionality Day 1 Map



Map D-26 Pierce County SEATAC Fault Scenario Schools Functionality Day 7 Map