City of Portland

Natural Hazards Mitigation Plan

Report for:

City of Portland, Office of Emergency Management

 $\begin{array}{c} 1001 \; \mathrm{SW} \; 5^{\mathrm{th}} \; \mathrm{Avenue}, \; \mathrm{Suite} \; 650 \\ \mathrm{Portland}, \; \mathrm{OR} \; 97204 \end{array}$

Prepared by:

ECONorthwest

99 West 10th Avenue, Suite 400 Eugene, OR 97401 Phone: (541) 687-9951 Fax: (541) 344-0562

DRAFT November 2004

Special Thanks & Acknowledgements

Mayor Vera Katz, City of Portland

Project Steering Committee:

City of Portland Commissioner Dan Saltzman

Dr. Ron Tammen, Steering Committee Chair, Portland State University, Hatfield School of Government

Dr. Vicki McConnell, State Geologist, Department of Geology and Mineral Industries

Bonny McKnight, Citywide Landuse Group and Neighborhood Coalitions

Meryl Redisch, Executive Director, Audubon Society of Portland

Don Eggleston, Principal, SERA Architects

Myron Burr, Environmental Manager, Siltronic Corporation

Dan Caufield, Planning and Operations Manager, Tri-Met

Wade Lange, Sr. Property Manager, Ashforth Pacific Inc.

Gil Kelley, Director, Bureau of Planning

Ray Kerridge, Director, Bureau of Development Services

Dean Marriott, Director, Bureau of Environmental Services

Ed Wilson, Chief, Bureau of Fire and Rescue

Jeanne Nyquist, Director, Bureau of Maintenance

Mort Anoushirivani, Director, Bureau of Water Works

Brant Williams, Director, Portland Office of Transportation

Miguel Ascarrunz, Director, City of Portland Office of Emergency Management

Elise Marshall, Assistant Director, City of Portland Office of Emergency Management

Subcommittee members:

Severe Weather Subcommittee

Dave Harrington, Chair, Portland Office of Transportation and Maintenance Ken Carlson, Eric Thomas, and Phil Burkart, Bureau of Development Services

Bryan McNerney, City Forester, Parks and Urban Forestry

John McGregor, Bureau of Environmental Services Lt. Allen Oswalt, Bureau of Fire and Rescue Michael Armstrong, Office of Sustainable Development Mike Stuhr and Mary Leung, Bureau of Water Steve Todd, National Weather Service Dan Caufield, Tri-Met

Earthquake Subcommittee

Jed Sampson, Chair, Bureau of Development Services Deborah Stein, Bureau of Planning Mary Ellen Collentine, Bureau of Water Gary Ott, Bureau of Environmental Services Bruce Walker and Judy Crockett, Office of Sustainable Development Mike Speck, Bureau of Fire and Rescue Calvin Lee and Bill Long, Portland Office of Transportation Kenny Asher, Portland Development Commission Don Eggleston, SERA Architects Dan Caufield, Tri-Met Dr. Vicki McConnel, Department of Geology and Mineral Industries Gail Dreckman, Bonneville Power Administration

Flood Subcommittee

Daniela Cargill, Chair, Bureau of Environmental Services Chris Wanner, Bureau of Water Bill Freeman, Bureau of Development Services Fred Wearn, Portland Development Commission Christ Payne, Harbor Master, Portland Fire and Rescue Chris Scarzello, Bureau of Planning Fred Burckhardt, Portland Office of Transportation Dave Hendricks, Multnomah County Drainage District

Wildfire Subcommittee

Richard Haney, Chair, Portland Fire and Rescue Roberta Jortner, Bureau of Planning George Helm, Rebecca Esau, Bureau of Development Services Dennis Kessler and Chris Wanner, Bureau of Water Andi Curtis, Bureau of Environmental Services Mark Wilson and Charley Davis, Parks and Recreation Kevin Williams, Portland Office of Transportation Mitch Luckett, Audubon Society of Portland Karen Trombley, Tryon Creek State Park Louisa Evers, Bureau of Land Management

Landslide Subcommittee

Liane Welch, Chair, Portland Office of Transportation Tom Caulfield, Portland Office of Transportation Tricia Sears and Bill Freeman, Bureau of Development Services Deborah Lev, Parks and Recreation Mark Braun and Barbara George, Bureau of Environmental Services B.C. Bob Ferrington, Bureau of Fire and Rescue Sallie Edmunds, Bureau of Planning Tim Collins, Bureau of Water Mitch Luckett, Audubon Society of Portland Bonny McKnight, Neighborhood Landuse Dr. Scott Burns, Portland State University, Department of Geology

Other Key Participants

Patty Rueter, Portland Office of Emergency Management, Program Coordinator

ECONorthwest, Consultant

City of Portland Natural Hazards Mitigation Plan

Table of Contents

i
1
1-1
2-1
3-1
1-1
5-1
6-1
1
S-1
6-1 2-1
_
) -1
Q-1 /-1
Q-1 /-1
Q-1 ∕-1 ₹-1
Q-1 /-1 ₹-1

Executive Summary

The City of Portland (the City) developed this Natural Hazard Mitigation Plan in an effort to reduce future loss of life and property resulting from natural disasters. It is impossible to predict exactly when these disasters will occur, or the extent to which they will affect the City. However, with careful planning and collaboration among public agencies, private sector organizations, and citizens within the community, it is possible to minimize the losses that can result from natural disasters.

Natural hazard mitigation is defined as a method permanently reducing or alleviating the losses of life, property, and injuries resulting from natural hazards through long and short-term strategies. Example strategies include planning, policy changes, programs, projects, and other activities. Natural hazard mitigation is the responsibility of individuals, private businesses and industries, state and local governments, and the federal government.¹

Why Develop this Mitigation Plan?

This natural hazard mitigation plan is intended to assist the City of Portland in reducing its risk from natural hazards by identifying resources, information, and strategies for risk reduction. It will also help to guide and coordinate mitigation activities throughout the City. The City received funds to develop the plan from the Hazard Mitigation Grant Program (HMGP) and the Flood Mitigation Assistance Program, both Federal Emergency Management Agency (FEMA) grant programs. The City of Portland provided the additional funds for the plan's development from its General Fund.

How is the Plan Organized?

The Mitigation Plan contains background on the purpose of the plan, the methodology used to develop the plan, a profile of Portland, chapter II on four primary natural hazards that have the potential to impact the City, and several appendices. All of the sections are described in detail in Chapter I, Introduction.

The Plan also includes resources and information to assist city residents, public and private sector organizations, and others to participate in activities that mitigate against the effects of natural hazards. The mitigation plan provides recommendations for activities that will assist the City in reducing risk and preventing loss from future natural hazard events. The action items address multi-hazard issues, as well as activities for the hazards of flood, landslides, earthquake, severe weather, and wildfire. An overview of these action items is included in this Executive Summary.

Who Participated in Developing the Plan?

The City of Portland recognized the importance of establishing a collaborative planning process to develop both short-term and long-term risk reduction strategies with strong ties to the existing programs and divisions of governance. Therefore, the City develop a steering committee and five hazard specific subcommittees comprised of individuals and specialists with natural hazard mitigation understanding and responsibilities from city bureaus, state agencies, and community organizations in and around Portland. These committees included representatives from the following organizations:

- City of Portland Office of Emergency Management
- Portland State University
- Oregon Department of Geology and Mineral Industries
- Bureau of Planning
- Bureau of Development Services
- Bureau of Environmental Services
- Bureau of Fire and Rescue
- Bureau of Maintenance
- Bureau of Water Works
- Portland Office of Transportation
- Tri-Met
- Non-profit organizations (such as the Audubon Society of Portland)
- Private industries (such as Ashforth Pacific Inc. and Siltronic Corporation).

What is the Plan's Vision?

The City of Portland's vision is to strive to create a "Disaster Resilient City." The steering committee further describes this vision:

By creating a legacy of mitigation activities, City and community leaders' proactive implementation of long term, cost effective mitigation measures has protected its population, its properties, its natural and built environment and its investments. The forethought of Portland's leaders has preserved the City through decades of hazard events.

The plan fosters coordinated partnerships and the development of multi-objective strategies for reducing the risks posed by natural hazards.

What are the Plan Goals?

The plan goals describe the overall direction that the City of Portland's agencies, organizations, and citizens can take to work toward mitigating risk from natural hazards. The Portland plan goals were developed with significant input from the City's project steering committee. The overarching mission is to reduce risk, prevent loss of property and commerce, and promote expedient recovery, while safeguarding people and the environment from natural disaster events through a coordinated and collaborative community partnership. This mission is implemented through the following five goals:

Goal #1	Identify risk level and evaluate Portland's vulnerability to natural hazards
Goal #2	Implement activities to protect human life, property and natural systems.
Goal #3	Promote public awareness, engage public participation, and enhance partnerships through education, outreach and coordination of a diverse and representative group of the City's population
Goal #4	Establish a disaster resilient economy.
Goal #5	Build and support the capacity and commitment to continuously become less vulnerable to hazards.

How are the Action Items Organized?

The action items are organized within the following matrix, which lists all of the multi-hazard and hazard-specific action items included in the mitigation plan. Data collection and research and the public participation process resulted in the development of these action items. The matrix includes the following information for each action item:

- **Coordinating Organization.** The coordinating organization is the public agency with regulatory responsibility to address natural hazards, or that is willing and able to organize resources, find appropriate funding, or oversee activity implementation, monitoring, and evaluation. The coordinating organizations for all action items listed in this plan are bureaus or departments within the City of Portland.
- **Internal Partners:** Internal partner organizations are departments within the City that may be able to assist in the implementation of action items by providing relevant resources to the coordinating organization.
- **External Partners:** External partner organizations can assist the City in implementing the action items in various functions

and may include local, regional, state, or federal agencies, as well as local and regional public and private sector organizations.

The internal and external partner organizations listed in the mitigation plan are potential partners recommended by the project steering committee, but who were not necessarily contacted during the development of the plan. Partner organizations should be contacted by the coordinating organization to establish commitment of time and or resources to action items.

- **Timeline**. Action items include both short and long-term activities. Each action item includes an estimate of the timeline for implementation. Short-term action items (ST) are activities which city agencies are capable of implementing with existing resources and authorities within one to two years. Long-term action items (LT) may require new or additional resources or authorities, and may take between one and five years to implement.
- **Ideas for Implementation**. Each action item includes ideas for implementation and potential resources, which may include grant programs or human resources. The matrix includes the page number within the mitigation plan where this information can be found.
- **Plan Goals Addressed.** The plan goals addressed by each action item are identified as a means for monitoring and evaluating how well the mitigation plan is achieving its goals following implementation.

How Will the Plan be Implemented?

The plan maintenance section of this document details the formal process that will ensure that the City of Portland's Natural Hazards Mitigation Plan remains an active and relevant document. The plan maintenance process includes a schedule for monitoring and evaluating the Plan annually and producing a plan revision every five years. This section describes how the City will integrate public participation throughout the plan maintenance process. Finally, this section includes an explanation of how the City of Portland intends to incorporate the mitigation strategies outlined in this Plan into existing planning mechanisms such as the Comprehensive Plan, Capital Improvement Plans, and Building Codes outlined in the Development Code and Engineering Design Manual.

Plan Adoption

The Portland City Council will be responsible for adopting the City of Portland Natural Hazards Mitigation Plan and providing the support necessary to ensure plan implementation. After the plan is adopted via resolution by the City Council, the Director of POEM will be responsible for submitting it to the State Hazard Mitigation Officer at Oregon Emergency Management. Oregon Emergency Management will then submit the plan to the Federal Emergency Management Agency (FEMA-Region X) for review. This review will address the federal criteria outlined in FEMA Interim Final Rule 44 CFR Part 201. Upon acceptance by FEMA, the City of Portland will gain eligibility for the Pre-Disaster Mitigation Grant Program, the Hazard Mitigation Grant Program funds, and Flood Mitigation Assistance program funds.

The effectiveness of the City of Portland's non-regulatory Natural Hazard Mitigation Plan will be contingent on the implementation of the plan and incorporation of the outlined action items into existing City plans, policies, and programs. The Natural Hazard Mitigation Plan includes a range of action items that, if implemented, would reduce loss from hazard events in the City of Portland. Together, the action items in Portland's Natural Hazard Mitigation Plan provide the framework for activities that city bureaus can choose to implement over the next five years. The Hazard Mitigation Steering Committee has prioritized the plan's goals and identified actions, which will be implemented, as resources permit, through existing plans, policies, and programs.

Coordinating Body

The Disaster Policy Council (DPC) will be the coordinating body for the mitigation plan. The DPC has been established by ordinance (178616, effective July 21, 2004); it includes representatives from applicable city bureaus, including, but not limited to, the current Hazard Mitigation Steering Committee members. One of the DPCs roles will be to review the mitigation plan annually and to oversee the update process. The DPC consists of The Mayor, a City Commissioner, the City Attorney, the Chief of Portland Police Bureau, the Chief of Bureau of Fire & Rescue, the Director of Portland Office of Emergency Management, and the Directors of many other Portland bureaus.

Convener

The City's Office of Emergency Management (POEM) and the Bureau of Planning will be jointly responsible for overseeing the plan's implementation and maintenance through the City's existing programs. The Emergency Management Director will work with the Disaster Policy Council Chair to facilitate Natural Hazard Mitigation Plan implementation and maintenance meetings. Plan implementation and evaluation will be a shared responsibility among all of the assigned Disaster Policy Council members. Upon advisement of the Disaster Policy Council and the Directors of the Bureau of Planning and POEM, the Portland Office of Emergency Management will be the main instigator of review, coordination, and promotion.

Implementation through Existing Programs

The City of Portland addresses statewide planning goals and legislative requirements through its comprehensive land use plan, capital improvement plans, and City building codes. The natural hazard mitigation plan provides a series of recommendations – many of which are closely related to the goals and objectives of existing planning programs. To the extent possible the City of Portland will incorporate the recommended mitigation action items into existing programs and procedures.

Economic Analysis of Mitigation Projects

The Federal Emergency Management Agency's (FEMA) methods of identifying the costs and benefits associated with natural hazard mitigation strategies, measures, or projects fall into two general categories: benefit/cost analysis and cost-effectiveness analysis. Conducting benefit/cost analysis for a mitigation activity can assist communities in determining whether a project is worth undertaking now, in order to avoid disaster-related damages later. Costeffectiveness analysis evaluates how best to spend a given amount of money to achieve a specific goal. Determining the economic feasibility of mitigating natural hazards provides decision-makers with an understanding of the potential benefits and costs of an activity, as well as a basis upon which to compare alternative projects.

Formal Review Process

The City of Portland has developed a method to ensure that a regular review and update of the Hazard Mitigation Plan occurs. All Committee members will be responsible for monitoring and evaluating the progress of the mitigation strategies in the Plan and POEM is responsible for contacting the Committee members and organizing the annual plan review meeting.

Continued Public Involvement

The City of Portland is dedicated to involving the public directly in the continual reshaping and updating of the Hazard Mitigation Plan. The Disaster Policy Council members are responsible for the annual review and update of the plan. Although the DPC represents the public to some extent, the public will continue to have the opportunity to provide feedback about the Plan.

Public participation will continue to be invited through a series of presentations to community organizations, such as neighborhood associations, the Business Continuity Planners, and watershed councils. Copies of the plan are also posted on the Portland Office of Emergency Management website, and will be available there during update cycles. This website also contains an email address and phone number to which people can direct their comments and concerns. The web address is www.portlandonline.com/oem.

Executive Summary Endnotes

¹ Massachusetts Department of Environmental Management. 1999. "Hazard Mitigation: Managing Risks, Lowering Costs. http://www.state.ma.us/dem/programs/mitigate/whatis.htm Accessed 8/2/02