

# **City of Beaverton**

## **Natural Hazards Mitigation Plan**

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**Original Plan Prepared by:**  
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Natural Hazards Mitigation Plan  
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# Executive Summary

(Revised 03/2011)

The City of Beaverton (the City) developed this Natural Hazard Mitigation Action 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

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.<sup>1</sup>

## Mitigation Plan

(Revised 03/2011) This Natural Hazard Mitigation Plan (NHMP) is intended to assist the City of Beaverton 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 one third of the funds to develop the original plan, with the assistance of a consultant, from the Flood Mitigation Assistance (FMA) Program, a Federal Emergency Management Agency (FEMA) grant program. The City of Beaverton provided the additional funds for the plan's development from its General Fund. The maintenance and update to the plan was conducted by City Staff and volunteers from the community serving on the NHMP Steering Committee. All costs associated with the maintenance, update and distribution of the plan were paid for out of the City's General Fund.

## Who Participated in Developing the Initial Plan?

The initial City of Beaverton Natural Hazards Mitigation Plan was the result of a collaborative effort between Beaverton citizens, public

agencies, non-profit organizations, the private sector, and state and regional organizations. Public participation played a key role in the development of goals and action items. The research team conducted interviews with stakeholders throughout the City, held multiple focus groups, and researched and reviewed information on each of the six hazards most common to Beaverton. A project steering committee consisting of City staff and stakeholders guided the process of developing the plan.

## **Plan Revision** (New 03/2011)

Federal requirements for the maintenance of natural hazard mitigation plans, and for remaining eligible for mitigation grants, includes the need to review and update the plan at least every five years. This is to help ensure that the plan remains an active and relevant document. The City's Emergency Management Program, assisted by the Natural Hazards Mitigation Plan (NHMP) Steering Committee, is responsible for the review and update of the plan.

During the initial phase of the review process conducted during a NHMP Steering Committee meeting, it was determined that overall the original plan and the information that it was based on was still valid and did not require substantial change.

Updated portions of the plan will be identified as "New" or "Revised" followed by 03/2011. See the header of this section for an example. The exception will be the changes in department titles, which will not be annotated.

## **NHMP Steering Committee**

(Revised 03/2011) The Natural Hazard Mitigation Plan Steering Committee serves as the coordinating body for the plan and is responsible both for coordinating the implementation of plan action items and for undertaking the formal review process. The Mayor's Office will ensure that appropriate representatives are assigned from the applicable city departments and programs, including, but not limited to, the current Hazard Mitigation Steering Committee members. The current members of the steering committee include representatives from:

- City of Beaverton Emergency Management Program
- City of Beaverton Community Development Department
- City of Beaverton Public Works
- City of Beaverton Finance/ISD/GIS Service
- City of Beaverton Economic and Capital Development Department



- Portland General Electric (PGE)
- Beaverton Community Emergency Response Team (CERT)
- Beaverton Committee for Citizen Involvement (BCCI)

The Hazard Mitigation Steering Committee meets no less than bi-annually. These meetings provide an opportunity to discuss the progress of the action items in the plan, and maintain the partnerships that are essential for the sustainability of the Mitigation Plan.

## 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 Beaverton, chapters on six natural hazards that have the potential to impact the City, and several appendices. All of the sections are described in detail in Chapter 1, Introduction.

The Plan also includes resources and information to assist city residents, public and private sector organizations, and others to participate in activities which 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, severe weather, landslides, wildfire, earthquake, and volcano-related events. This section contains a five-year plan matrix that incorporates the identified action items.

## What are the Plan Goals?

(Revised 03/2011) The plan goals describe the overall direction that City of Beaverton agencies, organizations, and citizens can take to work toward mitigating risk from natural hazards. The Beaverton plan goals were adapted from goals originally developed for the Washington County Natural Hazard Mitigation Plan and incorporated the input of the City's project steering committee. This helped ensure an element of continuity between the two plans. The overarching plan vision is to create a disaster resistant and resilient community<sup>2</sup> through four Goals— each with its own list of objectives. The Goals and Objectives were validated during the plan review cycle and are as follows:

### **Goal 1: Develop and implement activities to protect human life, commerce, property, and natural systems from natural hazards**

1. Reduce insurance losses and repetitive claims for chronic hazard events while promoting insurance coverage for catastrophic hazards;

2. Evaluate applicable city guidelines, codes, and permitting processes regarding how the City address natural hazard mitigation;
3. Link watershed planning, natural resource management, and land use planning with natural hazard mitigation activities to protect vital habitat and water quality;
4. Preserve and rehabilitate natural systems to serve natural hazard mitigation functions; and
5. Continuously develop and update natural hazard related datasets.

## **Goal 2: Improve Partnerships for Communication and Coordination**

1. Develop and implement natural hazard education and outreach programs to increase awareness among citizens; local, city, and regional agencies; non-profit organizations; and businesses; and
2. Strengthen communication, coordination, and collaboration among public agencies, citizens, non-profit organizations, and businesses working in natural hazard risk reduction.

## **Goal 3: Enhance Emergency Services**

1. Strengthen emergency operations by increasing communication, collaboration and coordination among public agencies, non-profit organization, and businesses; and
2. Coordinate natural hazard mitigation activities, where appropriate, with emergency operations plans and procedures.

## **Goal 4: Ensure Implementation of Mitigation Activities**

1. Develop partnerships and promote leadership among within local and regional public agencies, citizens, non-profit organizations, and businesses to implement natural hazard mitigation activities;
2. Ensure consistency between city, county, regional, and state mitigation activities; and
3. Consistently, seek diverse funding and resource partnerships for future mitigation efforts.

## **Action Items**

The mitigation plan identifies short and long-term action items developed through data collection and research, along with the public participation process. Mitigation plan activities may be considered for funding through state and federal grant programs, including the Federal Emergency Management Agency's Hazard Mitigation Grant Program and Pre-Disaster Mitigation Competitive Grant Program, as

funds are made available. Action items address both multi-hazard (MH) and hazard specific issues for the hazards addressed in this plan. To facilitate implementation, each action item includes information on timeline, coordinating and partner organizations, ideas for implementation, and plan goals addressed.

**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 organization for all action items within the Beaverton plan will be the City of Beaverton.

**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 not necessarily contacted during the development of the plan. The coordinating organization should contact the identified partner organizations to see if they are capable of and interested in participation. This initial contact is also to gain a commitment of time and or resources towards completion of the action items.

(Revised 03/2011) **Timeline.** In the initial NHMP, action items were identified as being short-term or long-term and included an estimate of the timeline for implementation. *Short-term action items (ST)* were activities that city departments may implement with existing resources and authorities within one to two years. *Long-term action items (LT)* may require new or additional resources and/or authorities, and may take between one and five years to implement.

During the initial plan cycle, the Natural Hazards Mitigation Plan Steering Committee reclassified the Action items into four categories:

- On-going – Action Items are being worked on; but are not to the point where they are fully incorporated into City operations, plans, or regulations.
- Current Plan Cycle – Action Items that could be accomplished during the 5 years before the next scheduled plan revision.
- Future Plan Cycle – Action Items that are not likely to be started or accomplished in the 5 year before the next scheduled plan revision

- Completed – Action Items that have been completed

(Revised 03/2011) **Possible Actions** (previously called Ideas for Implementation). Each action item includes ideas for implementation and potential resources. This information offers a transition from theory to practice. These possible actions serve as a starting point for this plan. This component of the action items is dynamic as some ideas may be not feasible and new ideas can be added during the plan maintenance process. (For more information on how this plan will be implemented and evaluated, see Chapter 5). These possible actions are only suggestions for ways to implement the plan goal. Some of these items may prove to be unrealistic and others more refined ideas may be identified and added to the plan. Possible actions include things such as collaboration with relevant organizations, grant programs, tax incentives, human resources, education and outreach, research, and physical manipulation of buildings and infrastructure. A list of potential resources outlines what organization or agency will be most qualified and capable to perform the implementation strategy. Potential resources often include utility companies, non-profits, schools, and other community organizations.

**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.

## Implementing the Plan

(Revised 03/2011) The effectiveness of the non-regulatory City of Beaverton Natural Hazard Mitigation Plan will be contingent on the implementation of the plan and incorporation of the outlined action items into existing plans. After the revised plan is formally adopted, the identified activities and their prioritization will be validated by the Natural Hazard Mitigation Plan Steering Committee, and finally, the activities will be implemented, as resources permit, through existing plans, programs, and policies.

(Revised 03/2011) Once the revised plan has been adopted by the City Council, the City Emergency Manager 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) 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 Beaverton will retain its eligibility for Hazard Mitigation Grant Program funds.

The accomplishment of the Natural Hazards Mitigation Plan goals and objectives depends on the maintenance of competent Steering Committee and adequate support from the city departments reflected in the plan in incorporating the outlined action items into existing city

plans and procedures. It is hereby directed that the appropriate city departments and programs as outlined in the plan accomplish review and maintenance of this plan and implementation of the recommended activities. Thorough familiarity with this Plan will result in the efficient and effective implementation of appropriate mitigation activities and a reduction in the risk and the potential for loss from future natural hazard events.

## **Convener**

(Revised 03/2011) Although the City Council has ultimate ownership of the City of Beaverton Natural Hazard Mitigation Plan, the City's Emergency Manager will take responsibility for plan implementation.

## **Implementation through Existing Programs**

The City of Beaverton 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 Beaverton 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. Cost-effectiveness 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.

# **Evaluating and Updating the Plan**

## **Formal Review Process** (Revised 03/2011)

The City of Beaverton has implemented a process to ensure that a regular review and update of the Hazard Mitigation Plan occurs. This process is based on a cycle that culminates with a revised plan being approved by Council and distributed at least every 5 years. All Committee members will be responsible for monitoring and evaluating the progress of the mitigation strategies in the Plan and the Emergency Manager is responsible for contacting the Committee members and

organizing a plan review meeting at least annually. Participation in Steering Committee meeting may be expanded

The committee will review each goal and objective to determine their relevance to changing situations in the City, as well as changes in State or Federal policy, and to ensure they are addressing current and expected conditions. The committee will also review the risk assessment portion of the Plan to determine if this information should be updated or modified. The designated parties responsible for the various implementation actions will report on the status of their projects and will include which implementation process worked well, any difficulties encountered, how coordination efforts were proceeding, and which strategies should be revised.

Each chapter will also be reviewed for changes in data, policy requirements, activities underway, and possible resources. These reviews occur during the Steering Committee meetings and by email, with internal and external partners/stakeholders.

Copies of the plan have been provided to partner organizations and are available electronically on-line for other partners, stakeholders, businesses, and academia to review and provide comment on.

The Emergency Management Program is responsible for incorporating the changes and updates to the plan before submitting the final document to the Hazard Steering Committee members, and presenting it to the City Council for approval. The updated Plan will then be submitted to the State Hazard Mitigation Officer for review. If no changes are necessary, the State Hazard Mitigation Officer will be given a justification for this determination.

### **Continued Public Involvement** (New 03/2011)

Public participation was also maintained in the review and revision process for this update of the plan. When the process to revise and update the plan was started, information on the update and solicitation for comment were posted on the Home Page of the City's website and published in the "Your City" newsletter. Information on how to submit comments and proposed changes were included in the information. Links to the on-line survey were also provided in the "Your City" article and on the City's Home Page. See Chapter 4 for additional information on public involvement.

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## Executive Summary Endnotes

<sup>1</sup> 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

<sup>2</sup> Communities are resistant when the impacts of disasters are lessened and resilient when they are able to "bounce" back from a disaster. Because disasters can impact the social, economic, and environmental fabric of a community, it is important to be resistant and resilient to disasters. Social consequences of disasters include the loss of security, increased stress and anxiety, diminished distrust in government, and the disruption of familiar environments and daily routines. Economic objectives include retaining existing businesses, promoting continued or new economic development, and ensuring that businesses are built safer, smarter and stronger. An added key environmental component of disaster resistance and resilience is preserving the integrity of biological and physical systems which includes limiting degradation of the environment and preserving natural systems – such as wetlands, floodplains, dunes, and active fault/landslide zones. Definition provided by FEMA's Planning for a Sustainable Future. The Link Between Hazard Mitigation and Livability.

