2003 FLOODPLAIN MANAGEMENT & NATURAL HAZARD MITIGATION PLAN

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INTRODUCTION

The objective of the combined floodplain management plan and hazard mitigation plan is to produce an on-going program of activities that will best tackle the community's vulnerability to each natural hazard and meet other community needs. All possible activities have been reviewed and implemented so that the most appropriate solutions are used to address each hazard. The activities are coordinated with each other and with other community goals, objectives, and activities, preventing conflicts and reducing the costs of implementing individual activities. Residents are involved in continuing public education about the hazards, loss reduction measures, and the natural and beneficial functions of floodplains. Public and political support is strong for projects that prevent new problems, reduce losses and protect the natural and beneficial functions of floodplains. The community and associated special districts and other jurisdictions in the area want to see the plan's recommendations implemented.

The City of Burlington is actively involved in Flood Hazard Reduction Planning. Dike District #12 and the Skagit County Department of Emergency Management work closely with the City of Burlington and the Burlington Fire Department to plan and prepare for an integrated emergency management response to flooding. The City of Burlington has a detailed plan that integrates the detailed guidelines now followed by Dike District #12 and the City of Burlington and makes additional specific recommendations for the community as needed.

2002 brought the implementation of a Flood Evacuation Plan, with permanently signed Evacuation Routes throughout the City.

This plan is being integrated into a countywide plan and updated to address all natural hazards in coordination with all of the jurisdictions of Skagit County. Hazards that are identified for Burlington include Flood, Earthquake, Land Movement (on Burlington Hill), Severe Storms (wind in particular), Volcanic Eruption, Fire and Drought. The other natural hazards are Avalanche and Tsunami/Seiche.

The City of Burlington is located primarily in the 100-year floodplain, defined as a Special Flood Hazard Area by the Federal Emergency Management Agency. On December 15, 1993, the City of Burlington applied for participation in the Community Rating System. This program is designed to encourage a proactive program to address the issues of flood hazard reduction. There is a substantial benefit to the community for successful participation in the program. Not only are public awareness and preparedness enhanced, but each property owner benefits from a reduction in Federal Flood Hazard Insurance rates. Many other property owners have received substantial additional rate reductions by having an Elevation Certificate issued by a licensed civil engineer. All the elevation benchmarks in Burlington have been surveyed and are available for use.

An exhaustive planning process has been used as part of the Multi-Jurisdictional effort, including the following steps:

1. The planning process was organized under the direction of a professional planner and conducted through a committee composed of staff from those community departments that implement the majority of the plan recommendations. The City has a planning committee in addition to the Multi-jurisdictional All Natural Hazards Planning Committee to focus on the unique elements in Burlington. The planning process and the committee were formally created by adoption of a Resolution by the City of Burlington. The City of Burlington has five representatives on the countywide Planning Committee, including the Planning Director, the Fire Chief, the Police Chief, the Building Official and the City Administrator. The City's planning committee includes the countywide representatives plus the Public Works Director/ Engineer. The Planning Committee meets monthly. The City is also represented on the Steering Committee by the Planning Director

2. Involving the public included several steps.

A public meeting was held at the beginning of the process to obtain public input on the natural hazards, problems, and possible solutions. Public notice included running a paid advertisement in every newspaper in Skagit County, and issuing a press release to every media outlet. In addition, every Burlington citizen receiving the monthly Land Use Bulletin was invited to the five meeting series. This meeting was combined with the first in a series of five meetings. Each subsequent meeting specifically provided for general public input on the issues to insure broad discussion and opportunity for participation beyond the committees. Residents in the Burlington Floodplain also received a questionnaire.

A series of five public meetings were held with the Planning Committee, other Stakeholders, and Citizen representatives comprising at least one-half of the committee primarily from floodprone areas. The following topics were the major agenda item at each meeting:

Meeting #1: Assess the hazard.
Meeting #2: Assess the problem.
Meeting #3: Set goals.
Meeting #4: Review possible activities
Meeting #5: Draft an action plan.

A public meeting and public hearing was held to obtain input on the draft plan prior to adoption at the end of the planning process.

3. The floodplain management and all natural hazard mitigation plan is required to be developed using a standard planning process, outlined as follows:

   A. Review of existing studies, reports, and technical information and of the community's needs, goals and plans for the area.

   B. Risk Assessment
      1) Map of known flood hazard
      2) Description of known flood hazards
      3) Discussion of past floods
      4) Map, description and history of other natural hazards that affect the community

C. Assessment of the problem
   1) Overall summary of each hazard identified and its impact on the community
   2) Description of the impact that the hazards identified have on life, safety, and health and the need and procedures for warning and evacuating residents and visitors.
   3) Number and types of buildings subject to the hazards identified
   4) Review of properties with flood insurance claims, and repetitive loss, or an estimate of potential dollar losses to vulnerable structures
   5) Description of areas that provide natural and beneficial functions, such as wetlands, habitat, riparian areas.
   6) Description of development, redevelopment and population trends and what the future brings for the area
   7) Summary of the impact of each hazard on the community's economy and tax base
   8) Critical Facilities

D. Mitigation Strategy
   1) Statement of the goals of the community's floodplain management or hazard mitigation program.
   2) Review of possible activities:
   3) Preventive activities, such as zoning, stormwater management regulations, building codes and preservation of open space and the effectiveness of the programs
   4) Property protection activities, such as acquisition, retrofitting, and insurance
   5) Protection of natural and beneficial functions of floodplains, such as wetlands protection
   6) Emergency services activities, such as warning and sandbagging;
   7) Structural projects, such as dike setbacks
   8) Public information activities, such as outreach projects and environmental education programs
   9) Draft action plan; must have action items from at least two of six categories above

E. Plan Maintenance
   1) The plan and later amendments will be officially adopted by the City Council.
   2) Implement, evaluate and revise.
      a. The community has procedures for monitoring implementation, reviewing progress, and recommending revisions to the plan in an annual evaluation report, submitted to the City Council, released to the media and made available to the public.
      b. The evaluation report should be prepared by the same planning committee that prepared the plan.
      c. The plan is updated every five years.

PLANNING PROCESS

Introduction

Uniquely located nearly 100 percent in the 100-year floodplain, residents of the City of Burlington are very aware of the possibility of flooding.

In 1991, the City of Burlington made a commitment to on-going Neighborhood Planning Meetings, held in the spring and fall with each neighborhood.

Issues relating to flood hazard reduction planning were identified early in the process and have been incorporated into the City of Burlington's adopted Comprehensive Plan, through an extended public involvement process. With the adoption of the all natural hazards mitigation plan, the focus is expanded to look at other hazards including earthquake, volcano, severe storms, fire, drought, tsunami/seiche, and land movement.

This plan was first adopted in 1995 and a major update of the plan was adopted in 1999. The purpose of the plan is to take the goals and objectives specified in the Comprehensive Plan and refine them into an action plan that will be implemented over time. There has been substantial progress in implementing the 1999 action plan, and it is now timely to add new projects and to update the status of ongoing projects and programs. Another element of this update of the plan is to incorporate the Burlington Evacuation Plan into the flood disaster preparedness plans that exist including the Skagit County Disaster Plan and the Dike District #12 guidelines with specifics that are tailored to the conditions of the City of Burlington.

This plan also identifies the potential hazard to Burlington of each of the other natural hazards, makes a determination about the vulnerability of the community, and recommends additional actions to mitigate those identified.

Plan Review Process

Because Burlington is a participant in a multi-jurisdictional approach to developing the All Natural Hazards Mitigation Plan, the city has been actively involved in designing and implementing the process, as outlined in the Introduction.

The Multi-jurisdictional plan that includes the City of Burlington's plan element was developed through an exhaustive process. The draft plan is circulated to all agencies with jurisdiction and agencies located in the area, along with all special purpose districts. Of particular concern to Burlington are the Skagit Department of Emergency Management, Corps of Engineers, the State Department of Ecology, the Federal Emergency Management Agency, Skagit County, Mount Vernon, Sedro-Woolley, Drainage Districts #14 and #19, and Dike District #12, and Fire District #6.

The plan is reviewed by the City's Flood and Natural Hazard Mitigation Technical Committee, consisting of Skagit County's flood engineer, Dike District #12 Commissioners, the Department of Emergency Management, Search and Rescue, the Fire Chief, the Police Chief, the Building Official, the City Engineer and the Planning Director. This committee is responsible for development of the early warning, preparedness and evacuation plan specifically tailored to the

City of Burlington. See Appendix C. Each year, the committee reviews the Action Plan and evaluates progress as part of the reporting process, both to the community and to the Community Rating System program. In 2002, the Flood Emergency Plan was updated to add the Evacuation Plan. This work will continue, even if the process for annual reporting on the Multi-Jurisdictional Plan remains with the Planning Committee established for the program, due to the unique needs and issues in the community.

Availability of the document for public review is published in the local papers and the city's monthly Planning and Land Use Bulletin, posted in the Library and City Hall. The plan is reviewed by the on going precinct based Neighborhood Planning Committees.

Following revision of the plan to incorporate comments received during the review period; there are two public hearings, one before the Planning Commission and one before the City Council.

Plan Implementation Process

Funding for plan implementation is integrated in city's overall Capital Improvement Plan and in the individual budgets of each participating department. It is an integral part of the city's work program and separate funding is not necessary. Today, diverse responsibilities are managed by each responsible department. Examples include management of the Drainage Utility, development and implementation of the Gages Slough Management Plan, maintenance of the city's drainage system, planning for street closures and evacuation routes and acquiring equipment needed for the operation.

Prioritization of Action Items

The City of Burlington operates under the requirements of the Washington State Growth Management Act. City government format is a strong mayor with council. City staff evaluates actions based on community needs as expressed in the Growth Management Act and the various comprehensive plans adopted by the city council. Staff prepares recommendations for specific actions to the council for consideration. Council weighs the input from staff and citizens before making any decision.

Before an action may proceed there must be a demonstrated need and funding must be secured. When funding is available and approval of council is given, the project is included in the annual budget. Need for an action to proceed may be determined in a variety of ways including but not limited to: action items identified in adopted plans, cost benefit analysis, necessary service, emergency, directive from state or federal agency, safety or other benefit to the community. For planning purposes projects are evaluated and included in the annual update of the 6-year capital improvement plan. Many projects in the capital facilities plan are dependent on outside funding. Possible sources of funding are the general fund, capital improvement funds, utility reserves, local improvement districts, grant funding from a variety of sources including but not limited to private agencies, economic development organizations, state agencies, federal agencies and philanthropic sources. Other sources of funding may, from time to time, become available for specified actions that may or may not be included in the community planning process.

REVIEW OF EXISTING STUDIES, REPORTS AND TECHNICAL INFORMATION AND OF THE COMMUNITY'S NEEDS, GOALS AND PLANS FOR THE AREA

HAZARD MITIGATION PLANNING MAPS *SEE APPENDIX A*	DATE
Critical Areas Map	2002
Parks Plan Map	2003
Sewer Plan Map	2003
Storm Sewer Plan Map	1994
Street/Bridge Map	2003
Evacuation Route Map	2002
Critical Facilities Map	2003

BUILDING AND FIRE DEPARTMENT RATINGS	UPDATE SCHEDULE	RATING INFORMATION
ISO Rating – Fire	Nov 2002	5 for all properties in City Limits; 8 in Fire District #6
BCEG Rating – Building	9/28/98	3 for all properties

REPETITIVE LOSS DATA	UPDATE	STATUS
Repetitive Loss Properties And Address	1/2003	None in the City Limits of Burlington

MITIGATION-RELATED POLICY STATEMENTS AND CITATIONS

POLICY TYPE AND APPLICATION TO HAZARD	CITATION	MITIGATION-RELATED POLICY STATEMENT
1999 COMPREHENSIVE PLAN • Land Use • Flooding, Landslides	Chapter 2, Section 6	➢ Protect and restore critical areas including Gages Slough; plan for flood hazard mitigation, surface water management and pollution control, establishment and maintenance of greenbelts and conservation areas and coordinate with adjoining jurisdictions. ➢ Provide on going public education at all levels, from the renter to the homeowner, regarding residential, commercial and industrial best management practice issues, flood hazard mitigation, water quality, and related local issues. Update annually.

MITIGATION-RELATED POLICY STATEMENTS AND CITATIONS - *continued*

POLICY TYPE AND APPLICATION TO HAZARD	CITATION	MITIGATION-RELATED POLICY STATEMENT
1999 COMPREHENSIVE PLAN • Parks, Recreation & Open Space • Flooding, Landslides	Chapter 9, Section 5	➢ Encourage the retention of open space and development of recreational opportunities, conserve fish and wildlife habitat, increase access to natural resource lands and water, and develop parks. Integrate the concepts with natural functions such as drainage (Gages Slough), agriculture (surrounding farmland), and topographic features (Burlington Hill).
1999 COMPREHENSIVE PLAN • Environmental and Critical Area Policies • Flooding, Landslides, Fire, Volcano, Earthquake, Severe Storms	Chapter 10, General, Section 1, 2	➢ Integrate environmental considerations into applicable ordinances, standards and regulations, as well as into the design of projects. ➢ To the extent practicable, fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.
1999 COMPREHENSIVE PLAN • Environmental and Critical Area Policies • Landslide, Erosion	Chapter 10, Earth, Section 3	➢ Provide protection of steep slopes according to standards in the Critical Areas Ordinance, as generally identified in these policies.
1999 COMPREHENSIVE PLAN • Environmental and Critical Area Policies • Flooding, Severe Storm	Chapter 10, Water, Section 1 A	➢ Manage stormwater runoff to improve drainage, control stormwater quality, prevent localized flooding of streets and private property during high water table and rainy conditions, and protect and enhance water quality.
1999 COMPREHENSIVE PLAN • Environmental and Critical Area Policies • Flooding	Chapter 10, Water, Sections 3, 4, 5	➢ The Floodway, the Special Flood Risk Zone and the 100 year Floodplain shall be regulated to protect human life, property and the public health and safety of the citizens of Burlington; minimize the expenditure of public money; and maintain the city's flood insurance eligibility while avoiding regulations which are unnecessarily restrictive or difficult to administer. ➢ The City shall provide on going public education about flooding and shall adopt a flood hazard reduction plan, consistent and compatible with any countywide efforts and plans, using the community newsletter, special targeted mailings to Realtors, insurance agents and lenders, training sessions at neighborhood meetings, the public library, and other means that may be identified.

MITIGATION-RELATED POLICY STATEMENTS AND CITATIONS - *continued*

POLICY TYPE AND APPLICATION TO HAZARD	CITATION	MITIGATION-RELATED POLICY STATEMENT
continued from previous page		➢ The City shall participate in the Community Rating System to obtain the maximum possible reduction in Flood Insurance Rates from the Federal Emergency Management Agency.
1999 COMPREHENSIVE PLAN • Environmental and Critical Area Policies • Flooding	Chapter 10, Land and Shoreline Use Implementation Policies, Section 1, Economic Development	➢ Land and Shoreline use patterns shall provide for the location of existing and future transportation facilities, utilities, and recreation activities that are dependent on access to the water. ➢ Because of the unique floodway and floodplain limitations on the use of the Skagit River shorelines, particularly the dike system, the majority of the shoreline shall be identified and reserved for recreational and open space uses.
1999 COMPREHENSIVE PLAN • Environmental and Critical Area Policies • Flooding	Chapter 10, Land and Shoreline Use Implementation Policies, Section 5, Use	➢ To protect and restore the wetlands to optimize water quality, habitat, best management practices and ensure that adjacent land use patterns are compatible with the protection and enhancement of the wetlands and take advantage of the unique attributes of the site, allowing no net loss of wetlands, and for Gages Slough, to also increase the size of culverts, remove obstructions and generally improve the flow characteristics to provide for efficient conveyance of water through the city during flood events. ➢ To allow limited use of the Skagit River and its shoreline compatible with the Dike system and with the regulatory constraints of the Floodway and Special Flood Risk Zone, including transportation, levee improvement, utilities and outfall structures, public access and recreation, open space and agriculture and similar uses. ➢ To select and establish standards for the uses that enhance the existing environment, while ensuring that proposed uses do not infringe upon the rights of others or upon the rights of private ownership.

MITIGATION-RELATED POLICY STATEMENTS AND CITATIONS - *continued*

POLICY TYPE AND APPLICATION TO HAZARD	CITATION	MITIGATION-RELATED POLICY STATEMENT
continued from previous page		➤ The Skagit River, as a shoreline of state-wide significance, shall be managed in order of the following priorities: recognizing and protecting the state-wide interest over local interests, preserving natural character, realizing long term over short term benefit, protecting resources and ecology, increasing public access to publicly owned areas, increasing recreational opportunities, providing for any other element that is appropriate or necessary. ➤ Establish and implement master program policies and regulations to insure the public's health, safety, and welfare. If there is an apparent conflict among regulations, the city shall consult with the agencies involved.
1999 COMPREHENSIVE PLAN • Environmental and Critical Area Policies • Flooding	Chapter 10, Land and Shoreline Use Implementation Policies, Section 8, Flood Damage Minimization Element	➤ Establish and implement master program policies and regulations based on applicable comprehensive management plans for the watershed's geohydrological system that reduce the risk of flood damage. ➤ Consider other regulations and programs associated with flood hazard management. Where there is a conflict, the more stringent in terms of long-term management of the ecological resource and natural geohydrological systems shall take precedence. ➤ Restrict development in the 100-year floodplain that potentially increases flood hazard unless it complies with the Flood Hazard management plan, and the critical areas code. The impacts of floodplain shall be addressed by one of the following means: A. The master program shall prohibit structural flood control measures for new development that would potentially increase the risk of flooding, significantly alter the course, speed or flow of the waterway, significantly reduce flood storage capacity, or increase flood heights on unprotected property; or

MITIGATION-RELATED POLICY STATEMENTS AND CITATIONS - *continued*

POLICY TYPE AND APPLICATION TO HAZARD	CITATION	MITIGATION-RELATED POLICY STATEMENT
continued from previous page		B. The master program shall set standards for flood control measures for new development based on recommendations from the comprehensive Flood Hazard Management Plan. ➤ Master program policies and regulations shall be established and implemented to retain or restore natural conditions of shorelands associated with frequently flooded areas. ➤ The master program shall reflect the existing dikes along the Skagit River in its regulations and policies. Nonstructural solutions to flood hazards shall be encouraged including restricting development in flood-prone areas, storm water runoff management, setback levels, and up-stream watershed vegetation management. ➤ Insure that master program standards for flood control measures protect and enhance the biological systems and public access opportunities of the shoreline and adjacent uplands. ➤ Master program standards for flood control measures shall be consistent with policies under the Conservation element.
1999 COMPREHENSIVE TRANSPORTATION PLAN • Flooding, Volcano, Fire, Earthquake	Goals and Objectives 1 & 7	➤ The transportation plan is designed to ensure the continued ability of the transportation system to function at a reasonable level of service throughout the urban service area and coordinate the links to the regional transportation system along with Mount Vernon. ➤ The Six Year Road Plan and the transportation element of the annually updated City of Burlington Capital Improvement Plan shall be coordinated with the Land Use, Utilities and other relevant plan elements to ensure a balanced program that is adequately funded and responsive to community interests.

MITIGATION-RELATED POLICY STATEMENTS AND CITATIONS - *continued*

POLICY TYPE AND APPLICATION TO HAZARD	CITATION	MITIGATION-RELATED POLICY STATEMENT
1994 SURFACE WATER MANAGEMENT PLAN • Flooding	Appendix A, Policies	➤ Manage stormwater runoff to improve drainage, control stormwater quantity, prevent localized flooding of streets and private property during high water table and rainy conditions, and protect and enhance water quality. ➤ Plan the stormwater management system to be consistent with policies regarding flooding, wetlands, land use and water quality. ➤ Develop an integrated program for quantity and quality control that recognizes the unique situation faced by the City with its location in the 100-year flood plain and needs for flood control in larger storm events, while at the same time needing to control the effects of smaller storms in terms of both quantity and quality of runoff. ➤ Apply best management practices to reduce pollutant loading and minimize the effects of contaminated sediments on Gages Slough and the Skagit River. ➤ Provide for ongoing public education aimed at residents, businesses, and industries in the urban area. The education programs are to inform citizens about stormwater and its effects on water quality, flooding, and fish/wildlife habitat, and to discourage dumping of waste material or pollutants into storm drains. ➤ Make investigations and corrective actions of problem storm drains, including sampling. ➤ Develop a program for operation and maintenance of storm drains, detention systems, ditches, and culverts. ➤ Coordinate with Skagit County through arrangements such as interlocal agreements, joint programs, consistent standards, or regional boards or committees.

MITIGATION-RELATED POLICY STATEMENTS AND CITATIONS - *continued*

POLICY TYPE AND APPLICATION TO HAZARD	CITATION	MITIGATION-RELATED POLICY STATEMENT
1991 COMPREHENSIVE WASTEWATER PLAN • Flood, Earthquake, Severe Storm	Wastewater Facilities Plan and Environmental Review for Treatment Plant Upgrade	➢ Provide 100-year flood protection for wastewater treatment plant ➢ Provide Emergency Generator capability for all pump stations ➢ Upgrade construction to latest seismic and wind standards
2003-2008 PARKS AND RECREATION, COMPREHENSIVE PLAN • Flood, Volcano	Urban Wildlife Habitat Plan Element	➢ Provide habitat for wildlife species, foodfish, and freshwater fish in close proximity to an urban area, including the Skagit River Shoreline, the Gages Slough Corridor and Burlington Hill
2003-2008 CAPITAL IMPROVEMENT PLAN • Fire, Earthquake, Severe Storms	Level of Service Standards and Individual Department Submittals	➢ Urban Level of Service Standards are established to ensure protection of public health, safety and welfare by meeting relevant standards ➢ Six-year list of projects including specific actions targeted towards natural hazard mitigation
1999-2002 FLOODPLAIN MANAGEMENT FLOOD HAZARD REDUCTION AND DISASTER PREPAREDNESS PLAN • Flood	Action Plan for Flood Hazard Reduction – Selection of Appropriate Activities	➢ The Building Official will continue to maintain elevation certificates using the automated system. Each elevation certificate is maintained by address and copies are sent annually to FEMA on disk. ***Action:*** Require, review, enter data in computer, and file certificates for all new development in the floodplain development project. Continue to work towards establishing a complete file of pre-FIRM certificates, using local incentive program. Timeline is on going. ➢ The Planning Director and the Building Official will continue to make flood map determinations in response to public inquiry, along with an annual mailing to real estate agents, lenders and insurance agents. ***Action:*** Make map determinations, provide annual mailing to users, and maintain accurate records and logs. Timeline is on going. ➢ The Planning Director will continue to mail out a flood bulletin twice annually, including elements for map determinations, availability of library materials, and natural and beneficial functions.

MITIGATION-RELATED POLICY STATEMENTS AND CITATIONS - *continued*

POLICY TYPE AND APPLICATION TO HAZARD	CITATION	MITIGATION-RELATED POLICY STATEMENT
continued from previous page		***Action:*** Research material and prepare flood bulletins, mail to all citizens in floodplain and entire community. Continue to participate in Flood Awareness Week and to keep citizens up to date and involved by bringing timely topics to regular Neighborhood meetings. Timeline is spring and fall of each year. ➤ Realtors will continue to provide disclosure of flood hazard on a voluntary basis and the Planning Department will work to modify the disclosure to identify the requirement for flood insurance purchase. Action by the state legislature to make this mandatory failed in 1995, but it is expected to be revisited. ***Action:*** Improve flood hazard disclosure by adding requirement for flood insurance purchase. City will support legislation at state level. Timeline is unpredictable. ➤ The City Librarian will continue to maintain the Flood Protection Library and add updated materials. There is a reference on the Floodplain Management Resource Center and instructions on how people can use it. Documents regarding the natural and beneficial functions of floodplains and updated local, state and federal materials are added as they become available. ***Action:*** Maintain and improve the Flood Protection Library. Additional local documents continue to be added as they become available, including updates to the Flood Plan and local early warning and evacuation plan. ➤ The Planning Director and the Building Official will continue to provide technical advice to property owners, contractors and design professionals. ***Action:*** Provide technical advice and update materials to include latest documents. Timeline is on going.

MITIGATION-RELATED POLICY STATEMENTS AND CITATIONS - *continued*

POLICY TYPE AND APPLICATION TO HAZARD	CITATION	MITIGATION-RELATED POLICY STATEMENT
continued from previous page		▪ Implement a long range Gages Slough Management Plan, adopt and administer a Shoreline Master Program for Gages Slough and the Skagit River Shorelines in Burlington. ▪ Increased preservation of the open space and drainage corridor through easements, deeding land to city ▪ Improve water quality; eliminate failed septic systems; fence out livestock; ▪ Improve wildlife habitat; do restoration planting projects ▪ Increase regulations such as greater setbacks where applicable ▪ Implement specialized best management practices to minimize problems in the long run. *Action:* Add voluntary and regulatory protection to the Gages Slough Special Flood Risk Zone, the major drainage course in the city. ➤ Public Works will implement drainage utility including improved maintenance and operations, a rate structure and public education element. Drainage Utility rate structure adopted in early 1997; annual inspection and maintenance requirements for all private facilities implemented; previous annual inspections limited to public facilities. Public education on best management practices is focused on Gages Slough property owners and the businesses that dump storm water into the Slough through a piped system. ***Action:*** Annual inspections and maintenance of all public and private drainage facilities; identified pollution problems will be tracked down and best management practices implemented to control source pollutants. Continue to implement Capital Improvements to stormwater system.

MITIGATION-RELATED POLICY STATEMENTS AND CITATIONS - *continued*

POLICY TYPE AND APPLICATION TO HAZARD	CITATION	MITIGATION-RELATED POLICY STATEMENT
continued from previous page		➢ Maintain updated maps and continue to work on automated base maps and overlays, leading to a planning level geographic information system; data collection and data entry to continue as new information and data sources become accessible. ***Action:*** Planning Department to continue maintenance and updating of existing land use and topographic maps and continue data entry and development of mapping layers in automated system, including parcel and overlay data. Required flood elevations are entered for individual parcels. ➢ Implement the adopted Surface Water Management Title that provides far more extensive regulation than the adoption by reference of the Department of Ecology Technical Manual, by Public Works. Capital Improvement plan is implemented including a new pump station at the end of Gages Slough, a new storm drainage trunk on the west side. Each development is regulated and stormwater quality is also regulated. Long-term storm water quality issues are a major focus in the Gages Slough Management Plan. ***Action:*** Continue and improve surface water management through more in depth review, regulation and training. The first two major capital projects are scheduled and funded. ➢ Using improved citizen involvement, public education and establishing a solid work program to improve maintenance of the drainage system. Plan to increase city maintenance of Gages Slough as drainage easements or public ownership becomes available, or a public/private partnership can be developed. Acquire land in the Gages Slough Corridor through land donation in exchange for Park Impact Fee Credit. Public education is a key focus of the drainage program and specialized best management practices brochures are designed for the residential, agricultural and business issues specific to Burlington.

MITIGATION-RELATED POLICY STATEMENTS AND CITATIONS - *continued*

POLICY TYPE AND APPLICATION TO HAZARD	CITATION	MITIGATION-RELATED POLICY STATEMENT
continued from previous page		***Action:*** Enhance maintenance of the system, including ability to maintain more of Gages Slough, by working with the property owners and business community. ➤ Develop and maintain a specific flood warning and evacuation program for the City of Burlington. The City of Burlington Flood Emergency Plan was developed in 1995 and updated in 1998 and 2002 to reflect the best approach possible. ***Action:*** Fire, Police, Planning, Department of Emergency Management and other agencies have developed and refined a specific community based plan. The plan will be exercised and tested annually and revised as needed. ➤ Dike District #12 will continue to maintain and upgrade the levee system to the 25-year storm. Major improvements have been made to the dike system since the 1990 flood, including the installation of keyways and backsloping the landward toe of the dikes. Land for the work has been made available through an Interlocal Agreement between Dike District #12 and the City of Burlington. The protection of the Wastewater Treatment Plant was improved to 100-year. ***Action:*** Continue to keep the dikes in excellent condition. Annual inspections are done; maintenance is on going.
1997 UNIFORM BUILDING CODE • Earthquake, Severe Storm, Fire, Landslide	Seismic and Wind Loads, Construction Standards	➤ Seismic Zone 3 ➤ Wind Exposure C ➤ Fire Resistive Construction Standards ➤ Grading Standards
1997 UNIFORM FIRE CODE • Fire	Fire protection and building maintenance standards	➤ Fire flow ➤ Annual Inspection of Commercial Structures ➤ Plan Review

MITIGATION-RELATED POLICY STATEMENTS AND CITATIONS - *continued*

POLICY TYPE AND APPLICATION TO HAZARD	CITATION	MITIGATION-RELATED POLICY STATEMENT
TITLE 14 SURFACE WATER MANAGEMENT • Flood, Landslide, Severe Storm	14.800.020 Purpose	➢ The provisions of this title shall be liberally construed to accomplish its remedial purposes, which are: 1. To protect, to the greatest extent practical, life, property and the environment from loss, injury and damage by pollution, erosion, flooding, landslides, strong ground motion, soil liquefaction, accelerated soil creep, settlement and subsidence, and other potential hazards, whether from natural causes or from human activity; 2. To protect the public interest in drainage and related functions of drainage basins, watercourses and shoreline areas; 3. To protect surface waters and receiving waters from pollution, mechanical damage, excessive flows and other conditions in their drainage basins which will increase the rate of downcutting, streambank erosion, and/or the degree of turbidity, siltation and other forms of pollution, or which will reduce their low flows or low levels to levels which degrade the environment, reduce recharging and ground water, or endanger aquatic and benthic life within these surface waters and receiving water of the state; 4. To meet the requirements of state and federal law and comply with regulatory standards for the city's municipal storm water, and 5. To fulfill the responsibilities of the city as trustee of the environment for future generations. ➢ It is expressly the purpose of this title to provide for and promote the health, safety and welfare of the general public. This title is not intended to create or otherwise establish or designate any particular class or group of persons who will or should be especially protected or benefited by its terms.

MITIGATION-RELATED POLICY STATEMENTS AND CITATIONS - *continued*

POLICY TYPE AND APPLICATION TO HAZARD	CITATION	MITIGATION-RELATED POLICY STATEMENT
2002 CRITICAL AREAS CODE • Flooding, Landslide	Section 15.15.020 Application-Purpose	➢ Frequently flooded areas; It is the purpose of this Chapter to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in the floodplain and the floodway according to the provisions established under this code; ➢ Geologically hazardous areas; Geologically hazardous areas include areas susceptible to the effects of erosion, sliding, earthquake, or other geologic events. They pose a threat to the health and safety of citizens when incompatible residential, commercial, industrial, or infrastructure development is sited in areas of a hazard. Geologic hazards pose a risk to life, property, and resources when steep slopes are destabilized by inappropriate activities and development or when structures or facilities are sited in areas susceptible to natural or human caused geologic events. Some geologic hazards can be reduced or mitigated by engineering, design, or modified construction practices so that risks to health and safety are acceptable. When technology cannot reduce risks to acceptable levels, building and other construction within identified geologically hazardous areas shall be prohibited.
ZONING CODE • Flood, Fire, Landslide, Earthquake	Section 17.03.020 Purpose	➢ The purpose of this title is to implement the city of Burlington's comprehensive plan. This title will be used to further the growth and development of the city of Burlington consistent with the adopted comprehensive plan and its implementing elements. This title will also further the purpose of promoting the health, safety, morals, convenience, comfort, prosperity, and general welfare of the city's population. ➢ The specific zones and regulations herein are designed to facilitate adequate provisions of utilities, schools, parks and housing with essential light, air, privacy, and open space; to lessen congestion on streets and facilitate the safe movement of traffic thereon; to stabilize and enhance property values; to prevent the overcrowding of land; to facilitate adequate

MITIGATION-RELATED POLICY STATEMENTS AND CITATIONS - *continued*

POLICY TYPE AND APPLICATION TO HAZARD	CITATION	MITIGATION-RELATED POLICY STATEMENT
continued from previous page		provisions for doing public and private business and thereby safeguard the community's economic structure upon which the prosperity and welfare of all depends and through such achievements help ensure the safety and security of home life, foster good citizenship, create and preserve a more healthful, serviceable and attractive municipality and environment in which to live. ➤ To most effectively accomplish these purposes, this title divides the city into zones wherein the location, height and use of buildings, the use of land, the size of yards and other open space, and the provision of off-street parking and loading are regulated and restricted in accordance with the comprehensive plan for the city of Burlington. These zones and regulations are hereby deemed necessary and are made with reasonable consideration, among other things, as to the character of each zone and its particular suitability for specific uses, the need for such uses, the common rights and interests of all within the zone as well as those of the general public, and with the view of conserving and encouraging the most appropriate use of land throughout the city.

RISK ASSESSMENT - ASSESSMENT OF THE HAZARDS

PLAN REQUIREMENT: *Using available data and studies, provide a map of the known flood hazards, a description of the known flood hazards including source of water, depth of flooding, velocities, and warning time, a discussion of past floods, and a map, description and history of other natural hazards, including all natural hazards that affect the community.*

See Appendix A, Maps for known flood hazard areas.

The Cause of Flooding

Throughout the years, major flooding has occurred in the Skagit River Basin. Because of its geographic location, the Skagit River Basin is subject to winter rain floods and an increase in discharge during spring due to snowmelt runoff. Rain-type floods occur usually in November or December, but may occur as early as October or as late as February. Antecedent precipitation serves to build up ground water reserves. Frequently, a light snow pack is then formed over most of the entire basin. A heavy rainfall accompanied by warm winds completes the sequence, which produces major floods. The heavy rainfall and accompanying snow melt result in a high rate of runoff, as the ground is already nearly saturated from earlier precipitation. Two or more crests may be experienced within a period of a week or two as a series of storms move across the basin from the west. The winter floods have a considerably higher magnitude than the average annual spring high water.

The snow melt peak is expected during the spring or early summer, caused by the seasonal rise in temperatures with resultant melting of the accumulated snow pack. These high discharges may have a minor contribution from warm rains, but are caused predominantly by snowmelt. The spring snowmelt is characterized by relatively slow rise and long duration. While this high water occurs annually, it seldom reaches a damaging stage. During the annual spring or early summer high water, power reservoirs are filling, and as a result, the spring discharges are frequently reduced. 1997 was an exceptional year, with several minor floods occurring during the summer months after the reservoirs were full.

The magnitude and intensity of a storm cannot always be used as an index of the resultant river discharge. Other factors, such as the temperature sequence, degree of soil saturation, and moisture content of the snow pack largely influence the rate of and total runoff produced by a particular storm. Conditions preceding a storm may be such that even a moderate storm could set in motion the related factors that, collectively, result in a flood. Conversely, conditions in the drainage basin may be such that a severe storm results in only minor high water.

Flooding in Burlington

There are four flood zones in the City Limits of Burlington, the Floodway (river side of the dike), the 100 Year Flood Zone, the 500 Year Flood Zone, and the Special Flood Risk Zone. If property is located in the vicinity of Gages Slough and the land is three feet or more below the 100-year flood elevation, the risk of flooding is somewhat greater than in the surrounding area. This is because of the potential for floodwaters to be diverted into the Slough, in the event of flooding between here and Sedro Woolley, as occurred in the winter of 1990 and 1995.

However, the likelihood of flooding in the event of a 100-year flood is pretty much the same throughout the City Limits. There are a few spots of relatively high ground classified as 500-year floodplain.

The term "100 year flood plain" is used to describe the land which has a 1% or greater chance of flooding in any year. Floods that have broken through or overtopped the levee system are generally much smaller.

The 1995 flood event was very comparable to the 1990 event with a river elevation of 37.36 feet. Evacuation was required along Whitmarsh Road. The flood fight was well planned and well executed. Damage was limited to a road that was underwater on the water side of the dike and flood boils at the Wastewater Treatment Plant. Since that flood, major work has taken place to strengthen the dike system, including installing keyways and widening the dikes, along with substantially increasing the backslope of the dikes to provide better protection in the event of overtopping. The city and the Dike District are jointly managing a 132-acre site along the River to improve flood hazard mitigation while providing public open space. One hundred acres were acquired by the City in April 1997 to prevent additional construction near the Dike.

The 1990 storm is classified as a 35-year storm, elevation 37.37 feet. Intense flood fighting redirected the water coming over Highway 20 into Gages Slough and kept the town dry. The major damage in the city was underground; an old sanitary sewer line broke under a city street. The ground washed away from around the pipe, which had a long history of problems with infiltration of water. One of the points of discussion was the District Line Road/Highway 20 problem. The water was redirected in the 1990 flood event over the highway and into Gages Slough. This was a very controversial issue. At that meeting, the County indicated that there is a dip of several feet in the grade between road crossings, and that they will, therefore, support the placing of sandbags up to the perceived original height of the railroad tracks.

Before then, there was a 12 year flood in December of 1975 that was essentially a levee full flood with little or no freeboard and, because of extensive flood fighting, the flood was contained.

Earlier floods occurred in 1910, 1917 and 1921 that sent floodwaters throughout Burlington. Extensive structure and property damage occurred in many areas of Skagit County in each of these flood events. Photographs show water down the main street, but there are no reports available in the community regarding damage estimates.

There are no repetitive loss areas in the City of Burlington. See Appendix A, Maps.

Earthquake

The City of Burlington is located in Seismic Zone 3 and there are extensive seismic requirements in the adopted building code. However, much of the City of Burlington lies in the Skagit River Floodplain and that is the type of soil that is known for liquefaction in a major earthquake. There are large areas of Burlington with soil problems.

After the Nisqually Earthquake of 2001, one complaint of damage was received by the City and that was structural damage to the concrete tilt-up building occupied by Cascade Clear, a local water bottling company. There were cracks in numerous locations, and a structural engineer was retained to investigate and repair. There is no other historical data on file in the City.

Fire

The City of Burlington also provides service to Fire District #6 through a long-term contractual relationship, so the overall service area is about 26 square miles. The only wooded area in Burlington is located on Burlington Hill. It only had a few homes until the year 2000 when the east side was cleared and subdivided. There is no history of forest fire on Burlington Hill.

Volcanic Event

The City of Burlington is located in an area where volcanic events have occurred in the past. When the dikes were recently excavated for the purpose of installing a clay keyway, volcanic material was excavated from the site. The material has the consistency of silly putty.

Severe Storm

The City of Burlington experiences severe windstorms on an occasional basis. The area is located in Wind Exposure C for new construction standards. There are also relatively rare snow storms. Heavy rain storms are more related to flood events for Burlington.

There have been numerous serious wind events in Burlington including the collapse of two full height walls of the new Hollywood Video Building while under construction, with gusts of 70 mph plus.

The trusses on the new Fire Station collapsed while the building was under construction from high winds.

The most recent event was March 12, 2003, where one older industrial building lost its second story roof, many trees and power lines were down.

Land Movement

The rock on Burlington Hill is very old and due to the steep slopes, must be carefully handled during construction. The road constructed on Burlington in 1998 has two areas of land movement, each in the steepest sloped portion of the road. These areas are under continued observation and monitoring.

Other Natural Hazards Minimal in Burlington

The likelihood of Avalanche, Drought or Tsunami/Seiche is very low.

NATURAL HAZARD EVENTS (1975-PRESENT) THAT HAVE RESULTED IN DECLARED EMERGENCIES BY THE BURLINGTON CITY COUNCIL		
Type of Event	Date	Total Public Damage
Flood: Section St. Sewer Collapse, holes in line filled with water from Gages Slough	1990	$500,000 to rebuild street and sewer
Flood: Sand boils @ Sewer Plant, Whitmarsh Road pavement lifted	1995	$10,000 @ Plant $50,000 for road repair

RISK ASSESSMENT – ASSESS THE PROBLEM

PLAN REQUIREMENT: *The assessment of the vulnerability of the community to the hazards identified includes the following elements:*

1. *An overall summary of each hazard identified in the hazard assessment and its impact on the community.*
2. *A description of the impact that the hazards identified in the hazard assessment have on life, safety, and health and the need and procedures for warning and evacuating residents and visitors;*
3. *A description of the impact that the hazards identified in the hazard assessment have on critical facilities and infrastructure;*
4. *The number and types of buildings subject to the hazards identified in the hazard assessment;*
5. *A review of all properties that have received flood insurance claims or an estimate of the potential dollar losses to vulnerable structures;*
6. *A description of areas that provide natural and beneficial functions, such as wetlands, riparian areas, sensitive areas, and habitat for rare or endangered species;*
7. *A description of development, redevelopment, and population trends and a discussion of what the future brings for development and redevelopment in the community, the watershed, and natural resource areas;*
8. *A summary of the impact of each hazard on the community's economy and tax base.*

1. An overall summary of each hazard identified in the hazard assessment and its impact on the community.

The Flood Hazard Analysis

General

All areas in Burlington and the surrounding area are subject to flooding with the exception of Burlington Hill.

Levee protection is at approximately the 50-year storm event, with a 25-year profile. This is approximately river elevation thirty-eight (38) feet.

Normal high water is 24-26 feet at the Railroad Bridge. Elevation 22 represents the vegetation line. The dike is 14 - 16 feet above that point. The top of the levee is from 39-40 feet. Whitmarsh Road is blocked at 23.5'. The elevation of the bottom of the bridge is 28.3'.

The basic rule of thumb is that the level of the river decreases at the rate of about 1.5 feet per mile.

Possible water height in a 100-year flood in Burlington is approximately five (5) feet of water. Most of the Skagit River valley will require evacuation in that scenario.
The 1990 flood reached 37.37 and 1995 flood reached 37.36', very close to overtopping the levees. In an event larger than that, or a similar event with a levee failure, more extensive evacuation will be required.

Areas Subject to Inundation if Dike is Overtopped or if Storm Exceeds Levee Design Capacity and Dikes are Widely Overtopped (theoretical case)

1. Historical overtopping has occurred along SR 20 east of District Line Road. This occurred in the flood in the winter of 1990. Path is across the Railroad tracks and down SR 20 into town unless diverted to Gages Slough, which also occurred in 1990.

    - In the flood of November 29 and 30, 1995, the flood fight for SR 20 was well planned in advance by Assistant Fire Chief Roger Tjeerdsma. The night before the crest was expected, 12,000 sandbags were stacked along the river side (south) of the railroad tracks, brought in on flatcars by the railroad from the Dike District #12 EOC, also located next to the railroad. These were then carefully placed to the correct height to fill in the low spot in the railroad grade and provide for controlled overtopping. See Photographs. It was previously agreed that the levy would not be built higher than the District Line Road elevation at the Railroad Crossing.

    - Overtopping can also be expected at Whitmarsh Road at the crossdike, at the point east of Burlington Boulevard where the underpass takes off, and at points east along the dike (Natagani estate property). Photographs of the flood fight at those locations are shown in the Photographs.

2. If the levee overtops at District Line Road and water is directed both north of Burlington Hill and into Gages Slough, homes north of SR 20 and west of Vista View Drive (where the water crosses the road), and along Gages Slough will be evacuated. Depending on the severity of the situation, the Northeast, North/Central and South Sectors may also require evacuation. See Evacuation Plan for Evacuation Routes by Sector.

3. If the storm exceeds the 50-year design of the levee system, citywide evacuation is likely required when the river elevation reaches 38 feet. There will be widespread overtopping at a minimum.

Areas subject to Inundation if Dike Fails – *See Evacuation Route Map for Sector Listings*

1. Numerous levee breaks have occurred east of town in the vicinity of District Line Road with the old levees. The potential is always present and must be anticipated in the planning process.

    - Path is across the Railroad tracks and down SR 20 into town unless diverted to Gages Slough.
    - If water is diverted to Gages Slough area along the slough is subject to inundation.
    - If not diverted, it will go down the road and inundate the Northeast and North /Central Sectors, at a minimum.
    - If extent of flooding has water going north of Burlington Hill, the Burlington Hill Industrial Park will be inundated (North/Central Sector).

2. Potential levee failure near the Wastewater Treatment Plant at the bend in the river.

    - At this location, the Northeast and South Evacuation Sectors will be inundated.

3. Potential levee failure between the railroad bridge and Burlington Boulevard or between Burlington Boulevard / I-5.

    - At this location, inundation will occur in the South Sector, a major commercial and industrial area.

4. Potential levee failure west of I-5 near I-5 Auto World

    - At this location, there are few residences, primary use is auto dealership; the Southwest Sector west of I-5 will be inundated. It is not likely that this will extend north of SR 20.

5. Potential levee failure at or near Avon - Not in City Limits

    - This is west of the Urban Growth Area; however, numerous residences are located adjacent to the levee.

Because flooding occurs fairly often, the Community has a high level of awareness of flooding and preventive structural and non-structural measures to mitigate the impact. In a 100-year flood event, most of the city will be inundated with water up to three feet in depth. Water depths will exceed eight feet in some areas in the Gages Slough corridor, but the velocity is minimal.

Burlington is fronted by a well constructed and maintained levee that extends approximately one mile upstream of the city, but the levee will not protect the city from a 100-year flood on the Skagit River. Each year, the levees are inspected by the Army Corps of Engineers. The levees are in excellent condition and exceptionally well maintained. Dike District #12 has been very busy with levee improvements following the 1990 flood.

The danger of flooding in Burlington is imminent when the river reaches the stage 38.1 feet. Maximum flood fighting using expedient flood works are employed and evacuation is necessary, according to Skagit County's Emergency Management Department. Upstream of the Burlington Northern Railroad Bridge, the water is 3 to 4 feet higher because of debris and logjams and the effect of the bridge structure itself. Compare this with the earliest flooding, which occurs at stage 25.5 feet with backwater in Nookachamps Creek, flooding of low-lying farmland and no damage, and you can easily see that the flood hazard in Burlington is severe when it happens.

It is very difficult to visualize this without having seen a flood, but considering the fact that the 100 year elevation for protecting structures is 27 feet at Interstate 5 and 40 feet at Gardner Road, one can see how frightening this situation would be when the river reaches the stage 38.1 feet.

Earthquake

With many earthquake faults in the region and the potential for a wide variety of seismic events, there is very little additional mitigation possible beyond compliance with the latest Building Codes.

There is no doubt that there will be widespread damage in a major earthquake in Burlington, such as chimney collapses, buildings off foundations, foundation cracking, utility line failures, and structural damage of various types.

The majority of the unreinforced masonry buildings in Burlington are located in old Downtown, and none exceed two stories in height. These have the potential to collapse.

Fire

There is limited potential for urban wildland interface fire except for Burlington Hill. In the recently subdivided area, most of the trees have been cleared, but the potential does exist. Otherwise, there are some structure fires.

Volcanic Event

If there is a volcanic event, Burlington lies in its path and would have to evacuate.

Severe Storm

The impact of severe storms is mitigated for new construction by current code standards for wind and snow loads. Impacts range from structure failures to down trees and power lines.

Land Movement

Land movement on Burlington appears to be the result of improper construction techniques, and if adequate testing, engineering and inspection are done on all roads and structures, minimal impacts are expected over time.

Other Natural Hazards Minimal in Burlington

The likelihood and thus the impact of Avalanche, Drought or Tsunami/Seiche are very low.

1. A description of the impact that the hazards identified have on life, safety, and health and the need and procedures for warning and evacuating residents and visitors;

The location of the City of Burlington primarily in the 100-year floodplain results in such a high flood hazard that the City has developed a detailed disaster preparedness plan and procedures for warning and evacuating residents and visitors. This plan is reviewed, tested and updated annually. See Appendix A Maps for Evacuation Routes. There are permanent Evacuation Route signs posted as mapped. The Evacuation procedure can be easily adapted to address any hazard. There is a detailed early warning system in the Burlington Disaster Preparedness Plan.

2. A description of the impact that the hazards identified in the hazard assessment have on critical facilities and infrastructure;

Critical facilities are defined in the Community Rating System Manual as follows:

- Structures or facilities that produce, use, or store highly volatile, flammable, explosive, toxic and/or water-reactive materials;
- Hospitals, nursing homes, and housing likely to contain occupants who may not be sufficiently mobile to avoid death or injury during a flood;
- Police stations, fire stations, vehicle and equipment storage facilities, and emergency operations centers that are needed for flood response activities before, during, and after a flood; and
- Public and private utility facilities that are vital to maintaining or restoring normal services to flooded areas before, during, and after a flood.

Infrastructure and Critical Facilities Summary

ELEMENT	MEASUREMENT	APPROXIMATE VALUE
Streets/Road	38 Miles	$40,000,000
Storm Drains	34 Miles	$7,000,000
Storm Drain Pump Stations	5 stations	$5,000,000
Bridges	1 new bridge; 1 coming	$13,000,000
Sanitary Sewer	51 miles	$14,000,000
Sanitary Pump Stations	18 stations	$5,750,000
Wastewater Treatment Plant	3.79 mgd	$25,000,000
Fire Station	N/A	$3,600,000
Police Station	N /A	$3,200,000

Critical Facilities and other Uses to be Evacuated including status of Emergency Planning:

Flood Fight Headquarters (Dike District #12 EOC) will determine the need and notify the appropriate parties of required evacuation.

This list includes the names and telephone numbers of the operators of these facilities. Early notification at river elevation 36' is provided to Burlington RV Park; they are required to evacuate at 37'. This facility is closely monitored and receives annual inspections to ensure that units are ready to move.

Other facilities are required to evacuate when so directed by the appropriate authority via the Emergency Alert System, mobile speaker units and sirens or door-to-door notification, or citywide evacuation when notified by the fixed siren on the Fire Station.

Uses to be evacuated:

- Country Court Mobile Home Park is located in Urban Growth Area at intersection of Lafayette and Peter Anderson Road. 45 units. Manager's telephone number is not listed.
- Burton's Nursing Home at 1036 E. Victoria - Population is 47. Telephone number is 360-755-0711.
- Wee Care Day Care at 210 N. Skagit. Telephone number is 360-755-0264.
- Homeplace Alzheimer's facility at 210 N. Skagit. Telephone number is 360-755-7000.
- Ovenell Nursing Home at 625 Washington - Population is 31. Telephone number is 360-755-9100.
- Burlington Little School in Urban Growth Area at 207 S. Gardner Road. Telephone number is 360-757-8257.
- Lucille Umbarger School at 820 South Skagit Street. Burlington Edison School District Administration coordinates evacuation at 360-757-3387 and 360-757-3311
- Burlington Edison School District Administration located at 927 E. Fairhaven Avenue coordinates evacuation at 360-757-3387 and 360-757-3311.
- Westview School located at 501 West Victoria. Telephone number is 360-757-3391.
- Burlington-Edison High School located at 301 North Burlington Boulevard. Telephone number is 360-757-4074.
- Where the Heart Is – Assisted Living at 410 Norris Place. Population is growing. Telephone number is 360-755-8007.
- Burlington RV Park at 275 E. Whitmarsh Road. Telephone number at site is 360-757-4229. Owner's home phone is 360-766-4000. They have an evacuation plan and contracts with towing companies. 50 units.
- Creekside Retirement Community at 1150 South Spruce. Population is growing. Telephone number is 360-755-5550.

CRITICAL FACILITY VULNERABILITY ASSESSMENT

The Burlington Fire Station and the Burlington Police Station are new and constructed to the 1997 Uniform Building Code. Each facility has standby power.

The Burlington Wastewater Treatment Plant was substantially upgraded and expanded in 2000 and meets all current codes. The Chlorine disinfection was replaced by ultraviolet, lowering the hazard presented by the facility, in addition to increasing the 100-year flood protection for the facility. Standby power is available for the plant and the pump stations.

3. The number and types of buildings subject to the hazards identified in the hazard assessment;

COMMUNITY PROFILE

LAND USE INFORMATION	ACRES	PERCENTAGE OF JURISDICTION
Total Land Area within jurisdiction	**2781**	**100**
Residential land area	1038	41
Commercial land area	700	25
Industrial land area	627	22
Agricultural land area	0	0
Open Space/Parks/ Resource land area	185	6
Other designation – Freeway and River	231	8
TOTAL LAND (includes R-O-W)	**2781**	
Transportation or utility right-of-way		20-30%
Waterway or wetland		10%
TOTAL Transportation, utility, waterway or wetland		30-40%

NUMBER, TYPES AND IF AVAILABLE, ELEVATIONS OF BUILDINGS

This information was first presented in the 1999 City of Burlington Floodplain Management Plan and is updated here:

Single Family and Duplex Dwellings		
1998 Total =	1,486	Structures
1999 Total =	31	Structures
2000 Total =	93	Structures
2001 Total =	106	Structures

2002 Total =	25	Structures
TOTAL	**1,741**	**Structures**

Multi-family Structures *(more than two dwelling units)*		
1998 Total =	104	Structures
1999 Total =	4	Structures
2000 Total =	3	Structures
2001 Total =	0	Structures
2002 Total =	0	Structures
TOTAL	**111**	**Structures**

Commercial Structures *(includes churches & public buildings)*		
1998 Total =	332	Structures
1999 Total =	15	Structures
2000 Total =	12	Structures
2001 Total =	8	Structures
2002 Total =	5	Structures
TOTAL	**372**	**Structures**

Industrial Structures		
1998 Total =	94	Structures
1999 Total =	10	Structures
2000 Total =	4	Structures
2001 Total =	4	Structures
2002 Total =	3	Structures
TOTAL	**115**	**Structures**

This inventory was compiled from the regularly updated existing Land Use Maps, and supplemented with building permit records. Buildings constructed since 1985 are elevated to one foot above the 100-year flood elevation. Some industrial buildings have opted for floodproofing when elevating the structure interfered with operations, such as truck access. Elevation Certificates are available on all buildings constructed since the building department was opened in 1989. Prior to that time, inspection was handled by Skagit County and the records are not accessible.

Beginning in 1996, the City of Burlington had all the elevation benchmarks in the City Limits surveyed and mapped in AutoCAD. Since then, over 211 homeowners have requested and obtained courtesy Elevation Certificates for structures built prior to 1989, and of them, all but

about 10 have met or exceeded the elevation requirements and were able to obtain a substantial reduction in flood insurance rates.

The 100-year flood elevation ranges from 23 feet at Pulver Road to the west, to 40 feet at Gardner Road to the east.

NEIGHBORHOOD CHARACTERIZATION

1. Residential Neighborhood

1,741 single family and duplex structures
111 multi-family structures

Estimated value of each structure
Median value of single family structures is $129,000

Predominant structure type
Wood frame (all residential including multi family)

Estimated neighborhood population: 7,190

2. Commercial/Industrial Neighborhood

372 Commercial Structures
115 Industrial Structures

Estimated value of each structure
Average Value = $475,489

Predominant structure type
Concrete tilt-up

Estimated neighborhood population during workday:
10,000 employees
50,000 visitors

4. A review of all properties that have received flood insurance claims or an estimate of the potential dollar losses to vulnerable structures;

Flood insurance claims in Burlington since 1975 were limited to elevating one house after the 1990 Flood, replacing the sanitary sewer in Section Street that collapsed, and repairing Whitmarsh Road that is underwater in flood events.

Estimate of potential dollar losses to vulnerable structures:

- Vulnerable structures in Burlington are typically older structures that do not meet current codes. In a major flood event, millions of dollars in losses is possible.

- Structures built in the last 20 years that comply with current codes for flood, seismic, wind and snow loads are less vulnerable to hazards.

5. A description of areas that provide natural and beneficial functions, such as wetlands, riparian areas, sensitive areas, and habitat for rare or endangered species.

The City of Burlington is committed to encourage the enhancement and improvement of water quality, fish and wildlife habitat along Gages Slough and the Skagit River shoreline with an approved element of the plan that addresses habitat and wildlife issues and protects local fish and wildlife species that are identified at the federal, state and local level, including the species of local significance listed in the Burlington Critical Areas Code.

The Urban Wildlife Habitat Plan element of the Parks and Recreation Comprehensive Plan is designed to focus on providing habitat for wildlife species, foodfish, and freshwater fish in close proximity to a metropolitan area. This is the Skagit River shoreline specifically relative to salmon and bull trout and the need for riparian habitat along the diked riverfront. The Gages Slough corridor contains species of local significance as identified in the new Critical Areas Ordinance. The third area is Burlington Hill, where development is in process on approximately half of the hill, and there is some remaining forested land forming a habitat corridor and also bald eagle habitat, although the closest nest site is in the Gages Slough area.

Burlington Hill provides a significant greenbelt and habitat area, and because of its steep slopes, it is also environmentally sensitive relative to erosion and drainage. It has a public street that crosses the hill and this is one of the Evacuation Routes where everyone is basically directed to the north in the event of a major flood event.

Gages Slough is the major wetland that travels through the City of Burlington. It is also the major storm drainage outfall and provides a backup flood control channel in a flood event. It provides a significant wildlife habitat and suffers from poor water quality at this time. It is the subject of a series of planned actions, beginning with a survey of property owners in the fall of 1995, followed by establishing a Citizen's Advisory Committee, and then development and adoption of the Gages Slough Management Plan that provides both regulatory and non-regulatory elements designed to work together to enhance the natural wetland functions, while improving the water holding and flow-through capacity of the system. A wetland functional assessment, water quality and water level monitoring study was completed in 1998 and a Storm Water Quality Comprehensive Plan Element is in development in 2003 to focus on water quality in Gages Slough. A new Critical Areas Ordinance that applies Best Available Science was adopted in 2002.

The Skagit River is also included in the planning process for development of a Master Program that will enhance any available opportunities for improving the Chinook salmon habitat, an Evolutionarily Significant Unit that was listed in 1999.

General Development trends

The City of Burlington annexed 830 acres between 1989 and 2001. Between 1989-2002, over 3.5 million square feet of new commercial and industrial space has been occupied, 738 apartment units have been constructed and 461 residences built.

The county as a whole is growing rapidly, and Burlington is the commercial hub of Skagit County. About 114 acres of commercial and industrial land were built on between 1995-2002.

Because there is a finite supply of available land for development in Burlington, and it is located in the Interstate 5 corridor, development and redevelopment is expected to proceed at a steady pace.

6. A description of development, redevelopment, and population trends and a discussion of what the future brings for development and redevelopment in the community, the watershed, and natural resource areas;

Development in Commercial and Industrial Areas

New Construction 1989 – 2002

Year	Commercial & Industrial	Single Family	Multi Family
1989	733,029 sq. ft.	5 units	128 units
1990	188,228 sq. ft.	23 units	169 units
1991	287,680 sq. ft.	8 units	6 units
1992	91,091 sq. ft.	6 units	0 units
1993	287,455 sq. ft.	66 units	40 units
1994	169,196 sq. ft.	43 units	6 units
1995	70,229 sq. ft.	42 units	55 units

continued on next page

New Construction 1989 – 2002 - *continued*

Year	Commercial & Industrial	Single Family	Multi Family
1996	140,402 sq. ft.	9 units	0 units
1997	244,701 sq. ft.	14 units	0 units
1998	438,873 sq. ft.	13 units	7 units
1999	334,356 sq. ft.	32 units	73 units

2000	269,726 sq. ft.	88 units	122 units
2001	203,227 sq. ft.	95 units	62 units
***2002**	232,098 sq. ft.	17 units	72 units
TOTAL	**3,690,291 sq. ft.**	**461 units**	**740 units**

**Stats as of 12/31/02*

COMMERCIAL AND INDUSTRIAL LAND CAPACITY

Industrial Development Activity from 1995-2002

Structures = 606,631 Square Feet
Total Acreage of Developed Area = 52.27 Acres

Commercial Development Activity from 1995-2002

Structures = 1,295,233 Square Feet
Total Acreage of Developed Area = 81.22 Acres

Land Allocation	Commercial	Industrial	Total
1. Total zoned acreage	700	627	1,327
2. Existing developed land (acres)	467 + 81= 548	199 +52=251	799
3. Undeveloped acreage	152	376	528
4. Acreage unbuildable	78	161	239
5. Acreage for infrastructure	45	67	112
6. Available supply (acres)	29	148	177

ASSESSED VALUE

Number of **Residential** Parcels = 1,835
Assessed Value Residential = $473,452,000

Number of **Commercial** Parcels = 426
Assessed Value Commercial = $231,563,000

Population Trends

2025 POPULATION FORECAST

City Limits 2002 =	7,190 Population
City Limits Forecast for the Year 2025 =	2,501 New Population
Total 20-year Forecast for the City Limits =	**9,691**

NEW DWELLING UNIT FORECAST FOR THE YEAR 2025

- Vacant Residential Land available for development is 208 acres.
- This will accommodate 912 units at about 4.4 units/acre for a total forecast growth of 2501 population at the 2000 census rate of 2.74 dwelling units per acre.

7. A summary of the impact of each hazard on the community's economy and tax base.

There appears to be virtually no impact of any of the identified hazards on the economy and tax base except for Flooding.

However, an overriding factor is the location of the City at the intersection of the major regional and interstate transportation corridors has led to rapid development and a healthy economy and tax base, even though nearly every site pays Flood Insurance.

MITIGATION STRATEGY

Set Goals – a statement of the goals of the community's floodplain management and hazard mitigation program.

The goals of the community's floodplain management and hazard mitigation program are integrated into the city's planning and regulatory framework in a variety of ways, and they are sorted here by category with identification of the hazards they address.

1. Preventive Goals

Earthquake, Severe Storm, Fire, Land Movement

- Utilize the latest adopted state building code to insure adequate protection in construction against Earthquakes in Seismic Zone 3, Severe storms with Wind Exposure C, Fire with Fire Resistive Construction Standards, and Land Movement with Grading Standards
- Utilize the latest adopted state fire code to insure adequate protection against Fire in construction with standards for Fire flow and through the annual Inspection of Commercial Structures

Flood

- The Floodway, the Special Flood Risk Zone and the 100 year Floodplain shall be regulated to protect human life, property and the public health and safety of the citizens of Burlington; minimize the expenditure of public money; and maintain the city's flood insurance eligibility while avoiding regulations which are unnecessarily restrictive or difficult to administer.
- Frequently flooded areas; It is the purpose of this Chapter to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in the floodplain and the floodway according to the provisions established under this code;
- Manage stormwater runoff to improve drainage, control stormwater quantity, prevent localized flooding of streets and private property during high water table and rainy conditions, and protect and enhance water quality.
- The City shall participate in the Community Rating System to obtain the maximum possible reduction in Flood Insurance Rates from the Federal Emergency Management Agency.
- Because of the unique floodway and floodplain limitations on the use of the Skagit River shorelines, particularly the dike system, the majority of the shoreline shall be identified and reserved for recreational and open space uses.
- Establish and implement master program policies and regulations based on applicable comprehensive management plans for the watershed's geohydrological system that reduce the risk of flood damage.
- Consider other regulations and programs associated with flood hazard management. Where there is a conflict, the more stringent in terms of long-term management of the ecological resource and natural geohydrological systems shall take precedence.

- Restrict development in the 100-year floodplain that potentially increases flood hazard unless it complies with the Flood Hazard management plan, and the critical areas code. The impacts of floodplain shall be addressed by one of the following means:

    - The master program shall prohibit structural flood control measures for new development that would potentially increase the risk of flooding, significantly alter the course, speed or flow of the waterway, significantly reduce flood storage capacity, or increase flood heights on unprotected property; or
    - The master program shall set standards for flood control measures for new development based on recommendations from the comprehensive Flood Hazard Management Plan.
    - Master program policies and regulations shall be established and implemented to retain or restore natural conditions of shorelands associated with frequently flooded areas.
    - Make investigations and corrective actions of problem storm drains, including sampling.
    - Develop a program for operation and maintenance of storm drains, detention systems, ditches, and culverts.

Flood, Landslide, Earthquake

- Utilizing Best Available Science to develop the Critical Areas title, The provisions of this title shall be liberally construed to accomplish its remedial purposes, which are: To protect, to the greatest extent practical, life, property and the environment from loss, injury and damage by pollution, erosion, flooding, landslides, strong ground motion, soil liquefaction, accelerated soil creep, settlement and subsidence, and other potential hazards, whether from natural causes or from human activity; To protect the public interest in drainage and related functions of drainage basins, watercourses and shoreline areas; To protect surface waters and receiving waters from pollution, mechanical damage, excessive flows and other conditions in their drainage basins which will increase the rate of downcutting, streambank erosion, and/or the degree of turbidity, siltation and other forms of pollution, or which will reduce their low flows or low levels to levels which degrade the environment, reduce recharging and ground water, or endanger aquatic and benthic life within these surface waters and receiving water of the state; To meet the requirements of state and federal law and comply with regulatory standards for the city's municipal storm water, and To fulfill the responsibilities of the city as trustee of the environment for future generations.
- Geologically hazardous areas; Geologically hazardous areas include areas susceptible to the effects of erosion, sliding, earthquake, or other geologic events. They pose a threat to the health and safety of citizens when incompatible residential, commercial, industrial, or infrastructure development is sited in areas of a hazard. Geologic hazards pose a risk to life, property, and resources when steep slopes are destabilized by inappropriate activities and development or when structures or facilities are sited in areas susceptible to natural or human caused geologic events. Some geologic hazards can be reduced or mitigated by engineering, design, or modified construction practices so that risks to health and safety are acceptable. When technology cannot reduce risks to acceptable levels, building and other construction within identified geologically hazardous areas shall be prohibited.

- Coordinate with Skagit County through arrangements such as interlocal agreements, joint programs, consistent standards, or regional boards or committees.
- Urban Level of Service Standards are established to ensure protection of public health, safety and welfare by meeting relevant standards
- Public Works will implement drainage utility including improved maintenance and operations, a rate structure and public education element. Drainage Utility rate structure adopted in early 1997; annual inspection and maintenance requirements for all private facilities implemented; previous annual inspections limited to public facilities. Public education on best management practices is focused on Gages Slough property owners and the businesses that dump storm water into the Slough through a piped system. *Action:* Annual inspections and maintenance of all public and private drainage facilities; identified pollution problems will be tracked down and best management practices implemented to control source pollutants. Continue to implement Capital Improvements to stormwater system.

2. Property Protection Goals

Landslide

- Provide protection of steep slopes according to standards in the Critical Areas Ordinance, as generally identified in these policies.

Flooding

- Regulations and policies shall reflect the existing dikes along the Skagit River. Nonstructural solutions to flood hazards shall be encouraged including restricting development in flood-prone areas, storm water runoff management, setback levees, and up-stream watershed vegetation management.
- Insure that standards for flood control measures protect and enhance the biological systems and public access opportunities of the shoreline and adjacent uplands.
- The Building Official will continue to maintain elevation certificates using the automated system. Each elevation certificate is maintained by address and copies are sent annually to FEMA on disk. *Action:* Require, review, enter data in computer, and file certificates for all new development in the floodplain development project. Continue to work towards establishing a complete file of pre-FIRM certificates, using local incentive program. Timeline is on going.
- The Planning Director and the Building Official will continue to provide technical advice to property owners, contractors and design professionals. *Action:* Provide technical advice and update materials to include latest documents. Timeline is on going.

Earthquake, Severe Storm, Flooding

- Provide 100-year flood protection for Wastewater Treatment Plant; provide Emergency Generator capability for all pump stations; upgrade construction to latest seismic and wind standards.

3. Natural Resource Protection Goals

All Hazards

- To the extent practicable, fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.

Flooding

- Protect and restore critical areas including Gages Slough; plan for flood hazard mitigation, surface water management and pollution control, establishment and maintenance of greenbelts and conservation areas and coordinate with adjoining jurisdictions.
- Provide habitat for wildlife species, foodfish, and freshwater fish in close proximity to an urban area, including the Skagit River Shoreline, the Gages Slough Corridor and Burlington Hill.
- To protect and restore the wetlands to optimize water quality, habitat, best management practices and ensure that adjacent land use patterns are compatible with the protection and enhancement of the wetlands and take advantage of the unique attributes of the site, allowing no net loss of wetlands, and for Gages Slough, to also increase the size of culverts, remove obstructions and generally improve the flow characteristics to provide for efficient conveyance of water through the city during flood events.
- To allow limited use of the Skagit River and its shoreline compatible with the Dike system and with the regulatory constraints of the Floodway and Special Flood Risk Zone, including transportation, levee improvement, utilities and outfall structures, public access and recreation, open space and agriculture and similar uses.
- Plan the stormwater management system to be consistent with policies regarding flooding, wetlands, land use and water quality.
- Develop an integrated program for quantity and quality control that recognizes the unique situation faced by the City with its location in the 100-year flood plain and needs for flood control in larger storm events, while at the same time needing to control the effects of smaller storms in terms of both quantity and quality of runoff.
- Apply best management practices to reduce pollutant loading and minimize the effects of contaminated sediments on Gages Slough and the Skagit River.
- Implement a long range Gages Slough Management Plan, adopt and administer a Shoreline Master Program for Gages Slough and the Skagit River Shorelines in Burlington; increased preservation of the open space and drainage corridor through easements, deeding land to city; improve water quality; eliminate failed septic systems; fence out livestock; improve wildlife habitat; do restoration planting projects; increase regulations such as greater setbacks where applicable; implement specialized best management practices to minimize problems in the long run. Gages Slough is considered a corridor to remove floodwaters after a major flood event. It only has the capacity for about 6,000 cfs of water, which is minimal in a flood event. *Action:* Add voluntary and regulatory protection to the Gages Slough Special Flood Risk Zone, the major drainage course in the city.

Flooding, Earthquake, Landslide, Fire, Severe Storms

- Encourage the retention of open space and development of recreational opportunities, conserve fish and wildlife habitat, increase access to natural resource lands and water, and develop parks. Integrate the concepts with natural functions such as drainage (Gages Slough), agriculture (surrounding farmland), and topographic features (Burlington Hill).

4. Emergency Services Goals

Flooding, Earthquake, Volcano

- Develop and maintain a specific flood warning and evacuation program for the City of Burlington. The City of Burlington Flood Emergency Plan was developed in 1995 and updated in 1998 and 2002 to reflect the best approach possible. *Action:* Fire, Police, Planning, Department of Emergency Management and other agencies have developed and refined a specific community based plan. The plan will be exercised and tested annually and revised as needed.
- The transportation plan is designed to ensure the continued ability of the transportation system to function at a reasonable level of service throughout the urban service area and coordinate the links to the regional transportation system along with Mount Vernon.
- Maintain Police, Fire, Wastewater Treatment Critical Facilities up to date with most current technology and standards to ensure operation during hazard events.
- Annual maintenance of the Emergency Plan to insure that all Critical Facilities including Nursing Homes, chemical storage facilities, schools, electric and telephone substations have a working emergency plan in place and that contacts are up to date.
- Upgrade Flood Emergency Plan to include Earthquakes, Volcanoes, and Severe Storms as the major natural hazards. Fire is covered by the Fire Department and construction standards and Landslide is covered by the Grading and Critical Areas Codes; only potential landslide site is on Burlington Hill. Droughts, Avalanche, Tsunami/Seiche are unlikely to impact Burlington.

5. Structural Projects Goals

Flooding

- Structural Measures - Set the levees back along a portion of the Skagit River. The river is constrained by levees and three bridges, limiting the ability of the Skagit River to handle flood flows, starting at the Railroad Bridge and heading west. Only 150,000 cfs of water can pass under the bridge and the capacity is needed for over 200,000+ cfs. With this alternative, it is possible to reestablish shoreline vegetation along the riverbank, since the federal constraints on levee vegetation management will no longer apply. Detailed environmental studies are in process on the two major alternatives recommended by the working group, and at the 10% design level, a 500' levee setback, with bank excavation, is required through the three-bridge corridor.

- Structural Measures - The second major element of the Burlington Plan is to develop a secondary levee system along the easterly city limits and reconstruct the existing levees to allow for overtopping. Removal of floodwaters in a way that minimizes impact on fish after a flood is an issue that is on the table for discussion with any of the alternatives, because fish stranding happens in fields as well as Gages Slough. This element requires the acquisition of land and/or development rights for the area extending south from the end of the dike at Lafayette Road along the river to the Gardner Road Bar.
- Dike District #12 will continue to maintain and upgrade the levee system to the 25-year storm. Major improvements have been made to the dike system since the 1990 flood, including the installation of keyways and backsloping the landward toe of the dikes. Land for the work has been made available through an Interlocal Agreement between Dike District #12 and the City of Burlington. The protection of the Wastewater Treatment Plant was improved to 100-year. *Action:* Continue to keep the dikes in excellent condition. Annual inspections are done; maintenance is on going.

All Hazards

- The Six Year Road Plan and the transportation element of the annually updated City of Burlington Capital Improvement Plan shall be coordinated with the Land Use, Utilities and other relevant plan elements to ensure a balanced program that is adequately funded and responsive to community interests.
- Six-year list of capital projects including specific actions targeted towards natural hazard mitigation. Implement the adopted Surface Water Management Title that provides far more extensive regulation than the adoption by reference of the Department of Ecology Technical Manual, by Public Works. Capital Improvement plan is implemented including a new pump station at the end of Gages Slough, a new storm drainage trunk on the west side. Each development is regulated and stormwater quality is also regulated. Long-term storm water quality issues are a major focus in the Gages Slough Management Plan. *Action:* Continue and improve surface water management through more in depth review, regulation and training. The first two major capital projects are scheduled and funded.
- Upgrade all city-owned critical facilities. Construction is completed of both the new Fire Station and Police Station, and the major upgrade of the Wastewater Treatment Plant.

6. Public Information Goals

Flooding

- Provide on going public education at all levels, from the renter to the homeowner, regarding residential, commercial and industrial best management practice issues, flood hazard mitigation, water quality, and related local issues. Update annually.
- The City shall provide on going public education about flooding and shall adopt a flood hazard reduction plan, consistent and compatible with any countywide efforts and plans, using the community newsletter, special targeted mailings to Realtors, insurance agents and lenders, training sessions at neighborhood meetings, the public library, and other means that may be identified.
- Provide for ongoing public education aimed at residents, businesses, and industries in the urban area. The education programs are to inform citizens about stormwater and its effects on water quality, flooding, and fish/wildlife habitat, and to discourage dumping of waste material or pollutants into storm drains.
- The Planning Director and the Building Official will continue to make flood map determinations in response to public inquiry, along with an annual mailing to real estate agents, lenders and insurance agents. *Action:* Make map determinations, provide annual mailing to users, and maintain accurate records and logs. Timeline is on going.
- The Planning Director will continue to mail out a flood bulletin twice annually, including elements for map determinations, availability of library materials, and natural and beneficial functions. *Action:* Research material and prepare flood bulletins, mail to all citizens in floodplain and entire community. Continue to participate in Flood Awareness Week and to keep citizens up to date and involved by bringing timely topics to regular Neighborhood meetings. Timeline is spring and fall of each year.
- Realtors will continue to provide disclosure of flood hazard on a voluntary basis and the Planning Department will work to modify the disclosure to identify the requirement for flood insurance purchase. Action by the state legislature to make this mandatory failed in 1995, but it is expected to be revisited. *Action:* Improve flood hazard disclosure by adding requirement for flood insurance purchase. City will support legislation at state level. Timeline is unpredictable.
- The City Librarian will continue to maintain the Flood Protection Library and add updated materials. There is a reference on the Floodplain Management Resource Center and instructions on how people can use it. Documents regarding the natural and beneficial functions of floodplains and updated local, state and federal materials are added as they become available. *Action:* Maintain and improve the Flood Protection Library. Additional local documents continue to be added as they become available, including updates to the Flood Plan and local early warning and evacuation plan.
- Maintain updated maps and continue to work on automated base maps and overlays, leading to a planning level geographic information system; data collection and data entry to continue as new information and data sources become accessible. *Action:* Planning Department to continue maintenance and updating of existing land use and topographic maps and continue data entry and development of mapping layers in automated system, including parcel and overlay data. Required flood elevations are entered for individual parcels.

- Using improved citizen involvement, public education and establishing a solid work program to improve maintenance of the drainage system. Plan to increase city maintenance of Gages Slough as drainage easements or public ownership becomes available, or a public/private partnership can be developed. Acquire land in the Gages Slough Corridor through land donation in exchange for Park Impact Fee Credit. Public education is a key focus of the drainage program and specialized best management practices brochures are designed for the residential, agricultural and business issues specific to Burlington. *Action:* Enhance maintenance of the system, including ability to maintain more of Gages Slough, by working with the property owners and business community.

All Hazards

- Expand the Public Information program to address other natural hazards where additional public information will be helpful, such as seismic retrofits for homes, how to make your home firewise, and other topics.

Review of Possible Activities: *The plan must describe those activities that were considered and note why they were or were not recommended. If the activity is currently being implemented, the plan must note whether it should be modified. The discussion needs to be detailed enough to be useful to the lay reader.*

1. *The plan reviews preventive activities, such as zoning, stormwater management regulations, building codes, and preservation of open space and the effectiveness of current regulatory and preventive standards and programs;*
2. *The plan reviews property protection actions, such as acquisition, retrofitting, and insurance;*
3. *The plan reviews activities to protect the natural and beneficial functions of the floodplain, such as wetlands protection;*
4. *The plan reviews emergency services activities, such as warning and sandbagging;*
5. *The plan reviews structural projects, such as reservoirs and channel modifications.*
6. *The plan reviews public information activities, such as outreach projects and environmental education programs.*

1. **The plan reviews preventive activities, such as zoning, stormwater management regulations, building codes, and preservation of open space and the effectiveness of current regulatory and preventive standards and programs;**

ACTIVITY	CURRENT STATUS	NEED FOR MODIFICATION
Earthquake, Severe Storm, Fire, Land Movement		
Utilize the latest adopted state building code to insure adequate protection in construction against Earthquakes in Seismic Zone 3, Severe storms with Wind Exposure C, Fire with Fire Resistive Construction Standards, and Land Movement with Grading Standards	1997 Uniform Building Code	State Legislature considering adoption of the International Codes
Utilize the latest adopted state fire code to insure adequate protection against Fire in construction with standards for Fire flow and through the annual Inspection of Commercial Structures	1997 Uniform Fire Code	State Legislature considering adoption of the International Codes
Flood		
The Floodway, the Special Flood Risk Zone and the 100 year Floodplain shall be regulated to protect human life, property and the public health and safety of the citizens of Burlington; minimize the expenditure of public money; and maintain the city's flood insurance eligibility while avoiding regulations which are unnecessarily restrictive or difficult to administer.	2002 Critical Areas Code	Up to date meeting state requirements for use of Best Available Science
Frequently flooded areas; It is the purpose of this Chapter to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in the floodplain and the floodway according to the provisions established under this code;	2002 Critical Areas Code Land Acquisition program along River and Slough	Continue Land Acquisition program
Manage stormwater runoff to improve drainage, control stormwater quantity, prevent localized flooding of streets and private property during high water table and rainy conditions, and protect and enhance water quality.	Surface Water Management Code is up to date; NPDES II permit application filed; program is staffed and funded	Increase focus on storm water quality; consultant study pending
The City shall participate in the Community Rating System to obtain the maximum possible reduction in Flood Insurance Rates from the Federal Emergency Management Agency.	Program is up to date	Review program for new activities

ACTIVITY	CURRENT STATUS	NEED FOR MODIFICATION
***Flood* - continued**		
Because of the unique floodway and floodplain limitations on the use of the Skagit River shorelines, particularly the dike system, the majority of the shoreline shall be identified and reserved for recreational and open space uses.	Interim Controls in place in three bridge corridor; park land and other land acquisition in process	Continue land acquisition program; establish a new dike setback line and make progress towards setting dikes back in three-bridge corridor.
Restrict development in the 100-year floodplain that potentially increases flood hazard unless it complies with the Flood Hazard management plan, and the critical areas code.	Coordinating with Skagit County on Flood Hazard Mitigation Feasibility Study	Continue program
Make investigations and corrective actions of problem storm drains, including sampling. Develop a program for operation and maintenance of storm drains, detention systems, ditches, and culverts.	Program is in place	Expand activities gradually as the program gains experience over time.
Flood, Landslide, Earthquake		
Utilizing Best Available Science to develop the Critical Areas title to protect, to the greatest extent practical, life, property and the environment from loss, injury and damage by pollution, erosion, flooding, landslides, strong ground motion, soil liquefaction, accelerated soil creep, settlement and subsidence, and other potential hazards, whether from natural causes or from human activity and related goals.	Program and regulations are in place.	
Coordinate with Skagit County through arrangements such as interlocal agreements, joint programs, consistent standards, or regional boards or committees.	Multi-jurisdictional All Natural Hazards Mitigation Planning project	Annual maintenance with five year update required
Urban Level of Service Standards are established to ensure protection of public health, safety and welfare by meeting relevant standards	Standards are reviewed annually	Annual review and update

ACTIVITY	CURRENT STATUS	NEED FOR MODIFICATION
Flood, Landslide, Earthquake **- continued**		
Public Works will implement drainage utility including improved maintenance and operations, a rate structure and public education element. Drainage Utility rate structure adopted in early 1997; annual inspection and maintenance requirements for all private facilities implemented; previous annual inspections limited to public facilities. Public education on best management practices is focused on Gages Slough property owners and the businesses that dump storm water into the Slough through a piped system.	***Action:*** Annual inspections and maintenance of all public and private drainage facilities; identified pollution problems will be tracked down and best management practices implemented to control source pollutants. Continue to implement Capital Improvements to stormwater system.	On-going program

2. The plan reviews property protection actions, such as acquisition, retrofitting, and insurance;

ACTIVITY	CURRENT STATUS	NEED FOR MODIFICATION
Landslide		
Provide protection of steep slopes according to standards in the Critical Areas Ordinance.	2002 Critical Areas Ordinance update	None
Flooding		
Regulations and policies shall reflect the existing dikes along the Skagit River. Nonstructural solutions to flood hazards shall be encouraged including restricting development in flood-prone areas, storm water runoff management, setback levees, and up-stream watershed vegetation management.	Innovative approaches to long term flood hazard mitigation are being developed	Program is a work in progress.
Insure that standards for flood control measures protect and enhance the biological systems and public access opportunities of the shoreline and adjacent uplands.	Innovative approaches to long term flood hazard mitigation are being developed	Program is a work in progress.

ACTIVITY	CURRENT STATUS	NEED FOR MODIFICATION
***Flooding* – continued**		
The Building Official will continue to maintain elevation certificates using the automated system. Each elevation certificate is maintained by address and copies are sent annually to FEMA on disk.	***Action:*** Require, review, enter data in computer, and file certificates for all new development in the floodplain development project. Continue to work towards establishing a complete file of pre-FIRM certificates, using local incentive program. Timeline is on going.	Annual Report
The Planning Director and the Building Official will continue to provide technical advice to property owners, contractors and design professionals.	***Action:*** Provide technical advice and update materials to include latest documents. Timeline is on going.	Annual Report
Earthquake, Severe Storm, Flooding		
Provide 100-year flood protection for Wastewater Treatment Plant; provide Emergency Generator capability for all pump stations; upgrade construction to latest seismic and wind standards	Project completed in 2001	Maintenance

3. The plan reviews activities to protect the natural and beneficial functions of the floodplain, such as wetlands protection;

ACTIVITY	CURRENT STATUS	NEED FOR MODIFICATION
Flooding		
Protect and restore critical areas including Gages Slough; plan for flood hazard mitigation, surface water management and pollution control, establishment and maintenance of greenbelts and conservation areas and coordinate with adjoining jurisdictions.	Gages Slough Management Plan is adopted	Work in progress
Provide habitat for wildlife species, foodfish, and freshwater fish in close proximity to an urban area, including the Skagit River Shoreline, the Gages Slough Corridor and Burlington Hill.	Land acquisition and restoration projects on going	Monitoring program needed

ACTIVITY	CURRENT STATUS	NEED FOR MODIFICATION
***Flooding* - continued**		
To protect and restore the wetlands to optimize water quality, habitat, best management practices and ensure that adjacent land use patterns are compatible with the protection and enhancement of the wetlands and take advantage of the unique attributes of the site, allowing no net loss of wetlands, and for Gages Slough, to also increase the size of culverts, remove obstructions and generally improve the flow characteristics to provide for efficient conveyance of water through the city during flood events.	On-going program	Monitoring program needed
To allow limited use of the Skagit River and its shoreline compatible with the Dike system and with the regulatory constraints of the Floodway and Special Flood Risk Zone, including transportation, levee improvement, utilities and outfall structures, public access and recreation, open space and agriculture and similar uses.	Regulations in place	Review based on individual permits
Plan the stormwater management system to be consistent with policies regarding flooding, wetlands, land use and water quality.	Water Quality Element being added in 2003	Monitoring program needed
Apply best management practices to reduce pollutant loading and minimize the effects of contaminated sediments on Gages Slough and the Skagit River.	On-going program	Annual review for additional opportunities

ACTIVITY	CURRENT STATUS	NEED FOR MODIFICATION
***Flooding* – continued**		
Implement a long range Gages Slough Management Plan, adopt and administer administer a Shoreline Master Program for Gages Slough and the Skagit River Shorelines in Burlington; increased preservation of the open space and drainage corridor through easements, deeding land to city; improve water quality; eliminate failed septic systems; fence out livestock; improve wildlife habitat; do restoration planting projects; increase regulations such as greater setbacks where applicable; implement specialized best management practices to minimize problems in the long run. Gages Slough is considered a corridor to remove floodwaters after a major flood event. It only has the capacity for about 6,000 cfs of water, which is minimal in a flood event.	***Action:*** Add voluntary and regulatory protection to the Gages Slough Special Flood Risk Zone, the major drainage course in the city.	Work in process, annual report.
Flooding, Earthquake, Landslide, Fire, Severe Storms		
Encourage the retention of open space and development of recreational opportunities, conserve fish and wildlife habitat, increase access to natural resource lands and water, and develop parks. Integrate the concepts with natural functions such as drainage (Gages Slough), agriculture (surrounding farmland), and topographic features (Burlington Hill).	New Urban Wildlife Habitat Element added to Parks and Recreation Comprehensive Plan in 2003	Annual review

4. The plan reviews emergency services activities, such as warning and sandbagging;

ACTION	CURRENT STATUS	NEED FOR MODIFICATION
Flooding, Earthquake, Volcano		
Develop and maintain a specific flood warning and evacuation program for the City of Burlington. The City of Burlington Flood Emergency Plan was developed in 1995 and updated in 1998 and 2002 to reflect the best approach possible.	***Action:*** Fire, Police, Planning, Department of Emergency Management and other agencies have developed and refined a specific community based plan. The plan will be exercised and tested annually and revised as needed.	Annual Review

ACTION	CURRENT STATUS	NEED FOR MODIFICATION
***Flooding, Earthquake, Volcano* – continued**		
The transportation plan is designed to ensure the continued ability of the transportation system to function at a reasonable level of service throughout the urban service area and coordinate the links to the regional transportation system along with Mount Vernon.	The transportation system is a critical facility in a community where evacuation is likely to be necessary	Annual Review
Maintain Police, Fire, Wastewater Treatment Critical Facilities up to date with most current technology and standards to ensure operation during hazard events.	Facilities are new and up to date	On-going
Annual maintenance of the Emergency Plan to insure that all Critical Facilities including Nursing Homes, chemical storage facilities, schools, electric and telephone substations have a working emergency plan in place and that contacts are up to date.	Emergency Plan updated in 2002 to add Evacuation Plan and Routes	Annual Review
Upgrade Flood Emergency Plan to include Earthquakes, Volcanoes, and Severe Storms as the major natural hazards. Fire is covered by the Fire Department and construction standards and Landslide is covered by the Grading and Critical Areas Codes; only potential landslide site is on Burlington Hill. Droughts, Avalanche, Tsunami/Seiche are unlikely to impact Burlington.	Emergency Plan is currently focused on Flooding	Emergency Plan to be upgraded for other hazards

5. The plan reviews structural projects, such as reservoirs and channel modifications.

ACTION	CURRENT STATUS	NEED FOR MODIFICATION
Flooding		
Structural Measures - Set the levees back along a portion of the Skagit River. The river is constrained by levees and three bridges, limiting the ability of the Skagit River to handle flood flows, starting at the Railroad Bridge and heading west. Only 150,000 cfs of water can pass under the bridge and the capacity is needed for over 200,000+ cfs. With this alternative, it is possible to reestablish shoreline vegetation along the riverbank, since the federal constraints on levee vegetation management will no longer apply. Detailed environmental studies are in process on the two major alternatives recommended by the working group, and at the 10% design level, a 500' levee setback, with bank excavation, is required through the three-bridge corridor.	Planning in process; final setback location in 2003; land acquisition in process	Project is underway
Structural Measures - The second major element of the Burlington Plan is to develop a secondary levee system along the easterly city limits and reconstruct the existing levees to allow for overtopping.	Land Acquisition is underway and dike improvements are being made	On-going
Dike District #12 will continue to maintain and upgrade the levee system to the 25-year storm. Major improvements have been made to the dike system since the 1990 flood, including the installation of keyways and backsloping the landward toe of the dikes. Land for the work has been made available through an Interlocal Agreement between Dike District #12 and the City of Burlington. The protection of the Wastewater Treatment Plant was improved to 100-year.	***Action:*** Continue to keep the dikes in excellent condition. Annual inspections are done; maintenance is on going.	On-going

ACTION	CURRENT STATUS	NEED FOR MODIFICATION
All Hazards		
The Six Year Road Plan and the transportation element of the annually updated City of Burlington Capital Improvement Plan shall be coordinated with the Land Use, Utilities and other relevant plan elements to ensure a balanced program that is adequately funded and responsive to community interests.	Transportation plan to be updated in 2003	Annual Review
Six-year list of capital projects including specific actions targeted towards natural hazard mitigation. Implement the adopted Surface Water Management Title that provides far more extensive regulation than the adoption by reference of the Department of Ecology Technical Manual, by Public Works. Capital Improvement plan is implemented including a new pump station at the end of Gages Slough, a new storm drainage trunk on the west side. Each development is regulated and stormwater quality is also regulated. Long-term storm water quality issues are a major focus in the Gages Slough Management Plan. *Action:* Continue and improve surface water management through more in depth review, regulation and training. The first two major capital projects are scheduled and funded.	Annual update	Annual update
Upgrade all city-owned critical facilities. Construction is completed of both the new Fire Station and Police Station, and the major upgrade of the Wastewater Treatment Plant.	Completed	Completed

6. The plan reviews public information activities, such as outreach projects and environmental education programs.

ACTION	CURRENT STATUS	NEED FOR MODIFICATION
Flooding		
Provide on going public education at all levels, from the renter to the homeowner, regarding residential, commercial and industrial best management practice issues, flood hazard mitigation, water quality, and related local issues. Update annually.	On-going	Additional ideas to reach the public always needed
The City shall provide on going public education about flooding and shall adopt a flood hazard reduction plan, consistent and compatible with any countywide efforts and plans, using the community newsletter, special targeted mailings to Realtors, insurance agents and lenders, training sessions at neighborhood meetings, the public library, and other means that may be identified.	On-going	Annual report
Provide for ongoing public education aimed at residents, businesses, and industries in the urban area. The education programs are to inform citizens about stormwater and its effects on water quality, flooding, and fish/wildlife habitat, and to discourage dumping of waste material or pollutants into storm drains.	On-going	Annual report
The Planning Director and the Building Official will continue to make flood map determinations in response to public inquiry, along with an annual mailing to real estate agents, lenders and insurance agents.	***Action:*** Make map determinations, provide annual mailing to users, and maintain accurate records and logs. Timeline is on going.	Annual Report

ACTION	CURRENT STATUS	NEED FOR MODIFICATION
***Flooding* - continued**		
The Planning Director will continue to mail out a flood bulletin twice annually, including elements for map determinations, availability of library materials, and natural and beneficial functions.	***Action:*** Research material and prepare flood bulletins, mail to all citizens in floodplain and entire community. Continue to participate in Flood Awareness Week and to keep citizens up to date and involved by bringing timely topics to regular Neighborhood meetings. Timeline is spring and fall of each year.	Annual Report
Realtors will continue to provide disclosure of flood hazard on a voluntary basis and the Planning Department will work to modify the disclosure to identify the requirement for flood insurance purchase. Action by the state legislature to make this mandatory failed in 1995, but it is expected to be revisited.	***Action:*** Improve flood hazard disclosure by adding requirement for flood insurance purchase. City will support legislation at state level. Timeline is unpredictable.	Annual Report
The City Librarian will continue to maintain the Flood Protection Library and add updated materials. There is a reference on the Floodplain Management Resource Center and instructions on how people can use it. Documents regarding the natural and beneficial functions of floodplains and updated local, state and federal materials are added as they become available.	***Action****:* Maintain and improve the Flood Protection Library. Additional local documents continue to be added as they become available, including updates to the Flood Plan and local early warning and evacuation plan.	Annual Report

ACTION	CURRENT STATUS	NEED FOR MODIFICATION
***Flooding* - continued**		
Maintain updated maps and continue to work on automated base maps and overlays, leading to a planning level geographic information system; data collection and data entry to continue as new information and data sources become accessible.	***Action:*** Planning Department to continue maintenance and updating of existing land use and topographic maps and continue data entry and development of mapping layers in automated system, including parcel and overlay data. Required flood elevations are entered for individual parcels.	Annual Report
Using improved citizen involvement, public education and establishing a solid work program to improve maintenance of the drainage system. Plan to increase city maintenance of Gages Slough as drainage easements or public ownership becomes available, or a public/private partnership can be developed. Acquire land in the Gages Slough Corridor through land donation in exchange for Park Impact Fee Credit. Public education is a key focus of the drainage program and specialized best management practices brochures are designed for the residential, agricultural and business issues specific to Burlington.	***Action:*** Enhance maintenance of the system, including ability to maintain more of Gages Slough, by working with the property owners and business community.	Annual Report
All Hazards		
Expand the Public Information program to address other natural hazards where additional public information will be helpful, such as seismic retrofits for homes, how to make your home firewise, and other topics.	Hazards identified through Multi-jurisdictional Planning process	Plan needed

ACTION PLAN FOR FLOOD HAZARD AND NATURAL HAZARD REDUCTION - SELECTION OF APPROPRIATE ACTIVITIES

2003: *The action plan specifies those activities appropriate to the community's resources, hazards, and vulnerable properties. For each recommendation, the action plan must identify who does what, when it will be done, and how it will be financed.*

Regulatory improvements exceeding NFIP minimum requirements are credited.

Post-disaster mitigation policies and procedures

Action items to mitigate the effects of the other natural hazards identified.

****At least two of these six categories must be included in the multi-jurisdictional plan for each CRS community*

1. **Preventive activities, such as zoning, stormwater management regulations, building codes, and preservation of open space and the effectiveness of current regulatory and preventive standards and programs;**

ACTIVITY	STAFF ASSIGNMENT& SCHEDULE	FINANCING PLAN
Earthquake, Severe Storm, Fire, Land Movement		
Utilize the latest adopted state building code to insure adequate protection in construction against Earthquakes in Seismic Zone 3, Severe storms with Wind Exposure C, Fire with Fire Resistive Construction Standards, and Land Movement with Grading Standards	**State Legislature** to adopt International Codes – **City Council** to adopt new state code – **SHORT TERM 2004 or later**	No financial impact
Utilize the latest adopted state fire code to insure adequate protection against Fire in construction with standards for Fire flow and through the annual Inspection of Commercial Structures	**State Legislature** to adopt International Codes – **City Council** to adopt new state code – **SHORT TERM 2004 or later**	No financial impact
Flood		
The Floodway, the Special Flood Risk Zone and the 100 year Floodplain shall be regulated to protect human life, property and the public health and safety of the citizens of Burlington; minimize the expenditure of public money; and maintain the city's flood insurance eligibility while avoiding regulations which are unnecessarily restrictive or difficult to administer.	**Planning and Building Department – ON-GOING** Administration of 2002 Critical Areas Code that includes the Flood Code	No financial impact

ACTIVITY	STAFF ASSIGNMENT& SCHEDULE	FINANCING PLAN
***Flood* – continued**		
Manage stormwater runoff to improve drainage, control stormwater quantity, prevent localized flooding of streets and private property during high water table and rainy conditions, and protect and enhance water quality. NPDES II permit application filed; Increase focus on storm water quality.	**Public Works & Street Department –** Administer Surface Water Management Code; 2003 consultant study; **SHORT TERM -** Update Comprehensive Plan and Code **2004 & Annual Report**	Funded by Surface Water Utility fees, both new construction and monthly rates
The City shall participate in the Community Rating System to obtain the maximum possible reduction in Flood Insurance Rates from the Federal Emergency Management Agency.	**Planning Department – ON-GOING** with Annual Report and Recertification process every 5 years	Funding integrated into each department's budget
Because of the unique floodway and floodplain limitations on the use of the Skagit River shorelines, particularly the dike system, the majority of the shoreline shall be identified and reserved for recreational and open space uses. Interim Controls in place in three bridge corridor; park land and other land acquisition in process; Urban Wildlife Habitat Element being added to Parks Comprehensive Plan	**Planning and Parks Department - SHORT TERM -** Update Parks Comprehensive Plan **2004; Dike District #12 – LONG TERM** -Complete land acquisition **2008;** construction to follow as funded.	Grant funding actively being sought for land acquisition, as well as Dike District #12 property tax funding
Restrict development in the 100-year floodplain that potentially increases flood hazard unless it complies with the Flood Hazard management plan, and the Critical Areas Code.	**Skagit County – SHORT TERM -** Flood Hazard Mitigation Feasibility Study **2005** **Federal Emergency Management Agency – SHORT TERM -** new floodplain maps **2005**	Federal, State and Local funds combined
Make investigations and corrective actions of problem storm drains, including sampling. Develop a program for operation and maintenance of storm drains, detention systems, ditches, and culverts.	**Public Works & Street Departments – ON-GOING** Administer Surface Water Management Code	Funded by Surface Water Utility fees, both new construction and monthly rates

ACTIVITY	STAFF ASSIGNMENT& SCHEDULE	FINANCING PLAN
Flood, Landslide, Earthquake		
Utilizing Best Available Science to develop the Critical Areas title to protect, to the greatest extent practical, life, property and the environment from loss, injury and damage by pollution, erosion, flooding, landslides, strong ground motion, soil liquefaction, accelerated soil creep, settlement and subsidence, and other potential hazards, whether from natural causes or from human activity and related goals.	**Planning, Building and Public Works Departments – ON-GOING-** Program and regulations are in place.	Funding integrated into each department's budget
Coordinate with Skagit County through arrangements such as interlocal agreements, joint programs, consistent standards, or regional boards or committees.	**Multi-jurisdictional All Natural Hazards Mitigation Planning project – SHORT TERM - 2003** first plan with annual maintenance **LONG TERM -** five year update required	Initial development funded by State/Federal Grant; follow-up funded locally or with additional grants if available.
Urban Level of Service Standards are established to ensure protection of public health, safety and welfare by meeting relevant standards	**All City Departments SHORT TERM –** annual review through Capital Facilities Plan process	Funding integrated into each department's budget
Public Works will implement drainage utility including improved maintenance and operations, a rate structure and public education element. Drainage Utility rate structure adopted in early 1997; annual inspection and maintenance requirements for all private facilities implemented; previous annual inspections limited to public facilities. Public education on best management practices is focused on Gages Slough property owners and the businesses that dump storm water into the Slough through a piped system.	**Public Works Department; Planning Department; ON-GOING**	Funded by Surface Water Utility fees, both new construction and monthly rates

2. The plan reviews property protection actions, such as acquisition, retrofitting, and insurance;

ACTIVITY	STAFF ASSIGNMENT & SCHEDULE	FINANCING PLAN
Landslide		
Provide protection of steep slopes according to standards in the Critical Areas Ordinance.	**Planning, Building & Public Works Departments –ON-GOING**	Funding integrated into each department's budget
Flooding		
Regulations and policies shall reflect the existing dikes along the Skagit River. Nonstructural solutions to flood hazards shall be encouraged including restricting development in flood-prone areas, storm water runoff management, setback levees, and up-stream watershed vegetation management.	**Planning Department, Public Works Department, and Dike District #12 – ON-GOING; Dike District #12 – LONG TERM** - Complete land acquisition **2008;** construction to follow as funded.	Grant funding actively being sought for land acquisition, as well as Dike District #12 property tax funding
Insure that standards for flood control measures protect and enhance the biological systems and public access opportunities of the shoreline and adjacent uplands. Process permits, develop shoreline master program and update overall Comprehensive Plan	**Planning Department – SHORT TERM - 2005** for update of Comprehensive Plans – other dates not set	Funding integrated into department budget
The Building Official will continue to maintain elevation certificates using the automated system. Each elevation certificate is maintained by address and copies are sent annually to FEMA on disk. *Action:* Require, review, enter data in computer, and file certificates for all new development in the floodplain development project. Continue to work towards establishing a complete file of pre-FIRM certificates, using local incentive program.	**Building Department - ON-GOING**	Funding integrated into department budget
The Planning Director and the Building Official will continue to provide technical advice to property owners, contractors and design professionals.	**Planning and Building Departments – ON-GOING**	Funding integrated into department budgets

ACTIVITY	STAFF ASSIGNMENT & SCHEDULE	FINANCING PLAN
Earthquake, Severe Storm, Flooding		
Provide 100-year flood protection for Wastewater Treatment Plant; provide Emergency Generator capability for all pump stations; upgrade construction to latest seismic and wind standards	**Sewer Department – ON-GOING**	Sewer Utility Fund

3. The plan reviews activities to protect the natural and beneficial functions of the floodplain, such as wetlands protection;

ACTIVITY	STAFF ASSIGNMENT & SCHEDULE	FINANCING PLAN
Flooding		
Protect and restore critical areas including Gages Slough; plan for flood hazard mitigation, surface water management and pollution control, establishment and maintenance of greenbelts and conservation areas and coordinate with adjoining jurisdictions. Gages Slough Management Plan is adopted and being implement over time	**Planning, Public Works, Dike District #12 – ON-GOING** as funding is available	Combination of funding including department budgets, grant funds, surface water utility
Provide habitat for wildlife species, foodfish, and freshwater fish in close proximity to an urban area, including the Skagit River Shoreline, the Gages Slough Corridor and Burlington Hill. Monitoring program needed	**Planning and Parks Department, Dike District #12, Public Works Department - SHORT TERM - 2004** for Gages Slough monitoring program **LONG TERM –** as funded	Combination of funding including department budgets, grant funds, surface water utility
To protect and restore the wetlands to optimize water quality, habitat, best management practices and ensure that adjacent land use patterns are compatible with the protection and enhancement of the wetlands and take advantage of the unique attributes of the site, allowing no net loss of wetlands, and for Gages Slough, to also increase the size of culverts, remove obstructions and generally improve the flow characteristics to provide for efficient conveyance of water through the city during flood events.	**Planning, Parks, Public Works Departments – ON-GOING** with individual dates for specific capital projects; schedule updated annually	Combination of funding including department budgets, grant funds, surface water utility

ACTIVITY	STAFF ASSIGNMENT & SCHEDULE	FINANCING PLAN
***Flooding* – continued**		
To allow limited use of the Skagit River and its shoreline compatible with the Dike system and with the regulatory constraints of the Floodway and Special Flood Risk Zone, including transportation, levee improvement, utilities and outfall structures, public access and recreation, open space and agriculture and similar uses. Review based on individual permits.	**Planning Department and Public Works Department – ONGOING**	Combination of funding including department budgets, grant funds,
Plan the stormwater management system to be consistent with policies regarding flooding, wetlands, land use and water quality. Water Quality Element being added.	**Public Works Department SHORT TERM – 2004** for plan update.	Surface Water Utility funds and department budgets
Apply best management practices to reduce pollutant loading and minimize the effects of contaminated sediments on Gages Slough and the Skagit River.	**Planning, Parks, Public Works – ON-GOING** with annual review for additional opportunities	Funding integrated into department budgets
Implement a long range Gages Slough Management Plan, adopt and administer a Shoreline Master Program for Gages Slough and the Skagit River Shorelines in Burlington; increased preservation of the open space and drainage corridor through easements, deeding land to city; improve water quality; eliminate failed septic systems; fence out livestock; improve wildlife habitat; do restoration planting projects; increase regulations such as greater setbacks where applicable; implement specialized best management practices to minimize problems in the long run. Gages Slough is considered a corridor to remove floodwaters after a major flood event. It only has the capacity for about 6,000 cfs of water, which is minimal in a flood event. ***Action:*** Add voluntary and regulatory protection to the Gages Slough Special Flood Risk Zone, the major drainage course in the city.	**Planning, Parks & Public Works Departments – ON-GOING** with Annual Report	Shoreline Master program is unfunded; waiting for state funding. Other work is combination of funding from general budget, to grant funds, to surface water utility and parks capital funds

ACTIVITY	STAFF ASSIGNMENT & SCHEDULE	FINANCING PLAN
Flooding, Earthquake, Landslide, Fire, Severe Storms		
Encourage the retention of open space and development of recreational opportunities, conserve fish and wildlife habitat, increase access to natural resource lands and water, and develop parks. Integrate the concepts with natural functions such as drainage (Gages Slough), agriculture (surrounding farmland), and topographic features (Burlington Hill). Urban Wildlife Habitat Element added to Parks and Recreation Comprehensive Plan	**Planning, Parks Departments –ON-GOING** plus 2004 for Parks Plan	Parks Fund, general budgets

4. The plan reviews emergency services activities, such as warning and sandbagging;

ACTION	STAFF ASSIGNMENT & SCHEDULE	FINANCING PLAN
Flooding, Earthquake, Volcano		
Develop and maintain a specific flood warning and evacuation program for the City of Burlington. The City of Burlington Flood Emergency Plan was developed in 1995 and updated in 1998 and 2002 to reflect the best approach possible. *Action:* Fire, Police, Planning, Department of Emergency Management and other agencies have developed and refined a specific community based plan.	**City Emergency Plan Committee – ON-GOING** with Annual Review and exercise.	Funding integrated into department budgets
The transportation plan is designed to ensure the continued ability of the transportation system to function at a reasonable level of service throughout the urban service area and coordinate the links to the regional transportation system along with Mount Vernon. Critical for evacuation	**Planning and Public Works Departments – SHORT TERM - 2004** plan update	Funding integrated into department budgets
Maintain Police, Fire, Wastewater Treatment Critical Facilities up to date with most current technology and standards to ensure operation during hazard events.	**City of Burlington – ON-GOING**	Funding integrated into department budgets

ACTION	STAFF ASSIGNMENT & SCHEDULE	FINANCING PLAN
***Flooding, Earthquake, Volcano* – continued**		
Annual maintenance of the Emergency Plan to insure that all Critical Facilities including Nursing Homes, chemical storage facilities, schools, electric and telephone substations have a working emergency plan in place and that contacts are up to date. Emergency Plan updated in 2002 to add Evacuation Plan and Routes.	**City Emergency Plan Committee – ON-GOING -** Annual Review and exercise.	Funding integrated into department budgets
Upgrade Flood Emergency Plan to include Earthquakes, Volcanoes, and Severe Storms as the major natural hazards. Fire is covered by the Fire Department and construction standards and Landslide is covered by the Grading and Critical Areas Codes; only potential landslide site is on Burlington Hill. Droughts, Avalanche, Tsunami/Seiche are unlikely to impact Burlington.	**City Emergency Plan Committee – SHORT TERM - 2004** with Annual Review	Funding integrated into department budgets

5. The plan reviews structural projects, such as reservoirs and channel modifications.

ACTION	STAFF ASSIGNMENT AND SCHEDULE	FINANCING PLAN
Flooding		
Structural Measures - Set the levees back along a portion of the Skagit River. The river is constrained by levees and three bridges, limiting the ability of the Skagit River to handle flood flows, starting at the Railroad Bridge and heading west. Only 150,000 cfs of water can pass under the bridge and the capacity is needed for over 200,000+ cfs. With this alternative, it is possible to reestablish shoreline vegetation along the riverbank, since the federal constraints on levee vegetation management will no longer apply. Detailed environmental studies are in process on the two major alternatives recommended by the working group, and at the 10% design level, a 500' levee setback, with bank excavation, is required through the three-bridge corridor.	**Planning, Public Works, Dike District #12 SHORT TERM -** Planning in process; final setback location in **2003**; **LONG TERM -** land acquisition in process through **2008**	Variety of funding sources including grant funds, federal, state and local funds

ACTION	STAFF ASSIGNMENT AND SCHEDULE	FINANCING PLAN
***Flooding* – continued**		
Structural Measures - The second major element of the Burlington Plan is to develop a secondary levee system along the easterly city limits and reconstruct the existing levees to allow for overtopping. Land Acquisition is underway and dike improvements are being made	**Dike District #12 – LONG TERM**	Grant Funds, property tax funds
Dike District #12 will continue to maintain and upgrade the levee system to the 25-year storm. Major improvements have been made to the dike system since the 1990 flood, including the installation of keyways and backsloping the landward toe of the dikes. Land for the work has been made available through an Interlocal Agreement between Dike District #12 and the City of Burlington. The protection of the Wastewater Treatment Plant was improved to 100-year. *Action:* Continue to keep the dikes in excellent condition. Annual inspections are done; maintenance is on going.	**Dike District #12, City of Burlington – ON-GOING**	Property tax funds, Sewer Utility Funds, City funds
All Hazards		
The Six Year Road Plan and the transportation element of the annually updated City of Burlington Capital Improvement Plan shall be coordinated with the Land Use, Utilities and other relevant plan elements to ensure a balanced program that is adequately funded and responsive to community interests.	**Planning & Public Works Department – SHORT TERM - 2004** for plan update; **ON-GOING -** Annual review and update of project list	General City Funds

ACTION	STAFF ASSIGNMENT AND SCHEDULE	FINANCING PLAN
***All Hazards* - continued**		
Six-year list of capital projects including specific actions targeted towards natural hazard mitigation. Implement the adopted Surface Water Management Title that provides far more extensive regulation than the adoption by reference of the Department of Ecology Technical Manual, by Public Works. Capital Improvement plan is implemented including a new pump station at the end of Gages Slough, a new storm drainage trunk on the west side. Each development is regulated and stormwater quality is also regulated. Long-term storm water quality issues are a major focus in the Gages Slough Management Plan. *Action:* Continue and improve surface water management through more in depth review, regulation and training. The first two major capital projects are scheduled and funded.	**All City Departments – SHORT TERM -**Annual update	General City Funds, Utility Funds, grant funds
Upgrade all city-owned critical facilities. Construction is completed of both the new Fire Station and Police Station, and the major upgrade of the Wastewater Treatment Plant.	**City of Burlington –ON-GOING –**All facilities updated over past 5 years	General City Funds, Utility Funds, Grant funds

6. The plan reviews public information activities, such as outreach projects and environmental education programs.

ACTION	STAFF ASSIGNMENT & SCHEDULE	FINANCING PLAN
Flooding		
Provide on going public education at all levels, from the renter to the homeowner, regarding residential, commercial and industrial best management practice issues, flood hazard mitigation, water quality, and related local issues. Update annually.	**Planning Department ON-GOING** -with Annual Report	Integrated in Department Budget.

ACTION	STAFF ASSIGNMENT & SCHEDULE	FINANCING PLAN
***Flooding* – continued**		
The City shall provide on going public education about flooding and shall adopt a flood hazard reduction plan, consistent and compatible with any countywide efforts and plans, using the community newsletter, special targeted mailings to Realtors, insurance agents and lenders, training sessions at neighborhood meetings, the public library, and other means that may be identified.	**Planning Department ON-GOING** with Annual Report	Integrated in Department Budget.
Provide for ongoing public education aimed at residents, businesses, and industries in the urban area. The education programs are to inform citizens about stormwater and its effects on water quality, flooding, and fish/wildlife habitat, and to discourage dumping of waste material or pollutants into storm drains.	**Planning Department ON-GOING** with Annual Report	Integrated in Department Budget.
The Planning Director and the Building Official will continue to make flood map determinations in response to public inquiry, along with an annual mailing to real estate agents, lenders and insurance agents. ***Action:*** Make map determinations, provide annual mailing to users, and maintain accurate records and logs. Timeline is on going.	**Planning Department ON-GOING** with Annual Report	Integrated in Department Budget.
The Planning Director will continue to mail out a flood bulletin twice annually, including elements for map determinations, availability of library materials, and natural and beneficial functions. ***Action:*** Research material and prepare flood bulletins, mail to all citizens in floodplain and entire community. Continue to participate in Flood Awareness Week and to keep citizens up to date and involved by bringing timely topics to regular Neighborhood meetings. Timeline is spring and fall of each year.	**Planning Department ON-GOING** with Annual Report	Integrated in Department Budget.

ACTION	STAFF ASSIGNMENT & SCHEDULE	FINANCING PLAN
***Flooding* – continued**		
Realtors will continue to provide disclosure of flood hazard on a voluntary basis and the Planning Department will work to modify the disclosure to identify the requirement for flood insurance purchase. Action by the state legislature to make this mandatory failed in 1995, but it is expected to be revisited. ***Action:*** Improve flood hazard disclosure by adding requirement for flood insurance purchase. City will support legislation at state level. Timeline is unpredictable.	**Planning Department ON-GOING** with Annual Report	Integrated in Department Budget.
The City Librarian will continue to maintain the Flood Protection Library and add updated materials. There is a reference on the Floodplain Management Resource Center and instructions on how people can use it. Documents regarding the natural and beneficial functions of floodplains and updated local, state and federal materials are added as they become available. ***Action:*** Maintain and improve the Flood Protection Library. Additional local documents continue to be added as they become available, including updates to the Flood Plan and local early warning and evacuation plan.	**Planning Department ON-GOING** with Annual Report	Integrated in Department Budget.
Maintain updated maps and continue to work on automated base maps and overlays, leading to a planning level geographic information system; data collection and data entry to continue as new information and data sources become accessible. ***Action:*** Planning Department to continue maintenance and updating of existing land use and topographic maps and continue data entry and development of mapping layers in automated system, including parcel and overlay data. Required flood elevations are entered for individual parcels.	**Planning Department ON-GOING** with Annual Report	Integrated in Department Budget.

ACTION	STAFF ASSIGNMENT & SCHEDULE	FINANCING PLAN
***Flooding* – continued**		
Using improved citizen involvement, public education and establishing a solid work program to improve maintenance of the drainage system. Plan to increase city maintenance of Gages Slough as drainage easements or public ownership becomes available, or a public/private partnership can be developed. Acquire land in the Gages Slough Corridor through land donation in exchange for Park Impact Fee Credit. Public education is a key focus of the drainage program and specialized best management practices brochures are designed for the residential, agricultural and business issues specific to Burlington. ***Action:*** Enhance maintenance of the system, including ability to maintain more of Gages Slough, by working with the property owners and business community.	**Planning Department ON-GOING** with Annual Report	Integrated in Department Budget
All Hazards		
Expand the Public Information program to address other natural hazards where additional public information will be helpful, such as seismic retrofits for homes, how to make your home firewise, and other topics. Hazards identified through Multi-jurisdictional Planning process.	**Planning Department ON-GOING** with Annual Report	Integrated in Department Budget.

APPENDIX A

EXAMPLE OF RECENT FLOOD HAZARD REDUCTION PUBLIC INFORMATION BULLETINS

APPENDIX B

MAPS OF CITY OF BURLINGTON FLOODPLAIN

SPECIAL FLOOD RISK ZONE

EVACUATION PLAN AND ROUTE

APPENDIX C

SKAGIT COUNTY DIKE DISTRICT NO. 12

STANDARD OPERATING GUIDELINES
REVISED 11/00

APPENDIX D

CITY OF BURLINGTON
FLOOD EMERGENCY PLAN
2003 – 2008

SKAGIT COUNTY DIKE DISTRICT #12
1317 S. ANACORTES STREET
BURLINGTON WA 98233

STANDARD OPERATING GUIDELINES

REVISED: November 2000

COMMISSIONERS:

CHARLES H. BENNETT, Secretary

MARVIN B. CANNON

DANIEL S. LEFEBER

- If it is for certain there will be a high river and a flood Dike District 12 will first have a meeting with Dike District Commissioners, Fire Chiefs, Assistant Chiefs, Burlington Police Chief, Sheriff, Burlington Mayor, Public Works Director, and Street Supervisor to go over procedures, plans, responsibilities, and assignments **24 hours** in advance. As of December 1995 Dike District #12 will be operating under a more formally structured Incident Command System (ICS). See attached Exhibit A.

- Firefighter manpower as we can get it. Some can get away from their jobs with no pay cuts and some cannot. In our preflood meeting we talk all this over and divide up the hours to fit the firefighters off time. It usually works out but under the circumstances some will put in more flood hours than others.

- The Fire Departments have a firefighter in charge of each operation, who is under the direction of the Fire Chief or Assistant Chief (Operations), who in turn is under the authority and direction of, the Dike District 12 Commissioners (Incident Commanders). See attached Exhibit A.

DIKE PATROLLING

- Dike patrolling will start with limited patrols at around **28 feet** by the Dike Commissioners. **Twenty-four (24) hour** patrols will start at 32 feet **(Riverside gauge). Anything over 35' is very dangerous.**

- **Patrolling will continue until water has receded enough that there is no longer a threat to the dikes, (below 30' feet).** After that Dike Commissioners will do limited patrols. In 1998 Dike District implemented the use of ATV's and John Deere Gators on dike patrols. See SOP's for ATV's and Gators, Exhibit B.

CHECK LISTS

A. After the meeting a check of the following items will be conducted by Dike Commissioners.

    1. Equipment / Supplies. Shovels, sandbags, mega baggers, one man baggers, gloves, visqueen, flashlights, batteries- get additional batteries at least 24 hrs before patrols start.
    2. Order sand.
    3. Radios, batteries, chargers, base units.
    4. Trucks, boats. Contact owners to let them know a flood fight is 24 hours away and check availability of equipment. Order all rental equipment needed.
    5. Pallets – Forklifts – ATV's – Gators.
    6. Check with superintendent of schools so they can develop a list of volunteers. If notice of flood comes earlier, notify schools earlier.

7. Set up Command Centers.
8. Have list of local radio stations phone / fax numbers for public help with sandbagging.
9. Gates – unlock padlocks.
10. Port-a-Potty's ordered, placed.
11. Contact Burlington Northern R.R. of possible Hwy 20 railroad line closure for sandbagging.

I. COMMAND CENTERS

A. The Dike District #12 command centers are the Burlington Flood Fight Headquarters (1317 South Anacortes Street) and the Mc Lean Road Fire Hall.

1. We dispatch all materials, manpower, etc. out of the command centers and try to keep a log of everything done and requested along with the date and time. We set up radio communications to be in contact with Dike District 12 Commissioners, Sheriff's office, Department of Emergency Management, Burlington Fire Department, Police Department and their personnel, and the McLean Road Fire Department and its personnel. Communications with the County Flood Fight Engineer goes through our County sector personnel.
2. We keep a working fire crew at the centers at all times to make first run on fire calls. Water rescues are done by Skagit County Sheriff and Search & Rescue. Sheriff will be notified if water rescues are needed.
3. City of Burlington Mayor, and Fire District 2 and 6 Commissioners are responsible for making Fire Department Personnel available to Dike District 12, with Fire Chief or designee in charge of firefighters. All personnel take orders from Dike District 12 Commissioners. The District in turn works with Skagit County, the Army Corps of Engineers, and other Dike Districts.
4. The Fire Chief or Assistant Chief is responsible for Operations.
5. We set up the kitchen with Coordinator(s) in charge. This kitchen is set up to run 24 hours a day as long as we have an emergency.
6. **ALL NON-FLOOD FIGHT AGENCIES** will be stationed at the Burlington Fire Hall. (Search and Rescue, Navy, etc.)

II. SANDBAGGING

A. Sandbagging is done at the Command Centers (Burlington Flood Fight Head Quarters and McLean Road Fire Hall) by volunteers with one firefighter in charge. We find it works a lot better to have the sandbagging operation in one area away from the dike, it cuts down on the confusion for the volunteers and makes it easier to keep track of people and dispatch help to areas when needed.

1. ALL volunteers must sign in on the sign up sheets before helping.
2. Sandbags are loaded onto pallets for ease in handling and loading. Pallets are loaded onto trucks and then dispatched as needed.
3. Extra pallets full of bags are put to one side for future use as needed.
4. We will fill a minimum of **20,000** bags to start and fill additional bags as needed. If river levels are predicted to be the same as or higher than the 1995 levels, **40,000** bags will need to be filled to start.
5. **ALL** requests for sand and sandbags made to the County **MUST** be made through the County Sector person. The Sector person will have a radio and will be unit No. 12-5.

B. SANDBAGGING ON DIKE DISTRICT 12 DIKES

1. We use sandbags on or near the dikes for several reasons:

   a. Boils.

   b. To fill in low areas on the top of dikes.

   c. To prevent overtopping and washouts of dikes.

   d. To shore up and provide extra ballast (weight) on backslope of dike where areas of sloughing are occurring.

2. Dike patrols watch for these problems and alert the Command Center, who relays the information to Operations, who in turn relays the information to the Dike District Commissioners.

3. The Firefighter in charge of a section will call the Command Center for sandbags and manpower for a developing problem area, or to reinforce an existing problem. A "special operation" will then be established with a technical expert (Dike District Commissioner, COE, or Firefighter) in charge.

4. After trucks with sandbags have been dispatched and arrive at the section where the problems are located, the person in charge will direct the truck and personnel to where they are to unload and place bags.

III. MUTUAL AID

A. LIMITED SCALE

1. It has long been Dike District 12's policy to provide mutual aid when needed **IF** at all possible. When a request for sandbags comes in from outside Dike 12's District it must be ok'd by the Dike District Commissioners, through Operations.

2. BEFORE contacting Operations, the firefighter in Command Center Communications should:

   a. Get name of Entity and Person making request.

   b. Location.

   c. Type of problem and Degree of Emergency or need, and number of bags needed.

   d. Transportation - will they pick up or do we have to deliver.

   e. Relay the information to Operations.

   f. Operations will contact the firefighter in charge of sand bagging for an accurate count of filled and empty bags on hand. Operations will then relay the information to the Dike District Commissioners. The Dike Commissioners will make the final determination of how many if any can be released at that time.

   g. Command Center Communications will log all request and disbursements of bags, both from within and from outside of Dike District 12. To whom/ How many/ When/Where/Why.

3. MUTUAL AID RECIPIENTS

a. Other Dike Districts

i. Cities, Municipal and Critical facilities.

ii. Skagit County – Public Works – Department of Emergency Management.

iii. Other flood fight centers.

iv. U.S. Army Corps of Engineers.

v. Businesses.

vi. Individuals – Skagit County has set up some sites for individuals (sand, bags). District will pitch in IF flood situation allows.

vii. Samish River Area. Skagit County provides some aid; usually dropped off at Fire Station. Some of the Samish River area is in Dike District 12's district. Therefore the District will provide some bags if flood situation allows. Samish River Trailer Park is especially hard hit.

B. FULL SCALE MUTUAL AID – SAMISH RIVER

Full-scale mutual aid will only be given **IF**:

1. There is no flooding on the Skagit River.
2. There are NO FLOOD WATCHES OR WARNINGS posted for the Skagit River, and none expected in next 48-72 hours.
3. Dike District 12 Commissioners agree that requested level of mutual aid will not deplete the Districts resources and personnel to levels that would jeopardize Dike 12's ability to respond to any Skagit River flooding that may occur during or after mutual aid to the Samish River has started or been completed.

Commissioners may agree to:

1. Give a lower level of mutual aid than has been requested.
2. Delay response for a given period of time. Hours or day(s).
3. Decline all together.

Before agreeing to give Full Scale Mutual Aid the following item SHALL be addressed:

1. On site inspection by at least 1 Dike District 12 Commissioner. Upon examination of situation on site – Commissioner will relay information to the other 2 Commissioners for consensus on any action to be undertaken by Dike District 12.
2. What will Dike 12's roll be EXACTLY?
3. PLAN. Is there one, what is it. Estimated time – start to finish [hours, day(s), week(s)]. Back up plan B.
4. Logistics, materials, personnel, equipment, other agencies – their roles and resources. Access to site.
5. Risks, liabilities, and safety issues.
6. Clear lines of authority – command. ICS and communications in place.
7. Costs. Has emergency been declared, can costs be recovered thru FEMA or other agencies.

C. FULL SCALE MUTUAL AID – SKAGIT RIVER

Although less likely needed due to COE being present, will be given IF:

1. Dike District 12 is NOT in FULL-SCALE flood fight on its own Skagit River levee.

2. If level of full-scale mutual aid will not deplete Dike 12's resources and personnel to levels that would jeopardize Dike 12's ability to respond to, or continue to do flood fighting on its own levee.

Commissioners may agree to:

1. Give lower level of mutual aid than has been requested.
2. Delay for a given period of time. Hours or day(s).
3. Decline all together.

Before agreeing to give Full-Scale Mutual Aid the following items SHALL be addressed.

1. On site inspection by at least one Dike District 12 Commissioner. Upon examination of the situation on site, Commissioner will relay information to the other two Commissioners for consensus on any action to be undertaken by Dike District 12.
2. What will be Dike 12's roll EXACTLY?
3. PLAN. Is there one, what is it. Estimated time – start to finish (hours, day(s), week(s). Back up plan B.
4. Logistics, materials, personnel, equipment, other agencies – their roles and resources. Access to site.
5. Risks, liabilities, and safety issues.
6. Clear lines of authority – command. ICS and communications in place.
7. Costs. Has emergency been declared, can costs be recovered thru FEMA or other agencies.

Dike District 12 has authorized SKAGIT COUNTY DEPARTMENT OF EMERGENCY MANAGEMENT (DEM) as the agency authorized to make request to Dike District 12 for FULL-SCALE MUTUAL AID.

D. CLEAN UP

When the flood threat is gone, if any filled bags remain and Dike District 12 has determined it does not need them, they may be made available to others still in need of them. A Dike District Commissioner will make a call to DEM, and by County sector personnel to the Skagit County Flood Fight Coordinator to see if the bags can be used elsewhere.

IV. KITCHEN

We set up the kitchen with Coordinator(s) in charge. This kitchen is set up 24 hours a day for as long as we have an emergency.

As of December 1993:

A. Any food or kitchen supplies that are purchased during a flood fight will be bought at one of the following establishments:

1. COST CUTTER
2. FOOD PAVILION
3. THRIFTY FOODS
4. FRED MEYER

B. Any purchases must have authorization from a Dike District Commissioner or Operations.

C. Coordinator(s) in charge of kitchen will make list of the items needed on the "Food Purchase Form."

D. Call store before leaving.

E. Food Purchase Form and Purchase Order must accompany person to the store.

F. The Required signatures on forms must be obtained.

G. Register receipts must be attached to the Food Purchase Form, and turned into the office and put in the box marked "Flood Fight Bills".

H. Notify and work with Burlington Eagles club for donations, preparations, and delivery of food.

I. There are some foods that are <u>NOT</u> wanted due to the risk of food poisoning:

1. Chili.
2. Potato salad
3. Foods made with eggs
4.
5.
6.
7.

V. DIKE PATROLS

BURLINGTON:

A. The District has divided the dike into five sections.

Section 1. Consists of the Burlington Northern Railroad grade along Highway 20 between Burlington and Sedro Woolley, from Collins Road west to Lafayette Road, and Lafayette Road from the railroad grade south to Jones' driveway.
Section 2. Starts at Jones' driveway at Lafayette Road downstream to Gardner Road.

Section 3. From Gardner Road downstream to Burlington Northern Railroad main line track. South along track to Railroad Bridge #36 and then west on Whitmarsh Road to the east side of Highway 99 Bridge.

Section 4. West side of Highway 99 Bridge downstream to Pulver Road.

McLEAN ROAD:

McLean Road Fire Department patrols from Pulver Road downstream to where Dike District 12 meets Dike 1 by the Memorial Highway. For motorized patrols the dike will be split into two sections. For walking patrols - four sections.

DRIVING PATROLS:

Section 5. Pulver Road downstream to Main Street off of Bennett Road.

Section 6. Main Street downstream to Dike 1 – Dike 12 boundary near Memorial Highway.

WALKING PATROLS – LONG DURATION FLOOD, SOFT DIKE:

Section 5a. Pulver Road downstream to Rivers Court.

Section 5b. River Court downstream to Main Street.

Section 6a. Main Street downstream to Access ramp by old Avon Cannery, now Crest Inc.

Section 6b. From Avon Cannery (Crest Inc.) downstream to Dike 1 – Dike 12 boundaries by Memorial Highway.

B. The firefighter(s) in charge of each section are under the authority of Operations who act under the authority of the Dike District Commissioners.

1. Each section will be patrolled 24 hours a day until there is no longer any threat to the dike.

2. Dike patrols will consist of 2-3 persons with a MINIMUM of One Radio Equipped Firefighter. The balance can be firefighters or volunteers. As of January 1, 1998 District will employ the use of ATV'S and Gators on patrols.
3. Patrols will be equipped with radios, flags, and for night patrolling - flashlights. ATV'S will have generators, lights.
4. Shifts will switch at the COMMAND CENTERS, with the offgoing patrols informing the oncoming patrols of any problem areas. Offgoing patrols will also check in with Operations before leaving the COMMAND CENTERS.

C. DIKE PATROL DUTIES AND RESPONSIBILITIES

1. Patrol entire length of section.
    a. "Outside" or riverward side. Top of dike to waters edge.
    b. "Inside" or landward side. From top of dike to the toe and 40' away from the toe of the dike.
2. Look for:
    a. Boils - DIRTY or clean. Boils that are running DIRTY MUST be ring diked immediately!
    b. Areas of sloughing, collapsing, or washed out dike. Notify Command Center (Operations) who will in turn notify Dike District Commissioners of these possible dike failure situations so immediate action can be taken. In addition authorities in charge of evacuations (Law Enforcement, DEM) may need to be notified of a potential evacuation situation. This will be done by Operations or Dike Commissioners.
3. Low spots where overtopping could occur.
4. Overtopping of Dike.
5. Mark problem areas - put a flag 3' from center of boil on two sides, and one flag on top of dike to mark area. Put a flag 3' from edge of area where there is sloughing, or low spot on top of dike etc.
6. NEVER stick a flag or stick into the center of a boil, or sandbags on top of a boil.
7. Notify Command Center of problems.
8. DO NOT walk in areas where ground is "jello-like" or where sod is "lifting".
9. On riverside watch for logs, log jams, propane tanks, loose boats, occupied boats, and other debris that may threaten the dike.
10. Watch for suspicious activity, people, vehicles, boats and report it to Command Center in case possible Law Enforcement help is needed. Also if you encounter any hostile persons call Command Center for law enforcement right away.

11. Clear the area of non-flood fight emergency personnel and vehicles (sightseers, lookyloos).
12. Call Command Center for sandbags and manpower.
13. Direct trucks and manpower to where needed.
14. Set up, supervise, and participate in sandbagging operations.
15. Road closures. If there is a need for a road closure notify Operations, who in turn will contact the proper authorities, (City, County, State DOT).
16. Patrols will report in to Command Center of their location at least every 30 minutes, as well as when Emergency Information needs to be relayed.
17. In addition Units shall respect the five reasons to communicate:

    a. The assignment is completed.

    b. You are unable to complete the assignment.

    c. Additional resources are required.

    d. An immediate safety hazard exists.

    e. You have information that has a direct bearing on the incident.

18. Dike District H.Q. Base Station (in Burlington) call sign is "Dike 12". McLean Road Fire Department Base Station call sign is "McLean Road". As of 8/31/00 Dike District's Mobile Command Vehicle (MCV) call sign is "Dike 12 Mobile Command".
19. Safety around water.
20. As of 5/1/99 Pursuant to WAC 296-24-086 (see attached) the District will equip the ATV dike patrol personnel with approved personal flotation devices.

    a. This will consist of flotation jackets and in addition life rings. 30-inch size with 100 feet of line.