



## **FLOODPLAIN MANAGEMENT PLAN ANNUAL PROGRESS REPORT**

*October 2011*

This is a brief report to the City Council, the Mayor and the local media on the progress made in implementing the City of Burlington's Floodplain Management Plan over the past year.

The City of Burlington participates in the Community Rating System program offered by the Federal Emergency Management Agency for communities located in the floodplain. Participation in the program results in a 25% reduction in flood insurance premiums in the City.

A major issue facing every property owner located in the delta area of the Skagit River Floodplain is the Federal Emergency Management Agency's proposal to change the Flood Insurance Rate Maps. Following their release in the fall of 2010, two mailings were sent, one to property owners and one to all postal patrons. Many people called or stopped by and as a result, some significant problems were identified with the maps and the staff at FEMA agreed and stated they would correct the problems before releasing the final maps. The biggest problems were with sites that are now in the 500-year floodplain, being remapped into the 100-year floodplain.

Burlington and Dike District #12 filed a timely appeal of the maps and that appeal is in process today. Many areas of the United States had significant issues with the mapping process, and as a result, the Director of FEMA agreed to reconsider the method that assumes there are no levees unless the levees are certified as providing 100-year flood protection. All the remapping projects across the country are now on hold, pending this change. Everyone will be notified as soon as more information is available.

A special Flood Insurance mailing is planned to go out to every Postal Patron in Burlington this fall to clearly inform every property owner about what factors to consider in making the decision to purchase flood insurance, and what information the property owner needs to keep about the building and property, if the property does not have flood insurance.

Local jurisdictions are working together to protect the interests of the citizens of Skagit County. One of the major concerns in the appeal of the map changes is to have the best data used on such key questions as the hydrology of the Skagit River and how much water arrives at the delta area in a 100 year flood event.

The levee system protecting Burlington is being studied and upgraded as the preparations continue to prepare to apply for levee accreditation through the process titled the Conditional Letter of Map Revision. This appears to be the best way to protect the community against the economic instability that may result from potentially radical changes in base flood elevations and resulting problems with building renovation as well as new construction. Floodproofing of commercial structures is also being investigated to see if standard plans can be developed to make this a cost effective option.

The plan of action is to certify that the levees meet the 100-year protection standard and ask FEMA to accredit the levees so that they will count in the computer modeling for determining the Base Flood Elevations in the Burlington urban area. This is expected to take a number of years to accomplish. Only 100-year Certified Levees qualify for credit in the mapping process. This will in turn, reduce the 100-year base flood elevations substantially.

The Federal Emergency Management Agency's position on establishing a regulatory floodway in the Skagit River delta area is that the issue is significant and that efforts at least comparable to the actions taken with adoption of the Flood Insurance Rate Maps in the mid-1980's are needed. With this in mind, Burlington would keep Gages Slough as a Special Flood Risk Zone and keep an area of 300 feet behind the levees designated as Special Flood Risk Zone. Burlington will also take action to protect overbank flow paths across farmland around the city through supporting farmland preservation efforts. The existing floodway path upriver from Burlington for the Skagit River is through the Nookachamps and Sterling area, and once the railroad is overtopped, the water moves north to the farmland.

The City of Burlington is adding a new Comprehensive Emergency Management Plan that consists of a Major Disaster Operations Plan focused on detailed city operating procedures in response to the earthquake and tsunami in Japan this year. In the course of developing that plan, new opportunities for expanded emergency notices through the 911 center are in the works, and this will address many local needs for early notice, expanded notice that can include relatives and concerned parties out of the area. This will be a focus for community outreach as local implementation begins later this year.

### **Elevation Certificate Program**

Citywide certified elevation benchmark information is available in the Building Department, to help keep costs of hiring a licensed engineer to complete the Elevation Certificate to a minimum. The current requirements include more information about the location of ductwork and other project elements that can affect the performance of a structure in a flood event and it is hoped that these additional requirements will further limit potential damage. Elevation certificates from new construction for the year and the pre-FIRM certificates that have been issued are submitted annually to the Federal Emergency Management Agency in an automated format.

Property owners need to carefully check into flood insurance rates. Anyone purchasing a home in the floodplain should get elevation certificate information early in the process and check out flood insurance requirements with a reliable insurance agency BEFORE buying.

Some insurance premiums have gone up because crawl spaces over 2 feet below grade may be reclassified as a basement. You may also want to determine that the insurance agent has received training on flood insurance, verify that their map determination is accurate by checking with the city yourself, and make sure that there is a complete and accurate disclosure of your location on all documents.

People who do not have mortgages are faced with the choice of getting flood insurance; mortgage holders are required to have it. In either case, the Elevation Certificate is your document that spells out the condition of your building with respect to potential flood damage.

### **Map Determinations**

Because the City of Burlington is located mostly in the 100-year floodplain, flood map determinations are made on every project, and determinations are requested by phone and in person from a variety of people on a regular basis. Map determinations consist of identifying all relevant flood information about a parcel of land, including existing elevation, relationship to the 100-year flood elevation and required elevation for new construction, which is one foot above the 100-year flood elevation for the first occupied floor. Properties located in Special Flood Risk Zones are also identified with additional requirements for break-away walls, and a prohibition on further subdivision.

There is an annual mailing to real estate agents, lenders and insurance agents, completed each year in the fall, reminding those in the business that there are resources available to them in the City, and of their obligation to disclose flood hazard information to their clients. Of particular importance is access to the Flood Maps and Elevation Certificate information. The City maintains copies of all FIRM maps in Skagit County, facilitating access to this public information. A log of general inquiries is kept, and every permit application is reviewed for consistency with FIRM map elevation information.

### **Flood Hazard Information Bulletins and other Public Outreach**

Burlington is located almost 100% in the 100 year floodplain and it is one of the City's tasks to keep its citizens informed about the special conditions and responsibilities of living here. Each year, in the spring and fall, a new edition of the Flood Hazard Information Bulletin is mailed to the entire community of Burlington, in hopes that people will plan ahead for possible emergencies, building flood hazard protection into each home, and keeping an up-to-date emergency preparedness kit on hand.

There are several neighborhoods that are now participating in the Neighbor-to-Neighbor program, a simple plan for early notification that includes a telephone tree and ensures a much longer lead time for those who wish to evacuate early in a flood event. If any group or block watch organization wants to participate, the city will come to your meeting and help get your plan in place. This year, we are hoping to join a service that will send out early warning of the need to evacuate through the 911 center. The service has been started with the oil refineries, and it appears to be very successful.

Burlington has a Flood Evacuation Plan in place, ready to implement for the flood season, if it is needed. Copies are available at the Burlington Permit Center at 833 South Spruce Street. Permanent signage is installed on the evacuation routes to heighten public awareness on a daily basis. With this information, family emergency preparedness plans should now include the route to evacuate, and plans can be made to set up a meeting location for household members not on site. The community is very aware of the serious flood hazard in Burlington, the need to keep an Emergency Preparedness Kit on hand and to keep the entire family up to date with a family emergency plan. Every member of the community has the opportunity to be prepared for an emergency.

It is through the public outreach tools that the public is made aware of progress on flood hazard mitigation projects, the elevation certificate program, the materials available in the library, and some of the natural and beneficial functions of floodplains. Each edition of the Flood Bulletin is updated to provide the community with the latest status information on current issues, projects and programs. This is also available on line at the City of Burlington website, [www.ci.burlington.wa.us](http://www.ci.burlington.wa.us).

There is also a flood hazard mitigation topic on each Community Meeting Agenda. There is a Community Meeting held each spring and fall, providing an informal opportunity to discuss issues and make recommendations to the city.

Gages Slough restoration projects to improve water quality and habitat are scheduled whenever funds are available. If you are interested in getting involved in habitat restoration, you may wish to contact the Burlington Parks Foundation. All restoration projects must have a minimum of a five year monitoring and maintenance program or the site will fill with blackberries and other nuisance plants instead of the native vegetation that is needed to buffer the wetland habitat.

### **Public disclosure at time of sale is the responsibility of Realtors**

Local Realtors are very cooperative because of the significance of location in the floodplain in today's real estate transactions, particularly in light of the mandatory flood insurance requirement. State legislation on flood hazard disclosure is supported by the City.

However, because of the issues that have been identified through research on specific properties, it is strongly recommended that the seller and the buyer also do their own research through the Burlington Permit Center. There appear to be communication gaps and this may prevent problems for purchasers in the future.

### **Flood Protection Library available in City Library**

The Library collection is up to date with new titles being added this year, and it includes the formally approved update of the Skagit County Natural Hazard Mitigation Plan, and many publications from the Federal Emergency Management Agency on a wide variety of flood hazard mitigation topics. A comprehensive supply of all FEMA and local documents is

reflected in the Library collection, ranging from the original flood studies conducted to establish the FEMA mapping system to the most current data.

### **Technical Information is available at Permit Center**

The most current technical reference material is available to assist project proponents in developing the design details for flood proofing and structural and non-structural measures necessary to fully comply with the flood plain regulations. Technical information for flood hazard mitigation related to construction is necessary with every building permit and pre-application conference for projects located in Burlington. Information on the best ways to floodproof, how to handle mechanical equipment and ductwork, and many other topics is available. The latest technical bulletins on handling crawl spaces and basements and the current elevation certificate forms are available at the Permit Center. The City of Burlington has adopted the 2009 International Codes for construction standards, as part of a statewide mandate.

### **Gages Slough and the Skagit River Shorelines**

The Gages Slough Management Plan includes specific opportunities for restoration projects along its course through Burlington. This program has an increased focus on regular water quality monitoring, targeting pollution at the source, and long term maintenance and management. As a next step in implementing the surface water quality plan in 2011, the management plan will be refocused to target specific actions the city can take to optimize the three outcomes of improving water quality, natural function, and interior drainage capability.

Some ideas include innovative concepts such as constructed wetlands next to the Slough to clean water using natural means. This will in turn mitigate the impact of water quality on listed species under the Endangered Species Act in the Skagit River, which is the outfall of Gages Slough.

The Gages Slough Management Plan is a long range program that focuses on educating property owners and businesses to use Best Management Practices to improve water quality. There is also a major component of the project that involves cleaning up existing road runoff, over a long period of time. The Public Works department is working with other local governments in the area to receive training and implement new best management practices to mitigate the impact of road maintenance work on endangered species. Regulatory approaches are combined with continued public education and positive encouragement, to maximize the effectiveness of the program.

### **Drainage Utility update; Surface water management projects proceed**

Planning is underway for an innovative surface water quality treatment program, utilizing the natural functions of Gages Slough as the starting point for “green infrastructure”, combining engineering techniques with native plantings to clean the water. With the rigorous standards of the Department of Ecology for storm water quantity and quality, innovative approaches are becoming the standard. The use of Rain Gardens is beginning to become more widely

integrated into plans for new and redevelopment. Pervious pavement and concrete are also being used, and it will be interesting to see how well the maintenance programs to keep the materials porous will work over time.

The annual inspection of the detention ponds has proven very effective. Property owners are very cooperative in cleaning up problems. The program includes inspection of manholes and pipes as well as detention/retention ponds. Enforcement action on illegal use of storm drains is handled on a complaint basis, through the Planning and Building Departments. Installation of “No Dumping” signs has provided an additional code enforcement tool, eliminating that famous excuse of ignorance. The Stormwater Management program in Burlington has expanded because of the rapid pace of growth and development in the community. The focus on acquiring the Gages Slough corridor from Anacortes Street to the Skagit River continues, for the purpose of improving water quality, maintenance and flood hazard mitigation.

### **Mapping features an automated data base and the Flood Evacuation Plan**

The Geographic Information System is continuing to expand and provide additional useful applications for individual parcels and the city as a whole. Detailed topographic maps are now in Autocad along with a number of other layers, such as assessor’s data, parcel layout, right of way and utilities. Parcel data includes elevation information in the database with more detail to assist property owners. Surveyed elevation benchmarks are located throughout Burlington and that information is available at the Building and Planning Departments.

### **City Flood Planning is part of Skagit County Natural Hazards Mitigation Plan**

The Federal Disaster Mitigation Act of 2000 required development of a revised Floodplain Management Plan to include all natural hazards. The first five year update of the multi-jurisdictional all natural hazard mitigation plan was completed on schedule in late 2008 and approved by the State Department of Emergency Management and the Federal Emergency Management Agency. This plan is a prerequisite for access to future Hazard Mitigation Grant funds that are critical to the area following a disaster. The Skagit County Natural Hazard Mitigation Plan includes the Burlington Floodplain Management Plan and the Flood Emergency Plan. The annual public meeting was held this summer.

The Flood Emergency Plan is operational and is tested annually. The citywide fire alarm is tested monthly; it is used in the evacuation procedure in the event of a flood. Formalizing the Flood Evacuation Plan is a major step forward for the community. The fall exercise to test the overall Flood Emergency Plan is scheduled for Flood Awareness Week, and the local flood committee meets as needed to fine-tune the new Evacuation Plan to insure full preparedness for the flood season.

### **Dike District #12 maintains the best dike system in Skagit County**

Substantial improvements are continuing to the levee system, with major upgrades at the eastern end of the levee system that will connect with the substantially improved levees already completed downstream of the boat launch ramp at Gardner Road. The dikes have been

widened from 14 feet to 35 feet at the top and the back-slope increased from a 2:1 slope to a 6-8:1 slope. This will allow for overtopping of the dikes in a major flood event, with a smooth, slow flow. Evacuation would occur well in advance of that event. Work to fix flood damage that occurred in 2006 was delayed until this summer, when agreements on mitigation to protect salmon and other priority fish were finalized.

A major focus for the Dike District and the City of Burlington is the acquisition of land that is located directly adjacent to the levees. The interim controls establishing the new levee setback line are continued each year until the land is acquired.

Active work to upgrade the levee system began in 1996 and continues today. Because of the grave consequences of the proposal by the Federal Emergency Management Agency to increase the theoretical 100-year base flood elevations in Burlington, the Dike District is now working to upgrade the levee system to become Certified Levees that provide 100-year flood protection. The goal is 100-year levees in the urban area, and 50 to 80-year levees in the rural area, to preclude encouraging development in rural areas while protecting the City of Burlington.

Burlington is in partnership with Dike District #12 and together, great progress is being made on local flood hazard mitigation planning. The geotechnical work is complete on the levee segment that begins on the east side and extends from Lafayette Road south to the Railroad Bridge. Additional detailed topographic studies have added to the accuracy of the computer modeling work. These two program components, levee enlargement and setback levees, are the major efforts in process to directly protect Burlington from the 100-year base flood event.

Local efforts aimed at getting the key experts at the national level to agree with city and county consultants on the major issue of hydrology (how much water gets here in a 100 year flood event) have not yet been successful. A Final Environmental Impact Statement has been issued by Burlington and Dike District #12 to establish the programmatic framework for action.

## **Conclusion**

There are several significant cornerstones in the Burlington Floodplain Management Plan, including Elevation Certificates, on-going Public Education and Community Involvement, long range planning for the future of Gages Slough and the Skagit River Shorelines, and strong emergency management procedures including preparing for emergencies in advance and educating the community on evacuation routes. This is an on-going program that is vital to minimizing future losses in the event of a major flood. The Burlington Natural Hazard Mitigation Plan has been updated to add 100-year Levee Certification and Accreditation with a continued emphasis on hazard mitigation actions with a broad spectrum of public involvement that will link the City's efforts very closely with those of other jurisdictions.